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2025 Annual Inspection Report for the Parkersburg, West Virginia, Disposal Site

February 2026

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Abbreviations

amsl	above mean sea level
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
IC	institutional control
LM	Office of Legacy Management
LTSP	Long-Term Surveillance Plan
MCL	maximum concentration limit
MDC	minimal detectable concentration
mg/L	milligrams per liter
µg/L	micrograms per liter
mrem/year	millirem per year
pCi/L	picocuries per liter
PL	photograph location

1.0 Inspection Summary

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) Parkersburg, West Virginia, Disposal Site was inspected on October 30, 2025. No evidence of erosion or slope instability on the disposal cell was noted during the inspection. No minor maintenance needs were noted during the inspection. A follow-up or contingency inspection is not required. No evidence of trespassing was observed.

Animal burrowing continues to be a challenge. In 2025, several groundhogs were trapped and removed from the property, and several animal burrows were collapsed, filled in with clean topsoil, and revegetated. A few of the collapsed burrows showed signs of new activity, but overall, conditions are improving.

The *Long-Term Surveillance Plan for the Parkersburg, West Virginia, Disposal Site* (DOE 2019), called the LTSP, directs that routine water quality sampling and water level measurements be collected every 10 years. Routine groundwater sampling at the Parkersburg site is coordinated with sampling at the Canonsburg, Pennsylvania, Disposal Site and Burrell, Pennsylvania, Disposal Site to maximize cost efficiency. The most recent routine sampling event was conducted on October 26, 2023. Only one of the two available monitoring wells (MW-6) yielded water. No flow was obtained from monitoring well MW-5. The problem was attributed to a clogged low-flow sampling pump, and the field crew could not resolve it. Results from monitoring well MW-6 were below U.S. Environmental Protection Agency (EPA) maximum concentration limits (MCLs) and West Virginia groundwater standards found in *West Virginia Administrative Code* Title 47, Series 12, "Requirements Governing Groundwater Standards," Appendix A.

In summer 2024, DOE redeveloped four existing monitoring wells, MW-1 through MW-4, for the purpose of evaluating them as potential long-term routine monitoring locations. Old pumping equipment was removed from the four wells, a downhole camera survey was conducted in each of the four wells, and a small amount of water was pumped from each of the four wells to reestablish good communication between the well screens and the surrounding aquifer.

In summer 2025, DOE conducted a nonroutine sampling event at all six groundwater monitoring wells. The low-flow sampling pump in monitoring well MW-5 was replaced, and low-flow sampling equipment was installed in monitoring wells MW-1 through MW-4. Groundwater obtained from the monitoring wells was analyzed for the list of analytes identified for the site in the Parkersburg LTSP. Purge water was containerized and sent offsite to a licensed facility for sampling and disposal. In addition to sampling the wells, water level pressure transducers were installed in all 6 monitoring wells.

Nonroutine sampling results from summer 2025 were all below EPA and West Virginia water quality standards with the exception of nitrate + nitrite as nitrogen at monitoring well MW-6, which was 11.8 milligrams per liter (mg/L). The EPA and West Virginia water quality standard for nitrate + nitrite as nitrogen is 10 mg/L. This is the second exceedance of nitrate + nitrite measured at monitoring well MW-6. The first was in 2013 (14 mg/L). In 2023, the concertation measured was 7 mg/L. No action is recommended to address the nitrate + nitrite exceedance on MW-6 at this time other than continued routine monitoring.

In August 2025, water level transducers were installed in monitoring wells MW-1 through MW-6 so that daily water level readings could be recorded. The data are used to evaluate both seasonal and long-term water elevation trends. On December 9, 2025, data were downloaded from the transducers.

The range of change in water levels was relatively consistent across the six wells, ranging from a maximum of 0.62 feet in monitoring well MW-4 to 0.50 feet in monitoring wells MW-2 and MW-3. Water levels during this time period were decreasing, and the decreasing pattern was consistent in all of the wells. Elevations show that groundwater flow was in the direction of monitoring well MW-6 for most of the time period. This interpretation is similar to past interpretations.

1.1 Inspection Requirements

Requirements for the long-term surveillance and maintenance of the site are specified in the LTSP (DOE 2019).

1.2 Institutional Controls

Institutional controls (ICs) at the site consist of LM ownership and ongoing surveillance and maintenance of the site. IC features include perimeter signs placed along the property boundary, a site perimeter fence, and locked gates at the site entrances. ICs are verified during the annual inspection. The inspection team did not observe any evidence that the ICs have been compromised or are not functioning effectively as intended.

1.3 Inspection Team

K. Broberg and L. McHenry of the Legacy Management Support contractor conducted the inspection on October 30, 2025. D. Waggener (West Virginia Department of Environmental Protection) also participated in the inspection.

1.4 Site Surveillance Features

The locations of site surveillance features are shown in Figure A-1 (Appendix A). Inspection results and recommended maintenance activities associated with site surveillance features are described in the following subsections. Photographs to support specific observations are identified in the text and in Figure A-1 by photograph location (PL) numbers.

1.4.1 Access Route, Entrance Gates, and Entrance

The Parkersburg site is adjacent to land owned by the Northwest Pipe Company. Access to the site from Northwest Drive (formerly called Foster Drive) entails crossing a grass field. The access route is along a permanent 20-foot-wide right-of-way through the grass field owned by the Northwest Pipe Company.

A Northwest Pipe Company rail spur that crosses the site right-of-way was replaced in 2016. Northwest Pipe Company maintains a gravel crossing where the rail spur crosses the site right-of-way to provide vehicle access to the site. The gravel crossing was found to be well maintained.

