

Ambient Air Concentrations Quarterly Update Fourth Quarter 2024 (October – December 2024)

Notes:

- 1) Ambient air is monitored at 16 air samplers, one in each compass sector, approximately one to two miles from the center of the West Valley Demonstration Project (WVDP) site. Additionally, a high-volume sampler with better detection capability is located in the north-northwest direction as a conservative measure because, historically, the predominant prevailing wind direction at the WVDP is toward the north-northwest.
- 2) The EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Compliance Limit is 10 mrem/year. In the graphs on pages 3 and after, the 'NESHAP 10 mrem/year Limit' shows the concentration in air (in $\mu\text{Ci/mL}$) for each isotope at each location that would result in a dose equivalent of 10 mrem/year if the concentration level is sustained for a full year.
- 3) Negative results in the data tables represent sampling results with zero activity present or where the instrument background slightly exceeds the instrument radioactivity count rate obtained for the sample.

In the fourth quarter of 2024, positive detections were observed at several locations (Map 1). The highest dose was observed at AF14 (WNW) in this quarter, and the positively detected isotopes at AF14 included americium-241 (Am-241), cesium-137 (Cs-137), strontium-90 (Sr-90), plutonium (Pu-238), and Pu-239. The estimated quarterly dose for Q4 2024 was 0.18 mrem, 1.8% of the NESHAP 10 mrem/annual standard.

Table 1 lists the locations where positive detections were observed in this quarter and their quarterly concentrations ($\mu\text{Ci/mL}$), percentages against the NESHAP concentration limits, and estimated quarterly doses. The past results since 2017 of the positively detected isotopes this quarter are displayed in graphs and data tables on page 3 and after.

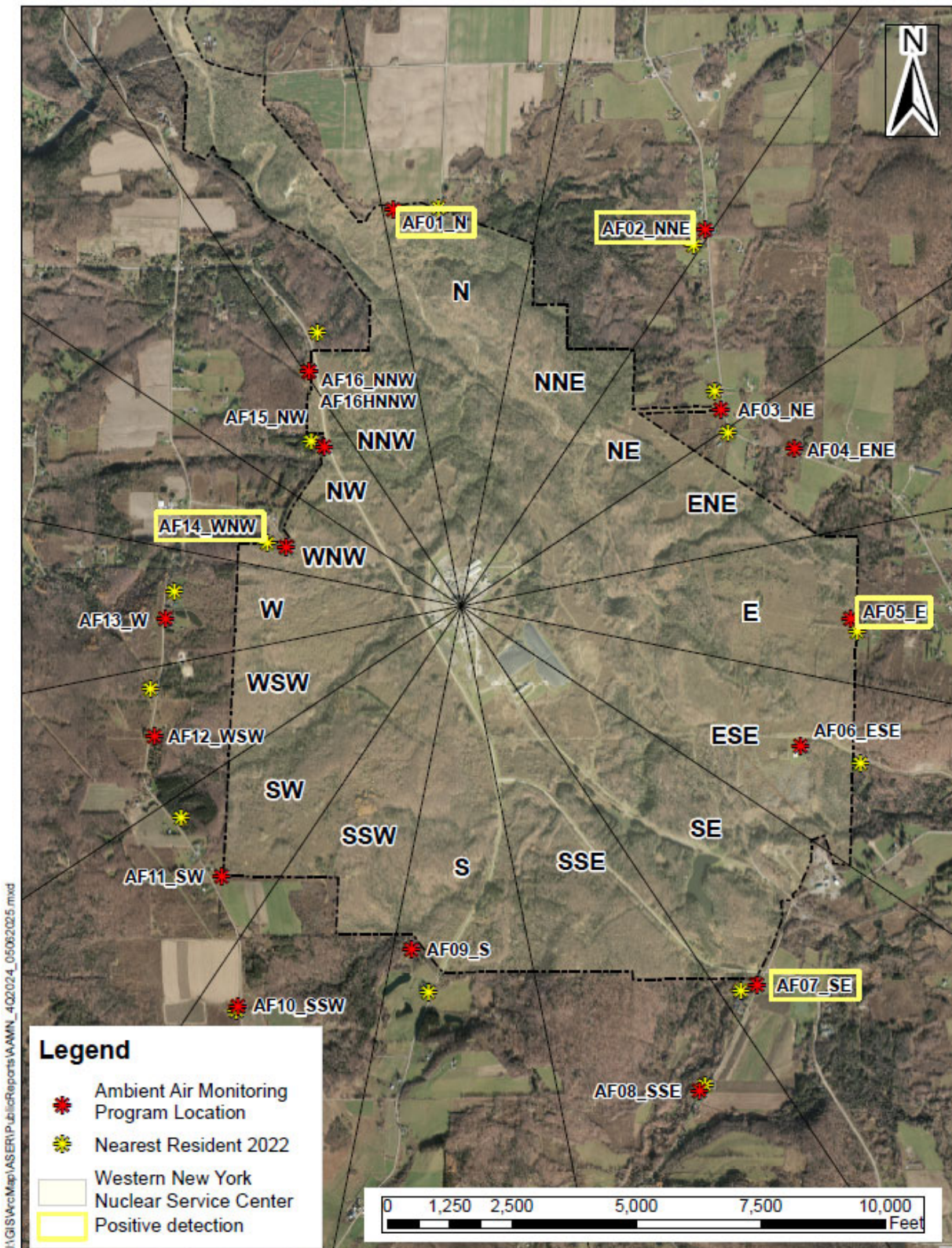
Table 1. Quarterly Results for Q4 2024 at Each Sampler. (See the locations on the next page.)

Location	Isotope	Quarterly Positive Concentration ($\mu\text{Ci/mL}$)	Quarterly (%) of NESHAP Limit ^{a)}	Quarterly Dose ^{b)} (mrem/qtr)	Location	Isotope	Quarterly Positive Concentration ($\mu\text{Ci/mL}$)	Quarterly (%) of NESHAP Limit	Quarterly Dose (mrem/qtr)
AF01_N	Pu-238	3.63E-17	0.33%	0.0081	AF14_WNW	Am-241	2.10E-16	1.68%	0.0422
AF02_NNE	Cs-137	7.17E-17	0.12%	0.0030		Cs-137	3.54E-15	2.90%	0.0728
AF05_E	Pu-238	5.06E-17	0.47%	0.0117		Pu-238	5.18E-17	0.46%	0.0115
AF07_SE	Pu-238	4.11E-17	0.37%	0.0093		Pu-239	9.28E-17	0.90%	0.0225
	Pu-239	2.88E-17	0.29%	0.0071		Sr-90	2.08E-15	1.21%	0.0302

a) The concentration in air ($\mu\text{Ci/mL}$) for each isotope at each location that would result in a dose equivalent of 10 mrem/year is listed in the following data tables.

b) NESHAP dose compliance limit from air emissions is 10 mrem/year.

