



BY EMAIL

July 25, 2025

Mr. Jim Datko, P.E.
Virginia Department of Environmental Quality – Northern Regional Office
Division of Land Protection & Revitalization
13901 Crown Court
Woodbridge, Virginia 22193
james.datko@deq.virginia.gov

RE: Possum Point Power Station Pond E, Solid Waste Permit No. 617:
2025 1st Semi-Annual Groundwater Monitoring Report

Dear Mr. Datko:

In accordance with Permit Module XI.J.1.b, Virginia Electric and Power Company (Dominion Energy) is providing the attached 2025 First Semi-Annual Groundwater Monitoring Report for Possum Point Power Station Pond E. The first semi-annual groundwater sampling event was conducted February 18-20, 2025, and analytical laboratory results were received on March 27, 2025. A summary of results for this sampling event is attached utilizing the Virginia Department of Environmental Quality (DEQ) Semi-Annual Report Submission Instructions and associated report form.

If you have any questions regarding this submittal, please contact Kelly Hicks at (804) 273-4903 or via email at kelly.a.hicks@dominionenergy.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dennis A. Slade', with a stylized flourish at the end.

Dennis A. Slade
Manager, Environmental

Attachments

ecc: Geoff Christe, DEQ Central Office – geoff.christe@deq.virginia.gov

Semi-Annual Groundwater Monitoring Report		
	1] DEQ Region: Northern	2] Date: July 25, 2025
	3] Solid Waste Permit Number: 617	
4] Facility Name: Pond E Possum Point Power Station		5] Landfill Type: CCR Surface Impoundment
6] Operational Status: Inactive (CCR Removed)		
7] GW Program: Modified Assessment Monitoring		8] GPS Status: Established
9] Simplified Site Location Description: The Possum Point Power Station is located in Prince William County at 19000 Possum Point Road, Dumfries, Virginia. As shown on Figure 1, the Station is located immediately west of the Potomac River and north of Quantico Creek. Pond E is located on the Station property immediately north of Possum Point Road.	10] Simplified Bedrock Type Discussion: The geologic stratigraphy from the ground surface down consists of: - Transgressive and regressive unconsolidated sediments - unconsolidated and consist of clays, silts, poorly- to well-sorted sands, and gravel that exist as interbedded, discontinuous, horizontal layers across the site that overlie the Potomac Confining Unit	
11] Physiographic setting: Coastal Plain	12] Aquifer Type: Unconfined	
13] # of Compliance Wells: 7	14] # of Upgradient Wells: 2	
	15] # of Downgradient Wells: 5	
16] # of Corrective Action Wells: 0	17] # of Performance Wells: 0	
	18] # of Sentinel Wells: 2	
Aquifer Specifics		
19] Were groundwater elevations measured at each monitoring well?		Yes
20] List the well pair(s) used to calculate groundwater flow rate?		SD-1611 to ES-3D
21] The calculated groundwater flow rate (given in feet per year)		20
22] Direction(s) of groundwater flow on site:		Southwest
Groundwater Sampling Specifics		
23] Date GW was sampled pursuant to 9 VAC 20-81-250 B or C?		February 18-20, 2025
24] Were all wells secured/locked prior to sampling?		Yes
25] Were all wells purged prior to sampling?		Yes
26] Were any compliance wells unable to be sampled?		No
For wells which could not be sampled during the compliance event; provide the non-performance reason below and note whether this was a first time occurrence, or whether it has been observed on site before with the particular well in question.		
26-a] External damage to the well? (Initial occurrence?)		NA
26-b] Internal damage to the well? (Initial occurrence?)		NA
26-c] Failure to yield sampling volume after purging. (Initial occurrence?)		NA
26-d] Well dry, could not be purged? (Initial occurrence?)		NA
Analytical Lab Information		
27] Date GW samples sent to analytical lab:		February 18-20, 2025
28] Were samples submitted under Chain of Custody?		Yes
29] Date GW samples rec'd at analytical lab:		February 19-21, 2025
30] Were any problems noted with the samples upon rec'pt at lab?		No
31] Were samples analyzed using SW-846 (as updated) methods?		Yes
32] Date signed/certified analytical report issued by lab:		March 27, 2025 (revised April 4, 2025)
33] Date signed/certified analytical report rec'd by consultant/facility:		March 27, 2025 (revised April 4, 2025)

Semi-Annual Groundwater Monitoring Report

Interpretation and Response to Analytical Results

34] Type of statistical method used to identify exceedances?	Point comparison to background and GPS
35] Were any unusual statistical problems noted (i.e. outliers)?	No
36] Do any constituents exceed the site background? (Initial occurrence?)	Yes
37] Were results compared to GPS (including most recent ACLs)?	Yes
38] Do any constituents exceed GPS? (Initial occurrence?)	Yes
(if yes) 38-a] Were any of the exceedances for new constituents or wells?	Yes
39] Was verification sampling undertaken?	Yes
(if yes) 39-a] Date of the verification event?	April 17, 2025
(if yes) 39-b] Date verification results released by the analytical lab?	April 21, 2025 (revised April 25, 2025, and May 1, 2025)
(if yes) 39-c] Did verification event confirm exceedances?	Yes, see Attachment XI
40] Date DEQ was notified (if applicable) of the exceedance(s)?	May 9, 2025
41] Will facility pursue an ASD for any of the exceedances?	Yes
42] If background has been exceeded, has facility already advanced to the next phase of groundwater monitoring?	Yes
43] If GPS have been exceeded, has facility already delineated the release in both the horizontal and vertical dimensions?	Yes

Attachments. The following attachments must be submitted in the order prescribed

Attachment I: Site Identified on a USGS 7 1/2-minute Topographic Map

Attachment II: GW elevation table (as measured during the sampling event)

Attachment III: GW flow rate calculations based on data presented in Attachment II

Attachment IV: Potentiometric Surface Map scaled to fit a size no larger than 11" x 17"

Attachment V: Table of constituents exceeding background, listed for each well

Attachment VI: Table of constituents exceeding GPS, listed for each well

Attachment VII: Complete Laboratory Analytical Report (including Verification events)

Attachment VIII: Chain of Custody documentation (including Verification events)

Attachment IX: Field book documentation (including Verification events)

Attachment X: Statistical Data Sheets

Attachment XI: Special Conditions Description

Note: Attachments VII, VIII, IX, and X may be submitted in electronic format on CD.

Signature Block:

I certify that I am a qualified groundwater scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and who has sufficient training and experience in groundwater hydrology and related fields as demonstrated by state professional registration and completion of an accredited university program that enable me to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action. I further certify that this report was prepared by me or by a subordinate working under my direction.

Name:	Catherine Pezzaro, P.G.	Title:	Professional Geologist
Signature:	 CATHERINE A. PEZZARO Lic. No. 2323	Date:	7/25/2025

Tables

Table 1
Summary of First Semi-Annual Assessment Monitoring Program Sampling Event Data (February 2025)
Possum Point Power Station, Pond E
Solid Waste Permit No. 617

					Upgradient Wells								Downgradient Wells															
Sample ID: Sample Date:					ED-24R 2/18/2025				ED-26 2/18/2025				ES-3D 2/19/2025				ES-1609 2/20/2025				ES-1613 2/19/2025				T-1615S 2/18/2025			
Parameter Name	Units	Site Specific Background ¹	Federal CCR GWPS ¹	SWP GPS ²	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL
CCR Appendix III Constituents																												
Boron	µg/L	QL (50)	--	4,000 [^]	4.8 J		4.0	50.0	< 5.9 U		5.9	50.0	397		4.0	50.0	1200		4.0	50.0	1190		4.0	50.0	393		4.0	50.0
Calcium	µg/L	10,200	--	--	2100		14.7	100	7540		14.7	100	16200		14.7	100	13300		14.7	100	22700		14.7	100	4330		14.7	100
Chloride	mg/L	2.88	--	--	2.2		0.60	1.0	2.0		0.60	1.0	106		1.8	3.0	88.7		1.2	2.0	114		1.8	3.0	45.8		0.60	1.0
Fluoride	mg/L	0.31	4	4	< 0.050 U		0.050	0.10	0.20		0.050	0.10	0.63		0.050	0.10	< 0.050 U		0.050	0.10	0.15		0.050	0.10	0.42		0.050	0.10
pH	SU	3.89-6.47	--	--	4.70		0.01	0.01	5.59		0.01	0.01	5.38		0.01	0.01	4.77		0.01	0.01	4.81		0.01	0.01	6.15		0.01	0.01
Sulfate	mg/L	2.97	--	--	2.0		0.50	1.0	1.6		0.50	1.0	43.2		0.50	1.0	84.9		1.0	2.0	90.3		0.50	1.0	24.0		0.50	1.0
Total Dissolved Solids	mg/L	151.2	--	--	49.6		10.0	10.0	< 86.8 U		86.8	86.8	315 J+		10.0	10.0	350 J+		10.0	10.0	408 J+		10.0	10.0	250 J+		10.0	10.0
CCR Appendix IV Constituents																												
Antimony	µg/L	QL (5)	6	6	< 3.6 U		3.6	5.0	< 3.6 U		3.6	5.0	< 3.6 U		3.6	5.0	< 3.6 U		3.6	5.0	< 3.6 U		3.6	5.0	< 3.6 U		3.6	5.0
Arsenic	µg/L	QL (10)	10	10	< 2.5 U		2.5	10.0	< 2.5 U		2.5	10.0	< 2.5 U		2.5	10.0	< 2.5 U		2.5	10.0	< 2.5 U		2.5	10.0	11.7		2.5	10.0
Barium	µg/L	47.7	2,000	2,000	18.0		0.79	5.0	30.3		0.79	5.0	89.2		0.79	5.0	54.7		0.79	5.0	59.9		0.79	5.0	34.4		0.79	5.0
Beryllium	µg/L	QL (1)	4	4	0.16 J		0.16	1.0	< 0.16 U		0.16	1.0	0.96 J		0.16	1.0	0.87 J		0.16	1.0	0.85 J		0.16	1.0	< 0.16 U		0.16	1.0
Cadmium	µg/L	QL (1)	5	5	< 0.29 U		0.29	1.0	< 0.29 U		0.29	1.0	< 0.29 U		0.29	1.0	< 0.29 U		0.29	1.0	< 0.29 U		0.29	1.0	< 0.29 U		0.29	1.0
Chromium	µg/L	QL (5)	100	100	2.1 J		0.63	5.0	< 0.63 U		0.63	5.0	5.4		0.63	5.0	< 0.63 U		0.63	5.0	< 0.63 U		0.63	5.0	< 0.63 U		0.63	5.0
Cobalt	µg/L	QL (1)	6	6 [^]	< 0.14 U		0.14	1.0	0.44 J		0.14	1.0	47.4		1.4	10.0	17.8		0.14	1.0	25.2		0.14	1.0	< 0.71 U		0.71	5.0
Fluoride	mg/L	0.31	4	4	< 0.050 U		0.050	0.10	0.20		0.050	0.10	0.63		0.050	0.10	< 0.050 U		0.050	0.10	0.15		0.050	0.10	0.42		0.050	0.10
Lead	µg/L	QL (5)	15 [*]	15 [^]	< 0.18 U		0.18	1.0	< 0.18 U		0.18	1.0	< 1.8 U		1.8	10.0	< 0.18 U		0.18	1.0	< 0.18 U		0.18	1.0	< 0.88 U		0.88	5.0
Lithium	µg/L	13.0	40	40 [^]	8.5		0.33	2.5	1.3 J		0.33	2.5	15.9 J		3.3	25.0	7.9		0.33	2.5	16.3		0.33	2.5	12.2 J		1.7	12.5
Mercury	µg/L	QL (0.2)	2	2	< 0.12 U		0.12	0.20	< 0.12 U		0.12	0.20	< 0.12 U		0.12	0.20	< 0.12 U		0.12	0.20	< 0.12 U		0.12	0.20	< 0.12 U		0.12	0.20
Molybdenum	µg/L	QL (5)	100	100 [^]	< 2.6 U		2.6	5.0	< 2.6 U		2.6	5.0	< 2.6 U		2.6	5.0	< 2.6 U		2.6	5.0	< 2.6 U		2.6	5.0	< 2.6 U		2.6	5.0
Selenium	µg/L	QL (10)	50	50	< 4.1 U		4.1	10.0	< 4.1 U		4.1	10.0	< 4.1 U		4.1	10.0	< 4.1 U		4.1	10.0	< 4.1 U		4.1	10.0	< 4.1 U		4.1	10.0
Thallium	µg/L	QL (1)	2	2	< 0.028 U		0.028	0.20	< 0.028 U		0.028	0.20	< 0.28 U		0.28	2.0	0.055 J		0.028	0.20	0.043 J		0.028	0.20	< 0.14 U		0.14	1.0
Radium 226 and 228 (combined)	pCi/L	2.40	5	5	1.00		--	--	0.446 U		--	--	2.05		--	--	1.26 J		--	--	1.64 J		--	--	0.828 U		--	--
Additional VSWMR Constituents																												
Copper	µg/L	QL (5)	--	1,300 [*]	1.4 J		0.62	5.0	0.74 J		0.62	5.0	5.8		0.62	5.0	1.3 J		0.62	5.0	0.65 J		0.62	5.0	0.98 J		0.62	5.0
Nickel	µg/L	QL (5)	--	5 (QL)	1.4 J		0.88	5.0	< 0.88 U		0.88	5.0	32.7		0.88	5.0	10.1		0.88	5.0	25.6		0.88	5.0	10.0		0.88	5.0
Silver	µg/L	QL (5)	--	5 (QL)	< 0.49 U		0.49	5.0	< 0.49 U		0.49	5.0	2.0 J		0.49	5.0	< 0.49 U		0.49	5.0	< 0.49 U		0.49	5.0	< 0.49 U		0.49	5.0
Tin	µg/L	QL (5)	--	5 (QL)	< 0.14 U		0.14	1.0	< 0.14 U		0.14	1.0	< 1.4 U		1.4	10.0	< 0.14 U		0.14	1.0	< 0.14 U		0.14	1.0	< 0.72 U		0.72	5.0
Vanadium	µg/L	QL (5)	--	5 (QL)	< 1.6 U		1.6	5.0	< 1.6 U		1.6	5.0	5.3		1.6	5.0	< 1.6 U		1.6	5.0	< 1.6 U		1.6	5.0	< 1.6 U		1.6	5.0
Zinc	µg/L	35.9	--	35.9	4.2 J		3.0	10.0	< 3.0 U		3.0	10.0	160		3.0	10.0	22.1		3.0	10.0	17.4		3.0	10.0	3.6 J		3.0	10.0
Speciation of Chromium																												
Chromium, Hexavalent	µg/L	11	--	--	1.8 J		0.043	0.25	< 0.0043 U		0.0043	0.025	< 0.0086 U		0.0086	0.050	< 0.0043 U		0.0043	0.025	< 0.0043 U		0.0043	0.025	0.012 J		0.0043	0.025
Former VPDES Constituents																												
Hardness	µg/L	--	--	--	8760		36.8	662	28800		36.8	662	101000		36.8	662	65100		36.8	662	121000		36.8	662	26100		36.8	662
Iron	µg/L	--	--	--	2690		3.0	20.0	183 J+		3.0	20.0	11200		29.8	200	11400		29.8	200	9720		3.0	20.0	2590 J+		14.9	100
Manganese	µg/L	--	--	--	65.6		0.24	2.0	10.5		0.24	2.0	1090		2.4	20.0	612		2.4	20.0	953		2.4	20.0	81.2		1.2	10.0
Phenolics, Total	mg/L	--	--	--	< 0.0115 U		0.0115	0.0400	< 0.0115 U		0.0115	0.0400	< 0.0115 U		0.0115	0.0400	< 0.0115 U		0.0115	0.0400	< 0.0115 U		0.0115	0.0400	< 0.0115 U		0.0115	0.0400
Potassium	µg/L	--	--	--	5630		18.0	100	2300		18.0	100	4700		180	1000	5450		18.0	100	3400		18.0	100	5300		90.1	500
Sodium	µg/L	--	--	--	4580		14.4	250	1950		14.4	250	58700		144	2500	84700		144	2500	71800		144	2500	1790		72.0	1250
Total Organic Carbon	mg/L	--	--	--	< 0.50 U		0.50	1.0	< 0.50 U		0.50	1.0	< 0.50 U		0.50	1.0	< 0.50 U		0.50	1.0	0.55 J		0.50	1.0	6.3		0.50	1.0
Field Parameters																												
Conductivity	µS/cm	--	--	--	41.0		0.1	0.1	94.2		0.1	0.1	535		0.1	0.1	600		0.1	0.1	715		0.1	0.1	442.4		0.1	0.1
Dissolved Oxygen	mg/L	--	--	--	2.39		0.01	0.01	1.96		0.01	0.01	1.27		0.01	0.01	0.88		0.01	0.01	0.71		0.01	0.01	1.26		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	323.9		0.1	0.1	79.2		0.1	0.1	94.3		0.1	0.1	155.0		0.1	0.1	166.5		0.1	0.1	-0.9		0.1	0.1
Temperature	C	--	--	--	11.9		0.1	0.1	11.3		0.1	0.1	11.4		0.1	0.1	13.0		0.1	0.1	13.0		0.1	0.1	14.4		0.1	0.1
Turbidity	NTU	--	--	--	8.76		0.01	0.01	7.27		0.01	0.01	155		0.01	0.01	2.03		0.01	0.01	2.71		0.01	0.01	6.48		0.01	0.01

Notes:

MDL = Method Detection Limit

RL = Reporting Limit

µg/L = Micrograms per liter

mg/L = Milligrams per liter

SU = Standard Units

pCi/L = picoCuries per liter

µS/cm = MicroSiemens per centimeter

C = Degrees Celsius

NTU = Nephelometric Turbidity Units

CCR = Coal Combustion Residuals

SWP = Solid Waste Permit

Table 1
Summary of First Semi-Annual Assessment Monitoring Program Sampling Event Data (February 2025)
Possum Point Power Station, Pond E
Solid Waste Permit No. 617

					Downgradient Wells				VSWMR Sentinel Wells								Field Quality Control							
Sample ID: Sample Date:					T-1615D 2/18/2025				ED-22RA 2/20/2025				ED-23R 2/18/2025				ES-1613 Field Duplicate 2/19/2025				Field Blank 2/20/2025			
Parameter Name	Units	Site Specific Background ¹	Federal CCR GWPS ¹	SWP GPS ²	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL
CCR Appendix III Constituents																								
Boron	µg/L	QL (50)	--	4,000 ^A	< 6.7	U	6.7	50.0	135		4.0	50.0	5.0	J	4.0	50.0	1190		4.0	50.0	7.9	J	4.0	50.0
Calcium	µg/L	10,200	--	--	20800		14.7	100	1910		14.7	100	3650		14.7	100	23100		14.7	100	< 14.7	U	14.7	100
Chloride	mg/L	2.88	--	--	81.9		0.60	1.0	10.1		0.60	1.0	2.8		0.60	1.0	111		1.8	3.0	< 0.60	U	0.60	1.0
Fluoride	mg/L	0.31	4	4	0.22		0.050	0.10	< 0.050	U	0.050	0.10	0.29		0.050	0.10	0.17		0.050	0.10	< 0.050	U	0.050	0.10
pH	SU	3.89-6.47	--	--	5.54		0.01	0.01	4.70		0.01	0.01	5.81		0.01	0.01	--		--	--	--		--	--
Sulfate	mg/L	2.97	--	--	1.1		0.50	1.0	51.0		0.50	1.0	4.7		0.50	1.0	89.9		0.50	1.0	< 0.50	U	0.50	1.0
Total Dissolved Solids	mg/L	151.2	--	--	260	J+	10.0	10.0	127		10.0	10.0	91.2		10.0	10.0	404	J+	10.0	10.0	52.0		10.0	10.0
CCR Appendix IV Constituents																								
Antimony	µg/L	QL (5)	6	6	< 3.6	U	3.6	5.0	< 3.6	U	3.6	5.0	< 3.6	U	3.6	5.0	< 3.6	U	3.6	5.0	< 3.6	U	3.6	5.0
Arsenic	µg/L	QL (10)	10	10	< 2.5	U	2.5	10.0	< 2.5	U	2.5	10.0	< 2.5	U	2.5	10.0	< 2.5	U	2.5	10.0	< 2.5	U	2.5	10.0
Barium	µg/L	47.7	2,000	2,000	122		0.79	5.0	23.4		0.79	5.0	23.6		0.79	5.0	60.2		0.79	5.0	< 0.79	U	0.79	5.0
Beryllium	µg/L	QL (1)	4	4	< 0.16	U	0.16	1.0	0.18	J	0.16	1.0	< 0.16	U	0.16	1.0	0.87	J	0.16	1.0	< 0.16	U	0.16	1.0
Cadmium	µg/L	QL (1)	5	5	< 0.29	U	0.29	1.0	< 0.29	U	0.29	1.0	< 0.29	U	0.29	1.0	< 0.29	U	0.29	1.0	< 0.29	U	0.29	1.0
Chromium	µg/L	QL (5)	100	100	< 0.63	U	0.63	5.0	< 0.63	U	0.63	5.0	< 0.63	U	0.63	5.0	< 0.63	U	0.63	5.0	< 0.63	U	0.63	5.0
Cobalt	µg/L	QL (1)	6	6 ^A	0.56	J	0.14	1.0	3.0		0.14	1.0	< 0.14	U	0.14	1.0	26.6		0.14	1.0	< 0.14	U	0.14	1.0
Fluoride	mg/L	0.31	4	4	0.22		0.050	0.10	< 0.050	U	0.050	0.10	0.29		0.050	0.10	0.17		0.050	0.10	< 0.050	U	0.050	0.10
Lead	µg/L	QL (5)	15 [*]	15 ^A	< 0.18	U	0.18	1.0	< 0.18	U	0.18	1.0	< 0.18	U	0.18	1.0	< 0.18	U	0.18	1.0	< 0.18	U	0.18	1.0
Lithium	µg/L	13.0	40	40 ^A	15.8		0.33	2.5	1.8	J	0.33	2.5	9.7		0.33	2.5	16.9		0.33	2.5	< 0.33	U	0.33	2.5
Mercury	µg/L	QL (0.2)	2	2	< 0.12	U	0.12	0.20	< 0.12	U	0.12	0.20	< 0.12	U	0.12	0.20	< 0.12	U	0.12	0.20	< 0.12	U	0.12	0.20
Molybdenum	µg/L	QL (5)	100	100 ^A	< 2.6	U	2.6	5.0	< 2.6	U	2.6	5.0	< 2.6	U	2.6	5.0	< 2.6	U	2.6	5.0	< 2.6	U	2.6	5.0
Selenium	µg/L	QL (10)	50	50	< 4.1	U	4.1	10.0	< 4.1	U	4.1	10.0	< 4.1	U	4.1	10.0	< 4.1	U	4.1	10.0	< 4.1	U	4.1	10.0
Thallium	µg/L	QL (1)	2	2	< 0.028	U	0.028	0.20	< 0.028	U	0.028	0.20	< 0.028	U	0.028	0.20	0.046	J	0.028	0.20	< 0.028	U	0.028	0.20
Radium 226 and 228 (combined)	pCi/L	2.40	5	5	0.950	J	--	--	0.409	U	--	--	0.353	U	--	--	0.190	UJ	--	--	0.840	J	--	--
Additional VSWMR Constituents																								
Copper	µg/L	QL (5)	--	1,300 [*]	0.65	J	0.62	5.0	2.0	J	0.62	5.0	< 0.62	U	0.62	5.0	< 0.62	U	0.62	5.0	< 0.62	U	0.62	5.0
Nickel	µg/L	QL (5)	--	5 (QL)	2.0	J	0.88	5.0	3.6	J	0.88	5.0	< 0.88	U	0.88	5.0	24.8		0.88	5.0	< 0.88	U	0.88	5.0
Silver	µg/L	QL (5)	--	5 (QL)	< 0.49	U	0.49	5.0	< 0.49	U	0.49	5.0	< 0.49	U	0.49	5.0	< 0.49	U	0.49	5.0	< 0.49	U	0.49	5.0
Tin	µg/L	QL (5)	--	5 (QL)	< 0.14	U	0.14	1.0	< 0.14	U	0.14	1.0	< 0.14	U	0.14	1.0	< 0.14	U	0.14	1.0	< 0.14	U	0.14	1.0
Vanadium	µg/L	QL (5)	--	5 (QL)	< 1.6	U	1.6	5.0	< 1.6	U	1.6	5.0	< 1.6	U	1.6	5.0	< 1.6	U	1.6	5.0	< 1.6	U	1.6	5.0
Zinc	µg/L	35.9	--	35.9	5.6	J	3.0	10.0	11.9		3.0	10.0	< 3.0	U	3.0	10.0	17.2		3.0	10.0	< 3.0	U	3.0	10.0
Speciation of Chromium																								
Chromium, Hexavalent	µg/L	11	--	--	< 0.0043	U	0.0043	0.025	< 0.0043	U	0.0043	0.025	< 0.0043	U	0.0043	0.025	0.0080	J	0.0043	0.025	< 0.0043	U	0.0043	0.025
Former VPDES Constituents																								
Hardness	µg/L	--	--	--	96800		36.8	662	9140		36.8	662	17400		36.8	662	123000		36.8	662	< 36.8	U	36.8	662
Iron	µg/L	--	--	--	12300	J+	29.8	200	327		3.0	20.0	2730		3.0	20.0	10300		29.8	200	< 3.0	U	3.0	20.0
Manganese	µg/L	--	--	--	363		2.4	20.0	46.8		0.24	2.0	66.6		0.24	2.0	1000		2.4	20.0	< 0.24	U	0.24	2.0
Phenolics, Total	mg/L	--	--	--	< 0.0115	U	0.0115	0.0400	< 0.0115	U	0.0115	0.0400	< 0.0115	U	0.0115	0.0400	< 0.0115	U	0.0115	0.0400	< 0.0115	U	0.0115	0.0400
Potassium	µg/L	--	--	--	13600		18.0	100	1150		18.0	100	5720		18.0	100	3670		18.0	100	< 18.0	U	18.0	100
Sodium	µg/L	--	--	--	9580		14.4	250	32900		144	2500	5080		14.4	250	75300		144	2500	< 14.4	U	14.4	250
Total Organic Carbon	mg/L	--	--	--	< 0.50	U	0.50	1.0	0.90	J	0.50	1.0	< 0.50	U	0.50	1.0	0.57	J	0.50	1.0	< 0.50	U	0.50	1.0
Field Parameters																								
Conductivity	µS/cm	--	--	--	327.7		0.1	0.1	227.1		0.1	0.1	86.3		0.1	0.1	--		--	--	--		--	--
Dissolved Oxygen	mg/L	--	--	--	2.78		0.01	0.01	5.95		0.01	0.01	0.53		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	--	--	--	76.0		0.1	0.1	233.9		0.1	0.1	31.1		0.1	0.1	--		--	--	--		--	--
Temperature	C	--	--	--	10.9		0.1	0.1	8.2		0.1	0.1	13.4		0.1	0.1	--		--	--	--		--	--
Turbidity	NTU	--	--	--	11.2		0.01	0.01	6.48		0.01	0.01	3.66		0.01	0.01	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
µg/L = Micrograms per liter
mg/L = Milligrams per liter
SU = Standard Units
pCi/L = picoCuries per liter
µS/cm = MicroSiemens per centimeter
C = Degrees Celsius
NTU = Nephelometric Turbidity Units
CCR = Coal Combustion Residuals
SWP = Solid Waste Permit
QL = Laboratory quantitation limit (value shown in parentheses represents highest laboratory QL for the constituent based on background data.)
GPS/GWPS = Groundwater Protection Standards
VPDES = Virginia Pollutant Discharge Elimination System
VSWMR = Virginia Solid Waste Management Regulations
* - EPA Action Level
^ = Alternate SWP GPS as established by the February 22, 2023, permit modification
Bold font = Detected constituent

Qualifiers:
U = The analyte was not detected above the level of the sample reporting limit
UJ = The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise
J = Quantitation is approximate due to limitations identified during data validation
J+ = The result is an estimated quantity; the result may be biased high

 = Concentration greater than site-specific background
 = Concentration greater than Federal CCR GWPS and/or Virginia SWP GPS
 = Concentration greater than Virginia SWP GPS

¹Site-specific background values and CCR GWPS values for CCR constituents were calculated in the April 5, 2023, *2023 Updated Facility Background Determination Report*
²SWP GPS values for VSWMR constituents were calculated in the April 5, 2023, *2023 Updated Facility Background Determination Report*

Table 2
Summary of First Semi-Annual Assessment Monitoring Program Verification Event Data (April 2025)
Possum Point Power Station, Pond E
Solid Waste Permit No. 617

					Downgradient Wells								Field Quality Control			
Sample ID: Sample Date:					ES-3D 4/17/2025				T-1615S 4/17/2025				Field Blank 4/17/2025			
Parameter Name	Units	Site Specific Background ¹	Federal CCR GWPS ¹	SWP GPS ²	Result	Qual	MDL	RL	Result	Qual	MDL	RL	Result	Qual	MDL	RL
CCR Appendix IV Constituents																
Arsenic	µg/L	QL (10)	10	10	--		--	--	16.2		7.83	10.0	< 7.83	U	7.83	10.0
Additional VSWMR Constituents																
Vanadium	µg/L	QL (5)	--	5 (QL)	2.02	J	0.520	5.00	--		--	--	< 0.520	U	0.520	5.00
Field Parameters																
Conductivity	µS/cm	--	--	--	553.0		0.1	0.1	452.0		0.1	0.1	--		--	--
Dissolved Oxygen	mg/L	--	--	--	2.03		0.01	0.01	1.04		0.01	0.01	--		--	--
Oxidation Reduction Potential	millivolts	--	--	--	132.1		0.1	0.1	-12.4		0.1	0.1	--		--	--
pH	SU	--	--	--	5.07		0.01	0.01	6.36		0.01	0.01	--		--	--
Temperature	C	--	--	--	16.5		0.1	0.1	17.6		0.1	0.1	--		--	--
Turbidity	NTU	--	--	--	31.7		0.01	0.01	7.56		0.01	0.01	--		--	--

Notes:

MDL = Method Detection Limit
 RL = Reporting Limit
 µg/L = Micrograms per liter
 µS/cm = MicroSiemens per centimeter
 mg/L = Milligrams per liter
 SU = Standard Units
 C = Degrees Celsius
 NTU = Nephelometric Turbidity Units
 CCR = Coal Combustion Residuals
 SWP = Solid Waste Permit
 QL = Laboratory quantitation limit (value shown in parentheses represents highest laboratory QL for the constituent based on background data.)
 GPS/GWPS = Groundwater Protection Standards
 VSWMR = Virginia Solid Waste Management Regulations
Bold font = Detected constituent

Qualifiers:

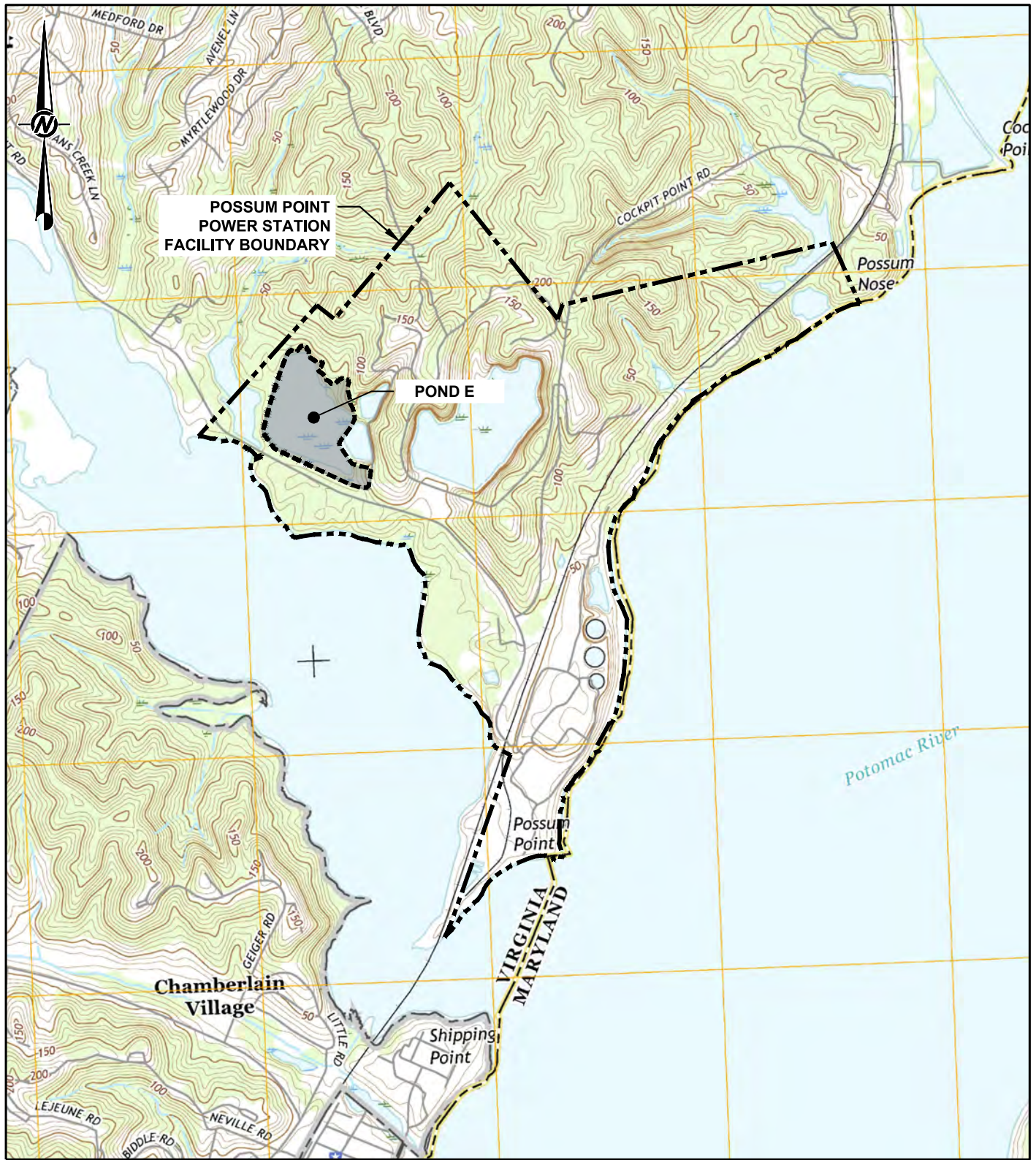
U = The analyte was not detected above the level of the sample reporting limit
 J = Quantitation is approximate due to limitations identified during data validation

= Concentration greater than site-specific background
 = Concentration greater than Federal CCR GWPS and/or Virginia SWP GPS
 = Concentration greater than Virginia SWP GPS

¹Site-specific background values and CCR GWPS values for CCR constituents were calculated in the April 5, 2023, *2023 Updated Facility Background Determination Report*

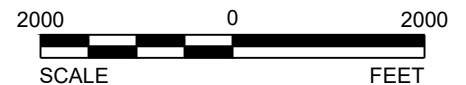
²SWP GPS values for VSWMR constituents were calculated in the April 5, 2023, *2023 Updated Facility Background Determination Report*

Attachment I
Site Location Map



REFERENCE

BASE MAP CONSISTS OF USGS TOPOGRAPHIC QUADRANGLE
QUANTICO, VIRGINIA DATED 2016.



CLIENT
DOMINION ENERGY

CONSULTANT



YYYY-MM-DD 2019-09-19

DESIGNED ALR

PREPARED ABR

REVIEWED ALR

APPROVED MGW

PROJECT
POSSUM POINT POWER STATION
POND E
PRINCE WILLIAM COUNTY, VIRGINIA

TITLE
SITE LOCATION MAP

PROJECT NO.
US0041019.5094

REV.
0

ATTACHMENT

Attachment II
Groundwater Elevation Table

Attachment II
Groundwater Elevation Table
First Semi-Annual 2025 Sampling Event (February 18, 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Well Identification	Date Measured	Top of Casing Elevation (ft/amsl)	Depth to Water (ft)	Groundwater Elevation (ft/amsl)
ED-24R	2/18/2025	74.96	27.24	47.72
ED-26	2/18/2025	89.86	52.17	37.69
ES-1609	2/18/2025	23.26	22.66	0.60
ES-1613	2/18/2025	26.01	21.00	5.01
ES-3D	2/18/2025	22.86	22.53	0.33
T-1615S	2/18/2025	25.92	22.70	3.22
T-1615D	2/18/2025	25.81	22.14	3.67
ED-22RA	2/18/2025	26.89	26.60	0.29
ED-23R	2/18/2025	27.80	24.62	3.18
ED-1612*	2/18/2025	189.80	109.41	80.39
ED-1D*	2/18/2025	55.76	40.22	15.54
ED-9R2*	2/18/2025	79.25	58.11	21.14
SD-1603*	2/18/2025	195.25	151.53	43.72
SD-1604*	2/18/2025	171.07	138.16	32.91
ED-1605*	2/18/2025	167.11	135.08	32.03
ED-1606*	2/18/2025	58.50	34.21	24.29
SD-1611D*	2/18/2025	187.04	131.45	55.59

Notes:

ft = feet

ft/amsl = feet above mean sea level

Current TOC elevations for ES-3D and SD-1603 updated in March 2017 survey

Current TOC elevations for ED-24R, ED-26, and ED-9R2 updated in April 2018 survey

* Pond D well used only for creation of potentiometric surface

Attachment III
Groundwater Flow Rate Calculation

Attachment III
Groundwater Flow Rate Calculation
First Semi-Annual 2025 Sampling Event (February 18, 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

The approximate horizontal velocity of the groundwater flow beneath the site for the monitored unit was calculated using the following equations:

The average hydraulic gradient along the ideal flow line beneath the unit was calculated using the following equation:

$$i = h_L / L$$

Where: i = hydraulic gradient (unitless)
 h_L = head loss (elevation difference in feet)
 L = length (horizontal distance in feet)

The groundwater flow rate was calculated using the following formula:

$$V = ki / \theta$$

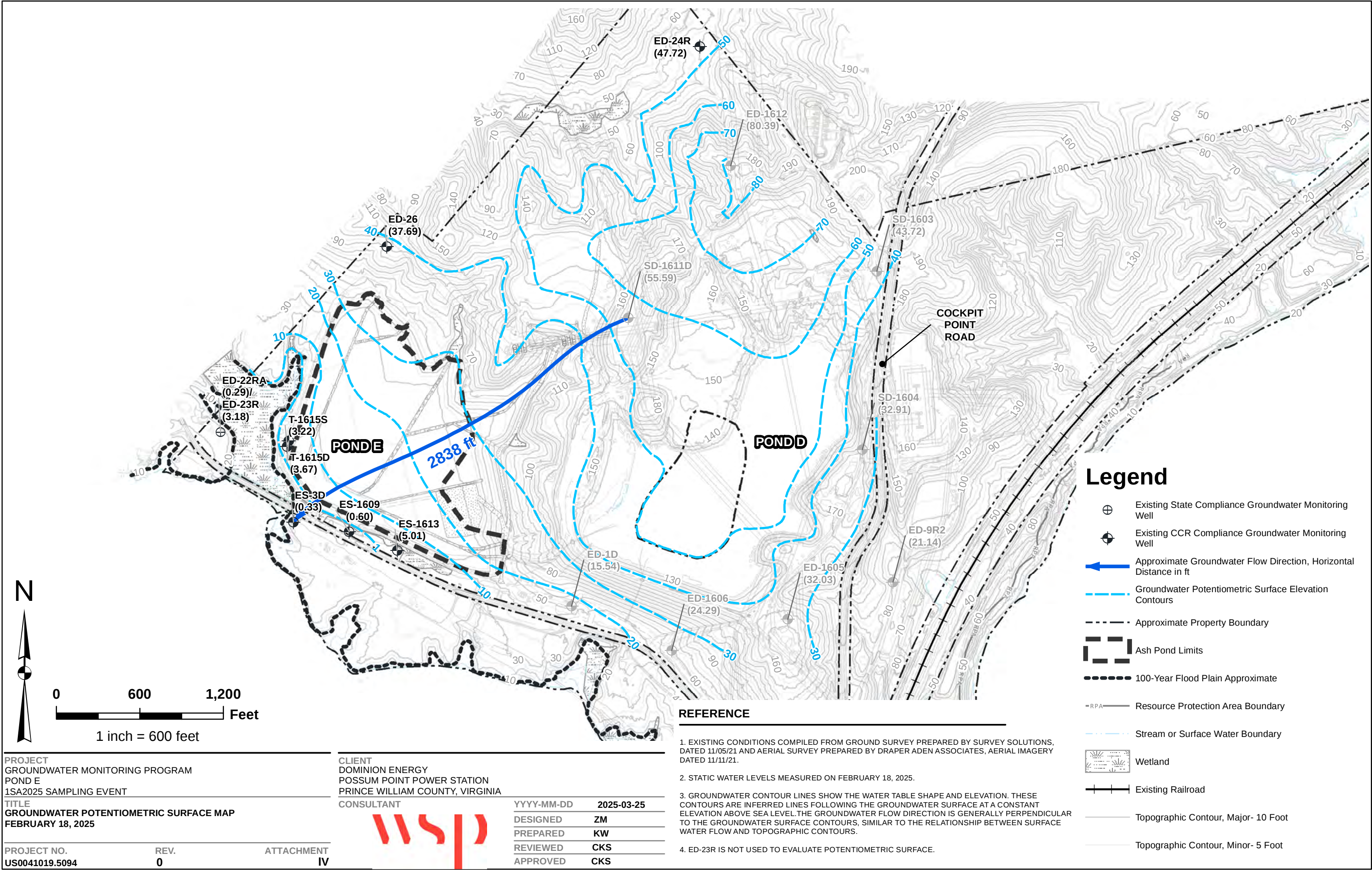
Where: V = Groundwater Velocity (cm/s)
 k = hydraulic conductivity (cm/s)
 i = hydraulic gradient (unitless)
 θ = assumed porosity (unitless)

Groundwater Flow	Hydraulic Conductivity (k, cm/s)	Starting Head (feet amsl)	Ending Head (feet amsl)	Flow Length (feet)	Gradient (i)	Assumed Porosity (Ø)	Estimated Groundwater Velocity	
							(cm/s)	(feet/year)
Vgw ₁	2.01E-04	55.59	0.33	2,838	1.95E-02	0.20	1.96E-05	20

Notes: cm/s = centimeters per second
amsl = above mean sea level
k = hydraulic conductivity
Ø = estimated value based on aquifer lithologic properties

Attachment IV

Groundwater Potentiometric Surface Map



Attachment V

Background Statistically Significant Exceedances

Attachment V
Background Statistically Significant Exceedances
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Parameter Detected Above Reporting Limit	Downgradient Well	Value-To-Value Comparison: Statistically Significant Increase (yes/no)
Arsenic	ES-3D	No
	ES-1609	No
	ES-1613	No
	T-1615S	Yes
	T-1615D	No
Barium	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	No
	T-1615D	Yes
Boron	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	Yes
	T-1615D	No
Calcium	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	No
	T-1615D	Yes
Chloride	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	Yes
	T-1615D	Yes
Chromium	ES-3D	Yes
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No
Cobalt	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	No
	T-1615D	No

Attachment V
Background Statistically Significant Exceedances
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Parameter Detected Above Reporting Limit	Downgradient Well	Value-To-Value Comparison: Statistically Significant Increase (yes/no)
Copper	ES-3D	Yes
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No
Fluoride	ES-3D	Yes
	ES-1609	No
	ES-1613	No
	T-1615S	Yes
	T-1615D	No
pH	ES-3D	No
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No
Lithium	ES-3D	Yes
	ES-1609	No
	ES-1613	Yes
	T-1615S	No
	T-1615D	Yes
Nickel	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	Yes
	T-1615D	No
Radium 226 and 228 (combined)	ES-3D	No
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No
Sulfate	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	Yes
	T-1615D	No

Attachment V
Background Statistically Significant Exceedances
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Parameter Detected Above Reporting Limit	Downgradient Well	Value-To-Value Comparison: Statistically Significant Increase (yes/no)
Total Dissolved Solids	ES-3D	Yes
	ES-1609	Yes
	ES-1613	Yes
	T-1615S	Yes
	T-1615D	Yes
Vanadium	ES-3D	No
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No
Zinc	ES-3D	Yes
	ES-1609	No
	ES-1613	No
	T-1615S	No
	T-1615D	No

Parameter Detected Above Reporting Limit	Sentinel Well	Value-To-Value Comparison: Statistically Significant Increase (yes/no)
Barium	ED-22RA	No
	ED-23R	No
Boron	ED-22RA	Yes
	ED-23R	No
Calcium	ED-22RA	No
	ED-23R	No
Chloride	ED-22RA	Yes
	ED-23R	No
Cobalt	ED-22RA	Yes
	ED-23R	No
Fluoride	ED-22RA	No
	ED-23R	No
Lithium	ED-22RA	No
	ED-23R	No
pH	ED-22RA	No
	ED-23R	No
Sulfate	ED-22RA	Yes
	ED-23R	Yes

Attachment V
Background Statistically Significant Exceedances
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Parameter Detected Above Reporting Limit	Sentinel Well	Value-To-Value Comparison: Statistically Significant Increase (yes/no)
Total Dissolved Solids	ED-22RA	No
	ED-23R	No
Zinc	ED-22RA	No
	ED-23R	No

Attachment VI

Confirmed Solid Waste Permit GPS Exceedances

Attachment VI
Confirmed Solid Waste Permit GPS Exceedances
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Well Identification	Well Designation	Constituents Found to Exceed SWP GPS
ED-24R	Upgradient	None
ED-26	Upgradient	None
ES-3D	Downgradient	<i>Cobalt</i>
		<i>Nickel</i>
		<i>Zinc</i>
ES-1609	Downgradient	<i>Cobalt</i>
		<i>Nickel</i>
ES-1613	Downgradient	<i>Cobalt</i>
		<i>Nickel</i>
T-1615S	Downgradient	<i>Arsenic</i>
		<i>Nickel</i>
T-1615D	Downgradient	None
ED-22RA	Sentinel	None
ED-23R	Sentinel	None

Notes:

SWP = Solid Waste Permit

GPS = Solid Waste Permit Groundwater Protection Standard

Attachment VII-A
Laboratory Certificates of Analysis
February 18-20, 2025, Sampling Event



March 27, 2025

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

RE: Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory between February 19, 2025 and February 21, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephanie Knott
stephanie.knott@pacelabs.com
704-977-0981
Project Manager

Enclosures

cc: ENV STD DM
Michael Knez, WSP
Rashida Marlowe, Dominion Energy Services, Inc.
Catherine Pezzaro, WSP USA, Inc.
Crystal Shadle, Golder Associates Inc.
Environmental Standards, Inc., Environmental Standards,
Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LA000356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006

9800 Kinney Ave. Ste 100, Huntersville, NC 28078

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Laboratory ID: 99006

South Carolina Certification #: 99006001

South Carolina Drinking Water Cert. #: 99006003

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Louisiana DoH Drinking Water #: LA029

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Laboratory ID: 99030

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92780477001	021825NED26	Water	02/18/25 13:30	02/19/25 10:48
92780477002	021825NT1615S	Water	02/18/25 14:50	02/19/25 10:48
92780477003	021825NT1615D	Water	02/18/25 17:10	02/19/25 10:48
92780477004	021925NES1613	Water	02/19/25 14:27	02/20/25 11:15
92780477005	021925NES3D	Water	02/19/25 16:15	02/20/25 11:15
92780477006	021925NEFDDUPLICATE	Water	02/19/25 14:42	02/20/25 11:15
92780477007	022025NES1609	Water	02/20/25 12:00	02/21/25 10:30
92780477008	022025NEFBBLANK	Water	02/20/25 12:35	02/21/25 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92780477001	021825NED26	EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	DBB1	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
92780477002	021825NT1615S	EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	DBB1	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
92780477003	021825NT1615D	EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	DBB1	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
92780477004	021925NES1613	EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
92780477005	021925NES3D	EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN

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SAMPLE ANALYTE COUNT

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92780477006	021925NEFDDUPLICATE	SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
92780477007	022025NES1609	SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
92780477008	022025NEFBBLANK	SM 2540C-2015	CDM	1	PASI-A
		EPA 9056A	JCM	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 7199	VJM	1	PASI-C
		EPA 6010D	DBB1	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CDM	1	PASI-A
		EPA 9056A	JCM	3	PASI-A
		EPA 9060A	MDW	5	PASI-A

PAN = Pace National - Mt. Juliet

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780477001	021825NED26					
EPA 6010D	Barium	30.3	ug/L	5.0	02/23/25 22:24	
EPA 6010D	Boron	5.9J	ug/L	50.0	02/23/25 22:24	
EPA 6010D	Calcium	7540	ug/L	100	02/23/25 22:24	
EPA 6010D	Copper	0.74J	ug/L	5.0	02/23/25 22:24	
EPA 6010D	Hardness, Total(SM 2340B)	28800	ug/L	662	02/23/25 22:24	
EPA 6020B	Cobalt	0.44J	ug/L	1.0	03/12/25 02:16	
EPA 6020B	Iron	183	ug/L	20.0	03/12/25 02:16	
EPA 6020B	Lithium	1.3J	ug/L	2.5	03/12/25 02:16	
EPA 6020B	Manganese	10.5	ug/L	2.0	03/12/25 02:16	
EPA 6020B	Potassium	2300	ug/L	100	03/12/25 02:16	
EPA 6020B	Sodium	1950	ug/L	250	03/12/25 02:16	
SM 2540C-2015	Total Dissolved Solids	86.8	mg/L	10.0	02/24/25 15:40	
EPA 9056A	Chloride	2.0	mg/L	1.0	02/21/25 07:01	
EPA 9056A	Fluoride	0.20	mg/L	0.10	02/21/25 07:01	
EPA 9056A	Sulfate	1.6	mg/L	1.0	02/21/25 07:01	
92780477002	021825NT1615S					
EPA 7199	Chromium, Hexavalent	0.012J	ug/L	0.025	02/19/25 13:11	M1
EPA 6010D	Arsenic	11.7	ug/L	10.0	02/23/25 22:09	
EPA 6010D	Barium	34.4	ug/L	5.0	02/23/25 22:09	
EPA 6010D	Boron	393	ug/L	50.0	02/23/25 22:09	
EPA 6010D	Calcium	4330	ug/L	100	02/23/25 22:09	
EPA 6010D	Copper	0.98J	ug/L	5.0	02/23/25 22:09	
EPA 6010D	Nickel	10.0	ug/L	5.0	02/23/25 22:09	
EPA 6010D	Hardness, Total(SM 2340B)	26100	ug/L	662	02/23/25 22:09	
EPA 6010D	Zinc	3.6J	ug/L	10.0	02/23/25 22:09	
EPA 6020B	Iron	2590	ug/L	100	03/12/25 02:24	M1
EPA 6020B	Lithium	12.2J	ug/L	12.5	03/12/25 02:24	
EPA 6020B	Manganese	81.2	ug/L	10.0	03/12/25 02:24	
EPA 6020B	Potassium	5300	ug/L	500	03/12/25 02:24	
EPA 6020B	Sodium	1790	ug/L	1250	03/12/25 02:24	
SM 2540C-2015	Total Dissolved Solids	250	mg/L	10.0	02/24/25 15:40	
EPA 9056A	Chloride	45.8	mg/L	1.0	02/21/25 07:48	
EPA 9056A	Fluoride	0.42	mg/L	0.10	02/21/25 07:48	M1
EPA 9056A	Sulfate	24.0	mg/L	1.0	02/21/25 07:48	
EPA 9060A	Total Organic Carbon	6.2	mg/L	1.0	02/26/25 07:55	
EPA 9060A	Total Organic Carbon	6.2	mg/L	1.0	02/26/25 07:55	
EPA 9060A	Total Organic Carbon	6.4	mg/L	1.0	02/26/25 07:55	
EPA 9060A	Total Organic Carbon	6.4	mg/L	1.0	02/26/25 07:55	
EPA 9060A	Mean Total Organic Carbon	6.3	mg/L	1.0	02/26/25 07:55	
92780477003	021825NT1615D					
EPA 6010D	Barium	122	ug/L	5.0	02/23/25 22:27	
EPA 6010D	Boron	6.7J	ug/L	50.0	02/23/25 22:27	
EPA 6010D	Calcium	20800	ug/L	100	02/23/25 22:27	
EPA 6010D	Copper	0.65J	ug/L	5.0	02/23/25 22:27	
EPA 6010D	Nickel	2.0J	ug/L	5.0	02/23/25 22:27	
EPA 6010D	Hardness, Total(SM 2340B)	96800	ug/L	662	02/23/25 22:27	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780477003	021825NT1615D					
EPA 6010D	Zinc	5.6J	ug/L	10.0	02/23/25 22:27	
EPA 6020B	Cobalt	0.56J	ug/L	1.0	03/12/25 03:09	
EPA 6020B	Iron	12300	ug/L	200	03/12/25 03:13	
EPA 6020B	Lithium	15.8	ug/L	2.5	03/12/25 03:09	
EPA 6020B	Manganese	363	ug/L	20.0	03/12/25 03:13	
EPA 6020B	Potassium	13600	ug/L	100	03/12/25 03:09	
EPA 6020B	Sodium	9580	ug/L	250	03/12/25 03:09	
SM 2540C-2015	Total Dissolved Solids	260	mg/L	10.0	02/24/25 15:41	
EPA 9056A	Chloride	81.9	mg/L	1.0	02/21/25 08:36	
EPA 9056A	Fluoride	0.22	mg/L	0.10	02/21/25 08:36	
EPA 9056A	Sulfate	1.1	mg/L	1.0	02/21/25 08:36	
92780477004	021925NES1613					
EPA 6010D	Barium	59.9	ug/L	5.0	02/23/25 22:31	
EPA 6010D	Beryllium	0.85J	ug/L	1.0	02/23/25 22:31	
EPA 6010D	Boron	1190	ug/L	50.0	02/23/25 22:31	
EPA 6010D	Calcium	22700	ug/L	100	02/23/25 22:31	
EPA 6010D	Copper	0.65J	ug/L	5.0	02/23/25 22:31	
EPA 6010D	Nickel	25.6	ug/L	5.0	02/23/25 22:31	
EPA 6010D	Hardness, Total(SM 2340B)	121000	ug/L	662	02/23/25 22:31	
EPA 6010D	Zinc	17.4	ug/L	10.0	02/23/25 22:31	
EPA 6020B	Cobalt	25.2	ug/L	1.0	03/14/25 18:32	
EPA 6020B	Iron	9720	ug/L	20.0	03/14/25 18:32	
EPA 6020B	Lithium	16.3	ug/L	2.5	03/14/25 18:32	
EPA 6020B	Manganese	953	ug/L	20.0	03/14/25 18:35	
EPA 6020B	Potassium	3400	ug/L	100	03/14/25 18:32	
EPA 6020B	Sodium	71800	ug/L	2500	03/14/25 18:35	
EPA 6020B	Thallium	0.043J	ug/L	0.20	03/14/25 18:32	
SM 2540C-2015	Total Dissolved Solids	408	mg/L	10.0	02/25/25 11:06	
EPA 9056A	Chloride	114	mg/L	3.0	02/21/25 14:21	
EPA 9056A	Fluoride	0.15	mg/L	0.10	02/21/25 09:23	
EPA 9056A	Sulfate	90.3	mg/L	1.0	02/21/25 09:23	
EPA 9060A	Total Organic Carbon	0.61J	mg/L	1.0	02/26/25 09:43	
EPA 9060A	Total Organic Carbon	0.53J	mg/L	1.0	02/26/25 09:43	
EPA 9060A	Total Organic Carbon	0.53J	mg/L	1.0	02/26/25 09:43	
EPA 9060A	Total Organic Carbon	0.52J	mg/L	1.0	02/26/25 09:43	
EPA 9060A	Mean Total Organic Carbon	0.55J	mg/L	1.0	02/26/25 09:43	
92780477005	021925NES3D					
EPA 6010D	Barium	89.2	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Beryllium	0.96J	ug/L	1.0	02/23/25 22:40	
EPA 6010D	Boron	397	ug/L	50.0	02/23/25 22:40	
EPA 6010D	Calcium	16200	ug/L	100	02/23/25 22:40	
EPA 6010D	Chromium	5.4	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Copper	5.8	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Nickel	32.7	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Silver	2.0J	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Hardness, Total(SM 2340B)	101000	ug/L	662	02/23/25 22:40	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780477005	021925NES3D					
EPA 6010D	Vanadium	5.3	ug/L	5.0	02/23/25 22:40	
EPA 6010D	Zinc	160	ug/L	10.0	02/23/25 22:40	
EPA 6020B	Cobalt	47.4	ug/L	10.0	03/14/25 18:39	
EPA 6020B	Iron	11200	ug/L	200	03/14/25 18:39	
EPA 6020B	Lithium	15.9J	ug/L	25.0	03/14/25 18:39	
EPA 6020B	Manganese	1090	ug/L	20.0	03/14/25 18:39	
EPA 6020B	Potassium	4700	ug/L	1000	03/14/25 18:39	
EPA 6020B	Sodium	58700	ug/L	2500	03/14/25 18:39	
SM 2540C-2015	Total Dissolved Solids	315	mg/L	10.0	02/25/25 11:06	
EPA 9056A	Chloride	106	mg/L	3.0	02/21/25 14:36	
EPA 9056A	Fluoride	0.63	mg/L	0.10	02/21/25 09:39	
EPA 9056A	Sulfate	43.2	mg/L	1.0	02/21/25 09:39	
92780477006	021925NEFDDUPLICATE					
EPA 7199	Chromium, Hexavalent	0.0080J	ug/L	0.025	02/20/25 12:22	
EPA 6010D	Barium	60.2	ug/L	5.0	02/23/25 22:43	
EPA 6010D	Beryllium	0.87J	ug/L	1.0	02/23/25 22:43	
EPA 6010D	Boron	1190	ug/L	50.0	02/23/25 22:43	
EPA 6010D	Calcium	23100	ug/L	100	02/23/25 22:43	
EPA 6010D	Nickel	24.8	ug/L	5.0	02/23/25 22:43	
EPA 6010D	Hardness, Total(SM 2340B)	123000	ug/L	662	02/23/25 22:43	
EPA 6010D	Zinc	17.2	ug/L	10.0	02/23/25 22:43	
EPA 6020B	Cobalt	26.6	ug/L	1.0	03/14/25 18:43	
EPA 6020B	Iron	10300	ug/L	200	03/14/25 18:54	
EPA 6020B	Lithium	16.9	ug/L	2.5	03/14/25 18:43	
EPA 6020B	Manganese	1000	ug/L	20.0	03/14/25 18:54	
EPA 6020B	Potassium	3670	ug/L	100	03/14/25 18:43	
EPA 6020B	Sodium	75300	ug/L	2500	03/14/25 18:54	
EPA 6020B	Thallium	0.046J	ug/L	0.20	03/14/25 18:43	
SM 2540C-2015	Total Dissolved Solids	404	mg/L	10.0	02/25/25 11:06	
EPA 9056A	Chloride	111	mg/L	3.0	02/21/25 10:11	
EPA 9056A	Fluoride	0.17	mg/L	0.10	02/21/25 01:12	
EPA 9056A	Sulfate	89.9	mg/L	1.0	02/21/25 01:12	
EPA 9060A	Total Organic Carbon	0.62J	mg/L	1.0	02/26/25 10:18	
EPA 9060A	Total Organic Carbon	0.56J	mg/L	1.0	02/26/25 10:18	
EPA 9060A	Total Organic Carbon	0.56J	mg/L	1.0	02/26/25 10:18	
EPA 9060A	Total Organic Carbon	0.55J	mg/L	1.0	02/26/25 10:18	
EPA 9060A	Mean Total Organic Carbon	0.57J	mg/L	1.0	02/26/25 10:18	
92780477007	022025NES1609					
EPA 6010D	Barium	54.7	ug/L	5.0	02/23/25 22:46	
EPA 6010D	Beryllium	0.87J	ug/L	1.0	02/23/25 22:46	
EPA 6010D	Boron	1200	ug/L	50.0	02/23/25 22:46	
EPA 6010D	Calcium	13300	ug/L	100	02/23/25 22:46	
EPA 6010D	Copper	1.3J	ug/L	5.0	02/23/25 22:46	
EPA 6010D	Nickel	10.1	ug/L	5.0	02/23/25 22:46	
EPA 6010D	Hardness, Total(SM 2340B)	65100	ug/L	662	02/23/25 22:46	
EPA 6010D	Zinc	22.1	ug/L	10.0	02/23/25 22:46	

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780477007	022025NES1609					
EPA 6020B	Cobalt	17.8	ug/L	1.0	03/17/25 17:34	
EPA 6020B	Iron	11400	ug/L	200	03/17/25 17:37	
EPA 6020B	Lithium	7.9	ug/L	2.5	03/17/25 17:34	
EPA 6020B	Manganese	612	ug/L	20.0	03/17/25 17:37	
EPA 6020B	Potassium	5450	ug/L	100	03/17/25 17:34	
EPA 6020B	Sodium	84700	ug/L	2500	03/17/25 17:37	
EPA 6020B	Thallium	0.055J	ug/L	0.20	03/17/25 17:34	
SM 2540C-2015	Total Dissolved Solids	350	mg/L	10.0	02/27/25 16:52	
EPA 9056A	Chloride	88.7	mg/L	2.0	02/23/25 02:30	
EPA 9056A	Sulfate	84.9	mg/L	2.0	02/23/25 02:30	
92780477008	022025NEFBBLANK					
EPA 6010D	Boron	7.9J	ug/L	50.0	02/23/25 22:49	
SM 2540C-2015	Total Dissolved Solids	52.0	mg/L	10.0	02/27/25 16:53	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Method: EPA 7199
Description: 7199 Chromium, Hexavalent
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 7199 by Pace Analytical Services Charlotte. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917201

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4713642)
 - Chromium, Hexavalent
- MS (Lab ID: 4713644)
 - Chromium, Hexavalent

QC Batch: 917467

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780477004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4715507)
 - Chromium, Hexavalent
- MSD (Lab ID: 4715508)
 - Chromium, Hexavalent

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Method: EPA 7199

Description: 7199 Chromium, Hexavalent

Client: Dominion Energy_VA

Date: March 27, 2025

QC Batch: 917723

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780713003

M2: Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4716728)
 - Chromium, Hexavalent
- MSD (Lab ID: 4716729)
 - Chromium, Hexavalent

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 917467

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 021925NES3D (Lab ID: 92780477005)
 - Chromium, Hexavalent
- DUP (Lab ID: 4715509)
 - Chromium, Hexavalent

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Method: EPA 6010D
Description: 6010 MET ICP
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 6010D by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Method: EPA 6020B
Description: 6020 MET ICPMS
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 919050

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
92777579004,92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4722981)
 - Sodium
- MS (Lab ID: 4722985)
 - Iron
- MSD (Lab ID: 4722982)
 - Sodium
- MSD (Lab ID: 4722984)
 - Iron
 - Tin

R1: RPD value was outside control limits.

- MSD (Lab ID: 4722984)

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Method: EPA 6020B

Description: 6020 MET ICPMS

Client: Dominion Energy_VA

Date: March 27, 2025

QC Batch: 919050

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
92777579004,92780474002,92780477002

R1: RPD value was outside control limits.

- Iron
- Tin

QC Batch: 922080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92784400003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 4737788)
- Sodium

Additional Comments:

Analyte Comments:

QC Batch: 919050

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 021825NT1615S (Lab ID: 92780477002)
 - Cobalt
 - Lead
 - Tin
 - Thallium

QC Batch: 922080

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 021925NES3D (Lab ID: 92780477005)
 - Lead
 - Tin
 - Thallium

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Method: EPA 7470A
Description: 7470 Mercury
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 7470A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Method: EPA 9066

Description: Wet Chemistry 9066

Client: Dominion Energy_VA

Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 9066 by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Method: SM 2540C-2015

Description: 2540C Total Dissolved Solids

Client: Dominion Energy_VA

Date: March 27, 2025

General Information:

8 samples were analyzed for SM 2540C-2015 by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Method: EPA 9056A
Description: 9056 IC anions 28 Days
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 9056A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917605

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4716296)
 - Chloride
- MSD (Lab ID: 4716297)
 - Chloride
 - Fluoride
- MSD (Lab ID: 4716299)
 - Fluoride

QC Batch: 917919

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780713003,92780965001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 4717839)
 - Sulfate

R1: RPD value was outside control limits.