All entrance gates were properly secured, and signage posted on the gates was current.

1.4.2 Perimeter Fence and Perimeter Signs

The perimeter fence was replaced in 2007. The site maintenance subcontractor maintains a vegetation-free zone along the base of the fence line and ensures that vegetation does not grow on the fence fabric. The vegetation-free zone along the fence line was being maintained (PL-1), and the fence fabric was free of vegetation.

The site has an entrance sign and 16 perimeter signs. All signs were replaced in 2021 and remain in good condition. Information posted on the signs is current.

1.4.3 Survey Monuments and Boundary Monuments

The Parkersburg site has six boundary monuments and one concrete survey monument. All six boundary monuments were located during the inspection (PL-2). Due to rain, the concrete marker was not visited. The top of the concrete survey monument has been missing for years, but its replacement is not necessary.

Boundary monument BM-3 is about 6 inches beneath the ground surface. A 6-inch section of PVC pipe is installed around the monument and filled with pea gravel to make it flush with the ground surface (PL-3).

1.4.4 Monitoring Wells

There are six groundwater monitoring wells at the Parkersburg site. All six wells are inside the security fence. The wells are numbered in the chronological order in which they were drilled and installed. All six wells were properly locked. The site maintenance subcontractor clears vegetation around the monitoring wells. Vegetation was being properly controlled around the monitoring wells (PL-4).

1.5 Transects

To ensure a thorough and efficient inspection, inspectors divided the site into two transects as follows: (1) the disposal cell and (2) the site perimeter and outlying area.

Inspectors walked a series of traverses within each transect. They examined specific site surveillance features, drainage structures, vegetation, and other features. Inspectors also looked for evidence of settlement, erosion, or other modifying processes that might affect site integrity or long-term performance.

1.5.1 Disposal Cell

At the time of the inspection, vegetation on top of the disposal cell had been recently mowed. No evidence of erosion or slope instability on the disposal cell was noted during the inspection.

Animal burrowing activity at the site continues to be a challenge. In descending order, the cell cap consists of a 30-inch layer of topsoil, a 12-inch layer of impermeable clay, then a 6-inch layer of compacted clay. There is concern that if the burrowing is not controlled, the protective nature of the cell cap might be compromised. In 2021, 2 weeks of trap-and-release were conducted to remove two groundhogs from the site. Existing burrows were collapsed, filled with clean soil, and reseeded. Additional burrows were collapsed, filled with clean soil, and reseeded in 2022 and again in 2023. In 2022, a coyote den was found and collapsed. In 2024, several weeks of capture were conducted, and several additional groundhogs were captured. During 2025, two separate weeks of trapping were conducted, and several groundhogs were trapped. During the site inspection, new additional animal burrows were discovered. Their locations are identified on the site map (Figure A-1). These new burrows will be collapsed, filled with clean soil, and reseeded as deemed appropriate. Routine trapping tasks will continue (PL-5).

1.5.2 Site Perimeter and Outlying Area

The drainage channel in the southwest corner of the site, lined with high-density polyethylene honeycomb baffles and brick energy-dissipation baffles in August 1996, is functioning as designed. Erosion in the channel appears to be unchanged from last year.

The Parkersburg site is in a developed industrial area. Inspectors noted that conditions at the neighboring Northwest Pipe Company property were similar to conditions observed in 2024.

1.6 Follow-Up or Contingency Inspections

LM will conduct follow-up inspections if (1) an annual inspection or other site visit reveals a condition that must be reevaluated during a return to the site or (2) a citizen or outside agency notifies LM that conditions at the site are substantially changed.

No follow-up or contingency inspections were required in 2025.

1.7 Routine Maintenance and Repairs

LM needs to continue being vigilant about addressing animal burrows on the disposal cell. As burrows are located, they need to be collapsed, filled with clean soil, and reseeded as deemed appropriate. Ongoing routine annual pest management needs to continue.

1.8 Environmental Monitoring

1.8.1 Groundwater Monitoring

During site characterization, a modeling exercise was conducted to estimate, after site closure (1982), the number of years it would take a contaminant plume to travel through unsaturated materials, reach the water table, travel in groundwater, and reach monitoring wells MW-5 or

MW-6. The modeling exercise assumed a hypothetical worst case in that it was assumed that the disposal mound cover failed to function as designed and subsequently allowed precipitation to infiltrate and saturate the buried waste materials resulting in a leachate plume (DOE 1995). The two models used in the modeling exercise were the Hydrologic Evaluation of Landfill Performance model and the Multimedia Exposure Assessment model.

The following three different modeling scenarios were assessed: (1) worst case, (2) most likely case, and (3) best case:

- Worst case: 15–20 years after the 1982 site closure (i.e., between 1997 and 2002)
- Most likely case: 35–40 years after the 1982 site closure (i.e., between 2017 and 2022)
- Best case: 95–100 years after the 1982 site closure (i.e., between 2078 and 2082)

To correspond to (and to assess the likelihood of) the worst case modeling prediction presented above, the Site Characterization Report (DOE 1995) states that groundwater quality at the site should be sampled again 15–20 years after site closure, which was in 1982 (i.e., sampling between 1997–2002). Because modeling results indicated that contamination of the aquifer, should it occur, would occur relatively slowly, a 5–10 year sampling frequency was defined in the LTSP. The purpose of the sampling program is to determine if any groundwater quality standards are being exceeded and to compare the results to the 1994 and 1995 results to determine if a change in groundwater quality has occurred.