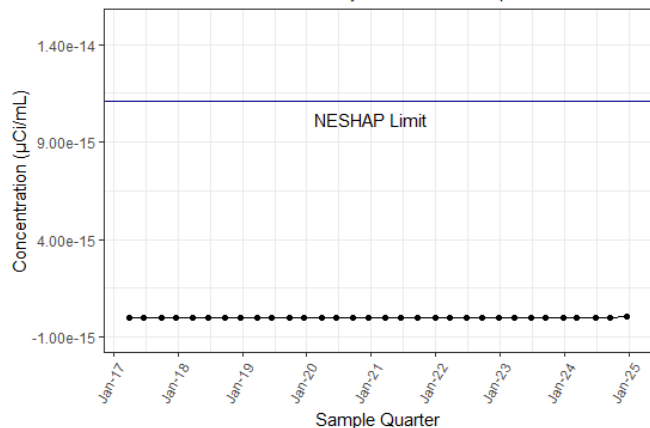
Map 1. Ambient Monitoring Sampler Locations



Measurement History for Locations with Positive Detections (Q4 2024)

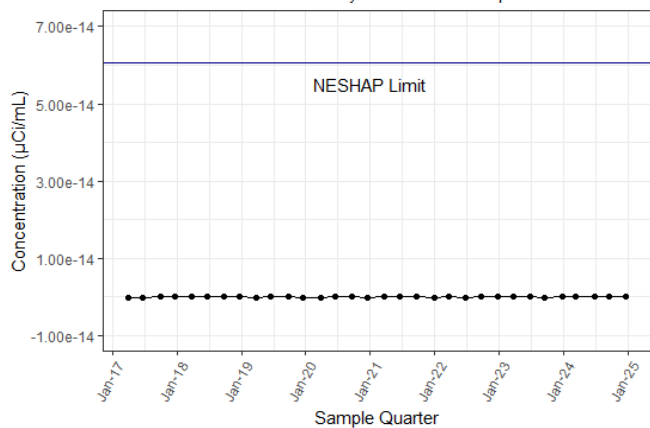
AF01_N Pu-238

AF01_N Pu-238 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 1.11×10^{-14} $\mu\text{Ci/mL}$



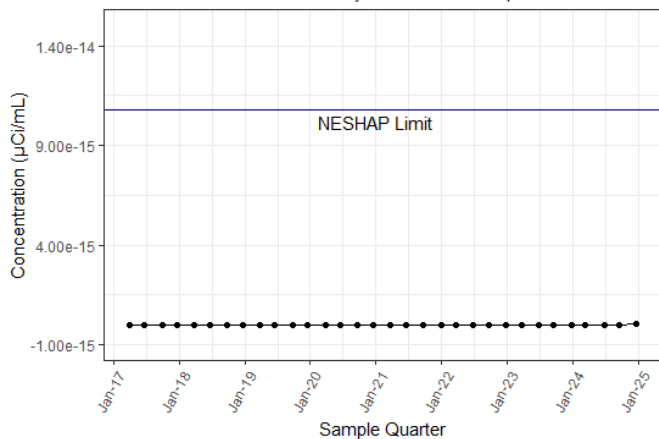
AF02_NNE Cs-137

AF02_NNE Cs-137 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 6.06×10^{-14} $\mu\text{Ci/mL}$



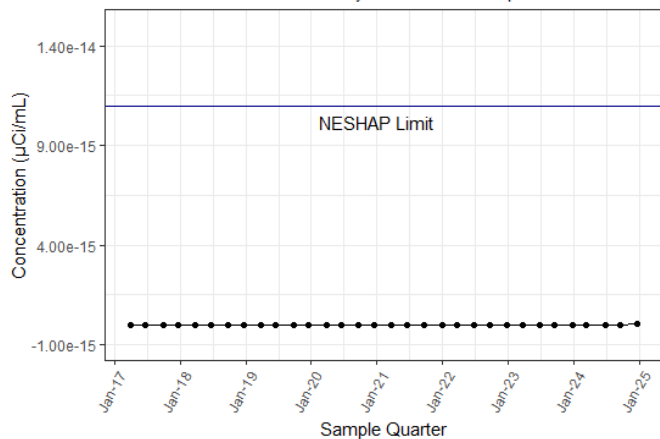
AF05_E Pu-238

AF05_E Pu-238 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 1.08×10^{-14} $\mu\text{Ci/mL}$



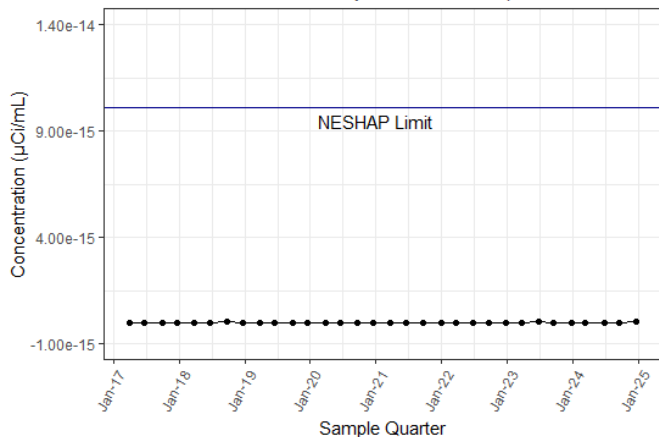
AF07_SE Pu-238

AF07_SE Pu-238 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 1.10×10^{-14} $\mu\text{Ci/mL}$



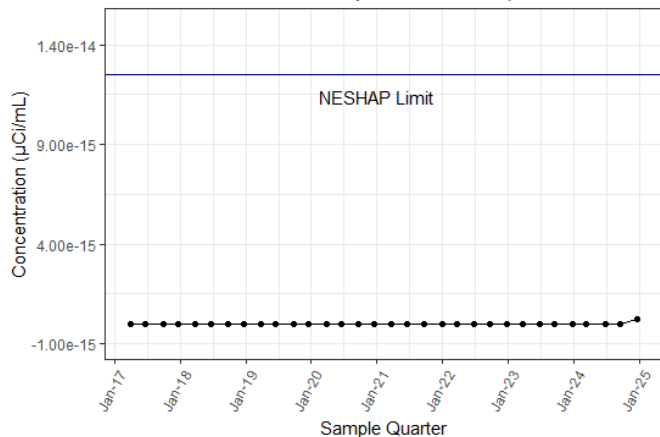
AF07_SE Pu-239

AF07_SE Pu-239 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 1.01×10^{-14} $\mu\text{Ci/mL}$