- MSD (Lab ID: 4717839)
 - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Method: EPA 9060A

Description: Total Organic Carbon, Asheville

Client: Dominion Energy_VA

Date: March 27, 2025

General Information:

8 samples were analyzed for EPA 9060A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NED26 Lab ID: 92780477001 Collected: 02/18/25 13:30 Received: 02/19/25 10:48 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent Analytical Method: EPA 7199 Pace Analytical Services - Charlotte									
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/19/25 13:15	18540-29-9	
6010 MET ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:24	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:24	7440-38-2	
Barium	30.3	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:24	7440-39-3	
Beryllium	ND	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:24	7440-41-7	
Boron	5.9J	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:24	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:24	7440-43-9	
Calcium	7540	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:24	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:24	7440-47-3	
Copper	0.74J	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:24	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:24	7439-98-7	
Nickel	ND	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:24	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:24	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:24	7440-22-4	
Hardness, Total(SM 2340B)	28800	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:24		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:24	7440-62-2	
Zinc	ND	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:24	7440-66-6	
6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Cobalt	0.44J	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 02:16	7440-48-4	
Iron	183	ug/L	20.0	3.0	1	02/27/25 15:55	03/12/25 02:16	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	02/27/25 15:55	03/12/25 02:16	7439-92-1	
Lithium	1.3J	ug/L	2.5	0.33	1	02/27/25 15:55	03/12/25 02:16	7439-93-2	
Manganese	10.5	ug/L	2.0	0.24	1	02/27/25 15:55	03/12/25 02:16	7439-96-5	
Potassium	2300	ug/L	100	18.0	1	02/27/25 15:55	03/12/25 02:16	7440-09-7	
Sodium	1950	ug/L	250	14.4	1	02/27/25 15:55	03/12/25 02:16	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	02/27/25 15:55	03/12/25 02:16	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 02:16	7440-31-5	
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:14	7439-97-6	
Wet Chemistry 9066 Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet									
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:51	64743-03-9	
2540C Total Dissolved Solids Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville									
Total Dissolved Solids	86.8	mg/L	10.0	10.0	1		02/24/25 15:40		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NED26		Lab ID: 92780477001		Collected: 02/18/25 13:30		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	2.0	mg/L	1.0	0.60	1		02/21/25 07:01	16887-00-6	
Fluoride	0.20	mg/L	0.10	0.050	1		02/21/25 07:01	16984-48-8	
Sulfate	1.6	mg/L	1.0	0.50	1		02/21/25 07:01	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:37	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:37	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:37	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:37	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:37	7440-44-0	

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NT1615S		Lab ID: 92780477002		Collected: 02/18/25 14:50		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	0.012J	ug/L	0.025	0.0043	1		02/19/25 13:11	18540-29-9	M1
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:09	7440-36-0	
Arsenic	11.7	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:09	7440-38-2	
Barium	34.4	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:09	7440-39-3	
Beryllium	ND	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:09	7440-41-7	
Boron	393	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:09	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:09	7440-43-9	
Calcium	4330	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:09	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:09	7440-47-3	
Copper	0.98J	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:09	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:09	7439-98-7	
Nickel	10.0	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:09	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:09	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:09	7440-22-4	
Hardness, Total(SM 2340B)	26100	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:09		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:09	7440-62-2	
Zinc	3.6J	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:09	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	ND	ug/L	5.0	0.71	5	02/27/25 15:55	03/12/25 02:24	7440-48-4	D3
Iron	2590	ug/L	100	14.9	5	02/27/25 15:55	03/12/25 02:24	7439-89-6	M1
Lead	ND	ug/L	5.0	0.88	5	02/27/25 15:55	03/12/25 02:24	7439-92-1	D3
Lithium	12.2J	ug/L	12.5	1.7	5	02/27/25 15:55	03/12/25 02:24	7439-93-2	
Manganese	81.2	ug/L	10.0	1.2	5	02/27/25 15:55	03/12/25 02:24	7439-96-5	
Potassium	5300	ug/L	500	90.1	5	02/27/25 15:55	03/12/25 02:24	7440-09-7	
Sodium	1790	ug/L	1250	72.0	5	02/27/25 15:55	03/12/25 02:24	7440-23-5	
Thallium	ND	ug/L	1.0	0.14	5	02/27/25 15:55	03/12/25 02:24	7440-28-0	D3
Tin	ND	ug/L	5.0	0.72	5	02/27/25 15:55	03/12/25 02:24	7440-31-5	D3
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:45	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:51	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	250	mg/L	10.0	10.0	1		02/24/25 15:40		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NT1615S		Lab ID: 92780477002		Collected: 02/18/25 14:50		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	45.8	mg/L	1.0	0.60	1		02/21/25 07:48	16887-00-6	
Fluoride	0.42	mg/L	0.10	0.050	1		02/21/25 07:48	16984-48-8	M1
Sulfate	24.0	mg/L	1.0	0.50	1		02/21/25 07:48	14808-79-8	
Total Organic Carbon, Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/26/25 07:55	7440-44-0	
Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/26/25 07:55	7440-44-0	
Total Organic Carbon	6.4	mg/L	1.0	0.50	1		02/26/25 07:55	7440-44-0	
Total Organic Carbon	6.4	mg/L	1.0	0.50	1		02/26/25 07:55	7440-44-0	
Mean Total Organic Carbon	6.3	mg/L	1.0	0.50	1		02/26/25 07:55	7440-44-0	

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NT1615D		Lab ID: 92780477003		Collected: 02/18/25 17:10		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/19/25 14:08	18540-29-9	
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:27	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:27	7440-38-2	
Barium	122	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:27	7440-39-3	
Beryllium	ND	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:27	7440-41-7	
Boron	6.7J	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:27	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:27	7440-43-9	
Calcium	20800	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:27	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:27	7440-47-3	
Copper	0.65J	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:27	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:27	7439-98-7	
Nickel	2.0J	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:27	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:27	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:27	7440-22-4	
Hardness, Total(SM 2340B)	96800	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:27		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:27	7440-62-2	
Zinc	5.6J	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:27	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	0.56J	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 03:09	7440-48-4	
Iron	12300	ug/L	200	29.8	10	02/27/25 15:55	03/12/25 03:13	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	02/27/25 15:55	03/12/25 03:09	7439-92-1	
Lithium	15.8	ug/L	2.5	0.33	1	02/27/25 15:55	03/12/25 03:09	7439-93-2	
Manganese	363	ug/L	20.0	2.4	10	02/27/25 15:55	03/12/25 03:13	7439-96-5	
Potassium	13600	ug/L	100	18.0	1	02/27/25 15:55	03/12/25 03:09	7440-09-7	
Sodium	9580	ug/L	250	14.4	1	02/27/25 15:55	03/12/25 03:09	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	02/27/25 15:55	03/12/25 03:09	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 03:09	7440-31-5	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:16	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:54	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	260	mg/L	10.0	10.0	1		02/24/25 15:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021825NT1615D		Lab ID: 92780477003		Collected: 02/18/25 17:10		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	81.9	mg/L	1.0	0.60	1		02/21/25 08:36	16887-00-6	
Fluoride	0.22	mg/L	0.10	0.050	1		02/21/25 08:36	16984-48-8	
Sulfate	1.1	mg/L	1.0	0.50	1		02/21/25 08:36	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 09:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 09:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 09:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 09:26	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 09:26	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

Sample: 021925NES1613		Lab ID: 92780477004		Collected: 02/19/25 14:27		Received: 02/20/25 11:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent									
Analytical Method: EPA 7199 Pace Analytical Services - Charlotte									
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/20/25 12:08	18540-29-9	M1
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:31	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:31	7440-38-2	
Barium	59.9	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:31	7440-39-3	
Beryllium	0.85J	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:31	7440-41-7	
Boron	1190	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:31	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:31	7440-43-9	
Calcium	22700	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:31	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:31	7440-47-3	
Copper	0.65J	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:31	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:31	7439-98-7	
Nickel	25.6	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:31	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:31	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:31	7440-22-4	
Hardness, Total(SM 2340B)	121000	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:31		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:31	7440-62-2	
Zinc	17.4	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:31	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Cobalt	25.2	ug/L	1.0	0.14	1	03/13/25 15:10	03/14/25 18:32	7440-48-4	
Iron	9720	ug/L	20.0	3.0	1	03/13/25 15:10	03/14/25 18:32	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/13/25 15:10	03/14/25 18:32	7439-92-1	
Lithium	16.3	ug/L	2.5	0.33	1	03/13/25 15:10	03/14/25 18:32	7439-93-2	
Manganese	953	ug/L	20.0	2.4	10	03/13/25 15:10	03/14/25 18:35	7439-96-5	
Potassium	3400	ug/L	100	18.0	1	03/13/25 15:10	03/14/25 18:32	7440-09-7	
Sodium	71800	ug/L	2500	144	10	03/13/25 15:10	03/14/25 18:35	7440-23-5	
Thallium	0.043J	ug/L	0.20	0.028	1	03/13/25 15:10	03/14/25 18:32	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/13/25 15:10	03/14/25 18:32	7440-31-5	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:18	7439-97-6	
Wet Chemistry 9066									
Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet									
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:55	64743-03-9	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville									
Total Dissolved Solids	408	mg/L	10.0	10.0	1		02/25/25 11:06		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021925NES1613		Lab ID: 92780477004		Collected: 02/19/25 14:27		Received: 02/20/25 11:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	114	mg/L	3.0	1.8	3		02/21/25 14:21	16887-00-6	
Fluoride	0.15	mg/L	0.10	0.050	1		02/21/25 09:23	16984-48-8	
Sulfate	90.3	mg/L	1.0	0.50	1		02/21/25 09:23	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	0.61J	mg/L	1.0	0.50	1		02/26/25 09:43	7440-44-0	
Total Organic Carbon	0.53J	mg/L	1.0	0.50	1		02/26/25 09:43	7440-44-0	
Total Organic Carbon	0.53J	mg/L	1.0	0.50	1		02/26/25 09:43	7440-44-0	
Total Organic Carbon	0.52J	mg/L	1.0	0.50	1		02/26/25 09:43	7440-44-0	
Mean Total Organic Carbon	0.55J	mg/L	1.0	0.50	1		02/26/25 09:43	7440-44-0	

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021925NES3D		Lab ID: 92780477005		Collected: 02/19/25 16:15		Received: 02/20/25 11:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	ND	ug/L	0.050	0.0086	2		02/20/25 12:54	18540-29-9	D3
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:40	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:40	7440-38-2	
Barium	89.2	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:40	7440-39-3	
Beryllium	0.96J	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:40	7440-41-7	
Boron	397	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:40	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:40	7440-43-9	
Calcium	16200	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:40	7440-70-2	
Chromium	5.4	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:40	7440-47-3	
Copper	5.8	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:40	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:40	7439-98-7	
Nickel	32.7	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:40	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:40	7782-49-2	
Silver	2.0J	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:40	7440-22-4	
Hardness, Total(SM 2340B)	101000	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:40		
Vanadium	5.3	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:40	7440-62-2	
Zinc	160	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:40	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	47.4	ug/L	10.0	1.4	10	03/13/25 15:10	03/14/25 18:39	7440-48-4	
Iron	11200	ug/L	200	29.8	10	03/13/25 15:10	03/14/25 18:39	7439-89-6	
Lead	ND	ug/L	10.0	1.8	10	03/13/25 15:10	03/14/25 18:39	7439-92-1	D3
Lithium	15.9J	ug/L	25.0	3.3	10	03/13/25 15:10	03/14/25 18:39	7439-93-2	
Manganese	1090	ug/L	20.0	2.4	10	03/13/25 15:10	03/14/25 18:39	7439-96-5	
Potassium	4700	ug/L	1000	180	10	03/13/25 15:10	03/14/25 18:39	7440-09-7	
Sodium	58700	ug/L	2500	144	10	03/13/25 15:10	03/14/25 18:39	7440-23-5	
Thallium	ND	ug/L	2.0	0.28	10	03/13/25 15:10	03/14/25 18:39	7440-28-0	D3
Tin	ND	ug/L	10.0	1.4	10	03/13/25 15:10	03/14/25 18:39	7440-31-5	D3
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:20	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/28/25 09:33	02/28/25 14:25	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	315	mg/L	10.0	10.0	1		02/25/25 11:06		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021925NES3D		Lab ID: 92780477005		Collected: 02/19/25 16:15		Received: 02/20/25 11:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	106	mg/L	3.0	1.8	3		02/21/25 14:36	16887-00-6	
Fluoride	0.63	mg/L	0.10	0.050	1		02/21/25 09:39	16984-48-8	
Sulfate	43.2	mg/L	1.0	0.50	1		02/21/25 09:39	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:00	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:00	7440-44-0	

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021925NEFDDUPLICATE Lab ID: 92780477006 Collected: 02/19/25 14:42 Received: 02/20/25 11:15 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent Analytical Method: EPA 7199 Pace Analytical Services - Charlotte									
Chromium, Hexavalent	0.0080J	ug/L	0.025	0.0043	1		02/20/25 12:22	18540-29-9	
6010 MET ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:43	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:43	7440-38-2	
Barium	60.2	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:43	7440-39-3	
Beryllium	0.87J	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:43	7440-41-7	
Boron	1190	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:43	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:43	7440-43-9	
Calcium	23100	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:43	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:43	7440-47-3	
Copper	ND	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:43	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:43	7439-98-7	
Nickel	24.8	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:43	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:43	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:43	7440-22-4	
Hardness, Total(SM 2340B)	123000	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:43		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:43	7440-62-2	
Zinc	17.2	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:43	7440-66-6	
6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Cobalt	26.6	ug/L	1.0	0.14	1	03/13/25 15:10	03/14/25 18:43	7440-48-4	
Iron	10300	ug/L	200	29.8	10	03/13/25 15:10	03/14/25 18:54	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/13/25 15:10	03/14/25 18:43	7439-92-1	
Lithium	16.9	ug/L	2.5	0.33	1	03/13/25 15:10	03/14/25 18:43	7439-93-2	
Manganese	1000	ug/L	20.0	2.4	10	03/13/25 15:10	03/14/25 18:54	7439-96-5	
Potassium	3670	ug/L	100	18.0	1	03/13/25 15:10	03/14/25 18:43	7440-09-7	
Sodium	75300	ug/L	2500	144	10	03/13/25 15:10	03/14/25 18:54	7440-23-5	
Thallium	0.046J	ug/L	0.20	0.028	1	03/13/25 15:10	03/14/25 18:43	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/13/25 15:10	03/14/25 18:43	7440-31-5	
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:22	7439-97-6	
Wet Chemistry 9066 Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet									
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/28/25 09:33	02/28/25 14:26	64743-03-9	
2540C Total Dissolved Solids Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville									
Total Dissolved Solids	404	mg/L	10.0	10.0	1		02/25/25 11:06		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 021925NEFDDUPLICATE		Lab ID: 92780477006		Collected: 02/19/25 14:42		Received: 02/20/25 11:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	111	mg/L	3.0	1.8	3		02/21/25 10:11	16887-00-6	
Fluoride	0.17	mg/L	0.10	0.050	1		02/21/25 01:12	16984-48-8	
Sulfate	89.9	mg/L	1.0	0.50	1		02/21/25 01:12	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	0.62J	mg/L	1.0	0.50	1		02/26/25 10:18	7440-44-0	
Total Organic Carbon	0.56J	mg/L	1.0	0.50	1		02/26/25 10:18	7440-44-0	
Total Organic Carbon	0.56J	mg/L	1.0	0.50	1		02/26/25 10:18	7440-44-0	
Total Organic Carbon	0.55J	mg/L	1.0	0.50	1		02/26/25 10:18	7440-44-0	
Mean Total Organic Carbon	0.57J	mg/L	1.0	0.50	1		02/26/25 10:18	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 022025NES1609		Lab ID: 92780477007		Collected: 02/20/25 12:00		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/21/25 11:52	18540-29-9	
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:46	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:46	7440-38-2	
Barium	54.7	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:46	7440-39-3	
Beryllium	0.87J	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:46	7440-41-7	
Boron	1200	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:46	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:46	7440-43-9	
Calcium	13300	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:46	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:46	7440-47-3	
Copper	1.3J	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:46	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:46	7439-98-7	
Nickel	10.1	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:46	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:46	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:46	7440-22-4	
Hardness, Total(SM 2340B)	65100	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:46		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:46	7440-62-2	
Zinc	22.1	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:46	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	17.8	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:34	7440-48-4	
Iron	11400	ug/L	200	29.8	10	03/13/25 01:00	03/17/25 17:37	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/13/25 01:00	03/17/25 17:34	7439-92-1	
Lithium	7.9	ug/L	2.5	0.33	1	03/13/25 01:00	03/17/25 17:34	7439-93-2	
Manganese	612	ug/L	20.0	2.4	10	03/13/25 01:00	03/17/25 17:37	7439-96-5	
Potassium	5450	ug/L	100	18.0	1	03/13/25 01:00	03/17/25 17:34	7440-09-7	
Sodium	84700	ug/L	2500	144	10	03/13/25 01:00	03/17/25 17:37	7440-23-5	
Thallium	0.055J	ug/L	0.20	0.028	1	03/13/25 01:00	03/17/25 17:34	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:34	7440-31-5	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/24/25 16:38	02/26/25 15:56	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/28/25 09:33	02/28/25 14:27	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	350	mg/L	10.0	10.0	1		02/27/25 16:52		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 022025NES1609		Lab ID: 92780477007		Collected: 02/20/25 12:00		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	88.7	mg/L	2.0	1.2	2		02/23/25 02:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/22/25 16:07	16984-48-8	
Sulfate	84.9	mg/L	2.0	1.0	2		02/23/25 02:30	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:35	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:35	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:35	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:35	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 10:35	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 022025NEFBBLANK		Lab ID: 92780477008		Collected: 02/20/25 12:35		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/21/25 12:13	18540-29-9	
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 00:00	02/23/25 22:49	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 00:00	02/23/25 22:49	7440-38-2	
Barium	ND	ug/L	5.0	0.79	1	02/22/25 00:00	02/23/25 22:49	7440-39-3	
Beryllium	ND	ug/L	1.0	0.16	1	02/22/25 00:00	02/23/25 22:49	7440-41-7	
Boron	7.9J	ug/L	50.0	4.0	1	02/22/25 00:00	02/23/25 22:49	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 00:00	02/23/25 22:49	7440-43-9	
Calcium	ND	ug/L	100	14.7	1	02/22/25 00:00	02/23/25 22:49	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 00:00	02/23/25 22:49	7440-47-3	
Copper	ND	ug/L	5.0	0.62	1	02/22/25 00:00	02/23/25 22:49	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 00:00	02/23/25 22:49	7439-98-7	
Nickel	ND	ug/L	5.0	0.88	1	02/22/25 00:00	02/23/25 22:49	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 00:00	02/23/25 22:49	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 00:00	02/23/25 22:49	7440-22-4	
Hardness, Total(SM 2340B)	ND	ug/L	662	36.8	1	02/22/25 00:00	02/23/25 22:49		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 00:00	02/23/25 22:49	7440-62-2	
Zinc	ND	ug/L	10.0	3.0	1	02/22/25 00:00	02/23/25 22:49	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	ND	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:41	7440-48-4	
Iron	ND	ug/L	20.0	3.0	1	03/13/25 01:00	03/17/25 17:41	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/13/25 01:00	03/17/25 17:41	7439-92-1	
Lithium	ND	ug/L	2.5	0.33	1	03/13/25 01:00	03/17/25 17:41	7439-93-2	
Manganese	ND	ug/L	2.0	0.24	1	03/13/25 01:00	03/17/25 17:41	7439-96-5	
Potassium	ND	ug/L	100	18.0	1	03/13/25 01:00	03/17/25 17:41	7440-09-7	
Sodium	ND	ug/L	250	14.4	1	03/13/25 01:00	03/17/25 17:41	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	03/13/25 01:00	03/17/25 17:41	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:41	7440-31-5	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/24/25 16:38	02/26/25 15:58	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/28/25 09:33	02/28/25 14:28	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	52.0	mg/L	10.0	10.0	1		02/27/25 16:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Sample: 022025NEFBBLANK		Lab ID: 92780477008		Collected: 02/20/25 12:35		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	ND	mg/L	1.0	0.60	1		02/22/25 13:26	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/22/25 13:26	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		02/22/25 13:26	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 14:47	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 14:47	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

QC Batch: 917201 Analysis Method: EPA 7199
QC Batch Method: EPA 7199 Analysis Description: 7199 Chromium, Hexavalent
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92780477001, 92780477002, 92780477003

METHOD BLANK: 4713639 Matrix: Water
Associated Lab Samples: 92780477001, 92780477002, 92780477003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/19/25 11:03	

LABORATORY CONTROL SAMPLE: 4713640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.11	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713642 4713643

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.012J	0.1	0.1	0.12	0.12	111	104	90-110	6	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713644 4713645

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.44	0.1	0.1	0.58	0.54	140	105	90-110	6	20	M1

SAMPLE DUPLICATE: 4713641

Parameter	Units	92780474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	0.32	0.29	10	20	H1

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917467

Analysis Method: EPA 7199

QC Batch Method: EPA 7199

Analysis Description: 7199 Chromium, Hexavalent

Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92780477004, 92780477005, 92780477006

METHOD BLANK: 4715505

Matrix: Water

Associated Lab Samples: 92780477004, 92780477005, 92780477006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/20/25 15:14	

LABORATORY CONTROL SAMPLE: 4715506

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.10	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4715507 4715508

Parameter	Units	92780477004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	ND	0.1	0.1	0.12	0.11	119	111	90-110	7	20	M1

SAMPLE DUPLICATE: 4715509

Parameter	Units	92780713001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	ND	ND		20	D3

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917723

Analysis Method: EPA 7199

QC Batch Method: EPA 7199

Analysis Description: 7199 Chromium, Hexavalent

Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92780477007, 92780477008

METHOD BLANK: 4716726

Matrix: Water

Associated Lab Samples: 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/21/25 10:58	

LABORATORY CONTROL SAMPLE: 4716727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.10	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716728 4716729

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	1.3	0.1	0.1	1.4	1.4	80	70	90-110	1	20	H1,M2

SAMPLE DUPLICATE: 4716730

Parameter	Units	92780713004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	ND	ND		20	H1

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917873

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477001, 92780477003, 92780477004, 92780477005, 92780477006

METHOD BLANK: 4717713

Matrix: Water

Associated Lab Samples: 92780477001, 92780477003, 92780477004, 92780477005, 92780477006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/24/25 12:43	

LABORATORY CONTROL SAMPLE: 4717714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717717 4717718

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.5	102	101	75-125	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917874

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477002

METHOD BLANK: 4717719

Matrix: Water

Associated Lab Samples: 92780477002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/24/25 13:41	

LABORATORY CONTROL SAMPLE: 4717720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717721 4717722

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.5	103	102	75-125	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917994

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477007, 92780477008

METHOD BLANK: 4718040

Matrix: Water

Associated Lab Samples: 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/26/25 15:29	

LABORATORY CONTROL SAMPLE: 4718041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.3	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4718042 4718043

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.5	2.4	99	98	75-125	2	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch:	917892	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006, 92780477007, 92780477008		

METHOD BLANK: 4717786

Matrix: Water

Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006, 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	3.6	02/23/25 22:03	
Arsenic	ug/L	ND	10.0	2.5	02/23/25 22:03	
Barium	ug/L	ND	5.0	0.79	02/23/25 22:03	
Beryllium	ug/L	ND	1.0	0.16	02/23/25 22:03	
Boron	ug/L	ND	50.0	4.0	02/23/25 22:03	
Cadmium	ug/L	ND	1.0	0.29	02/23/25 22:03	
Calcium	ug/L	ND	100	14.7	02/23/25 22:03	
Chromium	ug/L	ND	5.0	0.63	02/23/25 22:03	
Copper	ug/L	ND	5.0	0.62	02/23/25 22:03	
Hardness, Total(SM 2340B)	ug/L	ND	662	36.8	02/23/25 22:03	
Molybdenum	ug/L	ND	5.0	2.6	02/23/25 22:03	
Nickel	ug/L	ND	5.0	0.88	02/23/25 22:03	
Selenium	ug/L	ND	10.0	4.1	02/23/25 22:03	
Silver	ug/L	ND	5.0	0.49	02/23/25 22:03	
Vanadium	ug/L	ND	5.0	1.6	02/23/25 22:03	
Zinc	ug/L	ND	10.0	3.0	02/23/25 22:03	

LABORATORY CONTROL SAMPLE: 4717787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	499	100	80-120	
Arsenic	ug/L	500	488	98	80-120	
Barium	ug/L	500	512	102	80-120	
Beryllium	ug/L	500	495	99	80-120	
Boron	ug/L	500	494	99	80-120	
Cadmium	ug/L	500	495	99	80-120	
Calcium	ug/L	5000	5180	104	80-120	
Chromium	ug/L	500	499	100	80-120	
Copper	ug/L	500	508	102	80-120	
Hardness, Total(SM 2340B)	ug/L	33100	32900	99	80-120	
Molybdenum	ug/L	500	504	101	80-120	
Nickel	ug/L	500	499	100	80-120	
Selenium	ug/L	500	468	94	80-120	
Silver	ug/L	250	247	99	80-120	
Vanadium	ug/L	500	502	100	80-120	
Zinc	ug/L	500	495	99	80-120	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717789 4717810											
Parameter	Units	92780477002		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
Antimony	ug/L	ND	500	500	500	514	504	103	101	75-125	2 20
Arsenic	ug/L	11.7	500	500	500	512	502	100	98	75-125	2 20
Barium	ug/L	34.4	500	500	500	539	519	101	97	75-125	4 20
Beryllium	ug/L	ND	500	500	500	505	495	101	99	75-125	2 20
Boron	ug/L	393	500	500	500	911	894	103	100	75-125	2 20
Cadmium	ug/L	ND	500	500	500	493	484	99	97	75-125	2 20
Calcium	ug/L	4330	5000	5000	5000	9450	9190	102	97	75-125	3 20
Chromium	ug/L	ND	500	500	500	499	488	100	98	75-125	2 20
Copper	ug/L	0.98J	500	500	500	525	513	105	102	75-125	2 20
Hardness, Total(SM 2340B)	ug/L	26100	33100	33100	33100	61000	59700	105	101	75-125	2 20
Molybdenum	ug/L	ND	500	500	500	508	498	102	99	75-125	2 20
Nickel	ug/L	10.0	500	500	500	511	501	100	98	75-125	2 20
Selenium	ug/L	ND	500	500	500	492	483	98	97	75-125	2 20
Silver	ug/L	ND	250	250	250	256	250	102	100	75-125	3 20
Vanadium	ug/L	ND	500	500	500	508	496	101	99	75-125	2 20
Zinc	ug/L	3.6J	500	500	500	500	491	99	98	75-125	2 20

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

QC Batch: 919050 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92780477001, 92780477002, 92780477003

METHOD BLANK: 4722979 Matrix: Water
Associated Lab Samples: 92780477001, 92780477002, 92780477003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	03/11/25 23:05	
Iron	ug/L	19.3J	20.0	3.0	03/11/25 23:05	
Lead	ug/L	ND	1.0	0.18	03/11/25 23:05	
Lithium	ug/L	ND	2.5	0.33	03/11/25 23:05	
Manganese	ug/L	ND	2.0	0.24	03/11/25 23:05	
Potassium	ug/L	20.4J	100	18.0	03/11/25 23:05	
Sodium	ug/L	21.9J	250	14.4	03/11/25 23:05	
Thallium	ug/L	ND	0.20	0.028	03/11/25 23:05	
Tin	ug/L	ND	1.0	0.14	03/11/25 23:05	

LABORATORY CONTROL SAMPLE: 4722980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	53.8	108	80-120	
Iron	ug/L	1250	1350	108	80-120	
Lead	ug/L	50	53.3	107	80-120	
Lithium	ug/L	50	52.7	105	80-120	
Manganese	ug/L	50	53.9	108	80-120	
Potassium	ug/L	2500	2590	104	80-120	
Sodium	ug/L	2500	2630	105	80-120	
Thallium	ug/L	25	26.4	106	80-120	
Tin	ug/L	50	52.4	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4722981 4722982

Parameter	Units	92777579004	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Cobalt	ug/L	0.19J	50	50	50.0	50.8	100	101	75-125	2	20	
Iron	ug/L	39.1	1250	1250	1320	1370	103	106	75-125	4	20	
Lead	ug/L	ND	50	50	51.1	54.2	102	108	75-125	6	20	
Lithium	ug/L	7.7	50	50	56.1	56.5	97	97	75-125	1	20	
Manganese	ug/L	51.2	50	50	99.6	105	97	108	75-125	6	20	
Potassium	ug/L	1950	2500	2500	4420	4490	99	102	75-125	2	20	
Sodium	ug/L	25100	2500	2500	26200	28500	45	136	75-125	8	20	M1
Thallium	ug/L	ND	25	25	25.3	26.2	101	105	75-125	3	20	
Tin	ug/L	ND	50	50	50.5	51.1	101	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4722983												4722984											
Parameter	Units	92780474002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual											
			Spike Conc.	Spike Conc.																			
Cobalt	ug/L	3.5J	50	50	53.6	50.4	100	94	75-125	6	20	M1, R1											
Iron	ug/L	ND	1250	1250	1330	1790	106	143	75-125	30	20												
Lead	ug/L	ND	50	50	50.7	47.4	101	94	75-125	7	20	M1, R1											
Lithium	ug/L	7.8J	50	50	58.3	54.7	101	94	75-125	6	20												
Manganese	ug/L	73.2	50	50	123	117	99	88	75-125	5	20	M1, R1											
Potassium	ug/L	6420	2500	2500	8870	9550	98	125	75-125	7	20												
Sodium	ug/L	25500	2500	2500	27400	28100	78	107	75-125	3	20	M1, R1											
Thallium	ug/L	ND	25	25	25.1	23.6	100	94	75-125	6	20												
Tin	ug/L	ND	50	50	49.9	66.8	100	134	75-125	29	20												

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4722985												4722986											
Parameter	Units	92780477002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual											
			Spike Conc.	Spike Conc.																			
Cobalt	ug/L	ND	50	50	54.7	52.2	109	104	75-125	5	20	M1											
Iron	ug/L	2590	1250	1250	4180	3970	127	110	75-125	5	20												
Lead	ug/L	ND	50	50	52.6	50.6	105	100	75-125	4	20	M1											
Lithium	ug/L	12.2J	50	50	67.5	64.2	111	104	75-125	5	20												
Manganese	ug/L	81.2	50	50	143	137	123	111	75-125	4	20	M1											
Potassium	ug/L	5300	2500	2500	8140	8050	114	110	75-125	1	20												
Sodium	ug/L	1790	2500	2500	4530	4500	110	108	75-125	1	20	M1											
Thallium	ug/L	ND	25	25	25.3	24.9	101	99	75-125	2	20												
Tin	ug/L	ND	50	50	52.0	50.0	104	100	75-125	4	20												

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 921898

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477007, 92780477008

METHOD BLANK: 4736903

Matrix: Water

Associated Lab Samples: 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	03/17/25 15:47	
Iron	ug/L	14.9J	20.0	3.0	03/17/25 15:47	
Lead	ug/L	ND	1.0	0.18	03/17/25 15:47	
Lithium	ug/L	ND	2.5	0.33	03/17/25 15:47	
Manganese	ug/L	ND	2.0	0.24	03/17/25 15:47	
Potassium	ug/L	20.3J	100	18.0	03/17/25 15:47	
Sodium	ug/L	19.8J	250	14.4	03/17/25 15:47	
Thallium	ug/L	ND	0.20	0.028	03/17/25 15:47	
Tin	ug/L	ND	1.0	0.14	03/17/25 15:47	

LABORATORY CONTROL SAMPLE: 4736904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	50.1	100	80-120	
Iron	ug/L	1250	1240	99	80-120	
Lead	ug/L	50	51.3	103	80-120	
Lithium	ug/L	50	50.1	100	80-120	
Manganese	ug/L	50	50.2	100	80-120	
Potassium	ug/L	2500	2460	99	80-120	
Sodium	ug/L	2500	2470	99	80-120	
Thallium	ug/L	25	24.9	100	80-120	
Tin	ug/L	50	48.0	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4736905 4736906

Parameter	Units	92780713003	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Cobalt	ug/L	12.2	50	50	62.1	61.7	100	99	75-125	1	20	
Iron	ug/L	44.4	1250	1250	1310	1310	101	101	75-125	0	20	
Lead	ug/L	0.20J	50	50	50.7	50.2	101	100	75-125	1	20	
Lithium	ug/L	11.1	50	50	61.1	60.8	100	99	75-125	0	20	
Manganese	ug/L	183	50	50	243	238	121	111	75-125	2	20	
Potassium	ug/L	6510	2500	2500	9400	9550	116	122	75-125	2	20	
Sodium	ug/L	9360	2500	2500	12000	11800	107	98	75-125	2	20	
Thallium	ug/L	0.031J	25	25	24.9	24.4	100	98	75-125	2	20	
Tin	ug/L	ND	50	50	49.7	48.1	99	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

QC Batch: 922080 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92780477004, 92780477005, 92780477006

METHOD BLANK: 4737785 Matrix: Water
Associated Lab Samples: 92780477004, 92780477005, 92780477006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	03/14/25 18:09	
Iron	ug/L	ND	20.0	3.0	03/14/25 18:09	
Lead	ug/L	ND	1.0	0.18	03/14/25 18:09	
Lithium	ug/L	ND	2.5	0.33	03/14/25 18:09	
Manganese	ug/L	ND	2.0	0.24	03/14/25 18:09	
Potassium	ug/L	ND	100	18.0	03/14/25 18:09	
Sodium	ug/L	ND	250	14.4	03/14/25 18:09	
Thallium	ug/L	ND	0.20	0.028	03/14/25 18:09	
Tin	ug/L	ND	1.0	0.14	03/14/25 18:09	

LABORATORY CONTROL SAMPLE: 4737786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	50.6	101	80-120	
Iron	ug/L	1250	1240	100	80-120	
Lead	ug/L	50	51.6	103	80-120	
Lithium	ug/L	50	52.6	105	80-120	
Manganese	ug/L	50	51.5	103	80-120	
Potassium	ug/L	2500	2290	92	80-120	
Sodium	ug/L	2500	2500	100	80-120	
Thallium	ug/L	25	25.2	101	80-120	
Tin	ug/L	50	49.4	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4737787 4737788

Parameter	Units	92784400003	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max	Qual
		Result	Spike	Spike									
Cobalt	ug/L	ND	50	50	49.6	52.7	99	105	75-125	6	20		
Iron	ug/L	12.7J	1250	1250	1250	1360	99	108	75-125	9	20		
Lead	ug/L	ND	50	50	50.9	54.9	102	110	75-125	7	20		
Lithium	ug/L	6.4	50	50	56.3	59.6	100	106	75-125	6	20		
Manganese	ug/L	4.6	50	50	56.0	59.2	103	109	75-125	6	20		
Potassium	ug/L	1680	2500	2500	3960	4380	91	108	75-125	10	20		
Sodium	ug/L	25500	2500	2500	28500	31100	118	224	75-125	9	20	M1	
Thallium	ug/L	ND	25	25	24.3	27.4	97	109	75-125	12	20		
Tin	ug/L	ND	50	50	51.0	53.8	102	107	75-125	5	20		

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 2458259

Analysis Method: EPA 9066

QC Batch Method: SW-846 9066

Analysis Description: Wet Chemistry 9066

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004

METHOD BLANK: R4180422-1

Matrix: Water

Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.0400	0.0115	02/26/25 13:38	

LABORATORY CONTROL SAMPLE: R4180422-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	1.00	1.03	103	90.0-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-3 R4180422-4

Parameter	Units	L1828804-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	1.01	1.00	101	100	90.0-110	0.995	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-5 R4180422-6

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	0.952	0.957	95.2	95.7	90.0-110	0.524	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch:	2459104	Analysis Method:	EPA 9066
QC Batch Method:	SW-846 9066	Analysis Description:	Wet Chemistry 9066
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 92780477005, 92780477006, 92780477007, 92780477008

METHOD BLANK: R4181371-1 Matrix: Water

Associated Lab Samples: 92780477005, 92780477006, 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.0400	0.0115	02/28/25 14:24	

LABORATORY CONTROL SAMPLE: R4181371-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	1.00	0.989	98.9	90.0-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4181371-3 R4181371-4

Parameter	Units	L1829586-03 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	0.979	0.940	97.9	94.0	90.0-110	4.06	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4181371-5 R4181371-6

Parameter	Units	L1829618-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	0.938	0.953	93.8	95.3	90.0-110	1.59	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917867 Analysis Method: SM 2540C-2015
QC Batch Method: SM 2540C-2015 Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92780477001, 92780477002, 92780477003

METHOD BLANK: 4717697 Matrix: Water

Associated Lab Samples: 92780477001, 92780477002, 92780477003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/26/25 16:16	

LABORATORY CONTROL SAMPLE: 4717698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	232	93	80-120	

SAMPLE DUPLICATE: 4717934

Parameter	Units	92780474002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	196	202	3	25	

SAMPLE DUPLICATE: 4717935

Parameter	Units	92780477002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	250	258	3	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 917971

Analysis Method: SM 2540C-2015

QC Batch Method: SM 2540C-2015

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477004, 92780477005, 92780477006

METHOD BLANK: 4717974

Matrix: Water

Associated Lab Samples: 92780477004, 92780477005, 92780477006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/25/25 11:06	

LABORATORY CONTROL SAMPLE: 4717975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	266	106	80-120	

SAMPLE DUPLICATE: 4717976

Parameter	Units	92780557006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	714	720	1	25	

SAMPLE DUPLICATE: 4717977

Parameter	Units	92780713003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	134	138	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch: 918779

Analysis Method: SM 2540C-2015

QC Batch Method: SM 2540C-2015

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780477007, 92780477008

METHOD BLANK: 4721780

Matrix: Water

Associated Lab Samples: 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/27/25 16:48	

LABORATORY CONTROL SAMPLE: 4721781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	272	109	80-120	

SAMPLE DUPLICATE: 4721782

Parameter	Units	92780474008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	348	351	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch:	917605	Analysis Method:	EPA 9056A
QC Batch Method:	EPA 9056A	Analysis Description:	9056 IC anions 28 Days
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006

METHOD BLANK: 4716294

Matrix: Water

Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/20/25 22:34	
Fluoride	mg/L	ND	0.10	0.050	02/20/25 22:34	
Sulfate	mg/L	ND	1.0	0.50	02/20/25 22:34	

LABORATORY CONTROL SAMPLE: 4716295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	50.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716296 4716297

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	54.9	50	50	84.5	87.3	59	65	90-110	3	10	M1
Fluoride	mg/L	0.052J	2.5	2.5	2.7	2.9	105	116	90-110	10	10	M1
Sulfate	mg/L	43.2	50	50	94.7	98.0	103	110	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716298 4716299

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.8	50	50	97.8	99.6	104	108	90-110	2	10	
Fluoride	mg/L	0.42	2.5	2.5	3.0	3.2	104	111	90-110	6	10	M1
Sulfate	mg/L	24.0	50	50	76.8	78.6	106	109	90-110	2	10	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

QC Batch:	917919	Analysis Method:	EPA 9056A
QC Batch Method:	EPA 9056A	Analysis Description:	9056 IC anions 28 Days
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780477007, 92780477008

METHOD BLANK: 4717836 Matrix: Water

Associated Lab Samples: 92780477007, 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/22/25 12:59	
Fluoride	mg/L	ND	0.10	0.050	02/22/25 12:59	
Sulfate	mg/L	ND	1.0	0.50	02/22/25 12:59	

LABORATORY CONTROL SAMPLE: 4717837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.6	101	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	50.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717838 4717839

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.6	50	50	51.4	51.9	96	97	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.4	97	97	90-110	0	10	
Sulfate	mg/L	54.6	50	50	99.9	84.1	91	59	90-110	17	10	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717919 4717920

Parameter	Units	92780965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.5	50	50	50.5	51.4	96	98	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	100	99	90-110	1	10	
Sulfate	mg/L	12.6	50	50	59.8	60.7	94	96	90-110	2	10	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

QC Batch: 918412 Analysis Method: EPA 9060A
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006, 92780477007

METHOD BLANK: 4720116 Matrix: Water
Associated Lab Samples: 92780477001, 92780477002, 92780477003, 92780477004, 92780477005, 92780477006, 92780477007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	

LABORATORY CONTROL SAMPLE: 4720117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720118 4720119

Parameter	Units	92780474002		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Conc.	Spike	Spike								
Mean Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	99	75-125	0	25		
Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	98	75-125	1	25		
Total Organic Carbon	mg/L	ND	25	25	24.6	24.6	98	98	75-125	0	25		
Total Organic Carbon	mg/L	ND	25	25	24.7	25.0	98	100	75-125	1	25		
Total Organic Carbon	mg/L	ND	25	25	24.8	24.8	99	99	75-125	0	25		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720120 4720121

Parameter	Units	92780477002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max	Qual
			Spike Conc.	Spike Conc.							RPD	
Mean Total Organic Carbon	mg/L	6.3	25	25	31.0	31.0	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.2	25	25	30.8	30.9	98	99	75-125	0	25	
Total Organic Carbon	mg/L	6.4	25	25	31.1	31.0	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.2	25	25	31.0	30.8	99	98	75-125	1	25	
Total Organic Carbon	mg/L	6.4	25	25	31.0	31.3	99	100	75-125	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

QC Batch:	918413	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC, AVL
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780477008

METHOD BLANK: 4720123 Matrix: Water

Associated Lab Samples: 92780477008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 11:09	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 11:09	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 11:09	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 11:09	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 11:09	

LABORATORY CONTROL SAMPLE: 4720124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	23.9	95	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	24.1	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720125 4720126

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	ND	25	25	24.4	24.4	98	98	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.1	24.4	96	98	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.5	24.3	98	97	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.5	24.4	98	98	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.5	24.5	98	98	75-125	0	25	

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QUALIFIERS

Project: PPS_1SA2025_CCR_GrpD
Pace Project No.: 92780477

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M2	Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92780477001	021825NED26	EPA 7199	917201		
92780477002	021825NT1615S	EPA 7199	917201		
92780477003	021825NT1615D	EPA 7199	917201		
92780477004	021925NES1613	EPA 7199	917467		
92780477005	021925NES3D	EPA 7199	917467		
92780477006	021925NEFDDUPLICATE	EPA 7199	917467		
92780477007	022025NES1609	EPA 7199	917723		
92780477008	022025NEFBBLANK	EPA 7199	917723		
92780477001	021825NED26	EPA 3010A	917892	EPA 6010D	917907
92780477002	021825NT1615S	EPA 3010A	917892	EPA 6010D	917907
92780477003	021825NT1615D	EPA 3010A	917892	EPA 6010D	917907
92780477004	021925NES1613	EPA 3010A	917892	EPA 6010D	917907
92780477005	021925NES3D	EPA 3010A	917892	EPA 6010D	917907
92780477006	021925NEFDDUPLICATE	EPA 3010A	917892	EPA 6010D	917907
92780477007	022025NES1609	EPA 3010A	917892	EPA 6010D	917907
92780477008	022025NEFBBLANK	EPA 3010A	917892	EPA 6010D	917907
92780477001	021825NED26	EPA 3010A	919050	EPA 6020B	919146
92780477002	021825NT1615S	EPA 3010A	919050	EPA 6020B	919146
92780477003	021825NT1615D	EPA 3010A	919050	EPA 6020B	919146
92780477004	021925NES1613	EPA 3010A	922080	EPA 6020B	922112
92780477005	021925NES3D	EPA 3010A	922080	EPA 6020B	922112
92780477006	021925NEFDDUPLICATE	EPA 3010A	922080	EPA 6020B	922112
92780477007	022025NES1609	EPA 3010A	921898	EPA 6020B	921911
92780477008	022025NEFBBLANK	EPA 3010A	921898	EPA 6020B	921911
92780477001	021825NED26	EPA 7470A	917873	EPA 7470A	918003
92780477002	021825NT1615S	EPA 7470A	917874	EPA 7470A	918004
92780477003	021825NT1615D	EPA 7470A	917873	EPA 7470A	918003
92780477004	021925NES1613	EPA 7470A	917873	EPA 7470A	918003
92780477005	021925NES3D	EPA 7470A	917873	EPA 7470A	918003
92780477006	021925NEFDDUPLICATE	EPA 7470A	917873	EPA 7470A	918003
92780477007	022025NES1609	EPA 7470A	917994	EPA 7470A	918664
92780477008	022025NEFBBLANK	EPA 7470A	917994	EPA 7470A	918664
92780477001	021825NED26	SW-846 9066	2458259	EPA 9066	2458259
92780477002	021825NT1615S	SW-846 9066	2458259	EPA 9066	2458259
92780477003	021825NT1615D	SW-846 9066	2458259	EPA 9066	2458259
92780477004	021925NES1613	SW-846 9066	2458259	EPA 9066	2458259
92780477005	021925NES3D	SW-846 9066	2459104	EPA 9066	2459104
92780477006	021925NEFDDUPLICATE	SW-846 9066	2459104	EPA 9066	2459104
92780477007	022025NES1609	SW-846 9066	2459104	EPA 9066	2459104
92780477008	022025NEFBBLANK	SW-846 9066	2459104	EPA 9066	2459104
92780477001	021825NED26	SM 2540C-2015	917867		
92780477002	021825NT1615S	SM 2540C-2015	917867		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA2025_CCR_GrpD

Pace Project No.: 92780477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92780477003	021825NT1615D	SM 2540C-2015	917867		
92780477004	021925NES1613	SM 2540C-2015	917971		
92780477005	021925NES3D	SM 2540C-2015	917971		
92780477006	021925NEFDDUPLICATE	SM 2540C-2015	917971		
92780477007	022025NES1609	SM 2540C-2015	918779		
92780477008	022025NEFBBLANK	SM 2540C-2015	918779		
92780477001	021825NED26	EPA 9056A	917605		
92780477002	021825NT1615S	EPA 9056A	917605		
92780477003	021825NT1615D	EPA 9056A	917605		
92780477004	021925NES1613	EPA 9056A	917605		
92780477005	021925NES3D	EPA 9056A	917605		
92780477006	021925NEFDDUPLICATE	EPA 9056A	917605		
92780477007	022025NES1609	EPA 9056A	917919		
92780477008	022025NEFBBLANK	EPA 9056A	917919		
92780477001	021825NED26	EPA 9060A	918412		
92780477002	021825NT1615S	EPA 9060A	918412		
92780477003	021825NT1615D	EPA 9060A	918412		
92780477004	021925NES1613	EPA 9060A	918412		
92780477005	021925NES3D	EPA 9060A	918412		
92780477006	021925NEFDDUPLICATE	EPA 9060A	918412		
92780477007	022025NES1609	EPA 9060A	918412		
92780477008	022025NEFBBLANK	EPA 9060A	918413		

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Pace
Receipt
Effective Date: 5/24/2024

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name:

Dominion Energy-VA

Project #:

WO#: 92780477



92780477

Courier:

☐ Commercial

☒ Fed Ex

☐ UPS

☐ USPS

☐ Client

☐ Pace

☐ Other: _____

Carrier Tracking Number: _____

Custody Seal Present?

☒ Yes

☐ No

Seals Intact?

☒ Yes

☐ No

Date/Initials Person Examining Contents: 10/21/2012

Packing Material:

☐ Bubble Wrap

☒ Bubble Bags

☐ None

☒ Other

Biological Tissue Frozen?

☐ Yes

☐ No

☒ N/A

Thermometer:

IR ID: 921083

Type of Ice:

☒ Wet

☐ Blue

☐ None

Cooler Temp (°C): 2.3

Correction Factor: Add / Subtract (°C) 0

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Corrected Cooler Temp (°C): 2.3

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☒ Yes ☐ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: WT			
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes ☒ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 minutes.

Time opened: Temp:

Time: put in cooler

Time: Temp:

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____

Date/Time: _____

Project Manager SCURF Review: _____

Date: _____

Project Manager SRF Review: _____

Date: _____

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Project #

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client Dominion Energy Profile/EZ (Circle one) _____ Notes _____

WO#: 92780477

PM: SK

Due Date: 03/05/25

CLIENT: 92-DomEnergy

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic 2N Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BPIN	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
CC																													
1		1	1			1								2						3	1				2				
2		3	3			3							2	2						9	3			6					
3		1	1			1							2	2						3	1			2					
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

COC ID: 88PS-15A025-CCR/USWR-Group D-1-1

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: Dominion Energy, VA
Street Address: 120 Tredegar Street
Richmond, VA 23219

Contact/Report To: Kelly Hicks
Phone #: (804) 73-4903
E-Mail: kelly.a.hicks@dominionenergy.com
Cc E-Mail:

Customer Project #: PPS_15A025_CCR_Grpd

Project Name: PPS_15A025_CCR_Grpd

Site Collection Info/Facility ID (as applicable):

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET

Date Delivered: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No

Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Date Results: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Requested: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Analysis: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Field Filtered (if applicable) [] Yes [] No

Matrix: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Composite Start: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Collected or Composite End: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Cont. Results: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Units: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Customer Sample ID

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26

02-25NED26



Scan QR Code for instructions

Specify Container Size **
125mL (5) 100mL (6) 40mL vial (7) Encirc. (8)
TetraCore (9) 50mL (10) Other

Identity Container Preservative Type ***

Analysis Requested

Phenol by 9066 - PN

RADS 226/228 - PN

Total Organic Carbon, Asheville

2540C Total Dissolved Solids

6010/6020/7470 Metals

7199 Chromium Hexavalent

9056 IC anions - CNF/ISO4

9066 IC anions - CNF/ISO4

9066 IC anions - CNF/ISO4

9066 IC anions - CNF/ISO4

9066 IC anions - CNF/ISO4

9066 IC anions - CNF/ISO4

** Container Size: (1) 1L (2) 500mL (3) 250mL (4) 125mL (5) 100mL (6) 40mL vial (7) Encirc. (8) TetraCore (9) 50mL (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Soil, Thionitrate, (9) Acetic Acid, (10) MeOH, (11) Other

Proj. Mgr: Stephanie Knott

Account/Client ID: 13861

Profile/Template: EZ 3722694

Prelog/Bottle Ord ID: EZ 3722694

Sample Comment: -All samples preserved on ice -level III data package requested -MS/MSD taken @ T-16155 IDs: 021825MS, 021825MSD

Preservation non-conformance identified for sample

Customer Remarks / Special Conditions / Possible Hazards:

Collected By: T. Torrisi

Signature: T. Torrisi

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Pace® Pace Analytical Kernersville, NC 1377 South Park Dr., Kernersville, NC 27284						CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields						LAB USE ONLY- Affix Workorder/Login Label Here Scan QR Code for instructions																	
Company Name: Dominion Energy_VA						Contact/Report To: Kelly Hicks																							
Street Address: 120 Tredegar Street Richmond, VA 23219						Phone #: (804)273-4903																							
						E-Mail: kelly.a.hicks@dominionenergy.com																							
Customer Project #:						Cc E-Mail:																							
Project Name: PPPS_1SA2025_CCR_GrpD						Invoice To: Kelly Hicks																							
						Invoice E-Mail: kelly.a.hicks@dominionenergy.com																							
Site Collection Info/Facility ID (as applicable):						Purchase Order # (if applicable): 50149081																							
						Quote #:																							
Time Zone Collected: [] AK [] PT [] MT [] CT [x] ET						County / State origin of sample(s): Virginia																							
Data Deliverables:						Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No																							
[] Level II [] Level III [x] Level IV						Rush (Pre-approval required):						DW PWSID # or WW Permit # as applicable:																	
[] EQUIS						[] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other _____																							
[] Other						Date Results Requested:						Field Filtered (if applicable): [] Yes [] No Analysis:																	
* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)																													
Customer Sample ID				Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine	2540C Total Dissolved Solids 60106020/7470 Metals 7199 Chromium, Hexavalent 9056 IC anions - Cl/F/ISO4 Phenol by 9066 - PN RADS 226/228 - PN Total Organic Carbon, Asheville																	
Date	Time	Date	Time	Results	Units																								
02/18/25 NED26		WT	G			2/18/25	1330	11			X	X	X	X	X	X	-All samples preserved on ice												
02/25/25 NED1809 MK 2/18/25		WT									X	X	X	X	X	X	-Level III data package requested												
02/25/25 NES1613 MK 2/18/25		WT									X	X	X	X	X	X	-MS/MSO taken @ T-1615S, IDs.												
02/25/25 NES3D MK 2/18/25		WT									X	X	X	X	X	X	02/18/25 MS,												
02/18/25 NT1615S		WT	G			2/18/25	1450	33			X	X	X	X	X	X	02/18/25 MSD												
02/18/25 NT1615D		WT	G			2/18/2025	1710	11			X	X	X	X	X	X													
02/25/25 NEFDUPLICATE MK 2/18/25		WT									X	X	X	X	X	X													
02/25/25 NEFBLANK MK 2/18/25		WT									X	X	X	X	X	X													
02/25/25 MS MK		WT									X	X	X	X	X	X													
02/25/25 MSD MK		WT									X	X	X	X	X	X													
Additional Instructions from Pace®: LEVEL IV DATA PACKAGE REQUIRED CKS 2/19/2025						Collected By: (Printed Name) T. Torrisi Signature:						Customer Remarks / Special Conditions / Possible Hazards:																	
						# Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C) Corrected Temp. (°C) On Ice:																							
Relinquished by/Company: (Signature)						Date/Time:						Received by/Company: (Signature)						Date/Time:						Tracking Number:					
Relinquished by/Company: (Signature)						Date/Time:						Received by/Company: (Signature)						Date/Time:						Delivered by: [] In-Person [] Courier					
Relinquished by/Company: (Signature)						Date/Time:						Received by/Company: (Signature)						Date/Time:						[] FedEx [] UPS [] Other					
Relinquished by/Company: (Signature)						Date/Time:						Received by/Company: (Signature)						Date/Time:						Page: 1 of 1					

Effective Date: 8/9/2024

EPA method 7199 - Hexavalent Chromium pH Adjustment

HBN	417201
Analyst Initials	VJM
pH Meter	PH 92PH6

Batch # 65683

WO# 92780474, 92780477, 92780475, 92780476

Lab Sample ID	Volume of Adjusted Sample (mL)	Initial pH	Date/Time Adjusted	Final pH	Volume of Adjustment Buffer (mL)	Volume of NaOH (mL)	Adjustment Buffer Standard ID	NaOH Standard ID	Comments
92780473	80473001	10mL	5.7	2/19/25 12:28	4.0	.050 mLES	309471		
92780424	80474001	10mL	6.2	2/19/25 12:10	9.1	.050 mLES			
RQS	80474002	10mL	5.0	2/19/25 12:42	9.0	.060 mLES			
	MS 80474002	10mL	4.7	2/19/25 12:42	9.0	.060 mLES			
	MSO 80474002	10mL	4.6	2/19/25 12:45	9.0	.060 mLES			
	80474003	10mL	5.2	2/19/25	4.0	.110 mLES			
(10mL)	80474004	10mL	4.1	2/19/25 12:15	4.0	.110 mLES			
	80474005	10mL	5.4	2/19/25 12:20	9.0	.090 mLES			
	80474006	10mL	6.2	2/19/25 12:00	4.3	.050 mLES			
92780475	80475001	10mL	6.0	2/19/25 12:04	9.2	.050 mLES			
92780476	80476001	10mL	5.6	2/19/25 12:08	4.0	.050 mLES			
92780477	80477001	10mL	5.4	2/19/25 12:09	4.2	.050 mLES			
	RQS 80477002	10mL	6.1	2/19/25 12:09	4.0	.060 mLES			
	MS 80477002	10mL	6.3	2/19/25 12:09	9.0	.050 mLES			
	MSO 80477002	10mL	6.5	2/19/25 12:10	9.0	.050 mLES			
	80477003	10mL	5.4	2/19/25 12:26	4.0	.050 mLES			
	80474003	10mL	5.2	2/19/25 12:24	9.0	.060 mLES			



Receipt

Effective Date: 5/24/2024

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name:

Dominion Energy

Project #:

WO#: 92780477



Courier:

☐ Commercial

☐ Fed Ex

☐ UPS

☐ USPS

☐ Client

☐ Pace

☐ Other: _____

Carrier Tracking Number: _____

Custody Seal Present?

☒ Yes

☐ No

Seals Intact?

☒ Yes

☐ No

Date/Initials Person Examining Contents: 10/2/2012 JS

Packing Material:

☐ Bubble Wrap

☒ Bubble Bags

☐ None

☐ Other

Biological Tissue Frozen?

☐ Yes

☐ No

☒ N/A

Thermometer:

☐ IR Gun ID:

921083

Type of Ice:

☒ Wet

☐ Blue

☐ None

Cooler Temp (°C):

1.6

Correction Factor: Add / Subtract (°C)

0

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Corrected Cooler Temp (°C):

1.6

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes

☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☒ Yes ☐ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes ☒ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers: _____

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 minutes.

Time opened: _____ Temp: _____

Time: _____ put in cooler

Time: _____ Temp: _____

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____

Date/Time: _____

Project Manager SCURF Review: _____

Date: _____

Project Manager SRF Review: _____

Date: _____



Receipt

Effective Date: 5/24/2024

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Project #

WO#: 92780477

PM: SK

Due Date: 03/05/25

CLIENT: 92-DomEnergy

Client _____ Profile/EZ (Circle one) _____ Notes _____

CC	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1			1	1			1													3	1							
2			1	1			1														3	1						
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

Effective Date: 8/9/2024

EPA method 7199 - Hexavalent Chromium pH Adjustment

HBN	917467
Analyst Initials	VJM
pH Meter	92046

Batch # 65698

VJm 2/20/25

WO# 92780713

~~1000-1000-1000-1000~~

WO# 92780477

[illegible]



Receipt

Effective Date: 5/24/2024

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon
Receipt

Client Name:

Project #: **WO# : 92780477**

Courier:

☐ Commercial

☒ Fed Ex

☐ UPS

☐ USPS

☐ Client

☐ Pace

☐ Other:



92780477

Carrier Tracking Number:

Custody Seal Present?

☐ Yes

☒ No

Seals Intact?

☐ Yes

☒ No

Date/Initials Person Examining Contents: AC 4/21

Packing Material:

☐ Bubble Wrap

☐ Bubble Bags

☒ None

☐ Other

Biological Tissue Frozen?

☐ Yes

☐ No

☒ N/A

Thermometer:

☐ IR Gun ID:

921083

Type of Ice:

☒ Wet

☐ Blue

☐ None

Cooler Temp (°C):

0.1 1.0

Correction Factor: Add / Subtract (°C)

0

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Corrected Cooler Temp (°C):

0.1 1.0

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes

☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☒ Yes ☐ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 minutes.

Time opened: 1030 Temp: 0.3

Time: 1030 put in cooler

Time: Temp:

CLIENT NOTIFICATION/RESOLUTION

Person Contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Project #

WO#: 92780477

PM: SK

Due Date: 03/05/25

CLIENT: 92-DomEnergy

Client _____ Profile/EZ (Circle one) _____ Notes _____

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2SO3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
CC																													
1		1	1			1								2					3					2		1			
2		1	1			1							2						3					2		1			
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

COCID-8885-15A2025-CIR/USNMR-Group D-3-3-1

CHAIN-OF-CUSTODY Analytical Request Document

Company Name:	Dominion Energy_VA	Contact/Report To:	Kelly Hicks
Street Address:	120 Tredegar Street Richmond, VA 23219	Phone #:	(804)273-4903
		E-Mail:	kelly.a.hicks@dominionenergy.com
Customer Project #:		Cc E-Mail:	
Project Name:	PPPS_15A2025_CCR_Grid	Invoice To:	Kelly Hicks
		Invoice E-Mail:	kelly.a.hicks@dominionenergy.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	50149081
		Quote #:	

LAB USE ONLY - Affix Workorder/Login Label Here

2/20/15

Scan QR Code for instructions

Identify Container Preservative Type ***

Analysis Requested

*** Container Size (1) 1L (2) 500mL (3) 250mL (4) 125mL (5) 100mL (6) 40mL vial (7) Encore (8) TerraCote (9) 90mL (10) Other

*** Preservative Type (1) None, (2) HNO₃ (3) H₂SO₄ (4) HCl (5) NaOH (6) Zn Acetate (7) NaHSO₄ (8) Sod Thiosulfate (9) Ascorbic Acid (10) MeOH (11) Other

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Time zone collected:	() AK	() PT	() MT	() CT	(X) ET	County / State origin of sample(s)	Virginia
Date Delivered:	Regulatory Program (DW, RCA, etc.) as applicable:						Reportable () Yes () No
() Level II	() Level III	(X) Level IV	Rush (Pre-approval required):				DW PWSID # or WW Permit # as applicable
() EQUIS	() Same Day () 1 Day () 2 Day () 3 Day () Other _____						
() Other	Date Received:						Field filtered (if applicable) () Yes () No
Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay							Analysis
() Vapour (V)	() Surface Water (SW)	() Sediment (SE)	() Sludge (SL)	() Caulk (CA)	() Leachate (LE)	() Biosolid (BS)	() Other (OT)

Total Dissolved Solids 20/27470 Metals Chromium, Hexavalent anions - Cl/FI/SO4 by 9066 - PN 26/228 - PN ganic Carbon,Asheville	Lab Use Only Table # Profile / Template: 13861 Prelog / Bottle Ord / O: E7 22220A	Stephanie Knott Account / Client ID
--	--	--

Customer Sample ID	Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine		2540C	6010/6	7199 C	9056 IC	Phenol	RADS	Total O				Sample Comment	Preserv.
			Date	Time	Date	Time		Results	Units												
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X				-All samples preserved on ice	
02-25NES1609	WT	G-			2/20/85	1200	11			X	X	X	X	X	X	X				preserved on ice	
02-25NES1613 MK 2/20/85	WT									X	X	X	X	X	X	X				-level 10 data	
02-25NES1613 MK 2/20/85	WT									X	X	X	X	X	X	X				package requested	
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X	X					
02-25NFC020 MK 2/20/85	WT									X	X	X	X	X	X						

LEVEL IV DATA PACKAGE REQUIRED

Collected By: S. Carmonche
(Printed Name)

Signature: *S. Carmonche*

Customer Remarks / Special Conditions / Possible Hazards	a Cookers			
	Thermometer ID	Correction Factor (°C)	Obs. Temp. (°C)	Corrected Temp. (°C)
				On-line

Received by/Company: Signature)	Received by/Company: Signature)
At Paul M	At Paul M
Date/Time: 2/20/2010 1700	Date/Time: 2/20/2010 1700
Inquired by/Company: Signature)	Inquired by/Company: Signature)
M. J. WSP	M. J. WSP

2/21/25	1030	Trading Number:
---------	------	-----------------

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)

Date/Time	Delivered by: ☐ In Person ☐ Courier
-----------	---

Initiated by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)

Date/Time	1	Preced	1	Ops	1	Other
Page: 1 of 1						

Effective Date: 8/9/2024

HBN	417723
Analyst Initials	VJM
pH Meter	92PH6

Batch # 65714

WO# 92780713, 92780474, 92780477 92780475

[illegible]

Pace Analytical - Kernersville, NC

Sample Delivery Group: L1829574
Samples Received: 02/25/2025
Project Number: 92780477
Description: PPS_1SA2025_CCR_GrpD
Site: 001
Report To: Stephanie Knott
1377 S Park Dr
Kernersville, NC 27284

Entire Report Reviewed By:



Brigit Gillespie
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

021825NED26 L1829574-01 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/18/25 13:30 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 21:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN



021825NT1615S L1829574-02 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/18/25 14:50 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/06/25 01:34	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

021825NT1615D L1829574-03 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/18/25 17:10 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 21:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

021925NES1613 L1829574-04 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/19/25 14:27 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 21:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

021925NES3D L1829574-05 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/19/25 16:15 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 21:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

021925NEFDDUPLICATE L1829574-06 Non-Potable Water

Collected by
Collected date/time
Received date/time

02/19/25 14:42 02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 22:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

SAMPLE SUMMARY

022025NES1609 L1829574-07 Non-Potable Water

Collected by

Collected date/time

Received date/time

02/20/25 12:00

02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 22:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

022025NEFBBLANK L1829574-08 Non-Potable Water

Collected by

Collected date/time

Received date/time

02/20/25 12:35

02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 22:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

⁷Su

⁸Gl

⁹Al

¹⁰Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brigit Gillespie
Project Manager

Report Revision History

Level II Report - Version 1: 03/14/25 17:00



Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.0238	U	0.155	0.291	0.319	0.124	03/10/2025 21:42	WG2460191
(T) Barium	108					30.0-143	03/10/2025 21:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.423	J	0.250	0.462	0.445	0.234	03/11/2025 18:53	WG2460391
(T) Barium	120					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	88.2					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.446	J	0.294	0.548	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.463	J	0.378	0.515	0.564	0.220	03/06/2025 01:34	WG2460191
(T) Barium	105					30.0-143	03/06/2025 01:34	WG2460191

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.365	J	0.389	0.679	0.699	0.365	03/11/2025 18:53	WG2460391
(T) Barium	114					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	91.8					30.0-136	03/11/2025 18:53	WG2460391

7
Su

8
Gl

9
Al

10
Sc

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.828	J	0.542	0.898	03/11/2025 18:53	WG2460191

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.409		0.245	0.382	0.322	0.125	03/10/2025 21:42	WG2460191
(T) Barium	203	C1				30.0-143	03/10/2025 21:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.542		0.236	0.448	0.415	0.219	03/11/2025 18:53	WG2460391
(T) Barium	105					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	87.6					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.950		0.340	0.525	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.407		0.215	0.352	0.229	0.0790	03/10/2025 21:42	WG2460191
(T) Barium	102					30.0-143	03/10/2025 21:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.24		0.222	0.430	0.364	0.193	03/11/2025 18:53	WG2460391
(T) Barium	102					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	91.0					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.64		0.309	0.430	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.468		0.239	0.382	0.249	0.0858	03/10/2025 21:42	WG2460191
(T) Barium	91.7					30.0-143	03/10/2025 21:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.58		0.511	1.00	0.883	0.468	03/11/2025 18:53	WG2460391
(T) Barium	102					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	89.3					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.05		0.564	0.917	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.190	J	0.197	0.334	0.318	0.124	03/10/2025 22:42	WG2460191
(T) Barium	105					30.0-143	03/10/2025 22:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.259	U	0.771	1.28	1.41	0.736	03/11/2025 18:53	WG2460391
(T) Barium	91.2					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	90.0					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.190	U	0.796	1.45	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.390		0.244	0.382	0.327	0.127	03/10/2025 22:42	WG2460191
(T) Barium	98.3					30.0-143	03/10/2025 22:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.865		0.235	0.437	0.402	0.212	03/11/2025 18:53	WG2460391
(T) Barium	106					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	96.3					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.26		0.339	0.518	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.123	J	0.144	0.283	0.235	0.0810	03/10/2025 22:42	WG2460191
(T) Barium	97.2					30.0-143	03/10/2025 22:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.718		0.272	0.479	0.476	0.249	03/11/2025 18:53	WG2460391
(T) Barium	104					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	92.2					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.840		0.308	0.531	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Method Blank (MB)

(MB) R4183157-1 03/06/25 00:33

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0642	<u>U</u>	0.151	0.287	0.112
(T) Barium	98.2		98.2		

L1829617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829617-01 03/06/25 01:34 • (DUP) R4183157-5 03/06/25 01:34

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.210	0.246	0.401	0.138	0.000	0.516	1.12	0.435	200	0.366	<u>U</u>	20	3
(T) Barium	100				109	109							

Laboratory Control Sample (LCS)

(LCS) R4183157-2 03/06/25 00:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.82	96.5	80.0-120	
(T) Barium			107		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/06/25 01:34 • (MS) R4183157-3 03/06/25 00:33 • (MSD) R4183157-4 03/06/25 00:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.463	22.4	20.1	110	98.1	1	75.0-125			11.1		20
(T) Barium		105			110	108							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

Method Blank (MB)

(MB) R4185764-1 03/11/25 18:53

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.222	⬇	0.162	0.291	0.154
(T) Barium	118		118		
(T) Yttrium	86.2		86.2		

L1829570-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829570-01 03/11/25 18:53 • (DUP) R4185764-5 03/11/25 18:53

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.722	0.386	0.683	0.357	1.32	0.690	1.22	0.637	58.4	0.753		20	3
(T) Barium	108				126	126							
(T) Yttrium	92.0				87.6	87.6							

Laboratory Control Sample (LCS)

(LCS) R4185764-2 03/11/25 18:53

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.3	80.0-120	
(T) Barium			119		
(T) Yttrium			90.4		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/11/25 18:53 • (MS) R4185764-3 03/11/25 18:53 • (MSD) R4185764-4 03/11/25 18:53

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.365	9.18	10.1	88.2	97.0	1	70.0-130			9.15		20
(T) Barium		114			124	123							
(T) Yttrium		91.8			88.1	88.6							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Su

8Gl

9Al

10Sc

903.0/9315 Radiochemistry

Radiochemistry Raw Data



RADIUM-226

SDG: WG2460191
METHOD: EPA 903.0/9315
ANALYST: ASN4036

	<u>Ra226</u>	<u>2σCE</u>	<u>TPU</u>	<u>SDWA DL</u>	<u>Lc</u>	<u>mda</u>	<u>Units</u>	<u>date prep</u>	<u>date analysis</u>	<u>Analyst</u>	
BACKGROUND DET A	0.000	0.226		0.249	0.190	0.488	pCi/l	2/28/2025	3/5/2025	ASN4036	
BACKGROUND DET B	0.000	0.228		0.251	0.192	0.494	pCi/l	2/28/2025	3/5/2025	ASN4036	
BACKGROUND DET C	0.000	0.144		0.197	0.121	0.351	pCi/l	2/28/2025	3/5/2025	ASN4036	
BACKGROUND DET D	0.000	0.143		0.196	0.121	0.350	pCi/l	2/28/2025	3/5/2025	ASN4036	
RA-0070-WS-903-1	585.17	11.162		0.252	0.118	0.402	pCi/l	2/28/2025	3/5/2025	ASN4036	100.8%
RA-0070-WS-903-2	559.35	10.895		0.250	0.118	0.400	pCi/l	2/28/2025	3/5/2025	ASN4036	96.3%
RA-0070-WS-903-3	589.23	11.157		0.223	0.074	0.313	pCi/l	2/28/2025	3/5/2025	ASN4036	101.5%
RA-0070-WS-903-4	587.46	11.200		0.231	0.075	0.316	pCi/l	2/28/2025	3/5/2025	ASN4036	101.2%
								2/28/2025		ASN4036	
BLANK WG2460191	0.064	0.151	0.289	0.146	0.112	0.287	pCi/l	2/28/2025	3/6/2025	ASN4036	
LCS WG2460191	4.824	0.641	0.779	0.145	0.111	0.285	pCi/l	2/28/2025	3/6/2025	ASN4036	
MS L1829574-02 WG2460191	22.427	2.721	2.858	0.454	0.279	0.811	pCi/l	2/28/2025	3/6/2025	ASN4036	
MSD L1829574-02 WG2460191	20.079	2.572	2.709	0.452	0.278	0.808	pCi/l	2/28/2025	3/6/2025	ASN4036	
DUP L1829617-01 WG2460191	0.000	0.516	0.653	0.568	0.435	1.116	pCi/l	2/28/2025	3/6/2025	ASN4036	
L1829574-02 WG2460191	0.463	0.378	0.515	0.287	0.220	0.564	pCi/l	2/28/2025	3/6/2025	ASN4036	
L1829617-01 WG2460191	0.210	0.246	0.383	0.225	0.138	0.401	pCi/l	2/28/2025	3/6/2025	ASN4036	
L1830360-01 WG2460191	0.167	0.232	0.368	0.224	0.138	0.400	pCi/l	2/28/2025	3/6/2025	ASN4036	
L1830368-01 WG2460191	0.082	0.280	0.417	0.282	0.215	0.553	pCi/l	2/28/2025	3/6/2025	ASN4036	
L1829561-01 WG2460191	0.167	0.193	0.329	0.163	0.124	0.320	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829565-01 WG2460191	0.096	0.177	0.314	0.164	0.126	0.323	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829565-02 WG2460191	0.192	0.163	0.300	0.129	0.079	0.230	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829570-01 WG2460191	0.279	0.192	0.333	0.136	0.084	0.243	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-01 WG2460191	0.024	0.155	0.291	0.162	0.124	0.319	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-03 WG2460191	0.409	0.245	0.382	0.164	0.125	0.322	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-04 WG2460191	0.407	0.215	0.352	0.128	0.079	0.229	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-05 WG2460191	0.468	0.239	0.382	0.139	0.086	0.249	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-06 WG2460191	0.190	0.197	0.334	0.162	0.124	0.318	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-07 WG2460191	0.390	0.244	0.382	0.166	0.127	0.327	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829574-08 WG2460191	0.123	0.144	0.283	0.132	0.081	0.235	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829584-01 WG2460191	0.194	0.335	0.618	0.346	0.213	0.619	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829584-02 WG2460191	0.095	0.174	0.311	0.162	0.124	0.318	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829584-04 WG2460191	0.292	0.224	0.363	0.166	0.127	0.327	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829584-05 WG2460191	0.264	0.182	0.320	0.129	0.079	0.230	pCi/l	2/28/2025	3/10/2025	ASN4036	
L1829584-06 WG2460191	0.152	0.157	0.299	0.136	0.084	0.243	pCi/l	2/28/2025	3/10/2025	ASN4036	
0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#####	pCi/l	2/28/2025	1/0/1900	ASN4036	
0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#####	pCi/l	2/28/2025	1/0/1900	ASN4036	
RA-0070-WS-903-1	589.386	11.203	11.340	0.252	0.118	0.402	pCi/l	2/28/2025	3/11/2025	ASN4036	101.5%
RA-0070-WS-903-2	555.481	10.857	10.995	0.251	0.118	0.400	pCi/l	2/28/2025	3/11/2025	ASN4036	95.7%
RA-0070-WS-903-3	583.288	11.101	11.237	0.228	0.074	0.313	pCi/l	2/28/2025	3/11/2025	ASN4036	100.4%
RA-0070-WS-903-4	584.960	11.176		0.231	0.075	0.316	pCi/l	2/28/2025	3/11/2025	ASN4036	100.7%
BACKGROUND DET A	0.109	0.257		0.000	0.190	0.488	pCi/l	2/28/2025	3/11/2025	ASN4036	
BACKGROUND DET B	-0.074	0.204		0.000	0.192	0.494	pCi/l	2/28/2025	3/11/2025	ASN4036	
BACKGROUND DET C	0.000	0.144		0.000	0.121	0.351	pCi/l	2/28/2025	3/11/2025	ASN4036	
BACKGROUND DET D	-0.073	0.101		0.000	0.121	0.350	pCi/l	2/28/2025	3/11/2025	ASN4036	



Radium EPA 903.0/9315

SDG: **WG2460191**

METHOD: EPA 903.0/9315

ANALYST: **ASN4036**

Prep Date: **02/28/25**

Detector	EFF	BKG COUNTS	COUNT TIME	BKG CPM	Ba Carrier ID: 24K14147		
					Standardization Date	12/6/2025 7:15	
Detector A	20.6%	5	60	0.083	planchet	planchet	net
Detector B	20.4%	5	60	0.083	tare	gross	weight
Detector C	20.5%	2	60	0.033	0.08702	0.14027	0.05325
Detector D	20.5%	2	60	0.033	0.08713	0.14062	0.05349
					0.08705	0.14035	0.05330

If Background is 0 use 1.

ave = 0.05335

id	sample size	alpha counts	count time	ppt time	time count end	igf	Detector #	CPM back	Bkg Counts	eff	planchet tare (g)	planchet gross (g)	net weight(g)	ba rec	Ba Rec use	
BACKGROUND DET A	1.000	5	60	3/5/25 23:11	3/5/25 23:11	0	1.000	0.083	5.0	20.6%			0.00000	100.0%	100.0%	BACKGROUND DET A
BACKGROUND DET B	1.000	5	60	3/5/25 23:11	3/5/25 23:11	0	1.000	0.083	5.0	20.4%			0.00000	100.0%	100.0%	BACKGROUND DET B
BACKGROUND DET C	1.000	2	60	3/5/25 23:11	3/5/25 23:11	0	1.000	0.033	2.0	20.5%			0.00000	100.0%	100.0%	BACKGROUND DET C
BACKGROUND DET D	1.000	2	60	3/5/25 23:11	3/5/25 23:11	0	1.000	0.033	2.0	20.5%			0.00000	100.0%	100.0%	BACKGROUND DET D
RA-0070-WS-903-1	1.000	10560	10	4/6/21 14:15	3/5/25 23:32	34305	4.000	0.083	0.8	20.6%			0.00000	98.6%	98.6%	RA-0070-WS-903-1
RA-0070-WS-903-2	1.000	10128	10	4/6/21 14:15	3/5/25 23:32	34305	4.000	0.083	0.8	20.4%			0.00000	100.6%	100.0%	RA-0070-WS-903-2
RA-0070-WS-903-3	1.000	10716	10	4/6/21 14:15	3/5/25 23:32	34305	4.000	0.033	0.3	20.5%			0.00000	102.2%	100.0%	RA-0070-WS-903-3
RA-0070-WS-903-4	1.000	10570	10	4/6/21 14:15	3/5/25 23:32	34305	4.000	0.033	0.3	20.5%			0.00000	98.6%	98.6%	RA-0070-WS-903-4
						0	1.000							0.0%		
BLANK WG2460191	1.000	8	60	3/4/25 11:29	3/6/25 0:33	37	1.733	0.083	5.0	20.6%	0.08723	0.13962	0.05239	98.2%	98.2%	BLANK WG2460191
LCS WG2460191	1.000	232	60	3/4/25 11:29	3/6/25 0:33	37	1.733	0.083	5.0	20.4%	0.08729	0.14431	0.05702	106.9%	100.0%	LCS WG2460191
MS L1829574-02 WG2460191	0.250	267	60	3/4/25 11:29	3/6/25 0:33	37	1.733	0.033	2.0	20.5%	0.08693	0.14555	0.05862	109.9%	100.0%	MS L1829574-02 WG2460191
MSD L1829574-02 WG2460191	0.250	240	60	3/4/25 11:29	3/6/25 0:33	37	1.733	0.033	2.0	20.5%	0.08723	0.14463	0.05740	107.6%	100.0%	MSD L1829574-02 WG2460191
DUP L1829617-01 WG2460191	0.250	5	60	3/4/25 11:29	3/6/25 1:34	38	1.750	0.083	5.0	20.6%	0.08697	0.14517	0.05820	109.1%	100.0%	DUP L1829617-01 WG2460191
L1829574-02 WG2460191	0.500	16	60	3/4/25 11:29	3/6/25 1:34	38	1.750	0.083	5.0	20.4%	0.08735	0.14319	0.05584	104.7%	100.0%	L1829574-02 WG2460191
L1829617-01 WG2460191	0.500	7	60	3/4/25 11:29	3/6/25 1:34	38	1.750	0.033	2.0	20.5%	0.08724	0.14083	0.05359	100.5%	100.0%	L1829617-01 WG2460191
L1830360-01 WG2460191	0.500	6	60	3/4/25 11:29	3/6/25 1:34	38	1.750	0.033	2.0	20.5%	0.0873	0.14221	0.05491	102.9%	100.0%	L1830360-01 WG2460191
L1830368-01 WG2460191	0.500	7	60	3/4/25 11:29	3/6/25 2:34	39	1.767	0.083	5.0	20.6%	0.08723	0.14209	0.05486	102.8%	100.0%	L1830368-01 WG2460191
L1829561-01 WG2460191	0.500	12	60	3/4/25 11:29	3/10/25 20:42	153	3.057	0.083	5.0	20.6%	0.08731	0.14305	0.05574	104.5%	100.0%	L1829561-01 WG2460191
L1829565-01 WG2460191	0.500	9	60	3/4/25 11:29	3/10/25 20:42	153	3.057	0.083	5.0	20.4%	0.08717	0.14073	0.05356	100.4%	100.0%	L1829565-01 WG2460191
L1829565-02 WG2460191	0.500	10	60	3/4/25 11:29	3/10/25 20:42	153	3.057	0.033	2.0	20.5%	0.08732	0.14193	0.05461	102.4%	100.0%	L1829565-02 WG2460191
L1829570-01 WG2460191	0.500	13	60	3/4/25 11:29	3/10/25 20:42	153	3.057	0.033	2.0	20.5%	0.08743	0.13777	0.05034	94.4%	94.4%	L1829570-01 WG2460191
L1829574-01 WG2460191	0.500	6	60	3/4/25 11:29	3/10/25 21:42	154	3.064	0.083	5.0	20.6%	0.0874	0.14481	0.05741	107.6%	100.0%	L1829574-01 WG2460191
L1829574-03 WG2460191	0.500	22	60	3/4/25 11:29	3/10/25 21:42	154	3.064	0.083	5.0	20.4%	0.08729	0.19567	0.10838	203.2%	100.0%	L1829574-03 WG2460191
L1829574-04 WG2460191	0.500	19	60	3/4/25 11:29	3/10/25 21:42	154	3.064	0.033	2.0	20.5%	0.0866	0.14124	0.05464	102.4%	100.0%	L1829574-04 WG2460191
L1829574-05 WG2460191	0.500	20	60	3/4/25 11:29	3/10/25 21:42	154	3.064	0.033	2.0	20.5%	0.08686	0.13578	0.04892	91.7%	91.7%	L1829574-05 WG2460191
L1829574-06 WG2460191	0.500	13	60	3/4/25 11:29	3/10/25 22:42	155	3.071	0.083	5.0	20.6%	0.08751	0.14345	0.05594	104.9%	100.0%	L1829574-06 WG2460191
L1829574-07 WG2460191	0.500	21	60	3/4/25 11:29	3/10/25 22:42	155	3.071	0.083	5.0	20.4%	0.08726	0.13972	0.05246	98.3%	98.3%	L1829574-07 WG2460191
L1829574-08 WG2460191	0.500	7	60	3/4/25 11:29	3/10/25 22:42	155	3.071	0.033	2.0	20.5%	0.08721	0.13908	0.05187	97.2%	97.2%	L1829574-08 WG2460191
L1829584-01 WG2460191	0.500	5	60	3/4/25 11:29	3/10/25 22:42	155	3.071	0.033	2.0	20.5%	0.08767	0.10732	0.01965	36.8%	36.8%	L1829584-01 WG2460191
L1829584-02 WG2460191	0.500	9	60	3/4/25 11:29	3/10/25 23:43	156	3.078	0.083	5.0	20.6%	0.08703	0.1402	0.05317	99.7%	99.7%	L1829584-02 WG2460191
L1829584-04 WG2460191	0.500	17	60	3/4/25 11:29	3/10/25 23:43	156	3.078	0.083	5.0	20.4%	0.08727	0.13965	0.05238	98.2%	98.2%	L1829584-04 WG2460191
L1829584-05 WG2460191	0.500	13	60	3/4/2025 11:29	03/10/2025 23:43	156	3.078	0.033	2.0	20.5%	0.08707	0.14002	0.05295	99.3%	99.3%	L1829584-05 WG2460191
L1829584-06 WG2460191	0.500	8	60	3/4/2025 11:29	03/10/2025 23:43	156	3.078	0.033	2.0	20.5%	0.08738	0.13735	0.04997	93.7%	93.7%	L1829584-06 WG2460191
						0	1.000	FALSE	0.0	FALSE			0.00000	0.0%	0.0%	0
						0	1.000	FALSE	0.0	FALSE			0.00000	0.0%	0.0%	0
RA-0070-WS-903-1	1.000	10636	10	4/6/21 14:15	3/11/25 1:04	34427	4.000	0.083	0.8	20.6%			0.00000	98.6%	98.6%	RA-0070-WS-903-1
RA-0070-WS-903-2	1.000	10058	10	4/6/21 14:15	3/11/25 1:04	34427	4.000	0.083	0.8	20.4%			0.00000	100.6%	100.0%	RA-0070-WS-903-2
RA-0070-WS-903-3	1.000	10608	10	4/6/21 14:15	3/11/25 1:04	34427	4.000	0.033	0.3	20.5%			0.00000	102.2%	100.0%	RA-0070-WS-903-3
RA-0070-WS-903-4	1.000	10525	10	4/6/21 14:15	3/11/25 1:04	34427	4.000	0.033	0.3	20.5%			0.00000	98.6%	98.6%	RA-0070-WS-903-4
BACKGROUND DET A	1.000	8	60	3/11/25 0:43	3/11/25 0:43	0	1.000	0.083	5.0	20.6%			0.00000	100.0%	100.0%	BACKGROUND DET A
BACKGROUND DET B	1.000	3	60	3/11/25 0:43	3/11/25 0:43	0	1.000	0.083	5.0	20.4%			0.00000	100.0%	100.0%	BACKGROUND DET B
BACKGROUND DET C	1.000	2	60	3/11/25 0:43	3/11/25 0:43	0	1.000	0.033	2.0	20.5%			0.00000	100.0%	100.0%	BACKGROUND DET C
BACKGROUND DET D	1.000	0	60	3/11/25 0:43	3/11/25 0:43	0	1.000	0.033	2.0	20.5%			0.00000	100.0%	100.0%	BACKGROUND DET D

0



QC REPORT

ANALYTE: Ra226
METHOD: EPA 903.0/9315
SDG: WG2460191
UNITS: pCi/L
STD ID: 24D09038

Vol. 1 ml

							LIMITS		LIMITS	LIMITS	
	Ra226	2σCE	TPU	SDWA DL	Lc	mda	known	%REC		RER	
BLANK WG2460191	0.064	0.151	0.289	0.146	0.112	0.287					
LCS WG2460191	4.824	0.641	0.779	0.145	0.111	0.285	5.00	96.4%	80% 120%		
L1829617-01 WG2460191	0.210	0.246	0.383	0.225	0.138	0.401					
DUP L1829617-01 WG2460191	0.000	0.516	0.653	0.568	0.435	1.116				20%	0.366 3
L1829574-02 WG2460191	0.463	0.378	0.515	0.287	0.220	0.564					
MS L1829574-02 WG2460191	22.427	2.721	2.858	0.454	0.279	0.811	20.0	109.8%	75% 125%		
MSD L1829574-02 WG2460191	20.079	2.572	2.709	0.452	0.278	0.808	20.0	98.0%	75% 125%	11.05%	

* - Outside Control Limits

DECAY CALCUALTION

ACTIVITY FORMULA $A = A_0(e^{-NT})$

Ra226 Source
No.3613
ml HCl 41.66667
24D09038

A= ACTIVITY OF SOURCE

A₀= INITIAL ACTIVITY

N= DECAY CONSTANT

T(1/2)= SOURCES HALF LIFE

T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 08-Apr-24

DATE OF CALIBRATION 28-Feb-25

A₀ = 588.69 pCi/ml

N = 0.00

T(1/2) = 1600.00 years

T = 0.89 years

Standard Volume 8.50

Final Volume = 1000.00

dilution = 117.65

A = 588.466 pCi/ml

A = 11.104 dpm/ml

A = 5.00 pCi/ml

A = 5.00 pCi/ml

Uncertainty 3.70%

Weight 0.00%

Volume (1000 ml 0.03%

Volume (100 ml , 0.40%

Volume (1000 ml 0.03%

CSU 3.72%

Activity 5.00 +/- 0.186 pCi/ml

1x5mm

ESC37429



Certificate of calibration of radioactive reference solution

M 29913

Description:	Principal radionuclide:	Radium-226	Product code:	RAY 24
			Solution number:	R-131/127
Measurement:	Reference time:	1200 GMT on 19 February 1998		
	Radioactive concentration of radium-226:	4.376	kilobecquerels per gram of solution	
	which is equivalent to:	118.3	nanocuries per gram of solution	
	Mass of solution:	5.0345	grams	
	Total activity of radium-226:	22.03	kilobecquerels	
	which is equivalent to:	595.4	nanocuries	
	Recommended half-life:	1600.00	years	

Method of measurement:

The activity of the solution was measured in a high pressure constant-volume chamber calibrated with a large number of absolutely standardised solutions.