Sampling was conducted on a 5-year frequency through 2013. Following the 2013 sampling event, the site LTSP was revised to direct that routine water quality sampling and water level measurements be collected every 10 years. This frequency was based on the DOE 1995 site characterization (DOE 1995) and sampling results collected through 2013 (DOE 2014). This frequency also corresponds to the end of the model-predicted interval of 2017 and 2022. Routine sampling was last conducted on October 26, 2023. Routine groundwater sampling at the Parkersburg site is coordinated with sampling at the Canonsburg and Burrell sites to maximize cost efficiency.

The sampling network at the Parkersburg site consists of six monitoring wells (MW-1 through MW-6). As prescribed by the site LTSP, only monitoring wells MW-5 and MW-6 were being routinely sampled for water quality parameters. Water levels were being measured in all six wells.

At the request of the West Virginia Department of Environmental Protection, in summer 2024, DOE redeveloped four existing monitoring wells MW-1 through MW-4. Old sampling equipment was removed from the four wells, a downhole camera survey was conducted in each of the four wells, and a small amount of water was pumped from each of the four wells to reestablish good communication between the well screens and the surrounding aquifer. With the redevelopment of these four wells, DOE conducted a nonroutine sampling of all six monitoring wells for parameters listed in the site LTSP in August 2025. DOE also installed water level transducers in all six monitoring wells in August 2025.

Results from the August 2025 nonroutine sampling event are presented in Table 1. As shown in Table 1, all results were below the EPA MCL and the West Virginia groundwater standards found in Title 47 *West Virginia Administrative Code* Section 12 (47 WVaC 12), Appendix A with the exception of nitrate + nitrite as nitrogen at monitoring well MW-6. The result (11.8 mg/L) was above the EPA and West Virginia water quality standard for nitrate + nitrite as nitrogen (10 mg/L).

A historical summary of analytical results from monitoring wells MW-5 and MW-6 is provided in Table 2 and Table 3, respectively. The results presented in Table 2 and Table 3 are further discussed below.

Metals

Results from 2025 for monitoring wells MW-5 and MW-6 are consistent with historical results dating back to 1994. All metals were undetected in 2025 with the exception of barium and nickel. Barium was detected in both MW-5 and MW-6 at concentrations of 82.6 micrograms per liter (µg/L) and 73.5 µg/L, respectively. Both barium results are below the EPA MCL and the West Virginia water quality standard of 2000 µg/L. Nickel was detected in monitoring well MW-5 at a concentration of 1.6 µg /L. A "J" qualifier was applied to the result during the data validation process. A "J" qualifier is a routine qualifier attached to results that are low (close to the minimal detectable concentration [MDC]). It is applied when the result is <3 times the MDC. There is no EPA MCL or West Virginia water quality standard for nickel.

Major Cations and Anions

A comparison of 2025 results from monitoring wells MW-5 and MW-6 with historical results dating back to 1994 shows that all major cation and anion concentrations measured in 2025 were within the range of previously detected concentrations for the individual well. No new highs were recorded.

The 2025 concentration for nitrate + nitrite in MW-6 was 11.8 mg/L. The EPA MCL and West Virginia water quality standard for nitrate + nitrite is 10 mg/L. This is the second exceedance of nitrate + nitrite measured at monitoring well MW-6. The first was in 2013 (14 mg/L). In 2023, the concertation measured was 7 mg/L. No action is recommended to address the nitrate + nitrite exceedance on MW-6 at this time other than continued routine monitoring.

Radionuclides

All radionuclides measured in 2025 were below the EPA MCL and the West Virginia water quality standards. A comparison of 2025 results with historical results dating back to 1994 shows that all radionuclides, with the exception of gross alpha, have increased.

Radium-226 and Radium-228

As shown in Table 1, the highest combined measurement of radium-226 and radium-228 was 2.053 picocuries per liter (pCi/L), measured in monitoring well MW-6. This sum is below the standard of 5 pCi/L for radium-226 and radium-228 combined.

Gross Beta

The gross beta concentration is measured in pCi/L and compared to a dose rate standard of 4 millirem per year (mrem/year). EPA offers guidelines to determine if a gross beta concentration measured in pCi/L complies with the 4 mrem/year dose standard. According to EPA guidance (EPA 2002a; EPA 2002b), if the gross beta result is less than or equal to 50 pCi/L, the sample

complies with the 4 mrem/year dose rate standard. The highest gross beta result in 2025 was 4.57 pCi/L (monitoring well MW-3).

Groundwater Levels

In August 2025, water level transducers were installed in monitoring wells MW-1 through MW-6 so that daily water level readings could be recorded. The data will be used to evaluate both seasonal and long-term water elevation trends. On December 9, 2025, data were downloaded from the transducers.

The maximum elevation, minimum elevation, and range of elevation change for each well recorded by the transducers are summarized in Table 4. As shown in Table 4, the range of change in water levels was relatively consistent across the six wells, ranging from a maximum of 0.62 feet in monitoring well MW-4 to 0.50 feet in monitoring wells MW-2 and MW-3. Figure A-2 presents time versus elevation graphs for all six wells. The graphs show that during this time period water levels were decreasing and that the decreasing pattern was consistent in all of the wells; flow was in the direction of monitoring well MW-6 for most of the time period. This interpretation is similar to that from previous years. The distribution of water-level elevations suggests that the groundwater flow away from the site is northerly (DOE 2014).