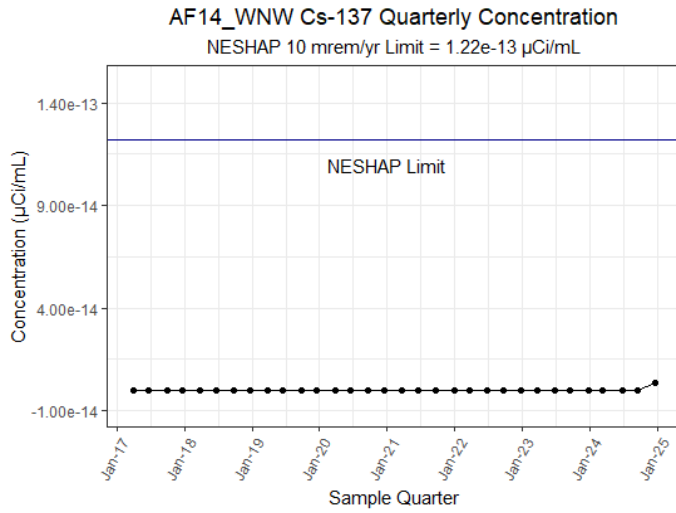


AF14_WNW Am-241

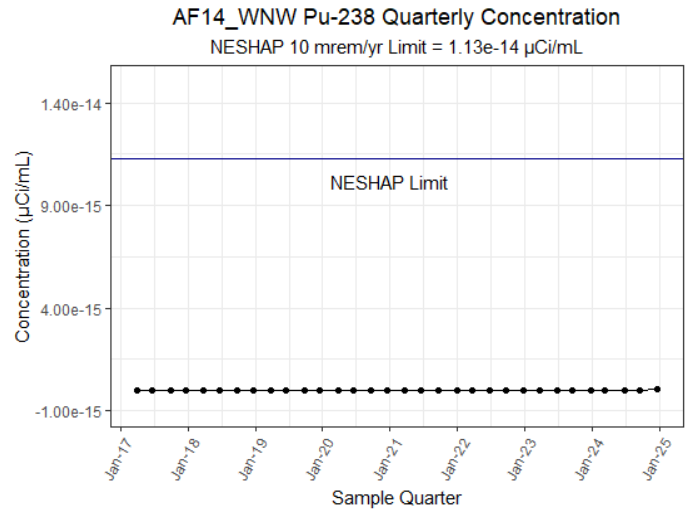
AF14_WNW Am-241 Quarterly Concentration
NESHAP 10 mrem/yr Limit = 1.25×10^{-14} $\mu\text{Ci/mL}$



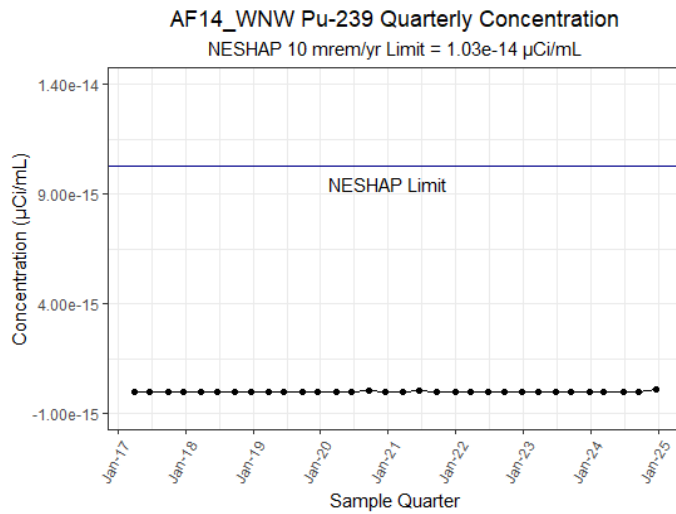
AF14_WNW Cs-137



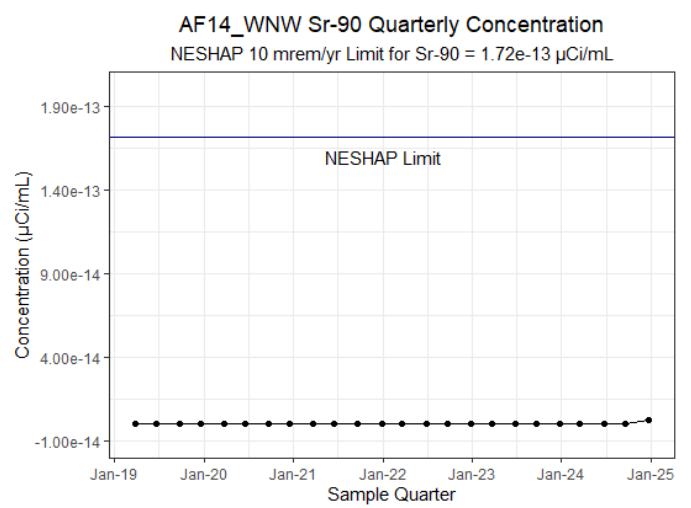
AF14_WNW Pu-238



AF14_WNW Pu-239



AF14_WNW Sr-90



Measurement History for Locations with Positive Detections (Q4 2024)