Accuracy:

Overall uncertainty in the radioactive concentration quoted above: $\pm 3.7\%$

Random uncertainty: $\pm 0.7\%$ Systematic uncertainty: $\pm 3.0\%$

The limits of overall uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties in the measurement.

Radionuclidic Purity

The estimated activities of any radioactive impurities found by high-resolution gamma-ray spectrometry, or in any other examination of the solution, are listed below expressed as percentages of the activity of the principal radionuclide at the reference time.



Chemical Composition

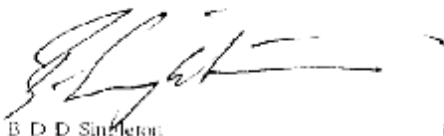
Carrier free in 0.5M HCl

Remarks:

At the reference date radium-226 was shown to be in radioactive equilibrium with its daughter nuclides down the decay chain to polonium-214 and thallium-210, the precursors of lead-210. The ionisation chamber was calibrated using a standard supplied by the National Institute of Standards and Technology, Washington DC, USA.

This product meets the quality assurance requirements of the NRC Regulatory Guide 4.15 for achieving implicit NIST traceability as defined in NCRP 58 (1985).

signed
signature


B D D Smith

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Amersham
The Health Science Group

Calibration Data EPA 903/9315

id	sample size	counts	time	ppt time	count time	Hours	igf	det	BKG	planchet tare	planchet gross	ba rec	eff	
RA-0070-WS-903-1	1	16166	15	4/6/21 14:15	1/30/25 10:32	33476.3	4.000	A	0.083	7.85288	7.91579	98.6%	20.9%	0.06291
RA-0070-WS-903-4	1	15891	15	4/6/21 14:15	1/30/25 11:33	33477.3	4.000	A	0.083	7.85288	7.91579	98.6%	20.5%	0.06291
RA-0070-WS-903-3	1	15850	15	4/6/21 14:15	1/30/25 12:28	33478.2	4.000	A	0.083	7.86129	7.92648	102.2%	20.5%	0.06519
RA-0070-WS-903-2	1	15849	15	4/6/21 14:15	1/30/25 13:21	33479.1	4.000	A	0.083	7.84269	7.90683	100.6%	20.5%	0.06414
												100.0%	20.6%	0.06379
RA-0070-WS-903-2	1	15429	15	4/6/21 14:15	1/30/25 10:32	33476.3	4.000	B	0.017				19.9%	
RA-0070-WS-903-1	1	15805	15	4/6/21 14:15	1/30/25 11:33	33477.3	4.000	B	0.017				20.4%	
RA-0070-WS-903-4	1	15893	15	4/6/21 14:15	1/30/25 12:28	33478.2	4.000	B	0.017				20.5%	
RA-0070-WS-903-3	1	15960	15	4/6/21 14:15	1/30/25 13:21	33479.1	4.000	B	0.017				20.6%	
													20.4%	
RA-0070-WS-903-3	1	16033	15	4/6/21 14:15	1/30/25 10:32	33476.3	4.000	C	0.033				20.7%	
RA-0070-WS-903-2	1	15587	15	4/6/21 14:15	1/30/25 11:33	33477.3	4.000	C	0.033				20.1%	
RA-0070-WS-903-1	1	15727	15	4/6/21 14:15	1/30/25 12:28	33478.2	4.000	C	0.033				20.3%	
RA-0070-WS-903-4	1	16022	15	4/6/21 14:15	1/30/25 13:21	33479.1	4.000	C	0.033				20.7%	
													20.5%	
RA-0070-WS-903-4	1	16034	15	4/6/21 14:15	1/30/25 10:32	33476.3	4.000	D	0.017				20.7%	
RA-0070-WS-903-3	1	15985	15	4/6/21 14:15	1/30/25 11:33	33477.3	4.000	D	0.017				20.7%	
RA-0070-WS-903-2	1	15668	15	4/6/21 14:15	1/30/25 12:28	33478.2	4.000	D	0.017				20.3%	
RA-0070-WS-903-1	1	15880	15	4/6/21 14:15	1/30/25 13:21	33479.1	4.000	D	0.017				20.5%	
													20.5%	

DECAY CALCUALTION

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

A= ACTIVITY OF SOURCE
A₀= INITIAL ACTIVITY
N= DECAY CONSTANT
T(1/2)= SOURCES HALF LIFE
T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 01-Nov-16
DATE OF CALIBRATION 30-Jan-25

A₀ = 58.28 nCi
N = 0.00
T(1/2) = 1600.00 years
T = 8.25 years
VOLUME OF STD 1.00
FINAL VOL 100.00
dilution = 100.00

A = 58.07 nCi
A = 1289.22 dpm/ml
A = **581** pCi/ml

Uncertainty 3.70%

Volume 0.04%

CSU 3.70%

Activity 581 +/- 21 pCi/ml

Source: Ra-226
Lot No. R4/131/35
ID: RA-0070-WS1
 19L06745



CALIBRATION
No. 014

Certificate of calibration of radioactive reference solution

M 28796

Description Principal radionuclide: Radium-226 ESC38625 Product code: RAY-44
Solution number: R4/131/35
Measurement Reference time: 1200 GMT on 2 September 1996
Radioactive concentration of radium-226: 43.80 kilobecquerels per gram of solution
which is equivalent to: 1.184 microcuries per gram of solution
Mass of solution: 5.0330 grams
Total activity of radium-226: 220.5 kilobecquerels
which is equivalent to: 5.959 microcuries
Recommended half-life: 1600 years

Method of measurement used:

The activity of the solution was measured in a high pressure re-entrant ionisation chamber calibrated with a large number of absolutely standardised solutions.

Accuracy Overall uncertainty in the radioactive concentration quoted above: $\pm 3.7\%$
Random uncertainty: $\pm 0.7\%$ Systematic uncertainty: $\pm 3.0\%$

The limits of overall uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties in the measurement.

Radionuclide purity The estimated activities of any radioactive impurities found by high resolution gamma ray spectrometry, or in any other examination of the solution, are listed below expressed as percentages of the activity of the principal radionuclide at the reference time.

Chemical composition Carrier free in 0.5M HCl

Remarks At the reference time radium-226 was shown to be in radioactive equilibrium with its daughter nuclides down the decay chain to polonium-214 and thallium-210, the precursors of lead-210. The ionisation chamber was calibrated using a standard supplied by the National Institute of Standards and Technology, Washington DC, USA.

This product meets the quality assurance requirements of the NRC Regulatory Guide 4.15 for achieving implicit NIST traceability as defined in NCRP 58 (1985).

Approved
Signature

W. F. Case

W. F. Case

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Amersham
The Health Science Group

*Used up to
make RH-0065-V5
Mr. John*



View as PDF (CreatePDF?batchnum=WG2460191)

RA-226 903.0 Radiochemistry Prep Benchsheet

Batch: WG2460191

Analyst: LAG4246 Prep Start Date/Time: 02/28/25 14:00 Prep End Date/Time: 03/04/25 15:08 Method: EPA 903.0 SOP: ENV-SOP-MTJL-0353/0370 Pipet ID: E-11, E-14 Bal ID: RADBAL6 Stirrer ID's: St34, St38

Hot Plate ID: HP20, HP21 Centrifuge ID: C6

LCS/D Standard: 24D09038 Amt. Used: 1 mL Exp. Date:04/09/25 MS/D Standard: 24D09038 Amt. Used: 1 mL Exp. Date:04/09/25 16 mg/mL Barium Carrier: 24K14147 Amt. Used: 2 Exp. Date:05/31/25

Lead Nitrate Carrier: 24J25400 Amt. Used: 1 Exp. Date:10/25/25 Citric Acid: 25B18366 Amt. Used: 5 Exp. Date:09/30/25 1:1 H2SO4: 25B24183 Amt. Used: 20 Exp. Date:02/24/26 Methyl Orange: 24L05047 Amt. Used: 0.50 Exp. Date:12/05/25

0.25M EDTA: 25B15921 Amt. Used: 15 Exp. Date:02/15/26 200 mg/mL Ammonium Sulfate: 24K06043 Amt. Used: 1 Exp. Date:11/06/25 Bromocresol Green: 24L05046 Amt. Used: 0.50 Exp. Date:12/05/25

Acetic Acid: 25A06031 Amt. Used: 3 Exp. Date:06/19/26 Ammonium Hydroxide: 25B18355 Amt. Used: 3 Exp. Date:02/18/26

Sample Number	Collect Date	Sample Volume (mL)	Precipitation Time	Tare Wt (g)	Gross Wt (g)	Final Wt (g)	Review Analyst	Review Date
BLANK		1000	3/4/2025 11:29	0.08723	0.13962	0.05239	ASN4036	03/06/25 10:30:52
LCS		1000	3/4/2025 11:29	0.08729	0.14431	0.05702	ASN4036	03/06/25 10:30:52
MS(L1829574-02)		250	3/4/2025 11:29	0.08693	0.14555	0.05862	ASN4036	03/06/25 10:30:52
MSD(L1829574-02)		250	3/4/2025 11:29	0.08723	0.14463	0.0574	ASN4036	03/06/25 10:30:52
DUP(L1829617-01)		250	3/4/2025 11:29	0.08697	0.14517	0.0582	ASN4036	03/06/25 10:30:52
1. L1829561-01	02/18/25 17:25	500	3/4/2025 11:29	0.08731	0.14305	0.05574	ASN4036	03/06/25 10:30:52
2. L1829565-01	02/18/25 14:05	500	3/4/2025 11:29	0.08717	0.14073	0.05356	ASN4036	03/06/25 10:30:52
3. L1829565-02	02/20/25 13:05	500	3/4/2025 11:29	0.08732	0.14193	0.05461	ASN4036	03/06/25 10:30:52
4. L1829570-01	02/18/25 13:50	500	3/4/2025 11:29	0.08743	0.13777	0.05034	ASN4036	03/06/25 10:30:52
5. L1829574-01	02/18/25 13:30	500	3/4/2025 11:29	0.08740	0.14481	0.05741	ASN4036	03/06/25 10:30:52
6. L1829574-02	02/18/25 14:50	500	3/4/2025 11:29	0.08735	0.14319	0.05584	ASN4036	03/06/25 10:30:52
7. L1829574-03	02/18/25 17:10	500	3/4/2025 11:29	0.08729	0.19567	0.10838	ASN4036	03/06/25 10:30:52
8. L1829574-04	02/19/25 14:27	500	3/4/2025 11:29	0.08660	0.14124	0.05464	ASN4036	03/06/25 10:30:52
9. L1829574-05	02/19/25 16:15	500	3/4/2025 11:29	0.08686	0.13578	0.04892	ASN4036	03/06/25 10:30:52
10. L1829574-06	02/19/25 14:42	500	3/4/2025 11:29	0.08751	0.14345	0.05594	ASN4036	03/06/25 10:30:52
11. L1829574-07	02/20/25 12:00	500	3/4/2025 11:29	0.08726	0.13972	0.05246	ASN4036	03/06/25 10:30:52
12. L1829574-08	02/20/25 12:35	500	3/4/2025 11:29	0.08721	0.13908	0.05187	ASN4036	03/06/25 10:30:52
13. L1829584-01	02/19/25 16:10	500	3/4/2025 11:29	0.08767	0.10732	0.01965	ASN4036	03/06/25 10:30:52
14. L1829584-02	02/19/25 16:42	500	3/4/2025 11:29	0.08703	0.14020	0.05317	ASN4036	03/06/25 10:30:52
15. L1829584-04	02/20/25 12:00	500	3/4/2025 11:29	0.08727	0.13965	0.05238	ASN4036	03/06/25 10:30:52
16. L1829584-05	02/20/25 15:20	500	3/4/2025 11:29	0.08707	0.14002	0.05295	ASN4036	03/06/25 10:30:52
17. L1829584-06	02/20/25 12:05	500	3/4/2025 11:29	0.08738	0.13735	0.04997	ASN4036	03/06/25 10:30:52
18. L1829617-01	02/18/25 15:15	500	3/4/2025 11:29	0.08724	0.14083	0.05359	ASN4036	03/06/25 10:30:52
19. L1830360-01	02/26/25 11:00	500	3/4/2025 11:29	0.08730	0.14221	0.05491	ASN4036	03/06/25 10:30:52
20. L1830368-01	02/26/25 12:00	500	3/4/2025 11:29	0.08723	0.14209	0.05486	ASN4036	03/06/25 10:30:52

Comments: 50mL Tubes: 920142 1mL tips: 2243 2mL tips: 2418 10mL electric tips: 2332 10mL manual tips: p7601073 Transfer pipettes: 24180063 5mL manual tips: 32420046 ; L1829574-03 may contain double carrier; 45um Filter F4KB68830

Reviewed By:ASN4036 on 03/06/25 10:30:52

G5020 Run Log Ra-226 Waters by 903.0 WG2460191
Sample Order Verified by ASN4036

Sample ID	Det	Alpha	LT	Analyst	Start	End
RA_BKG	A	5	60	ASN4036	3/5/2025 22:11	3/5/2025 23:11
RA_BKG	B	5	60	ASN4036	3/5/2025 22:11	3/5/2025 23:11
RA_BKG	C	2	60	ASN4036	3/5/2025 22:11	3/5/2025 23:11
RA_BKG	D	2	60	ASN4036	3/5/2025 22:11	3/5/2025 23:11
903 STD 1	A	10560	10	ASN4036	3/5/2025 23:22	3/5/2025 23:32
903 STD 2	B	10128	10	ASN4036	3/5/2025 23:22	3/5/2025 23:32
903 STD 3	C	10716	10	ASN4036	3/5/2025 23:22	3/5/2025 23:32
903 STD 4	D	10570	10	ASN4036	3/5/2025 23:22	3/5/2025 23:32
BLANK WG2460191	A	8	60	ASN4036	3/5/2025 23:33	3/6/2025 0:33
LCS WG2460191	B	232	60	ASN4036	3/5/2025 23:33	3/6/2025 0:33
MS L1829574-02 WG2460191	C	267	60	ASN4036	3/5/2025 23:33	3/6/2025 0:33
MSD L1829574-02 WG2460191	D	240	60	ASN4036	3/5/2025 23:33	3/6/2025 0:33
DUP L1829617-01 WG2460191	A	5	60	ASN4036	3/6/2025 0:34	3/6/2025 1:34
L1829574-02 WG2460191	B	16	60	ASN4036	3/6/2025 0:34	3/6/2025 1:34
L1829617-01 WG2460191	C	7	60	ASN4036	3/6/2025 0:34	3/6/2025 1:34
L1830360-01 WG2460191	D	6	60	ASN4036	3/6/2025 0:34	3/6/2025 1:34
L1830368-01 WG2460191	A	7	60	ASN4036	3/6/2025 1:34	3/6/2025 2:34
RA_BKG	A	4	60	ASN4036	3/6/2025 8:38	3/6/2025 9:38
RA_BKG	B	5	60	ASN4036	3/6/2025 8:38	3/6/2025 9:38
RA_BKG	C	6	60	ASN4036	3/6/2025 8:38	3/6/2025 9:38
RA_BKG	D	4	60	ASN4036	3/6/2025 8:38	3/6/2025 9:38
903 STD 1	A	10406	10	ASN4036	3/6/2025 9:49	3/6/2025 9:59
903 STD 2	B	10408	10	ASN4036	3/6/2025 9:49	3/6/2025 9:59
903 STD 3	C	10541	10	ASN4036	3/6/2025 9:49	3/6/2025 9:59
903 STD 4	D	10539	10	ASN4036	3/6/2025 9:49	3/6/2025 9:59
RA_BKG	A	1	60	ASN4036	3/10/2025 15:19	3/10/2025 16:19
RA_BKG	B	4	60	ASN4036	3/10/2025 15:19	3/10/2025 16:19
RA_BKG	C	4	60	ASN4036	3/10/2025 15:19	3/10/2025 16:19
RA_BKG	D	2	60	ASN4036	3/10/2025 15:19	3/10/2025 16:19
903 STD 1	A	10582	10	ASN4036	3/10/2025 16:30	3/10/2025 16:40
903 STD 2	B	10121	10	ASN4036	3/10/2025 16:30	3/10/2025 16:40
903 STD 3	C	10349	10	ASN4036	3/10/2025 16:30	3/10/2025 16:40
903 STD 4	D	10560	10	ASN4036	3/10/2025 16:30	3/10/2025 16:40
L1829561-01 WG2460191	A	12	60	ASN4036	3/10/2025 19:42	3/10/2025 20:42
L1829565-01 WG2460191	B	9	60	ASN4036	3/10/2025 19:42	3/10/2025 20:42
L1829565-02 WG2460191	C	10	60	ASN4036	3/10/2025 19:42	3/10/2025 20:42
L1829570-01 WG2460191	D	13	60	ASN4036	3/10/2025 19:42	3/10/2025 20:42
L1829574-01 WG2460191	A	6	60	ASN4036	3/10/2025 20:42	3/10/2025 21:42
L1829574-03 WG2460191	B	22	60	ASN4036	3/10/2025 20:42	3/10/2025 21:42
L1829574-04 WG2460191	C	19	60	ASN4036	3/10/2025 20:42	3/10/2025 21:42
L1829574-05 WG2460191	D	20	60	ASN4036	3/10/2025 20:42	3/10/2025 21:42
L1829574-06 WG2460191	A	13	60	ASN4036	3/10/2025 21:42	3/10/2025 22:42
L1829574-07 WG2460191	B	21	60	ASN4036	3/10/2025 21:42	3/10/2025 22:42
L1829574-08 WG2460191	C	7	60	ASN4036	3/10/2025 21:42	3/10/2025 22:42
L1829584-01 WG2460191	D	5	60	ASN4036	3/10/2025 21:42	3/10/2025 22:42
L1829584-02 WG2460191	A	9	60	ASN4036	3/10/2025 22:43	3/10/2025 23:43
L1829584-04 WG2460191	B	17	60	ASN4036	3/10/2025 22:43	3/10/2025 23:43
L1829584-05 WG2460191	C	13	60	ASN4036	3/10/2025 22:43	3/10/2025 23:43
L1829584-06 WG2460191	D	8	60	ASN4036	3/10/2025 22:43	3/10/2025 23:43
RA_BKG	A	8	60	ASN4036	3/10/2025 23:43	3/11/2025 0:43
RA_BKG	B	3	60	ASN4036	3/10/2025 23:43	3/11/2025 0:43
RA_BKG	C	2	60	ASN4036	3/10/2025 23:43	3/11/2025 0:43
RA_BKG	D	0	60	ASN4036	3/10/2025 23:43	3/11/2025 0:43
903 STD 1	A	10636	10	ASN4036	3/11/2025 0:54	3/11/2025 1:04
903 STD 2	B	10058	10	ASN4036	3/11/2025 0:54	3/11/2025 1:04
903 STD 3	C	10608	10	ASN4036	3/11/2025 0:54	3/11/2025 1:04
903 STD 4	D	10525	10	ASN4036	3/11/2025 0:54	3/11/2025 1:04

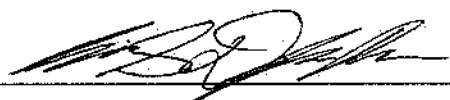
G5020

Calibration 01/29

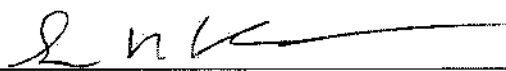
	<u>High Voltage</u>	<u>Changed?</u>	<u>Chi Sq Passed?</u>	<u>Notes</u>
Det A	1760	N	Y	
Det B	1760	N	Y	
Det C	1760	N	Y	
Det D	1760	N	Y	

Comments:

Det C and D brought back into service after maintenance 01/27/25

Collected by: 

Date: ~~1/29/25~~^{AD 1/29/25} 1/29/2025

Approved by: 

Date: 1/29/25

Detector Names G5020

Numerical:	Instrument:
1	1A
2	1B
3	1C
4	1D
5	2A
6	2B
7	2C
8	2D
9	3A
10	3B
11	3C
12	3D
13	4A
14	4B
15	4C
16	4D

Standards Used:

92SR4702137

92SR4702139

92SR4702136

High Voltage Plateau and Slope Calculation G5020

1/29/2025

Det1= 1A					Det2= 1B					Det3= 1C					Det4= 1D				
Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts		Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts		Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts		Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts	
1500	3070	3068	2		1500	2152	2150	2		1500	2474	2471	3		1500	2322	2320	2	
1520	3472	3468	4		1520	2596	2595	1		1520	2879	2876	3		1520	2689	2686	3	
1540	4012	4010	2		1540	3027	3025	2		1540	3308	3307	1		1540	3201	3201	0	
1560	4349	4347	2		1560	3491	3490	1		1560	3791	3789	2		1560	3550	3550	0	
1580	4885	4882	3		1580	3954	3948	6		1580	4308	4302	6		1580	4161	4154	7	
1600	5124	5123	1		1600	4332	4328	4		1600	4507	4501	6		1600	4386	4384	2	
1620	5531	5523	8		1620	4639	4635	4		1620	4824	4814	10		1620	4707	4704	3	
1640	5737	5731	6		1640	4959	4952	7		1640	5167	5160	7		1640	5047	5043	4	
1660	5781	5772	9		1660	5304	5296	8		1660	5226	5221	5		1660	5368	5360	8	
1680	5821	5817	4		1680	5541	5534	7		1680	5357	5350	7		1680	5379	5374	5	
1700	5992	5989	3		1700	5387	5378	9		1700	5456	5451	5		1700	5530	5525	5	
1720	5891	5888	3		1720	5397	5389	8		1720	5528	5524	4		1720	5696	5688	8	
1740	6067	6056	11	0.18%	1740	5665	5655	10	0.18%	1740	5671	5658	13	0.23%	1740	5762	5746	16	0.28%
1760	6162	6134	28	0.46%	1760	5614	5589	25	0.45%	1760	5536	5501	35	0.64%	1760	5639	5626	13	0.23%
1780	5962	5894	68	1.15%	1780	5723	5656	67	1.18%	1780	5663	5597	66	1.18%	1780	5820	5761	59	1.02%
1800	6214	6077	137	2.25%	1800	5874	5750	124	2.16%	1800	5755	5608	147	2.62%	1800	5751	5581	170	3.05%
1820	6044	5880	164		1820	5814	5653	161		1820	5810	5633	177		1820	5750	5573	177	
1840	6196	6038	158		1840	5826	5652	174		1840	5775	5609	166		1840	5798	5622	176	
1860	6106	5961	145		1860	5704	5555	149		1860	5643	5458	185		1860	5980	5801	179	
1880	6198	6053	144		1880	5745	5586	159		1880	5681	5507	174		1880	5890	5707	183	
1900	6297	6116	181		1900	5813	5683	130		1900	5715	5523	192		1900	5879	5708	171	
1920	6108	5931	177		1920	5793	5649	144		1920	5739	5540	199		1920	5824	5644	180	
1940	6258	6099	159		1940	5771	5624	147		1940	5686	5507	179		1940	5849	5674	175	
1960	6264	6084	180		1960	5709	5528	181		1960	5793	5626	167		1960	5841	5663	178	
1980	6058	5861	197		1980	5801	5667	134		1980	5670	5500	170		1980	5710	5527	182	
2000	6067	5914	153		2000	5827	5672	155		2000	5719	5522	197		2000	5792	5628	164	
1740	1.47%	88			1740	6.68%	372			1740	2.83%	157			1740	0.99%	56		
Slope Calc: 1760	0.13%	8			1760	4.70%	264			1760	1.95%	109			1760	2.03%	115		
1780	0.30%	18			1780	0.05%	3			1780	0.87%	49			1780	2.19%	124		
1800	2.88%	173			1800	0.60%	34			1800	0.77%	43			1800	3.09%	175		

DECAY CALCUALTION

Sr-90/Y90
No. 92SR470-2137

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

A= ACTIVITY OF SOURCE
A₀= INITIAL ACTIVITY
N= DECAY CONSTANT
T(1/2)= SOURCES HALF LIFE
T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 11-May-92
DATE OF CALIBRATION 29-Jan-25

		uncert
A ₀ =	23800 dpm	1190 dpm
N =	0.02	0.02
T(1/2) =	28.60 years	28.60 years
T =	32.74 years	32.74 years
dilution =	1.00	1.00

A = 10765.11 dpm 538.26 dpm

CPM Acceptance Range
2368.3 118.42
2131.5 **2013 Low**
2605.2 **2724 High**

Approval: _____

Date:_____

DECAY CALCUALTION

Sr-90/Y90
No. 92SR470-2139

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

A= ACTIVITY OF SOURCE

A₀= INITIAL ACTIVITY

N= DECAY CONSTANT

T(1/2)= SOURCES HALF LIFE

T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 03-Jun-92

DATE OF CALIBRATION 29-Jan-25

			uncert
A ₀ =	20700 dpm	1040 dpm	
N =	0.02	0.02	
T(1/2) =	28.60 years	28.60 years	
T =	32.68 years	32.68 years	
dilution =	1.00	1.00	

A =	9377.24 dpm	471.13 dpm
-----	-------------	------------

CPM Acceptance Range

2063	103.65
1856.7	1753 Low
2269.3	2373 High

DECAY CALCUALTION

Sr-90/Y90
No. 92SR470-2136

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

A= ACTIVITY OF SOURCE
A₀= INITIAL ACTIVITY
N= DECAY CONSTANT
T(1/2)= SOURCES HALF LIFE
T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 11-May-92
DATE OF CALIBRATION 29-Jan-25

		uncert
A ₀ =	16100 dpm	805 dpm
N =	0.02	0.02
T(1/2) =	28.60 years	28.60 years
T =	32.74 years	32.74 years
dilution =	1.00	1.00

A =	7282.28 dpm	364.11 dpm
-----	-------------	------------

CPM Acceptance Range
1602.1 80.105
1441.9 **1362 Low**
1762.3 **1842 High**

Approval: _____

Date: _____

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 10:05
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
1500	3070	3068	2
1520	3472	3468	4
1540	4012	4010	2
1560	4349	4347	2
1580	4885	4882	3
1600	5124	5123	1
1620	5531	5523	8
1640	5737	5731	6
1660	5781	5772	9
1680	5821	5817	4
1700	5992	5989	3
1720	5891	5888	3
1740	6067	6056	11
1760	6162	6134	28
1780	5962	5894	68
1800	6214	6077	137
1820	6044	5880	164
1840	6196	6038	158
1860	6106	5961	145
1880	6198	6053	144
1900	6297	6116	181
1920	6108	5931	177
1940	6258	6099	159
1960	6264	6084	180
1980	6058	5861	197

Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 10:05
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
2000	6067	5914	153

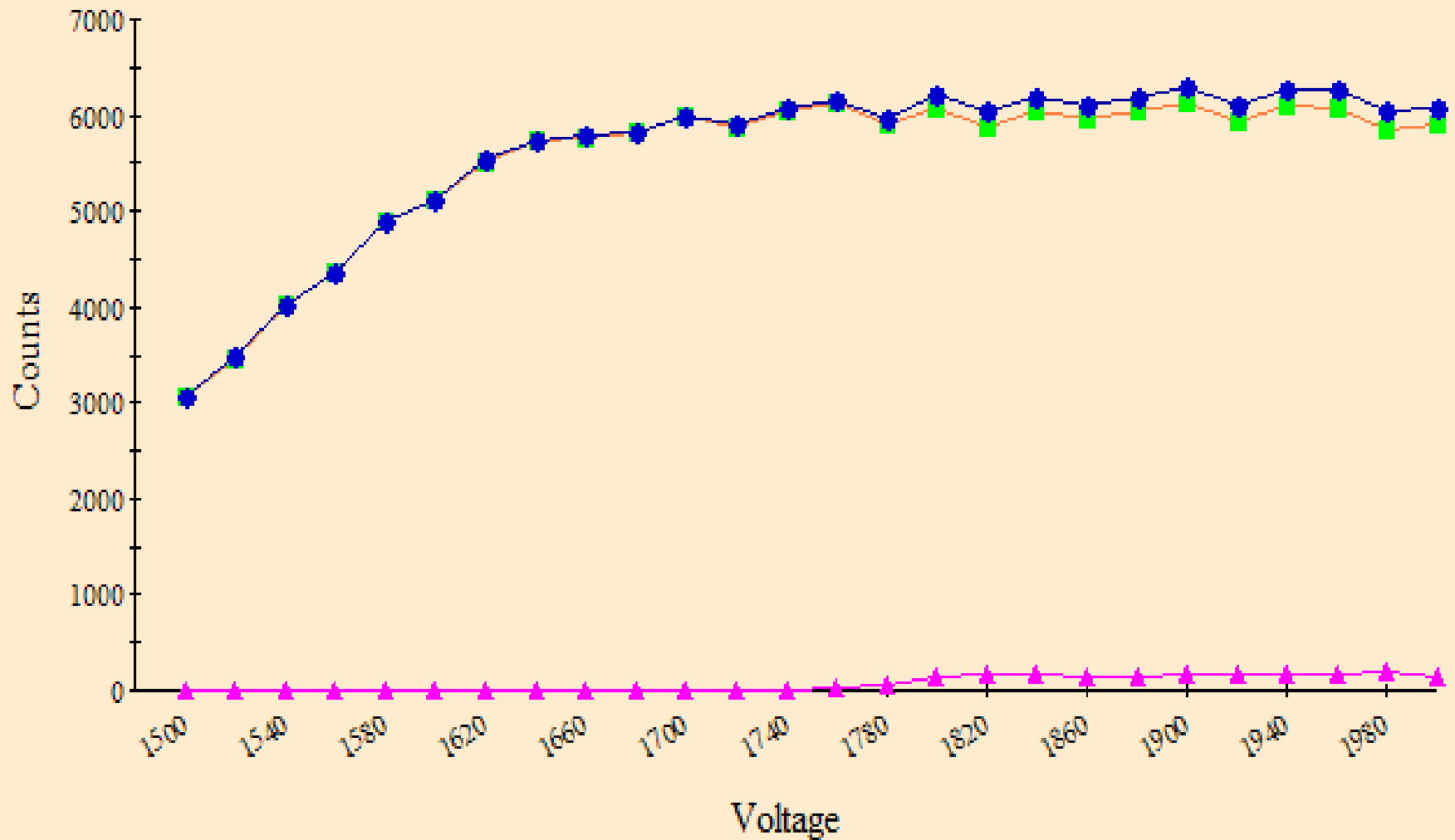
Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 92SR4702137 Isotope - Sr-90
Count Time: 1 Min. 0 sec. AcqDate - 01/29/2025 10:05:00 AM Detector - A

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 10:45
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: B
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
1500	2152	2150	2
1520	2596	2595	1
1540	3027	3025	2
1560	3491	3490	1
1580	3954	3948	6
1600	4332	4328	4
1620	4639	4635	4
1640	4959	4952	7
1660	5304	5296	8
1680	5541	5534	7
1700	5387	5378	9
1720	5397	5389	8
1740	5665	5655	10
1760	5614	5589	25
1780	5723	5656	67
1800	5874	5750	124
1820	5814	5653	161
1840	5826	5652	174
1860	5704	5555	149
1880	5745	5586	159
1900	5813	5683	130
1920	5793	5649	144
1940	5771	5624	147
1960	5709	5528	181
1980	5801	5667	134

Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 10:45
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: B
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
2000	5827	5672	155

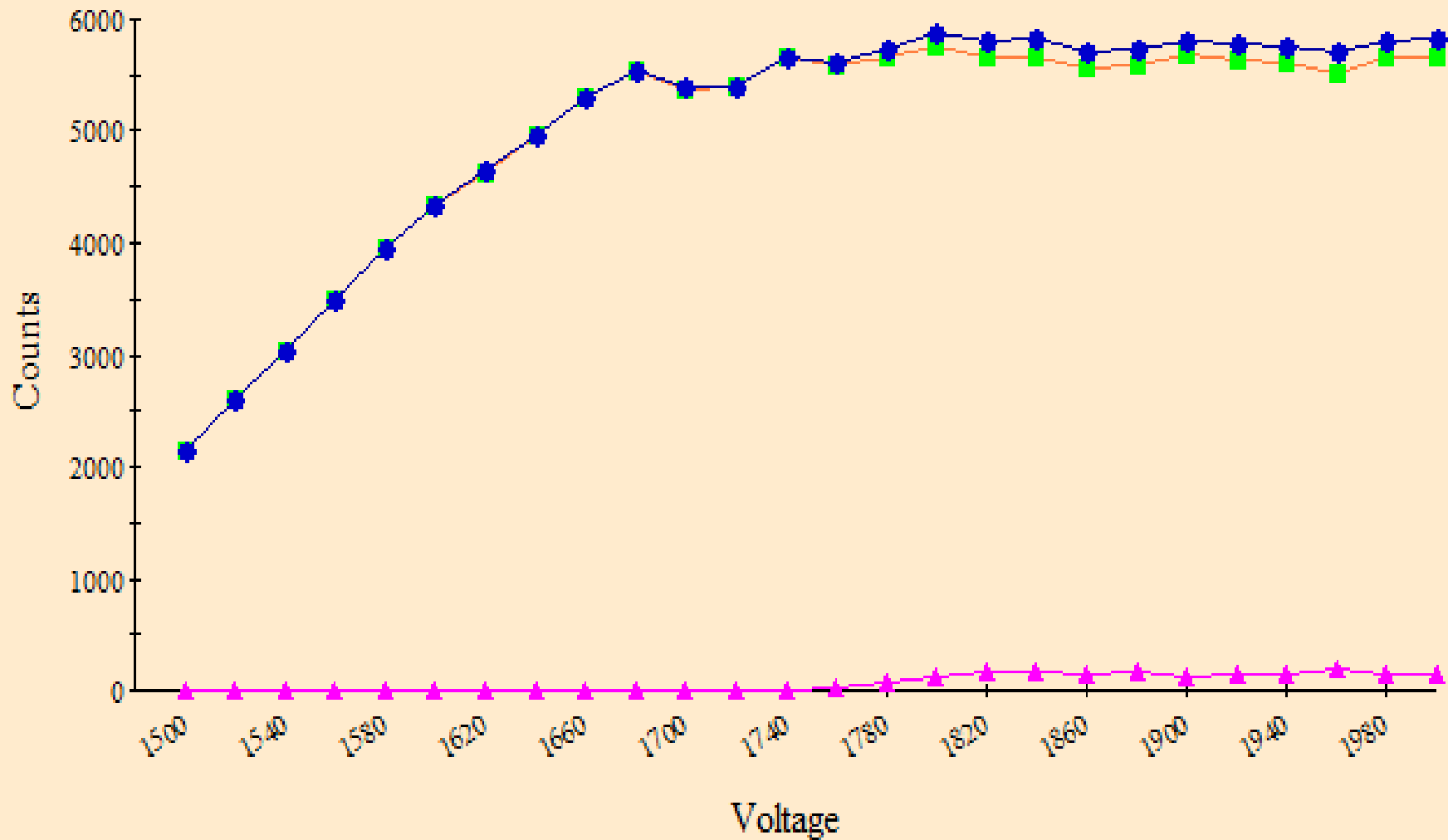
Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



 Alpha Counts
 Beta Counts
 Gross Counts

Source Certificate - 92SR4702137 Isotope - Sr-90
Count Time: 1 Min. 0 sec. AcqDate - 01/29/2025 10:45:09 AM Detector - B

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 11:24
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
1500	2474	2471	3
1520	2879	2876	3
1540	3308	3307	1
1560	3791	3789	2
1580	4308	4302	6
1600	4507	4501	6
1620	4824	4814	10
1640	5167	5160	7
1660	5226	5221	5
1680	5357	5350	7
1700	5456	5451	5
1720	5528	5524	4
1740	5671	5658	13
1760	5536	5501	35
1780	5663	5597	66
1800	5755	5608	147
1820	5810	5633	177
1840	5775	5609	166
1860	5643	5458	185
1880	5681	5507	174
1900	5715	5523	192
1920	5739	5540	199
1940	5686	5507	179
1960	5793	5626	167
1980	5670	5500	170

Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 11:24
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
2000	5719	5522	197

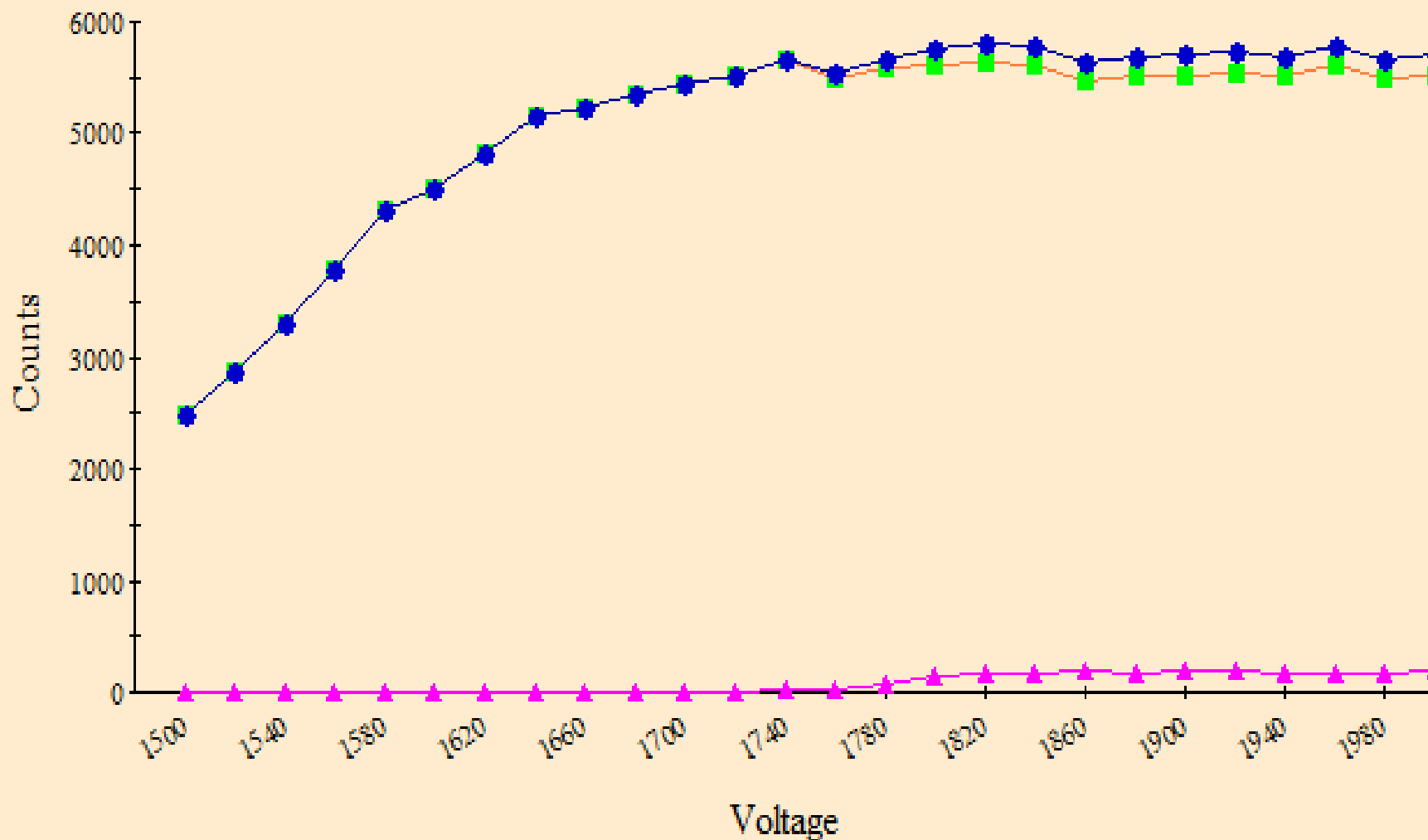
Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
 Beta Counts
 Gross Counts

Source Certificate - 92SR4702137 Isotope - Sr-90
Count Time: 1 Min. 0 sec. AcqDate - 01/29/2025 11:24:24 AM Detector - C

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 11:55
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
1500	2322	2320	2
1520	2689	2686	3
1540	3201	3201	0
1560	3550	3550	0
1580	4161	4154	7
1600	4386	4384	2
1620	4707	4704	3
1640	5047	5043	4
1660	5368	5360	8
1680	5379	5374	5
1700	5530	5525	5
1720	5696	5688	8
1740	5762	5746	16
1760	5639	5626	13
1780	5820	5761	59
1800	5751	5581	170
1820	5750	5573	177
1840	5798	5622	176
1860	5980	5801	179
1880	5890	5707	183
1900	5879	5708	171
1920	5824	5644	180
1940	5849	5674	175
1960	5841	5663	178
1980	5710	5527	182

Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace National

G-5400W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Test Date: 01/29/2025 11:55
System Serial #: 042101

Counting Time: 1 min 0 sec
Sample Position: 42 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 92SR4702137
Isotope Name: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 5 - 899	Chn 900 - 1023
2000	5792	5628	164

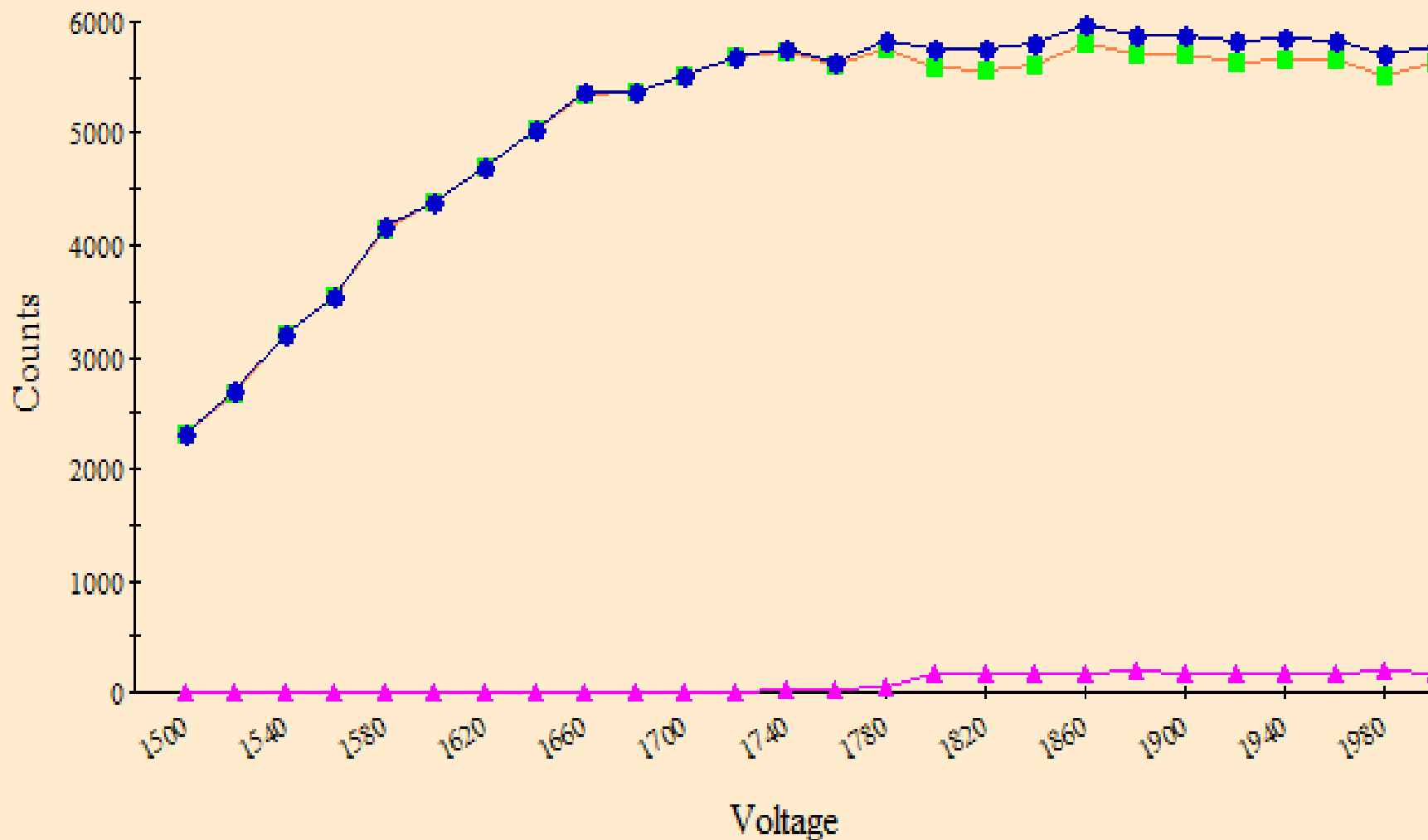
Special Notes:

Report Generated: 01/29/2025

G5400HV.RPT ver 1.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 92SR4702137 Isotope - Sr-90
Count Time: 1 Min. 0 sec. AcqDate - 01/29/2025 11:55:19 AM Detector - D

Pace National

G-5400W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2

USER ID: Meier

Acq. Mode: Alpha/Beta

Sample Position: 42 Detector: A

Counting Time: 1 min 0 sec

Degrees of Freedom: N - 1

Voltage: 1760

Conf Level: 95.0 %

Test Date: 01/29/2025 15:11

System Serial #: 042101

Number of Counts Performed: 20

Source Certificate: 92SR4702139

Isotope: Sr-90

Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	5 - 899	Chn	900 - 1023
1		4890		40
2		5083		29
3		4955		24
4		4983		30
5		4922		22
6		4971		16
7		5075		22
8		4929		25
9		5005		22
10		4941		21
11		5057		27
12		4961		28
13		4985		23
14		5016		26
15		5122		25
16		5053		28
17		5015		14
18		4930		15
19		4916		14
20		4957		22

(Xbar) Mean: 4988.30 23.65
Calculated Chi-Sqr Value: 15.36 30.97

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 01/29/2025

G5400CHISQR.RPT ver 1.0

Collected By: _____
Changes Needed: Yes No (Circle One)
Approved By: _____

Date: _____
Date: _____

Pace National

G-5400W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2

USER ID: Meier

Acq. Mode: Alpha/Beta

Sample Position: 42 Detector: B

Counting Time: 1 min 0 sec

Degrees of Freedom: N - 1

Voltage: 1760

Conf Level: 95.0 %

Test Date: 01/29/2025 13:20

System Serial #: 042101

Number of Counts Performed: 20

Source Certificate: 92SR4702136

Isotope: Sr-90

Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	5 - 899	Chn	900 - 1023
1		3680		15
2		3908		19
3		3816		14
4		3810		12
5		3728		15
6		3912		13
7		3780		14
8		3793		10
9		3762		13
10		3769		19
11		3793		22
12		3752		16
13		3848		15
14		3707		21
15		3807		15
16		3710		11
17		3688		17
18		3721		12
19		3829		12
20		3776		15

(Xbar) Mean: 3779.45 15.00
Calculated Chi-Sqr Value: 21.22 13.33

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 01/29/2025

G5400CHISQR.RPT ver 1.0

Collected By: _____
Changes Needed: Yes No (Circle One)
Approved By: _____

Date: _____
Date: _____

Pace National

G-5400W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2

USER ID: Meier

Acq. Mode: Alpha/Beta

Sample Position: 42 Detector: C

Counting Time: 1 min 0 sec

Degrees of Freedom: N - 1

Voltage: 1760

Conf Level: 95.0 %

Test Date: 01/29/2025 13:57

System Serial #: 042101

Number of Counts Performed: 20

Source Certificate: 92SR4702136

Isotope: Sr-90

Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	5 - 899	Chn	900 - 1023
1		3602		25
2		3704		22
3		3654		21
4		3720		25
5		3720		15
6		3691		14
7		3751		19
8		3773		15
9		3706		7
10		3718		16
11		3726		23
12		3675		21
13		3740		18
14		3795		18
15		3767		19
16		3729		17
17		3688		18
18		3644		22
19		3722		23
20		3782		17

(Xbar) Mean: 3715.35 18.75
Calculated Chi-Sqr Value: 11.83 18.65

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 01/29/2025

G5400CHISQR.RPT ver 1.0

Collected By: _____
Changes Needed: Yes No (Circle One)
Approved By: _____

Date: _____
Date: _____

Pace National

G-5400W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2

USER ID: Meier

Acq. Mode: Alpha/Beta

Sample Position: 42 Detector: D

Counting Time: 1 min 0 sec

Degrees of Freedom: N - 1

Voltage: 1760

Conf Level: 95.0 %

Test Date: 01/29/2025 14:21

System Serial #: 042101

Number of Counts Performed: 20

Source Certificate: 92SR4702136

Isotope: Sr-90

Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	5 - 899	Chn	900 - 1023
1		3765		23
2		3785		24
3		3785		12
4		3842		14
5		3836		25
6		3881		9
7		3733		21
8		3783		21
9		3746		18
10		3854		19
11		3849		12
12		3699		15
13		3796		16
14		3742		14
15		3793		21
16		3745		16
17		3716		14
18		3756		15
19		3675		32
20		3762		22

(Xbar) Mean: 3777.15 18.15
Calculated Chi-Sqr Value: 14.98 31.77

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 01/29/2025

G5400CHISQR.RPT ver 1.0

Collected By: _____
Changes Needed: Yes No (Circle One)
Approved By: _____

Date: _____
Date: _____

904/9320 Radiochemistry

Radiochemistry Raw Data

RADIUM-228

METHOD:

SDG#

EPA 904/9320

WG2460391

Lab ID	Result	2σ CE	2σTPU	SDWA DL	Lc	MDA	UNITS	PREP DATE	ANALYSIS DATE	ANALYST
BLANK WG2460391	0.222	0.162	0.312	0.289	0.154	0.291	pCi/l	2/28/2025	3/11/2025	DDD3903
LCS WG2460391	4.566	0.258	0.404	0.352	0.186	0.356	pCi/l	2/28/2025	3/11/2025	DDD3903
MS L1829574-02 WG2460391	9.180	0.496	0.792	0.646	0.343	0.655	pCi/l	2/28/2025	3/11/2025	DDD3903
MSD L1829574-02 WG2460391	10.059	0.516	0.812	0.678	0.359	0.688	pCi/l	2/28/2025	3/11/2025	DDD3903
DUP L1829570-01 WG2460391	1.317	0.690	1.186	1.205	0.637	1.222	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829262-07 WG2460391	-1.328	1.538	2.397	2.816	1.489	2.850	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829373-01 WG2460391	3.155	1.058	1.703	1.820	0.962	1.841	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829373-02 WG2460391	3.382	1.184	1.826	2.042	1.076	2.066	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829373-03 WG2460391	-0.496	0.995	1.599	1.809	0.955	1.830	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829373-04 WG2460391	1.234	0.768	1.309	1.353	0.716	1.368	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829479-01 WG2460391	1.103	0.394	0.692	0.679	0.360	0.687	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829561-01 WG2460391	1.257	0.576	1.061	1.003	0.534	1.016	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829565-01 WG2460391	0.257	0.277	0.568	0.498	0.266	0.503	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829565-02 WG2460391	0.217	0.648	1.132	1.165	0.616	1.178	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829570-01 WG2460391	0.722	0.386	0.676	0.675	0.357	0.683	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-01 WG2460391	0.423	0.250	0.462	0.440	0.234	0.445	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-02 WG2460391	0.365	0.389	0.679	0.691	0.365	0.699	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-03 WG2460391	0.542	0.236	0.448	0.411	0.219	0.415	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-04 WG2460391	1.238	0.222	0.430	0.361	0.193	0.364	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-05 WG2460391	1.579	0.511	1.002	0.875	0.468	0.883	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-06 WG2460391	-0.259	0.771	1.281	1.395	0.736	1.412	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-07 WG2460391	0.865	0.235	0.437	0.398	0.212	0.402	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829574-08 WG2460391	0.718	0.272	0.479	0.471	0.249	0.476	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829584-01 WG2460391	1.906	0.370	0.658	0.611	0.324	0.618	pCi/l	2/28/2025	3/11/2025	DDD3903
L1829584-02 WG2460391	0.084	0.221	0.429	0.400	0.213	0.404	pCi/l	2/28/2025	3/11/2025	DDD3903
0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	pCi/l	2/28/2025	1/0/1900	
0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	pCi/l	2/28/2025	1/0/1900	
0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	pCi/l	2/28/2025	1/0/1900	

RADIUM-228
METHOD: EPA 904/9320
SDG# WG2460391
ANALYST: DDD3903
PREP DATE: 2/28/25 15:56

Matrix: NPW/DW

LAB ID	sample date	sample size (L)	ingrowth start	decay start	t3 min	count date/end time	counts	UNIT/DET no.	UNIT no.	DET no.	back CPM	COUNTER EFF	SAMPLE DECAT DAYS	SAMPLE DECAT FACTOR	t1 min	Count Time t2 min	λ_{t_2} (1-e ^{-λ_{t_2}})	1 (1-e ^{-λ_{t_3}})	1 e ^{-λ_{t_1}}	Ba % rec	Y %rec	Ra228 pCi/l
BLANK WG2460391	2/28/25 15:56	1.000	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	256	4A-1	4	1	1.15	47.32	0.03	1.00	124	200	1.200	1.000	1.263	100.0%	86.2%	0.222
LCS WG2460391	2/28/25 15:56	1.000	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	938	4A-2	4	2	1.88	46.69	0.03	1.00	124	200	1.200	1.000	1.263	100.0%	90.4%	4.566
MS L1829574-02 WG2460391	2/18/2025 14:50	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	841	4A-3	4	3	1.47	46.51	0.06	1.01	124	200	1.200	1.000	1.263	100.0%	88.1%	9.180
MSD L1829574-02 WG2460391	2/18/2025 14:50	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	973	4A-4	4	4	1.76	47.94	0.06	1.01	124	200	1.200	1.000	1.263	100.0%	88.6%	10.059
DUP L1829570-01 WG2460391	2/18/2025 13:50	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	443	4B-1	4	5	1.97	48.11	0.06	1.01	124	200	1.200	1.000	1.263	100.0%	87.6%	1.317
L1829262-07 WG2460391	2/22/2025 9:45	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	339	4B-2	4	6	1.80	48.02	0.05	1.01	124	200	1.200	1.000	1.263	42.6%	84.2%	-1.328
L1829373-01 WG2460391	2/24/2025 9:50	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	422	4B-3	4	7	1.75	47.98	0.04	1.01	124	200	1.200	1.000	1.263	61.7%	88.9%	3.155
L1829373-02 WG2460391	2/24/2025 9:50	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	504	4B-4	4	8	2.14	47.36	0.04	1.01	124	200	1.200	1.000	1.263	62.8%	86.8%	3.382
L1829373-03 WG2460391	2/24/2025 9:30	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	371	4C-1	4	9	1.92	45.32	0.04	1.01	124	200	1.200	1.000	1.263	67.8%	90.0%	-0.496
L1829373-04 WG2460391	2/24/2025 9:30	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	352	4C-2	4	10	1.58	46.28	0.04	1.01	124	200	1.200	1.000	1.263	84.8%	86.0%	1.234
L1829479-01 WG2460391	2/20/2025 14:00	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	392	4C-3	4	11	1.63	46.94	0.05	1.01	124	200	1.200	1.000	1.263	100.0%	87.3%	1.103
L1829561-01 WG2460391	2/18/2025 17:25	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	320	4C-4	4	12	1.37	46.55	0.06	1.01	124	200	1.200	1.000	1.263	100.0%	91.3%	1.257
L1829565-01 WG2460391	2/18/2025 14:05	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	207	4D-1	4	13	0.95	47.61	0.06	1.01	124	200	1.200	1.000	1.263	100.0%	91.2%	0.257
L1829565-02 WG2460391	2/20/2025 13:05	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	339	3A-1	3	1	1.66	43.80	0.05	1.01	124	200	1.200	1.000	1.264	100.0%	91.7%	0.217
L1829570-01 WG2460391	2/18/2025 13:50	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	382	3A-2	3	2	1.69	45.59	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	92.0%	0.722
L1829574-01 WG2460391	2/18/2025 13:30	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	277	3A-3	3	3	1.22	44.58	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	88.2%	0.423
L1829574-02 WG2460391	2/18/2025 14:50	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	362	3A-4	3	4	1.70	44.82	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	91.8%	0.365
L1829574-03 WG2460391	2/18/2025 17:10	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	254	3B-1	3	5	1.05	44.95	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	87.6%	0.542
L1829574-04 WG2460391	2/19/2025 14:27	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	309	3B-2	3	6	1.00	47.99	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	91.0%	1.238
L1829574-05 WG2460391	2/19/2025 16:15	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	240	3B-3	3	7	0.92	45.42	0.06	1.01	124	200	1.200	1.000	1.264	100.0%	89.3%	1.579
L1829574-06 WG2460391	2/19/2025 14:42	0.300	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	383	3B-4	3	8	1.96	44.19	0.06	1.01	124	200	1.200	1.000	1.264	91.2%	90.0%	-0.259
L1829574-07 WG2460391	2/20/2025 12:00	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	319	3C-1	3	9	1.21	45.09	0.05	1.01	125	200	1.200	1.000	1.265	100.0%	96.3%	0.865
L1829574-08 WG2460391	2/20/2025 12:35	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	372	3C-2	3	10	1.56	44.86	0.05	1.01	125	200	1.200	1.000	1.265	100.0%	92.2%	0.718
L1829584-01 WG2460391	2/19/2025 16:10	0.500	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	397	3C-3	3	11	1.40	45.53	0.06	1.01	125	200	1.200	1.000	1.265	100.0%	93.1%	1.906
L1829584-02 WG2460391	2/19/2025 16:42	0.700	3/6/2025 17:47	3/11/2025 18:53	7266	3/12/25 0:17	222	3C-4	3	12	1.08	44.87	0.06	1.01	125	200	1.200	1.000	1.265	100.0%	91.0%	0.084
		0			0							FALSE	0.00	1.00	-200	200	1.200	#DIV/0!	0.686	0.0%	0.0%	#DIV/0!
		0			0							FALSE	0.00	1.00	-200	200	1.200	#DIV/0!	0.686	0.0%	0.0%	#DIV/0!
		0			0							FALSE	0.00	1.00	-200	200	1.200	#DIV/0!	0.686	0.0%	0.0%	#DIV/0!
		0			0							FALSE	0.00	1.00	-200	200	1.200	#DIV/0!	0.686	0.0%	0.0%	#DIV/0!