Figure A-3 is a graph that shows water-level elevations from 1994 to 2025. As shown in Figure A-3, the water levels have collectively risen from between 570 to 571 feet above mean sea level (amsl) in 1994 to slightly above approximately 581 feet amsl in 2025, a rise of approximately 11 feet in 31 years.

Table 1. August 2025 Sampling Results Summary[a]

Analyte	Units	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	EPA MCL	WVa Std
Metals									
Antimony	µg/L	U	U	U	U	U	U	6	
Barium	µg/L	55.2	73.2	131	119	82.6	73.5	2000	2000
Beryllium	µg/L	U	U	U	U	U	U	4	4
Cadmium	µg/L	U	U	1.35	U	U	U	5	5
Chromium	µg/L	U	U	U	U	U	U	100	100
Lead	µg/L	5.12	2.32	9.37	7.87	U	U	15[b]	15
Mercury	µg/L	U	U	U	U	U	U	2	2
Nickel	µg/L	8.64	U	2.12 J	7.12	1.6 J	U		
Selenium	µg/L	U	U	U	U	U	U	50	50
Thallium	µg/L	U	U	U	U	U	U	2	2
Hafnium	µg/L	U	U	U	U	U	U		
Zirconium	µg/L	U	U	U	U	U	U		
Thiocyanate	µg/L	U	U	U	U	U	U		
Major Cations and Ions									
Calcium	mg/L	98.7	103	33.9	86.9	131	151		
Magnesium	mg/L	13.1	12.5	22.2	11.8	20.2	21.6		
Potassium	mg/L	2.02	1.63	3.62	3.03	3.13	2.78		
Sodium	mg/L	24.2	7.04	32.1	44.5	12.9	31.8		
Chloride	mg/L	31.9	15.9	72.7	42.8	61.8	79.2		
Sulfate	mg/L	89.5	28.2	9.19	25.8	57.5	101		
Nitrate/nitrite[c]	mg/L	1	6.4	0.156	0.368	4.19	11.8	10	10

Table 1. August 2025 Sampling Results Summary (continued)

Analyte	Units	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	EPA MCL	WVa Std
Radionuclides									
Radium-226	pCi/L	0.99	U	0.654	U	1.81	0.623	5[d]	5[d]
Radium-228	pCi/L	U	U	1.28	U	U	1.43	5[d]	5[d]
Uranium	µg/L	0.447	0.504	U	0.084 J	0.43	0.659	30	30
Gross alpha	pCi/L	U	1.5	U	U	U	U	15	15
Gross beta[e]	pCi/L	2.81	2.93	4.57	3.21	3.9	3.79	4[f]	4[f]

Notes:
[a] Maximum values were reported.
[b] Action limit.
[c] Nitrate/nitrite as nitrogen.
[d] Radium-226 and radium-228 combined.
[e] Screening level of concern for gross beta is 50 pCi/L.
[f] mrem = (rem=roentgen-equivalent-man).

Abbreviations:
J = estimated
U = the result was below the detection limit
WVa Std = West Virginia groundwater standards from 47 WVaC 12

Table 2. Monitoring Well MW-5, Water Quality, 1994 Through 2025

Analyte	Units	1994		1995		1998		2003		2008		2013		2025		EPA MCL	WVa Std
Metals																	
Antimony	µg/L	3.1	B	U		U		0.3	B	U		U		U		6	
Barium	µg/L	90.4	B	86.6	B	73.9	B	74.5	B	63		92		82.6		2000	2000
Beryllium	µg/L	U		U		U		U		0.5	B	U		U		4	4
Cadmium	µg/L	U		U		U		U		0.076	B	U		U		5	5
Chromium	µg/L	U		U		U		U		U		U		U		100	100
Lead	µg/L	U		U		U		U		0.55		0.26	B	U		15[a]	15
Mercury	µg/L	U		U		U		U		U		U		U		2	2
Nickel	µg/L	U		U		U		U		1.8	B	U		1.6	J		
Selenium	µg/L	U		U		U		U		0.015	B	U		U		50	50
Thallium	µg/L	U		U		U		U		0.028	B	U		U		2	2
Hafnium	µg/L	U		U		U		U		[b]		[b]		U			
Zirconium	µg/L	1.1	B	U		U		U		U		U		U			
Thiocyanate	µg/L	U		U		U		U		U		U		U			
Major Cations and Ions																	
Calcium	mg/L	110		107		0.0995		110		110		160		131			
Magnesium	mg/L	16.2		15.4		12.6		13.4		14		21		20.2			
Potassium	mg/L	4.31	B	3.65	B	3.14		3.48		3.2		3.3		3.13			
Sodium	mg/L	10.6		7.74		9.85		10.9		16		11		12.9			
Chloride	mg/L	25.9		23		20.6		42.2		54		79		61.8			
Sulfate	mg/L	53.8		54.1		52.4		58.9		62		64		57.5			
Nitrate/nitrite[c]	mg/L	3.88		3.34		2.54		3.08		2.7		7.3		4.19		10	10
Radionuclides																	
Radium-226	pCi/L	0.15		0.15		U		U		U		U		1.81		5[d]	5[d]
Radium-228	pCi/L	U		U		U		U		U		U		U		5[d]	5[d]
Uranium	µg/L	U		U		U		0.29	B	0.3	E	0.38		0.43		30	30
Gross alpha	pCi/L	U		U		U		U		U		U		U		15	15
Gross beta[e]	pCi/L	U		U		U		U		3.45		2.79		3.9		4[f]	4[f]

Notes:
1994 and 1995 data are from the 1995 Site Characterization Report.
Maximum values were reported.
[a] Action limit.
[b] Zirconium used as proxy for hafnium.
[c] Nitrate/nitrite as nitrogen.
[d] Radium-226 and radium-228 combined.
[e] Screening level of concern for gross beta is 50 pCi/L.
[f] mrem = (rem=roentgen-equivalent-man).