AF01_N (Pu-238)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF01_N	2017-00095	2017-03-28	1.40E-18	9.03E-18
Plutonium-238	AF01_N	2017-02567	2017-06-20	7.48E-18	9.41E-18
Plutonium-238	AF01_N	2017-04044	2017-09-26	0.00E+00	8.63E-18
Plutonium-238	AF01_N	2017-05962	2017-12-19	7.68E-18	9.69E-18
Plutonium-238	AF01_N	2018-00045	2018-03-27	6.05E-18	1.19E-17
Plutonium-238	AF01_N	2018-02561	2018-06-19	3.44E-18	5.96E-18
Plutonium-238	AF01_N	2018-03791	2018-09-25	7.70E-18	8.68E-18
Plutonium-238	AF01_N	2018-05900	2018-12-18	1.31E-18	7.74E-18
Plutonium-238	AF01_N	2019-00088	2019-03-26	9.28E-18	1.19E-17
Plutonium-238	AF01_N	2019-02428	2019-06-18	8.22E-18	1.20E-17
Plutonium-238	AF01_N	2019-04111	2019-09-24	-3.80E-25	5.47E-18
Plutonium-238	AF01_N	2019-05999	2019-12-17	4.35E-18	7.37E-18
Plutonium-238	AF01_N	2020-00542	2020-03-24	-1.33E-18	1.08E-17
Plutonium-238	AF01_N	2020-02317	2020-06-16	-1.40E-18	9.09E-18
Plutonium-238	AF01_N	2020-04079	2020-09-22	1.09E-17	1.65E-17
Plutonium-238	AF01_N	2020-05728	2020-12-15	-1.02E-18	6.02E-18
Plutonium-238	AF01_N	2021-00133	2021-03-23	1.39E-18	6.68E-18
Plutonium-238	AF01_N	2021-02576	2021-06-15	1.30E-18	8.32E-18
Plutonium-238	AF01_N	2021-04315	2021-09-21	9.67E-19	6.29E-18
Plutonium-238	AF01_N	2021-06740	2021-12-28	-1.18E-24	9.61E-18
Plutonium-238	AF01_N	2022-00014	2022-03-22	-2.72E-18	9.98E-18
Plutonium-238	AF01_N	2022-02576	2022-06-28	4.92E-18	1.85E-17
Plutonium-238	AF01_N	2022-05007	2022-09-20	6.10E-18	7.92E-18
Plutonium-238	AF01_N	2022-06891	2022-12-27	1.32E-18	8.83E-18
Plutonium-238	AF01_N	2023-00035	2023-03-21	7.15E-18	7.38E-18
Plutonium-238	AF01_N	2023-02549	2023-06-27	4.20E-18	6.38E-18
Plutonium-238	AF01_N	2023-04875	2023-09-19	-6.64E-18	8.50E-18
Plutonium-238	AF01_N	2023-06420	2023-12-26	1.97E-18	5.46E-18
Plutonium-238	AF01_N	2024-00031	2024-03-14	2.21E-18	6.11E-18
Plutonium-238	AF01_N	2024-02797	2024-06-25	1.92E-18	1.07E-17
Plutonium-238	AF01_N	2024-04019	2024-09-17	1.31E-18	8.50E-18
Plutonium-238	AF01_N	2024-06032	2024-12-24	3.63E-17	2.19E-17

AF02_NNE (Cs-137)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Cesium-137	AF02_NNE	2017-00097	2017-03-28	-6.46E-17	1.30E-16
Cesium-137	AF02_NNE	2017-02569	2017-06-20	-2.42E-17	8.86E-17
Cesium-137	AF02_NNE	2017-04046	2017-09-26	3.49E-17	8.35E-17
Cesium-137	AF02_NNE	2017-05964	2017-12-19	6.16E-17	1.20E-16
Cesium-137	AF02_NNE	2018-00047	2018-03-27	1.15E-17	1.49E-16
Cesium-137	AF02_NNE	2018-02563	2018-06-19	-6.34E-18	8.19E-17

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Cesium-137	AF02_NNE	2018-03793	2018-09-25	1.03E-16	7.72E-17
Cesium-137	AF02_NNE	2018-05902	2018-12-18	5.96E-18	8.43E-17
Cesium-137	AF02_NNE	2019-00090	2019-03-26	-2.69E-17	1.16E-16
Cesium-137	AF02_NNE	2019-02430	2019-06-18	2.48E-18	1.06E-16
Cesium-137	AF02_NNE	2019-04113	2019-09-24	3.54E-17	1.17E-16
Cesium-137	AF02_NNE	2019-06001	2019-12-17	-7.64E-17	1.21E-16
Cesium-137	AF02_NNE	2020-00544	2020-03-24	-2.74E-17	8.21E-17
Cesium-137	AF02_NNE	2020-02319	2020-06-16	8.31E-17	9.63E-17
Cesium-137	AF02_NNE	2020-04081	2020-09-22	5.33E-17	8.49E-17
Cesium-137	AF02_NNE	2020-05730	2020-12-15	-1.44E-17	9.95E-17
Cesium-137	AF02_NNE	2021-00135	2021-03-23	2.47E-17	1.24E-16
Cesium-137	AF02_NNE	2021-02578	2021-06-15	5.08E-17	5.64E-17
Cesium-137	AF02_NNE	2021-04317	2021-09-21	6.85E-17	1.33E-16
Cesium-137	AF02_NNE	2021-06742	2021-12-28	-6.18E-17	1.06E-16
Cesium-137	AF02_NNE	2022-00016	2022-03-22	9.16E-17	1.36E-16
Cesium-137	AF02_NNE	2022-02578	2022-06-28	-2.72E-17	7.44E-17
Cesium-137	AF02_NNE	2022-05009	2022-09-20	4.57E-17	1.01E-16
Cesium-137	AF02_NNE	2022-06893	2022-12-27	4.12E-17	9.08E-17
Cesium-137	AF02_NNE	2023-00037	2023-03-21	1.38E-17	1.86E-16
Cesium-137	AF02_NNE	2023-02551	2023-06-27	1.27E-17	1.09E-16
Cesium-137	AF02_NNE	2023-04877	2023-09-19	-2.63E-17	1.45E-16
Cesium-137	AF02_NNE	2023-06422	2023-12-26	3.32E-17	6.85E-17
Cesium-137	AF02_NNE	2024-00033	2024-03-14	1.58E-17	1.02E-16
Cesium-137	AF02_NNE	2024-02799	2024-06-25	1.27E-16	1.92E-16
Cesium-137	AF02_NNE	2024-04021	2024-09-17	2.37E-17	1.18E-16
Cesium-137	AF02_NNE	2024-06034	2024-12-24	7.17E-17	6.40E-17

AF05_E (Pu-238)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF05_E	2017-00103	2017-03-28	1.11E-17	1.12E-17
Plutonium-238	AF05_E	2017-02575	2017-06-20	4.88E-18	1.27E-17
Plutonium-238	AF05_E	2017-04052	2017-09-26	8.52E-18	1.04E-17
Plutonium-238	AF05_E	2017-05970	2017-12-19	8.66E-20	6.42E-18
Plutonium-238	AF05_E	2018-00053	2018-03-27	-8.30E-19	4.90E-18
Plutonium-238	AF05_E	2018-02569	2018-06-19	8.07E-25	5.92E-18
Plutonium-238	AF05_E	2018-03799	2018-09-25	8.36E-19	3.68E-18
Plutonium-238	AF05_E	2018-05908	2018-12-18	1.05E-18	3.55E-18
Plutonium-238	AF05_E	2019-00096	2019-03-26	3.28E-18	9.71E-18
Plutonium-238	AF05_E	2019-02436	2019-06-18	-1.13E-24	9.20E-18
Plutonium-238	AF05_E	2019-04119	2019-09-24	1.24E-18	8.46E-18
Plutonium-238	AF05_E	2019-06007	2019-12-17	1.18E-24	8.65E-18
Plutonium-238	AF05_E	2020-00550	2020-03-24	7.46E-19	4.85E-18
Plutonium-238	AF05_E	2020-02325	2020-06-16	-1.05E-24	7.69E-18
Plutonium-238	AF05_E	2020-04087	2020-09-22	6.26E-18	9.62E-18
Plutonium-238	AF05_E	2020-05736	2020-12-15	0.00E+00	5.88E-18
Plutonium-238	AF05_E	2021-00141	2021-03-23	-1.18E-17	8.17E-18