=Daily backgrounds used

RADIUM 228 QC REPORT

METHOD: EPA 904/9320
SDG# WG2460391
ANALYST: DDD3903

QC SPIKE INFORMATION
VOLUME USED: 0.5
QC ID: 24H07307
ACTIVITY: 10.0 pCi/ml

Analyte Ra228 units pCi/L
Matrix
Sample 329570-01 WG2460391

	RESULT	ERROR	2σTPU	SDWA DL	Lc	MDA	known	%REC	LIMITS		RPD	LIMITS		RER	LIMITS
									LOW	HIGH					
BLANK WG2460391	0.222	0.162	0.312	0.289	0.154	0.291	5.0	91.3%	80%	120%					
LCS WG2460391	4.566	0.258	0.404	0.352	0.186	0.356									
L1829570-01 WG2460391	0.722	0.386	0.676	0.675	0.357	0.683									
DUP L1829570-01 WG2460391	1.317	0.690	1.186	1.205	0.637	1.222	10.0	88.1%	70%	130%	NC	20%	0.752	2	
L1829574-02 WG2460391	0.365	0.389	0.679	0.691	0.365	0.699									
MS L1829574-02 WG2460391	9.18	0.50	0.79	0.65	0.34	0.65									
MSD L1829574-02 WG2460391	10.06	0.52	0.81	0.68	0.36	0.69	10.0	96.9%	70%	130%	9.1%	20%	1.23	2	

* - Outside Control Limits

SAMPLES:
BLANK WG2460391 L1829561-01 WG24 L1829574-08 WG2460391
LCS WG2460391 L1829565-01 WG24 L1829584-01 WG2460391
MS L1829574-02 WG2460391 L1829565-02 WG24 L1829584-02 WG2460391
MSD L1829574-02 WG2460391 L1829570-01 WG2460391
DUP L1829570-01 WG2460391 L1829574-01 WG2460391
L1829262-07 WG2460391 L1829574-02 WG2460391
L1829373-01 WG2460391 L1829574-03 WG2460391
L1829373-02 WG2460391 L1829574-04 WG2460391
L1829373-03 WG2460391 L1829574-05 WG2460391
L1829373-04 WG2460391 L1829574-06 WG2460391
L1829479-01 WG2460391 L1829574-07 WG2460391

DECAY CALCUALTION

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

Th-232 Source
Source No. 2471-55
ESC58532
Pace No. 24H07307

A= ACTIVITY OF SOURCE
A₀= INITIAL ACTIVITY
N= DECAY CONSTANT
T(1/2)= SOURCES HALF LIFE
T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 07-Aug-24
DATE OF CALIBRATION 28-Feb-25

A₀ = 1.03 nCi
N = 0.00
T(1/2) = 1.41E+10 years
T = 0.00 years
dilution = 1.00

A = 1.03 nCi
A = 2288.82 dpm/ml
A = 1031.00 pCi/ml

Stock = 1031 pCi/ml
Stock 9.7 ml
DI 1000 pCi/ml
A = 10.0 +/- 0.30013432 pCi/ml



View as PDF (CreatePDF?batchnum=WG2460391)

RA-228 Aqueous Radiochemistry Prep Benchsheet

Batch: WG2460391

Analyst: JEA4143 Prep Start Date/Time: 02/28/25 15:56:03/05/25 12:12 Prep End Date/Time: 03/12/25 19:45 Method: 904 SOP: ENV-SOP-MTJL-0300/0322 Pipet ID: 132, E-21, E-22, E-24 Balance ID: RADBAL3
Stirrer ID: ST 39, 41 Hotplate ID: HP 20, 21 Centrifuge ID: C 5

LCS/MS Spike: 24H07307 Amt. Used: 0.50 mL Exp. Date:08/07/25 16 mg/mL Barium Carrier: 25A31529 Amt. Used: 2 mL Exp. Date:05/31/25 1M Citric Acid: 25A24419 Amt. Used: 5 mL Exp. Date:09/30/25
Methyl Orange: 25A24421 Amt. Used: 0.20 mL Exp. Date:01/24/26 15 mg/mL Lead Carrier: 25C03345 Amt. Used: 10 mL Exp. Date:03/03/26 10 mg/mL Strontium Carrier: 25C04631 Amt. Used: 2 mL Exp. Date:03/31/25
18 mg/mL Yttrium Carrier: 25A09528 Amt. Used: 1 mL Exp. Date:01/09/26 Ammonium Hydroxide: 25B25404 Amt. Used: 10 mL Exp. Date:07/08/25 1:1 H2SO4: 25C04470 Amt. Used: 10 mL Exp. Date:03/04/26
200 mg/mL Ammonium Sulfate: 25C03355 Amt. Used: 16 mL Exp. Date:03/03/26 Nitric Acid: 25B18381 Amt. Used: 34 mL Exp. Date:09/30/29 0.25N Basic EDTA: 24K23552 Amt. Used: 85 mL Exp. Date:11/23/25
0.9mg/mL each Sr/Y Carrier: 25A20695 Amt. Used: 2 mL Exp. Date:03/31/25 Acetic Acid: 24H09546 Amt. Used: 20 mL Exp. Date:02/28/26 1.5mg/mL Lead Carrier: 25B27873 Amt. Used: 2 mL Exp. Date:02/21/26
2% NH4 Sulfide: 25B27879 Amt. Used: 0.50 mL Exp. Date:02/27/26 9 mg/mL Yttrium Carrier: 25A21880 Amt. Used: 1 mL Exp. Date:01/21/26 18N NaOH: 25B27930 Amt. Used: 5 mL Exp. Date:02/27/26
6N Nitric Acid: 24K20077 Amt. Used: 2 mL Exp. Date:11/20/25 10N NaOH: 25B27929 Amt. Used: 4 mL Exp. Date:02/27/26 1N Nitric Acid: 24K20078 Amt. Used: 3.50 mL Exp. Date:11/20/25
5% Ammonium Oxalate: 24F11752 Amt. Used: 3.50 mL Exp. Date:02/28/25

Sample Number	Collect Date	Sample Vol. (L or filit)	Ac-228 Ingrowth Time	Ac-228 Decay Time	Y Planchet Tare (g)	Y Planchet Gross (g)	Y Planchet Net (g)	Ba Planchet Tare (g)	Ba Planchet Gross (g)	Ba Planchet Net (g)	Review Analyst	Review Date
BLANK		1.00	03/06/25 17:47:13	03/11/25 18:53:18	7.56905	7.59787	0.02882	7.49783	7.56432	0.06649	DDD3903	03/12/25 21:15:52
LCS		1.00	03/06/25 17:47:13	03/11/25 18:53:18	7.58702	7.61724	0.03022	7.49636	7.56322	0.06686	DDD3903	03/12/25 21:15:52
MS(L1829574-02)		0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.63966	7.66910	0.02944	7.5138	7.58334	0.06954	DDD3903	03/12/25 21:15:52
MSD(L1829574-02)		0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.63072	7.66034	0.02962	7.51430	7.58370	0.0694	DDD3903	03/12/25 21:15:52
DUP(L1829570-01)		0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.59728	7.62655	0.02927	7.50172	7.57256	0.07084	DDD3903	03/12/25 21:15:52
1. L1829262-07	02/22/25 09:45	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.69326	7.72140	0.02814	7.50159	7.52559	0.024	DDD3903	03/12/25 21:15:52
2. L1829373-01	02/24/25 09:50	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.74662	7.77634	0.02972	7.52474	7.55947	0.03473	DDD3903	03/12/25 21:15:52
3. L1829373-02	02/24/25 09:50	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.69926	7.72828	0.02902	7.48656	7.52193	0.03537	DDD3903	03/12/25 21:15:52
4. L1829373-03	02/24/25 09:30	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.65290	7.68298	0.03008	7.50111	7.53929	0.03818	DDD3903	03/12/25 21:15:52
5. L1829373-04	02/24/25 09:30	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.56944	7.59818	0.02874	7.50547	7.55321	0.04774	DDD3903	03/12/25 21:15:52
6. L1829479-01	02/20/25 14:00	0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.63677	7.66595	0.02918	7.47589	7.54344	0.06755	DDD3903	03/12/25 21:15:52
7. L1829561-01	02/18/25 17:25	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.69268	7.72320	0.03052	7.48595	7.54670	0.06075	DDD3903	03/12/25 21:15:52
8. L1829565-01	02/18/25 14:05	0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.53798	7.56847	0.03049	7.50502	7.57340	0.06838	DDD3903	03/12/25 21:15:52
9. L1829565-02	02/20/25 13:05	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.49516	7.52580	0.03064	7.51187	7.58085	0.06898	DDD3903	03/12/25 21:15:52
10. L1829570-01	02/18/25 13:50	0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.44864	7.47940	0.03076	7.49514	7.55617	0.06103	DDD3903	03/12/25 21:15:52
11. L1829574-01	02/18/25 13:30	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.67085	7.70034	0.02949	7.50749	7.57528	0.06779	DDD3903	03/12/25 21:15:52
12. L1829574-02	02/18/25 14:50	0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.67197	7.70266	0.03069	7.52073	7.58480	0.06407	DDD3903	03/12/25 21:15:52
13. L1829574-03	02/18/25 17:10	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.69175	7.72105	0.0293	7.49478	7.55379	0.05901	DDD3903	03/12/25 21:15:52
14. L1829574-04	02/19/25 14:27	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.48252	7.51295	0.03043	7.49014	7.54777	0.05763	DDD3903	03/12/25 21:15:52
15. L1829574-05	02/19/25 16:15	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.63232	7.66216	0.02984	7.46864	7.52591	0.05727	DDD3903	03/12/25 21:15:52
16. L1829574-06	02/19/25 14:42	0.300	03/06/25 17:47:13	03/11/25 18:53:18	7.50502	7.53510	0.03008	7.50352	7.55488	0.05136	DDD3903	03/12/25 21:15:52
17. L1829574-07	02/20/25 12:00	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.55852	7.59071	0.03219	7.51449	7.57417	0.05968	DDD3903	03/12/25 21:15:52
18. L1829574-08	02/20/25 12:35	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.50326	7.53409	0.03083	7.49386	7.55253	0.05867	DDD3903	03/12/25 21:15:52
19. L1829584-01	02/19/25 16:10	0.500	03/06/25 17:47:13	03/11/25 18:53:18	7.56734	7.59846	0.03112	7.49244	7.55700	0.06456	DDD3903	03/12/25 21:15:52
20. L1829584-02	02/19/25 16:42	0.700	03/06/25 17:47:13	03/11/25 18:53:18	7.68548	7.71590	0.03042	7.49152	7.55866	0.06714	DDD3903	03/12/25 21:15:52

Comments: 50mL Tubes: 920142 1mL tips: 2243 2mL tips: 2418 10mL electric tips: 2332 10mL manual tips: p7601073 Transfer pipettes: 24180063 5mL manual tips: 32420046 45um filter: F3AB50245
Reviewed By:DDD3903 on 03/12/25 21:15:52

Yttrium Recovery

9 mg/ml(Y)

Known Y₂(C₂O₄)₃•9H₂O

Standardized Value

9.84

mg/ml

Y₂

177.8 g/mol

Volume Added

1.00

mL

Y₂(C₂O₄)₃•9H₂O

603.8 g/mol

Mass Added

33.43

mg

24K26813 Standardization Date: 12/03/2024				
		Y ₂ (C ₂ O ₄) ₃ •9H ₂ O	Y g/mL	Y mg/mL
Tare (g)	Gross (g)	Net (g)		
0.08112	0.41313	0.33201	0.00978	9.7766
0.08088	0.41708	0.33620	0.00990	9.9000
0.08230	0.41703	0.33473	0.00986	9.8567

Avg. Y mg/mL

9.8445

±

0.64%

LAB ID	TARE(g)	GROSS(g)	NET(g)	Y %rec
BLANK WG2460391	7.56905	7.59787	0.0288	86%
LCS WG2460391	7.58702	7.61724	0.0302	90.4%
MS L1829574-02 WG2460391	7.63966	7.6691	0.0294	88.1%
MSD L1829574-02 WG2460391	7.63072	7.66034	0.0296	88.6%
DUP L1829570-01 WG2460391	7.59728	7.62655	0.0293	88%
L1829262-07 WG2460391	7.69326	7.7214	0.0281	84.2%
L1829373-01 WG2460391	7.74662	7.77634	0.0297	88.9%
L1829373-02 WG2460391	7.69926	7.72828	0.0290	86.8%
L1829373-03 WG2460391	7.6529	7.68298	0.0301	90.0%
L1829373-04 WG2460391	7.56944	7.59818	0.0287	86.0%
L1829479-01 WG2460391	7.63677	7.66595	0.0292	87.3%
L1829561-01 WG2460391	7.69268	7.7232	0.0305	91%
L1829565-01 WG2460391	7.53798	7.56847	0.0305	91.2%
L1829565-02 WG2460391	7.49516	7.5258	0.0306	91.7%
L1829570-01 WG2460391	7.44864	7.4794	0.0308	92.0%
L1829574-01 WG2460391	7.67085	7.70034	0.0295	88.2%
L1829574-02 WG2460391	7.67197	7.70266	0.0307	91.8%
L1829574-03 WG2460391	7.69175	7.72105	0.0293	87.6%
L1829574-04 WG2460391	7.48252	7.51295	0.0304	91.0%
L1829574-05 WG2460391	7.63232	7.66216	0.0298	89.3%
L1829574-06 WG2460391	7.50502	7.5351	0.0301	90.0%
L1829574-07 WG2460391	7.55852	7.59071	0.0322	96.3%
L1829574-08 WG2460391	7.50326	7.53409	0.0308	92.2%
L1829584-01 WG2460391	7.56734	7.59846	0.0311	93.1%
L1829584-02 WG2460391	7.68548	7.7159	0.0304	91.0%
0			0.0000	0.0%
0			0.0000	0.0%
0			0.0000	0.0%

Barium Recovery

16 mg/ml(Ba)

Known BaSO₄

Standardized Value	16.55	mg/ml	Ba	137	g/mol
volume added	2.00	ml			
	56.29	mg	BaSO ₄	233	g/mol

25A31529 Standardization Date: 2/3/25				
T	G	N		
7.55195	7.60790	0.05595	0.02798	0.0164
7.56393	7.61980	0.05587	0.02793	0.0164
7.55326	7.61030	0.05704	0.02852	0.0168

LAB ID	TARE(g)	GROSS(g)	NET(g)	%rec
BLANK WG2460391	7.49783	7.56432	0.0665	118%
LCS WG2460391	7.49636	7.56322	0.0669	119%
MS L1829574-02 WG2460391	7.5138	7.58334	0.0695	124%
MSD L1829574-02 WG2460391	7.5143	7.5837	0.0694	123%
DUP L1829570-01 WG2460391	7.50172	7.57256	0.0708	126%
L1829262-07 WG2460391	7.50159	7.52559	0.0240	43%
L1829373-01 WG2460391	7.52474	7.55947	0.0347	62%
L1829373-02 WG2460391	7.48656	7.52193	0.0354	63%
L1829373-03 WG2460391	7.50111	7.53929	0.0382	68%
L1829373-04 WG2460391	7.50547	7.55321	0.0477	85%
L1829479-01 WG2460391	7.47589	7.54344	0.0676	120%
L1829561-01 WG2460391	7.48595	7.5467	0.0608	108%
L1829565-01 WG2460391	7.50502	7.5734	0.0684	121%
L1829565-02 WG2460391	7.51187	7.58085	0.0690	123%
L1829570-01 WG2460391	7.49514	7.55617	0.0610	108%
L1829574-01 WG2460391	7.50749	7.57528	0.0678	120%
L1829574-02 WG2460391	7.52073	7.5848	0.0641	114%
L1829574-03 WG2460391	7.49478	7.55379	0.0590	105%
L1829574-04 WG2460391	7.49014	7.54777	0.0576	102%
L1829574-05 WG2460391	7.46864	7.52591	0.0573	102%
L1829574-06 WG2460391	7.50352	7.55488	0.0514	91%
L1829574-07 WG2460391	7.51449	7.57417	0.0597	106%
L1829574-08 WG2460391	7.49386	7.55253	0.0587	104%
L1829584-01 WG2460391	7.49244	7.557	0.0646	115%
L1829584-02 WG2460391	7.49152	7.55866	0.0671	119%
0			0.0000	0%
0			0.0000	0%
0			0.0000	0%

16.55 +/- 1.2%

G542 Runlog RA-228 Waters WG2460391

Sample order verified by DDD3903

Sample ID	Beta	LT	Det	Analyst	Start	End
BLANK WG2460391	256	200	4A-1	JEA4143	3/11/2025 20:57	3/12/2025 0:17
LCS WG2460391	938	200	4A-2	JEA4143	3/11/2025 20:57	3/12/2025 0:17
MS L1829574-02 WG2460391	841	200	4A-3	JEA4143	3/11/2025 20:57	3/12/2025 0:17
MSD L1829574-02 WG2460391	973	200	4A-4	JEA4143	3/11/2025 20:57	3/12/2025 0:17
DUP L1829570-01 WG2460391	443	200	4B-1	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829262-07 WG2460391	339	200	4B-2	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829373-01 WG2460391	422	200	4B-3	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829373-02 WG2460391	504	200	4B-4	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829373-03 WG2460391	371	200	4C-1	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829373-04 WG2460391	352	200	4C-2	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829479-01 WG2460391	392	200	4C-3	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829561-01 WG2460391	320	200	4C-4	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829565-01 WG2460391	207	200	4D-1	JEA4143	3/11/2025 20:57	3/12/2025 0:17
L1829565-02 WG2460391	339	200	3A-1	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829570-01 WG2460391	382	200	3A-2	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-01 WG2460391	277	200	3A-3	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-02 WG2460391	362	200	3A-4	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-03 WG2460391	254	200	3B-1	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-04 WG2460391	309	200	3B-2	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-05 WG2460391	240	200	3B-3	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-06 WG2460391	383	200	3B-4	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-07 WG2460391	319	200	3C-1	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829574-08 WG2460391	372	200	3C-2	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829584-01 WG2460391	397	200	3C-3	SNR961	3/11/2025 20:57	3/12/2025 0:17
L1829584-02 WG2460391	222	200	3C-4	SNR961	3/11/2025 20:57	3/12/2025 0:17

Unit 3 Beta Efficiencies Det 1-8

		DET1	DET2	DET3	DET 4	DET 5	DET 6	DET 7	DET 8
		y = -0.00006x2 - 0.059x + 45.664	y = -0.0002x2 - 0.0408x + 47.033	y = -0.00004x2 - 0.0505x + 46.152	y = 0.00006x2 - 0.0538x + 46.412	y = -0.00002x2 - 0.06x + 46.723	y = 0.00004x2 - 0.0598x + 46.129	y = -0.00007x2 - 0.0532x + 47.067	y = 0.00005x2 - 0.0635x + 46.051
		A							
		B							
		C							
		NET	3A-1	3A-2	3A-3	3A-4	3B-1	3B-2	3B-3
		WT.	BETA	BETA	BETA	BETA	BETA	BETA	BETA
		mg	EFF	EFF	EFF	EFF	EFF	EFF	EFF
SAMPLE		=====	=====	=====	=====	=====	=====	=====	=====
ID									
=====									
BLANK WG2460391		28.82	43.9	45.7	44.6	44.9	45.0	47.9	45.5
LCS WG2460391		30.22	43.8	45.6	44.5	44.8	44.9	48.0	45.4
MS L1829574-02 WG2460391		29.44	43.9	45.7	44.6	44.9	44.9	47.9	45.4
MSD L1829574-02 WG2460391		29.62	43.9	45.6	44.6	44.9	44.9	47.9	45.4
DUP L1829570-01 WG2460391		29.27	43.9	45.7	44.6	44.9	44.9	47.9	45.4
L1829262-07 WG2460391		28.14	44.0	45.7	44.7	44.9	45.0	47.8	45.5
L1829373-01 WG2460391		29.72	43.9	45.6	44.6	44.9	44.9	47.9	45.4
L1829373-02 WG2460391		29.02	43.9	45.7	44.6	44.9	45.0	47.9	45.5
L1829373-03 WG2460391		30.08	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829373-04 WG2460391		28.74	43.9	45.7	44.6	44.9	45.0	47.9	45.5
L1829479-01 WG2460391		29.18	43.9	45.7	44.6	44.9	45.0	47.9	45.5
L1829561-01 WG2460391		30.52	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829565-01 WG2460391		30.49	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829565-02 WG2460391		30.64	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829570-01 WG2460391		30.76	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829574-01 WG2460391		29.49	43.9	45.7	44.6	44.9	44.9	47.9	45.4
L1829574-02 WG2460391		30.69	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829574-03 WG2460391		29.3	43.9	45.7	44.6	44.9	44.9	47.9	45.4
L1829574-04 WG2460391		30.43	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829574-05 WG2460391		29.84	43.9	45.6	44.6	44.9	44.9	47.9	45.4
L1829574-06 WG2460391		30.08	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829574-07 WG2460391		32.19	43.7	45.5	44.4	44.7	44.8	48.1	45.3
L1829574-08 WG2460391		30.83	43.8	45.6	44.5	44.8	44.9	48.0	45.4
L1829584-01 WG2460391		31.12	43.8	45.6	44.5	44.8	44.8	48.0	45.3
L1829584-02 WG2460391		30.42	43.8	45.6	44.5	44.8	44.9	48.0	45.4
0 0		0 0	45.7	47.0	46.2	46.4	46.7	46.1	47.1
0 0		0 0	45.7	47.0	46.2	46.4	46.7	46.1	47.1
0 0		0 0	45.7	47.0	46.2	46.4	46.7	46.1	47.1

Unit 3 Beta Efficiencies Det 9-16

		DET9	DET10	DET11	DET 12	DET 13	DET 14	DET 15	DET 16	
		y = -0.00001x2 - 0.0623x +47.103	y = -0.00004x2 - 0.0573x + 46.66	y = 0.000002x2 - 0.0628x + 47.482	y = -0.00005x2 - 0.0534x + 46.539	y = 0.00004x2 - 0.0691x + 47.134	y = 0.00007x2 - 0.062x + 46.722	y = 0.0002x2 - 0.0656x + 46.404	y = -0.0001x2 - 0.0477x + 46.461	
		A	-0.00001	-0.00004	0.000002	-0.00005	0.00004	0.00007	-0.0001	
		B	-0.0623	-0.0573	-0.0628	-0.0534	-0.0691	-0.062	-0.0477	
		C	47.103	46.66	47.482	46.539	47.134	46.722	46.461	
		NET	3C-1	3C-2	3C-3	3C-4	3D-1	3D-2	3D-3	3D-4
SAMPLE	WT.	BETA	BETA	BETA	BETA	BETA	BETA	BETA	BETA	BETA
ID	mg	EFF	EFF	EFF	EFF	EFF	EFF	EFF	EFF	EFF
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
BLANK WG2460391	28.82	45.3	45.0	45.7	45.0	45.2	45.0	44.5	45.0	45.0
LCS WG2460391	30.22	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
MS L1829574-02 WG2460391	29.44	45.3	44.9	45.6	44.9	45.1	45.0	44.5	45.0	45.0
MSD L1829574-02 WG2460391	29.62	45.2	44.9	45.6	44.9	45.1	44.9	44.5	45.0	45.0
DUP L1829570-01 WG2460391	29.27	45.3	44.9	45.6	44.9	45.1	45.0	44.5	45.0	45.0
L1829262-07 WG2460391	28.14	45.3	45.0	45.7	45.0	45.2	45.0	44.6	45.0	45.0
L1829373-01 WG2460391	29.72	45.2	44.9	45.6	44.9	45.1	44.9	44.5	45.0	45.0
L1829373-02 WG2460391	29.02	45.3	45.0	45.7	44.9	45.2	45.0	44.5	45.0	45.0
L1829373-03 WG2460391	30.08	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829373-04 WG2460391	28.74	45.3	45.0	45.7	45.0	45.2	45.0	44.5	45.0	45.0
L1829479-01 WG2460391	29.18	45.3	45.0	45.7	44.9	45.2	45.0	44.5	45.0	45.0
L1829561-01 WG2460391	30.52	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829565-01 WG2460391	30.49	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829565-02 WG2460391	30.64	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829570-01 WG2460391	30.76	45.2	44.9	45.6	44.8	45.0	44.9	44.4	44.9	44.9
L1829574-01 WG2460391	29.49	45.3	44.9	45.6	44.9	45.1	45.0	44.5	45.0	45.0
L1829574-02 WG2460391	30.69	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829574-03 WG2460391	29.3	45.3	44.9	45.6	44.9	45.1	45.0	44.5	45.0	45.0
L1829574-04 WG2460391	30.43	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829574-05 WG2460391	29.84	45.2	44.9	45.6	44.9	45.1	44.9	44.5	44.9	44.9
L1829574-06 WG2460391	30.08	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
L1829574-07 WG2460391	32.19	45.1	44.8	45.5	44.8	45.0	44.8	44.3	44.8	44.8
L1829574-08 WG2460391	30.83	45.2	44.9	45.5	44.8	45.0	44.9	44.4	44.9	44.9
L1829584-01 WG2460391	31.12	45.2	44.8	45.5	44.8	45.0	44.9	44.4	44.9	44.9
L1829584-02 WG2460391	30.42	45.2	44.9	45.6	44.9	45.1	44.9	44.4	44.9	44.9
	0 0	47.1	46.7	47.5	46.5	47.1	46.7	46.4	46.5	46.5
	0 0	47.1	46.7	47.5	46.5	47.1	46.7	46.4	46.5	46.5
	0 0	47.1	46.7	47.5	46.5	47.1	46.7	46.4	46.5	46.5
	0 0	47.1	46.7	47.5	46.5	47.1	46.7	46.4	46.5	46.5
	0 0	47.1	46.7	47.5	46.5	47.1	46.7	46.4	46.5	46.5

Unit 4 Beta Efficiencies Det 1-8

$y = 0.000003x^2 - 0.066x$ $y = 0.0001x^2 - 0.0498x + y = 0.00007x^2 - 0.0559x$ $y = 0.0001x^2 - 0.0501x + y = 0.0006x^2 - 0.0004x + y = 0.0002x^2 - 0.0367x + y = 0.00004x^2 - 0.0695x$ $y = 0.000008x^2 - 0.0632x + 49.191$

A	0.000003	0.0001	0.00007	0.0001	0.0006	0.0002	0.00004	0.000008
B	-0.066	-0.0498	-0.0559	-0.0501	-0.0004	-0.0367	-0.0695	-0.0632
C	49.22	48.106	48.098	49.339	47.611	48.89	50.012	49.191

SAMPLE ID	NET WT. mg	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
BLANK WG2460391	28.82	47.3	46.8	46.5	48.0	48.1	48.0	48.0	47.4
LCS WG2460391	30.22	47.2	46.7	46.5	47.9	48.1	48.0	47.9	47.3
MS L1829574-02 WG2460391	29.44	47.3	46.7	46.5	48.0	48.1	48.0	48.0	47.3
MSD L1829574-02 WG2460391	29.62	47.3	46.7	46.5	47.9	48.1	48.0	48.0	47.3
DUP L1829570-01 WG2460391	29.27	47.3	46.7	46.5	48.0	48.1	48.0	48.0	47.3
L1829262-07 WG2460391	28.14	47.4	46.8	46.6	48.0	48.1	48.0	48.1	47.4
L1829373-01 WG2460391	29.72	47.3	46.7	46.5	47.9	48.1	48.0	48.0	47.3
L1829373-02 WG2460391	29.02	47.3	46.7	46.5	48.0	48.1	48.0	48.0	47.4
L1829373-03 WG2460391	30.08	47.2	46.7	46.5	47.9	48.1	48.0	48.0	47.3
L1829373-04 WG2460391	28.74	47.3	46.8	46.5	48.0	48.1	48.0	48.0	47.4
L1829479-01 WG2460391	29.18	47.3	46.7	46.5	48.0	48.1	48.0	48.0	47.4
L1829561-01 WG2460391	30.52	47.2	46.7	46.5	47.9	48.2	48.0	47.9	47.3
L1829565-01 WG2460391	30.49	47.2	46.7	46.5	47.9	48.2	48.0	47.9	47.3
L1829565-02 WG2460391	30.64	47.2	46.7	46.5	47.9	48.2	48.0	47.9	47.3
L1829570-01 WG2460391	30.76	47.2	46.7	46.4	47.9	48.2	48.0	47.9	47.3
L1829574-01 WG2460391	29.49	47.3	46.7	46.5	47.9	48.1	48.0	48.0	47.3
L1829574-02 WG2460391	30.69	47.2	46.7	46.4	47.9	48.2	48.0	47.9	47.3
L1829574-03 WG2460391	29.3	47.3	46.7	46.5	48.0	48.1	48.0	48.0	47.3
L1829574-04 WG2460391	30.43	47.2	46.7	46.5	47.9	48.2	48.0	47.9	47.3
L1829574-05 WG2460391	29.84	47.3	46.7	46.5	47.9	48.1	48.0	48.0	47.3
L1829574-06 WG2460391	30.08	47.2	46.7	46.5	47.9	48.1	48.0	48.0	47.3
L1829574-07 WG2460391	32.19	47.1	46.6	46.4	47.8	48.2	47.9	47.8	47.2
L1829574-08 WG2460391	30.83	47.2	46.7	46.4	47.9	48.2	47.9	47.9	47.3
L1829584-01 WG2460391	31.12	47.2	46.7	46.4	47.9	48.2	47.9	47.9	47.2
L1829584-02 WG2460391	30.42	47.2	46.7	46.5	47.9	48.2	48.0	47.9	47.3
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2
0	0	49.2	48.1	48.1	49.3	47.6	48.9	50.0	49.2

Unit 4 Beta Efficiencies Det 9-16

$y = 0.0001x2 - 0.0881x + y = 0.000009x2 - 0.0693y = 0.00006x2 - 0.077x + y = 0.00001x2 - 0.064x + y = 0.00008x2 - 0.0606x y = 0.0001x2 - 0.0548x + y = 0.00002x2 - 0.0667x y = 0.0004x2 - 0.1078x + 50.001$

A	0.0001	0.000009	0.00006	0.00001	0.00008	0.0001	0.00002	0.0004
B	-0.0881	-0.0693	-0.077	-0.064	-0.0606	-0.0548	-0.0667	-0.1078
C	47.883	48.266	49.14	48.492	49.387	49.512	48.519	50.001

SAMPLE ID	WT. mg	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF	BETA EFF
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
BLANK WG2460391	28.82	45.4	46.3	47.0	46.7	47.7	48.0	46.6	47.2
LCS WG2460391	30.22	45.3	46.2	46.9	46.6	47.6	47.9	46.5	47.1
MS L1829574-02 WG2460391	29.44	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
MSD L1829574-02 WG2460391	29.62	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
DUP L1829570-01 WG2460391	29.27	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
L1829262-07 WG2460391	28.14	45.5	46.3	47.0	46.7	47.7	48.0	46.7	47.3
L1829373-01 WG2460391	29.72	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
L1829373-02 WG2460391	29.02	45.4	46.3	47.0	46.6	47.7	48.0	46.6	47.2
L1829373-03 WG2460391	30.08	45.3	46.2	46.9	46.6	47.6	48.0	46.5	47.1
L1829373-04 WG2460391	28.74	45.4	46.3	47.0	46.7	47.7	48.0	46.6	47.2
L1829479-01 WG2460391	29.18	45.4	46.3	46.9	46.6	47.7	48.0	46.6	47.2
L1829561-01 WG2460391	30.52	45.3	46.2	46.8	46.5	47.6	47.9	46.5	47.1
L1829565-01 WG2460391	30.49	45.3	46.2	46.8	46.5	47.6	47.9	46.5	47.1
L1829565-02 WG2460391	30.64	45.3	46.2	46.8	46.5	47.6	47.9	46.5	47.1
L1829570-01 WG2460391	30.76	45.3	46.1	46.8	46.5	47.6	47.9	46.5	47.1
L1829574-01 WG2460391	29.49	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
L1829574-02 WG2460391	30.69	45.3	46.1	46.8	46.5	47.6	47.9	46.5	47.1
L1829574-03 WG2460391	29.3	45.4	46.2	46.9	46.6	47.7	48.0	46.6	47.2
L1829574-04 WG2460391	30.43	45.3	46.2	46.9	46.6	47.6	47.9	46.5	47.1
L1829574-05 WG2460391	29.84	45.3	46.2	46.9	46.6	47.6	48.0	46.5	47.1
L1829574-06 WG2460391	30.08	45.3	46.2	46.9	46.6	47.6	48.0	46.5	47.1
L1829574-07 WG2460391	32.19	45.2	46.0	46.7	46.4	47.5	47.9	46.4	46.9
L1829574-08 WG2460391	30.83	45.3	46.1	46.8	46.5	47.6	47.9	46.5	47.1
L1829584-01 WG2460391	31.12	45.2	46.1	46.8	46.5	47.6	47.9	46.5	47.0
L1829584-02 WG2460391	30.42	45.3	46.2	46.9	46.6	47.6	47.9	46.5	47.1
0	0	47.9	48.3	49.1	48.5	49.4	49.5	48.5	50.0
0	0	47.9	48.3	49.1	48.5	49.4	49.5	48.5	50.0
0	0	47.9	48.3	49.1	48.5	49.4	49.5	48.5	50.0
0	0	47.9	48.3	49.1	48.5	49.4	49.5	48.5	50.0
0	0	47.9	48.3	49.1	48.5	49.4	49.5	48.5	50.0

Monthly Backgrounds 03/25 for G542 Unit 3

Sample ID	Alpha	Beta	LT	Det Analyst	Start	End	ALPHA CPM	BETA CPM
BG01	85	1657	1000	3A-1	3/1/2025 1:01	3/1/2025 17:41	0.085	1.657
BG02	92	1690	1000	3A-2	3/1/2025 1:01	3/1/2025 17:41	0.092	1.69
BG03	68	1216	1000	3A-3	3/1/2025 1:01	3/1/2025 17:41	0.068	1.216
BG04	62	1701	1000	3A-4	3/1/2025 1:01	3/1/2025 17:41	0.062	1.701
BG05	82	1053	1000	3B-1	3/1/2025 1:01	3/1/2025 17:41	0.082	1.053
BG06	64	995	1000	3B-2	3/1/2025 1:01	3/1/2025 17:41	0.064	0.995
BG07	54	921	1000	3B-3	3/1/2025 1:01	3/1/2025 17:41	0.054	0.921
BG08	94	1956	1000	3B-4	3/1/2025 1:01	3/1/2025 17:41	0.094	1.956
BG09	101	1213	1000	3C-1	3/1/2025 1:01	3/1/2025 17:41	0.101	1.213
BG10	60	1558	1000	3C-2	3/1/2025 1:01	3/1/2025 17:41	0.06	1.558
BG11	62	1398	1000	3C-3	3/1/2025 1:01	3/1/2025 17:41	0.062	1.398
BG12	88	1075	1000	3C-4	3/1/2025 1:01	3/1/2025 17:41	0.088	1.075
BG13	162	1127	1000	3D-1	3/1/2025 1:01	3/1/2025 17:41	0.162	1.127
BG14	69	971	1000	3D-2	3/1/2025 1:01	3/1/2025 17:41	0.069	0.971
BG15	86	1054	1000	3D-3	3/1/2025 1:01	3/1/2025 17:41	0.086	1.054
BG16	159	1215	1000	3D-4	3/1/2025 1:01	3/1/2025 17:41	0.159	1.215

BETA DAILY SOURCE CHECK

GAS COUNTER G542
Beta Source Check
23F05880

Unit: 3

MONTH: March-25

BETA Activity: 7861.05 dpm Count Time: 5 min

[illegible]

Data From Previous Month

average	#####	43.06%	#####	46.09%	#####	42.43%	#####	44.1%	#####	44.46%	#####	44.02%	#####	43.88%	#####	43.81%	#####	45.04%	#####	44.65%	#####	45.60%	#####	44.69%	#####	44.22%	#####	44.08%	#####	43.28%	#####	43.95%
std dev	#####	1.89%	#####	1.47%	#####	1.97%	#####	1.84%	#####	1.75%	#####	2.23%	#####	2.17%	#####	1.84%	#####	1.65%	#####	1.89%	#####	1.47%	#####	1.79%	#####	1.71%	#####	1.69%	#####	1.62%	#####	1.85%
UCL	#####	48.73%	#####	50.51%	#####	48.33%	#####	49.67%	#####	49.72%	#####	50.70%	#####	50.39%	#####	49.34%	#####	49.98%	#####	50.31%	#####	50.00%	#####	50.06%	#####	49.35%	#####	49.15%	#####	48.14%	#####	49.48%
UWL	#####	46.84%	#####	49.04%	#####	46.37%	#####	47.82%	#####	47.96%	#####	48.48%	#####	48.22%	#####	47.50%	#####	48.34%	#####	48.42%	#####	48.53%	#####	48.27%	#####	47.64%	#####	47.46%	#####	46.52%	#####	47.64%
LWL	#####	39.27%	#####	43.14%	#####	38.50%	#####	40.61%	#####	40.95%	#####	39.57%	#####	39.55%	#####	40.13%	#####	41.75%	#####	40.88%	#####	42.67%	#####	41.12%	#####	40.79%	#####	40.71%	#####	40.04%	#####	40.26%
LCL	#####	37.38%	#####	41.66%	#####	36.53%	#####	38.61%	#####	39.19%	#####	37.34%	#####	37.38%	#####	38.29%	#####	40.10%	#####	38.99%	#####	41.20%	#####	39.33%	#####	39.08%	#####	39.02%	#####	38.42%	#####	38.41%

Monthly Backgrounds 03/01/25 for G542 Unit 4

Sample ID	Alpha	Beta	LT	Det Analyst	Start	End	ALPHA CPM	BETA CPM
BK01	175	1148	1000	4A-1	2/28/2025 23:15	3/1/2025 15:55	0.175	1.148
BK02	129	1877	1000	4A-2	2/28/2025 23:15	3/1/2025 15:55	0.129	1.877
BK03	58	1470	1000	4A-3	2/28/2025 23:15	3/1/2025 15:55	0.058	1.47
BK04	46	1757	1000	4A-4	2/28/2025 23:15	3/1/2025 15:55	0.046	1.757
BK05	140	1973	1000	4B-1	2/28/2025 23:15	3/1/2025 15:55	0.14	1.973
BK06	74	1795	1000	4B-2	2/28/2025 23:15	3/1/2025 15:55	0.074	1.795
BK07	156	1747	1000	4B-3	2/28/2025 23:15	3/1/2025 15:55	0.156	1.747
BK08	78	2138	1000	4B-4	2/28/2025 23:15	3/1/2025 15:55	0.078	2.138
BK09	97	1915	1000	4C-1	2/28/2025 23:15	3/1/2025 15:55	0.097	1.915
BK10	169	1578	1000	4C-2	2/28/2025 23:15	3/1/2025 15:55	0.169	1.578
BK11	133	1631	1000	4C-3	2/28/2025 23:15	3/1/2025 15:55	0.133	1.631
BK12	43	1367	1000	4C-4	2/28/2025 23:15	3/1/2025 15:55	0.043	1.367
BK13	91	954	1000	4D-1	2/28/2025 23:15	3/1/2025 15:55	0.091	0.954
BK14	30	885	1000	4D-2	2/28/2025 23:15	3/1/2025 15:55	0.03	0.885
BK15	32	854	1000	4D-3	2/28/2025 23:15	3/1/2025 15:55	0.032	0.854
BK16	33	889	1000	4D-4	2/28/2025 23:15	3/1/2025 15:55	0.033	0.889

1 Count Time: **100 min**

[illegible]

Data From Previous Month

average	121	1.212	176	1.760	139	1.390	167	1.665	191	1.911	170	1.696	182	1.818	207	2.071	196	1.955	169	1.689	161	1.611	140	1.397	100	1.004	96	0.956	92	0.917	92	0.918
std dev	11	0.112	15	0.151	12	0.124	16	0.165	16	0.157	14	0.135	18	0.179	16	0.165	17	0.173	13	0.128	12	0.123	12	0.122	15	0.152	13	0.132	15	0.149	12	0.116
UCL	155	1.549	221	2.212	176	1.763	213	2.131	238	2.382	210	2.102	236	2.356	257	2.565	247	2.473	207	2.072	198	1.979	176	1.764	146	1.462	135	1.352	136	1.364	127	1.266
UWL	144	1.437	206	2.061	164	1.638	198	1.976	223	2.225	197	1.967	218	2.176	240	2.401	230	2.301	194	1.944	186	1.856	164	1.642	131	1.309	122	1.220	127	1.215	115	1.150
LWL	99	0.988	146	1.458	114	1.142	135	1.354	160	1.597	143	1.425	146	1.460	174	1.741	161	1.610	143	1.433	137	1.366	115	1.152	70	0.699	69	0.692	62	0.619	69	0.687
LCL	88	0.876	131	1.307	102	1.017	120	1.199	144	1.440	129	1.290	128	1.281	158	1.576	144	1.437	130	1.305	124	1.244	103	1.029	55	0.547	56	0.560	47	0.470	57	0.571

- 1
- 2
- 3
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- 6
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- 8
- 9
- 0
- 1
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- 3
- 4
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- 6
- 7
- 8
- 9
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 0
- 1

- 1
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1

1

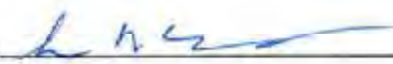
G542 Unit 3

Calibration 02/03/25

	<u>High Voltage</u>	<u>Changed?</u>	<u>Chi Sq Passed?</u>	<u>Notes</u>
A Drawer	1780	Y	Y	
B Drawer	1780	Y	Y	
C Drawer	1760	Y	Y	
D Drawer	1780	Y	Y	

Comments:

After initial High Voltage(HV) run, windows changed and HV rerun. HV and Chi Squared data shown is from after window change.

Collected by: 

Date: 2/10/25

Approved by: 

Date: 2/10/25

OOS= Detector taken Out of Service

Detector Names Unit 3:

Numerical:	Instrument:	PACE:
1	1A	3A-1
2	1B	3A-2
3	1C	3A-3
4	1D	3A-4
5	2A	3B-1
6	2B	3B-2
7	2C	3B-3
8	2D	3B-4
9	3A	3C-1
10	3B	3C-2
11	3C	3C-3
12	3D	3C-4
13	4A	3D-1
14	4B	3D-2
15	4C	3D-3
16	4D	3D-4

Standards Used: 23F04831 23F04839
 23F04841 23F04832
 24B19729 24B19731
 24B19730 24B19732

DECAY CALCUALTION

Th230 Source

ACTIVITY FORMULA

$$A = A_0(e^{-NT})$$

124007

ESC51614

22I13361

A= ACTIVITY OF SOURCE

A₀= INITIAL ACTIVITY

N= DECAY CONSTANT

T(1/2)= SOURCES HALF LIFE

T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION

25-Aug-22

DATE OF CALIBRATION

01-Feb-25

A ₀	=	1011.73	nCi	
N	=	0.00		
T(1/2)	=	77000.00	years	28105000
T	=	2.44	years	
dilution	=	1000.00		

A	=	1011.71	nCi	
A	=	2246.00	dpm/ml	22459.977
A	=	1011.71	pCi/ml	

Uncertainty	3.16%
Weight	0.05%
Volume	0.03%

CSU	3.16%
-----	-------

Activity	1011.7	+/-	32.0	pCi/ml	pCi/l
					1011711

Sr-90
124007
ESC51613
22J11029

DECAY CALCULATION

ACTIVITY FORMULA

$$A = A_0(e^{\wedge-NT})$$

A= ACTIVITY OF SOURCE

A₀= INITIAL ACTIVITY

N= DECAY CONSTANT

T(1/2)= SOURCES HALF LIFE

T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 25-AUG-22

DATE OF CALIBRATION 01-Jul-24

PREP: 13-Sep-22

${}_{90}^{\text{Ac}}$	$=$	940.91	nCi
${}_{90}^{\text{Ac}}$	$=$	940.91	nCi

$$N = 0.02$$
$$T(1/2) = 28.60 \text{ years}$$
$$T = 1.85 \text{ years}$$

dilution = 1000.00

A = 899.65 nCi SR90/Y90

A	=	1997.22	dpm/ml	3994.4459	399.4446
---	---	---------	--------	-----------	----------

A	=	899.65 pCi/ml	1799.3
---	---	---------------	--------

A	=	899.65	+/-	16.207189	pCi/ml	3994.445911
---	---	--------	-----	-----------	--------	-------------

11983.33773

Uncertainty 0.0173

Weight 0.05%

Volume (1000 ml)

CSU 1.80%

High Voltage Plateau and Slope Calculation G542 Unit 3 Drawer A

3A-1=	Det1=	1A	3A-2=	Det2=	1B	3A-3=	Det3=	1C	3A-4=	Det4=	1D	
	Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Apha ROI Counts
	1500	873	872	1	1500	2043	2043	0	1500	1037	1037	0
	1520	1038	1038	0	1520	2258	2257	1	1520	1293	1293	0
	1540	1340	1340	0	1540	2588	2587	1	1540	1548	1548	0
	1560	1559	1558	1	1560	2798	2797	1	1560	1776	1775	1
	1580	1788	1788	0	1580	2992	2992	0	1580	2099	2098	1
	1600	2067	2066	1	1600	3165	3165	0	1600	2261	2261	0
	1620	2282	2281	1	1620	3233	3231	2	1620	2610	2608	2
	1640	2610	2608	2	1640	3232	3231	1	1640	2768	2767	1
	1660	2812	2811	1	1660	3342	3341	0	1660	2953	2953	0
	1680	3010	3009	1	1680	3564	3563	1	1680	3112	3112	0
	1700	3244	3244	0	1700	3312	3312	0	1700	3235	3234	1
	1720	3265	3264	1	1720	3451	3448	3	1720	3367	3367	0
	1740	3348	3346	2	1740	3533	3531	2	1740	3502	3498	4
	1760	3369	3369	0	1760	3514	3501	13	1760	3581	3579	2
	1780	3492	3491	1	1780	3500	3482	18	1780	3447	3445	2
	1800	3513	3507	6	1800	3547	3488	59	1800	3579	3560	19
	1820	3427	3417	10	1820	3528	3439	89	1820	3601	3570	31
	1840	3469	3459	10	1840	3564	3479	85	1840	3505	3480	25
	1860	3553	3546	7	1860	3561	3487	74	1860	3498	3478	20
	1880	3583	3576	7	1880	3627	3533	94	1880	3614	3595	19
	1900	3452	3442	10	1900	3590	3499	91	1900	3566	3544	22
	1920	3479	3469	10	1920	3558	3476	82	1920	3483	3462	21
	1940	3493	3487	6	1940	3509	3435	74	1940	3694	3671	23
	1960	3584	3576	8	1960	3465	3394	71	1960	3583	3563	20
	1980	3471	3458	13	1980	3477	3394	83	1980	3561	3543	18
	2000	3584	3575	9	2000	3497	3425	72	2000	3604	3575	29
	1740	7.80%	263		1740	5.09%	176		1740	9.46%	326	
	1760	4.50%	153		1760	0.26%	9		1760	5.79%	203	
Slope Calc:	1780	3.29%	113		1780	1.49%	52		1780	0.51%	18	
	1800	5.11%	177		1800	0.40%	14		1800	2.87%	101	

High Voltage Plateau and Slope Calculation G542 Unit 3 Drawer B

Slope Calc:	1760	2,27%	83	1760	4.56%	155	1760	5.30%	190	1760	6.91%	224
	1780	0.49%	18	1780	0.82%	28	1780	0.00%	0	1780	2.49%	81
	1800	2.41%	88	1800	0.88%	30	1800	4.76%	172	1800	0.43%	14
	1820	1.45%	53	1820	1.74%	60	1820	2.36%	86	1820	3.58%	117

High Voltage Plateau and Slope Calculation G542 Unit 3 Drawer C

3C-1=	Det9=	3A	3C-2=	Det10=	3B	3C-3=	Det11=	3C	3C-4=	Det12=	3D						
		Gross ROI Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross ROI Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross ROI Counts	Beta ROI Counts	Alpha ROI Counts					
		1500	1721	1720	1	1500	1566	1565	1	1500	1943	1942	1	1500	1405	1405	0
		1520	2063	2063	0	1520	1866	1865	1	1520	2322	2322	0	1520	1737	1737	0
		1540	2349	2349	0	1540	2101	2101	0	1540	2596	2596	0	1540	2027	2027	0
		1560	2662	2661	1	1560	2425	2425	0	1560	2881	2879	2	1560	2352	2350	2
		1580	2835	2835	0	1580	2651	2649	2	1580	3123	3121	2	1580	2489	2485	4
		1600	3055	3054	1	1600	2709	2707	2	1600	3154	3153	1	1600	2667	2667	0
		1620	3243	3243	0	1620	2958	2958	0	1620	3375	3375	0	1620	2896	2894	2
		1640	3320	3319	1	1640	3114	3112	2	1640	3337	3334	3	1640	3066	3064	2
		1660	3529	3529	0	1660	3216	3216	0	1660	3515	3514	1	1660	3148	3146	2
		1680	3460	3459	1	1680	3251	3251	0	1680	3571	3570	1	1680	3135	3134	1
		1700	3586	3584	2	1700	3243	3242	1	1700	3559	3558	1	1700	3289	3288	1
		1720	3712	3708	4	1720	3433	3432	1	1720	3495	3493	2	1720	3226	3224	2
		1740	3677	3677	0	1740	3481	3480	1	1740	3624	3621	3	1740	3228	3224	4
		1760	3616	3609	7	1760	3317	3310	7	1760	3664	3649	15	1760	3281	3273	8
		1780	3809	3788	21	1780	3339	3318	21	1780	3633	3606	27	1780	3292	3274	18
		1800	3798	3758	40	1800	3498	3448	50	1800	3769	3706	63	1800	3351	3303	48
		1820	3814	3750	64	1820	3490	3431	59	1820	3773	3701	72	1820	3246	3176	70
		1840	3632	3571	61	1840	3488	3435	53	1840	3633	3551	82	1840	3420	3340	80
		1860	3859	3796	63	1860	3572	3503	69	1860	3673	3599	74	1860	3445	3362	83
		1880	3712	3669	43	1880	3485	3412	73	1880	3615	3534	81	1880	3342	3268	74
		1900	3596	3552	44	1900	3488	3444	44	1900	3596	3527	69	1900	3337	3256	81
		1920	3707	3663	44	1920	3413	3352	61	1920	3633	3567	66	1920	3366	3302	64
		1940	3688	3638	50	1940	3393	3339	54	1940	3665	3582	83	1940	3282	3205	77
		1960	3771	3718	53	1960	3501	3443	58	1960	3748	3678	70	1960	3308	3249	59
		1980	3766	3721	45	1980	3392	3336	56	1980	3680	3597	83	1980	3376	3288	88
		2000	3670	3633	37	2000	3471	3418	53	2000	3753	3665	88	2000	3446	3376	70
		1740	4.49%	166		1740	5.59%	189		1740	3.95%	143		1740	3.44%	112	
		1760	3.71%	137		1760	0.09%	3		1760	1.60%	58		1760	3.56%	116	
		1780	3.21%	119		1780	0.67%	23		1780	0.61%	22		1780	4.21%	138	
		1800	1.62%	60		1800	2.99%	102		1800	3.18%	115		1800	0.15%	5	
		1820	6.38%	236		1820	3.68%	126		1820	2.19%	79		1820	0.55%	18	
		1840	2.58%	95		1840	2.80%	96		1840	3.86%	139		1840	0.03%	1	
		Slope Calc:															

Slope Calc:

2/3/2025

High Voltage Plateau and Slope Calculation G542 Unit 3 Drawer D

3D-1=	Det13=	4A	3D-2=	4B	3D-3=	Det15=	4C	3D-4=	Det16=	4D		
		Gross ROI Counts	Beta ROI Counts	Apha ROI Counts	Voltage	Gross ROI Counts	Beta ROI Counts	Apha ROI Counts	Voltage	Gross ROI Counts	Beta ROI Counts	Apha ROI Counts
	1500	1473	1473	0	1500	1503	1503	0	1500	1452	1452	0
	1520	1740	1740	0	1520	1876	1876	0	1520	1673	1672	1
	1540	2173	2172	1	1540	2016	2015	1	1540	1902	1902	0
	1560	2323	2323	0	1560	2215	2215	0	1560	2293	2292	1
	1580	2748	2747	1	1580	2559	2559	0	1580	2446	2445	1
	1600	2856	2855	1	1600	2711	2709	2	1600	2606	2606	0
	1620	2997	2997	0	1620	2877	2875	2	1620	2848	2848	0
	1640	3197	3197	0	1640	3042	3042	0	1640	3084	3083	1
	1660	3447	3446	1	1660	3188	3188	0	1660	3206	3204	2
	1680	3605	3605	0	1680	3233	3232	1	1680	3387	3387	0
	1700	3502	3502	0	1700	3344	3344	0	1700	3325	3324	1
	1720	3604	3601	3	1720	3269	3268	1	1720	3304	3303	1
	1740	3608	3607	1	1740	3427	3425	2	1740	3509	3509	0
	1760	3727	3725	2	1760	3350	3344	6	1760	3536	3534	2
	1780	3697	3690	7	1780	3469	3456	13	1780	3518	3510	8
	1800	3759	3737	22	1800	3461	3421	40	1800	3509	3483	26
	1820	3677	3657	20	1820	3502	3456	46	1820	3507	3481	26
	1840	3605	3580	25	1840	3440	3395	45	1840	3552	3528	24
	1860	3765	3741	24	1860	3436	3378	58	1860	3718	3692	26
	1880	3790	3765	25	1880	3448	3396	52	1880	3681	3650	31
	1900	3760	3740	20	1900	3538	3490	48	1900	3554	3525	29
	1920	3750	3721	29	1920	3422	3384	38	1920	3527	3497	30
	1940	3756	3727	29	1940	3530	3479	51	1940	3512	3488	24
	1960	3772	3755	17	1960	3445	3389	56	1960	3591	3568	23
	1980	3845	3832	13	1980	3432	3375	57	1980	3581	3554	27
	2000	3782	3752	30	2000	3502	3452	50	2000	3614	3586	28
	1740	6.4%	235		1740	2.3%	77		1740	4.6%	159	
	1760	1.5%	56		1760	5.1%	188		1760	5.1%	178	
	1780	0.7%	27		1780	0.9%	30		1780	0.5%	19	
	1800	0.4%	16		1800	1.0%	34		1800	4.4%	158	
	1820	2.0%	75		1820	1.8%	60		1820	3.9%	140	

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 22:31
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 1 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	873	872	1
1520	1038	1038	0
1540	1340	1340	0
1560	1559	1558	1
1580	1788	1788	0
1600	2067	2066	1
1620	2282	2281	1
1640	2610	2608	2
1660	2812	2811	1
1680	3010	3009	1
1700	3244	3244	0
1720	3265	3264	1
1740	3348	3346	2
1760	3369	3369	0
1780	3492	3491	1
1800	3513	3507	6
1820	3427	3417	10
1840	3469	3459	10
1860	3553	3546	7
1880	3583	3576	7
1900	3452	3442	10
1920	3479	3469	10
1940	3493	3487	6
1960	3584	3576	8
1980	3471	3458	13
2000	3584	3575	9

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____		Date: _____	
Changes Needed:	Yes No	(Circle One)	New Voltage: _____
Approved By: _____		Date: _____	

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 17:47
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 1 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	2043	2043	0
1520	2258	2257	1
1540	2588	2587	1
1560	2798	2797	1
1580	2992	2992	0
1600	3165	3165	0
1620	3233	3231	2
1640	3232	3231	1
1660	3342	3341	1
1680	3564	3563	1
1700	3312	3312	0
1720	3451	3448	3
1740	3533	3531	2
1760	3514	3501	13
1780	3500	3482	18
1800	3547	3488	59
1820	3528	3439	89
1840	3564	3479	85
1860	3561	3487	74
1880	3627	3533	94
1900	3590	3499	91
1920	3558	3476	82
1940	3509	3435	74
1960	3465	3394	71
1980	3477	3394	83
2000	3497	3425	72

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 17:47
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 1 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1037	1037	0
1520	1293	1293	0
1540	1548	1548	0
1560	1776	1775	1
1580	2099	2098	1
1600	2261	2261	0
1620	2610	2608	2
1640	2768	2767	1
1660	2953	2953	0
1680	3112	3112	0
1700	3235	3234	1
1720	3367	3367	0
1740	3502	3498	4
1760	3581	3579	2
1780	3447	3445	2
1800	3579	3560	19
1820	3601	3570	31
1840	3505	3480	25
1860	3498	3478	20
1880	3614	3595	19
1900	3566	3544	22
1920	3483	3462	21
1940	3694	3671	23
1960	3583	3563	20
1980	3561	3543	18
2000	3604	3575	29

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 17:47
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 1 Detector: D

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1115	1115	0
1520	1318	1318	0
1540	1501	1501	0
1560	1818	1816	2
1580	2047	2047	0
1600	2160	2160	0
1620	2418	2418	0
1640	2656	2655	1
1660	2794	2794	0
1680	2989	2988	1
1700	3037	3036	1
1720	3135	3133	2
1740	3215	3211	4
1760	3102	3100	2
1780	3294	3293	1
1800	3314	3313	1
1820	3340	3339	1
1840	3268	3268	0
1860	3295	3291	4
1880	3368	3368	0
1900	3260	3254	6
1920	3169	3167	2
1940	3368	3366	2
1960	3341	3338	3
1980	3277	3274	3
2000	3307	3304	3

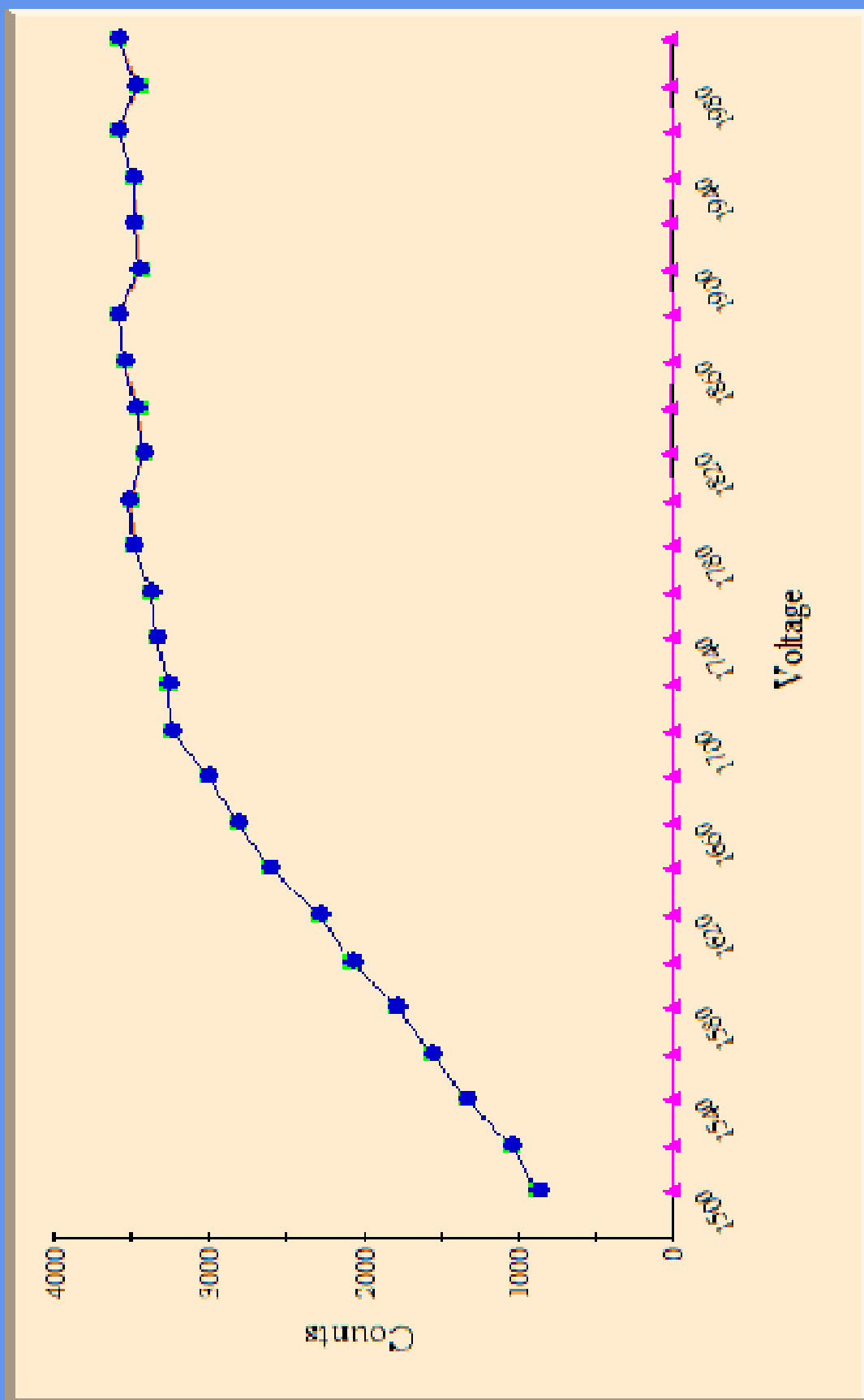
Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot

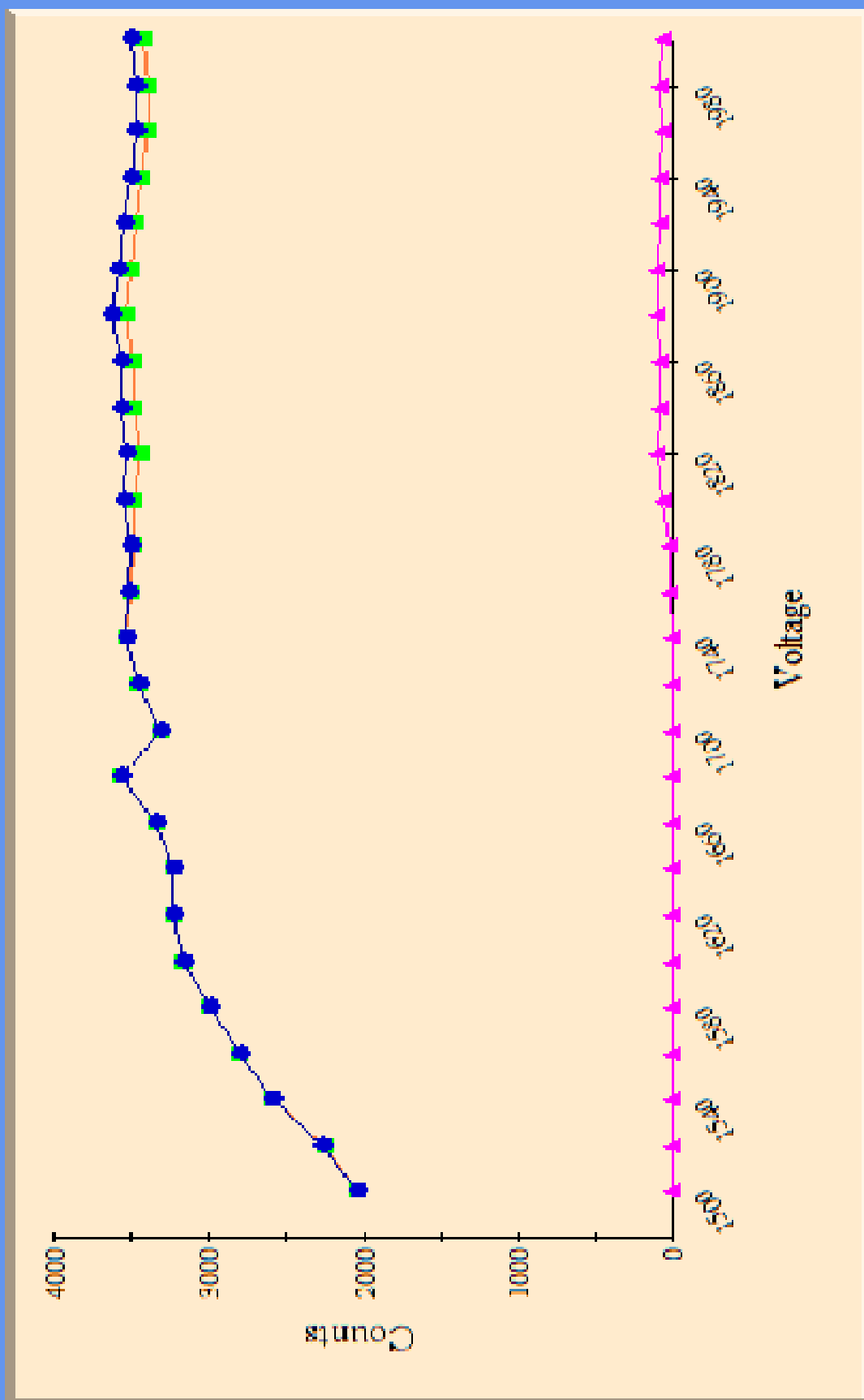


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 10:31:17 PM Drawer - 1 Detector - A

High Voltage Plateau Plot

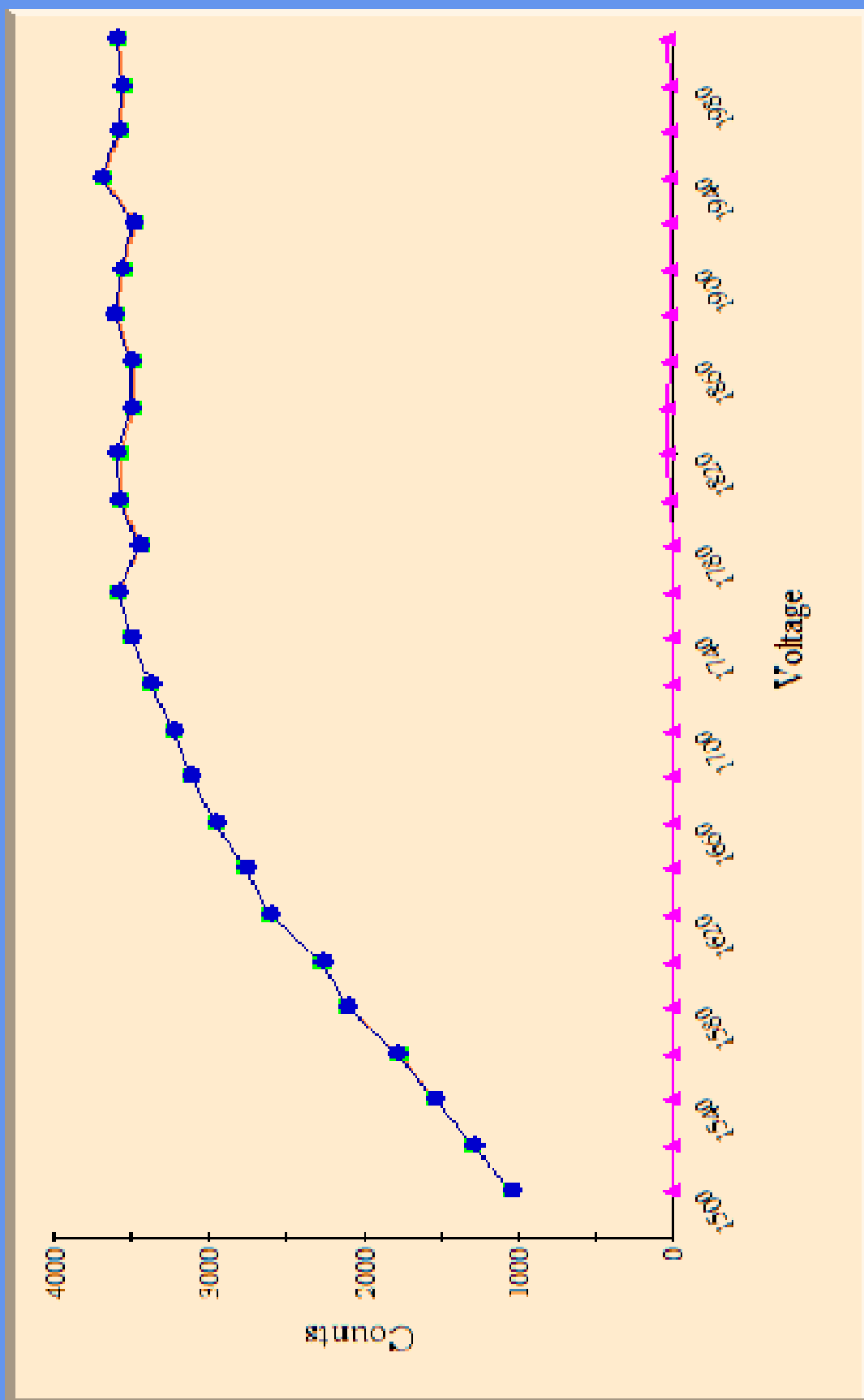


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 5:47:19 PM Drawer - 1 Detector - B

High Voltage Plateau Plot

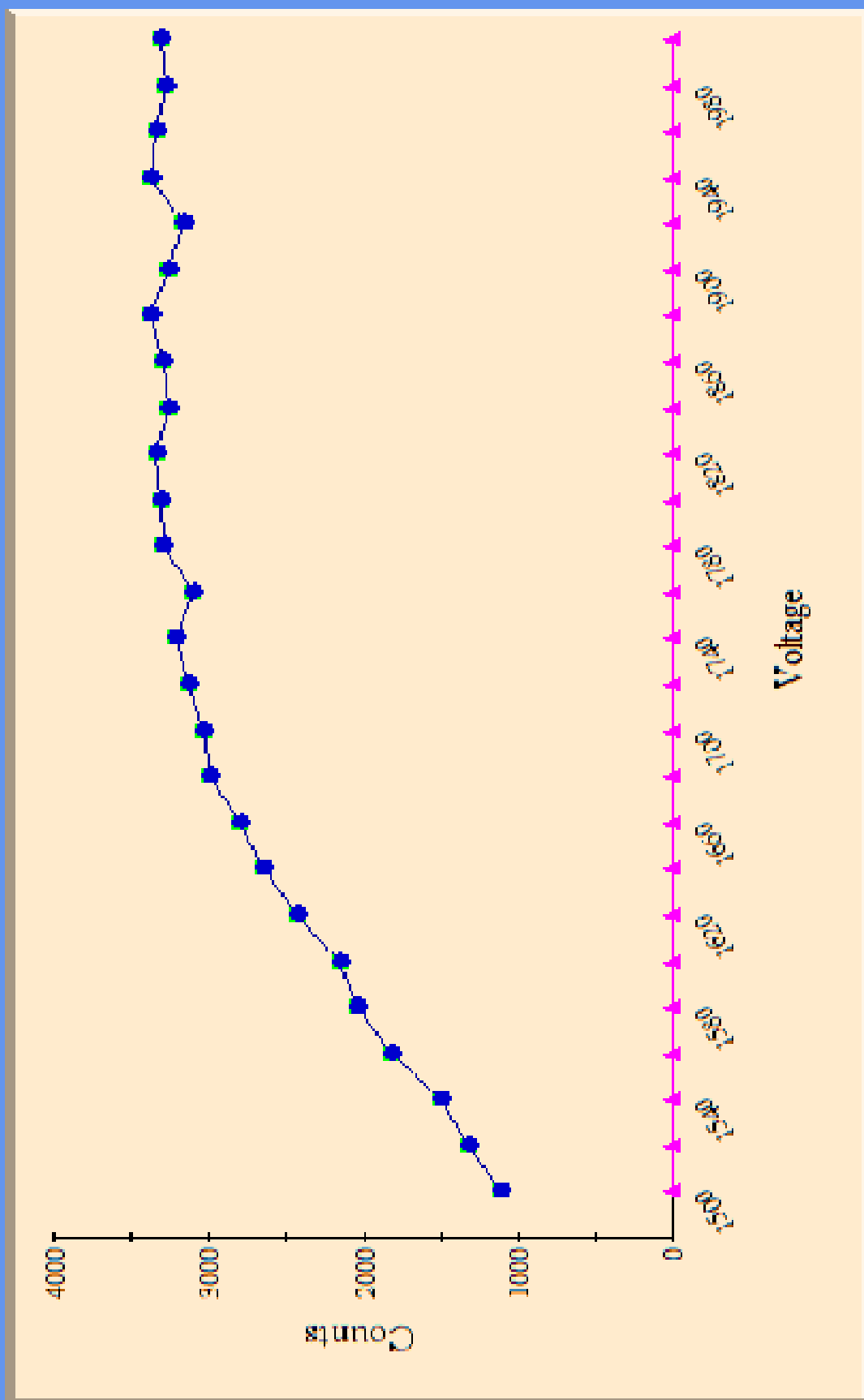


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 5:47:19 PM Drawer - 1 Detector - C

High Voltage Plateau Plot



Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 5:47:19 PM Drawer - 1 Detector - D

Alpha Counts
Beta Counts
Gross Counts

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:08
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 2 Detector: A

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1694	1693	1
1520	1907	1907	0
1540	2148	2147	1
1560	2514	2513	1
1580	2720	2720	0
1600	2985	2984	1
1620	3162	3161	1
1640	3251	3249	2
1660	3399	3398	1
1680	3480	3480	0
1700	3507	3505	2
1720	3721	3719	2
1740	3637	3636	1
1760	3719	3704	15
1780	3643	3613	30
1800	3672	3613	59
1820	3697	3619	78
1840	3801	3719	82
1860	3752	3686	66
1880	3804	3701	103
1900	3737	3666	71
1920	3849	3766	83
1940	3700	3622	78
1960	3805	3731	74
1980	3821	3740	81
2000	3798	3716	82

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____		Date: _____	
Changes Needed:	Yes No	(Circle One)	New Voltage: _____
Approved By: _____		Date: _____	

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:08
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 2 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1556	1556	0
1520	1748	1748	0
1540	2121	2121	0
1560	2269	2269	0
1580	2616	2615	1
1600	2751	2751	0
1620	3019	3019	0
1640	2966	2965	1
1660	3061	3061	0
1680	3257	3255	2
1700	3299	3298	1
1720	3285	3284	1
1740	3386	3385	1
1760	3425	3424	1
1780	3475	3472	3
1800	3416	3397	19
1820	3460	3439	21
1840	3367	3357	10
1860	3472	3454	18
1880	3548	3532	16
1900	3488	3466	22
1920	3436	3420	16
1940	3553	3540	13
1960	3368	3353	15
1980	3495	3471	24
2000	3415	3397	18

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:08
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 2 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1880	1880	0
1520	2172	2172	0
1540	2501	2501	0
1560	2740	2739	1
1580	2867	2867	0
1600	3012	3012	0
1620	3238	3236	2
1640	3322	3321	1
1660	3405	3404	1
1680	3424	3422	2
1700	3526	3526	0
1720	3508	3507	1
1740	3557	3552	5
1760	3530	3525	5
1780	3598	3583	15
1800	3685	3635	50
1820	3753	3697	56
1840	3606	3552	54
1860	3744	3697	47
1880	3722	3669	52
1900	3705	3651	54
1920	3691	3646	45
1940	3710	3655	55
1960	3708	3656	52
1980	3724	3675	49
2000	3757	3696	61

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:08
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 2 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1353	1353	0
1520	1608	1608	0
1540	1823	1821	2
1560	2099	2098	1
1580	2441	2441	0
1600	2473	2472	1
1620	2689	2688	1
1640	2933	2932	1
1660	2993	2992	1
1680	3141	3141	0
1700	3103	3103	0
1720	3142	3141	1
1740	3174	3172	2
1760	3243	3241	2
1780	3348	3339	9
1800	3206	3187	19
1820	3385	3365	20
1840	3282	3253	29
1860	3288	3255	33
1880	3238	3222	16
1900	3263	3239	24
1920	3252	3228	24
1940	3277	3248	29
1960	3406	3386	20
1980	3287	3260	27
2000	3213	3193	20

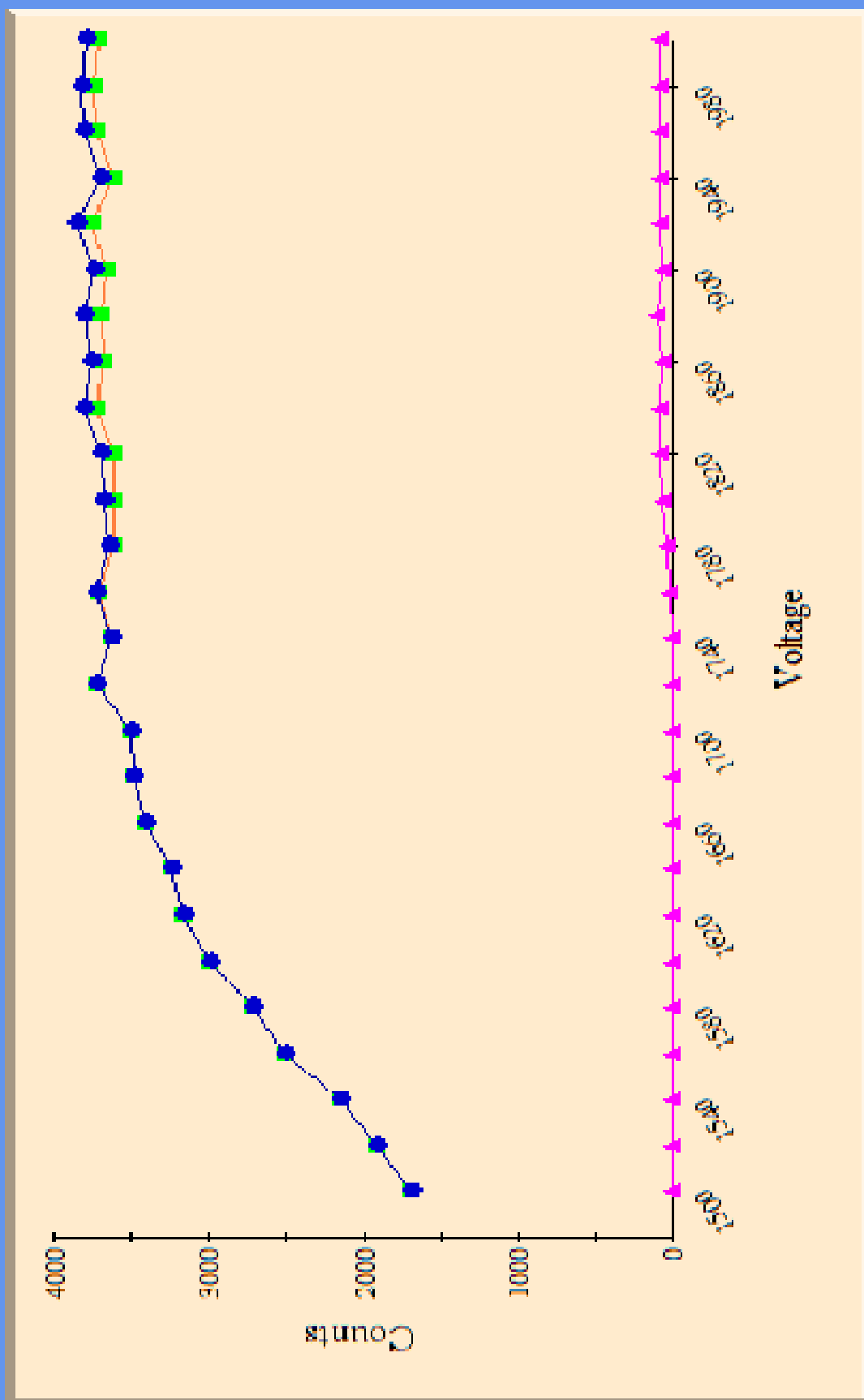
Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot

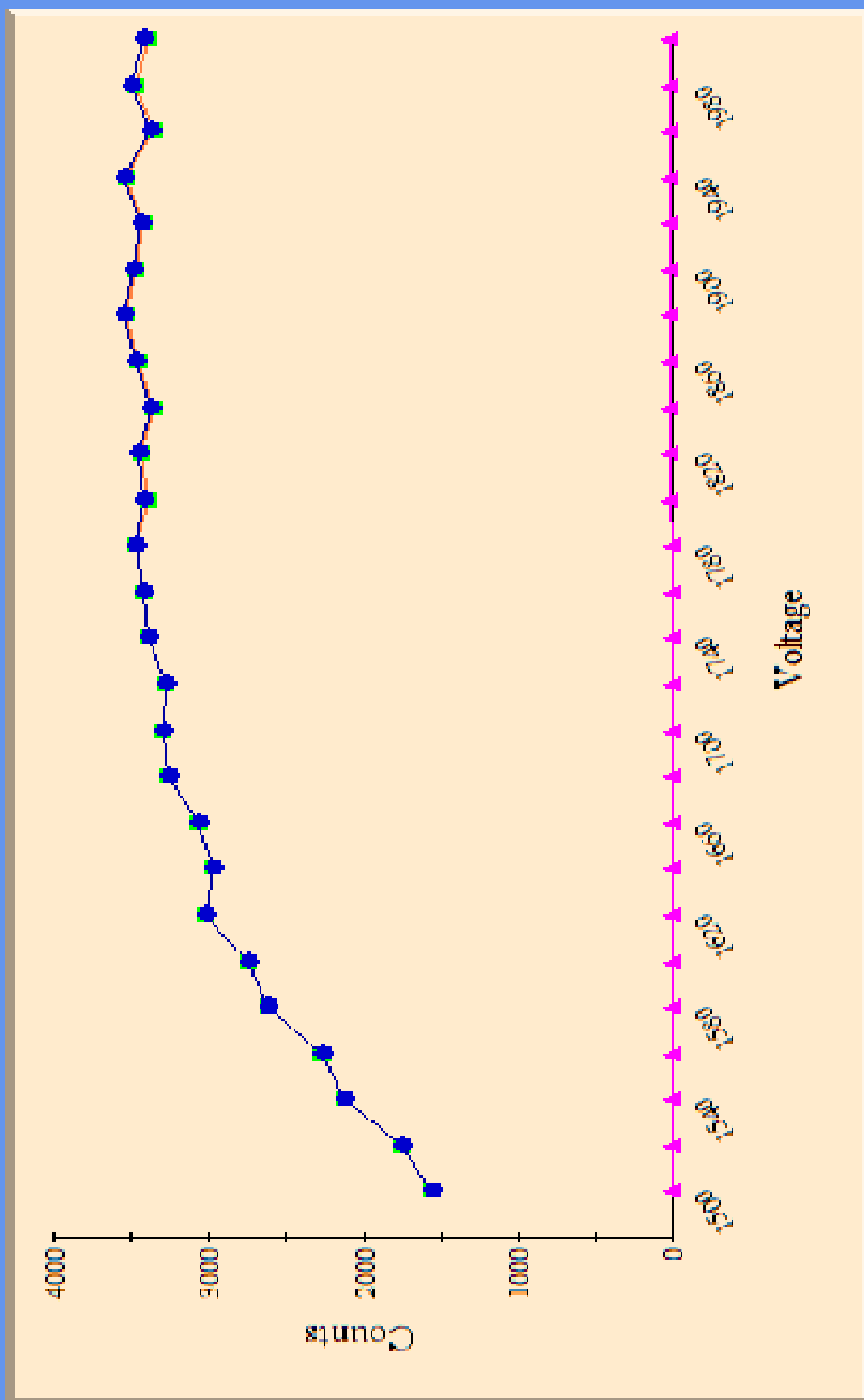


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:08:03 PM Drawer - 2 Detector - A