Abbreviations:
B = the result is between IDL (Instrument Detection Limit) and CRDL (Contract Required Detection Limit)
E = the result is an estimate
J = estimated
U = the result was below the detection limit

Table 3. Monitoring Well MW-6, Water Quality, 1994 Through 2025

Analyte	Units	1994		1995		1998		2003		2008		2013		2023		2025		EPA MCL	WVa Std
Metals																			
Antimony	µg/L	1.1	B	1	B	U		0.95	B	U		0.44		U		U		6	
Barium	µg/L	89.3	B	88.9	B	92.9	B	85	B	82		160		79.1		73.5		2000	2000
Beryllium	µg/L	U		U		U		U		0.33	B	U		U		U		4	4
Cadmium	µg/L	U		U		U		U		U		U		U		U		5	5
Chromium	µg/L	U		U		U		U		0.57	B	U		U		U		100	100
Lead	µg/L	U		U		U		U		0.14	B	0.24	B	U		U		15[a]	15
Mercury	µg/L	U		U		U		U		U		U		U		U		2	2
Nickel	µg/L	U		U		U		U		1	B	U		U		U			
Selenium	µg/L	U		U		U		U		0.046	B	U		U		U		50	50
Thallium	µg/L	U		U		U		U		0.029	B	U		U		U		2	2
Hafnium	µg/L	1.1	B	U		U		U		[b]		[b]		U		U			
Zirconium	µg/L	1.5	B	U		U		U		U		U		U		U			
Thiocyanate	µg/L	U		U		U		U		U		U		U		U			
Major Cations and Ions																			
Calcium	mg/L	133		122		114		99.7		100		190		165		151			
Magnesium	mg/L	14.8		13.2		12.4		11.4		11		24		23		21.6			
Potassium	mg/L	2.34		1.78		1.83		1.76		2.1		3.3		3	B	2.78			
Sodium	mg/L	13.9		12.9		14.6		14.4		19		32		32		31.8			
Chloride	mg/L	31.6		26		24.5		52.5		38		120		72		79.2			
Sulfate	mg/L	101		81		58.8		48.6		70		91		179		101			
Nitrate/nitrite[c]	mg/L	10		9.71		6.37		1.9		1.7		14		7		11.8		10	10
Radionuclides																			
Radium-226	pCi/L	0.25		0.1		U		U		U		U		1.13	J	0.623		5[d]	5[d]
Radium-228	pCi/L	U		U		U		U		U		U		1.19	J	1.43		5[d]	5[d]
Uranium	µg/L	U		U		U		0.44	B	0.44		0.64		0.69		0.659		30	30
Gross alpha	pCi/L	U		U		U		U		U		U		U		U		15	15
Gross beta[e]	pCi/L	U		U		U		U		U		3.37		4.31		3.79		4[f]	4[f]

Notes:
1994 and 1995 data are from the 1995 Site Characterization Report.
Maximum values were reported.
[a] Action limit.
[b] Zirconium used as proxy for hafnium.
[c] Nitrate/nitrite as nitrogen.
[d] Radium-226 and radium-228 combined.
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[f] mrem = (rem=roentgen-equivalent-man).

Abbreviations:
B = the result is between IDL (Instrument Detection Limit) and CRDL (Contract Required Detection Limit)
J = estimated
U = the result was below the detection limit

Table 4. Water Levels, Monitoring Wells MW-1 Through MW-6

	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6	
	Elevation/Range	**Date**	**Elevation/Range**	**Date**	**Elevation/Range**	**Date**	**Elevation/Range**	**Date**	**Elevation/Range**	**Date**	**Elevation/Range**	**Date**
Max Elevation (feet amsl)	581.67	8/20/2025	581.8	8/20/2025	581.64	9/4/2025	582	8/20/2025	581.8	8/20/2025	581.68	8/20/2025
Min. Elevation (feet amsl)	581.13	12/1/2025	581.29	12/9/2025	581.14	12/1/2025	581.38	12/9/2025	581.28	12/1/2025	581.11	12/1/2025
Range (feet)	0.54		0.5		0.5		0.62		0.51		0.57	

1.8.2 Site Groundwater Monitoring Plans

Given that the only exceedance recorded in 2025 was for nitrate + nitrite in one well, DOE plans to take no action at this time other than continued monitoring. After 1 year of water level measurements have been obtained, water level data will be used to assess how seasonal variations in the water table might impact where and when to monitor for water quality. DOE plans to prepare a groundwater monitoring assessment report that will include recommendations for future groundwater monitoring activities that are consistent with the findings of the assessment

Once results have been reported and future monitoring plans have been determined, the site LTSP will be revised to reflect monitoring program changes.

1.8.3 Vegetation Management

Vegetation management at the Parkersburg site involves periodic mowing and spot herbicide application. Vegetation along the fence line and around the monitoring wells was being sufficiently controlled.

The current approach of mowing followed by spot herbicide application appears to provide sufficient control of poisonous and noxious weeds at this time but could be improved by adding an additional round of mowing and spraying. Species of concern include Canada thistle (*Cirsium arvense*), poison hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*), reed canarygrass (*Phalaris arundinacea*), Johnsongrass (*Sorghum halepense*), curly dock (*Rumex crispus*), and eastern poison ivy (*Toxicodendron radicans*). The only species of concern observed in 2025 were scattered poison hemlock on the western edge of the mowed field outside the fence and scattered curly dock in the northwest corner of the mowed field inside the perimeter fence.