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF05_E	2021-02584	2021-06-15	6.44E-18	8.26E-18
Plutonium-238	AF05_E	2021-04323	2021-09-21	8.05E-19	4.72E-18
Plutonium-238	AF05_E	2021-06748	2021-12-28	-2.27E-25	3.27E-18
Plutonium-238	AF05_E	2022-00022	2022-03-22	1.95E-18	6.64E-18
Plutonium-238	AF05_E	2022-02584	2022-06-28	-7.94E-19	5.97E-18
Plutonium-238	AF05_E	2022-05015	2022-09-20	0.00E+00	5.10E-18
Plutonium-238	AF05_E	2022-06899	2022-12-27	3.91E-18	4.60E-18
Plutonium-238	AF05_E	2023-00043	2023-03-21	7.03E-18	1.02E-17
Plutonium-238	AF05_E	2023-02557	2023-06-27	6.43E-19	4.54E-18
Plutonium-238	AF05_E	2023-04883	2023-09-19	1.98E-18	6.77E-18
Plutonium-238	AF05_E	2023-06428	2023-12-26	3.72E-18	5.66E-18
Plutonium-238	AF05_E	2024-00039	2024-03-14	3.29E-18	5.69E-18
Plutonium-238	AF05_E	2024-02805	2024-06-25	4.55E-18	1.05E-17
Plutonium-238	AF05_E	2024-04027	2024-09-17	5.07E-18	7.03E-18
Plutonium-238	AF05_E	2024-06040	2024-12-24	5.06E-17	1.77E-17

AF07_SE (Pu-238)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF07_SE	2017-00107	2017-03-28	3.91E-18	8.49E-18
Plutonium-238	AF07_SE	2017-02579	2017-06-20	-3.14E-18	7.01E-18
Plutonium-238	AF07_SE	2017-04056	2017-09-26	7.10E-18	9.89E-18
Plutonium-238	AF07_SE	2017-05974	2017-12-19	4.23E-18	9.57E-18
Plutonium-238	AF07_SE	2018-00057	2018-03-27	-5.23E-18	9.38E-18
Plutonium-238	AF07_SE	2018-02573	2018-06-19	-2.00E-18	1.14E-17
Plutonium-238	AF07_SE	2018-03803	2018-09-25	4.04E-18	6.27E-18
Plutonium-238	AF07_SE	2018-05912	2018-12-18	-1.31E-18	6.80E-18
Plutonium-238	AF07_SE	2019-00100	2019-03-26	2.33E-18	1.02E-17
Plutonium-238	AF07_SE	2019-02440	2019-06-18	4.62E-18	1.01E-17
Plutonium-238	AF07_SE	2019-04123	2019-09-24	1.44E-18	1.29E-17
Plutonium-238	AF07_SE	2019-06011	2019-12-17	5.26E-18	8.95E-18
Plutonium-238	AF07_SE	2020-00554	2020-03-24	0.00E+00	9.46E-18
Plutonium-238	AF07_SE	2020-02329	2020-06-16	-5.00E-18	1.08E-17
Plutonium-238	AF07_SE	2020-04091	2020-09-22	2.43E-18	7.48E-18
Plutonium-238	AF07_SE	2020-05740	2020-12-15	1.45E-17	1.64E-17
Plutonium-238	AF07_SE	2021-00145	2021-03-23	0.00E+00	7.46E-18
Plutonium-238	AF07_SE	2021-02588	2021-06-15	-5.00E-18	1.79E-17
Plutonium-238	AF07_SE	2021-04327	2021-09-21	1.90E-18	5.27E-18
Plutonium-238	AF07_SE	2021-06752	2021-12-28	8.99E-19	5.30E-18
Plutonium-238	AF07_SE	2022-00026	2022-03-22	-6.31E-18	9.86E-18
Plutonium-238	AF07_SE	2022-02588	2022-06-28	-1.03E-17	1.09E-17
Plutonium-238	AF07_SE	2022-05019	2022-09-20	1.37E-18	6.01E-18
Plutonium-238	AF07_SE	2022-06903	2022-12-27	2.49E-18	4.88E-18
Plutonium-238	AF07_SE	2023-00047	2023-03-21	4.43E-18	8.64E-18
Plutonium-238	AF07_SE	2023-02561	2023-06-27	1.19E-17	4.28E-18
Plutonium-238	AF07_SE	2023-04887	2023-09-19	1.17E-18	7.97E-18
Plutonium-238	AF07_SE	2023-06432	2023-12-26	2.63E-18	5.17E-18

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF07_SE	2024-00043	2024-03-14	6.08E-18	7.43E-18
Plutonium-238	AF07_SE	2024-02809	2024-06-25	-2.26E-18	5.74E-18
Plutonium-238	AF07_SE	2024-04031	2024-09-17	3.62E-18	6.16E-18
Plutonium-238	AF07_SE	2024-06044	2024-12-24	4.11E-17	1.57E-17