High Voltage Plateau Plot

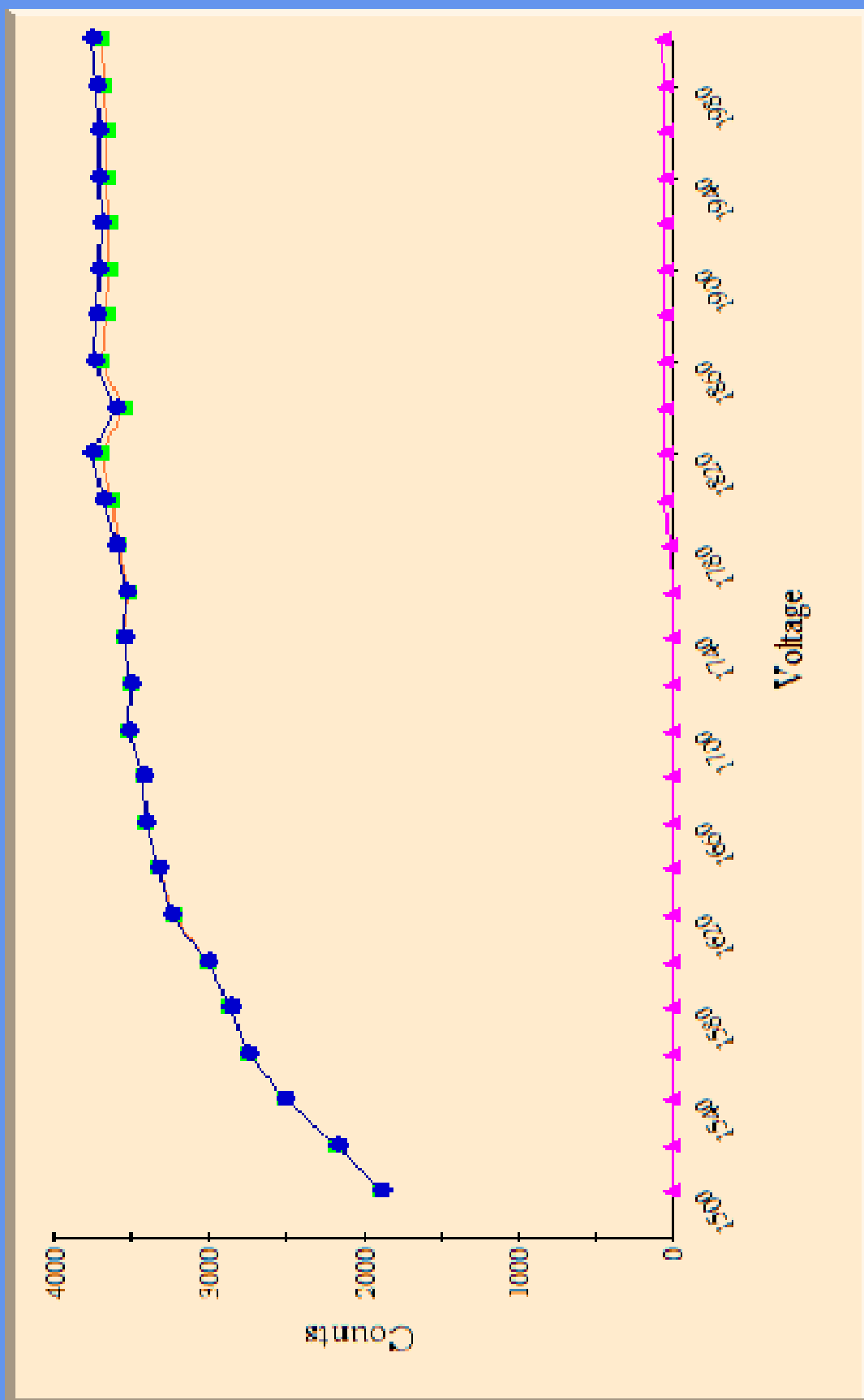


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:08:03 PM Drawer - 2 Detector - B

High Voltage Plateau Plot

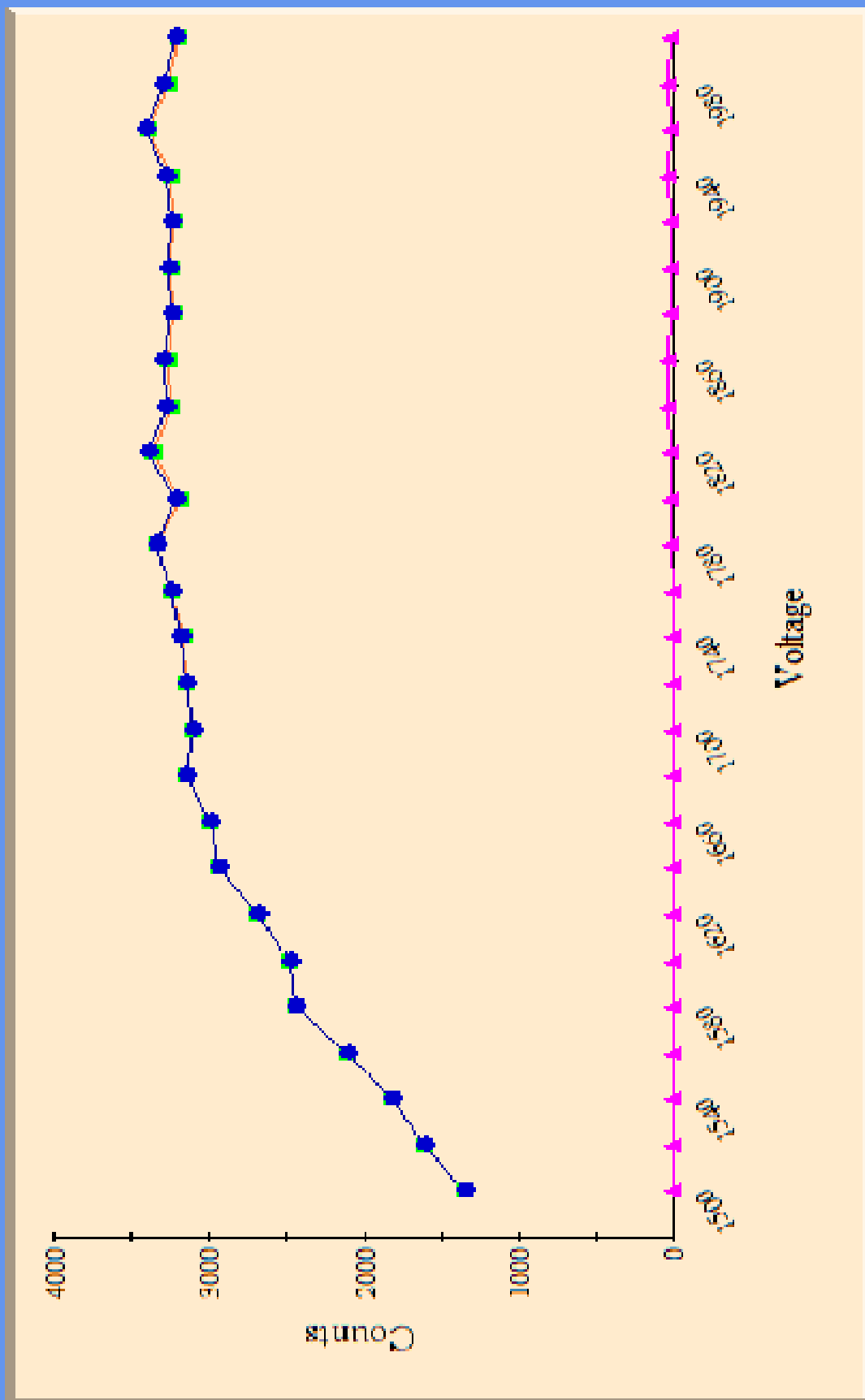


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:08:03 PM Drawer - 2 Detector - C

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:08:03 PM Drawer - 2 Detector - D

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:47
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 3 Detector: A

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1721	1720	1
1520	2063	2063	0
1540	2349	2349	0
1560	2662	2661	1
1580	2835	2835	0
1600	3055	3054	1
1620	3243	3243	0
1640	3320	3319	1
1660	3529	3529	0
1680	3460	3459	1
1700	3586	3584	2
1720	3712	3708	4
1740	3677	3677	0
1760	3616	3609	7
1780	3809	3788	21
1800	3798	3758	40
1820	3814	3750	64
1840	3632	3571	61
1860	3859	3796	63
1880	3712	3669	43
1900	3596	3552	44
1920	3707	3663	44
1940	3688	3638	50
1960	3771	3718	53
1980	3766	3721	45
2000	3670	3633	37

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:47
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 3 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1566	1565	1
1520	1866	1865	1
1540	2101	2101	0
1560	2425	2425	0
1580	2651	2649	2
1600	2709	2707	2
1620	2958	2958	0
1640	3114	3112	2
1660	3216	3216	0
1680	3251	3251	0
1700	3243	3242	1
1720	3433	3432	1
1740	3481	3480	1
1760	3317	3310	7
1780	3339	3318	21
1800	3498	3448	50
1820	3490	3431	59
1840	3488	3435	53
1860	3572	3503	69
1880	3485	3412	73
1900	3488	3444	44
1920	3413	3352	61
1940	3393	3339	54
1960	3501	3443	58
1980	3392	3336	56
2000	3471	3418	53

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:47
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 3 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1943	1942	1
1520	2322	2322	0
1540	2596	2596	0
1560	2881	2879	2
1580	3123	3121	2
1600	3154	3153	1
1620	3375	3375	0
1640	3337	3334	3
1660	3515	3514	1
1680	3571	3570	1
1700	3559	3558	1
1720	3495	3493	2
1740	3624	3621	3
1760	3664	3649	15
1780	3633	3606	27
1800	3769	3706	63
1820	3773	3701	72
1840	3633	3551	82
1860	3673	3599	74
1880	3615	3534	81
1900	3596	3527	69
1920	3633	3567	66
1940	3665	3582	83
1960	3748	3678	70
1980	3680	3597	83
2000	3753	3665	88

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 19:47
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 3 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1405	1405	0
1520	1737	1737	0
1540	2027	2027	0
1560	2352	2350	2
1580	2489	2485	4
1600	2667	2667	0
1620	2896	2894	2
1640	3066	3064	2
1660	3148	3146	2
1680	3135	3134	1
1700	3289	3288	1
1720	3226	3224	2
1740	3228	3224	4
1760	3281	3273	8
1780	3292	3274	18
1800	3351	3303	48
1820	3246	3176	70
1840	3420	3340	80
1860	3445	3362	83
1880	3342	3268	74
1900	3337	3256	81
1920	3366	3302	64
1940	3282	3205	77
1960	3308	3249	59
1980	3376	3288	88
2000	3446	3376	70

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____		Date: _____	
Changes Needed:	Yes No (Circle One)	New Voltage: _____	
Approved By: _____		Date: _____	

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 20:39
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 4 Detector: A

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 929	Chn 930 - 1023
1500	1473	1473	0
1520	1740	1740	0
1540	2173	2172	1
1560	2323	2323	0
1580	2748	2747	1
1600	2856	2855	1
1620	2997	2997	0
1640	3197	3197	0
1660	3447	3446	1
1680	3605	3605	0
1700	3502	3502	0
1720	3604	3601	3
1740	3608	3607	1
1760	3727	3725	2
1780	3697	3690	7
1800	3759	3737	22
1820	3677	3657	20
1840	3605	3580	25
1860	3765	3741	24
1880	3790	3765	25
1900	3760	3740	20
1920	3750	3721	29
1940	3756	3727	29
1960	3772	3755	17
1980	3845	3832	13
2000	3782	3752	30

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 20:39
System Serial #: 072001

Counting Time: 1 min 0 sec

Drawer Number: 4 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: None

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 929	Chn 930 - 1023
1500	1503	1503	0
1520	1876	1876	0
1540	2016	2015	1
1560	2215	2215	0
1580	2559	2559	0
1600	2711	2709	2
1620	2877	2875	2
1640	3042	3042	0
1660	3188	3188	0
1680	3233	3232	1
1700	3344	3344	0
1720	3269	3268	1
1740	3427	3425	2
1760	3350	3344	6
1780	3469	3456	13
1800	3461	3421	40
1820	3502	3456	46
1840	3440	3395	45
1860	3436	3378	58
1880	3448	3396	52
1900	3538	3490	48
1920	3422	3384	38
1940	3530	3479	51
1960	3445	3389	56
1980	3432	3375	57
2000	3502	3452	50

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 20:39
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 929	<u>Alpha ROI Counts</u> Chn 930 - 1023
1500	1452	1452	0
1520	1673	1672	1
1540	1902	1902	0
1560	2293	2292	1
1580	2446	2445	1
1600	2606	2606	0
1620	2848	2848	0
1640	3084	3083	1
1660	3206	3204	2
1680	3387	3387	0
1700	3325	3324	1
1720	3304	3303	1
1740	3509	3509	0
1760	3536	3534	2
1780	3518	3510	8
1800	3509	3483	26
1820	3507	3481	26
1840	3552	3528	24
1860	3718	3692	26
1880	3681	3650	31
1900	3554	3525	29
1920	3527	3497	30
1940	3512	3488	24
1960	3591	3568	23
1980	3581	3554	27
2000	3614	3586	28

Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____		Date: _____	
Changes Needed:	Yes No (Circle One)	New Voltage: _____	
Approved By: _____		Date: _____	

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL
User ID: Meier

Run Date: 02/04/2025 20:39
System Serial #: 072001

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: None
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 929	<u>Alpha ROI Counts</u> Chn 930 - 1023
1500	1309	1309	0
1520	1630	1629	1
1540	1832	1829	3
1560	2042	2042	0
1580	2471	2469	2
1600	2558	2558	0
1620	2679	2677	2
1640	2907	2906	1
1660	2965	2964	1
1680	3149	3146	3
1700	3070	3069	1
1720	3199	3198	1
1740	3258	3256	2
1760	3284	3281	3
1780	3266	3256	10
1800	3256	3222	34
1820	3320	3273	47
1840	3365	3320	45
1860	3443	3381	62
1880	3350	3299	51
1900	3318	3269	49
1920	3305	3257	48
1940	3379	3330	49
1960	3316	3266	50
1980	3366	3318	48
2000	3348	3305	43

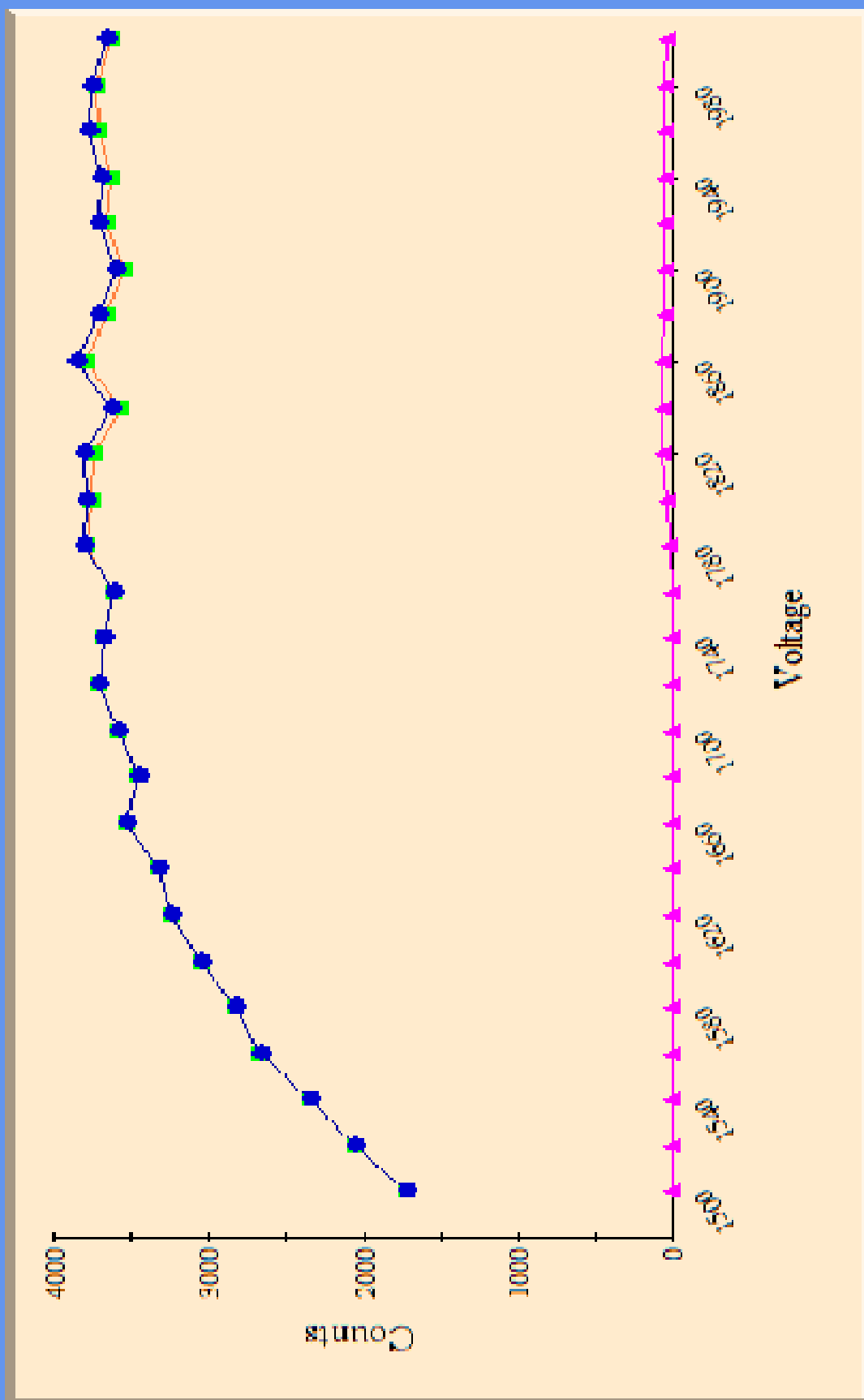
Special Notes:

Report Generated: 02/04/2025

G542HV.RPT ver 2.0

Collected By: _____		Date: _____	
Changes Needed:	Yes No (Circle One)	New Voltage: _____	
Approved By: _____		Date: _____	

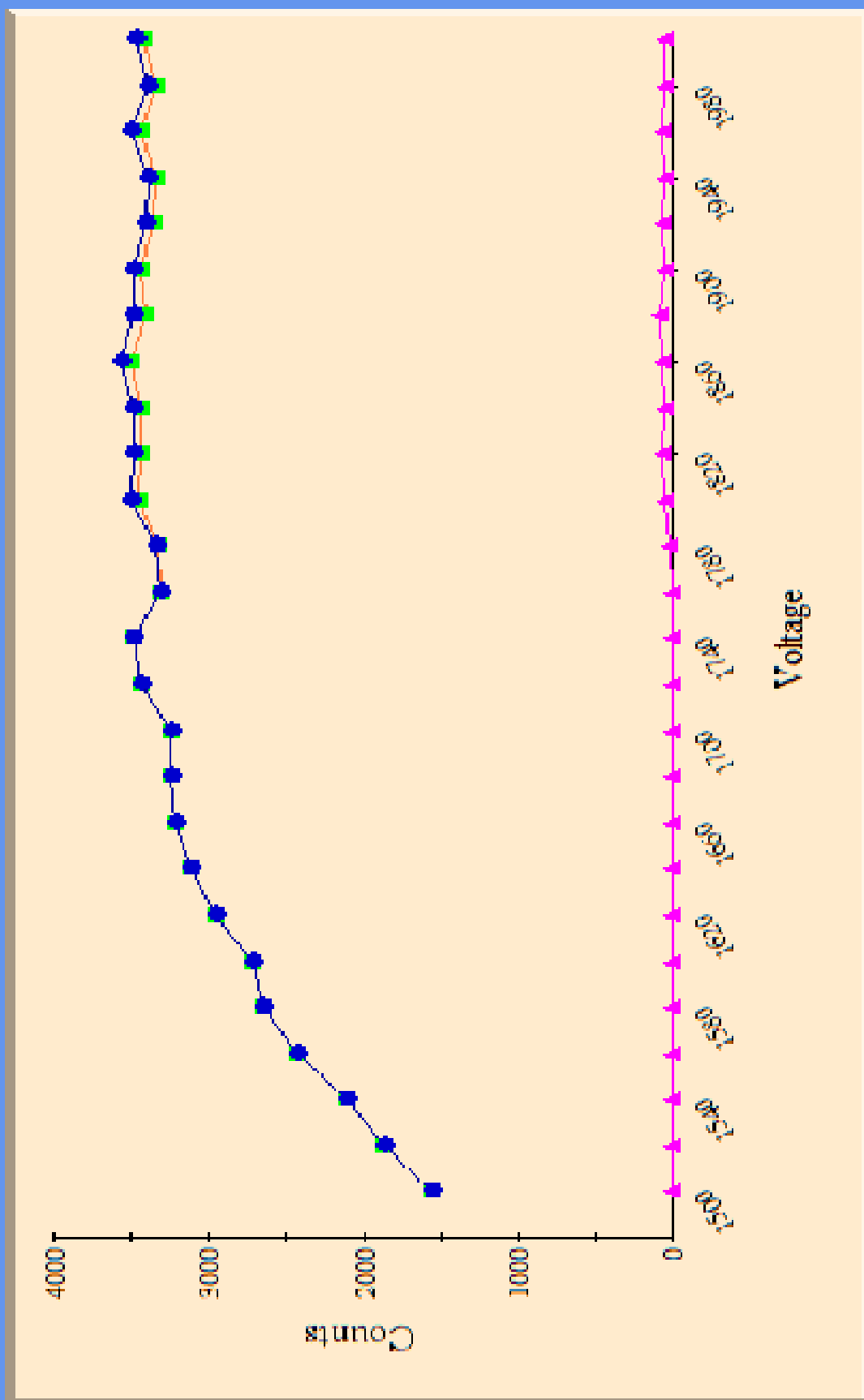
High Voltage Plateau Plot



Source Certificate - None Isotope - Sr-90
 Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:47:22 PM Drawer - 3 Detector - A

Alpha Counts
 Beta Counts
 Gross Counts

High Voltage Plateau Plot

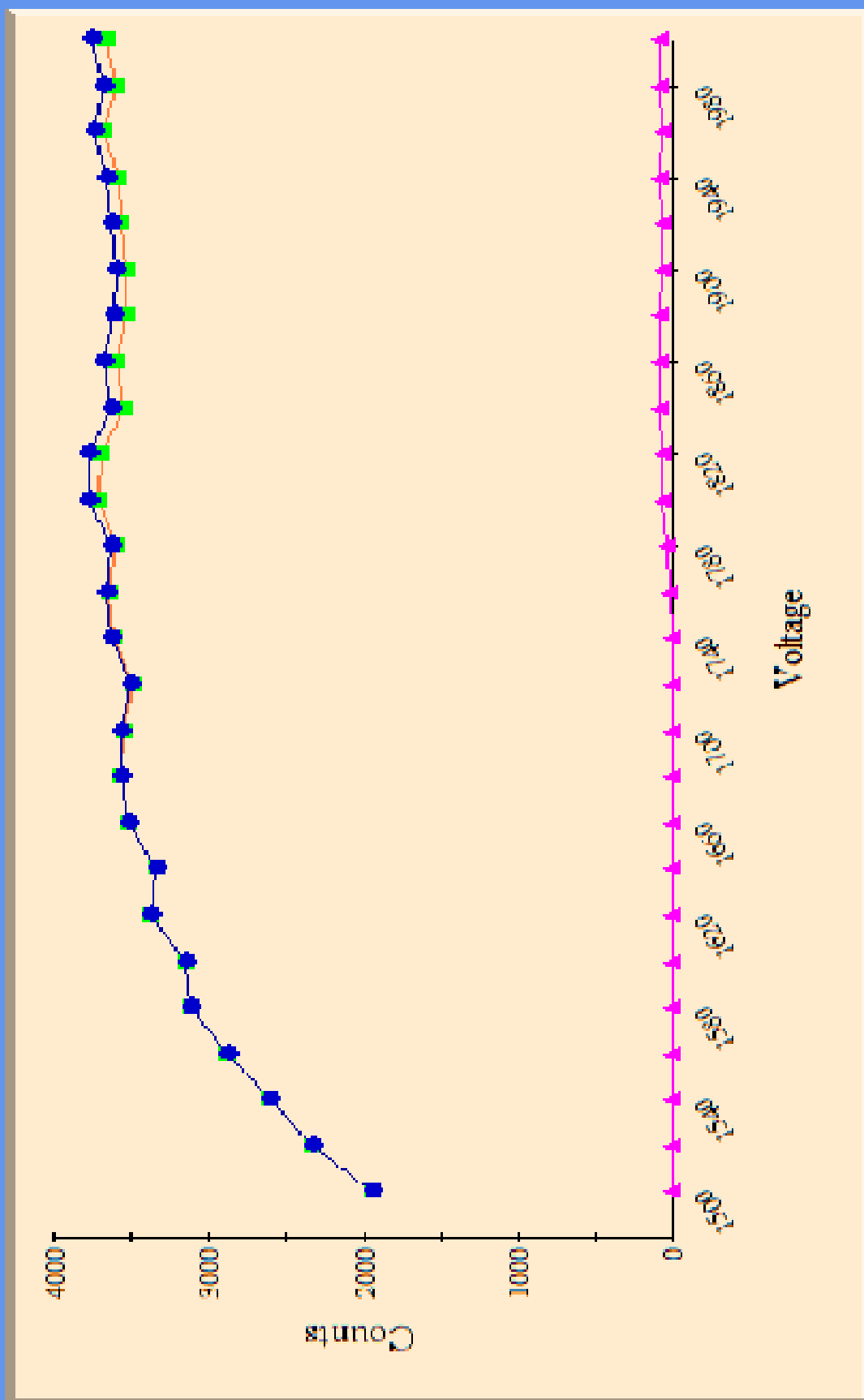


Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:47:22 PM Drawer - 3 Detector - B

Alpha Counts
Beta Counts
Gross Counts

High Voltage Plateau Plot

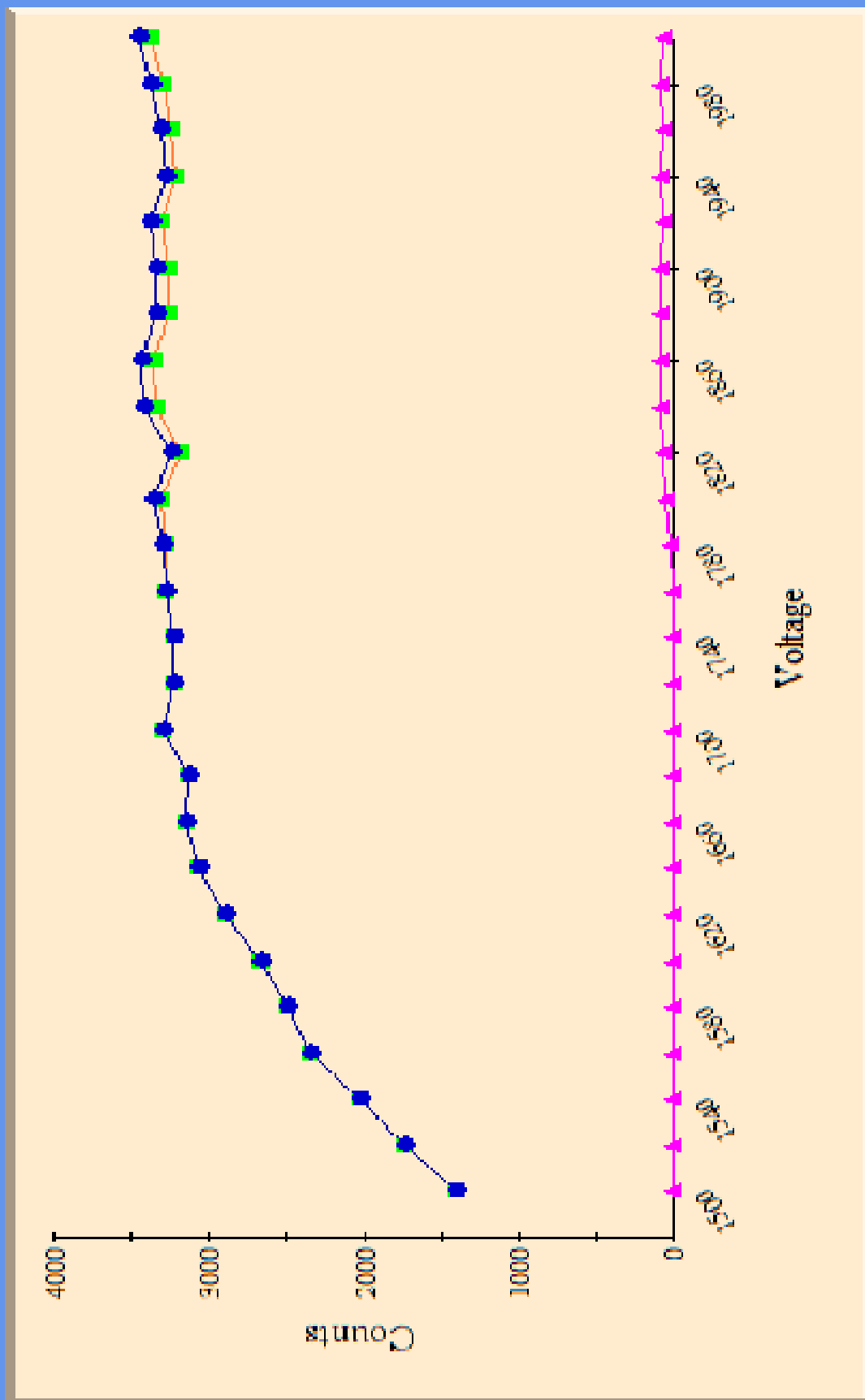


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:47:22 PM Drawer - 3 Detector - C

High Voltage Plateau Plot

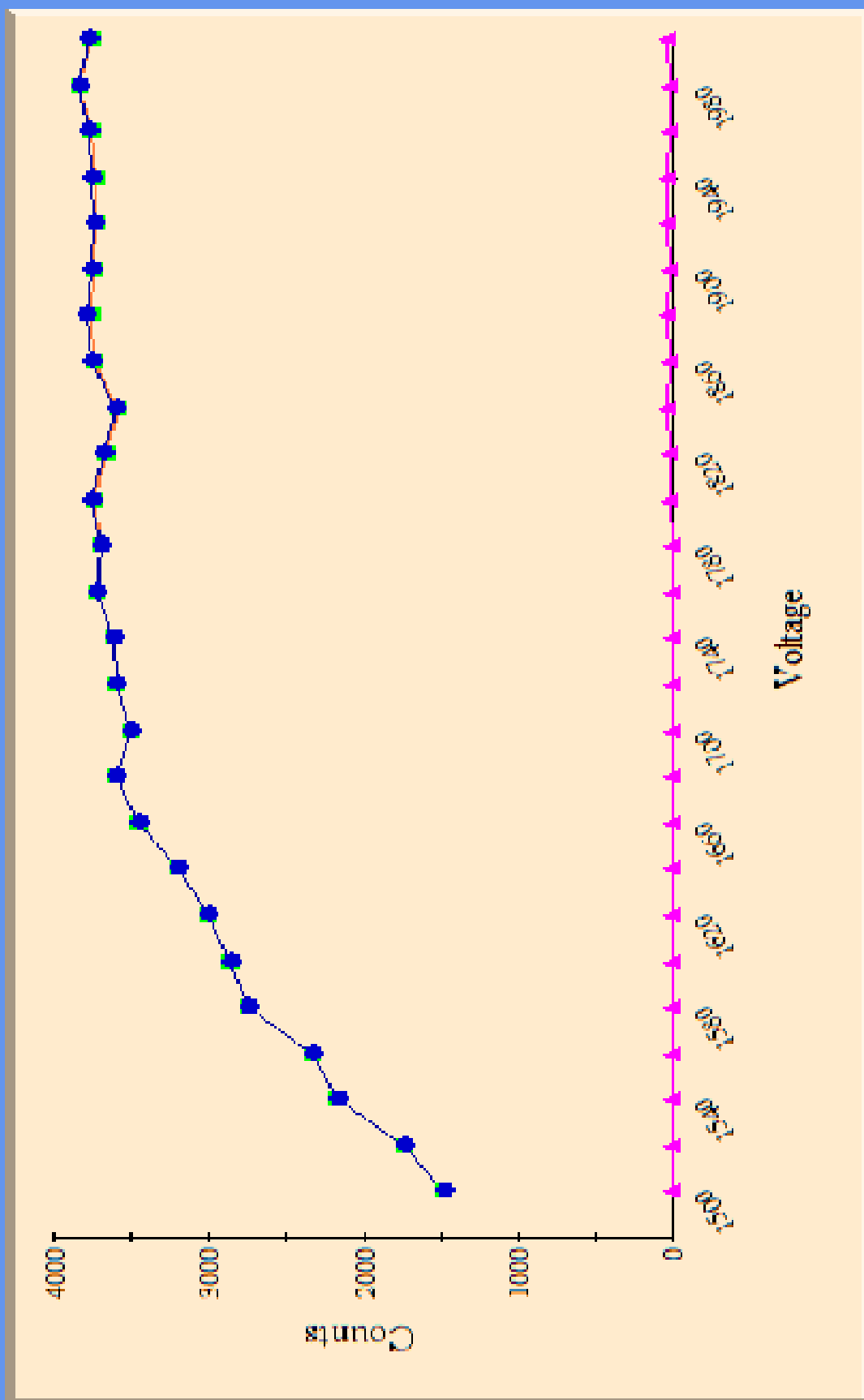


Alpha Counts
 Beta Counts
 Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 7:47:22 PM Drawer - 3 Detector - D

High Voltage Plateau Plot

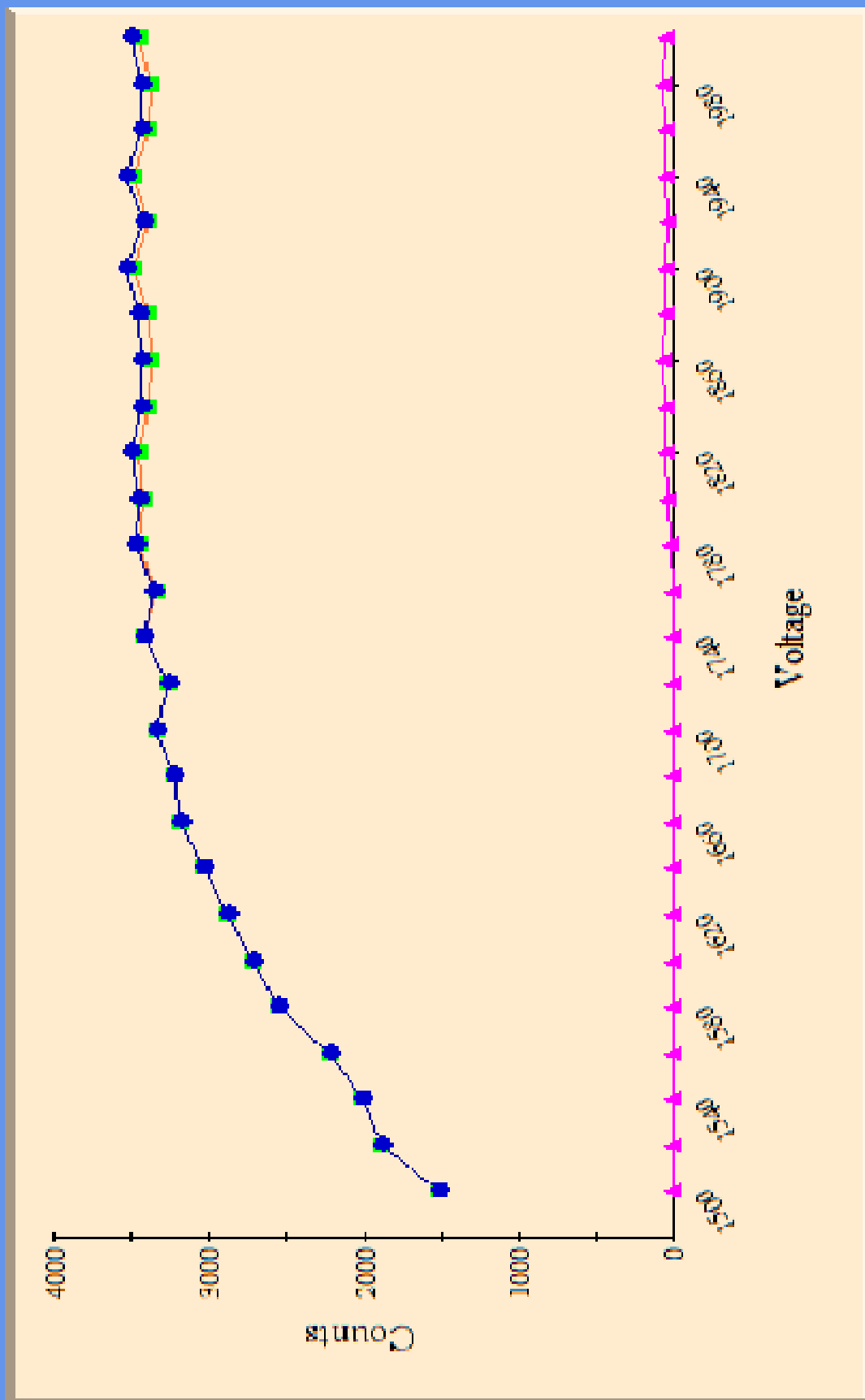


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 8:39:24 PM Drawer - 4 Detector - A

High Voltage Plateau Plot

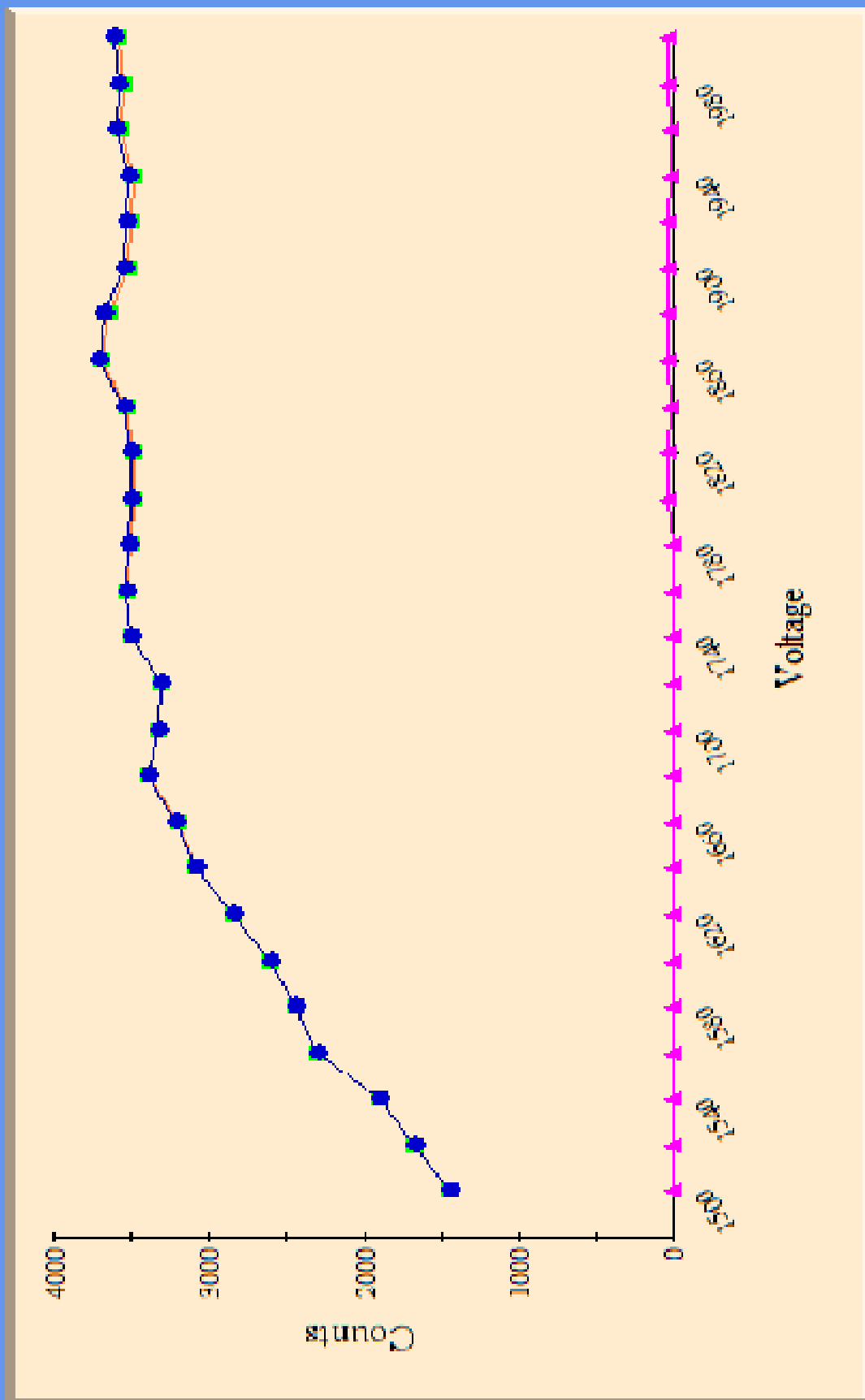


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 8:39:24 PM Drawer - 4 Detector - B

High Voltage Plateau Plot

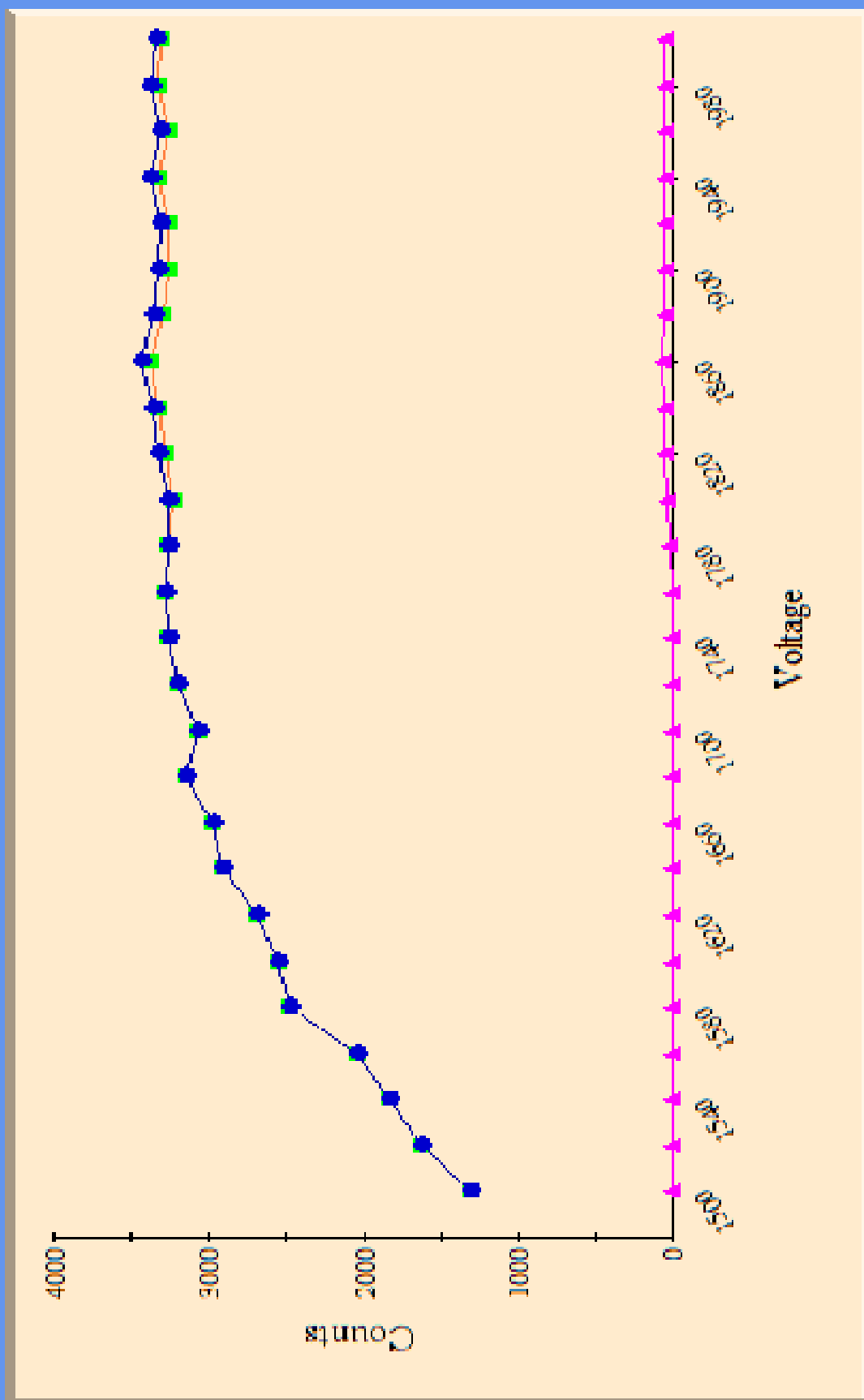


Alpha Counts
Beta Counts
Gross Counts

Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 8:39:24 PM Drawer - 4 Detector - C

High Voltage Plateau Plot



Source Certificate - None Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 02/04/2025 8:39:24 PM Drawer - 4 Detector - D

Alpha Counts
Beta Counts
Gross Counts

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:19
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	1	Source Certificate:	23A16260
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Gamma
	Detector:		A
	Voltage:		1780
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3420	3
2	3471	2
3	3488	1
4	3521	1
5	3407	0
6	3542	3
7	3430	3
8	3445	2
9	3520	0
10	3391	1
11	3563	5
12	3421	0
13	3495	2
14	3522	0
15	3443	3
16	3525	2
17	3467	5
18	3474	3
19	3505	5
20	3440	1

(Xbar) Mean:	3474.50	2.10
Calculated Chi-Sqr Value:	13.07	24.67

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:19
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	1	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		B
	Voltage:		1780
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3457	29
2	3352	25
3	3334	18
4	3518	26
5	3381	26
6	3313	29
7	3466	24
8	3450	22
9	3453	23
10	3365	24
11	3479	17
12	3340	32
13	3462	25
14	3413	34
15	3290	25
16	3370	21
17	3392	20
18	3382	24
19	3407	22
20	3384	30

(Xbar) Mean:	3400.40	24.80
Calculated Chi-Sqr Value:	20.64	14.81

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL	Test Date: 02/04/2025 23:19
USER ID: Meier	System Serial #: 072001
Acq. Mode: Alpha/Beta	Number of Counts Performed: 20
Drawer Number: 1	Source Certificate: None
Counting Time: 1 min 0 sec	Isotope: Sr-90
Degrees of Freedom: N - 1	Emission Type: Beta
Detector: C	
Voltage: 1780	
Conf Level: 95.0 %	

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3569	3
2	3618	7
3	3684	8
4	3665	11
5	3478	7
6	3504	7
7	3542	12
8	3587	7
9	3657	4
10	3671	9
11	3575	5
12	3618	16
13	3589	1
14	3659	6
15	3542	8
16	3571	9
17	3595	3
18	3643	4
19	3613	10
20	3491	12

(Xbar) Mean:	3593.55	7.45
Calculated Chi-Sqr Value:	19.57	33.95

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:19
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	1	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		D
	Voltage:		1780
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3397	2
2	3317	1
3	3497	3
4	3363	1
5	3412	4
6	3441	4
7	3392	1
8	3330	0
9	3317	4
10	3320	0
11	3428	0
12	3416	1
13	3432	2
14	3340	0
15	3499	1
16	3339	1
17	3358	2
18	3385	3
19	3424	1
20	3422	1

(Xbar) Mean:	3391.45	1.60
Calculated Chi-Sqr Value:	17.26	21.75

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL USER ID: Meier Acq. Mode: Alpha/Beta Drawer Number: 2 Counting Time: 1 min 0 sec Degrees of Freedom: N - 1	Test Date: 02/04/2025 23:52 System Serial #: 072001 Number of Counts Performed: 20 Source Certificate: 23A16260 Isotope: Sr-90 Emission Type: Gamma Detector: A Voltage: 1780 Conf Level: 95.0 %
---	---

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3516	31
2	3578	23
3	3641	19
4	3669	22
5	3514	29
6	3657	24
7	3657	24
8	3542	22
9	3575	28
10	3659	28
11	3539	21
12	3575	28
13	3609	24
14	3593	39
15	3577	15
16	3560	44
17	3664	22
18	3589	17
19	3600	28
20	3605	29

(Xbar) Mean:	3595.95	25.85
Calculated Chi-Sqr Value:	12.75	34.68

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:52
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	2	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	B
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3210	0
2	3214	4
3	3368	3
4	3272	3
5	3219	2
6	3222	2
7	3281	6
8	3315	4
9	3316	1
10	3255	2
11	3252	1
12	3315	4
13	3355	2
14	3350	1
15	3264	7
16	3226	4
17	3341	3
18	3295	1
19	3218	7
20	3275	3

(Xbar) Mean:	3278.15	3.00
Calculated Chi-Sqr Value:	15.48	24.67

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Gamma Products Inc 7730 w 114 Pl Palos Hills IL 60465 Phone 708-974-4100 Website www.gammaproducts.com

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:52
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	2	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	C
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3630	15
2	3646	14
3	3679	12
4	3585	21
5	3609	17
6	3618	15
7	3618	9
8	3553	13
9	3730	14
10	3659	15
11	3742	10
12	3739	19
13	3636	15
14	3763	16
15	3635	20
16	3696	16
17	3656	12
18	3651	16
19	3566	21
20	3755	19

(Xbar) Mean:	3658.30	15.45
Calculated Chi-Sqr Value:	20.10	14.04

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/04/2025 23:52
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	2	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	D
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3384	1
2	3335	3
3	3518	8
4	3369	4
5	3354	5
6	3344	2
7	3464	11
8	3304	11
9	3483	7
10	3422	3
11	3444	3
12	3372	3
13	3495	5
14	3430	10
15	3347	5
16	3340	3
17	3438	4
18	3467	8
19	3361	5
20	3431	9

(Xbar) Mean:	3405.10	5.50
Calculated Chi-Sqr Value:	21.22	32.18

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/04/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 00:14
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Source Certificate:	23A16260
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Gamma
	Detector:		
	Voltage:		
	Conf Level:		

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3568	5
2	3607	3
3	3542	2
4	3630	1
5	3609	8
6	3624	3
7	3631	4
8	3591	4
9	3528	4
10	3714	7
11	3610	5
12	3700	6
13	3603	6
14	3589	3
15	3461	4
16	3599	3
17	3652	8
18	3558	4
19	3618	3
20	3625	1

(Xbar) Mean:	3602.95	4.20
Calculated Chi-Sqr Value:	16.66	18.38
Chi-Sqr Table Limits:	Max: 32.90	Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 00:14
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		B
	Voltage:		1760
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3312	4
2	3305	3
3	3410	4
4	3345	2
5	3335	8
6	3314	5
7	3256	8
8	3278	5
9	3326	2
10	3333	4
11	3258	7
12	3334	4
13	3324	9
14	3333	4
15	3277	7
16	3394	7
17	3345	6
18	3195	5
19	3353	4
20	3276	6

(Xbar) Mean:	3315.15	5.20
Calculated Chi-Sqr Value:	13.78	14.46

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 00:14
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		C
	Voltage:		1760
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3615	10
2	3681	8
3	3674	10
4	3604	11
5	3756	8
6	3682	9
7	3688	8
8	3671	12
9	3759	8
10	3814	7
11	3640	11
12	3671	17
13	3761	11
14	3748	10
15	3713	8
16	3696	12
17	3657	14
18	3680	11
19	3646	12
20	3687	6

(Xbar) Mean:	3692.15	10.15
Calculated Chi-Sqr Value:	14.40	12.47

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 00:14
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Detector:	D
Counting Time:	1 min 0 sec	Voltage:	1760
Degrees of Freedom:	N - 1	Conf Level:	95.0 %
		Source Certificate:	None
		Isotope:	Sr-90
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3427	7
2	3512	7
3	3432	10
4	3474	8
5	3507	9
6	3484	19
7	3491	10
8	3436	9
9	3494	10
10	3418	12
11	3446	5
12	3363	7
13	3428	10
14	3388	3
15	3357	7
16	3443	9
17	3495	12
18	3456	7
19	3373	2
20	3457	8

(Xbar) Mean:	3444.05	8.55
Calculated Chi-Sqr Value:	12.33	28.18

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 15:35
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	4	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	A
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3523	8
2	3647	10
3	3651	13
4	3734	14
5	3569	9
6	3576	15
7	3523	19
8	3680	16
9	3630	18
10	3593	9
11	3626	10
12	3647	15
13	3622	12
14	3696	7
15	3520	14
16	3471	16
17	3485	17
18	3504	12
19	3597	15
20	3531	21

(Xbar) Mean:	3591.25	13.50
Calculated Chi-Sqr Value:	29.19	20.81

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL	Test Date: 02/05/2025 15:35
USER ID: Meier	System Serial #: 072001
Acq. Mode: Alpha/Beta	Number of Counts Performed: 20
Drawer Number: 4	Source Certificate: None
Counting Time: 1 min 0 sec	Isotope: Sr-90
Degrees of Freedom: N - 1	Emission Type: Beta
Detector: B	
Voltage: 1780	
Conf Level: 95.0 %	

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3331	34
2	3331	32
3	3324	30
4	3456	41
5	3219	37
6	3261	31
7	3286	25
8	3360	36
9	3304	30
10	3291	38
11	3247	30
12	3386	43
13	3378	35
14	3363	44
15	3335	25
16	3236	49
17	3326	32
18	3385	33
19	3316	35
20	3455	34

(Xbar) Mean:	3329.50	34.70
Calculated Chi-Sqr Value:	23.78	20.29

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 15:35
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	4	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	C
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3653	28
2	3536	20
3	3612	30
4	3468	38
5	3580	16
6	3557	29
7	3580	23
8	3554	28
9	3531	30
10	3564	36
11	3541	36
12	3572	36
13	3489	28
14	3551	24
15	3541	25
16	3530	34
17	3405	33
18	3546	32
19	3525	18
20	3529	19

(Xbar) Mean:	3543.20	28.15
Calculated Chi-Sqr Value:	14.04	29.01

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL	Test Date:	02/05/2025 15:35
USER ID:	Meier	System Serial #:	072001
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	4	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		
	Voltage:		
	Conf Level:		

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3347	27
2	3380	31
3	3385	41
4	3362	33
5	3426	41
6	3380	33
7	3333	42
8	3328	43
9	3398	38
10	3495	50
11	3554	28
12	3448	39
13	3476	35
14	3450	43
15	3452	44
16	3538	38
17	3333	33
18	3444	34
19	3396	37
20	3421	36

(Xbar) Mean:	3417.30	37.30
Calculated Chi-Sqr Value:	23.88	16.90

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 02/05/2025

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

PREP:
ANALYST:

ACCOUNT:
lytical - Kernersville, NC

PROJECT:
92780477

SDG:
L1829574

DATE/TIME:
03/14/25 17:00

PAGE:
128 of 195

BACKGROUN	CPM	ALPHA	BETA
3A-1	DET1	0.071	1.51
3A-2	DET2	0.075	1.66
3A-3	DET3	0.043	1.44
3A-4	DET4	0.056	1.52
3B-1	DET5	0.040	0.98
3B-2	DET6	0.093	0.96
3B-3	DET7	0.097	0.93
3B-4	DET8	0.051	1.78
3C-1	DET9	0.057	1.09
3C-2	DET10	0.038	1.57
3C-3	DET11	0.051	1.37
3C-4	DET12	0.043	1.05
3D-1	DET13	0.122	1.03
3D-2	DET14	0.060	1.03
3D-3	DET15	0.073	1.06
3D-4	DET16	0.110	1.21

SAMPLE ID	COUNT DATE/TIME	TARE VOL(mL)	GROSS WEIGHT GRAMS	NET WEIGHT WT. mg	ALPHA EFF	BETA EFF	DET NO.	ALPHA BKG	BETA BKG	ALPHA COUNTS	BETA COUNTS	COUNT TIME	ALPHA Lc	BETA Lc	ALPHA MDA	BETA MDA	Th-230 Std		DET (9-16)	
																	XtalK	XtalK	XtalK	XtalK
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	28.6	45.7	1	0.071	1.51	31046	14705	5	0.311	0.897	1.566	2.380	0.437	NA	0.437	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	30.7	47.0	2	0.075	1.66	32059	13943	5	0.297	0.912	1.474	2.393	0.370	NA	0.370	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	29.5	46.2	3	0.043	1.44	30886	14057	5	0.234	0.867	1.382	2.315	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	28.2	46.4	4	0.036	1.52	29925	16652	5	0.280	0.885	1.517	2.346	0.471	NA	0.471	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	30.2	46.7	5	0.040	0.98	32677	13395	5	0.221	0.706	1.334	1.986	0.372	NA	0.372	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	29.1	46.1	6	0.033	0.96	29873	14441	5	0.208	0.709	1.344	1.999	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	30.5	47.1	7	0.097	0.93	30919	14100	5	0.340	0.681	1.563	1.933	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	29.1	46.1	8	0.051	1.78	30492	14903	5	0.258	0.965	1.442	2.511	0.391	NA	0.391	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	29.5	47.1	9	0.057	1.09	31176	14006	5	0.270	0.740	1.455	2.049	0.400	NA	0.400	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	29.7	46.7	10	0.038	1.57	31862	13815	5	0.218	0.895	1.364	2.085	0.402	NA	0.402	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	29.8	47.5	11	0.051	1.37	32180	14145	5	0.252	0.822	1.408	2.208	0.397	NA	0.397	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	29.7	46.5	12	0.043	1.05	31243	13907	5	0.233	0.732	1.375	2.041	0.396	NA	0.396	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	30.2	47.1	13	0.122	1.03	30635	14466	5	0.366	0.716	1.665	2.002	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	30.4	46.7	14	0.060	1.03	31692	13763	5	0.269	0.723	1.427	2.021	0.366	NA	0.366	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	30.4	46.4	15	0.073	1.06	31462	14081	5	0.296	0.739	1.480	2.055	0.356	NA	0.356	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	30.3	46.5	16	0.110	1.21	32377	13598	5	0.364	0.790	1.618	2.157	0.359	NA	0.359	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	17	0.071	1.51	31046	14705	5	0.311	0.897	1.566	2.380	0.437	NA	0.437	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	18	0.075	1.66	32059	13943	5	0.297	0.912	1.474	2.393	0.370	NA	0.370	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	19	0.043	1.44	30886	14057	5	0.234	0.867	1.382	2.315	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	20	0.036	1.52	29925	16652	5	0.280	0.885	1.517	2.346	0.471	NA	0.471	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	21	0.040	0.98	32677	13395	5	0.221	0.706	1.334	1.986	0.372	NA	0.372	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	22	0.033	0.96	29873	14441	5	0.208	0.709	1.344	1.999	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	23	0.097	0.93	30919	14100	5	0.340	0.681	1.563	1.933	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	24	0.051	1.78	30492	14903	5	0.258	0.965	1.442	2.511	0.391	NA	0.391	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	25	0.057	1.09	31176	14006	5	0.270	0.740	1.455	2.049	0.400	NA	0.400	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	26	0.038	1.57	31862	13815	5	0.218	0.895	1.364	2.085	0.402	NA	0.402	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	27	0.051	1.37	32180	14145	5	0.252	0.822	1.408	2.208	0.397	NA	0.397	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	28	0.043	1.05	31243	13907	5	0.233	0.732	1.375	2.041	0.396	NA	0.396	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	29	0.122	1.03	30635	14466	5	0.366	0.716	1.665	2.002	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	30	0.060	1.03	31692	13763	5	0.269	0.723	1.427	2.021	0.366	NA	0.366	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	31	0.073	1.06	31462	14081	5	0.296	0.739	1.480	2.055	0.356	NA	0.356	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	32	0.110	1.21	32377	13598	5	0.364	0.790	1.618	2.157	0.359	NA	0.359	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	33	0.071	1.51	31046	14705	5	0.311	0.897	1.566	2.380	0.437	NA	0.437	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	34	0.075	1.66	32059	13943	5	0.297	0.912	1.474	2.393	0.370	NA	0.370	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	35	0.043	1.44	30886	14057	5	0.234	0.867	1.382	2.315	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	36	0.036	1.52	29925	16652	5	0.280	0.885	1.517	2.346	0.471	NA	0.471	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	37	0.040	0.98	32677	13395	5	0.221	0.706	1.334	1.986	0.372	NA	0.372	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	38	0.033	0.96	29873	14441	5	0.208	0.709	1.344	1.999	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	39	0.097	0.93	30919	14100	5	0.340	0.681	1.563	1.933	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	40	0.051	1.78	30492	14903	5	0.258	0.965	1.442	2.511	0.391	NA	0.391	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	41	0.057	1.09	31176	14006	5	0.270	0.740	1.455	2.049	0.400	NA	0.400	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	42	0.038	1.57	31862	13815	5	0.218	0.895	1.364	2.085	0.402	NA	0.402	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	43	0.051	1.37	32180	14145	5	0.252	0.822	1.408	2.208	0.397	NA	0.397	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	44	0.043	1.05	31243	13907	5	0.233	0.732	1.375	2.041	0.396	NA	0.396	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	45	0.122	1.03	30635	14466	5	0.366	0.716	1.665	2.002	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	46	0.060	1.03	31692	13763	5	0.269	0.723	1.427	2.021	0.366	NA	0.366	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	47	0.073	1.06	31462	14081	5	0.296	0.739	1.480	2.055	0.356	NA	0.356	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	48	0.110	1.21	32377	13598	5	0.364	0.790	1.618	2.157	0.359	NA	0.359	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	49	0.071	1.51	31046	14705	5	0.311	0.897	1.566	2.380	0.437	NA	0.437	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	50	0.075	1.66	32059	13943	5	0.297	0.912	1.474	2.393	0.370	NA	0.370	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	51	0.043	1.44	30886	14057	5	0.234	0.867	1.382	2.315	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	52	0.036	1.52	29925	16652	5	0.280	0.885	1.517	2.346	0.471	NA	0.471	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	53	0.040	0.98	32677	13395	5	0.221	0.706	1.334	1.986	0.372	NA	0.372	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	54	0.033	0.96	29873	14441	5	0.208	0.709	1.344	1.999	0.403	NA	0.403	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	55	0.097	0.93	30919	14100	5	0.340	0.681	1.563	1.933	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:07	1000	0.0	0.0	FALSE	FALSE	56	0.051	1.78	30492	14903	5	0.258	0.965	1.442	2.511	0.391	NA	0.391	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	57	0.057	1.09	31176	14006	5	0.270	0.740	1.455	2.049	0.400	NA	0.400	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	58	0.038	1.57	31862	13815	5	0.218	0.895	1.364	2.085	0.402	NA	0.402	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	59	0.051	1.37	32180	14145	5	0.252	0.822	1.408	2.208	0.397	NA	0.397	
ALPHA ICV	2/7/25 12:13	1000	0.0	0.0	FALSE	FALSE	60	0.043	1.05	31243	13907	5	0.233	0.732	1.375	2.041	0.396	NA	0.396	
ALPHA ICV	2/7/25 23:32	1000	0.0	0.0	FALSE	FALSE	61	0.122	1.03	30635	14466	5	0.366	0.716	1.665	2.002	0.363	NA	0.363	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	62	0.060	1.03	31692	13763	5	0.269	0.723	1.427	2.021	0.366	NA	0.366	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	63	0.073	1.06	31462	14081	5	0.296	0.739	1.480	2.055	0.356	NA	0.356	
ALPHA ICV	2/7/25 12:22	1000	0.0	0.0	FALSE	FALSE	64	0.110	1.21	32377	13598	5	0.364	0.790	1.618	2.157	0.359	NA	0.359	
ALPHA ICV	2/7/25 12:01	1000	0.0	0.0	FALSE	FALSE	65	0.071	1.51	31046	14705	5	0.311	0.897	1.566	2.380	0.437	NA	0.437	

GROSS ALPHA AND GROSS BETA DATA REPORT

EPA 900/9310

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SAMPLE ID	GROSS ALPHA pCi/l					GROSS BETA pCi/l					PREP DATE	ANALYSIS DATE			
	result	2σCE	TPU	Lc	MDAMDC	SDWA	result	2σCE	TPU	Lc	MDAMDC	SDWA			
ALPHA ICV	9792.742	108.934	#DIV/0!	0.311	1.566	1.315	224.229	46.903	#DIV/0!	0.897	2.380	1.510	2/7/25 0:00	2/7/25 12:01	0.96795
ALPHA ICV	9412.607	103.038	#DIV/0!	0.297	1.474	1.229	397.054	44.344	#DIV/0!	0.912	2.393	1.512	2/7/25 0:00	2/7/25 12:01	0.93038
ALPHA ICV	9422.632	105.088	#DIV/0!	0.234	1.382	1.235	311.651	45.373	#DIV/0!	0.867	2.315	1.471	2/7/25 0:00	2/7/25 12:01	0.93137
ALPHA ICV	9563.733	108.361	#DIV/0!	0.280	1.517	1.312	497.832	49.106	#DIV/0!	0.885	2.346	1.488	2/7/25 0:00	2/7/25 12:01	0.94531
ALPHA ICV	9742.383	105.634	#DIV/0!	0.221	1.334	1.202	236.096	43.747	#DIV/0!	0.706	1.986	1.287	2/7/25 0:00	2/7/25 12:07	0.96297
ALPHA ICV	9248.905	104.884	#DIV/0!	0.208	1.344	1.239	467.623	46.008	#DIV/0!	0.709	1.999	1.297	2/7/25 0:00	2/7/25 23:32	0.91419
ALPHA ICV	9122.758	101.690	#DIV/0!	0.340	1.563	1.263	550.864	44.555	#DIV/0!	0.681	1.933	1.257	2/7/25 0:00	2/7/25 12:07	0.90173
ALPHA ICV	9425.948	105.802	#DIV/0!	0.258	1.442	1.262	578.978	46.823	#DIV/0!	0.965	2.511	1.582	2/7/25 0:00	2/7/25 12:07	0.93169
ALPHA ICV	9528.185	105.770	#DIV/0!	0.270	1.455	1.256	290.270	44.374	#DIV/0!	0.740	2.049	1.320	2/7/25 0:00	2/7/25 12:13	0.9418
ALPHA ICV	9655.331	106.021	#DIV/0!	0.218	1.345	1.219	191.581	44.493	#DIV/0!	0.895	2.364	1.497	2/7/25 0:00	2/7/25 12:13	0.95437
ALPHA ICV	9714.100	106.138	#DIV/0!	0.252	1.408	1.232	266.718	44.240	#DIV/0!	0.822	2.208	1.406	2/7/25 0:00	2/7/25 12:13	0.96018
ALPHA ICV	9484.013	105.166	#DIV/0!	0.233	1.375	1.228	294.879	44.752	#DIV/0!	0.732	2.041	1.318	2/7/25 0:00	2/7/25 12:13	0.93743
ALPHA ICV	9146.164	102.423	#DIV/0!	0.386	1.665	1.307	638.463	45.066	#DIV/0!	0.716	2.002	1.294	2/7/25 0:00	2/7/25 23:32	0.90404
ALPHA ICV	9406.036	103.560	#DIV/0!	0.269	1.427	1.224	414.999	44.345	#DIV/0!	0.723	2.021	1.306	2/7/25 0:00	2/7/25 12:22	0.92973
ALPHA ICV	9323.930	103.031	#DIV/0!	0.296	1.480	1.238	556.375	45.162	#DIV/0!	0.739	2.055	1.326	2/7/25 0:00	2/7/25 12:22	0.92161
ALPHA ICV	9616.238	104.750	#DIV/0!	0.364	1.618	1.287	384.230	44.328	#DIV/0!	0.790	2.157	1.382	2/7/25 0:00	2/7/25 12:22	0.9505
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00	

True Value:
10117
\$ Recov:

ANALYST: ALG3788

0.056 1.52

[illegible]

GROSS ALPHA AND GROSS BETA DATA REPORT

EPA 900/9310

0



SAMPLE ID	GROSS ALPHA pCi/l						GROSS BETA pCi/l						PREP DATE	ANALYSIS DATE
	result	2σCE	TPU	Lc	MDAMDC	SDWA	result	2σCE	TPU	Lc	MDAMDC	SDWA		
BETA ICV	3.989	2.259	#DIV/0!	0.311	1.566	1.315	3506.965	51.585	#DIV/0!	0.897	2.380	1.510	2/7/25 0:00	2/7/25 23:54
BETA ICV	36.591	6.444	#DIV/0!	0.297	1.474	1.229	3509.413	50.904	#DIV/0!	0.912	2.393	1.512	2/7/25 0:00	2/7/25 15:51
BETA ICV	2.375	1.714	#DIV/0!	0.234	1.382	1.235	3455.593	50.930	#DIV/0!	0.867	2.315	1.471	2/7/25 0:00	2/7/25 15:51
BETA ICV	2.787	1.908	#DIV/0!	0.280	1.517	1.312	3514.386	51.220	#DIV/0!	0.885	2.346	1.488	2/7/25 0:00	2/7/25 15:51
BETA ICV	30.947	5.965	#DIV/0!	0.221	1.334	1.202	3458.447	50.682	#DIV/0!	0.706	1.986	1.287	2/7/25 0:00	2/7/25 23:54
BETA ICV	1.497	1.379	#DIV/0!	0.208	1.344	1.239	3197.490	48.997	#DIV/0!	0.709	1.999	1.297	2/7/25 0:00	2/7/25 23:00
BETA ICV	8.709	3.193	#DIV/0!	0.340	1.563	1.263	3545.355	51.086	#DIV/0!	0.681	1.933	1.257	2/7/25 0:00	2/7/25 15:51
BETA ICV	3.631	2.121	#DIV/0!	0.258	1.442	1.262	3559.394	51.752	#DIV/0!	0.965	2.511	1.582	2/7/25 0:00	2/7/25 15:51
BETA ICV	3.886	2.183	#DIV/0!	0.270	1.455	1.256	3349.249	49.630	#DIV/0!	0.740	2.049	1.320	2/7/25 0:00	2/7/25 15:52
BETA ICV	4.488	2.315	#DIV/0!	0.218	1.345	1.219	3337.178	49.783	#DIV/0!	0.895	2.364	1.497	2/7/25 0:00	2/7/25 15:52
BETA ICV	8.677	3.200	#DIV/0!	0.252	1.408	1.232	3475.499	50.366	#DIV/0!	0.822	2.208	1.406	2/7/25 0:00	2/7/25 15:52
BETA ICV	15.416	4.258	#DIV/0!	0.233	1.375	1.228	3308.194	49.644	#DIV/0!	0.732	2.041	1.318	2/7/25 0:00	2/7/25 23:00
BETA ICV	4.296	2.312	#DIV/0!	0.386	1.665	1.307	3382.042	49.855	#DIV/0!	0.716	2.002	1.294	2/7/25 0:00	2/7/25 23:01
BETA ICV	31.075	5.969	#DIV/0!	0.269	1.427	1.224	3448.113	50.608	#DIV/0!	0.723	2.021	1.306	2/7/25 0:00	2/7/25 15:57
BETA ICV	7.301	2.925	#DIV/0!	0.296	1.480	1.238	3420.760	50.538	#DIV/0!	0.739	2.055	1.326	2/7/25 0:00	2/7/25 15:57
BETA ICV	34.884	6.338	#DIV/0!	0.364	1.618	1.287	3514.643	51.244	#DIV/0!	0.790	2.157	1.382	2/7/25 0:00	2/7/25 15:57
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00
0	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	2/7/25 0:00	10/00 0:00

True Value:
3547.52# Recov:
0.98857

0.99926

0.97409

0.99066

0.97489

0.90133

0.99939

1.00335

0.94411

0.9797

0.94071

0.93254

0.95335

0.97198

0.96427

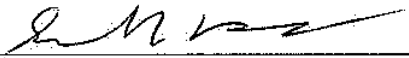
0.99073

G542 Unit 4

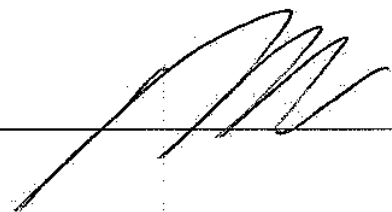
Calibration 07/24

	<u>High Voltage</u>	<u>Changed?</u>	<u>Chi Sq Passed?</u>	<u>Notes</u>
A Drawer	1760	Y/N	Y/N	
B Drawer	1760	Y/N	Y/N	
C Drawer	1780	Y/N	Y/N	
D Drawer	1760	Y/N	Y/N	4D-4 005

Comments:

Collected by: 

Date: 7/26/24

Approved by: 

Date: 7/29/24

Detector Names Unit 4:

Numerical:	Instrument:	PACE:
1	1A	4A-1
2	1B	4A-2
3	1C	4A-3
4	1D	4A-4
5	2A	4B-1
6	2B	4B-2
7	2C	4B-3
8	2D	4B-4
9	3A	4C-1
10	3B	4C-2
11	3C	4C-3
12	3D	4C-4
13	4A	4D-1
14	4B	4D-2
15	4C	4D-3
16	4D	4D-4

Standards Used:

23F04840	23F04832	23F04838	23F04831
23F04828	23F04839	23F04841	23F04834
23F04836	23F04835		23F04827

High Voltage Plateau and Slope Calculation G542 Unit 4 Drawer A

4A-1=	Det1=	1A	4A-2=	Det2=	1B	4A-3=	Det3=	1C	4A-4=	Det4=	1D	
	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts
	1500	1336	1336	0	1500	1467	1467	0	1500	1704	1704	0
	1520	1697	1696	1	1520	1677	1675	2	1520	2030	2027	3
	1540	1834	1833	1	1540	1971	1967	4	1540	2260	2259	1
	1560	2130	2128	2	1560	2312	2307	5	1560	2549	2548	1
	1580	2358	2355	3	1580	2613	2611	2	1580	2870	2870	0
	1600	2553	2551	2	1600	2756	2754	2	1600	2809	2808	1
	1620	2828	2827	1	1620	3014	3012	2	1620	3254	3251	3
	1640	2960	2956	4	1640	3181	3180	1	1640	3340	3338	2
	1660	3156	3154	2	1660	3370	3369	1	1660	3406	3404	2
	1680	3252	3248	4	1680	3546	3545	1	1680	3535	3532	3
	1700	3283	3282	1	1700	3567	3566	1	1700	3525	3522	3
	1720	3321	3318	3	1720	3594	3591	3	1720	3625	3620	5
	1740	3391	3388	3	1740	3623	3617	6	1740	3652	3647	5
	1760	3443	3426	17	1760	3716	3697	19	1760	3709	3678	31
	1780	3441	3411	30	1780	3799	3754	45	1780	3736	3674	62
	1800	3397	3308	89	1800	3707	3614	93	1800	3746	3624	122
	1820	3471	3367	104	1820	3722	3601	121	1820	3725	3600	125
	1840	3408	3305	103	1840	3780	3681	99	1840	3662	3529	133
	1860	3422	3317	105	1860	3778	3655	123	1860	3816	3680	136
	1880	3549	3418	131	1880	3707	3605	102	1880	3921	3777	144
	1900	3442	3338	104	1900	3886	3766	120	1900	3782	3633	149
	1920	3430	3322	108	1920	3874	3739	135	1920	3803	3674	129
	1940	3353	3262	90	1940	3806	3687	119	1940	3848	3713	135
	1960	3472	3372	100	1960	3739	3620	119	1960	3653	3506	147
	1980	3432	3320	112	1980	3679	3576	103	1980	3697	3552	144
	2000	3473	3367	106	2000	3717	3584	133	2000	3785	3617	168
	1740	0.77%	26		1740	1.32%	48		1740	2.81%	102	
Slope Calc:	1760	1.45%	49		1760	0.27%	10		1760	0.55%	20	
	1780	2.46%	83		1780	1.75%	64		1780	3.25%	118	
	1800	3.25%	109		1800	1.15%	42		1800	0.06%	2	

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High Voltage Plateau and Slope Calculation G542 Unit 4 Drawer B

48-1=	2A			48-2=			2B			48-3=			2C			48-4=			Det8=	2D
	Det5=	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts				
	1500	1299	1299	0	1500	1750	1750	0	1500	1500	2332	2331	1	1500	1889	1889	0			
	1520	1515	1513	2	1520	1997	1996	1	1520	1520	2596	2594	2	1520	2196	2196	0			
	1540	1675	1673	2	1540	2351	2351	0	1540	1540	2973	2971	2	1540	2391	2390	1			
	1560	1965	1964	1	1560	2654	2652	2	1560	1560	3164	3164	0	1560	2690	2689	1			
	1580	2414	2413	1	1580	2897	2896	1	1580	1580	3349	3348	1	1580	2790	2789	1			
	1600	2395	2394	1	1600	3146	3143	3	1600	1600	3462	3460	2	1600	2991	2991	0			
	1620	2795	2795	0	1620	3228	3226	2	1620	1620	3508	3506	2	1620	2117	2117	3			
	1640	3041	3041	0	1640	3449	3448	1	1640	1640	3512	3510	2	1640	2140	2139	1			
	1660	3324	3321	3	1660	3371	3370	1	1660	1660	3679	3676	3	1660	3223	3221	2			
	1680	3414	3412	2	1680	3636	3635	1	1680	1680	3705	3705	0	1680	3376	3374	2			
	1700	3425	3423	2	1700	3602	3599	3	1700	1700	3658	3652	6	1700	3257	3255	2			
	1720	3565	3564	1	1720	3702	3701	1	1720	1720	3793	3790	3	1720	3346	3335	11			
	1740	3630	3629	1	1740	3639	3636	3	1740	1740	3761	3742	19	1740	3428	3410	18			
	1760	3548	3544	4	1760	3679	3675	4	0.11% 0.35%	1760	3679	3768	69	1760	3405	3366	39	1.16% 2.82%		
	1780	3707	3696	11	1780	3753	3740	13		1780	3873	3768	105	1780	3394	3301	93			
	1800	3658	3633	25	1800	3815	3778	37		1800	3819	3651	168	1800	3539	3385	153			
	1820	3652	3617	35	1820	3802	3766	36		1820	3869	3654	215	1820	3475	3296	179			
	1840	3786	3753	33	1840	3842	3798	44		1840	3828	3605	223	1840	3395	3234	161			
	1860	3621	3588	33	1860	3774	3736	38		1860	3884	3687	197	1860	3312	3133	178			
	1880	3606	3575	31	1880	3851	3806	45		1880	3898	3670	228	1880	3457	3275	181			
	1900	3692	3654	38	1900	3862	3810	52		1900	3896	3726	169	1900	3401	3236	165			
	1920	3745	3712	33	1920	3769	3735	34		1920	3793	3626	167	1920	3484	3305	179			
	1940	3704	3670	34	1940	3822	3777	45		1940	3961	3756	205	1940	3396	3202	193			
	1960	3802	3768	34	1960	3744	3696	48		1960	3814	3628	185	1960	3585	3387	198			
	1980	3729	3696	33	1980	3968	3925	43		1980	3845	3638	207	1980	3491	3319	172			
	2000	3644	3614	30	2000	3765	3724	41		2000	3847	3669	178	2000	3391	3216	175			

Slope Calc:	1760	1.47%	53	1760	1.75%	65	1760	3.64%	136	1760	1.16%	39
	1780	3.40%	124	1780	4.34%	162	1780	3.70%	137	1780	5.28%	176
	1800	1.21%	44	1800	1.63%	61	1800	2.82%	104	1800	7.09%	233
	1820	3.32%	121	1820	1.75%	66	1820	2.67%	98	1820	0.79%	26

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High Voltage Plateau and Slope Calculation G542 Unit 4 Drawer C

4C-1=	Det9=	3A	4C-2=	Det10=	3B	4C-3=	Det11=	3C	4C-4=	Det12=	3D			
	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts	Voltage	Gross RIO Counts	Beta ROI Counts	Alpha ROI Counts
	1500	754	754	0	1273	1273	0	1500	1365	1363	1500	1435	1435	0
	1520	952	952	0	1520	1519	0	1520	1608	1606	1520	1685	1682	3
	1540	1206	1206	0	1540	1856	0	1540	1897	1896	1540	1870	1870	0
	1560	1415	1414	1	1560	2167	2166	1	1560	2182	2182	1560	2204	0
	1580	1643	1643	0	1580	2332	2330	2	1580	2496	2495	1580	2516	1
	1600	1835	1835	0	1600	2527	2527	0	1600	2604	2603	1600	2767	1
	1620	2197	2193	4	1620	2853	2852	1	1620	2792	2789	1620	2954	1
	1640	2385	2385	0	1640	2981	2980	1	1640	3135	3135	1640	3097	1
	1660	2566	2566	0	1660	3165	3162	3	1660	3276	3274	1660	3337	3
	1680	2789	2787	2	1680	3302	3300	2	1680	3434	3429	1680	3411	6
	1700	2837	2835	2	1700	3413	3411	2	1700	3562	3559	1700	3485	2
	1720	2882	2881	1	1720	3431	3428	3	1720	3460	3456	1720	3548	3
	1740	3144	3142	2	1740	3578	3573	5	1740	3628	3620	1740	3629	4
	1760	3290	3286	4	1760	3579	3571	8	1760	3625	3610	1760	3562	9
	1780	3183	3181	2	1780	3608	3579	29	1780	3662	3635	1780	3650	43
	1800	3151	3146	5	1800	3679	3613	66	1800	3680	3622	1800	3660	79
	1820	3295	3288	7	1820	3634	3563	71	1820	3653	3563	1820	3654	113
	1840	3358	3344	14	1840	3677	3597	80	1840	3607	3528	1840	3673	107
	1860	3185	3170	15	1860	3655	3581	74	1860	3705	3611	1860	3614	107
	1880	3225	3214	11	1880	3551	3478	73	1880	3646	3563	1880	3810	105
	1900	3241	3228	13	1900	3807	3728	79	1900	3697	3626	1900	3558	85
	1920	3277	3266	11	1920	3630	3565	65	1920	3713	3638	1920	3709	105
	1940	3384	3374	10	1940	3606	3549	57	1940	3709	3620	1940	3688	104
	1960	3428	3419	9	1960	3631	3554	77	1960	3681	3618	1960	3693	97
	1980	3319	3310	9	1980	3728	3664	64	1980	3648	3569	1980	3518	93
	2000	3284	3276	8	2000	3811	3744	67	2000	3649	3582	2000	3671	116
	1740	14.57%	453		1740	4.30%	152		1740	0.11%	4	1740	1.63%	58
	1760	14.55%	463		1760	4.75%	169		1760	2.01%	72	1760	0.59%	21
Slope Calc:	1780	0.87%	28		1780	0.22%	8		1780	0.25%	9	1780	3.31%	118
	1800	2.23%	72		1800	2.61%	93		1800	1.31%	47	1800	4.25%	152
	1820	1.46%	47		1820	4.15%	149		1820	0.25%	9	1820	3.76%	134
	1840	3.71%	120		1840	1.34%	48		1840	0.45%	16	1840	0.64%	23

7/8/2024

NOT IN SERVICE

SI-90
124007
ESC51613
22J11029

DECAY CALCULATION

ACTIVITY FORMULA $A = A_0(e^{-\lambda T})$

A= ACTIVITY OF SOURCE

A₀= INITIAL ACTIVITY

N= DECAY CONSTANT

T(1/2)= SOURCES HALF LIFE

T = NUMBER OF YEARS SINCE ORIGINATION

DATE OF ORIGINATION 25-Aug-22

DATE OF CALIBRATION 01-Jul-24

PREP: 13-Sep-22

A₀ 940.91 nCi

N 0.02

T(1/2) 28.60 years

T 1.85 years

dilution = 1000.00

A 899.65 nCi SR90/Y90

A 1997.22 dpm/ml 3994.4459 399.4446

A 899.65 pCi/ml 1799.3

A 899.65 +/- 16.207189 pCi/ml 3994.445911

11983.33773

Uncertainty 0.0173

Weight 0.05%

Volume (1000 ml) 0.50%

CSU 1.80%

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 14:29
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 1 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1336	1336	0
1520	1697	1696	1
1540	1834	1833	1
1560	2130	2128	2
1580	2358	2355	3
1600	2553	2551	2
1620	2828	2827	1
1640	2960	2956	4
1660	3156	3154	2
1680	3252	3248	4
1700	3283	3282	1
1720	3321	3318	3
1740	3391	3388	3
1760	3443	3426	17
1780	3441	3411	30
1800	3397	3308	89
1820	3471	3367	104
1840	3408	3305	103
1860	3422	3317	105
1880	3549	3418	131
1900	3442	3338	104
1920	3430	3322	108
1940	3353	3262	90
1960	3472	3372	100
1980	3432	3320	112
2000	3473	3367	106

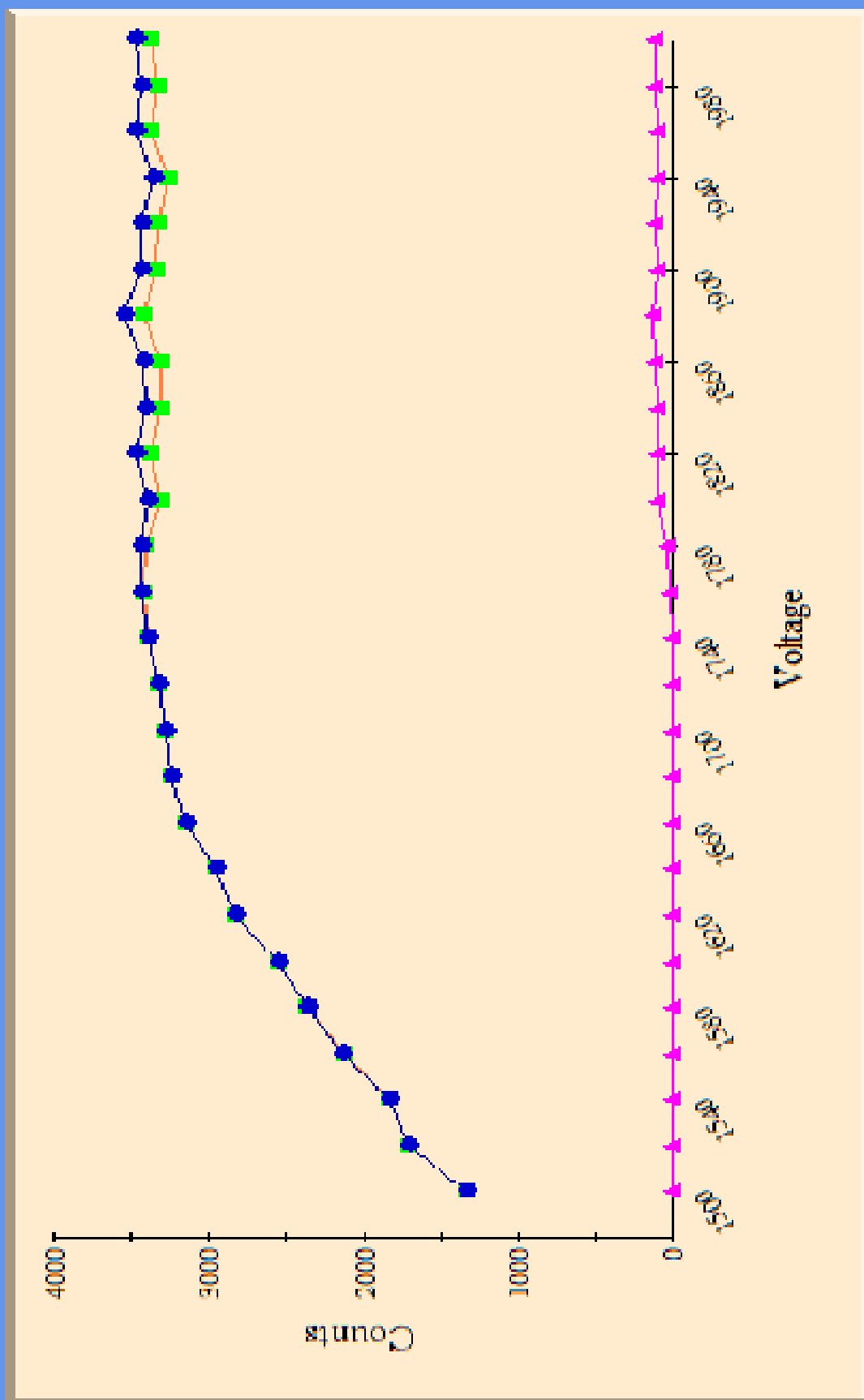
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 2:29:03 PM Drawer - 1 Detector - A

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 15:50
System Serial #: 062201

Counting Time: 1 min 0 sec

Drawer Number: 1 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: 23F04839

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1467	1467	0
1520	1677	1675	2
1540	1971	1967	4
1560	2312	2307	5
1580	2613	2611	2
1600	2756	2754	2
1620	3014	3012	2
1640	3181	3180	1
1660	3370	3369	1
1680	3546	3545	1
1700	3567	3566	1
1720	3594	3591	3
1740	3623	3617	6
1760	3716	3697	19
1780	3799	3754	45
1800	3707	3614	93
1820	3722	3601	121
1840	3780	3681	99
1860	3778	3655	123
1880	3707	3605	102
1900	3886	3766	120
1920	3874	3739	135
1940	3806	3687	119
1960	3739	3620	119
1980	3679	3576	103
2000	3717	3584	133

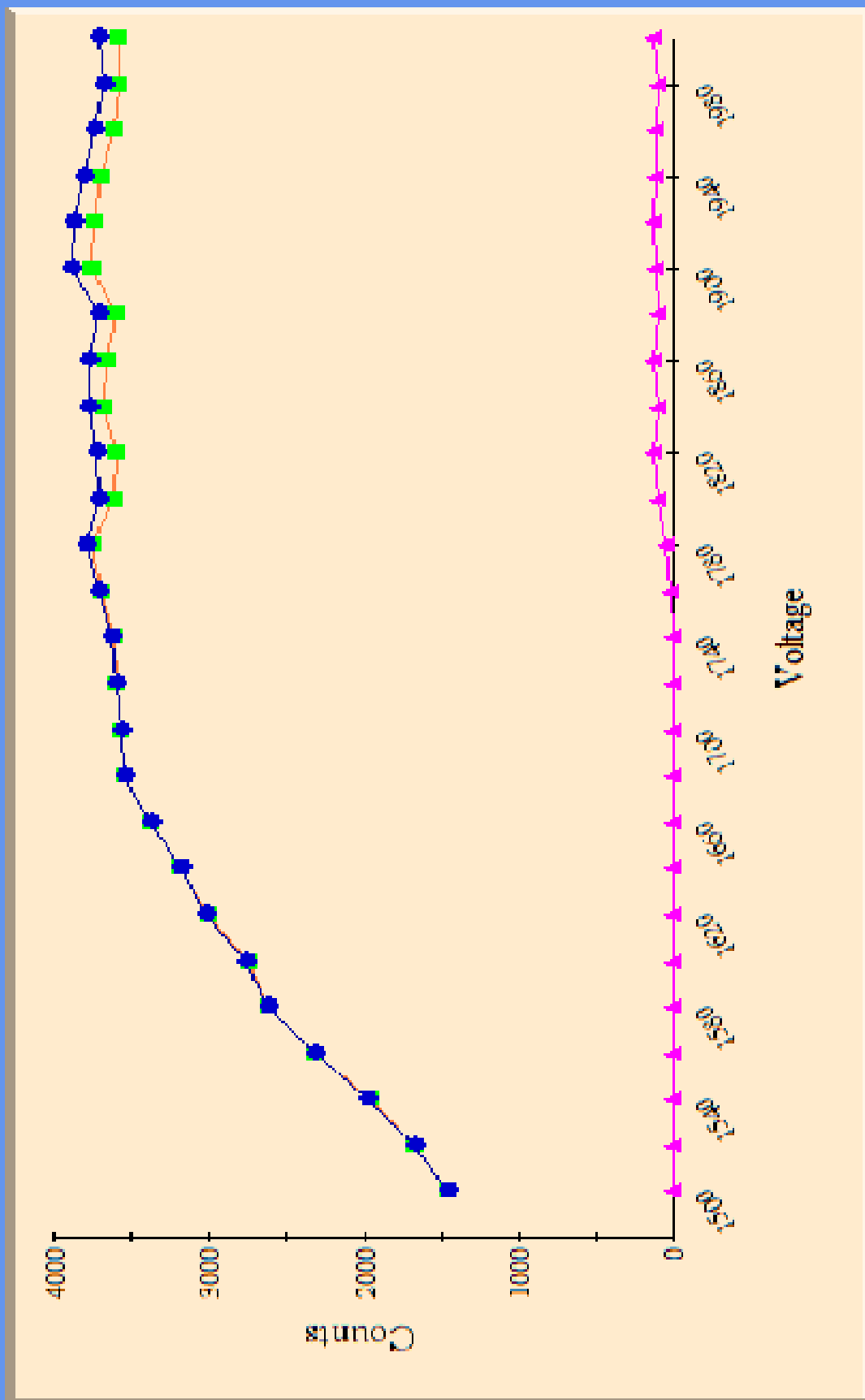
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 3:50:05 PM Drawer - 1 Detector - B

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 16:21
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 1 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1704	1704	0
1520	2030	2027	3
1540	2260	2259	1
1560	2549	2548	1
1580	2870	2870	0
1600	2809	2808	1
1620	3254	3251	3
1640	3340	3338	2
1660	3406	3404	2
1680	3535	3532	3
1700	3525	3522	3
1720	3625	3620	5
1740	3652	3647	5
1760	3709	3678	31
1780	3736	3674	62
1800	3746	3624	122
1820	3725	3600	125
1840	3662	3529	133
1860	3816	3680	136
1880	3921	3777	144
1900	3782	3633	149
1920	3803	3674	129
1940	3848	3713	135
1960	3653	3506	147
1980	3697	3552	144
2000	3785	3617	168

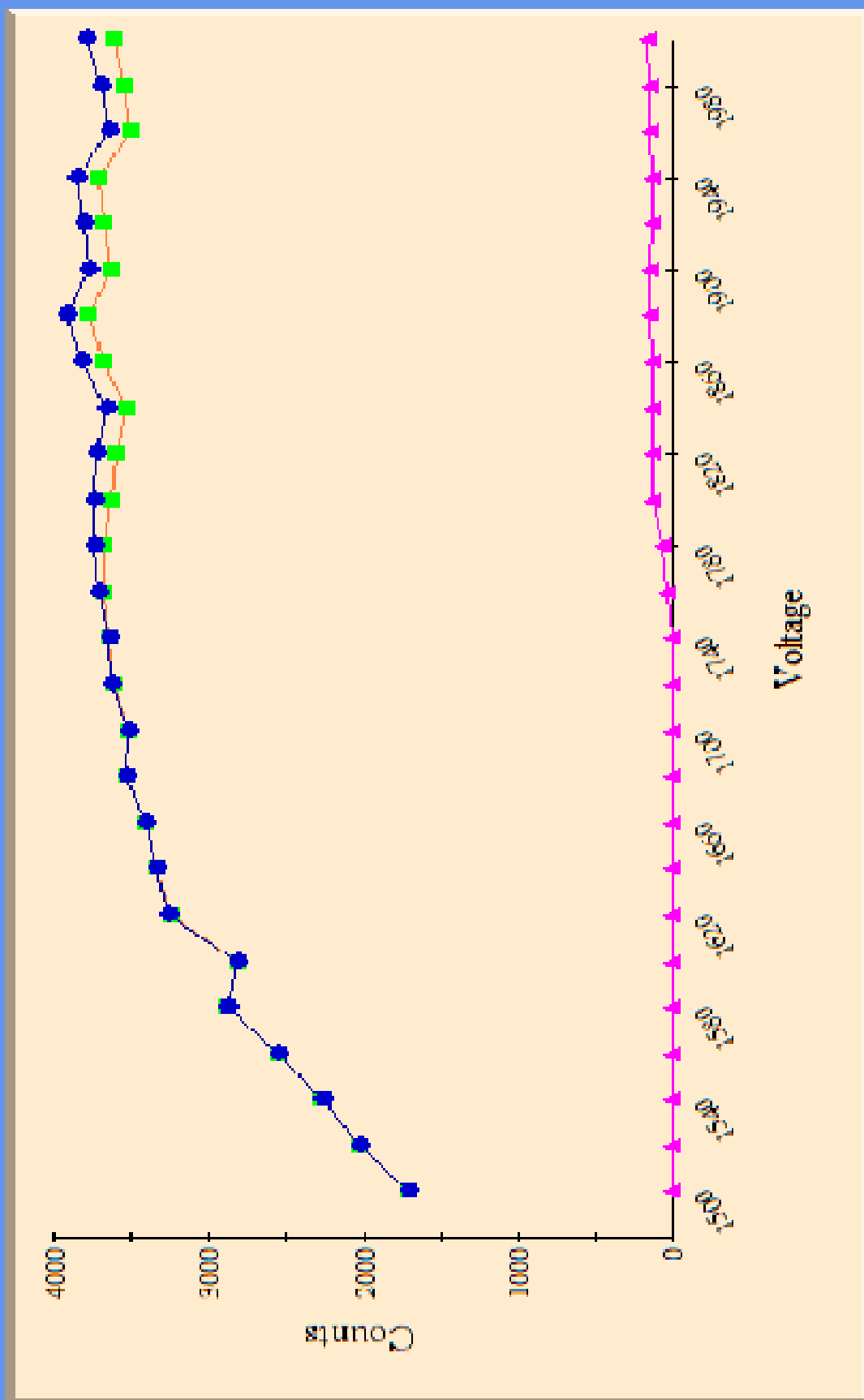
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 4:21:41 PM Drawer - 1 Detector - C

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 16:59
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 1 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1860	1860	0
1520	2095	2094	1
1540	2468	2468	0
1560	2644	2644	0
1580	2968	2968	0
1600	3123	3121	2
1620	3186	3185	1
1640	3448	3448	0
1660	3501	3501	0
1680	3578	3577	1
1700	3638	3636	2
1720	3666	3664	2
1740	3672	3670	2
1760	3835	3827	8
1780	3793	3771	22
1800	3898	3858	40
1820	3756	3691	65
1840	3759	3696	63
1860	3899	3827	72
1880	3800	3729	71
1900	3877	3811	66
1920	3803	3723	80
1940	3768	3714	54
1960	3699	3625	74
1980	3776	3714	62
2000	3749	3690	59

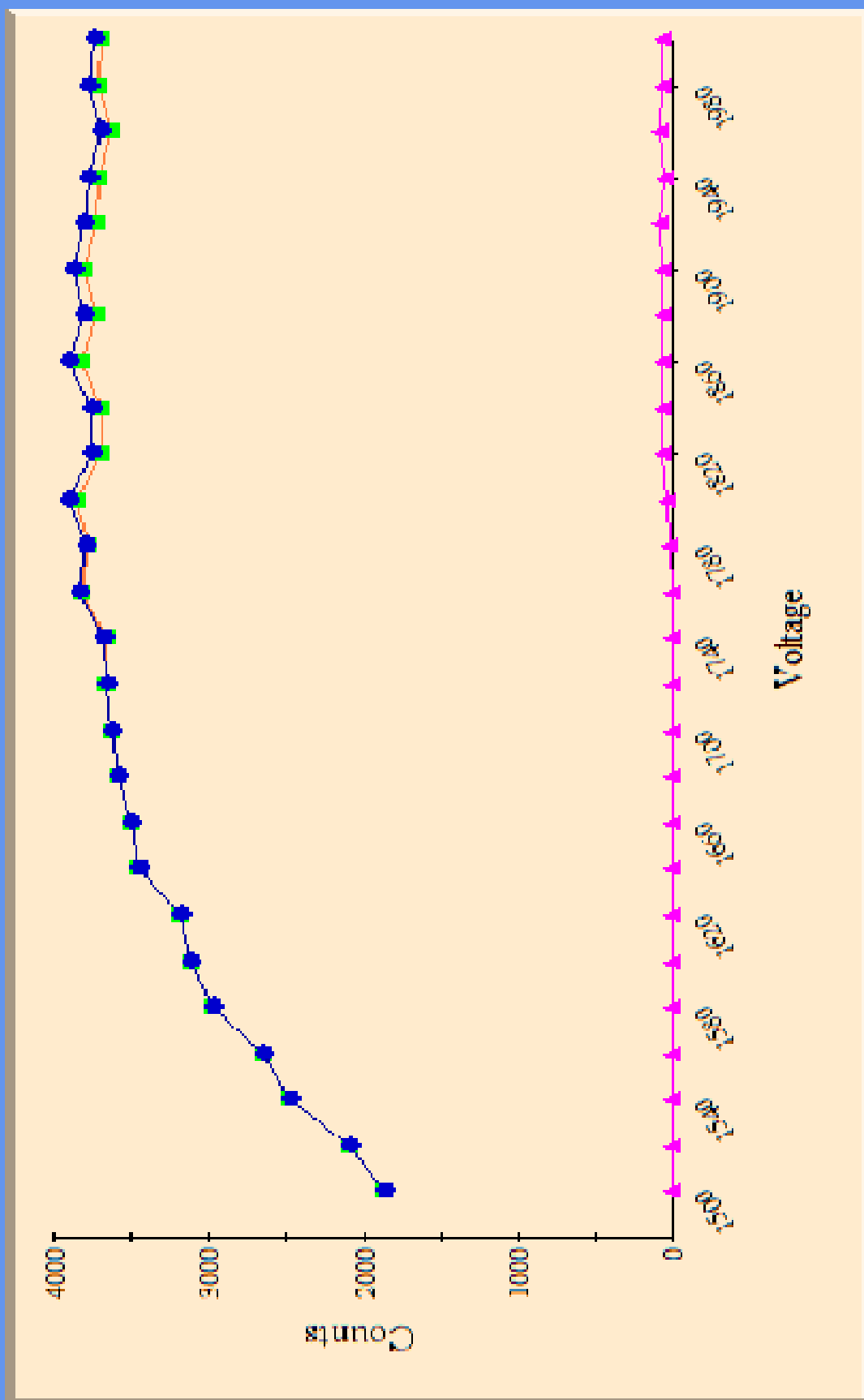
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 4:59:09 PM Drawer - 1 Detector - D

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 17:59
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 2 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1299	1299	0
1520	1515	1513	2
1540	1675	1673	2
1560	1965	1964	1
1580	2414	2413	1
1600	2395	2394	1
1620	2795	2795	0
1640	3041	3041	0
1660	3324	3321	3
1680	3414	3412	2
1700	3425	3423	2
1720	3565	3564	1
1740	3630	3629	1
1760	3548	3544	4
1780	3707	3696	11
1800	3658	3633	25
1820	3652	3617	35
1840	3786	3753	33
1860	3621	3588	33
1880	3606	3575	31
1900	3692	3654	38
1920	3745	3712	33
1940	3704	3670	34
1960	3802	3768	34
1980	3729	3696	33
2000	3644	3614	30

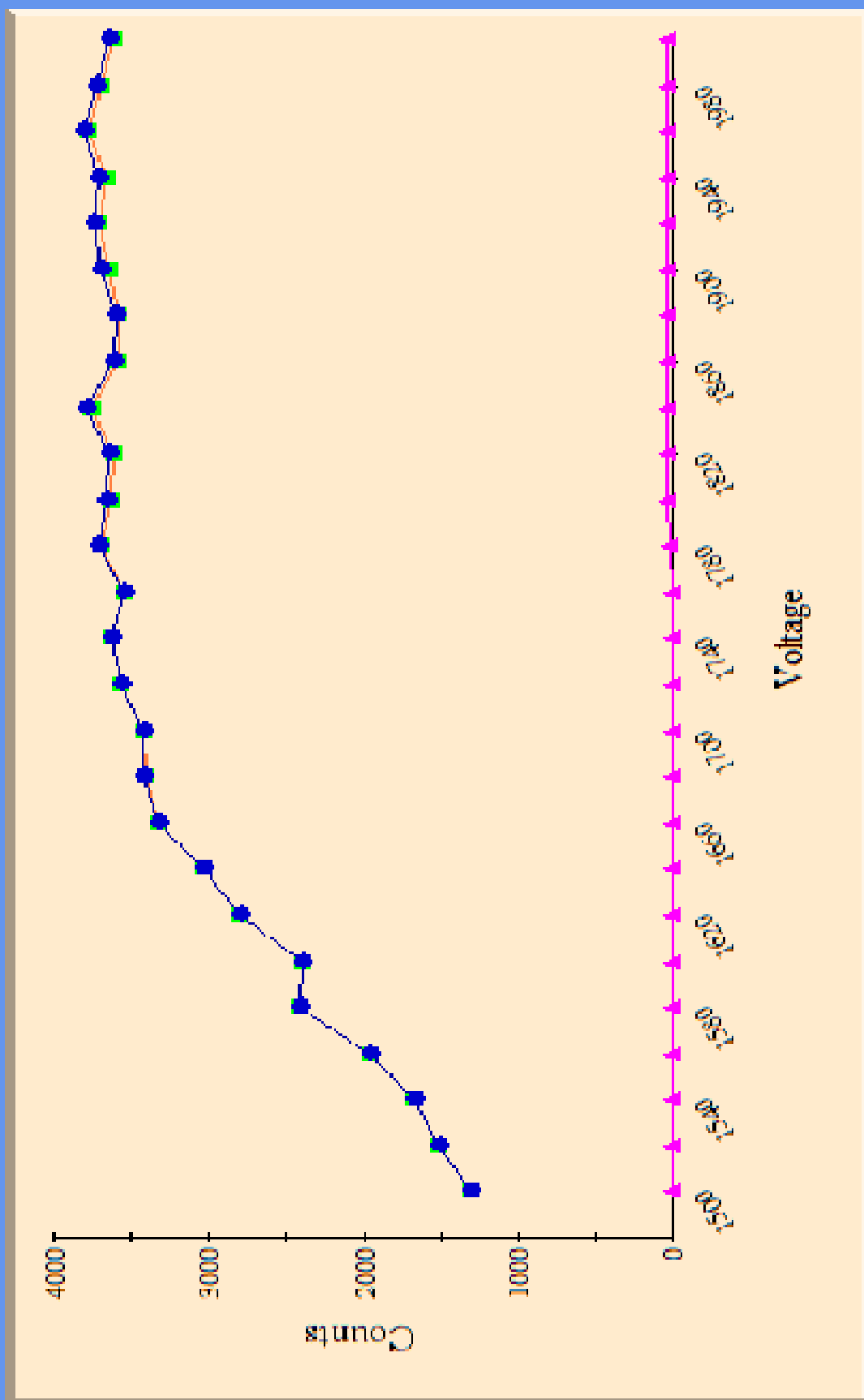
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 5:59:37 PM Drawer - 2 Detector - A

Alpha Counts
Beta Counts
Gross Counts

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 18:30
System Serial #: 062201

Counting Time: 1 min 0 sec

Drawer Number: 2 Detector: B

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: 23F04839

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1750	1750	0
1520	1997	1996	1
1540	2351	2351	0
1560	2654	2652	2
1580	2897	2896	1
1600	3146	3143	3
1620	3228	3226	2
1640	3449	3448	1
1660	3371	3370	1
1680	3636	3635	1
1700	3602	3599	3
1720	3702	3701	1
1740	3639	3636	3
1760	3679	3675	4
1780	3753	3740	13
1800	3815	3778	37
1820	3802	3766	36
1840	3842	3798	44
1860	3774	3736	38
1880	3851	3806	45
1900	3862	3810	52
1920	3769	3735	34
1940	3822	3777	45
1960	3744	3696	48
1980	3968	3925	43
2000	3765	3724	41

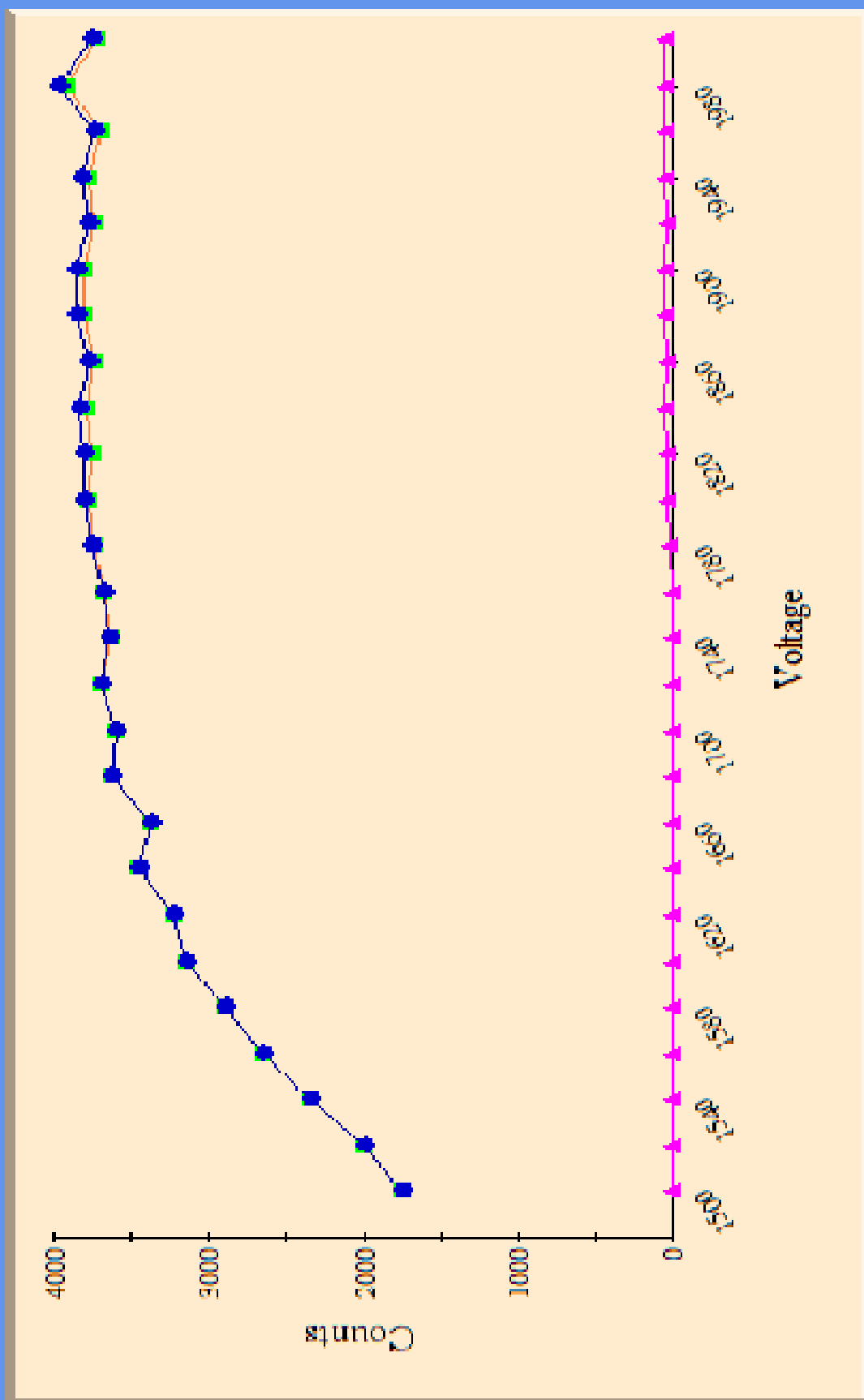
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 6:30:58 PM Drawer - 2 Detector - B

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 18:58
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 2 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	2332	2331	1
1520	2596	2594	2
1540	2973	2971	2
1560	3164	3164	0
1580	3349	3348	1
1600	3462	3460	2
1620	3508	3506	2
1640	3512	3510	2
1660	3679	3676	3
1680	3705	3705	0
1700	3658	3652	6
1720	3793	3790	3
1740	3761	3742	19
1760	3860	3791	69
1780	3873	3768	105
1800	3819	3651	168
1820	3869	3654	215
1840	3828	3605	223
1860	3884	3687	197
1880	3898	3670	228
1900	3895	3726	169
1920	3793	3626	167
1940	3961	3756	205
1960	3814	3628	185
1980	3845	3638	207
2000	3847	3669	178

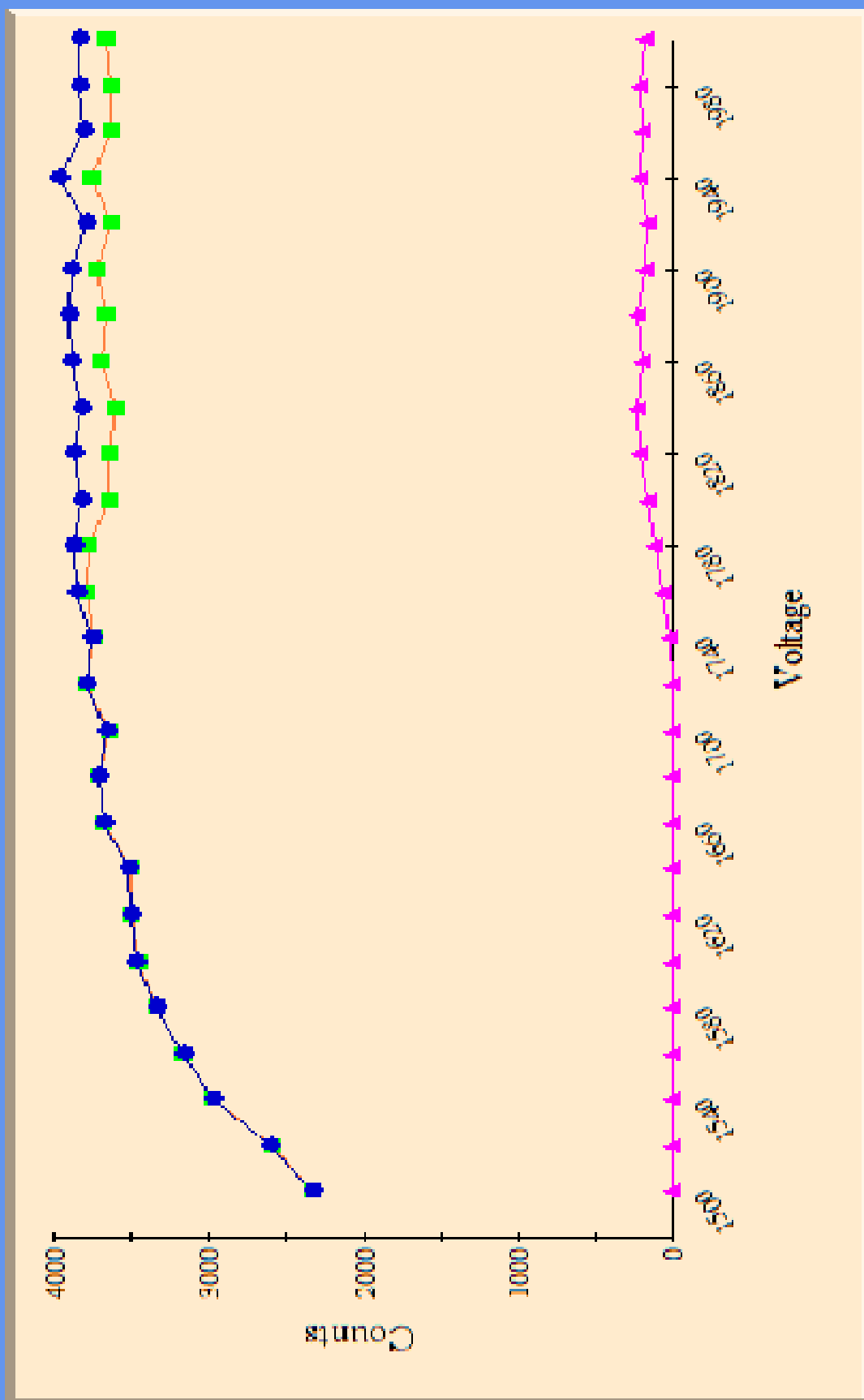
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 6:58:31 PM Drawer - 2 Detector - C

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 19:29
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 2 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1889	1889	0
1520	2196	2196	0
1540	2391	2390	1
1560	2690	2689	1
1580	2790	2789	1
1600	2991	2991	0
1620	3117	3114	3
1640	3140	3139	1
1660	3223	3221	2
1680	3376	3374	2
1700	3257	3255	2
1720	3346	3335	11
1740	3428	3410	18
1760	3405	3366	39
1780	3394	3301	93
1800	3539	3385	153
1820	3475	3296	179
1840	3395	3234	161
1860	3312	3133	178
1880	3457	3275	181
1900	3401	3236	165
1920	3484	3305	179
1940	3396	3202	193
1960	3585	3387	198
1980	3491	3319	172
2000	3391	3216	175

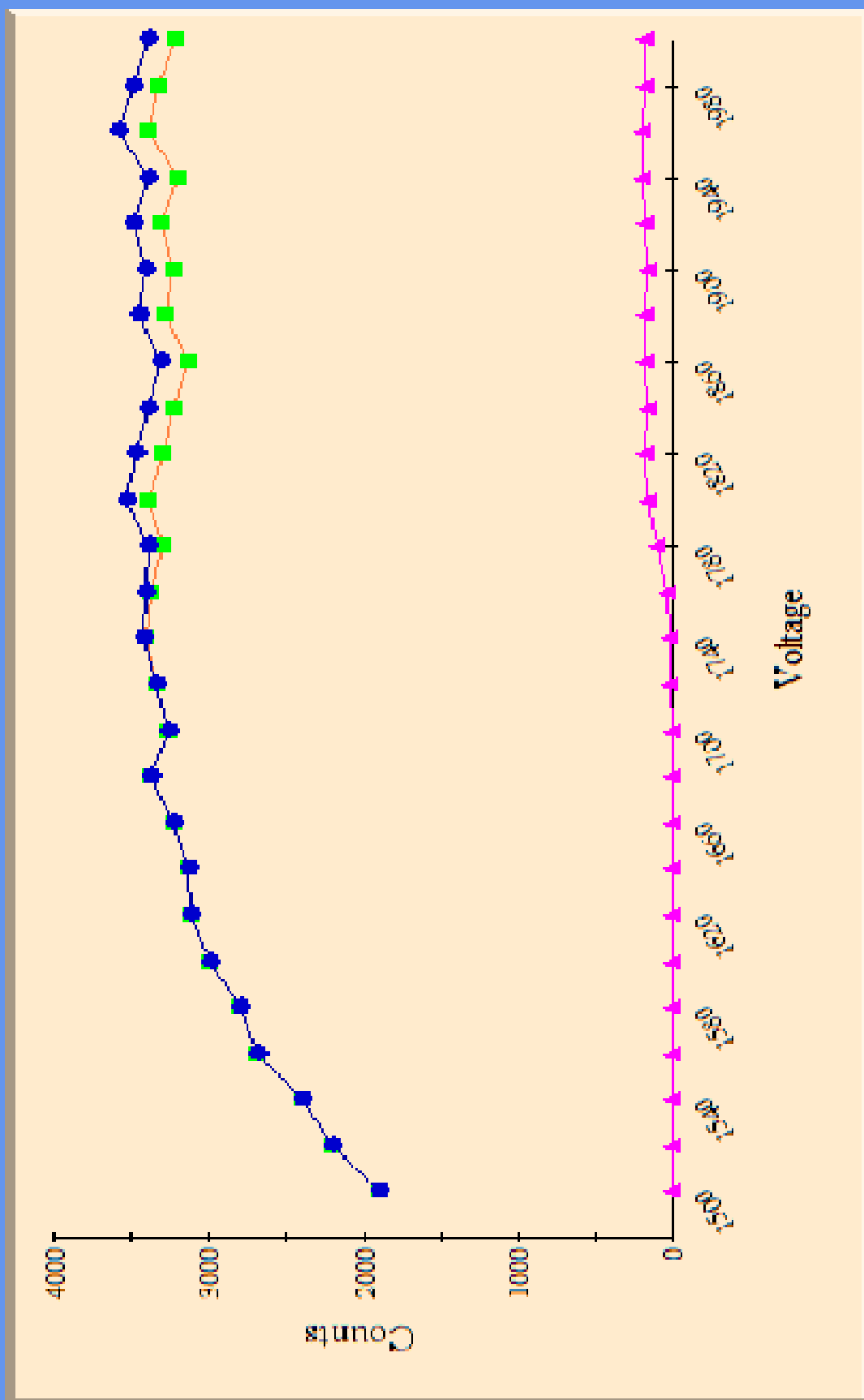
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 7:29:23 PM Drawer - 2 Detector - D

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 20:25
System Serial #: 062201

Counting Time: 1 min 0 sec

Drawer Number: 3 Detector: A

Starting Voltage: 1500

Voltage Step: 20

Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta

Source Certificate: 23F04839

Isotope: Sr-90

Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	754	754	0
1520	952	952	0
1540	1206	1206	0
1560	1415	1414	1
1580	1643	1643	0
1600	1835	1835	0
1620	2197	2193	4
1640	2385	2385	0
1660	2566	2566	0
1680	2789	2787	2
1700	2837	2835	2
1720	2882	2881	1
1740	3144	3142	2
1760	3290	3286	4
1780	3183	3181	2
1800	3151	3146	5
1820	3295	3288	7
1840	3358	3344	14
1860	3185	3170	15
1880	3225	3214	11
1900	3241	3228	13
1920	3277	3266	11
1940	3384	3374	10
1960	3428	3419	9
1980	3319	3310	9
2000	3284	3276	8

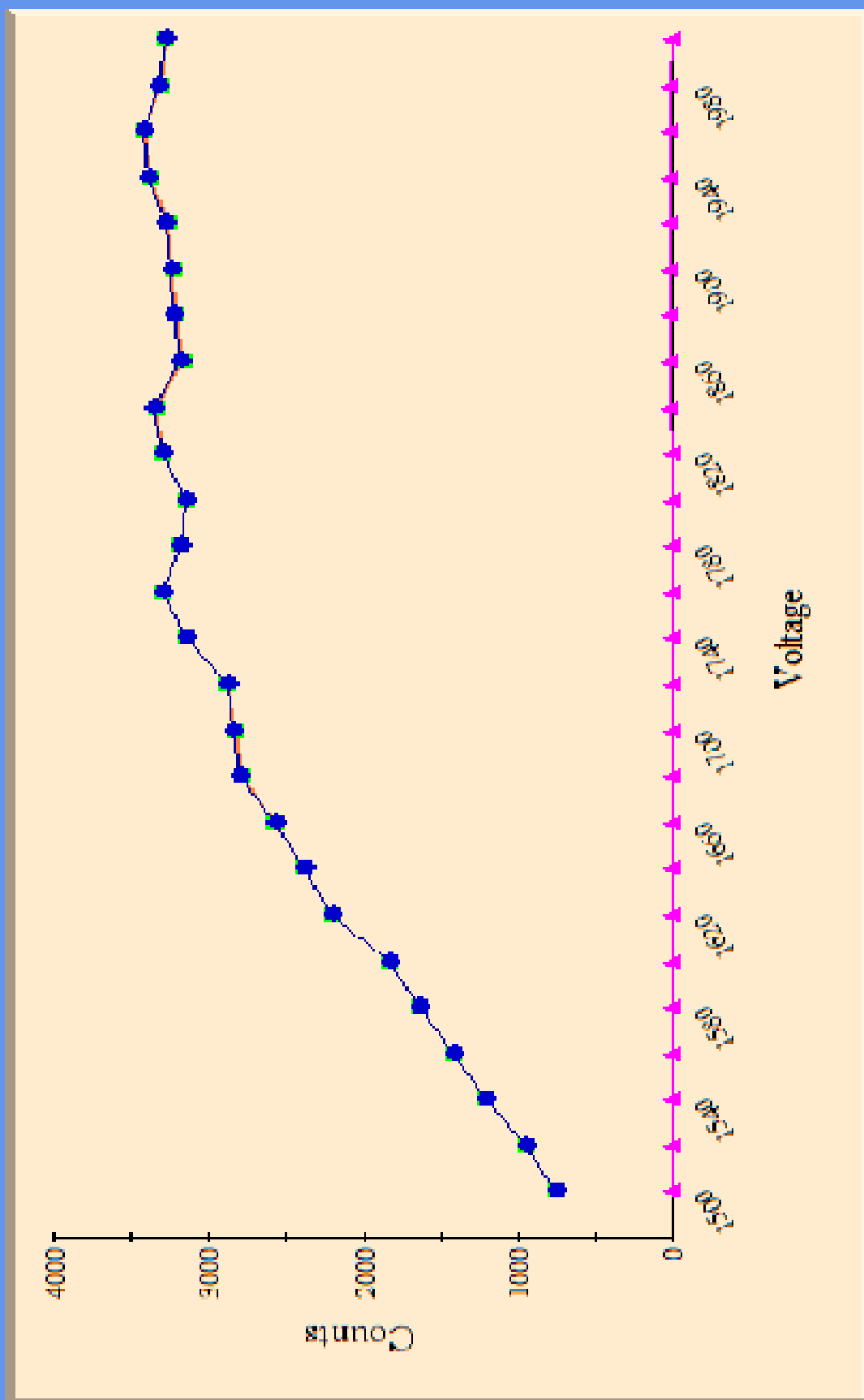
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 8:25:23 PM Drawer - 3 Detector - A

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 20:58
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 3 Detector: B
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1273	1273	0
1520	1519	1519	0
1540	1856	1856	0
1560	2167	2166	1
1580	2332	2330	2
1600	2527	2527	0
1620	2853	2852	1
1640	2981	2980	1
1660	3165	3162	3
1680	3302	3300	2
1700	3413	3411	2
1720	3431	3428	3
1740	3578	3573	5
1760	3579	3571	8
1780	3608	3579	29
1800	3679	3613	66
1820	3634	3563	71
1840	3677	3597	80
1860	3655	3581	74
1880	3551	3478	73
1900	3807	3728	79
1920	3630	3565	65
1940	3606	3549	57
1960	3631	3554	77
1980	3728	3664	64
2000	3811	3744	67

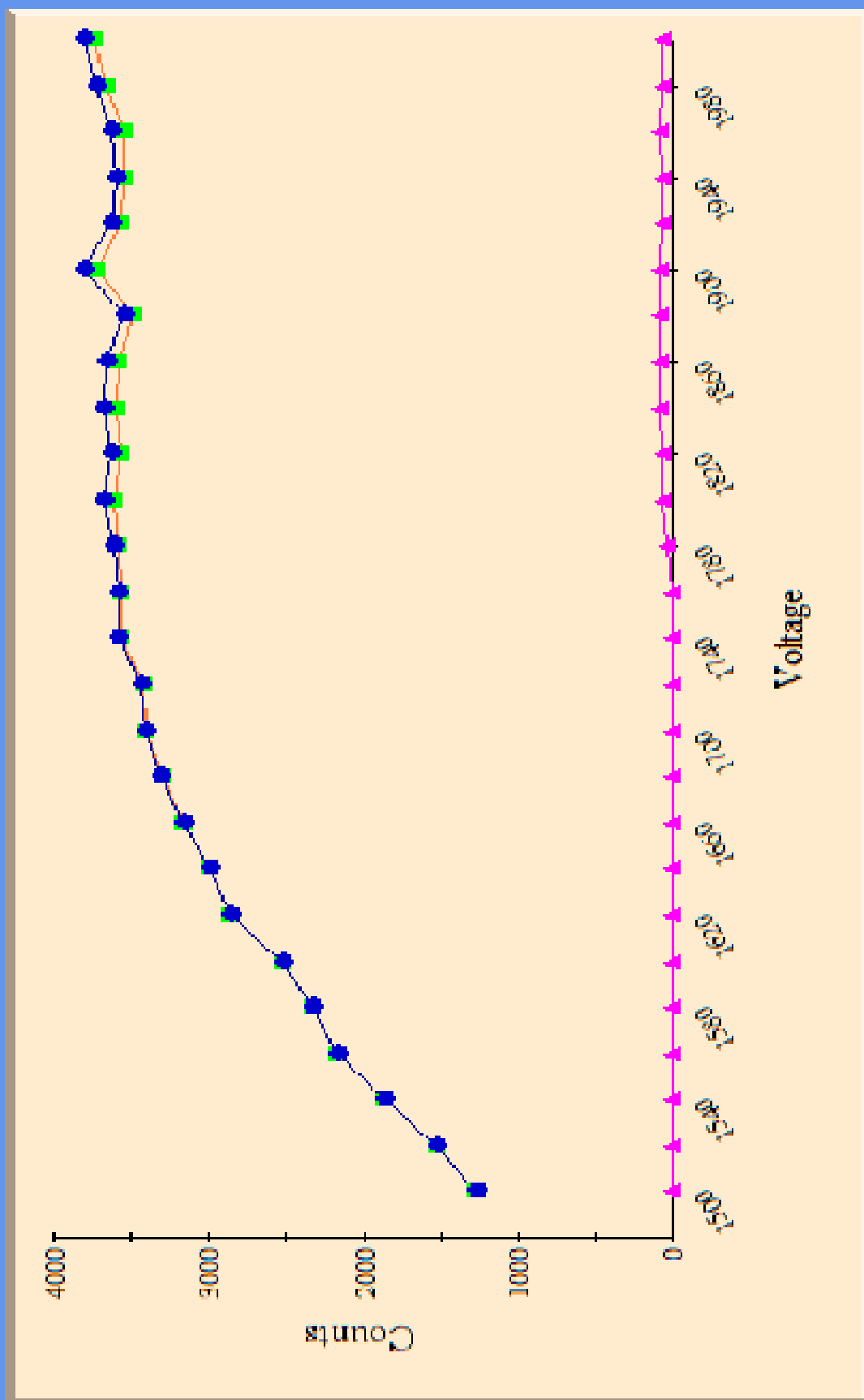
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 8:58:03 PM Drawer - 3 Detector - B

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 21:25
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 3 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1365	1363	2
1520	1608	1606	2
1540	1897	1896	1
1560	2182	2182	0
1580	2496	2495	1
1600	2604	2603	1
1620	2792	2789	3
1640	3135	3135	0
1660	3276	3274	2
1680	3434	3429	5
1700	3562	3559	3
1720	3460	3456	4
1740	3628	3620	8
1760	3625	3610	15
1780	3662	3635	27
1800	3680	3622	58
1820	3653	3563	90
1840	3607	3528	79
1860	3705	3611	94
1880	3646	3563	83
1900	3697	3626	71
1920	3713	3638	75
1940	3709	3620	89
1960	3681	3618	63
1980	3648	3569	79
2000	3649	3582	67

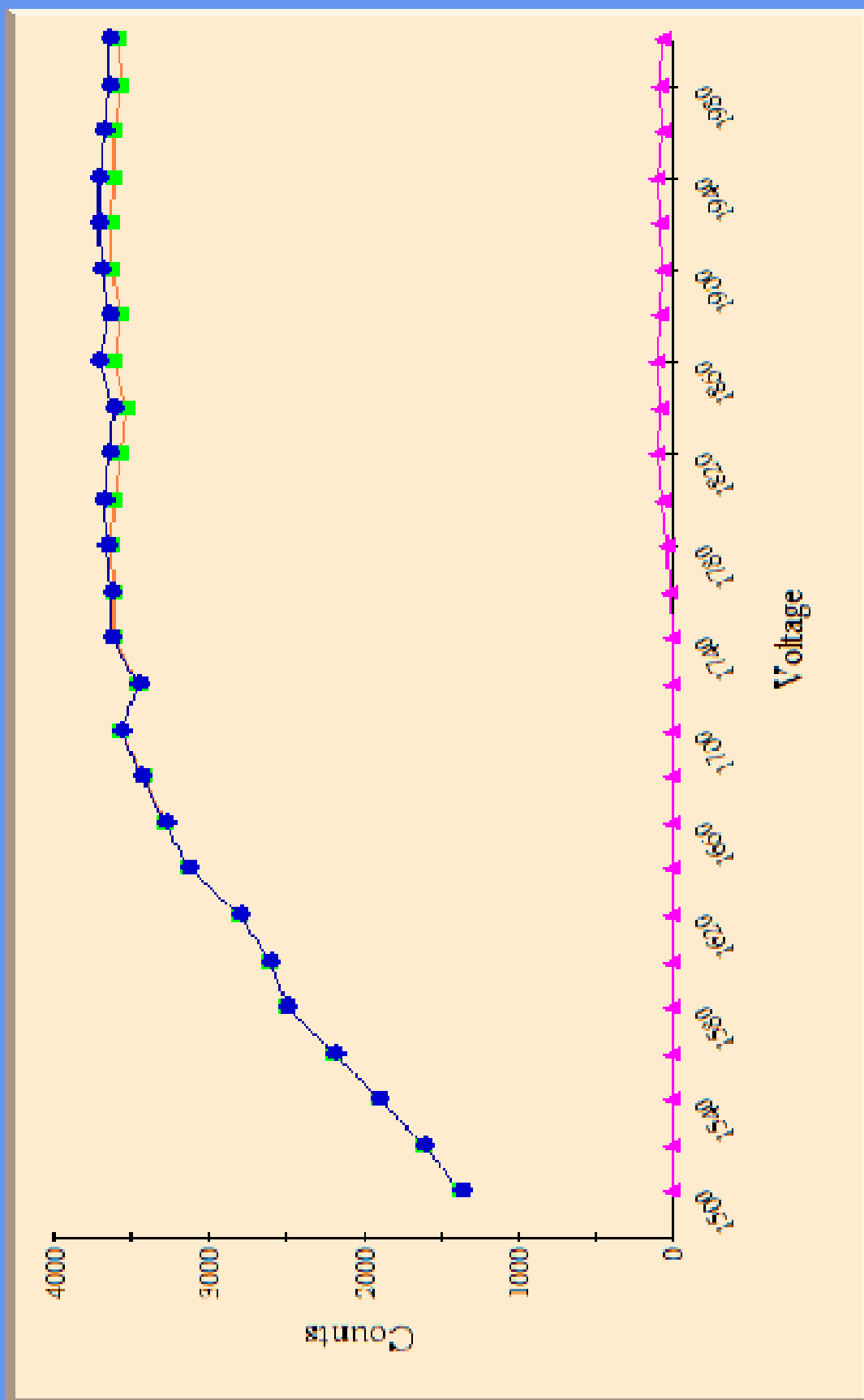
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 9:25:38 PM Drawer - 3 Detector - C

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 22:01
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 3 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1435	1435	0
1520	1685	1682	3
1540	1870	1870	0
1560	2204	2204	0
1580	2516	2515	1
1600	2767	2766	1
1620	2954	2953	1
1640	3097	3096	1
1660	3337	3334	3
1680	3411	3405	6
1700	3485	3483	2
1720	3548	3545	3
1740	3629	3625	4
1760	3562	3553	9
1780	3650	3607	43
1800	3660	3581	79
1820	3654	3541	113
1840	3673	3566	107
1860	3614	3507	107
1880	3810	3705	105
1900	3558	3473	85
1920	3709	3604	105
1940	3688	3584	104
1960	3693	3596	97
1980	3518	3425	93
2000	3671	3555	116

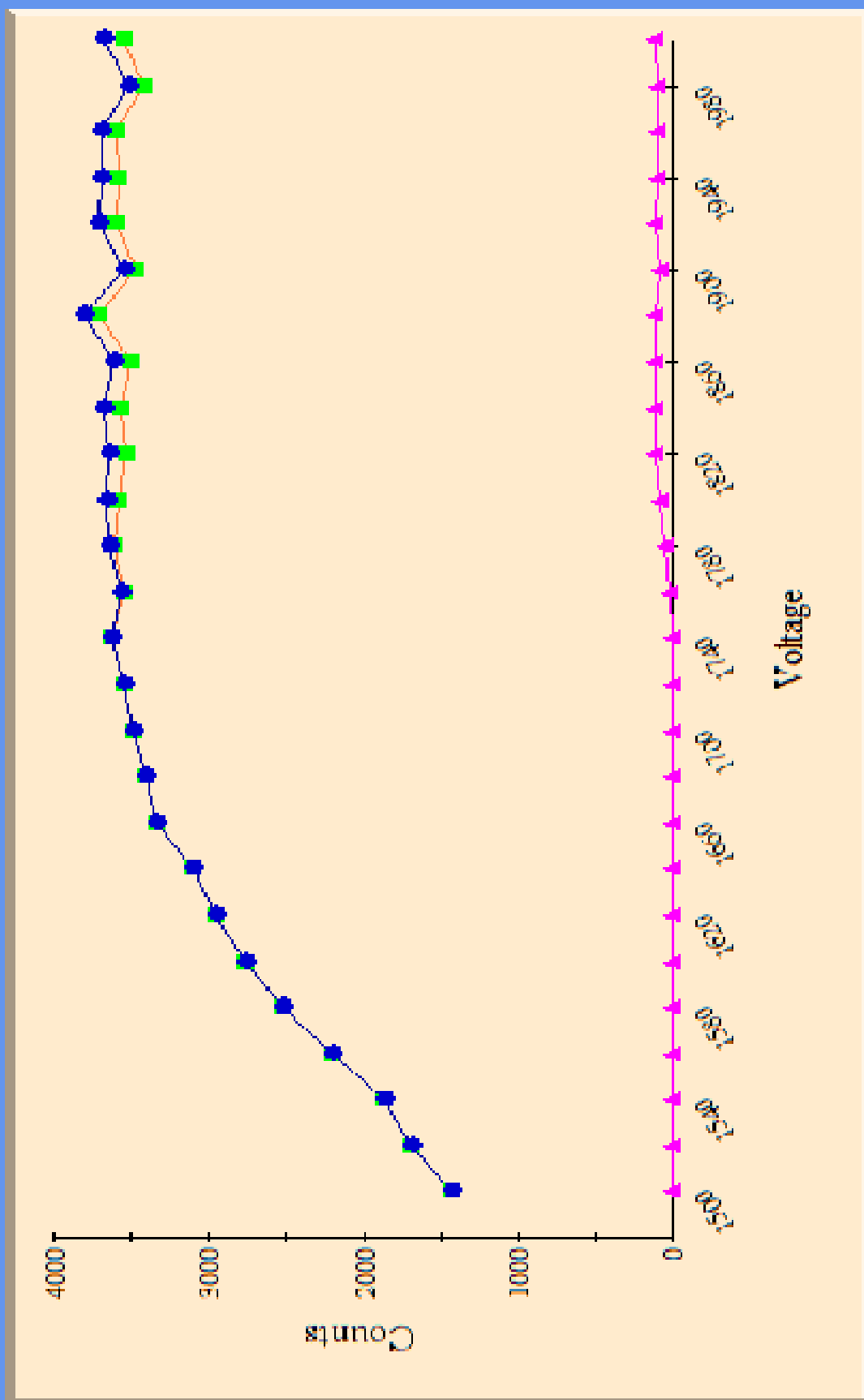
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 10:01:42 PM Drawer - 3 Detector - D

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 22:31
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: A
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u> Chn 1 - 1024	<u>Beta ROI Counts</u> Chn 1 - 899	<u>Alpha ROI Counts</u> Chn 900 - 1023
1500	1897	1896	1
1520	2136	2136	0
1540	2462	2460	2
1560	2698	2698	0
1580	2958	2958	0
1600	3107	3106	1
1620	3250	3247	3
1640	3353	3349	4
1660	3472	3471	1
1680	3517	3514	3
1700	3561	3559	2
1720	3496	3493	3
1740	3642	3629	13
1760	3789	3764	25
1780	3656	3578	78
1800	3735	3608	127
1820	3689	3529	160
1840	3656	3493	163
1860	3797	3623	174
1880	3792	3611	181
1900	3877	3715	162
1920	3765	3612	153
1940	3729	3556	173
1960	3800	3617	183
1980	3664	3489	175
2000	3808	3634	174

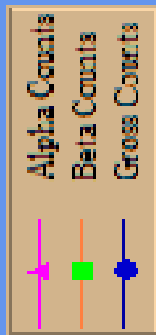
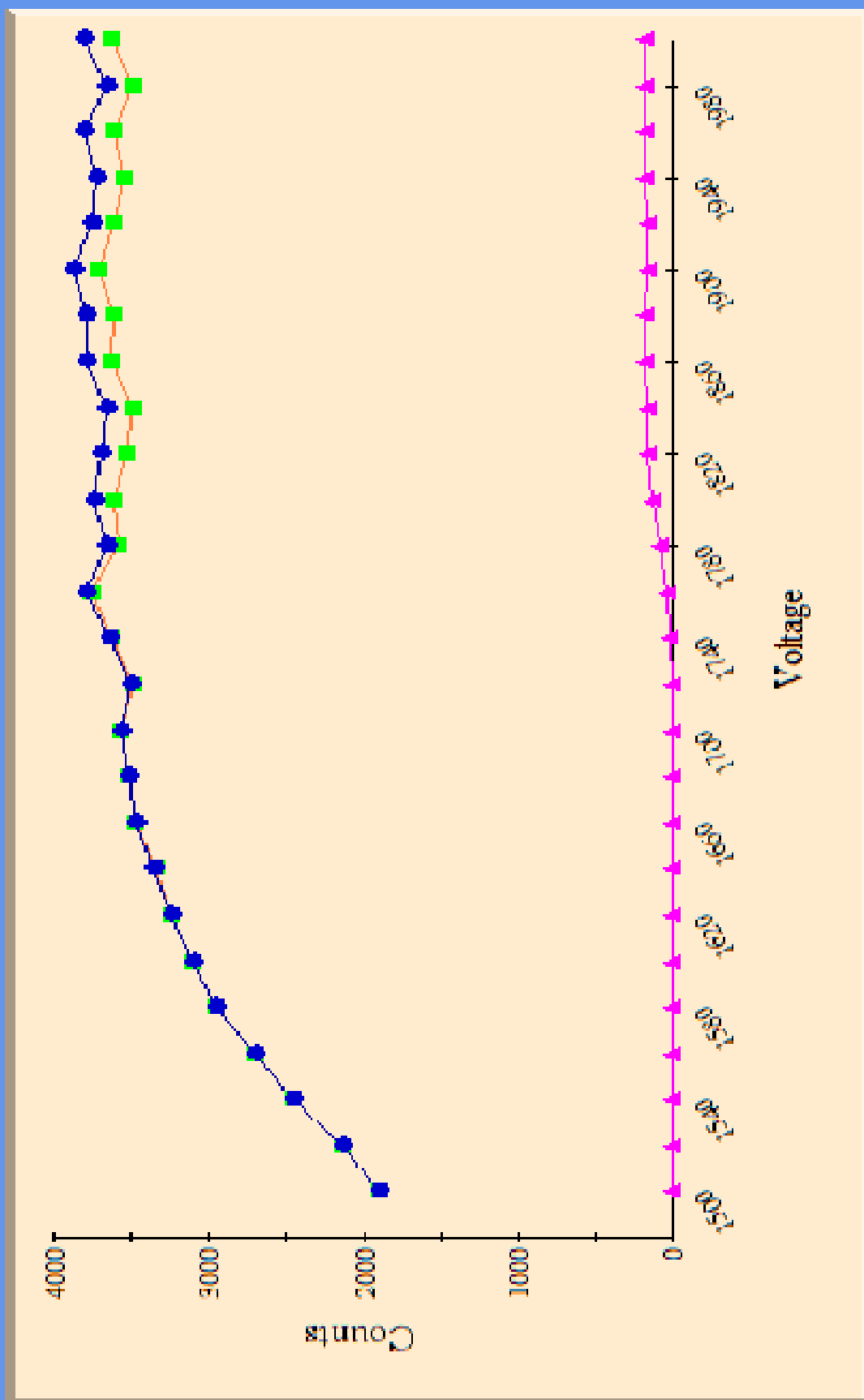
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Source Certificate - 23F04839 Isotope - Sr-90
 Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 10:31:25 PM Drawer - 4 Detector - A

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 23:05
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: B
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	2096	2095	1
1520	2391	2390	1
1540	2719	2717	2
1560	2989	2987	2
1580	3092	3090	2
1600	3234	3233	1
1620	3313	3312	1
1640	3557	3555	2
1660	3596	3595	1
1680	3634	3631	3
1700	3809	3806	3
1720	3630	3630	0
1740	3778	3772	6
1760	3724	3707	17
1780	3803	3770	33
1800	3818	3735	83
1820	3819	3733	86
1840	3696	3598	98
1860	3848	3776	72
1880	3788	3683	105
1900	3860	3780	80
1920	3799	3712	87
1940	3845	3770	75
1960	3773	3683	90
1980	3901	3812	89
2000	3842	3749	93