A number of native species continued to be observed in 2025, consistent with findings from previous inspections. LM is looking for innovative ways to provide reuse at the Parkersburg site, and providing a native prairie for pollinator purposes is one possibility. While the open portions of the site consist primarily of cool-season grasses and weedy species, native species, such as mistflower (*Conoclinium coelestinum*), wingstem (*Verbesina alternifolia*), Indianhemp (*Apocynum cannabinum*), and goldenrod (*Solidago* species), were also observed.

1.9 Corrective Action

If natural or unpredictable events threaten the stability of the stabilization mound, corrective action appropriate to the problem could include temporary emergency measures. In addition, the factors that caused the problem would be evaluated to ensure that recurrence is minimized or avoided. A report of the evaluation would be prepared.

No corrective actions were identified based on the inspection.

2.0 References

47 WVaC 12. "Requirements Governing Groundwater Standards," *West Virginia Administrative Code*.

DOE (U.S. Department of Energy), 1995. *AMAX Radioactive Material Storage Area, Parkersburg, West Virginia, Site Characterization Results*, GJPO-ES-15, September.

DOE (U.S. Department of Energy), 2014. *Groundwater Monitoring Assessment Parkersburg, West Virginia, Disposal Site*, LMS/PKB/S11932, Office of Legacy Management, June.

DOE (U.S. Department of Energy), 2019. *Long-Term Surveillance Plan for the Parkersburg, West Virginia, Disposal Site*, LMS/PKB/S11796-1.0, Office of Legacy Management, May.

EPA (U.S. Environmental Protection Agency), 2002a. *Implementation Guidance for Radionuclides*, EPA 816-F-00-002, Office of Ground Water and Drinking Water (4606M), March.

EPA (U.S. Environmental Protection Agency), 2002b. *Radionuclides in Drinking Water: A Small Entity Compliance Guide*, EPA-R-02-001, Office of Ground Water and Drinking Water (4606M), February.

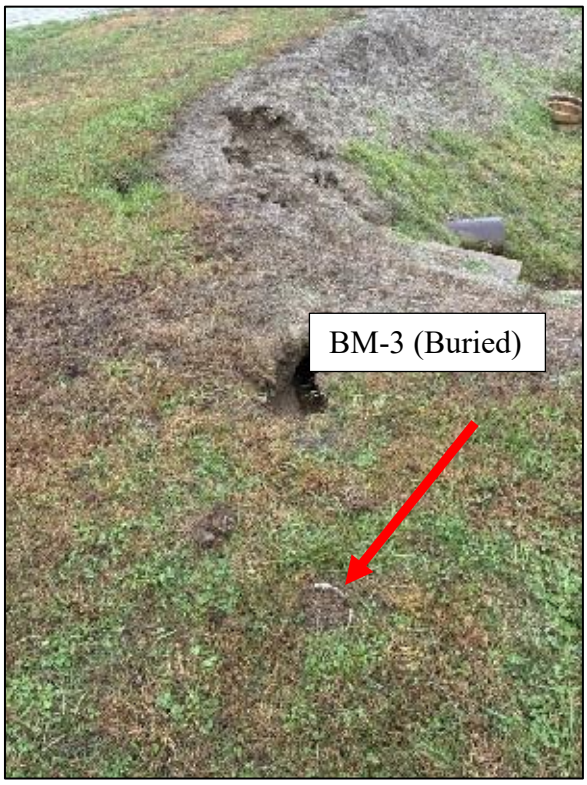
3.0 Photographs

Photo Location Number	Azimuth	Photograph Description
PL-1	135	Vegetation Free Fence Line
PL-2	—	Boundary Monument BM-2
PL-3	—	Boundary Monument BM-3 (buried)
PL-4	90	Monitoring Well MW-1
PL-5	—	Animal Burrows

Note:
— = Photograph taken vertically from above.

PL-1. Vegetation Free Fence Line

PL-2. Boundary Monument BM-2



PL-3. Boundary Monument BM-3 (Buried)