AF07_SE (Pu-239)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-239	AF07_SE	2017-00107	2017-03-28	-1.30E-18	8.42E-18
Plutonium-239	AF07_SE	2017-02579	2017-06-20	-2.20E-18	9.02E-18
Plutonium-239	AF07_SE	2017-04056	2017-09-26	5.32E-18	1.04E-17
Plutonium-239	AF07_SE	2017-05974	2017-12-19	-3.38E-18	5.45E-18
Plutonium-239	AF07_SE	2018-00057	2018-03-27	-9.38E-18	8.45E-18
Plutonium-239	AF07_SE	2018-02573	2018-06-19	-1.99E-18	7.84E-18
Plutonium-239	AF07_SE	2018-03803	2018-09-25	9.12E-18	8.66E-18
Plutonium-239	AF07_SE	2018-05912	2018-12-18	1.31E-18	8.51E-18
Plutonium-239	AF07_SE	2019-00100	2019-03-26	4.66E-18	1.12E-17
Plutonium-239	AF07_SE	2019-02440	2019-06-18	0.00E+00	7.39E-18
Plutonium-239	AF07_SE	2019-04123	2019-09-24	-3.40E-19	9.35E-18
Plutonium-239	AF07_SE	2019-06011	2019-12-17	7.00E-25	6.51E-18
Plutonium-239	AF07_SE	2020-00554	2020-03-24	-4.25E-18	7.99E-18
Plutonium-239	AF07_SE	2020-02329	2020-06-16	8.32E-18	1.57E-17
Plutonium-239	AF07_SE	2020-04091	2020-09-22	-4.10E-18	6.52E-18
Plutonium-239	AF07_SE	2020-05740	2020-12-15	2.41E-18	8.19E-18
Plutonium-239	AF07_SE	2021-00145	2021-03-23	3.29E-18	7.13E-18
Plutonium-239	AF07_SE	2021-02588	2021-06-15	1.99E-18	9.77E-18
Plutonium-239	AF07_SE	2021-04327	2021-09-21	-8.53E-18	6.71E-18
Plutonium-239	AF07_SE	2021-06752	2021-12-28	8.99E-19	6.84E-18
Plutonium-239	AF07_SE	2022-00026	2022-03-22	-3.79E-18	1.22E-17
Plutonium-239	AF07_SE	2022-02588	2022-06-28	-8.38E-18	1.16E-17
Plutonium-239	AF07_SE	2022-05019	2022-09-20	4.11E-18	8.06E-18
Plutonium-239	AF07_SE	2022-06903	2022-12-27	4.14E-18	5.39E-18
Plutonium-239	AF07_SE	2023-00047	2023-03-21	3.32E-18	8.97E-18
Plutonium-239	AF07_SE	2023-02561	2023-06-27	1.37E-17	4.83E-18
Plutonium-239	AF07_SE	2023-04887	2023-09-19	3.46E-18	6.78E-18
Plutonium-239	AF07_SE	2023-06432	2023-12-26	-8.81E-19	6.21E-18
Plutonium-239	AF07_SE	2024-00043	2024-03-14	7.08E-18	7.15E-18
Plutonium-239	AF07_SE	2024-02809	2024-06-25	3.77E-18	1.05E-17
Plutonium-239	AF07_SE	2024-04031	2024-09-17	3.62E-18	6.16E-18
Plutonium-239	AF07_SE	2024-06044	2024-12-24	2.88E-17	1.36E-17

AF14_WNW (Am-241)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Americium-241	AF14_WNW	2017-00121	2017-03-28	-1.25E-18	8.80E-18
Americium-241	AF14_WNW	2017-02593	2017-06-20	1.85E-18	7.82E-18

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Americium-241	AF14_WNW	2017-04070	2017-09-26	4.20E-18	8.18E-18
Americium-241	AF14_WNW	2017-05988	2017-12-19	1.97E-18	1.09E-17
Americium-241	AF14_WNW	2018-00071	2018-03-27	1.29E-18	8.12E-18
Americium-241	AF14_WNW	2018-02587	2018-06-19	4.28E-18	8.41E-18
Americium-241	AF14_WNW	2018-03817	2018-09-25	9.15E-19	6.96E-18
Americium-241	AF14_WNW	2018-05926	2018-12-18	8.45E-18	7.03E-18
Americium-241	AF14_WNW	2019-00114	2019-03-26	1.21E-18	8.84E-18
Americium-241	AF14_WNW	2019-02454	2019-06-18	-6.31E-20	9.91E-18
Americium-241	AF14_WNW	2019-04137	2019-09-24	8.48E-18	7.93E-18
Americium-241	AF14_WNW	2019-06025	2019-12-17	2.31E-18	7.18E-18
Americium-241	AF14_WNW	2020-00568	2020-03-24	1.60E-18	5.43E-18
Americium-241	AF14_WNW	2020-02343	2020-06-16	-3.35E-18	7.25E-18
Americium-241	AF14_WNW	2020-04105	2020-09-22	8.27E-18	8.03E-18
Americium-241	AF14_WNW	2020-05754	2020-12-15	0.00E+00	5.95E-18
Americium-241	AF14_WNW	2021-00159	2021-03-23	6.94E-18	1.36E-17
Americium-241	AF14_WNW	2021-02602	2021-06-15	1.08E-17	1.50E-17
Americium-241	AF14_WNW	2021-04341	2021-09-21	2.70E-18	8.25E-18
Americium-241	AF14_WNW	2021-06766	2021-12-28	1.49E-18	7.71E-18
Americium-241	AF14_WNW	2022-00040	2022-03-22	9.97E-18	1.26E-17
Americium-241	AF14_WNW	2022-02602	2022-06-28	6.34E-19	3.98E-18
Americium-241	AF14_WNW	2022-05033	2022-09-20	1.33E-17	1.22E-17
Americium-241	AF14_WNW	2022-06917	2022-12-27	-1.64E-20	5.34E-18
Americium-241	AF14_WNW	2023-00061	2023-03-21	-1.10E-18	6.50E-18
Americium-241	AF14_WNW	2023-02575	2023-06-27	3.47E-18	4.08E-18
Americium-241	AF14_WNW	2023-04901	2023-09-19	8.34E-18	1.16E-17
Americium-241	AF14_WNW	2023-06446	2023-12-26	2.79E-18	6.56E-18
Americium-241	AF14_WNW	2024-00057	2024-03-14	3.60E-18	7.06E-18
Americium-241	AF14_WNW	2024-02823	2024-06-25	-3.22E-18	6.33E-18
Americium-241	AF14_WNW	2024-04045	2024-09-17	0.00E+00	1.06E-17
Americium-241	AF14_WNW	2024-06058	2024-12-24	2.10E-16	3.15E-17

AF14_WNW (Cs-137)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Cesium-137	AF14_WNW	2017-00121	2017-03-28	2.27E-17	8.89E-17
Cesium-137	AF14_WNW	2017-02593	2017-06-20	-3.78E-17	1.07E-16
Cesium-137	AF14_WNW	2017-04070	2017-09-26	5.51E-17	9.53E-17
Cesium-137	AF14_WNW	2017-05988	2017-12-19	-6.88E-19	8.04E-17
Cesium-137	AF14_WNW	2018-00071	2018-03-27	1.94E-17	1.01E-16
Cesium-137	AF14_WNW	2018-02587	2018-06-19	9.56E-18	9.74E-17
Cesium-137	AF14_WNW	2018-03817	2018-09-25	1.27E-16	6.67E-17
Cesium-137	AF14_WNW	2018-05926	2018-12-18	2.72E-17	7.39E-17
Cesium-137	AF14_WNW	2019-00114	2019-03-26	-2.48E-17	6.67E-17
Cesium-137	AF14_WNW	2019-02454	2019-06-18	8.18E-17	9.64E-17
Cesium-137	AF14_WNW	2019-04137	2019-09-24	-7.31E-18	9.06E-17
Cesium-137	AF14_WNW	2019-06025	2019-12-17	7.74E-18	8.48E-17
Cesium-137	AF14_WNW	2020-00568	2020-03-24	-6.38E-17	9.81E-17