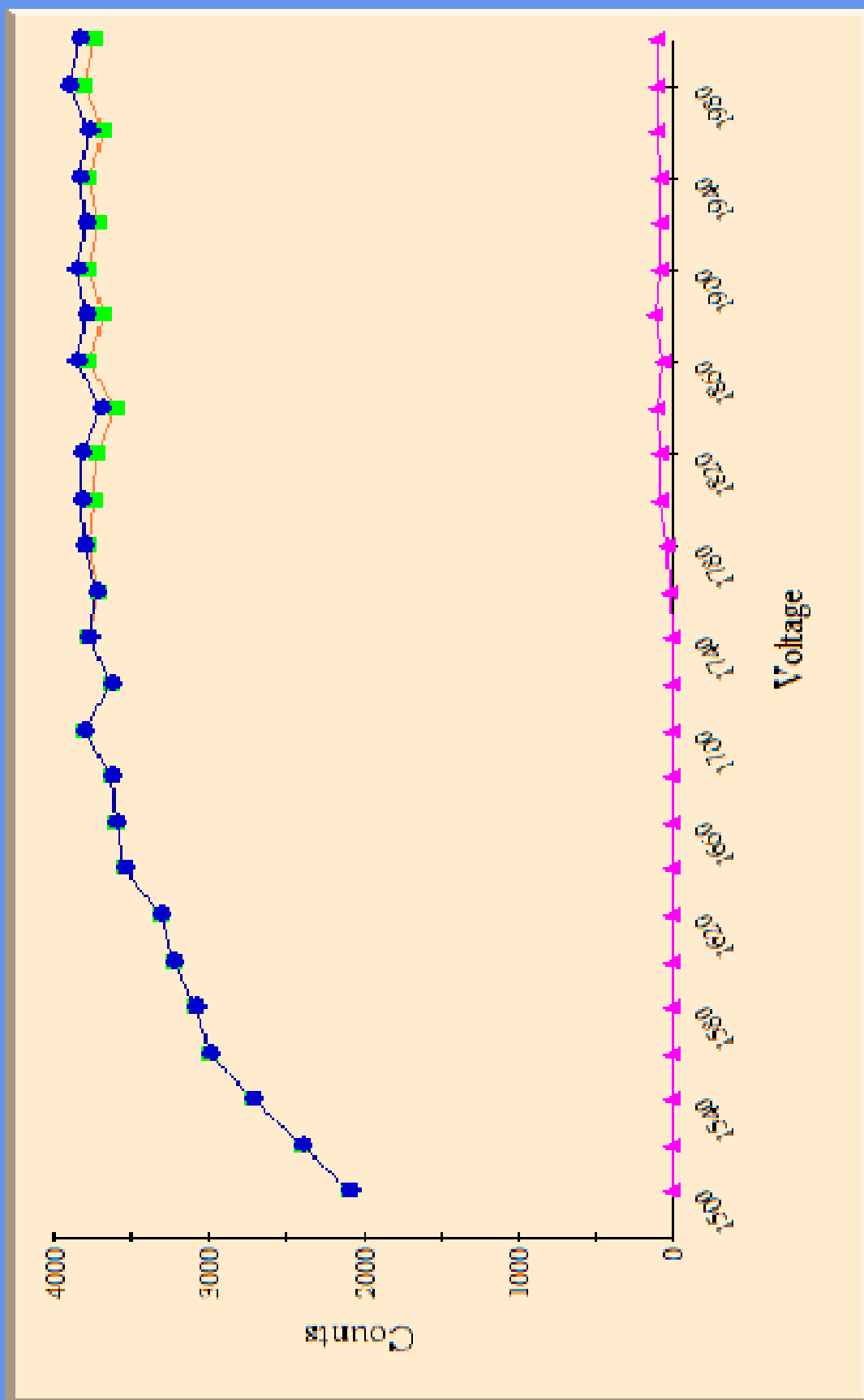
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 11:05:34 PM Drawer - 4 Detector - B

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/08/2024 23:40
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: C
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	1493	1492	1
1520	1702	1700	2
1540	1975	1975	0
1560	2257	2253	4
1580	2523	2523	0
1600	2755	2754	1
1620	3046	3044	2
1640	3158	3158	0
1660	3442	3441	1
1680	3476	3474	2
1700	3402	3401	1
1720	3574	3573	1
1740	3664	3663	1
1760	3563	3558	5
1780	3708	3706	2
1800	3735	3709	26
1820	3768	3726	42
1840	3818	3789	29
1860	3777	3746	31
1880	3822	3788	34
1900	3773	3749	24
1920	3713	3678	35
1940	3703	3672	31
1960	3722	3708	14
1980	3695	3664	31
2000	3706	3681	25

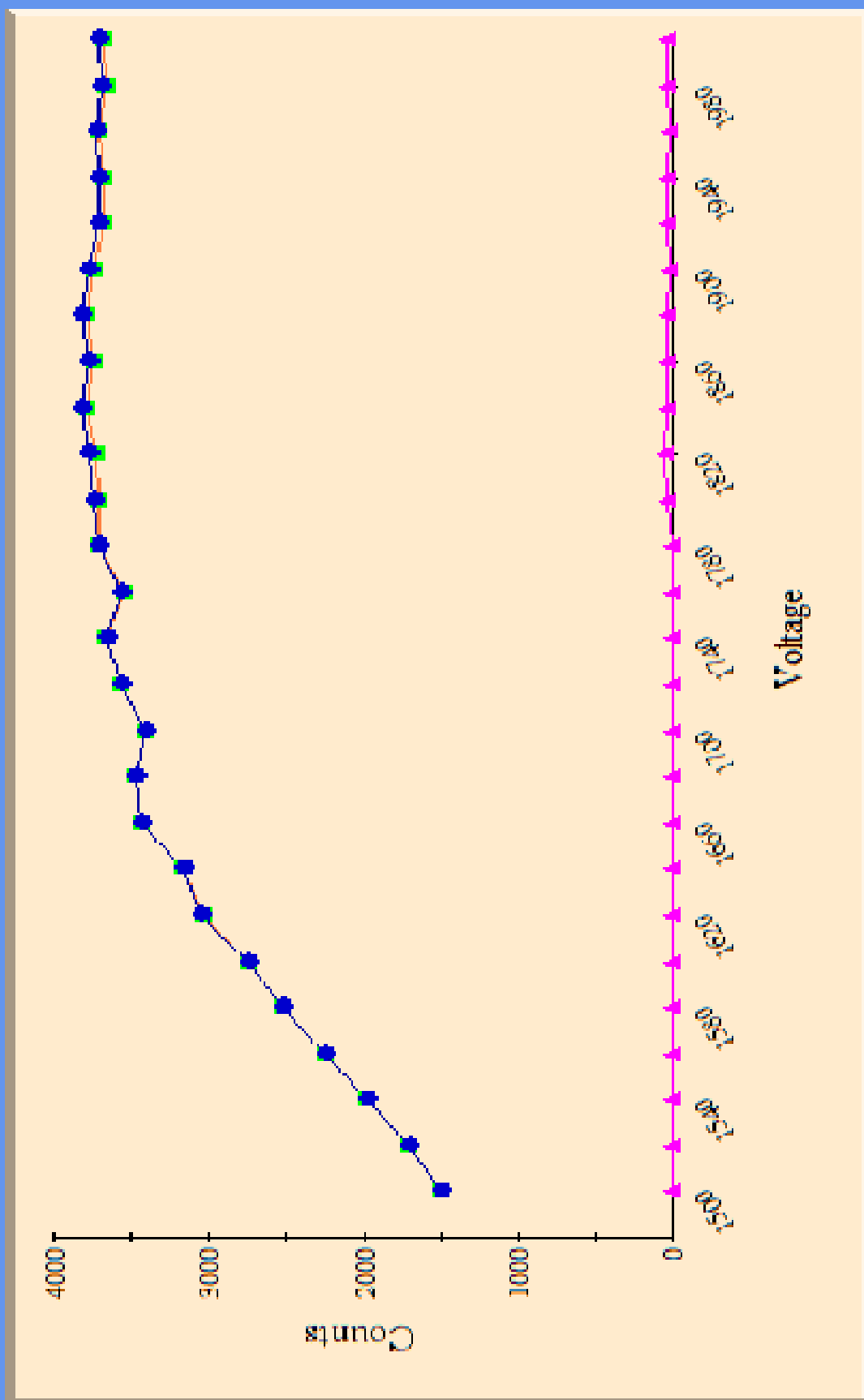
Special Notes:

Report Generated: 07/08/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/08/2024 11:40:32 PM Drawer - 4 Detector - C

Pace Analytical

G-542W High Voltage Plateau

Machine Name: PEPPER MILL 2
User ID: Meier

Run Date: 07/09/2024 00:10
System Serial #: 062201

Counting Time: 1 min 0 sec
Drawer Number: 4 Detector: D
Starting Voltage: 1500
Voltage Step: 20
Ending Voltage: 2000

Plot Mode: Gross/Alpha/Beta
Source Certificate: 23F04839
Isotope: Sr-90
Emission Type: Beta

<u>Voltage</u>	<u>Gross ROI Counts</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
	Chn 1 - 1024	Chn 1 - 899	Chn 900 - 1023
1500	582	582	0
1520	770	769	1
1540	936	935	1
1560	1205	1205	0
1580	1398	1396	2
1600	1576	1576	0
1620	1732	1732	0
1640	2073	2071	2
1660	2339	2338	1
1680	2576	2575	1
1700	2719	2718	1
1720	2868	2867	1
1740	3051	3048	3
1760	3223	3220	3
1780	3258	3253	5
1800	3307	3303	4
1820	3243	3240	3
1840	3348	3345	3
1860	3358	3355	3
1880	3310	3307	3
1900	3351	3346	5
1920	3311	3305	6
1940	3275	3268	7
1960	3268	3265	3
1980	3271	3269	2
2000	3396	3393	3

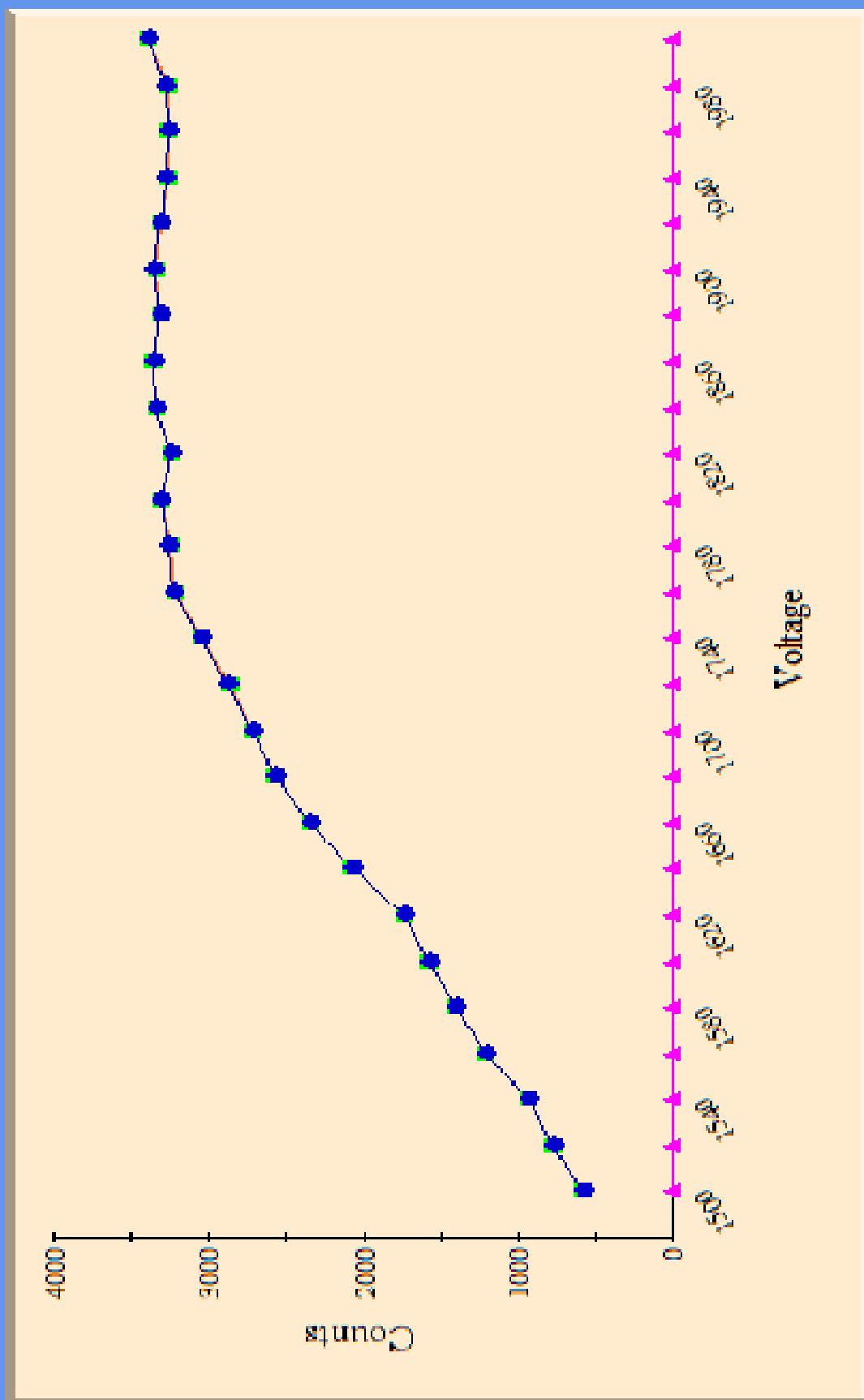
Special Notes:

Report Generated: 07/09/2024

G542HV.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	New Voltage: _____
Approved By: _____	Date: _____

High Voltage Plateau Plot



Alpha Counts
Beta Counts
Gross Counts

Source Certificate - 23F04839 Isotope - Sr-90

Count Time: 1 Min. 0 sec. AcqDate - 07/09/2024 12:10:06 AM Drawer - 4 Detector - D

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:14
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 1 Detector: A Source Certificate: 23F04839
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Gamma

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3671	10
2	3702	14
3	3738	20
4	3692	15
5	3776	19
6	3652	17
7	3653	12
8	3592	13
9	3685	19
10	3602	17
11	3750	17
12	3719	31
13	3680	23
14	3800	24
15	3683	20
16	3641	23
17	3757	21
18	3645	33
19	3611	25
20	3694	19

(Xbar) Mean: 3687.15 19.60
Calculated Chi-Sqr Value: 16.84 33.20

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:14
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 1 Detector: B Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3199	7
2	3296	10
3	3343	15
4	3428	15
5	3294	13
6	3306	12
7	3147	8
8	3260	17
9	3228	15
10	3348	22
11	3295	18
12	3337	21
13	3320	18
14	3269	15
15	3200	26
16	3195	10
17	3287	9
18	3232	11
19	3315	15
20	3190	15

(Xbar) Mean: 3274.45 14.60
Calculated Chi-Sqr Value: 27.14 31.01

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 16:14
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	1	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		C
	Voltage:		1760
	Conf Level:		95.0 %

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3462	1
2	3669	10
3	3607	18
4	3585	19
5	3647	22
6	3625	32
7	3623	25
8	3546	22
9	3528	22
10	3629	22
11	3499	17
12	3661	38
13	3652	21
14	3610	26
15	3616	34
16	3695	20
17	3730	26
18	3562	35
19	3540	34
20	3558	34

(Xbar) Mean:	3602.20	23.90
Calculated Chi-Sqr Value:	23.87	65.51

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 16:14
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	1	Source Certificate:	None
Counting Time:	1 min 0 sec	Detector:	D
Degrees of Freedom:	N - 1	Voltage:	1760
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3820	4
2	3737	7
3	3803	4
4	3756	5
5	3803	5
6	3812	5
7	3728	5
8	3730	4
9	3745	6
10	3692	6
11	3694	6
12	3787	4
13	3655	9
14	3764	4
15	3767	5
16	3644	6
17	3781	10
18	3700	8
19	3722	6
20	3668	5

(Xbar) Mean:	3740.40	5.70
Calculated Chi-Sqr Value:	14.23	9.51

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:53
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 2 Detector: A Source Certificate: 23F04839
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Gamma

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3537	1
2	3556	3
3	3589	6
4	3635	3
5	3698	1
6	3620	2
7	3628	5
8	3645	2
9	3581	0
10	3583	4
11	3588	2
12	3573	6
13	3693	1
14	3555	1
15	3626	4
16	3626	3
17	3600	4
18	3710	4
19	3568	3
20	3654	3

(Xbar) Mean: 3613.25 2.90
Calculated Chi-Sqr Value: 12.77 18.55

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:53
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 2 Detector: B Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3732	3
2	3605	3
3	3689	0
4	3735	6
5	3785	3
6	3692	4
7	3812	1
8	3741	4
9	3708	4
10	3727	2
11	3740	1
12	3653	8
13	3637	3
14	3664	2
15	3773	3
16	3656	2
17	3726	1
18	3653	5
19	3760	7
20	3573	4

(Xbar) Mean: 3703.05 3.30
Calculated Chi-Sqr Value: 19.57 24.30

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:53
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 2 Detector: C Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3424	23
2	3463	50
3	3323	35
4	3400	36
5	3390	31
6	3385	26
7	3341	34
8	3403	44
9	3472	38
10	3487	27
11	3399	38
12	3343	38
13	3463	29
14	3404	29
15	3383	36
16	3423	31
17	3432	38
18	3338	34
19	3382	22
20	3373	32

(Xbar) Mean: 3401.40 33.55
Calculated Chi-Sqr Value: 12.05 26.08

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 16:53
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 2 Detector: D Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3780	24
2	3739	34
3	3646	31
4	3742	37
5	3598	32
6	3715	41
7	3594	43
8	3742	31
9	3759	34
10	3658	31
11	3767	40
12	3672	37
13	3662	29
14	3680	35
15	3782	27
16	3665	27
17	3616	39
18	3697	44
19	3693	30
20	3848	25

(Xbar) Mean: 3702.75 33.55
Calculated Chi-Sqr Value: 23.07 19.58

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 17:20
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Source Certificate:	23F04839
Counting Time:	1 min 0 sec	Detector:	A
Degrees of Freedom:	N - 1	Voltage:	1780
		Isotope:	Sr-90
		Conf Level:	95.0 %
		Emission Type:	Gamma

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3451	2
2	3421	3
3	3457	1
4	3528	1
5	3477	3
6	3495	3
7	3505	6
8	3453	3
9	3482	4
10	3511	6
11	3487	4
12	3462	2
13	3413	5
14	3458	5
15	3463	2
16	3501	3
17	3349	2
18	3423	5
19	3498	3
20	3464	3

(Xbar) Mean:	3464.90	3.30
Calculated Chi-Sqr Value:	9.30	12.79

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 17:20
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Detector:	B
Counting Time:	1 min 0 sec	Voltage:	1780
Degrees of Freedom:	N - 1	Conf Level:	95.0 %
		Source Certificate:	None
		Isotope:	Sr-90
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3259	5
2	3286	7
3	3232	13
4	3270	12
5	3271	19
6	3277	22
7	3306	22
8	3287	12
9	3328	21
10	3313	13
11	3297	18
12	3263	14
13	3304	22
14	3279	16
15	3198	20
16	3273	28
17	3242	12
18	3219	28
19	3312	15
20	3245	24

(Xbar) Mean:	3273.05	17.15
Calculated Chi-Sqr Value:	6.56	44.35

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____	Date: _____
Changes Needed: Yes No (Circle One)	
Approved By: _____	Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 17:20
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	3	Detector:	C
Counting Time:	1 min 0 sec	Voltage:	1780
Degrees of Freedom:	N - 1	Conf Level:	95.0 %
		Source Certificate:	None
		Isotope:	Sr-90
		Emission Type:	Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 899	Chn 900 - 1023
1	3620	28
2	3580	22
3	3586	23
4	3676	31
5	3706	30
6	3670	34
7	3612	27
8	3563	13
9	3676	19
10	3619	21
11	3556	24
12	3581	23
13	3650	29
14	3788	25
15	3555	28
16	3598	36
17	3593	29
18	3539	24
19	3540	28
20	3563	21

(Xbar) Mean:	3613.55	25.75
Calculated Chi-Sqr Value:	21.53	21.19

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 17:20
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 3 Detector: D Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1780 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	1- 899	Chn	900 - 1023
1		3698		24
2		3648		19
3		3639		31
4		3719		19
5		3587		25
6		3612		33
7		3667		44
8		3667		26
9		3663		32
10		3550		36
11		3594		27
12		3661		35
13		3655		35
14		3713		29
15		3595		24
16		3623		37
17		3559		32
18		3624		30
19		3588		32
20		3547		37

(Xbar) Mean: 3630.45 30.35
Calculated Chi-Sqr Value: 13.81 25.19

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____
Changes Needed: Yes No (Circle One)
Approved By: _____

Date: _____
Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 17:46
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 4 Detector: A Source Certificate: 23F04839
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Gamma

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 900	Chn 900 - 1023
1	3337	21
2	3333	29
3	3373	21
4	3377	25
5	3381	27
6	3353	29
7	3376	22
8	3284	27
9	3382	33
10	3263	29
11	3280	23
12	3273	25
13	3381	21
14	3309	34
15	3360	24
16	3342	25
17	3415	28
18	3338	29
19	3303	26
20	3255	32

(Xbar) Mean: 3335.75 26.50
Calculated Chi-Sqr Value: 12.44 11.06

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 17:46
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 4 Detector: B Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

Count #	Beta ROI Counts		Alpha ROI Counts	
	Chn	1- 900	Chn	900 - 1023
1		3708		8
2		3751		7
3		3731		15
4		3620		8
5		3681		6
6		3781		6
7		3685		5
8		3638		4
9		3648		7
10		3604		14
11		3650		8
12		3691		8
13		3609		11
14		3796		5
15		3767		6
16		3623		7
17		3702		7
18		3564		8
19		3716		9
20		3524		11

(Xbar) Mean: 3674.45 8.00
Calculated Chi-Sqr Value: 27.24 19.25

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name:	PEPPER MILL 2	Test Date:	07/09/2024 17:46
USER ID:	Meier	System Serial #:	062201
Acq. Mode:	Alpha/Beta	Number of Counts Performed:	20
Drawer Number:	4	Source Certificate:	None
Counting Time:	1 min 0 sec	Isotope:	Sr-90
Degrees of Freedom:	N - 1	Emission Type:	Beta
	Detector:		
	Voltage:		
	Conf Level:		

<u>Count</u>	<u>Beta ROI Counts</u>		<u>Alpha ROI Counts</u>	
#	Chn	1- 900	Chn	900 - 1023
1		3637		2
2		3637		1
3		3609		2
4		3697		1
5		3731		2
6		3687		5
7		3626		7
8		3659		2
9		3693		3
10		3610		3
11		3716		2
12		3691		2
13		3720		3
14		3647		3
15		3665		7
16		3677		1
17		3726		5
18		3844		3
19		3679		3
20		3678		9

(Xbar) Mean:	3681.45	3.30
Calculated Chi-Sqr Value:	14.51	27.94

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Date: _____

Pace Analytical

G-542W Chi-Square Calculation Report

Machine Name: PEPPER MILL 2 Test Date: 07/09/2024 17:46
USER ID: Meier System Serial #: 062201
Acq. Mode: Alpha/Beta Number of Counts Performed: 20
Drawer Number: 4 Detector: D Source Certificate: None
Counting Time: 1 min 0 sec Voltage: 1760 Isotope: Sr-90
Degrees of Freedom: N - 1 Conf Level: 95.0 % Emission Type: Beta

<u>Count</u>	<u>Beta ROI Counts</u>	<u>Alpha ROI Counts</u>
#	Chn 1- 900	Chn 900 - 1023
1	3438	3
2	3330	3
3	3504	0
4	3600	1
5	3557	2
6	3494	2
7	3499	1
8	3508	1
9	3579	3
10	3596	3
11	3545	3
12	3516	3
13	3453	0
14	3456	3
15	3581	2
16	3532	0
17	3612	2
18	3556	4
19	3597	1
20	3566	1

(Xbar) Mean: 3525.95 1.90
Calculated Chi-Sqr Value: 25.97 14.63

Chi-Sqr Table Limits: Max: 32.90 Min: 8.91

Special Notes:

Report Generated: 07/09/2024

G542CHISQR.RPT ver 2.0

Collected By: _____

Date: _____

Changes Needed: Yes No (Circle One)

Approved By: _____

Date: _____

Calculation Radiochemistry

Radiochemistry Raw Data

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
NI	Manual Integration Code to indicate that the peak was not integrated at all by the computer software.
LT	Manual Integration Code to indicate that the peak in question was inappropriately integrated to an area less than what it should be (i.e., peak area was cut).
GT	Manual Integration Code to indicate that the peak in question was inappropriately integrated to an area greater than it should be (i.e., peak tailing).
BA	Manual Integration Code to indicate that the baseline had to be adjusted correctly by the analyst.
WP	Manual Integration Code to indicate that the wrong peak was chosen.
CO	Manual Integration Code to indicate that the analyst had to split two co-eluting peaks apart that were not (or could not be) separated by the computer system.
RT	Manual Integration Code to indicate that the retention time for the peak in question has shifted from the expected retention time.
INT	Manual Integration Code to indicate that there was electronic interference (i.e., noise).

Qualifier Description

C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC

State Of Origin: VA

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Workorder: 92780477

Workorder Name: PPPS_1SA2025_CCR_GrpD

Report To		Subcontract To		Requested Analysis													
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858		Phenol by 9066 Ra 226/903.0 Ra228/904.0 + Combined Ra LAB USE ONLY 1629574													
Level IV Data Package Required																	
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers											
						HN03	H2SO4										
1	021825NED26	PS	2/18/2025 13:30	92780477001	Water	2	2					X	X	X			-01
2	021825NT1615S	RQS	2/18/2025 14:50	92780477002	Water	6	6					X	X	X			-02
3	021825NT1615D	PS	2/18/2025 17:10	92780477003	Water	2	2					X	X	X			-03
4	021925NES1613	PS	2/19/2025 14:27	92780477004	Water	2	2					X	X	X			-04
5	021925NES3D	PS	2/19/2025 16:15	92780477005	Water	2	2					X	X	X			-05
6	021925NEFDDUPLICATE	PS	2/19/2025 14:42	92780477006	Water	2	2					X	X	X			-06
7	022025NES1609	PS	2/20/2025 12:00	92780477007	Water	2	2					X	X	X			-07
8	022025NEFBBLANK	PS	2/20/2025 12:35	92780477008	Water	2	2					X	X	X			-08
Comments																	
Transfers	Released By	Date/Time	Received By	Date/Time	*MS/MSD required on sample 002.												
1	JCC Rec Hw	2-24-25 11:00	Ashtley Barton	2/25/25 09:00													
2																	
3																	
Cooler Temperature on Receipt		°C	Custody Seal Y or N		NP	Received on Ice		Y or N	Samples Intact		Y or N						

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☒ NP If Applicable

COC Signed/Accurate: ☒ Y ☒ N VOA Zero Headspace: ☒ Y ☒ N

Bottles arrive intact: ☒ Y ☒ N Pres. Correct/Check: ☒ Y ☒ N

Correct bottles used: ☒ Y ☒ N

Sufficient volume sent: ☒ Y ☒ N

RA Screen <0.5 mR/hr: ☒ Y ☒ N

Containers: 40

PH - 10BDH2631
TRC - 4072A72



Ship To:
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 756-5858

INTER LABORATORY WORK ORDER # 92780477

(To be completed by sending lab)

Sending Project No	92780477
Receiving Project No	
Check Box for Consolidated Invoice	☐
Date Prepared	02/24/25
REQUESTED COMPLETION DATE	3/5/2025

Sending Region	IR92-Charlotte	Sending Project Mgr.	Stephanie Knott
Receiving Region	IR850-Pace National	External Client	Dominion Energy VA
State of Sample Origin	VA	QC Deliverable	PACKAGELV4

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet _____

Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Phenol by 9066	AG3S		H2SO4	8	SI-21WET	SUB PASI WET
Ra 226/903.0	BP1N		HNO3	8	SI-38RAD	SUB PASI RAD
Ra228/904.0 + Combined Ra	BP1N		HNO3	8	SI-38RAD02	SUB PASI RAD

Special Requirements: Report D, QC Limits, MDLs (D), Dominion EQEDD (1616), Golder Equis 5 (34)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.
When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

15629574

Multiple Parcel Form

L#

L1829574

Parcel Tracking Number	Infrared Thermometer ID	Temperature Reading (°C)	Correction Factor (°C)	Corrected Temperature (°C)	Custody Seal Intact
7442 3291 1159	T1A9	2.4	0.4	2.8	Yes / No / Not Present
7442 3291 1160	T1A9	1.5	0.4	1.9	Yes / No / Not Present
7442 3291 1181	T1A9	10.6	0.4	11.0	Yes / No / Not Present
7442 3291 1192	T1A9	2.2	0.4	2.6	Yes / No / Not Present
7442 3291 1207	T1A9	2.5	0.4	2.9	Yes / No / Not Present
7442 3291 1218	T1A9	0.3	0.4	0.7	Yes / No / Not Present
7442 3291 1229	T1A9	1.4	0.4	1.7	Yes / No / Not Present
7442 3291 1230	T1A9	1.7	0.4	2.1	Yes / No / Not Present
7442 3291 1240	T1A9	1.5	0.4	1.9	Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present

Ashley Bantao
Name

02/25/2015
Date

2/25 L1829574 PACEKNC

R5

Time estimate: oh

Time spent: oh

Members



Hailey Robertson (responsible)



Donna Eidson



Nancy McLain

Due on 28 February 2025 8:00 AM for target Done

- ☐ Parameter(s) past holding time
- ☐ Temperature not in range
- ☐ Improper container type
- ☐ pH not in range
- ☒ Insufficient sample volume
- ☐ Sample is biphasic
- ☐ Vials received with headspace
- ☐ Broken container
- ☐ Sufficient sample remains
- ☐ If broken container: Insufficient packing material around container
- ☐ If broken container: Insufficient packing material inside cooler
- ☐ If broken container: Improper handling by carrier: _____
- ☐ If broken container: Sample was frozen
- ☐ If broken container: Container lid not intact
- ☐ Client informed by Call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: _____
- ☐ PM initials: _____
- ☐ Client Contact: _____

Comments

Hailey Robertson

25 February 2025 2:37 PM

For ID: 021925NES3D one of the IL was received with only about 100ml of volume. The other IL is completely full.

Nancy McLain

25 February 2025 2:41 PM

Client informed of almost empty container. Proceed

Hailey Robertson

25 February 2025 2:44 PM

Done



April 04, 2025

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

RE: Project: PPPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory between February 19, 2025 and February 21, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephanie Knott
stephanie.knott@pacelabs.com
704-977-0981
Project Manager

Enclosures

cc: ENV STD DM
Michael Knez, WSP
Rashida Marlowe, Dominion Energy Services, Inc.
Catherine Pezzaro, WSP USA, Inc.
Crystal Shadle, Golder Associates Inc.
Environmental Standards, Inc., Environmental Standards,
Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LA000356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006

9800 Kinney Ave. Ste 100, Huntersville, NC 28078

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Laboratory ID: 99006

South Carolina Certification #: 99006001

South Carolina Drinking Water Cert. #: 99006003

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Louisiana DoH Drinking Water #: LA029

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Laboratory ID: 99030

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92780475001	021825NED23R	Water	02/18/25 14:05	02/19/25 10:48
92780475002	022025NED22RA	Water	02/20/25 13:05	02/21/25 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92780475001	021825NED23R	EPA 7199	VJM	1	PASI-C
		EPA 6010D	MGW	16	PASI-A
		EPA 6020B	KML, MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
92780475002	022025NED22RA	EPA 7199	VJM	1	PASI-C
		EPA 6010D	MGW	16	PASI-A
		EPA 6020B	MSR	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CDM	1	PASI-A
		EPA 9056A	JCM	3	PASI-A
		EPA 9060A	MDW	5	PASI-A

PAN = Pace National - Mt. Juliet

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780475001	021825NED23R					
EPA 6010D	Barium	23.6	ug/L	5.0	02/23/25 18:39	
EPA 6010D	Boron	5.0J	ug/L	50.0	02/23/25 18:39	
EPA 6010D	Calcium	3650	ug/L	100	02/23/25 18:39	
EPA 6010D	Hardness, Total(SM 2340B)	17400	ug/L	662	02/23/25 18:39	
EPA 6020B	Iron	2730	ug/L	20.0	04/01/25 01:49	
EPA 6020B	Lithium	9.7	ug/L	2.5	04/01/25 15:38	
EPA 6020B	Manganese	66.6	ug/L	2.0	04/01/25 01:49	
EPA 6020B	Potassium	5720	ug/L	100	04/01/25 01:49	
EPA 6020B	Sodium	5080	ug/L	250	04/01/25 01:49	
SM 2540C-2015	Total Dissolved Solids	91.2	mg/L	10.0	02/24/25 15:39	
EPA 9056A	Chloride	2.8	mg/L	1.0	02/21/25 06:29	
EPA 9056A	Fluoride	0.29	mg/L	0.10	02/21/25 06:29	
EPA 9056A	Sulfate	4.7	mg/L	1.0	02/21/25 06:29	
92780475002	022025NED22RA					
EPA 6010D	Barium	23.4	ug/L	5.0	02/23/25 19:29	
EPA 6010D	Beryllium	0.18J	ug/L	1.0	02/23/25 19:29	
EPA 6010D	Boron	135	ug/L	50.0	02/23/25 19:29	
EPA 6010D	Calcium	1910	ug/L	100	02/23/25 19:29	
EPA 6010D	Copper	2.0J	ug/L	5.0	02/23/25 19:29	
EPA 6010D	Nickel	3.6J	ug/L	5.0	02/23/25 19:29	
EPA 6010D	Hardness, Total(SM 2340B)	9140	ug/L	662	02/23/25 19:29	
EPA 6010D	Zinc	11.9	ug/L	10.0	02/23/25 19:29	
EPA 6020B	Cobalt	3.0	ug/L	1.0	03/17/25 17:49	
EPA 6020B	Iron	327	ug/L	20.0	03/17/25 17:49	
EPA 6020B	Lithium	1.8J	ug/L	2.5	03/17/25 17:49	
EPA 6020B	Manganese	46.8	ug/L	2.0	03/17/25 17:49	
EPA 6020B	Potassium	1150	ug/L	100	03/17/25 17:49	
EPA 6020B	Sodium	32900	ug/L	2500	03/17/25 17:52	
SM 2540C-2015	Total Dissolved Solids	127	mg/L	10.0	02/27/25 16:54	
EPA 9056A	Chloride	10.1	mg/L	1.0	02/22/25 16:21	
EPA 9056A	Sulfate	51.0	mg/L	1.0	02/22/25 16:21	
EPA 9060A	Total Organic Carbon	0.98J	mg/L	1.0	02/26/25 07:03	
EPA 9060A	Total Organic Carbon	0.86J	mg/L	1.0	02/26/25 07:03	
EPA 9060A	Total Organic Carbon	0.90J	mg/L	1.0	02/26/25 07:03	
EPA 9060A	Total Organic Carbon	0.87J	mg/L	1.0	02/26/25 07:03	
EPA 9060A	Mean Total Organic Carbon	0.90J	mg/L	1.0	02/26/25 07:03	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Date: April 04, 2025

Report revised to include EPA 6020 reanalysis results for sample 001. SJK 4/4/25

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 7199
Description: 7199 Chromium, Hexavalent
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 7199 by Pace Analytical Services Charlotte. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917201

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4713642)
 - Chromium, Hexavalent
- MS (Lab ID: 4713644)
 - Chromium, Hexavalent

QC Batch: 917723

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780713003

M2: Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4716728)
 - Chromium, Hexavalent
- MSD (Lab ID: 4716729)
 - Chromium, Hexavalent

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Method: EPA 7199

Description: 7199 Chromium, Hexavalent

Client: Dominion Energy_VA

Date: April 04, 2025

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 6010D
Description: 6010 MET ICP
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 6010D by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 6020B
Description: 6020 MET ICPMS
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 7470A
Description: 7470 Mercury
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 7470A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Method: EPA 9066

Description: Wet Chemistry 9066

Client: Dominion Energy_VA

Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 9066 by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Method: SM 2540C-2015

Description: 2540C Total Dissolved Solids

Client: Dominion Energy_VA

Date: April 04, 2025

General Information:

2 samples were analyzed for SM 2540C-2015 by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 9056A
Description: 9056 IC anions 28 Days
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 9056A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917605

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4716296)
 - Chloride
- MSD (Lab ID: 4716297)
 - Chloride
 - Fluoride
- MSD (Lab ID: 4716299)
 - Fluoride

QC Batch: 917919

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780713003,92780965001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 4717839)
 - Sulfate

R1: RPD value was outside control limits.

- MSD (Lab ID: 4717839)
 - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Method: EPA 9060A
Description: Total Organic Carbon,Asheville
Client: Dominion Energy_VA
Date: April 04, 2025

General Information:

2 samples were analyzed for EPA 9060A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

Sample: 021825NED23R		Lab ID: 92780475001		Collected: 02/18/25 14:05		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent									
Analytical Method: EPA 7199 Pace Analytical Services - Charlotte									
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/19/25 12:10	18540-29-9	
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 15:20	02/23/25 18:39	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 15:20	02/23/25 18:39	7440-38-2	
Barium	23.6	ug/L	5.0	0.79	1	02/22/25 15:20	02/23/25 18:39	7440-39-3	
Beryllium	ND	ug/L	1.0	0.16	1	02/22/25 15:20	02/23/25 18:39	7440-41-7	
Boron	5.0J	ug/L	50.0	4.0	1	02/22/25 15:20	02/23/25 18:39	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 15:20	02/23/25 18:39	7440-43-9	
Calcium	3650	ug/L	100	14.7	1	02/22/25 15:20	02/23/25 18:39	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 15:20	02/23/25 18:39	7440-47-3	
Copper	ND	ug/L	5.0	0.62	1	02/22/25 15:20	02/23/25 18:39	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 15:20	02/23/25 18:39	7439-98-7	
Nickel	ND	ug/L	5.0	0.88	1	02/22/25 15:20	02/23/25 18:39	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 15:20	02/23/25 18:39	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 15:20	02/23/25 18:39	7440-22-4	
Hardness, Total(SM 2340B)	17400	ug/L	662	36.8	1	02/22/25 15:20	02/23/25 18:39		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 15:20	02/23/25 18:39	7440-62-2	
Zinc	ND	ug/L	10.0	3.0	1	02/22/25 15:20	02/23/25 18:39	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Cobalt	ND	ug/L	1.0	0.14	1	03/31/25 12:50	04/01/25 01:49	7440-48-4	
Iron	2730	ug/L	20.0	3.0	1	03/31/25 12:50	04/01/25 01:49	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/31/25 12:50	04/01/25 01:49	7439-92-1	
Lithium	9.7	ug/L	2.5	0.33	1	03/31/25 12:50	04/01/25 15:38	7439-93-2	
Manganese	66.6	ug/L	2.0	0.24	1	03/31/25 12:50	04/01/25 01:49	7439-96-5	
Potassium	5720	ug/L	100	18.0	1	03/31/25 12:50	04/01/25 01:49	7440-09-7	
Sodium	5080	ug/L	250	14.4	1	03/31/25 12:50	04/01/25 01:49	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	03/31/25 12:50	04/01/25 01:49	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/31/25 12:50	04/01/25 01:49	7440-31-5	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:10	7439-97-6	
Wet Chemistry 9066									
Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet									
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:48	64743-03-9	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville									
Total Dissolved Solids	91.2	mg/L	10.0	10.0	1		02/24/25 15:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Sample: 021825NED23R		Lab ID: 92780475001		Collected: 02/18/25 14:05		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	2.8	mg/L	1.0	0.60	1		02/21/25 06:29	16887-00-6	
Fluoride	0.29	mg/L	0.10	0.050	1		02/21/25 06:29	16984-48-8	
Sulfate	4.7	mg/L	1.0	0.50	1		02/21/25 06:29	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 06:46	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 06:46	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 06:46	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 06:46	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 06:46	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Sample: 022025NED22RA		Lab ID: 92780475002		Collected: 02/20/25 13:05		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	ND	ug/L	0.025	0.0043	1		02/21/25 12:31	18540-29-9	
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 15:20	02/23/25 19:29	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 15:20	02/23/25 19:29	7440-38-2	
Barium	23.4	ug/L	5.0	0.79	1	02/22/25 15:20	02/23/25 19:29	7440-39-3	
Beryllium	0.18J	ug/L	1.0	0.16	1	02/22/25 15:20	02/23/25 19:29	7440-41-7	
Boron	135	ug/L	50.0	4.0	1	02/22/25 15:20	02/23/25 19:29	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 15:20	02/23/25 19:29	7440-43-9	
Calcium	1910	ug/L	100	14.7	1	02/22/25 15:20	02/23/25 19:29	7440-70-2	
Chromium	ND	ug/L	5.0	0.63	1	02/22/25 15:20	02/23/25 19:29	7440-47-3	
Copper	2.0J	ug/L	5.0	0.62	1	02/22/25 15:20	02/23/25 19:29	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 15:20	02/23/25 19:29	7439-98-7	
Nickel	3.6J	ug/L	5.0	0.88	1	02/22/25 15:20	02/23/25 19:29	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 15:20	02/24/25 13:37	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 15:20	02/23/25 19:29	7440-22-4	
Hardness, Total(SM 2340B)	9140	ug/L	662	36.8	1	02/22/25 15:20	02/23/25 19:29		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 15:20	02/23/25 19:29	7440-62-2	
Zinc	11.9	ug/L	10.0	3.0	1	02/22/25 15:20	02/23/25 19:29	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	3.0	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:49	7440-48-4	
Iron	327	ug/L	20.0	3.0	1	03/13/25 01:00	03/17/25 17:49	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	03/13/25 01:00	03/17/25 17:49	7439-92-1	
Lithium	1.8J	ug/L	2.5	0.33	1	03/13/25 01:00	03/17/25 17:49	7439-93-2	
Manganese	46.8	ug/L	2.0	0.24	1	03/13/25 01:00	03/17/25 17:49	7439-96-5	
Potassium	1150	ug/L	100	18.0	1	03/13/25 01:00	03/17/25 17:49	7440-09-7	
Sodium	32900	ug/L	2500	144	10	03/13/25 01:00	03/17/25 17:52	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	03/13/25 01:00	03/17/25 17:49	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	03/13/25 01:00	03/17/25 17:49	7440-31-5	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/24/25 16:38	02/26/25 16:00	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:49	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	127	mg/L	10.0	10.0	1		02/27/25 16:54		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Sample: 022025NED22RA		Lab ID: 92780475002		Collected: 02/20/25 13:05		Received: 02/21/25 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	10.1	mg/L	1.0	0.60	1		02/22/25 16:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/22/25 16:21	16984-48-8	
Sulfate	51.0	mg/L	1.0	0.50	1		02/22/25 16:21	14808-79-8	
Total Organic Carbon, Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	0.98J	mg/L	1.0	0.50	1		02/26/25 07:03	7440-44-0	
Total Organic Carbon	0.86J	mg/L	1.0	0.50	1		02/26/25 07:03	7440-44-0	
Total Organic Carbon	0.90J	mg/L	1.0	0.50	1		02/26/25 07:03	7440-44-0	
Total Organic Carbon	0.87J	mg/L	1.0	0.50	1		02/26/25 07:03	7440-44-0	
Mean Total Organic Carbon	0.90J	mg/L	1.0	0.50	1		02/26/25 07:03	7440-44-0	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	917201	Analysis Method:	EPA 7199
QC Batch Method:	EPA 7199	Analysis Description:	7199 Chromium, Hexavalent
		Laboratory:	Pace Analytical Services - Charlotte

Associated Lab Samples: 92780475001

METHOD BLANK: 4713639 Matrix: Water
Associated Lab Samples: 92780475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/19/25 11:03	

LABORATORY CONTROL SAMPLE: 4713640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.11	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713642 4713643

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.012J	0.1	0.1	0.12	0.12	111	104	90-110	6	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713644 4713645

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.44	0.1	0.1	0.58	0.54	140	105	90-110	6	20	M1

SAMPLE DUPLICATE: 4713641

Parameter	Units	92780474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	0.32	0.29	10	20	H1

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	917723	Analysis Method:	EPA 7199
QC Batch Method:	EPA 7199	Analysis Description:	7199 Chromium, Hexavalent
		Laboratory:	Pace Analytical Services - Charlotte

Associated Lab Samples: 92780475002

METHOD BLANK: 4716726 Matrix: Water

Associated Lab Samples: 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/21/25 10:58	

LABORATORY CONTROL SAMPLE: 4716727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.10	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716728 4716729

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	1.3	0.1	0.1	1.4	1.4	80	70	90-110	1	20	H1,M2

SAMPLE DUPLICATE: 4716730

Parameter	Units	92780713004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	ND	ND		20	H1

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 917873

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001

METHOD BLANK: 4717713

Matrix: Water

Associated Lab Samples: 92780475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/24/25 12:43	

LABORATORY CONTROL SAMPLE: 4717714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717717 4717718

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.5	102	101	75-125	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 917994

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475002

METHOD BLANK: 4718040

Matrix: Water

Associated Lab Samples: 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/26/25 15:29	

LABORATORY CONTROL SAMPLE: 4718041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.3	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4718042 4718043

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.5	2.4	99	98	75-125	2	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 917950

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001, 92780475002

METHOD BLANK: 4717941

Matrix: Water

Associated Lab Samples: 92780475001, 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	3.6	02/23/25 18:24	
Arsenic	ug/L	ND	10.0	2.5	02/23/25 18:24	
Barium	ug/L	ND	5.0	0.79	02/23/25 18:24	
Beryllium	ug/L	ND	1.0	0.16	02/23/25 18:24	
Boron	ug/L	ND	50.0	4.0	02/23/25 18:24	
Cadmium	ug/L	ND	1.0	0.29	02/23/25 18:24	
Calcium	ug/L	ND	100	14.7	02/23/25 18:24	
Chromium	ug/L	ND	5.0	0.63	02/23/25 18:24	
Copper	ug/L	ND	5.0	0.62	02/23/25 18:24	
Hardness, Total(SM 2340B)	ug/L	ND	662	36.8	02/23/25 18:24	
Molybdenum	ug/L	ND	5.0	2.6	02/23/25 18:24	
Nickel	ug/L	ND	5.0	0.88	02/23/25 18:24	
Selenium	ug/L	ND	10.0	4.1	02/23/25 18:24	
Silver	ug/L	ND	5.0	0.49	02/23/25 18:24	
Vanadium	ug/L	ND	5.0	1.6	02/23/25 18:24	
Zinc	ug/L	ND	10.0	3.0	02/23/25 18:24	

LABORATORY CONTROL SAMPLE: 4717942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	451	90	80-120	
Arsenic	ug/L	500	444	89	80-120	
Barium	ug/L	500	457	91	80-120	
Beryllium	ug/L	500	451	90	80-120	
Boron	ug/L	500	453	91	80-120	
Cadmium	ug/L	500	445	89	80-120	
Calcium	ug/L	5000	4470	89	80-120	
Chromium	ug/L	500	453	91	80-120	
Copper	ug/L	500	461	92	80-120	
Hardness, Total(SM 2340B)	ug/L	33100	29300	89	80-120	
Molybdenum	ug/L	500	459	92	80-120	
Nickel	ug/L	500	448	90	80-120	
Selenium	ug/L	500	428	86	80-120	
Silver	ug/L	250	226	90	80-120	
Vanadium	ug/L	500	454	91	80-120	
Zinc	ug/L	500	444	89	80-120	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717943 4717944											
Parameter	Units	92780713003		MS	MSD	MS		MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
Antimony	ug/L	ND	500	500	500	469	472	94	94	75-125	1 20
Arsenic	ug/L	ND	500	500	500	458	459	92	92	75-125	0 20
Barium	ug/L	48.8	500	500	500	514	510	93	92	75-125	1 20
Beryllium	ug/L	0.65J	500	500	500	463	468	92	93	75-125	1 20
Boron	ug/L	ND	500	500	500	470	474	93	94	75-125	1 20
Cadmium	ug/L	ND	500	500	500	450	453	90	91	75-125	1 20
Calcium	ug/L	6790	5000	5000	5000	11600	11400	97	92	75-125	2 20
Chromium	ug/L	1.6J	500	500	500	456	461	91	92	75-125	1 20
Copper	ug/L	6.2	500	500	500	473	474	93	94	75-125	0 20
Hardness, Total(SM 2340B)	ug/L	34100	33100	33100	33100	66800	65500	99	95	75-125	2 20
Molybdenum	ug/L	ND	500	500	500	464	468	93	94	75-125	1 20
Nickel	ug/L	6.8	500	500	500	460	461	91	91	75-125	0 20
Selenium	ug/L	ND	500	500	500	453	456	91	91	75-125	1 20
Silver	ug/L	2.1J	250	250	250	235	236	93	94	75-125	1 20
Vanadium	ug/L	ND	500	500	500	463	465	92	93	75-125	0 20
Zinc	ug/L	5.5J	500	500	500	455	458	90	90	75-125	1 20

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	921898	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780475002

METHOD BLANK: 4736903 Matrix: Water

Associated Lab Samples: 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	03/17/25 15:47	
Iron	ug/L	14.9J	20.0	3.0	03/17/25 15:47	
Lead	ug/L	ND	1.0	0.18	03/17/25 15:47	
Lithium	ug/L	ND	2.5	0.33	03/17/25 15:47	
Manganese	ug/L	ND	2.0	0.24	03/17/25 15:47	
Potassium	ug/L	20.3J	100	18.0	03/17/25 15:47	
Sodium	ug/L	19.8J	250	14.4	03/17/25 15:47	
Thallium	ug/L	ND	0.20	0.028	03/17/25 15:47	
Tin	ug/L	ND	1.0	0.14	03/17/25 15:47	

LABORATORY CONTROL SAMPLE: 4736904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	50.1	100	80-120	
Iron	ug/L	1250	1240	99	80-120	
Lead	ug/L	50	51.3	103	80-120	
Lithium	ug/L	50	50.1	100	80-120	
Manganese	ug/L	50	50.2	100	80-120	
Potassium	ug/L	2500	2460	99	80-120	
Sodium	ug/L	2500	2470	99	80-120	
Thallium	ug/L	25	24.9	100	80-120	
Tin	ug/L	50	48.0	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4736905 4736906

Parameter	Units	92780713003	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.									
Cobalt	ug/L	12.2	50	50	62.1	61.7	100	99	75-125	1	20		
Iron	ug/L	44.4	1250	1250	1310	1310	101	101	75-125	0	20		
Lead	ug/L	0.20J	50	50	50.7	50.2	101	100	75-125	1	20		
Lithium	ug/L	11.1	50	50	61.1	60.8	100	99	75-125	0	20		
Manganese	ug/L	183	50	50	243	238	121	111	75-125	2	20		
Potassium	ug/L	6510	2500	2500	9400	9550	116	122	75-125	2	20		
Sodium	ug/L	9360	2500	2500	12000	11800	107	98	75-125	2	20		
Thallium	ug/L	0.031J	25	25	24.9	24.4	100	98	75-125	2	20		
Tin	ug/L	ND	50	50	49.7	48.1	99	96	75-125	3	20		

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	925976	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001

METHOD BLANK: 4756648 Matrix: Water

Associated Lab Samples: 92780475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	04/01/25 01:42	
Iron	ug/L	ND	20.0	3.0	04/01/25 01:42	
Lead	ug/L	ND	1.0	0.18	04/01/25 01:42	
Lithium	ug/L	ND	2.5	0.33	04/01/25 15:30	
Manganese	ug/L	ND	2.0	0.24	04/01/25 01:42	
Potassium	ug/L	ND	100	18.0	04/01/25 01:42	
Sodium	ug/L	ND	250	14.4	04/01/25 01:42	
Thallium	ug/L	ND	0.20	0.028	04/01/25 01:42	
Tin	ug/L	ND	1.0	0.14	04/01/25 01:42	

LABORATORY CONTROL SAMPLE: 4756649

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	51.0	102	80-120	
Iron	ug/L	1250	1280	102	80-120	
Lead	ug/L	50	51.4	103	80-120	
Lithium	ug/L	50	55.0	110	80-120	
Manganese	ug/L	50	51.3	103	80-120	
Potassium	ug/L	2500	2420	97	80-120	
Sodium	ug/L	2500	2640	105	80-120	
Thallium	ug/L	25	25.2	101	80-120	
Tin	ug/L	50	50.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4756650 4756651

Parameter	Units	92780475001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	50	50	51.1	51.0	102	102	75-125	0	20	
Iron	ug/L	2730	1250	1250	3890	3930	92	96	75-125	1	20	
Lead	ug/L	ND	50	50	50.1	50.8	100	102	75-125	1	20	
Lithium	ug/L	9.7	50	50	62.5	63.4	106	108	75-125	2	20	
Manganese	ug/L	66.6	50	50	115	118	98	102	75-125	2	20	
Potassium	ug/L	5720	2500	2500	8060	8140	94	97	75-125	1	20	
Sodium	ug/L	5080	2500	2500	7700	7850	105	111	75-125	2	20	
Thallium	ug/L	ND	25	25	24.8	24.9	99	100	75-125	0	20	
Tin	ug/L	ND	50	50	51.6	52.1	103	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 2458259

Analysis Method: EPA 9066

QC Batch Method: SW-846 9066

Analysis Description: Wet Chemistry 9066

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92780475001, 92780475002

METHOD BLANK: R4180422-1

Matrix: Water

Associated Lab Samples: 92780475001, 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.0400	0.0115	02/26/25 13:38	

LABORATORY CONTROL SAMPLE: R4180422-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	1.00	1.03	103	90.0-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-3 R4180422-4

Parameter	Units	L1828804-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	1.01	1.00	101	100	90.0-110	0.995	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-5 R4180422-6

Parameter	Units	L1829575-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	0.952	0.957	95.2	95.7	90.0-110	0.524	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	917867	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001

METHOD BLANK: 4717697 Matrix: Water
Associated Lab Samples: 92780475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/26/25 16:16	

LABORATORY CONTROL SAMPLE: 4717698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	232	93	80-120	

SAMPLE DUPLICATE: 4717934

Parameter	Units	92780474002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	196	202	3	25	

SAMPLE DUPLICATE: 4717935

Parameter	Units	92780477002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	250	258	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 918779

Analysis Method: SM 2540C-2015

QC Batch Method: SM 2540C-2015

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475002

METHOD BLANK: 4721780

Matrix: Water

Associated Lab Samples: 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/27/25 16:48	

LABORATORY CONTROL SAMPLE: 4721781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	272	109	80-120	

SAMPLE DUPLICATE: 4721782

Parameter	Units	92780474008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	348	351	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch: 917605 Analysis Method: EPA 9056A
QC Batch Method: EPA 9056A Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001

METHOD BLANK: 4716294 Matrix: Water

Associated Lab Samples: 92780475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/20/25 22:34	
Fluoride	mg/L	ND	0.10	0.050	02/20/25 22:34	
Sulfate	mg/L	ND	1.0	0.50	02/20/25 22:34	

LABORATORY CONTROL SAMPLE: 4716295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	50.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716296 4716297

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	54.9	50	50	84.5	87.3	59	65	90-110	3	10	M1
Fluoride	mg/L	0.052J	2.5	2.5	2.7	2.9	105	116	90-110	10	10	M1
Sulfate	mg/L	43.2	50	50	94.7	98.0	103	110	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716298 4716299

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.8	50	50	97.8	99.6	104	108	90-110	2	10	
Fluoride	mg/L	0.42	2.5	2.5	3.0	3.2	104	111	90-110	6	10	M1
Sulfate	mg/L	24.0	50	50	76.8	78.6	106	109	90-110	2	10	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

QC Batch:	917919	Analysis Method:	EPA 9056A
QC Batch Method:	EPA 9056A	Analysis Description:	9056 IC anions 28 Days
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780475002

METHOD BLANK: 4717836 Matrix: Water

Associated Lab Samples: 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/22/25 12:59	
Fluoride	mg/L	ND	0.10	0.050	02/22/25 12:59	
Sulfate	mg/L	ND	1.0	0.50	02/22/25 12:59	

LABORATORY CONTROL SAMPLE: 4717837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.6	101	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	50.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717838 4717839

Parameter	Units	92780713003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.6	50	50	51.4	51.9	96	97	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.4	97	97	90-110	0	10	
Sulfate	mg/L	54.6	50	50	99.9	84.1	91	59	90-110	17	10	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717919 4717920

Parameter	Units	92780965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.5	50	50	50.5	51.4	96	98	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	100	99	90-110	1	10	
Sulfate	mg/L	12.6	50	50	59.8	60.7	94	96	90-110	2	10	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

QC Batch: 918412

Analysis Method: EPA 9060A

QC Batch Method: EPA 9060A

Analysis Description: 9060 TOC, AVL

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780475001, 92780475002

METHOD BLANK: 4720116

Matrix: Water

Associated Lab Samples: 92780475001, 92780475002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	

LABORATORY CONTROL SAMPLE: 4720117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720118

4720119

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92780474002 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	% Rec				
Mean Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	99	99	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	98	98	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.6	24.6	98	98	98	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.7	25.0	98	100	100	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.8	24.8	99	99	99	75-125	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720120

4720121

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92780477002 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	% Rec				
Mean Total Organic Carbon	mg/L	6.3	25	25	31.0	31.0	99	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.2	25	25	31.0	30.8	99	98	98	75-125	1	25	
Total Organic Carbon	mg/L	6.2	25	25	30.8	30.9	98	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.4	25	25	31.1	31.0	99	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.4	25	25	31.0	31.3	99	100	100	75-125	1	25	

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QUALIFIERS

Project: PPS_1SA2025_CCR_GrpE
Pace Project No.: 92780475

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 92780475

[1] Report revised to include EPA 6020 reanalysis results for sample 001. SJK 4/4/25

ANALYTE QUALIFIERS

H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M2	Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA2025_CCR_GrpE

Pace Project No.: 92780475

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92780475001	021825NED23R	EPA 7199	917201		
92780475002	022025NED22RA	EPA 7199	917723		
92780475001	021825NED23R	EPA 3010A	917950	EPA 6010D	917964
92780475002	022025NED22RA	EPA 3010A	917950	EPA 6010D	917964
92780475001	021825NED23R	EPA 3010A	925976	EPA 6020B	926094
92780475002	022025NED22RA	EPA 3010A	921898	EPA 6020B	921911
92780475001	021825NED23R	EPA 7470A	917873	EPA 7470A	918003
92780475002	022025NED22RA	EPA 7470A	917994	EPA 7470A	918664
92780475001	021825NED23R	SW-846 9066	2458259	EPA 9066	2458259
92780475002	022025NED22RA	SW-846 9066	2458259	EPA 9066	2458259
92780475001	021825NED23R	SM 2540C-2015	917867		
92780475002	022025NED22RA	SM 2540C-2015	918779		
92780475001	021825NED23R	EPA 9056A	917605		
92780475002	022025NED22RA	EPA 9056A	917919		
92780475001	021825NED23R	EPA 9060A	918412		
92780475002	022025NED22RA	EPA 9060A	918412		

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Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt Client Name:

Project #:

MO#: 92780475

Courier: ☐ Commercial ☒ Fed Ex ☐ UPS ☐ USPS ☐ Other: ☐ Client

Carrier Tracking Number:



92780475

Custody Seal Present?

☒ Yes ☐ No

Seals Intact?

☒ Yes ☐ No

Date/Initials Person Examining Contents: 2/20/25

Packing Material:

☐ Bubble Wrap

☒ Bubble Bags

☐ None

☐ Other

Biological Tissue Frozen?

☐ Yes ☐ No ☒ N/A

Thermometer:

☒ IR Gun ID: 924683

Type of Ice:

☒ Wet

☐ Blue

☐ None

Cooler Temp (°C): 2.3

Correction Factor: Add / Subtract (°C) 0

Corrected Cooler Temp (°C): 2.3

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	Comments/Discrepancy:
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☒ Yes ☐ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>ok</u>			
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes ☒ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 minutes.	
Time opened: Temp:	
Time: put in cooler	
Time: Temp:	

Person Contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:

Project #

W0#: 92780475

* Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRG/8015 (water) DOC, LTHg

** Bottom half of box is to list number of bottles

*** Check all unpreserved Nitrates for chlorine

PM: SK

Due Date: 03/05/25

CLIENT: 92-DomEnergy

Client: _____ Profile/EZ (Circle one) _____ Notes _____

Laboratory Receiving Location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

CC	Item#
	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)
	BP3U-250 mL Plastic Unpreserved (N/A)
	BP2U-500 mL Plastic Unpreserved (N/A)
	BP1U-1 liter Plastic Unpreserved (N/A)
	BPIN
	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)
	BP3N-250 mL plastic HNO3 (pH < 2)
	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)
	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)
	WGFU-Wide-mouthed Glass jar Unpreserved
	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)
	AG1H-1 liter Amber HCl (pH < 2)
	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)
	AG1S-1 liter Amber: H2SO4 (pH < 2)
	AG3S-250 mL Amber H2SO4 (pH < 2)
	DG94-40 mL Amber NH4Cl (N/A)(Cl-)
	DG9H-40 mL VOA HCl (N/A)
	VG9T-40 mL VOA Na2S2O3 (N/A)
	VG9U-40 mL VOA Unpreserved (N/A)
	DG9V-40 mL VOA H3PO4 (N/A)
	KP7U-50 mL Plastic Unpreserved (N/A)
	V/GK (3 vials per kit)-VPH/Gas kit (N/A)
	SP5T-125 mL Sterile Plastic (N/A - lab)
	SP2T-250 mL Sterile Plastic (N/A - lab)
	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)
	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)
	VSGU-20 mL Scintillation vials (N/A)
	DG9U-40 mL Amber Unpreserved vials (N/A)

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

COC ID: 8895-154205 - CCRA SWMR - Group E--1-1

Company Name:	Dominion Energy-VA	Contact/Report To:	Kelly Hicks
Street Address:	120 Tredegar Street Richmond, VA 23219	Phone #:	(804) 273-4903
		E-Mail:	kelly.a.hicks@dominionenergy.com
Customer Project #:		Cc E-Mail:	
Project Name:	PPS_15A2025_CCR_Grpe	Invoice To:	Kelly Hicks
Site Collection Info/Facility ID (as applicable):		Invoice E-Mail:	kelly.a.hicks@dominionenergy.com
		Purchase Order # (if applicable):	50149081
		Quote #:	

Data Deliverables:		Regulatory Program (DW, RCRA, etc.) as applicable: Reportable ☐ Yes ☐ No	
Rush (Pre-approval required): ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ Other		Field Filtered (if applicable): ☐ Yes ☐ No	
Date Results:		Requested:	
☒ Level II ☐ Level III ☐ Level IV ☐ Level V		Analysis: ☐ Other	
Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SE), Sludge (SL), Canik (CK), Leachate (LL), Biosolid (BS), Other (OT)			

[illegible][illegible]

Enquired by/Company: (Signature) 11/11/17/WSF	Date/Time: 3/18/17 10:15	Received by/Company: (Signature) 11/11/17/WSF
Enquired by/Company: (Signature) 11/11/17/WSF	Date/Time: 3/18/17 10:15	Received by/Company: (Signature) 11/11/17/WSF

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)

[illegible]

Thermometer ID	92613	0	2.3	2.5	4
Correction Factor (°C)					
Obi. Temp. (°C)					
Corrected Temp (°C)					
On Ice					
Former Remarks / Special Conditions / Possible Hazards					
All samples preserved on ice - Level II data Package requested					

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Page Terms and Conditions found at <https://www.pacelabs.com/resource-library/resource/page-terms-and-conditions/>

ENV-FRM-CORQ-0019 v02 110123

Effective Date: 8/9/2024

EPA method 7199 - Hexavalent Chromium pH Adjustment

HBN	417201
Analyst Initials	VJM
pH Meter	pH 92 pH6

Batch # 65683

WO# 92780474, 92780477, 92780475, 92780476

Lab Sample ID	Volume of Adjusted Sample (mL)	Initial pH	Date/Time Adjusted	Final pH	Volume of Adjustment Buffer (mL)	Volume of NaOH (mL)	Adjustment Buffer Standard ID	NaOH Standard ID	Comments
92780473	80473001	10mL	5.7	2/19/25 12:28	4.0	.050 mLES	309471		
92780424	80474001	10mL	6.2	2/19/25 12:10	9.1	.050 mLES			
RQS	80474002	10mL	5.0	2/19/25 12:42	9.0	.060 mLES			
	MS 80474002	10mL	4.7	2/19/25 12:42	9.0	.060 mLES			
	MSO 80474002	10mL	4.6	2/19/25 12:45	9.0	.060 mLES			
	80474003	10mL	5.2	2/19/25	4.0	.110 mLES			
(10mL)	80474004	10mL	4.1	2/19/25 12:15	4.0	.110 mLES			
	80474005	10mL	5.4	2/19/25 12:20	9.0	.090 mLES			
	80474006	10mL	6.2	2/19/25 12:00	4.3	.050 mLES			
92780475	80475001	10mL	6.0	2/19/25 12:04	9.2	.050 mLES			
92780476	80476001	10mL	5.6	2/19/25 12:08	4.0	.050 mLES			
92780477	80477001	10mL	5.4	2/19/25 12:09	4.2	.050 mLES			
	RQS 80477002	10mL	6.1	2/19/25 12:09	4.0	.060 mLES			
	MS 80477002	10mL	6.3	2/19/25 12:09	9.0	.050 mLES			
	MSO 80477002	10mL	6.5	2/19/25 12:10	9.0	.050 mLES			
	80477003	10mL	5.4	2/19/25 12:26	4.0	.050 mLES			
	80474003	10mL	5.2	2/19/25 12:24	9.0	.060 mLES			

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt Client Name:

Project #:

MO#: 92780475

Courier: ☐ Commercial ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ Other: _____

Carrier Tracking Number: _____

Custody Seal Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No Date/Initials Person Examining Contents: AC²/24

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☐ IR Gun ID: 927083 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp (°C): 0.1 Correction Factor: Add / Subtract (°C) 0 Temp should be above freezing to 6°C ☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Corrected Cooler Temp (°C): 0.1

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

Chain of Custody Present?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Samples Arrived within Hold Time?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Short Hold Time Analysis (<72 hr.)?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Rush Turn Around Time Requested?		Seals Intact?		Date/Initials Person Examining Contents:	
☐ Yes	☒ No	☐ Yes	☒ No	AC ² /24	
Sufficient Volume?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Correct Containers Used?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
-Pace Containers Used?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Containers Intact?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
Discolored analysis: Samples Field Filtered?		Seals Intact?		Date/Initials Person Examining Contents:	
☐ Yes	☒ No	☐ Yes	☒ No	AC ² /24	
Sample Labels Match COC?		Seals Intact?		Date/Initials Person Examining Contents:	
☒ Yes	☐ No	☐ Yes	☒ No	AC ² /24	
-Includes Date/Time/ID/Analysis Matrix: WOT		Seals Intact?		Date/Initials Person Examining Contents:	
Headspace in VOA Vials (>5-6mm)?		Seals Intact?		Date/Initials Person Examining Contents:	
☐ Yes	☒ No	☐ Yes	☒ No	AC ² /24	
Trip Blank Present?		Seals Intact?		Date/Initials Person Examining Contents:	
☐ Yes	☒ No	☐ Yes	☒ No	AC ² /24	
Trip Blank Custody Seals Present?		Seals Intact?		Date/Initials Person Examining Contents:	
☐ Yes	☒ No	☐ Yes	☒ No	AC ² /24	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 minutes.

Time opened: 1030 Temp: 0.3

Time: 1030 put in cooler

Time: Temp:

Person Contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:

Project #

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DBO/8015 (water) DOC, LTHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Laboratory receiving samples:

Asheville

☐ Eden

☐ Greenwood

☐ Huntersville

☐ Raleigh

☐ Mechanicsville

☐ Atlanta

☐ Kernersville

Client

Profile/EZ (Circle one)

Notes

W0#: 92780475
PM: SK Due Date: 03/05/25
CLIENT: 92-DomEnergy

CC	Item#																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect, preservative, out of temp, incorrect containers)

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: Dominion Energy VA
Street Address: 120 Tredegar Street
Richmond, VA 23219
Project Name: PPS_1SA2025_CCR_GRP
Customer Project #: [blank]
Site Collection Info/Facility ID (as applicable): [blank]
Quote #: [blank]
Purchase Order # (if applicable): 50149081
Invoice E-Mail: kelly.a.hicks@dominionenergy.com
Invoice To: Kelly Hicks
Contact/Report To: Kelly Hicks
Phone #: (804)273-4903
E-Mail: kelly.a.hicks@dominionenergy.com
Cc E-Mail: [blank]

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET []
Data Deliverables: [] Level I [] Level II [] Level III [] Level IV []
Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other []
Field Filtered (if applicable): [] Yes [] No
Analysis: []
Regulatory Program (DW, RCRA, etc.) as applicable: [] Yes [] No
County / State origin of sample(s): Virginia

Customer Sample ID: 02205NED22RA
Matrix: WT
Grab: G
Composite Start: 2/20/25
Collected or Composite End: 2/20/25
Time: 11:05
Date: 2/20/25
Res. Chlorine: [blank]
Res. Results: [blank]
Units: [blank]
Cont. # [blank]
Sample Comment: -All samples preserved on ice - Level II data Package requested

Additional Instructions from Page: [blank]

Collected By: S. Carmouche
Signature: [Signature]
Customer Remarks / Special Conditions / Possible Hazards: [blank]

Received by/Company: (Signature) [blank] Date/Time: [blank]
Received by/Company: (Signature) [blank] Date/Time: [blank]
Received by/Company: (Signature) [blank] Date/Time: [blank]
Received by/Company: (Signature) [blank] Date/Time: [blank]
Received by/Company: (Signature) [blank] Date/Time: [blank]
Received by/Company: (Signature) [blank] Date/Time: [blank]
Tracking Number: 2/21/25 1030

COCTD: PPS-1SA2025-Group E-a-1

LAB USE ONLY: Affix Workorder/Login Label Here



Scan QR Code for instructions

Specify Container Size: [blank]
Identify Container Preservative Type: [blank]
Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCL, (5) NaOH, (6) Zn Acetate, (7) H2O2, (8) HCL, (9) 90mL, (10) Other
Terracore, (9) 90mL, (10) Other
MeOH, (11) Other

Lab Use Only
Table #: [blank]
Profile / Template: 13861
Prelog / Bottle Ord. ID: E2 3222685
Sample Comment: [blank]

Page: 1 of 1
Delivered by: [] Person [] Courier
FedEx [] UPS [] Other
Tracking Number: [blank]

Effective Date: 8/9/2024

HBN	417723
Analyst Initials	VSM
pH Meter	92pH6

Batch # 65714

WO# 92780713, 92780474, 92780477 92780475

[illegible]

Pace Analytical - Kernersville, NC

Sample Delivery Group: L1829565
Samples Received: 02/25/2025
Project Number: 92780475
Description: PPS_1SA2025_CCR_GrpE
Site: 001
Report To: Stephanie Knott
1377 S Park Dr
Kernersville, NC 27284

Entire Report Reviewed By:



Brigit Gillespie
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

021825NED23R L1829565-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

02/18/25 14:05

02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 20:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

022025NED22RA L1829565-02 Non-Potable Water

Collected by

Collected date/time

Received date/time

02/20/25 13:05

02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 20:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brigit Gillespie
Project Manager



Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.0964	U	0.177	0.314	0.323	0.126	03/10/2025 20:42	WG2460191
(T) Barium	100					30.0-143	03/10/2025 20:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.257	J	0.277	0.568	0.503	0.266	03/11/2025 18:53	WG2460391
(T) Barium	121					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	91.2					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.353	J	0.329	0.598	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.192	J	0.163	0.300	0.230	0.0792	03/10/2025 20:42	WG2460191
(T) Barium	102					30.0-143	03/10/2025 20:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.217	<u>U</u>	0.648	1.13	1.18	0.616	03/11/2025 18:53	WG2460391
(T) Barium	123					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	91.7					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.409	U	0.668	1.20	03/11/2025 18:53	WG2460191

¹Cp ${}^2\text{Tc}$ ${}^3\text{Ss}$ ${}^4\text{Cn}$ ^5Sr ⁶Qc⁷Gl ${}^8\text{Al}$ ${}^9\text{Sc}$

Method Blank (MB)

(MB) R4183157-1 03/06/25 00:33

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0642	<u>U</u>	0.151	0.287	0.112
(T) Barium	98.2		98.2		

L1829617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829617-01 03/06/25 01:34 • (DUP) R4183157-5 03/06/25 01:34

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.210	0.246	0.401	0.138	0.000	0.516	1.12	0.435	200	0.366	<u>U</u>	20	3
(T) Barium	100				109	109							

Laboratory Control Sample (LCS)

(LCS) R4183157-2 03/06/25 00:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.82	96.5	80.0-120	
(T) Barium			107		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/06/25 01:34 • (MS) R4183157-3 03/06/25 00:33 • (MSD) R4183157-4 03/06/25 00:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.463	22.4	20.1	110	98.1	1	75.0-125			11.1		20
(T) Barium		105			110	108							

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R4185764-1 03/11/25 18:53

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.222	⬇	0.162	0.291	0.154
(T) Barium	118		118		
(T) Yttrium	86.2		86.2		

L1829570-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829570-01 03/11/25 18:53 • (DUP) R4185764-5 03/11/25 18:53

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.722	0.386	0.683	0.357	1.32	0.690	1.22	0.637	58.4	0.753		20	3
(T) Barium	108				126	126							
(T) Yttrium	92.0				87.6	87.6							

Laboratory Control Sample (LCS)

(LCS) R4185764-2 03/11/25 18:53

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.3	80.0-120	
(T) Barium			119		
(T) Yttrium			90.4		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/11/25 18:53 • (MS) R4185764-3 03/11/25 18:53 • (MSD) R4185764-4 03/11/25 18:53

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.365	9.18	10.1	88.2	97.0	1	70.0-130			9.15		20
(T) Barium		114			124	123							
(T) Yttrium		91.8			88.1	88.6							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

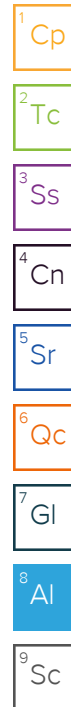
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody



☐ Rush Multiplier X
☐ Samples Pre-Logged into eCOC

State Of Origin: VA

Cert. Needed: ☒ Yes ☐ No

Workorder: 92780475 Workorder Name: PPPS_1SA2025_CCR_GrpE

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Report To		Subcontract To		Requested Analysis																
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																		
				Preserved Containers																
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HNO3	H2SO4													
1	021825NED23R	PS	2/18/2025 14:05	92780475001	Water	2	2													
2	022025NED22RA	PS	2/20/2025 13:05	92780475002	Water	2	2													
3																				
4																				
5																				
												Comments								
Transfers	Released By	Date/Time	Received By	Date/Time																
1	See Rec #11	2-24-25 11:00	Anthony Santos	02/25/25 09:00																
2																				
3																				
Cooler Temperature on Receipt <u> </u> °C		Custody Seal Y or N <u>NP</u>		Received on Ice <u>Y</u> or N		Samples Intact <u>Y</u> or N														

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist
 COC Seal Present/Intact: Y N NP If Applicable
 COC Signed/Accurate: Y N VOA Zero Headspace: Y N
 Bottles arrive intact: Y N Pres. Correct/Check: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 RA Screen <0.5 m/R/hr: Y N
 Containers: 8

PH-10BDH2631
 TRC-4072A72



Ship To:
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 758-5858

INTER_LABORATORY WORK ORDER # 92780475
(to be completed by sending lab)

18295165

Sending Project No: 92780475	
Receiving Project No:	
Check Box for Consolidated Invoice	☐
Date Prepared: 02/24/25	
REQUESTED COMPLETION DATE: 3/5/2025	

Sending Region	IR92-Charlotte	Sending Project Mgr.	Stephanie Knott
Receiving Region	IR850-Pace National	External Client	Dominion Energy VA
State of Sample Origin	VA	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet _____ Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Accode	Accode Desc
Phenol by 9066	AG3S		H2SO4	2	SI-21WET	SUB PASI WET
Ra 226/903.0	BP1N		HNO3	2	SI-38RAD	SUB PASI RAD
Ra 228/904.0 + Combined Ra	BP1N		HNO3	2	SI-38RAD02	SUB PASI RAD

Special Requirements: Report D, QC Limits, MDLs (D), Dominion EQEDD (1616), Golder Equis 5 (34)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION OF FORM

Original sent to the receiving lab - Copy kept at the sending lab.
When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Multiple Parcel Form

L#

4879565

Parcel Tracking Number	Infrared Thermometer ID	Temperature Reading (°C)	Correction Factor (°C)	Corrected Temperature (°C)	Custody Seal Intact
7442 3291 1159	TLA9	2.4	0.4	2.8	Yes / No / Not Present
7442 3291 1160	TLA9	1.5	0.4	1.9	Yes / No / Not Present
7442 3291 1181	TLA9	10.6	0.4	11.0	Yes / No / Not Present
7442 3291 1192	TLA9	2.2	0.4	2.6	Yes / No / Not Present
7442 3291 1207	TLA9	2.5	0.4	2.9	Yes / No / Not Present
7442 3291 1218	TLA9	0.3	0.4	0.7	Yes / No / Not Present
7442 3291 1229	TLA9	1.4	0.4	1.7	Yes / No / Not Present
7442 3291 1230	TLA9	1.7	0.4	2.1	Yes / No / Not Present
7442 3291 1240	TLA9	1.5	0.4	1.9	Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present

Ashley Banta
Name

02/25/2025
Date



March 27, 2025

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

RE: Project: PPPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on February 19, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephanie Knott
stephanie.knott@pacelabs.com
704-977-0981
Project Manager

Enclosures

cc: ENV STD DM
Michael Knez, WSP
Rashida Marlowe, Dominion Energy Services, Inc.
Catherine Pezzaro, WSP USA, Inc.
Crystal Shadle, Golder Associates Inc.
Environmental Standards, Inc., Environmental Standards,
Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LA000356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006

9800 Kinney Ave. Ste 100, Huntersville, NC 28078

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Laboratory ID: 99006

South Carolina Certification #: 99006001

South Carolina Drinking Water Cert. #: 99006003

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Louisiana DoH Drinking Water #: LA029

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Laboratory ID: 99030

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92780476001	021825NED24R	Water	02/18/25 13:50	02/19/25 10:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92780476001	021825NED24R	EPA 7199	VJM	1	PASI-C
		EPA 6010D	MGW	16	PASI-A
		EPA 6020B	DBB1	9	PASI-A
		EPA 7470A	MAB2	1	PASI-A
		EPA 9066	LDT	1	PAN
		SM 2540C-2015	CMW1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
		EPA 9060A	MDW	5	PASI-A

PAN = Pace National - Mt. Juliet

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92780476001	021825NED24R					
EPA 7199	Chromium, Hexavalent	1.8	ug/L	0.25	02/19/25 17:59	H1
EPA 6010D	Barium	18.0	ug/L	5.0	02/23/25 18:43	
EPA 6010D	Beryllium	0.16J	ug/L	1.0	02/23/25 18:43	
EPA 6010D	Boron	4.8J	ug/L	50.0	02/23/25 18:43	
EPA 6010D	Calcium	2100	ug/L	100	02/23/25 18:43	
EPA 6010D	Chromium	2.1J	ug/L	5.0	02/23/25 18:43	
EPA 6010D	Copper	1.4J	ug/L	5.0	02/23/25 18:43	
EPA 6010D	Nickel	1.4J	ug/L	5.0	02/23/25 18:43	
EPA 6010D	Hardness, Total(SM 2340B)	8760	ug/L	662	02/23/25 18:43	
EPA 6010D	Zinc	4.2J	ug/L	10.0	02/23/25 18:43	
EPA 6020B	Iron	2690	ug/L	20.0	03/12/25 02:09	
EPA 6020B	Lithium	8.5	ug/L	2.5	03/12/25 02:09	
EPA 6020B	Manganese	65.6	ug/L	2.0	03/12/25 02:09	
EPA 6020B	Potassium	5630	ug/L	100	03/12/25 02:09	
EPA 6020B	Sodium	4580	ug/L	250	03/12/25 02:09	
SM 2540C-2015	Total Dissolved Solids	49.6	mg/L	10.0	02/24/25 15:39	
EPA 9056A	Chloride	2.2	mg/L	1.0	02/21/25 06:45	
EPA 9056A	Sulfate	2.0	mg/L	1.0	02/21/25 06:45	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: EPA 7199
Description: 7199 Chromium, Hexavalent
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 7199 by Pace Analytical Services Charlotte. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

- H1: Analysis conducted outside the EPA method holding time.
- 021825NED24R (Lab ID: 92780476001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917201

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 4713642)
 - Chromium, Hexavalent
 - MS (Lab ID: 4713644)
 - Chromium, Hexavalent

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: EPA 6010D
Description: 6010 MET ICP
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 6010D by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: EPA 6020B
Description: 6020 MET ICPMS
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 919050

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
92777579004,92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4722981)
 - Sodium
- MS (Lab ID: 4722985)
 - Iron
- MSD (Lab ID: 4722982)
 - Sodium
- MSD (Lab ID: 4722984)
 - Iron
 - Tin

R1: RPD value was outside control limits.