PL-4. Monitoring Well MW-1

PL-5. Animal Burrows

Appendix A

Site Drawings

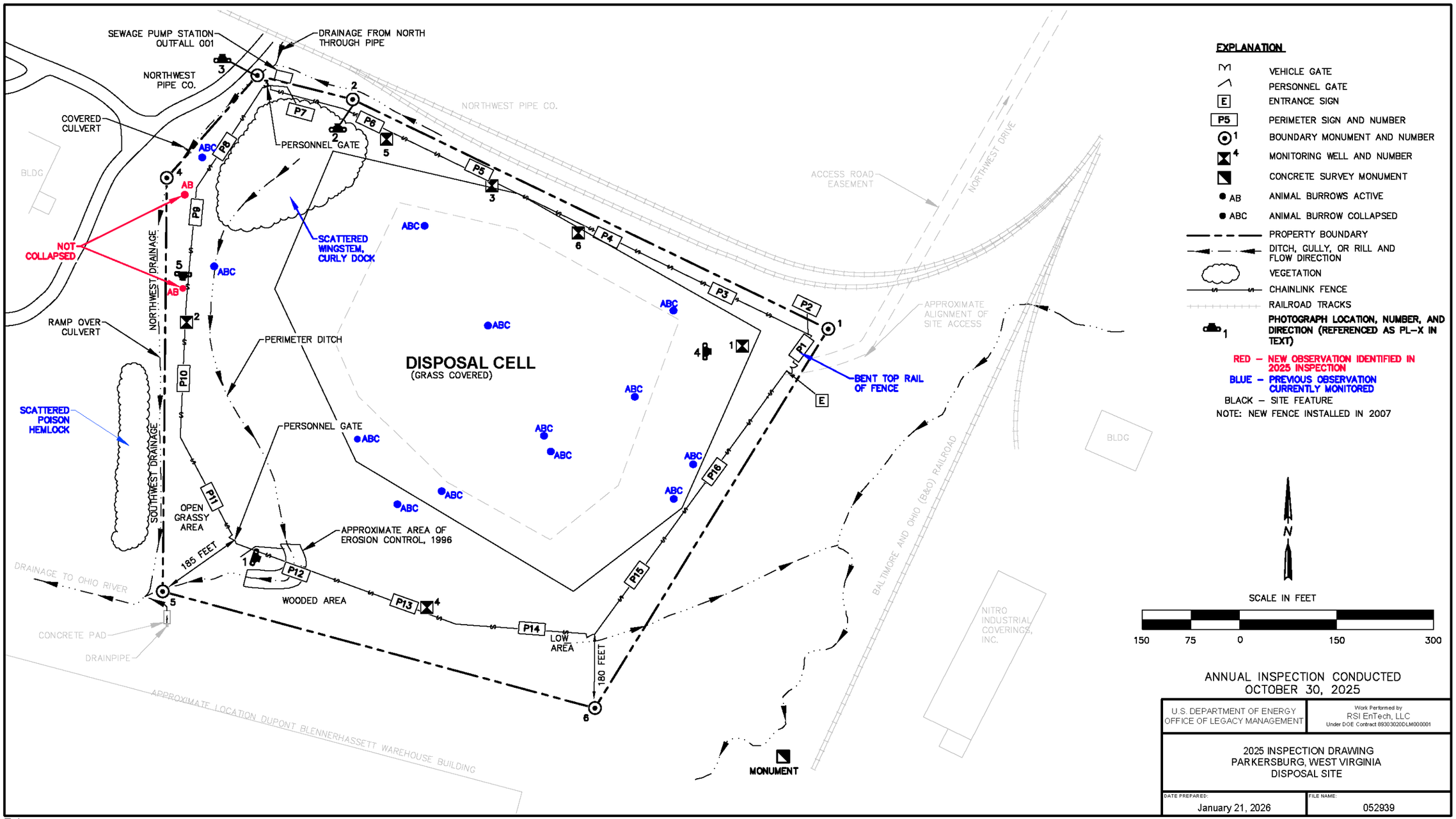
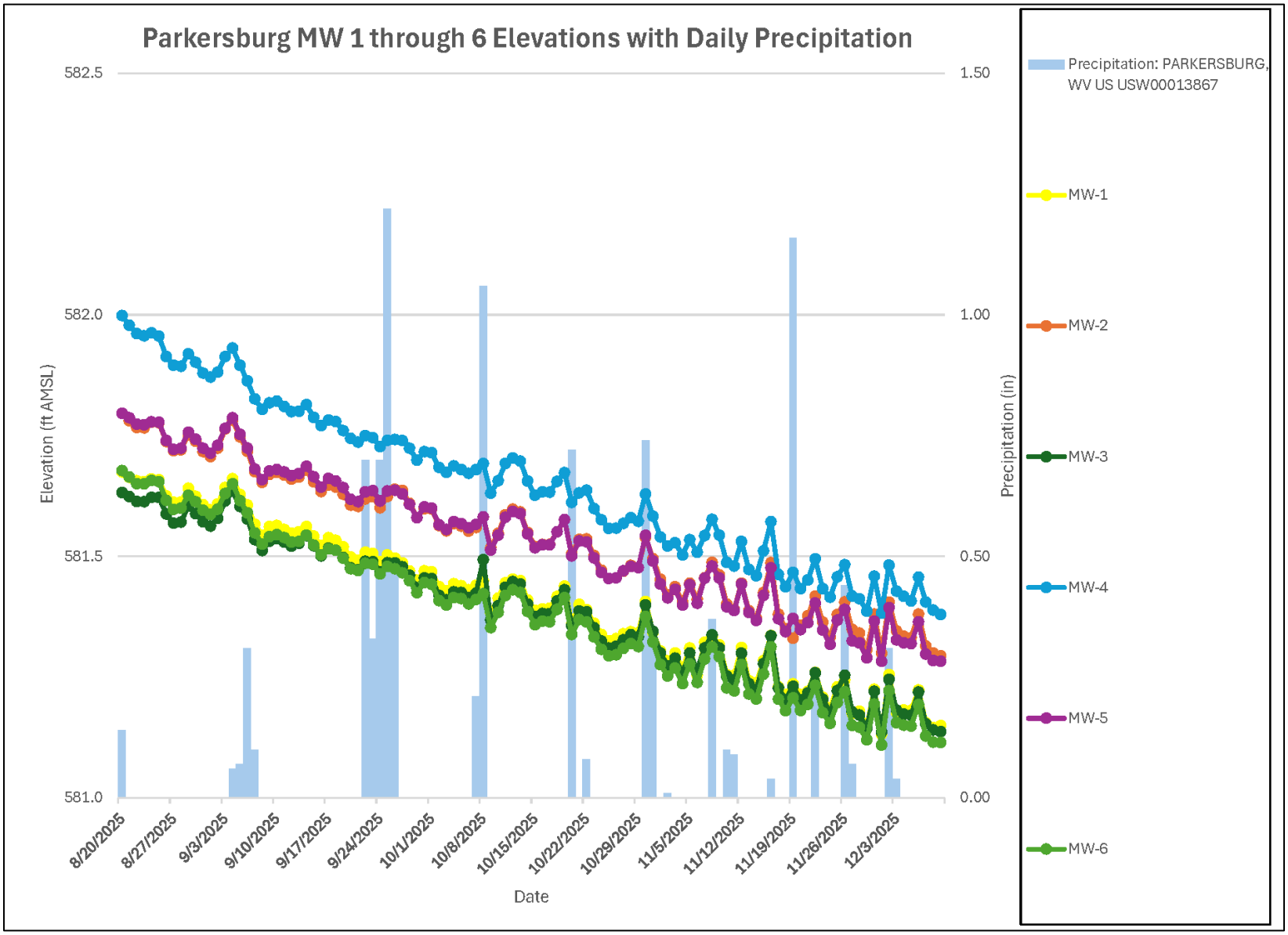
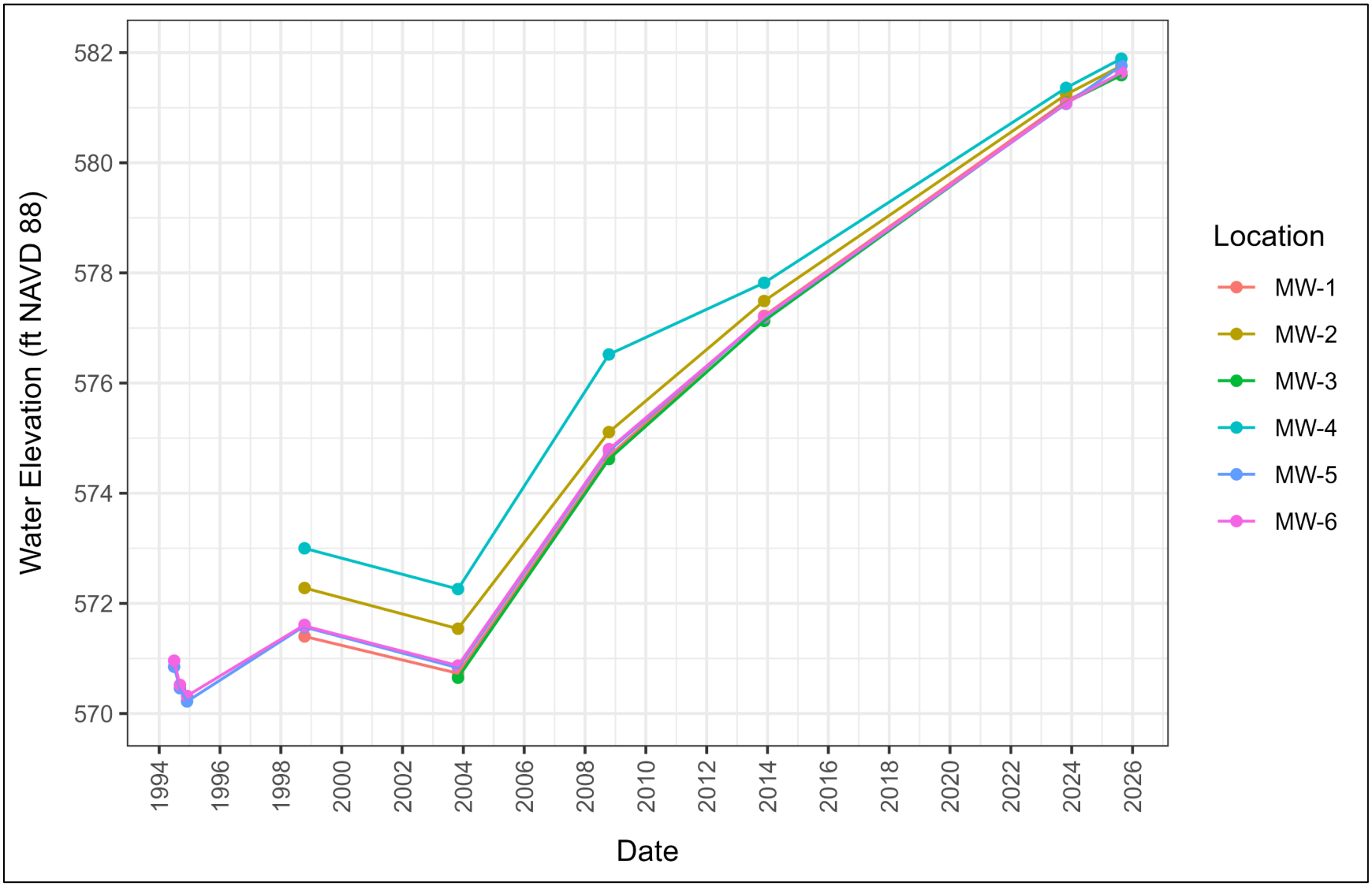


Figure A-1. 2025 Annual Inspection Drawing for the Parkersburg, West Virginia, Disposal Site



Abbreviation: in = inches

Figure A-2. Groundwater Elevations with Daily Precipitation, Parkersburg, West Virginia, Disposal Site



Abbreviation: ft NAVD 88 = feet North American Vertical Datum of 1988

Figure A-3. Groundwater Water Elevations, Parkersburg, West Virginia Disposal Site