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Cesium-137	AF14_WNW	2020-02343	2020-06-16	3.27E-17	6.83E-17
Cesium-137	AF14_WNW	2020-04105	2020-09-22	3.71E-17	9.26E-17
Cesium-137	AF14_WNW	2020-05754	2020-12-15	-6.71E-17	8.88E-17
Cesium-137	AF14_WNW	2021-00159	2021-03-23	6.62E-17	8.73E-17
Cesium-137	AF14_WNW	2021-02602	2021-06-15	-6.31E-18	1.03E-16
Cesium-137	AF14_WNW	2021-04341	2021-09-21	5.46E-18	4.57E-17
Cesium-137	AF14_WNW	2021-06766	2021-12-28	2.96E-17	9.05E-17
Cesium-137	AF14_WNW	2022-00040	2022-03-22	8.94E-18	9.61E-17
Cesium-137	AF14_WNW	2022-02602	2022-06-28	-7.22E-18	9.02E-17
Cesium-137	AF14_WNW	2022-05033	2022-09-20	8.11E-17	1.08E-16
Cesium-137	AF14_WNW	2022-06917	2022-12-27	-6.27E-17	7.15E-17
Cesium-137	AF14_WNW	2023-00061	2023-03-21	-3.38E-17	9.60E-17
Cesium-137	AF14_WNW	2023-02575	2023-06-27	-1.55E-17	8.32E-17
Cesium-137	AF14_WNW	2023-04901	2023-09-19	1.27E-16	1.01E-16
Cesium-137	AF14_WNW	2023-06446	2023-12-26	2.11E-17	6.52E-17
Cesium-137	AF14_WNW	2024-00057	2024-03-14	-7.96E-17	1.14E-16
Cesium-137	AF14_WNW	2024-02823	2024-06-25	-1.80E-17	9.11E-17
Cesium-137	AF14_WNW	2024-04045	2024-09-17	6.51E-17	1.21E-16
Cesium-137	AF14_WNW	2024-06058	2024-12-24	3.54E-15	2.90E-16

AF14_WNW (Pu-238)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF14_WNW	2017-00121	2017-03-28	3.85E-18	8.39E-18
Plutonium-238	AF14_WNW	2017-02593	2017-06-20	-3.32E-19	9.18E-18
Plutonium-238	AF14_WNW	2017-04070	2017-09-26	1.91E-18	7.48E-18
Plutonium-238	AF14_WNW	2017-05988	2017-12-19	1.26E-19	9.41E-18
Plutonium-238	AF14_WNW	2018-00071	2018-03-27	1.90E-18	4.57E-18
Plutonium-238	AF14_WNW	2018-02587	2018-06-19	-2.36E-18	7.98E-18
Plutonium-238	AF14_WNW	2018-03817	2018-09-25	4.85E-18	6.72E-18
Plutonium-238	AF14_WNW	2018-05926	2018-12-18	-4.47E-18	9.13E-18
Plutonium-238	AF14_WNW	2019-00114	2019-03-26	1.48E-18	8.99E-18
Plutonium-238	AF14_WNW	2019-02454	2019-06-18	1.07E-18	1.01E-17
Plutonium-238	AF14_WNW	2019-04137	2019-09-24	3.08E-18	7.39E-18
Plutonium-238	AF14_WNW	2019-06025	2019-12-17	2.39E-18	7.39E-18
Plutonium-238	AF14_WNW	2020-00568	2020-03-24	-3.68E-18	7.21E-18
Plutonium-238	AF14_WNW	2020-02343	2020-06-16	5.85E-18	9.73E-18
Plutonium-238	AF14_WNW	2020-04105	2020-09-22	3.71E-18	8.12E-18
Plutonium-238	AF14_WNW	2020-05754	2020-12-15	6.35E-18	7.19E-18
Plutonium-238	AF14_WNW	2021-00159	2021-03-23	-1.12E-18	4.93E-18
Plutonium-238	AF14_WNW	2021-02602	2021-06-15	0.00E+00	9.86E-18
Plutonium-238	AF14_WNW	2021-04341	2021-09-21	-1.38E-25	3.25E-18
Plutonium-238	AF14_WNW	2021-06766	2021-12-28	2.92E-18	9.90E-18
Plutonium-238	AF14_WNW	2022-00040	2022-03-22	7.43E-18	7.51E-18
Plutonium-238	AF14_WNW	2022-02602	2022-06-28	-5.49E-18	5.26E-18
Plutonium-238	AF14_WNW	2022-05033	2022-09-20	2.99E-18	5.86E-18
Plutonium-238	AF14_WNW	2022-06917	2022-12-27	1.21E-17	1.41E-17

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Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-238	AF14_WNW	2023-00061	2023-03-21	1.91E-18	4.57E-18
Plutonium-238	AF14_WNW	2023-02575	2023-06-27	2.90E-18	5.69E-18
Plutonium-238	AF14_WNW	2023-04901	2023-09-19	-3.26E-25	4.69E-18
Plutonium-238	AF14_WNW	2023-06446	2023-12-26	2.68E-18	4.63E-18
Plutonium-238	AF14_WNW	2024-00057	2024-03-14	-1.30E-18	8.45E-18
Plutonium-238	AF14_WNW	2024-02823	2024-06-25	-1.19E-18	7.44E-18
Plutonium-238	AF14_WNW	2024-04045	2024-09-17	-6.22E-18	7.19E-18
Plutonium-238	AF14_WNW	2024-06058	2024-12-24	5.18E-17	2.19E-17

AF14_WNW (Pu-239)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result (μCi/mL)	Quarterly Uncertainty (μCi/mL)
Plutonium-239	AF14_WNW	2017-00121	2017-03-28	3.85E-18	6.64E-18
Plutonium-239	AF14_WNW	2017-02593	2017-06-20	7.38E-18	1.11E-17
Plutonium-239	AF14_WNW	2017-04070	2017-09-26	1.91E-18	5.91E-18
Plutonium-239	AF14_WNW	2017-05988	2017-12-19	-1.39E-18	9.63E-18
Plutonium-239	AF14_WNW	2018-00071	2018-03-27	1.90E-18	3.72E-18
Plutonium-239	AF14_WNW	2018-02587	2018-06-19	-7.05E-18	8.60E-18
Plutonium-239	AF14_WNW	2018-03817	2018-09-25	1.01E-24	8.22E-18
Plutonium-239	AF14_WNW	2018-05926	2018-12-18	0.00E+00	7.42E-18
Plutonium-239	AF14_WNW	2019-00114	2019-03-26	4.93E-18	8.84E-18
Plutonium-239	AF14_WNW	2019-02454	2019-06-18	-5.36E-18	1.01E-17
Plutonium-239	AF14_WNW	2019-04137	2019-09-24	3.07E-18	9.55E-18
Plutonium-239	AF14_WNW	2019-06025	2019-12-17	2.39E-18	5.72E-18
Plutonium-239	AF14_WNW	2020-00568	2020-03-24	-3.67E-18	7.20E-18
Plutonium-239	AF14_WNW	2020-02343	2020-06-16	1.95E-18	5.41E-18
Plutonium-239	AF14_WNW	2020-04105	2020-09-22	1.11E-17	8.84E-18
Plutonium-239	AF14_WNW	2020-05754	2020-12-15	5.29E-18	8.02E-18
Plutonium-239	AF14_WNW	2021-00159	2021-03-23	7.86E-18	7.30E-18
Plutonium-239	AF14_WNW	2021-02602	2021-06-15	1.01E-17	1.24E-17
Plutonium-239	AF14_WNW	2021-04341	2021-09-21	4.14E-18	5.85E-18
Plutonium-239	AF14_WNW	2021-06766	2021-12-28	8.74E-18	1.51E-17
Plutonium-239	AF14_WNW	2022-00040	2022-03-22	3.19E-18	9.06E-18
Plutonium-239	AF14_WNW	2022-02602	2022-06-28	8.39E-19	5.32E-18
Plutonium-239	AF14_WNW	2022-05033	2022-09-20	1.99E-18	6.17E-18
Plutonium-239	AF14_WNW	2022-06917	2022-12-27	6.46E-18	1.16E-17
Plutonium-239	AF14_WNW	2023-00061	2023-03-21	2.85E-18	6.19E-18
Plutonium-239	AF14_WNW	2023-02575	2023-06-27	-9.94E-19	5.25E-18
Plutonium-239	AF14_WNW	2023-04901	2023-09-19	-9.73E-19	5.07E-18
Plutonium-239	AF14_WNW	2023-06446	2023-12-26	1.78E-18	4.94E-18
Plutonium-239	AF14_WNW	2024-00057	2024-03-14	0.00E+00	1.02E-17
Plutonium-239	AF14_WNW	2024-02823	2024-06-25	4.04E-18	8.29E-18
Plutonium-239	AF14_WNW	2024-04045	2024-09-17	-1.78E-18	6.03E-18
Plutonium-239	AF14_WNW	2024-06058	2024-12-24	9.28E-17	2.22E-17

AF14_WNW (Sr-90)

Isotope	Location Code	Sample ID	Collection Date	Quarterly Result ($\mu\text{Ci/mL}$)	Quarterly Uncertainty ($\mu\text{Ci/mL}$)
Strontium-90	AF14_WNW	2017-00121	2017-03-28	1.40E-16	1.20E-16
Strontium-90	AF14_WNW	2017-02593	2017-06-20	4.80E-17	1.08E-16
Strontium-90	AF14_WNW	2017-04070	2017-09-26	5.94E-17	1.08E-16
Strontium-90	AF14_WNW	2017-05988	2017-12-19	1.91E-17	6.33E-17
Strontium-90	AF14_WNW	2018-00071	2018-03-27	1.89E-16	1.55E-16
Strontium-90	AF14_WNW	2018-02587	2018-06-19	5.90E-17	1.67E-16
Strontium-90	AF14_WNW	2018-03817	2018-09-25	-1.28E-16	1.14E-16
Strontium-90	AF14_WNW	2018-05926	2018-12-18	-1.23E-17	1.36E-16
Strontium-90	AF14_WNW	2019-00114	2019-03-26	1.61E-16	1.16E-16
Strontium-90	AF14_WNW	2019-02454	2019-06-18	1.22E-16	1.11E-16
Strontium-90	AF14_WNW	2019-04137	2019-09-24	-1.36E-16	1.28E-16
Strontium-90	AF14_WNW	2019-06025	2019-12-17	6.58E-17	1.46E-16
Strontium-90	AF14_WNW	2020-00568	2020-03-24	-1.15E-16	9.73E-17
Strontium-90	AF14_WNW	2020-02343	2020-06-16	-4.70E-17	7.73E-17
Strontium-90	AF14_WNW	2020-04105	2020-09-22	-4.52E-17	1.26E-16
Strontium-90	AF14_WNW	2020-05754	2020-12-15	1.08E-16	1.30E-16
Strontium-90	AF14_WNW	2021-00159	2021-03-23	-5.20E-17	8.89E-17
Strontium-90	AF14_WNW	2021-02602	2021-06-15	-2.09E-16	1.13E-16
Strontium-90	AF14_WNW	2021-04341	2021-09-21	2.57E-17	6.35E-17
Strontium-90	AF14_WNW	2021-06766	2021-12-28	-1.25E-17	1.08E-16
Strontium-90	AF14_WNW	2022-00040	2022-03-22	3.03E-17	1.45E-16
Strontium-90	AF14_WNW	2022-02602	2022-06-28	1.01E-16	1.38E-16
Strontium-90	AF14_WNW	2022-05033	2022-09-20	1.12E-16	1.21E-16
Strontium-90	AF14_WNW	2022-06917	2022-12-27	4.72E-17	1.38E-16
Strontium-90	AF14_WNW	2023-00061	2023-03-21	-1.93E-16	1.36E-16
Strontium-90	AF14_WNW	2023-02575	2023-06-27	4.49E-17	9.11E-17
Strontium-90	AF14_WNW	2023-04901	2023-09-19	-7.75E-17	1.14E-16
Strontium-90	AF14_WNW	2023-06446	2023-12-26	-3.81E-17	9.39E-17
Strontium-90	AF14_WNW	2024-00057	2024-03-14	9.74E-17	1.66E-16
Strontium-90	AF14_WNW	2024-02823	2024-06-25	2.67E-17	1.18E-16
Strontium-90	AF14_WNW	2024-04045	2024-09-17	6.78E-17	1.34E-16
Strontium-90	AF14_WNW	2024-06058	2024-12-24	2.08E-15	2.76E-16