- MSD (Lab ID: 4722984)

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Method: EPA 6020B

Description: 6020 MET ICPMS

Client: Dominion Energy_VA

Date: March 27, 2025

QC Batch: 919050

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
92777579004,92780474002,92780477002

R1: RPD value was outside control limits.

- Iron
- Tin

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: EPA 7470A
Description: 7470 Mercury
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 7470A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Method: EPA 9066

Description: Wet Chemistry 9066

Client: Dominion Energy_VA

Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 9066 by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: SM 2540C-2015
Description: 2540C Total Dissolved Solids
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for SM 2540C-2015 by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Method: EPA 9056A
Description: 9056 IC anions 28 Days
Client: Dominion Energy_VA
Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 9056A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 917605

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92780474002,92780477002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4716296)
 - Chloride
- MSD (Lab ID: 4716297)
 - Chloride
 - Fluoride
- MSD (Lab ID: 4716299)
 - Fluoride

Additional Comments:

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PROJECT NARRATIVE

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Method: EPA 9060A

Description: Total Organic Carbon,Asheville

Client: Dominion Energy_VA

Date: March 27, 2025

General Information:

1 sample was analyzed for EPA 9060A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

Sample: 021825NED24R		Lab ID: 92780476001		Collected: 02/18/25 13:50		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7199 Chromium, Hexavalent		Analytical Method: EPA 7199 Pace Analytical Services - Charlotte							
Chromium, Hexavalent	1.8	ug/L	0.25	0.043	10		02/19/25 17:59	18540-29-9	H1
6010 MET ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Antimony	ND	ug/L	5.0	3.6	1	02/22/25 15:20	02/23/25 18:43	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	02/22/25 15:20	02/23/25 18:43	7440-38-2	
Barium	18.0	ug/L	5.0	0.79	1	02/22/25 15:20	02/23/25 18:43	7440-39-3	
Beryllium	0.16J	ug/L	1.0	0.16	1	02/22/25 15:20	02/23/25 18:43	7440-41-7	
Boron	4.8J	ug/L	50.0	4.0	1	02/22/25 15:20	02/23/25 18:43	7440-42-8	
Cadmium	ND	ug/L	1.0	0.29	1	02/22/25 15:20	02/23/25 18:43	7440-43-9	
Calcium	2100	ug/L	100	14.7	1	02/22/25 15:20	02/23/25 18:43	7440-70-2	
Chromium	2.1J	ug/L	5.0	0.63	1	02/22/25 15:20	02/23/25 18:43	7440-47-3	
Copper	1.4J	ug/L	5.0	0.62	1	02/22/25 15:20	02/23/25 18:43	7440-50-8	
Molybdenum	ND	ug/L	5.0	2.6	1	02/22/25 15:20	02/23/25 18:43	7439-98-7	
Nickel	1.4J	ug/L	5.0	0.88	1	02/22/25 15:20	02/23/25 18:43	7440-02-0	
Selenium	ND	ug/L	10.0	4.1	1	02/22/25 15:20	02/23/25 18:43	7782-49-2	
Silver	ND	ug/L	5.0	0.49	1	02/22/25 15:20	02/23/25 18:43	7440-22-4	
Hardness, Total(SM 2340B)	8760	ug/L	662	36.8	1	02/22/25 15:20	02/23/25 18:43		
Vanadium	ND	ug/L	5.0	1.6	1	02/22/25 15:20	02/23/25 18:43	7440-62-2	
Zinc	4.2J	ug/L	10.0	3.0	1	02/22/25 15:20	02/23/25 18:43	7440-66-6	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Cobalt	ND	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 02:09	7440-48-4	
Iron	2690	ug/L	20.0	3.0	1	02/27/25 15:55	03/12/25 02:09	7439-89-6	
Lead	ND	ug/L	1.0	0.18	1	02/27/25 15:55	03/12/25 02:09	7439-92-1	
Lithium	8.5	ug/L	2.5	0.33	1	02/27/25 15:55	03/12/25 02:09	7439-93-2	
Manganese	65.6	ug/L	2.0	0.24	1	02/27/25 15:55	03/12/25 02:09	7439-96-5	
Potassium	5630	ug/L	100	18.0	1	02/27/25 15:55	03/12/25 02:09	7440-09-7	
Sodium	4580	ug/L	250	14.4	1	02/27/25 15:55	03/12/25 02:09	7440-23-5	
Thallium	ND	ug/L	0.20	0.028	1	02/27/25 15:55	03/12/25 02:09	7440-28-0	
Tin	ND	ug/L	1.0	0.14	1	02/27/25 15:55	03/12/25 02:09	7440-31-5	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville							
Mercury	ND	ug/L	0.20	0.12	1	02/22/25 19:50	02/24/25 13:12	7439-97-6	
Wet Chemistry 9066		Analytical Method: EPA 9066 Preparation Method: SW-846 9066 Pace National - Mt. Juliet							
Phenolics, Total Recoverable	ND	mg/L	0.0400	0.0115	1	02/26/25 07:29	02/26/25 13:50	64743-03-9	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville							
Total Dissolved Solids	49.6	mg/L	10.0	10.0	1		02/24/25 15:39		

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ANALYTICAL RESULTS

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Sample: 021825NED24R		Lab ID: 92780476001		Collected: 02/18/25 13:50		Received: 02/19/25 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC anions 28 Days		Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Chloride	2.2	mg/L	1.0	0.60	1		02/21/25 06:45	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/21/25 06:45	16984-48-8	
Sulfate	2.0	mg/L	1.0	0.50	1		02/21/25 06:45	14808-79-8	
Total Organic Carbon,Asheville		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:20	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:20	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:20	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:20	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/26/25 07:20	7440-44-0	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	917201	Analysis Method:	EPA 7199
QC Batch Method:	EPA 7199	Analysis Description:	7199 Chromium, Hexavalent
		Laboratory:	Pace Analytical Services - Charlotte

Associated Lab Samples: 92780476001

METHOD BLANK: 4713639 Matrix: Water
Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	0.0043	02/19/25 11:03	

LABORATORY CONTROL SAMPLE: 4713640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.11	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713642 4713643

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.012J	0.1	0.1	0.12	0.12	111	104	90-110	6	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4713644 4713645

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	0.44	0.1	0.1	0.58	0.54	140	105	90-110	6	20	M1

SAMPLE DUPLICATE: 4713641

Parameter	Units	92780474004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	ug/L	0.32	0.29	10	20	H1

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

QC Batch: 917873

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4717713

Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	02/24/25 12:43	

LABORATORY CONTROL SAMPLE: 4717714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717717 4717718

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.5	102	101	75-125	1	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	917950	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4717941 Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	3.6	02/23/25 18:24	
Arsenic	ug/L	ND	10.0	2.5	02/23/25 18:24	
Barium	ug/L	ND	5.0	0.79	02/23/25 18:24	
Beryllium	ug/L	ND	1.0	0.16	02/23/25 18:24	
Boron	ug/L	ND	50.0	4.0	02/23/25 18:24	
Cadmium	ug/L	ND	1.0	0.29	02/23/25 18:24	
Calcium	ug/L	ND	100	14.7	02/23/25 18:24	
Chromium	ug/L	ND	5.0	0.63	02/23/25 18:24	
Copper	ug/L	ND	5.0	0.62	02/23/25 18:24	
Hardness, Total(SM 2340B)	ug/L	ND	662	36.8	02/23/25 18:24	
Molybdenum	ug/L	ND	5.0	2.6	02/23/25 18:24	
Nickel	ug/L	ND	5.0	0.88	02/23/25 18:24	
Selenium	ug/L	ND	10.0	4.1	02/23/25 18:24	
Silver	ug/L	ND	5.0	0.49	02/23/25 18:24	
Vanadium	ug/L	ND	5.0	1.6	02/23/25 18:24	
Zinc	ug/L	ND	10.0	3.0	02/23/25 18:24	

LABORATORY CONTROL SAMPLE: 4717942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	451	90	80-120	
Arsenic	ug/L	500	444	89	80-120	
Barium	ug/L	500	457	91	80-120	
Beryllium	ug/L	500	451	90	80-120	
Boron	ug/L	500	453	91	80-120	
Cadmium	ug/L	500	445	89	80-120	
Calcium	ug/L	5000	4470	89	80-120	
Chromium	ug/L	500	453	91	80-120	
Copper	ug/L	500	461	92	80-120	
Hardness, Total(SM 2340B)	ug/L	33100	29300	89	80-120	
Molybdenum	ug/L	500	459	92	80-120	
Nickel	ug/L	500	448	90	80-120	
Selenium	ug/L	500	428	86	80-120	
Silver	ug/L	250	226	90	80-120	
Vanadium	ug/L	500	454	91	80-120	
Zinc	ug/L	500	444	89	80-120	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4717943 4717944											
Parameter	Units	92780713003		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
Antimony	ug/L	ND	500	500	500	469	472	94	94	75-125	1 20
Arsenic	ug/L	ND	500	500	500	458	459	92	92	75-125	0 20
Barium	ug/L	48.8	500	500	500	514	510	93	92	75-125	1 20
Beryllium	ug/L	0.65J	500	500	500	463	468	92	93	75-125	1 20
Boron	ug/L	ND	500	500	500	470	474	93	94	75-125	1 20
Cadmium	ug/L	ND	500	500	500	450	453	90	91	75-125	1 20
Calcium	ug/L	6790	5000	5000	5000	11600	11400	97	92	75-125	2 20
Chromium	ug/L	1.6J	500	500	500	456	461	91	92	75-125	1 20
Copper	ug/L	6.2	500	500	500	473	474	93	94	75-125	0 20
Hardness, Total(SM 2340B)	ug/L	34100	33100	33100	33100	66800	65500	99	95	75-125	2 20
Molybdenum	ug/L	ND	500	500	500	464	468	93	94	75-125	1 20
Nickel	ug/L	6.8	500	500	500	460	461	91	91	75-125	0 20
Selenium	ug/L	ND	500	500	500	453	456	91	91	75-125	1 20
Silver	ug/L	2.1J	250	250	250	235	236	93	94	75-125	1 20
Vanadium	ug/L	ND	500	500	500	463	465	92	93	75-125	0 20
Zinc	ug/L	5.5J	500	500	500	455	458	90	90	75-125	1 20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	919050	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4722979 Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.14	03/11/25 23:05	
Iron	ug/L	19.3J	20.0	3.0	03/11/25 23:05	
Lead	ug/L	ND	1.0	0.18	03/11/25 23:05	
Lithium	ug/L	ND	2.5	0.33	03/11/25 23:05	
Manganese	ug/L	ND	2.0	0.24	03/11/25 23:05	
Potassium	ug/L	20.4J	100	18.0	03/11/25 23:05	
Sodium	ug/L	21.9J	250	14.4	03/11/25 23:05	
Thallium	ug/L	ND	0.20	0.028	03/11/25 23:05	
Tin	ug/L	ND	1.0	0.14	03/11/25 23:05	

LABORATORY CONTROL SAMPLE: 4722980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	53.8	108	80-120	
Iron	ug/L	1250	1350	108	80-120	
Lead	ug/L	50	53.3	107	80-120	
Lithium	ug/L	50	52.7	105	80-120	
Manganese	ug/L	50	53.9	108	80-120	
Potassium	ug/L	2500	2590	104	80-120	
Sodium	ug/L	2500	2630	105	80-120	
Thallium	ug/L	25	26.4	106	80-120	
Tin	ug/L	50	52.4	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4722981 4722982

Parameter	Units	92777579004	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	% Rec	RPD	Max	Qual
		Result	Spike	Spike										
Cobalt	ug/L	0.19J	50	50	50.0	50.8	100	101	75-125		2	20		
Iron	ug/L	39.1	1250	1250	1320	1370	103	106	75-125		4	20		
Lead	ug/L	ND	50	50	51.1	54.2	102	108	75-125		6	20		
Lithium	ug/L	7.7	50	50	56.1	56.5	97	97	75-125		1	20		
Manganese	ug/L	51.2	50	50	99.6	105	97	108	75-125		6	20		
Potassium	ug/L	1950	2500	2500	4420	4490	99	102	75-125		2	20		
Sodium	ug/L	25100	2500	2500	26200	28500	45	136	75-125		8	20	M1	
Thallium	ug/L	ND	25	25	25.3	26.2	101	105	75-125		3	20		
Tin	ug/L	ND	50	50	50.5	51.1	101	102	75-125		1	20		

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:												
4722983					4722984							
Parameter	Units	92780474002	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Cobalt	ug/L	3.5J	50	50	53.6	50.4	100	94	75-125	6	20	M1,R1
Iron	ug/L	ND	1250	1250	1330	1790	106	143	75-125	30	20	
Lead	ug/L	ND	50	50	50.7	47.4	101	94	75-125	7	20	
Lithium	ug/L	7.8J	50	50	58.3	54.7	101	94	75-125	6	20	
Manganese	ug/L	73.2	50	50	123	117	99	88	75-125	5	20	M1,R1
Potassium	ug/L	6420	2500	2500	8870	9550	98	125	75-125	7	20	
Sodium	ug/L	25500	2500	2500	27400	28100	78	107	75-125	3	20	
Thallium	ug/L	ND	25	25	25.1	23.6	100	94	75-125	6	20	
Tin	ug/L	ND	50	50	49.9	66.8	100	134	75-125	29	20	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:				4722985	4722986							
Parameter	Units	92780477002	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Cobalt	ug/L	ND	50	50	54.7	52.2	109	104	75-125	5	20	M1
Iron	ug/L	2590	1250	1250	4180	3970	127	110	75-125	5	20	
Lead	ug/L	ND	50	50	52.6	50.6	105	100	75-125	4	20	
Lithium	ug/L	12.2J	50	50	67.5	64.2	111	104	75-125	5	20	
Manganese	ug/L	81.2	50	50	143	137	123	111	75-125	4	20	
Potassium	ug/L	5300	2500	2500	8140	8050	114	110	75-125	1	20	
Sodium	ug/L	1790	2500	2500	4530	4500	110	108	75-125	1	20	
Thallium	ug/L	ND	25	25	25.3	24.9	101	99	75-125	2	20	
Tin	ug/L	ND	50	50	52.0	50.0	104	100	75-125	4	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	2458259	Analysis Method:	EPA 9066
QC Batch Method:	SW-846 9066	Analysis Description:	Wet Chemistry 9066
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 92780476001

METHOD BLANK: R4180422-1 Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.0400	0.0115	02/26/25 13:38	

LABORATORY CONTROL SAMPLE: R4180422-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	1.00	1.03	103	90.0-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-3 R4180422-4

Parameter	Units	L1828804-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	1.01	1.00	101	100	90.0-110	0.995	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4180422-5 R4180422-6

Parameter	Units	L1829575-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	1.00	1.00	0.952	0.957	95.2	95.7	90.0-110	0.524	20	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	917867	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4717697 Matrix: Water
Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/26/25 16:16	

LABORATORY CONTROL SAMPLE: 4717698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	232	93	80-120	

SAMPLE DUPLICATE: 4717934

Parameter	Units	92780474002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	196	202	3	25	

SAMPLE DUPLICATE: 4717935

Parameter	Units	92780477002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	250	258	3	25	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch:	917605	Analysis Method:	EPA 9056A
QC Batch Method:	EPA 9056A	Analysis Description:	9056 IC anions 28 Days
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4716294 Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/20/25 22:34	
Fluoride	mg/L	ND	0.10	0.050	02/20/25 22:34	
Sulfate	mg/L	ND	1.0	0.50	02/20/25 22:34	

LABORATORY CONTROL SAMPLE: 4716295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	50.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716296 4716297

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	54.9	50	50	84.5	87.3	59	65	90-110	3	10	M1
Fluoride	mg/L	0.052J	2.5	2.5	2.7	2.9	105	116	90-110	10	10	M1
Sulfate	mg/L	43.2	50	50	94.7	98.0	103	110	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4716298 4716299

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.8	50	50	97.8	99.6	104	108	90-110	2	10	
Fluoride	mg/L	0.42	2.5	2.5	3.0	3.2	104	111	90-110	6	10	M1
Sulfate	mg/L	24.0	50	50	76.8	78.6	106	109	90-110	2	10	

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QUALITY CONTROL DATA

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

QC Batch: 918412 Analysis Method: EPA 9060A
QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92780476001

METHOD BLANK: 4720116 Matrix: Water

Associated Lab Samples: 92780476001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/26/25 02:02	

LABORATORY CONTROL SAMPLE: 4720117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720118 4720119

Parameter	Units	92780474002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	99	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.7	24.8	98	98	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.6	24.6	98	98	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.7	25.0	98	100	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	24.8	24.8	99	99	75-125	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4720120 4720121

Parameter	Units	92780477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	6.3	25	25	31.0	31.0	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.2	25	25	31.0	30.8	99	98	75-125	1	25	
Total Organic Carbon	mg/L	6.2	25	25	30.8	30.9	98	99	75-125	0	25	
Total Organic Carbon	mg/L	6.4	25	25	31.1	31.0	99	99	75-125	0	25	
Total Organic Carbon	mg/L	6.4	25	25	31.0	31.3	99	100	75-125	1	25	

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QUALIFIERS

Project: PPS_1SA2025_CCR_GrpF
Pace Project No.: 92780476

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA2025_CCR_GrpF

Pace Project No.: 92780476

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92780476001	021825NED24R	EPA 7199	917201		
92780476001	021825NED24R	EPA 3010A	917950	EPA 6010D	917964
92780476001	021825NED24R	EPA 3010A	919050	EPA 6020B	919146
92780476001	021825NED24R	EPA 7470A	917873	EPA 7470A	918003
92780476001	021825NED24R	SW-846 9066	2458259	EPA 9066	2458259
92780476001	021825NED24R	SM 2540C-2015	917867		
92780476001	021825NED24R	EPA 9056A	917605		
92780476001	021825NED24R	EPA 9060A	918412		

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Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

WO#: 92780476



92780476

Date/Initials Person Examining Contents: NO

5210212

☐ None

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:	
Chain of Custody Present?	☒ Yes	☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes	☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☒ Yes	☐ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes	☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes	☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes	☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes	☐ No ☐ N/A		
Containers Intact?	☒ Yes	☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes	☒ No ☐ N/A	8.	
Sample Labels Match COC?	☒ Yes	☐ No ☐ N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>wt</u>				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☒ No ☐ N/A	10.	
Trip Blank Present?	☐ Yes	☒ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes	☒ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

Temp Log: Temp must be maintained at $\leq 6^{\circ}\text{C}$ during login, record temp every 20 minutes.

Time opened: Temp:

Time: put in cooler

Time: Temp:

CLIENT NOTIFICATION/RESOLUTION

Person Contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:



DC#_Title: ENV-FRM-HUN1-0083 v05_Sample Condition Upon Receipt

Effective Date: 05/24/2024

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Project # **W0# : 92780476**

PM: SK

Due Date: 03/05/25

CLIENT: 92-DomEnergy

Laboratory Receiving Location: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Client _____ Profile/EZ (Circle one) _____ Notes _____

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BPIN	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
CC																														
1		1	1		2		1							2						3							1			
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY Analytical Request Document

LAB USE ONLY - Affix Workorder/Login Label Here

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: Dominion Energy VA
Street Address: 120 Tredegar Street
Richmond, VA 23219

Contact/Report To: Kelly Hicks
Phone #: (804)273-4903
E-Mail: kelly.a.hicks@dominionenergy.com
Cc E-Mail:

Invoice To: Kelly Hicks
Invoice E-Mail: kelly.a.hicks@dominionenergy.com
Purchase Order # (if applicable): 50149081
Quote #:

Customer Project #: PPS_15A2025_CCR_GRP
Project Name: PPS_15A2025_CCR_GRP

Site Collection Info/Facility ID (as applicable):

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET

Data Deliverables: Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No

[] Level II [] Level III [] Level IV

[] EQUIS

Date Results Requested:

[] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other

Field Filtered (if applicable): [] Yes [] No

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID

02 25NED24R

WT G

2/15/15 14:30 11

2540C Total Dissolved Solids
6010/6020/7470 Metals
7199 Chromium, Hexavalent
9056 IC anions - Cl/FI/SO4
Phenol by 9066 - PN
RADS 226/228 - PN
Total Organic Carbon, Asheville

Lab Use Only
Proj. Mgr: Stephanie Knott
Accession / Client ID:
Table #:
Profile / Template: 13861
Prelog / Bottle Ord. ID: EZ 3222686
Sample Comment: - All samples preserved on ice - level II data package requested

Preservation non-conformance identified for sample

Additional Instructions from Pace®:

Collected By: Michael Knez
(Printed Name)
Signature: M. Knez

Customer Remarks / Special Conditions / Possible Hazards:

Thermometer ID: 924013
Correction Factor (°C): 0
Obs. Temp. (°C): 2.3
Corrected Temp. (°C): 2.3
On Ice: Y

Inquired by/Company (Signature):

Date/Time:

Received by/Company (Signature):

Date/Time:

Date/Time:

Tracking Number:

Delivered by: [] In-Person [] Courier

On Ice

Inquired by/Company (Signature):

Date/Time:

Received by/Company (Signature):

Date/Time:

Date/Time:

Tracking Number:

Delivered by: [] In-Person [] Courier

On Ice

Inquired by/Company (Signature):

Date/Time:

Received by/Company (Signature):

Date/Time:

Date/Time:

Tracking Number:

Delivered by: [] In-Person [] Courier

On Ice

Printing a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at <https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/>



Scan QR Code for instructions



Effective Date: 8/9/2024

EPA method 7199 - Hexavalent Chromium pH Adjustment

HBN	417201
Analyst Initials	VJM
pH Meter	pH 92 pH6

Batch # 65683

WO# 92780474, 92780477, 92780475, 92780476

Lab Sample ID	Volume of Adjusted Sample (mL)	Initial pH	Date/Time Adjusted	Final pH	Volume of Adjustment Buffer (mL)	Volume of NaOH (mL)	Adjustment Buffer Standard ID	NaOH Standard ID	Comments
92780473	80473001	10mL	5.7	2/19/25 12:28	4.0	.050 mLES	309471		
92780424	80474001	10mL	6.2	2/19/25 12:10	9.1	.050 mLES			
RQS	80474002	10mL	5.0	2/19/25 12:42	9.0	.060 mLES			
	MS 80474002	10mL	4.7	2/19/25 12:42	9.0	.060 mLES			
	MSO 80474002	10mL	4.6	2/19/25 12:45	9.0	.060 mLES			
	80474003	10mL	5.2	2/19/25	4.0	.110 mLES			
(10mL)	80474004	10mL	4.1	2/19/25 12:15	4.0	.110 mLES			
	80474005	10mL	5.4	2/19/25 12:20	9.0	.090 mLES			
	80474006	10mL	6.2	2/19/25 12:00	4.3	.050 mLES			
92780475	80475001	10mL	6.0	2/19/25 12:04	9.2	.050 mLES			
92780476	80476001	10mL	5.6	2/19/25 12:08	4.0	.050 mLES			
92780477	80477001	10mL	5.4	2/19/25 12:09	4.2	.050 mLES			
	RQS 80477002	10mL	6.1	2/19/25 12:09	4.0	.060 mLES			
	MS 80477002	10mL	6.3	2/19/25 12:09	9.0	.050 mLES			
	MSO 80477002	10mL	6.5	2/19/25 12:10	9.0	.050 mLES			
	80477003	10mL	5.4	2/19/25 12:26	4.0	.050 mLES			
	80474003	10mL	5.2	2/19/25 12:24	9.0	.060 mLES			

Pace Analytical - Kernersville, NC

Sample Delivery Group: L1829570
Samples Received: 02/25/2025
Project Number: 92780476
Description: PPS_1SA2025_CCR_GrpF
Site: 001
Report To: Stephanie Knott
1377 S Park Dr
Kernersville, NC 27284

Entire Report Reviewed By:



Brigit Gillespie
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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TABLE OF CONTENTS

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SAMPLE SUMMARY

021825NED24R L1829570-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

02/18/25 13:50

02/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG2460191	1	02/28/25 14:00	03/10/25 20:42	ASN	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2460391	1	03/05/25 12:12	03/11/25 18:53	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2460191	1	02/28/25 14:00	03/11/25 18:53	DDD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

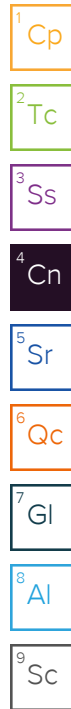
⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brigit Gillespie
Project Manager



Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
Radium-226	0.279		0.192	0.333	0.243	0.0836	03/10/2025 20:42	WG2460191
(T) Barium	94.4					30.0-143	03/10/2025 20:42	WG2460191

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.722		0.386	0.676	0.683	0.357	03/11/2025 18:53	WG2460391
(T) Barium	108					30.0-143	03/11/2025 18:53	WG2460391
(T) Yttrium	92.0					30.0-136	03/11/2025 18:53	WG2460391

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.00		0.431	0.725	03/11/2025 18:53	WG2460191

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4183157-1 03/06/25 00:33

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0642	<u>U</u>	0.151	0.287	0.112
(T) Barium	98.2		98.2		

L1829617-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829617-01 03/06/25 01:34 • (DUP) R4183157-5 03/06/25 01:34

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.210	0.246	0.401	0.138	0.000	0.516	1.12	0.435	200	0.366	<u>U</u>	20	3
(T) Barium	100				109	109							

Laboratory Control Sample (LCS)

(LCS) R4183157-2 03/06/25 00:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.82	96.5	80.0-120	
(T) Barium			107		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/06/25 01:34 • (MS) R4183157-3 03/06/25 00:33 • (MSD) R4183157-4 03/06/25 00:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.463	22.4	20.1	110	98.1	1	75.0-125			11.1		20
(T) Barium		105			110	108							

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4185764-1 03/11/25 18:53

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.222	⬇	0.162	0.291	0.154
(T) Barium	118		118		
(T) Yttrium	86.2		86.2		

L1829570-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1829570-01 03/11/25 18:53 • (DUP) R4185764-5 03/11/25 18:53

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.722	0.386	0.683	0.357	1.32	0.690	1.22	0.637	58.4	0.753		20	3
(T) Barium	108				126	126							
(T) Yttrium	92.0				87.6	87.6							

Laboratory Control Sample (LCS)

(LCS) R4185764-2 03/11/25 18:53

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.3	80.0-120	
(T) Barium			119		
(T) Yttrium			90.4		

L1829574-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1829574-02 03/11/25 18:53 • (MS) R4185764-3 03/11/25 18:53 • (MSD) R4185764-4 03/11/25 18:53

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.365	9.18	10.1	88.2	97.0	1	70.0-130			9.15		20
(T) Barium		114			124	123							
(T) Yttrium		91.8			88.1	88.6							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

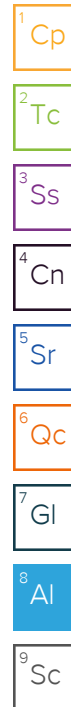
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC

State Of Origin: VA

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Workorder: 92780476

Workorder Name: PPPS_1SA2025_CCR_GrpF

Report To		Subcontract To		Requested Analysis																					
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																							
				Phenol by 9066 Ra 226/903.0 Ra 228/904.0 + Combined Ra LAB USE ONLY U829570 -01																					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HVOS	H2SO4	Preserved Containers																	
1	021825NED24R	PS	2/18/2025 13:50	92780476001	Water	2	2																		
2																									
3																									
4																									
5																									
Transfers		Released By	Date/Time	Received By	Date/Time	Comments																			
1		3CA Recr Flu	2-24-25 1600	Christley Butler	04/25/25 0900																				
2																									
3																									
Cooler Temperature on Receipt		°C	Custody Seal Y or N		NP	Received on Ice		Y	or N		Samples Intact												Y	or N	

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☒ N ☒ NP If Applicable
 COC Signed/Accurate: ☒ Y ☒ N VOA Zero Headspace: ☒ Y ☒ N
 Bottles arrive intact: ☒ Y ☒ N Pres. Correct/Check: ☒ Y ☒ N
 Correct bottles used: ☒ Y ☒ N
 Sufficient volume sent: ☒ Y ☒ N
 RA Screen <0.5 mR/hr: ☒ Y ☒ N

Containers: 4

PH - 10BDH2631
TRC - 4072A72



Ship To:
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 758-5858

INTER_LABORATORY WORK ORDER # 92780476

(To be completed by sending lab)

Sending Project No	92780476
Receiving Project No	
Check Box for Consolidated Invoice	☐
Date Prepared	02/24/25
REQUESTED COMPLETION DATE	3/5/2025

Sending Region	IR92-Charlotte	Sending Project Mgr	Stephanie Knott
Receiving Region	IR850-Pace National	External Client	Dominion Energy, VA
State of Sample Origin	VA	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet _____

Cert. Needed _____

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Phenol by 9066	AG3S		H2SO4	1	SI-21WET	SUB PASI WET
Ra 226/903.0	BP1N		HNO3	1	SI-38RAD	SUB PASI RAD
Ra 228/904.0 + Combined Ra	BP1N		HNO3	1	SI-38RAD02	SUB PASI RAD

Special Requirements: Report D, QC Limits, MDLs (D), Dominion EQEEDD (1616), Golder Equis 5 (34)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION OF FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

LF629570

Multiple Parcel Form

L# 11929570

Parcel Tracking Number	Infrared Thermometer ID	Temperature Reading (°C)	Correction Factor (°C)	Corrected Temperature (°C)	Custody Seal Intact
7442 3291 1159	TLA9	2.4	0.4	2.8	Yes / No / <u>Not Present</u>
7442 3291 1160	TLA9	1.5	0.4	1.9	Yes / No / <u>Not Present</u>
7442 3291 1181	TLA9	10.6	0.4	11.0	Yes / No / <u>Not Present</u>
7442 3291 1192	TLA9	2.2	0.4	2.6	Yes / No / <u>Not Present</u>
7442 3291 1207	TLA9	2.5	0.4	2.9	Yes / No / <u>Not Present</u>
7442 3291 1218	TLA9	0.3	0.4	0.7	Yes / No / <u>Not Present</u>
7442 3291 1229	TLA9	1.4	0.4	1.7	Yes / No / <u>Not Present</u>
7442 3291 1230	TLA9	1.7	0.4	2.1	Yes / No / <u>Not Present</u>
7442 3291 1240	TLA9	1.5	0.4	1.9	Yes / No / <u>Not Present</u>
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present
					Yes / No / Not Present

Ashley Banta
Name02/25/2015
Date

Attachment VII-B
Laboratory Certificates of Analysis
April 17, 2025, Verification Event



May 01, 2025

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

RE: Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on April 18, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephanie Knott
stephanie.knott@pacelabs.com
704-977-0981
Project Manager

Enclosures

cc: ENV STD DM
Michael Knez, WSP
Rashida Marlowe, Dominion Energy Services, Inc.
Catherine Pezzaro, WSP USA, Inc.
Crystal Shadle, Golder Associates Inc.
Environmental Standards, Inc., Environmental Standards,
Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LA000356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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SAMPLE SUMMARY

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92791987001	041725NES3D	Water	04/17/25 12:45	04/18/25 08:45
92791987002	041725NT1615S	Water	04/17/25 15:38	04/18/25 08:45
92791987003	041725BEFBBLANK	Water	04/17/25 10:25	04/18/25 08:45

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SAMPLE ANALYTE COUNT

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92791987001	041725NES3D	EPA 6010D	MAP	1	PAN
		EPA 6020B	LD	1	PAN
92791987002	041725NT1615S	EPA 6010D	MAP	1	PAN
		EPA 6020B	LD	1	PAN
92791987003	041725BEFBBLANK	EPA 6010D	MAP	2	PAN
		EPA 6020B	SJM	2	PAN

PAN = Pace National - Mt. Juliet

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SUMMARY OF DETECTION

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92791987001	041725NES3D					
EPA 6020B	Vanadium	2.02J	ug/L	5.00	04/24/25 22:20	J
92791987002	041725NT1615S					
EPA 6010D	Arsenic	16.2	ug/L	10.0	04/21/25 11:24	
EPA 6020B	Arsenic	9.84	ug/L	2.00	05/01/25 01:56	

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Date: May 01, 2025

Report revised to include Vanadium reanalysis by EPA 6020. SJK 4/22/25

Report revised to include Arsenic reanalysis by EPA 6020 and to revise units. SJK 4/28/25

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Method: EPA 6010D
Description: Metals (ICP) 6010D
Client: Dominion Energy_VA
Date: May 01, 2025

General Information:

3 samples were analyzed for EPA 6010D by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Method: EPA 6020B
Description: Metals (ICPMS) 6020B
Client: Dominion Energy_VA
Date: May 01, 2025

General Information:

3 samples were analyzed for EPA 6020B by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725NES3D		Lab ID: 92791987001		Collected: 04/17/25 12:45		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D		Analytical Method: EPA 6010D Preparation Method: 3015 Pace National - Mt. Juliet							
Vanadium	ND	ug/L	20.0	5.64	1	04/20/25 13:38	04/21/25 11:17	7440-62-2	
Metals (ICPMS) 6020B		Analytical Method: EPA 6020B Preparation Method: 3015 Pace National - Mt. Juliet							
Vanadium	2.02J	ug/L	5.00	0.520	1	04/24/25 07:45	04/24/25 22:20	7440-62-2	J

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725NT1615S		Lab ID: 92791987002		Collected: 04/17/25 15:38		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D		Analytical Method: EPA 6010D Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	16.2	ug/L	10.0	7.83	1	04/20/25 13:38	04/21/25 11:24	7440-38-2	
Metals (ICPMS) 6020B		Analytical Method: EPA 6020B Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	9.84	ug/L	2.00	0.120	1	04/30/25 22:22	05/01/25 01:56	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725BEFBBLANK		Lab ID: 92791987003		Collected: 04/17/25 10:25		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D									
Analytical Method: EPA 6010D Preparation Method: 3015									
Pace National - Mt. Juliet									
Arsenic	ND	ug/L	10.0	7.83	1	04/20/25 13:38	04/21/25 11:26	7440-38-2	
Vanadium	ND	ug/L	20.0	5.64	1	04/20/25 13:38	04/21/25 11:26	7440-62-2	
Metals (ICPMS) 6020B									
Analytical Method: EPA 6020B Preparation Method: 3015									
Pace National - Mt. Juliet									
Arsenic	ND	ug/L	2.00	0.120	1	04/24/25 07:45	04/24/25 22:23	7440-38-2	
Vanadium	ND	ug/L	5.00	0.520	1	04/24/25 07:45	04/24/25 22:23	7440-62-2	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

QC Batch: 2495323 Analysis Method: EPA 6010D
QC Batch Method: 3015 Analysis Description: Metals (ICP) 6010D
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 92791987001, 92791987002, 92791987003

METHOD BLANK: R4202624-1 Matrix: Water
Associated Lab Samples: 92791987001, 92791987002, 92791987003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	7.83	04/21/25 11:14	
Vanadium	ug/L	ND	20.0	5.64	04/21/25 11:14	

LABORATORY CONTROL SAMPLE: R4202624-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1000	1010	101	80.0-120	
Vanadium	ug/L	1000	983	98.3	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4202624-4 R4202624-5

Parameter	Units	92791987001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	1000	1000	985	1000	98.5	100	75.0-125	1.56	20	
Vanadium	ug/L	ND	1000	1000	962	964	96.2	96.4	75.0-125	0.148	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

QC Batch: 2497606 Analysis Method: EPA 6020B
QC Batch Method: 3015 Analysis Description: Metals (ICPMS) 6020B
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92791987001, 92791987003

METHOD BLANK: R4204770-6 Matrix: Water

Associated Lab Samples: 92791987001, 92791987003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	2.00	0.120	04/24/25 20:31	
Vanadium	ug/L	ND	5.00	0.520	04/24/25 20:31	

LABORATORY CONTROL SAMPLE: R4204770-7

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	50.0	52.0	104	80.0-120	
Vanadium	ug/L	50.0	50.9	102	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4204770-9 R4204770-10

Parameter	Units	L1848948-03 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.23	50.0	50.0	53.6	53.0	105	104	75.0-125	1.13	20	
Vanadium	ug/L	1.66	50.0	50.0	53.6	53.3	104	103	75.0-125	0.501	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

QC Batch: 2503355

Analysis Method: EPA 6020B

QC Batch Method: 3015

Analysis Description: Metals (ICPMS) 6020B

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92791987002

METHOD BLANK: R4207986-1

Matrix: Water

Associated Lab Samples: 92791987002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	2.00	0.120	05/01/25 01:37	

LABORATORY CONTROL SAMPLE: R4207986-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	50.0	49.8	99.5	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4207986-4 R4207986-5

Parameter	Units	L1851558-04 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.155	50.0	50.0	49.8	50.3	99.3	100	75.0-125	1.04	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 92791987

[1]

[1]

[1] Report revised to include Vanadium reanalysis by EPA 6020. SJK 4/22/25

[2] Report revised to include Arsenic reanalysis by EPA 6020 and to revise units. SJK 4/28/25

ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92791987001	041725NES3D	3015	2495323	EPA 6010D	2495323
92791987002	041725NT1615S	3015	2495323	EPA 6010D	2495323
92791987003	041725BEFBBLANK	3015	2495323	EPA 6010D	2495323
92791987001	041725NES3D	3015	2497606	EPA 6020B	2497606
92791987002	041725NT1615S	3015	2503355	EPA 6020B	2503355
92791987003	041725BEFBBLANK	3015	2497606	EPA 6020B	2497606

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Attachment VIII-A
Chain-of-Custody Documentation
February 18-20, 2025, Sampling Event

Pace Pace® Location Requested (City/State): Pace Analytical Kernersville, NC 1377 South Park Dr., Kernersville, NC 27284		CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields				LAB USE ONLY- Affix Workorder/Login Label Here  Scan QR Code for instructions			
Company Name: Dominion Energy_VA Street Address: 120 Tredegar Street Richmond, VA 23219		Contact/Report To: Kelly Hicks Phone #: (804)273-4903 E-Mail: kelly.a.hicks@dominionenergy.com Cc E-Mail:		Specify Container Size ** **Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other		Identify Container Preservative Type*** *** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Soil, Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other			
Customer Project #: PPPS_15A2025_CCR_GrpD Site Collection Info/Facility ID (as applicable):		Invoice To: Kelly Hicks Invoice E-Mail: kelly.a.hicks@dominionenergy.com Purchase Order # (if applicable): 50149081 Quote #:		Analysis Requested		Proj. Mgr: Stephanie Knott AcctNum / Client ID: Table #: Profile / Template: 13861 Prelog / Bottle Ord. ID: EZ 3222684 Sample Comment			
Time Zone Collected: [] AK [] PT [] MT [] CT [x] ET Data Deliverables: [] Level II [] Level III [x] Level IV [] EQUIS [] Other		Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other Date Results Requested: Field Filtered (if applicable) [] Yes [] No Analysis:		2540C Total Dissolved Solids 6010/6020/7470 Metals 7199 Chromium Hexavalent 8056 IC anions - Cl/F/ISO4 Phenol by 9066 - PN RADS 226/228 - PN Total Organic Carbon, Asheville		Lab Use Only Preservation non-conformance identified for sample			
* Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)		Customer Sample ID Matrix * Comp / Grab Composite Start Date Time Collected or Composite End Date Time # Cont. Res. Chlorine Results Units		2540C Total Dissolved Solids 6010/6020/7470 Metals 7199 Chromium Hexavalent 8056 IC anions - Cl/F/ISO4 Phenol by 9066 - PN RADS 226/228 - PN Total Organic Carbon, Asheville		Sample Comment			
0218 25NED26		WT G		2/18/25 1330 11		X X X X X X X		- All samples	
02 25NES1609 MK 2/18/25		WT				X X X X X X X		preserved on ice	
02 25NES1613 MK 2/18/25		WT				X X X X X X X		- Level III data	
02 25NES30 MK 2/18/25		WT				X X X X X X X		package requested	
0218 25NT1615S		WT G		2/18/25 1450 33		X X X X X X X		- MS/MSD taken	
0218 25NT1615D		WT G				X X X X X X X		@ T-1615S; ID's:	
02 25NEPDuplicate MA 2/18/25		WT				X X X X X X X		021825 MS,	
02 25NEPDBLANK MK 2/18/25		WT				X X X X X X X		021825 MSD	
02 25 MS MK		WT				X X X X X X X			
02 25 MSD MK		WT				X X X X X X X			
Additional Instructions from Pace®: LEVEL IV DATA PACKAGE REQUIRED		Collected By: T. Torrisi Signature:		Customer Remarks / Special Conditions / Possible Hazards: # Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C) Corrected Temp. (°C) On Ice:		Tracking Number: Delivered by: [] In Person [] Courier [] FedEx [] UPS [] Other			
Relinquished by/Company: (Signature) 711. MK / W3 P		Date/Time: 2/18/25 21915		Received by/Company: (Signature) A. L. P.		Date/Time: 2/19 148		Page: 1 of 1	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Page: 1 of 1	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Page: 1 of 1	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Page: 1 of 1	

COC ID: PPPS-15A2025-CCR/VSWMR-Group D-1-1

Pace®		Pace® Location Requested (City/State): Pace Analytical Kernersville, NC 1377 South Park Dr., Kernersville, NC 27284		CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields				LAB USE ONLY- Affix Workorder/Login Label Here	
Company Name: Dominion Energy_VA		Street Address: 120 Tredegar Street Richmond, VA 23219		Contact/Report To: Kelly Hicks		Phone #: (804)273-4903		E-Mail: kelly.a.hicks@dominionenergy.com	
Customer Project #: PPPS_15A2025_CCR_GrpD		Project Name: PPPS_15A2025_CCR_GrpD		Invoice To: Kelly Hicks		Invoice E-Mail: kelly.a.hicks@dominionenergy.com		Purchase Order # (if applicable): 50149081	
Site Collection Info/Facility ID (as applicable):		Time Zone Collected: [] AK [] PT [] MT [] CT [x] ET		County / State origin of sample(s): Virginia		Specify Container Size **		*** Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other	
Data Deliverables: [] Level II [] Level III [x] Level IV		Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No		Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other		DW PWSID # or WW Permit # as applicable:		*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other	
[] EQUIS		Date Results Requested:		Field Filtered (if applicable): [] Yes [] No		Analysis:		Analysis Requested	
[] Other		* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Biossary (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)							
Customer Sample ID		Matrix *	Comp / Grab	Composite Start		Collected or Composite End		#	Res. Chlorine
				Date	Time	Date	Time	Cont.	Results Units
0218 25NED26		WT	G			2/18/25	1330	11	
02 25NES1009 MK 2/18/25		WT							
02 25NES1013 MK 2/18/25		WT							
02 25NES3D MK 2/18/25		WT							
0218 25NT1615S		WT	G			2/18/25	1450	33	
0218 25NT1615D		WT	G			2/18/2025	1710	11	
02 25NEPDDUPLICATE MK 2/18/25		WT							
02 25NEPDBLANK MK 2/18/25		WT							
02 25 MS MK		WT							
02 25 MSD MK		WT							
Additional Instructions from Pace®: LEVEL IV DATA PACKAGE REQUIRED		CKS 2/19/2025		Collected By: T. Torrisi (Printed Name) Signature: [Signature]		Customer Remarks / Special Conditions / Possible Hazards:			
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Tracking Number:	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Delivered by: [] In-Person [] Courier	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		[] FedEx [] UPS [] Other	
Relinquished by/Company: (Signature)		Date/Time:		Received by/Company: (Signature)		Date/Time:		Page: 1 of 1	

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at <https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/>

ENV-FRM-CORQ-0019_v02_110123 ©

LOC ID: PPS-15A2025-GroupD-2-1



Pace® Location Requested (City/State):
Pace Analytical Kernersville, NC
1377 South Park Dr., Kernersville, NC 27284

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here



Scan QR Code for instructions

Company Name: Dominion Energy VA	Contact/Report To: Kelly Hicks
Street Address: 120 Tredegar Street Richmond, VA 23219	Phone #: (804)273-4903
	E-Mail: kelly.a.hicks@dominionenergy.com
	Cc E-Mail:
Customer Project #	Invoice To: Kelly Hicks
Project Name: PPS_15A2025_CCR_GrpD	Invoice E-Mail: kelly.a.hicks@dominionenergy.com
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable): 50149081
	Quote #:

Time Zone Collected: [] AK [] PT [] MT [] CT [X] ET	County / State origin of sample(s): Virginia
Data Deliverables:	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No
[] Level II [] Level III [X] Level IV	Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other
[] EQUIS	DW PWSID # or WW Permit # as applicable:
[] Other	Date Results Requested:
	Field Filtered (if applicable): [] Yes [] No

* Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine	
			Date	Time	Date	Time		Results	Units
02-25NED26 MK 3/19/25	WT								
02-25NES1609	WT								
02-25NES1613	WT	G			2/19/25	1427	11		
02-25NES3D	WT	G			2/19/25	1615	11		
02-25NT16155	WT								
02-25NT16150	WT								
02-25NEFDUPLICATE	WT	G			2/19/25	1442	11		
02-25NEFBBLANK MK 3/19/25	WT	G							
02-25MS MK 3/19/25	WT								
02-25MSD MK 2/19/25	WT								

Additional Instructions from Pace®: LEVEL IV DATA PACKAGE REQUIRED	Collected By: (Printed Name) <i>S. Grunche / K. Wood</i> Signature: <i>[Signature]</i>
---	---

Specify Container Size **	**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other
Identify Container Preservative Type***	*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other
Analysis Requested	

2540C Total Dissolved Solids	6010/6020/7470 Metals	7199 Chromium, Hexavalent	9056 IC anions - Cl/F/SO4	Phenol by 9086 - PN	RADS 226/228 - PN	Total Organic Carbon, Asheville
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X

Proj. Mgr: Stephanie Knott	Lab Use Only Preservation non-conformance identified for sample.
AcctNum / Client ID:	
Table #:	
Profile / Template: 13861	
Prelog / Bottle Ord. ID. EZ 3222684	
Sample Comment	

-All samples preserved on ice
-Level IV data package requested

Relinquished by/Company: (Signature) <i>M. Kay / WSP</i>	Date/Time: 3/19/25 @ 1800	Received by/Company: (Signature) <i>[Signature]</i>	Date/Time: 3/20/25 11:15	Tracking Number: 77212375 3325
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [] In Person [] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[] FedEx [] UPS [] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at <https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/>

Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC

State Of Origin: VA

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Workorder: 92780477

Workorder Name: PPPS_1SA2025_CCR_GrpD

Report To		Subcontract To		Requested Analysis													
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858		Phenol by 9066 Ra 226/903.0 Ra228/904.0 + Combined Ra LAB USE ONLY 1629574													
Level IV Data Package Required																	
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers											
						HN03	H2SO4										
1	021825NED26	PS	2/18/2025 13:30	92780477001	Water	2	2					X	X	X			-01
2	021825NT1615S	RQS	2/18/2025 14:50	92780477002	Water	6	6					X	X	X			-02
3	021825NT1615D	PS	2/18/2025 17:10	92780477003	Water	2	2					X	X	X			-03
4	021925NES1613	PS	2/19/2025 14:27	92780477004	Water	2	2					X	X	X			-04
5	021925NES3D	PS	2/19/2025 16:15	92780477005	Water	2	2					X	X	X			-05
6	021925NEFDDUPLICATE	PS	2/19/2025 14:42	92780477006	Water	2	2					X	X	X			-06
7	022025NES1609	PS	2/20/2025 12:00	92780477007	Water	2	2					X	X	X			-07
8	022025NEFBBLANK	PS	2/20/2025 12:35	92780477008	Water	2	2					X	X	X			-08
Comments																	
Transfers	Released By	Date/Time	Received By	Date/Time													
1	JCC Rec Hw	2-24-25 18:00	Ashtley Barton	2/25/25 09:00	*MS/MSD required on sample 002.												
2																	
3																	
Cooler Temperature on Receipt		°C	Custody Seal Y or N		NP	Received on Ice		Y	or	N	Samples Intact		Y	or	N		

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☒ NP If Applicable

COC Signed/Accurate: ☒ Y ☒ N VOA Zero Headspace: ☒ Y ☒ N

Bottles arrive intact: ☒ Y ☒ N Pres. Correct/Check: ☒ Y ☒ N

Correct bottles used: ☒ Y ☒ N

Sufficient volume sent: ☒ Y ☒ N

RA Screen <0.5 mR/hr: ☒ Y ☒ N

Containers: 40

PH - 10BDH2631
TRC - 4072A72

State Of Origin: VA
Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Report To						Subcontract To							Requested Analysis															
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981						Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																						
						Preserved Containers																						
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HNO ₃	<i>L2</i> H ₂ O ₂ /4																					
1	021825NED23R	PS	2/18/2025 14:05	92780475001	Water	2	2					X	X	X														
2	022025NED22RA	PS	2/20/2025 13:05	92780475002	Water	2	2					X	X	X														
3																												
4																												
5																												
													Comments															
Transfers		Released By		Date/Time	Received By		Date/Time																					
1		<i>See Pace An</i>		<i>2-24-25 15:00</i>	<i>Ashley Santos</i>		<i>02/25/2025 09:00</i>																					
2																												
3																												
Cooler Temperature on Receipt °C				Custody Seal Y or N (<i>NP</i>)	Received on Ice (<i>Y</i>) or N				Samples Intact (<i>Y</i>) or N																			

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist If Applicable

COC Seal Present/Intact:	<u>Y</u> N	NP		
COC Signed/Accurate:	<u>Y</u> N		VOR Zero Headspace:	<u>Y</u> N
Bottles arrive intact:	<u>Y</u> N		Pres. Correct/Check:	<u>Y</u> N
Correct bottles used:	<u>Y</u> N			
Sufficient volume sent:	<u>Y</u> N			
RA Screen <0.5 mR/hr:	<u>Y</u> N			

Containers: 8

PH-10BDH2631
TRC-4072A72

Pace® Location Requested (City/State): Pace Analytical Kernersville, NC 1377 South Park Dr., Kernersville, NC 27284		CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields.		LAB USE ONLY- Affix Workorder/Login Label Here											
Company Name: Dominion Energy_VA Street Address: 120 Tredegar Street Richmond, VA 23219		Contact/Report To: Kelly Hicks Phone #: (804)273-4903 E-Mail: kelly.a.hicks@dominionenergy.com Cc E-Mail:		 Scan QR Code for instructions											
Customer Project #: PPPS_15A2025_CCR_GrpF		Invoice To: Kelly Hicks Invoice E-Mail: kelly.a.hicks@dominionenergy.com Purchase Order # (if applicable): 50149081 Quote #:		Specify Container Size ** *** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other											
Site Collection Info/Facility ID (as applicable):		County / State origin of sample(s): Virginia		Identify Container Preservative Type ***											
Time Zone Collected: ☐ AK ☐ PT ☐ MT ☐ CT ☒ ET		Regulatory Program (DW, RCRA, etc.) as applicable: Reportable ☐ Yes ☐ No		Analysis Requested											
Data Deliverables: ☒ Level II ☐ Level III ☐ Level IV ☐ EQUIS ☐ Other		Rush (Pre-approval required): ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ Other		DW PWSID # or WW Permit # as applicable:											
* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)		Date Results Requested:		Field Filtered (if applicable): ☐ Yes ☒ No											
Customer Sample ID		Matrix *	Comp / Grab	Composite Start Date Time	Collected or Composite End Date Time	# Cont.	Res. Chlorine Results Units	2540C Total Dissolved Solids	6010/6020/7470 Metals	7199 Chromium, Hexavalent	9056 IC anions - Cl/F/ISO4	Phenol by 9066 - PN	RADS 226/228 - PN	Total Organic Carbon, Asheville	Proj. Mgr: Stephanie Knott AcctNum / Client ID: Table #: Profile / Template: 13861 Prelog / Bottle Ord. ID: EZ 322686 Sample Comment
02 25NED24R	WT	G		2/18/25 14:35	2/18/25 14:35	11		X	X	X	X	X	X	X	- All samples preserved on ice - Level II data package requested
Additional Instructions from Pace®:		Collected By: (Printed Name) Michael Knez Signature: M. Knez		Customer Remarks / Special Conditions / Possible Hazards:		# Coolers:		Thermometer ID: 926073	Correction Factor (°C): 0	Obs. Temp. (°C): 2.3	Corrected Temp. (°C): 2.3	On Ice: Y			
Inquired by/Company: (Signature) [Signature]	Date/Time: 3/18/25 @ 1915	Received by/Company: (Signature) [Signature]		Date/Time: 3/18/25 @ 1915	Received by/Company: (Signature) [Signature]		Date/Time: 3/18/25 @ 1915	Tracking Number:		Delivered by: ☒ In-Person ☐ Courier		FedEX ☒ UPS ☐ Other		Page: 1 of 1	
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/															

Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC

State Of Origin: VA

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 2/19/2025 Results Requested By: 3/5/2025

Workorder: 92780476

Workorder Name: PPPS_1SA2025_CCR_GrpF

Report To		Subcontract To		Requested Analysis																					
Stephanie Knott Pace Analytical Kernersville 1377 South Park Drive Kernersville, NC 27284 Phone 704-977-0981		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																							
				Phenol by 9066 Ra 226/903.0 Ra 228/904.0 + Combined Ra LAB USE ONLY -01																					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HVOS	H2SO4	Preserved Containers																	
1	021825NED24R	PS	2/18/2025 13:50	92780476001	Water	2	2																		
2																									
3																									
4																									
5																									
Transfers		Released By	Date/Time	Received By	Date/Time	Comments																			
1		3CA Recr Flu	2-24-25 1600	Anthony Butler	04/25/25 0900																				
2																									
3																									
Cooler Temperature on Receipt		°C	Custody Seal Y or N		NP	Received on Ice		Y	or N		Samples Intact												Y	or N	

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☒ N ☒ NP If Applicable
 COC Signed/Accurate: ☒ Y ☒ N VOA Zero Headspace: ☒ Y ☒ N
 Bottles arrive intact: ☒ Y ☒ N Pres. Correct/Check: ☒ Y ☒ N
 Correct bottles used: ☒ Y ☒ N
 Sufficient volume sent: ☒ Y ☒ N
 RA Screen <0.5 mR/hr: ☒ Y ☒ N

Containers: 4

PH - 10BDH2631
 TRC - 4072A72

Attachment VIII-B
Chain-of-Custody Documentation
April 17, 2025, Verification Event

Attachment IX-A
Field Data Sheets
February 18-20, 2025, Sampling Event



Date: 02/18/2025

WELL GAUGING LOGProject Name: Possum – 1SA2025 Pond EProject No./Task No.: US0041019.5094Sampler(s): K. Wood, T. Torrisi, M. KnezEquipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
ED-24R	MK	1207	27.24	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ED-26	TT	1212	52.17	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ES-3D	KW	1153	22.53	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ES-1609	KW	1133	22.66	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ES-1613	KW	1136	21.00	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
T-1615-S	KW	1124	22.70	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
T-1615-D	KW	1126	22.14	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ED-22RA	KW	1051	26.60	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
ED-23R	KW	1053	24.62	--	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	☒ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged

cm 2/25/25

Notes/Observations: _____

Signature: M. KnezQA/QC Signature: CMDate: 2/25/25Date: 2/25/25Page 1 of 1



MICROPURGE SAMPLING LOG

Date: 2/18/25
Weather: cloudy, 40's

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): M. Knez
Unique Well ID: ED-24R Field Calibration Completed: 2/18/25 0955
Well Diameter: 2.0 inches Initial Depth to Water: 24.18/25 27.24 feet
Depth to Bottom: 65.88 feet Water Column Thickness: 38.64 feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter 21017 ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI PDOSSIS K100510 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ ☐ MP-10 Controller Box ☒ MP-15 Controller Box

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{OC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1225	4.71	43.9	17.9	2.44	12.3	271.8	28.21	~250
1230	4.72	43.4	15.8	2.34	12.3	277.8	27.95	~250
1235	4.72	42.6	22.4	2.28	12.2	288.4	28.10	~250
1240	4.72	41.9	32.9	2.22	12.4	290.4	28.06	~250
1245	4.70	42.1	24.7	2.22	12.4	295.6	28.03	~250
1250	4.75	42.9	20.9	2.21	12.4	296.0	28.05	~250
1255	4.72	42.0	17.0	2.11	12.3	303.3	28.05	~250
1300	4.71	41.4	20.0	2.14	12.5	306.4	28.07	~250
1305	4.70	41.2	19.5	2.13	12.6	307.8	28.12	~300
1310	4.73	41.9	18.5	2.08	12.7	308.6	28.17	~300
1315	4.74	41.8	19.5	2.20	12.2	311.5	28.06	~175
1320	4.73	41.7	16.9	2.26	12.1	312.2	28.01	~175
1325	4.73	41.7	18.0	2.27	12.0	312.8	28.03	~175
1330	4.73	41.4	14.1	2.31	12.0	314.1	27.95	~175
1335	4.73	41.6	9.76	2.49	11.9	318.5	28.02	~175
1340	4.71	41.2	9.25	2.37	11.9	322.5	27.99	~175
1345	4.70	41.0	8.76	2.39	11.9	323.9	27.93	~175

Purge Cycle (End): 5515 @ 38 psi Flow Rate (mL/min End): ~175Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 60.50 x 0.006 = 0.36Total Purge Volume (Gallons): ~6.0 Purge Water Management: On site containmentPurge Observations (color, odor, turbidity, sheen): clear grab samplePurge Time: 1214Sample Time: 1350 Field Filtered (0.45µm): ☐ Yes ☒ NoSample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium☒ Ni, Ag☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems:

Sample ID: 021825NED24RSampler Signature: M. Knez Date: 2/18/25 Page: 1 of 2QA/QC Signature: [Signature] Date: 2/25/25



MICROPURGE SAMPLING LOG

Date: 2/18/25
Weather: cloudy, 40S

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): M. Knez
Unique Well ID: ED-24R Field Calibration Completed: 2/18/25 @ 0955
Well Diameter: 2.0 inches Initial Depth to Water: 27.24 feet
Depth to Bottom: 65.88 feet Water Column Thickness: 38.64 feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter 31017 ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI 8605/86100-510 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ — ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
<u>1350</u>					<u>SA/M PLE</u>			
<u>1410</u>	<u>4.63</u>	<u>40.9</u>	<u>5.61</u>	<u>2.44</u>	<u>12.2</u>	<u>327.1</u>	<u>28.03</u>	<u>~175</u>

Purge Cycle (End): 5515 @ 38 psi Flow Rate (mL/min End): ~175Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 0.36Total Purge Volume (Gallons): ~6.0 Purge Water Management: On site containmentPurge Observations (color, odor, turbidity, sheen): clear grab samplePurge Time: 1214Sample Time: 1350 Field Filtered (0.45µm): ☐ Yes ☒ NoSample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium
☒ Ni, Ag
☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems:

Sample ID: 021825NED24R DTP: 60.50Sampler Signature: M. Knez Date: 2/18/25 Page 2 of 2QA/QC Signature: Cull Date: 2/25/25



MICROPURGE SAMPLING LOG

Date: 02/18/25
Weather: cloudy, 30s

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): T. Torrisi
Unique Well ID: ED-26 Field Calibration Completed: 0955 on 02/18/25
Well Diameter: 2.0 inches Initial Depth to Water: 52.17 feet
Depth to Bottom: 82.80 feet Water Column Thickness: 30.63 feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter 24013 ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI Pro 105 16E100132 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ - ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐ -

Time (5 minute Int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1223	5.55	104.6	243	2.13	11.6	117.4	53.53	~300
1228	5.58	104.2	464	1.99	11.6	107.7	54.48	~300
1233	5.61	104.6	696	1.89	11.6	104.6	54.57	~300
1238	5.63	103.6	224	2.26	11.7	99.5	54.63	~300
1243	5.64	102.3	108	2.44	11.7	93.1	54.60	~300
1248	5.61	44.2	38.0	2.02	11.7	84.4	54.60	~300
1253	5.62	47.9	26.4	2.25	11.2	81.3	54.33	~210
1258	5.62	46.2	19.8	2.37	11.2	80.1	54.20	~210
1303	5.62	46.0	14.9	2.40	11.2	79.7	54.12	~210
1308	5.61	45.5	13.5	2.36	11.2	80.3	54.13	~210
1313	5.61	45.1	11.5	2.29	11.2	80.3	54.15	~210
1318	5.59	44.8	9.45	2.11	11.4	79.9	54.20	~210
1323	5.59	44.4	7.48	1.99	11.3	79.6	54.16	~210
1328	5.59	44.2	7.27	1.96	11.3	79.2	54.23	~210
1330				SAMPLE				
1351	5.60	43.4	6.78	2.45	9.0	81.5	54.21	~210

Purge Cycle (End): 27/3 @ ~47 psi Flow Rate (mL/min End): ~210Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (76.50)(0.006) = 0.46Total Purge Volume (Gallons): ~5.0 Purge Water Management: On site containmentPurge Observations (color, odor, turbidity, sheen): clear grab samplePurge Time: 1216Sample Time: 1330 Field Filtered (0.45µm): ☐ Yes ☒ NoSample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium
☒ Ni, Ag
☒ Radium 226 and 228 (combined)Other Observations / Equipment Operation Problems: DTW = 76.50'Sample ID: 021825NE026Sampler Signature: T. Torrisi Date: 02/18/25 Page 1 of 1QA/QC Signature: M. Ky Date: 2/25/25

MICROPURGE SAMPLING LOG

Date:

2/19/25

Weather:

cloudy 20's
snowing

Project Name: Possum Point Power Station

Project No./Task No.: US0041019.5094

Event 1SA25 CCR + VSWMR

Sampler(s): S. Carmichael

Unique Well ID: ES-1613

Field Calibration Completed: 2/19/25 @ 0800

Well Diameter: 2.0 inches

Initial Depth to Water: 21.05 feet

Depth to Bottom: 45.28 feet

Water Column Thickness: 34.23 feet

Equipment Used: ☒ WL Indicator

☒ Turbidity Meter☐ Air Tank☒ **Dedicated Bladder Pump**

☒ YSI 955 23T100253

☐ Peristaltic Pump☐ Compressor☐ Non-dedicated BP☐ In-Situ

☐ MP-10 Controller Box

☒ MP-15 Controller Box

5

[illegible]

Purge Cycle (End): 14.5 / 5.5 @ 30 psi Flow Rate (ml/min End): ~ 300

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube): $\text{Vol} = \text{Depth to Pump} \times 0.006 \text{ gal/ft}$: $0.006 \times 39.67 = 0.238$

Total Purge Volume (Gallons) 3.5 Purge Water Management: On site containment

Purge Observations (color, odor, turbidity, sheen): clear grab sample

Purge Time: 1400

Sample Time: ~~1430~~ 1427

Field Filtered (0.45µm): ☐ Yes ☒ No

Sample Parameters/Analyte(s):

☒ CCR Appendix III & IV Constituents

☒ Hexavalent Chromium

☒ Ni ☒ Ag

☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems

Sample ID: 021425 NES 16/13

Group D FD online task here

Sampler Signature:

Date: 2/14/25

Page 1 of 1

QA/QC Signature: _____

Date: 2/25/25



MICROPURGE SAMPLING LOG

Date: 02/19/25
Weather: snowing, 75°

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): K Wood
Unique Well ID: ES-3D Field Calibration Completed: 02/19/25 @ 0800
Well Diameter: 2.0 inches Initial Depth to Water: 23.60 feet
Depth to Bottom: 43.01 feet Water Column Thickness: 20.31 feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter 2101L ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI 6325S 23602019 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ ☐ MP-10 Controller Box ☒ MP-15 Controller Box

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{25°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1420	6.05	151.7	77.2	4.35	11.2	96.2	22.96	~160
1425	5.73	143.7	13.4	1.85	11.3	97.5	22.90	~160
1430	5.77	237.4	64.5	1.39	11.2	87.6	22.89	~160 KW 2/25/
1435	5.51	303.6	59.2	1.20	12.2	81.8	22.96	~160 ~200
1440	5.44	582.0	50.5	1.12	12.5	82.0	22.96	~200
1445	5.39	453.3	33.9	0.98	12.5	83.4	22.96	~200
1450	5.36	471.9	22.6	0.95	12.5	84.4	22.97	~200
1455	5.35	522.0	19.0	0.92	12.5	86.5	22.96	~200
1500	5.33	556	14.3	0.93	12.5	88.3	22.98	~200
1505	5.32	573	13.7	0.91	12.5	89.3	22.98	~200
1510	5.29	601	14.3	0.94	12.5	92.1	22.98	~200
1515	5.25	633	22.9	0.89	12.6	95.8	23.00	~200
1520	5.24	641	54.1	0.93	12.3	97.3	22.94	~160
1525	5.29	596	13.6	0.80	12.7	95.2	22.92	~160
1530	5.32	566	16.3	0.96	12.5	94.4	23.00	~160
1535	5.32	560	16.6	0.82	12.5	94.7	22.96	~160
1540	5.33	559	15.9	0.98	12.1	94.6	22.94	~160

Purge Cycle (End): 1455 27/3 @ 30 psi Flow Rate (mL/min End): ~20
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube Vol=Depth to Pump x 0.006 gal/ft): ~0.22

Total Purge Volume (Gallons): ~8 Purge Water Management: On site containment

Purge Observations (color, odor, turbidity, sheen): slightly cloudy from air, odorless grab sample

Purge Time: 1415

Sample Time: 1615 Field Filtered (0.45µm) ☐ Yes ☒ No

Sample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☐ Hexavalent Chromium
☐ Ni, Ag
☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems:

Sample ID: 021925NES3D

Sampler Signature: [Signature] Date: 02/19/25 Page 1 of 2

QA/QC Signature: [Signature] Date: 02/25/25



MICROPURGE SAMPLING LOG

Date: 02/18/25

Weather: Partly Cloudy, 30s

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): T. Torrisi
Unique Well ID: T-1615D Field Calibration Completed: 0955 on 02/18/25
Well Diameter: 2.0 inches Initial Depth to Water: 22.15 feet
Depth to Bottom: 64.62 feet Water Column Thickness: 42.47 feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter 24013 ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI Pro DSS 16E1D0132 ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ - ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐ -

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1602	5.44	261.9	108	3.17	12.3	115.6	23.55	~250
1607	5.47	276.1	47.6	2.50	12.3	105.0	23.66	~250
1612	5.50	293.7	29.4	1.97	12.5	92.7	23.84	~250
1617	5.53	300.0	22.3	2.30	12.7	85.6	23.70	~250
1622	5.52	309.5	18.7	1.91	12.6	82.1	23.88	~250
1627	5.52	313.0	16.5	1.90	12.4	80.0	23.73	~250
1632	5.54	315.8	15.0	2.44	12.0	78.5	23.58	~150
1637	5.53	322.4	14.6	2.23	12.7	77.8	24.02	~150
1642	5.50	327.2	17.2	1.70	12.3	80.1	23.65	~200
1647	5.51	319.1	13.8	1.97	11.4	81.5	23.32	~100
1652	5.54	315.5	8.79	2.18	11.2	78.5	21.13	~100
1657	5.54	321.1	9.13	2.31	11.0	77.1	23.15	~100
1702	5.54	327.7	9.92	2.48	11.0	76.4	23.11	~100
1707	5.54	327.7	11.2	2.78	10.9	76.0	23.05	~100
1710				SAMPLE				
1744	5.62	326.1	8.36	2.58	9.0	75.1	23.07	~100
								mk 2/25/25

Purge Cycle (End): 2715 @ ~38 psi Flow Rate (mL/min End): (59.18/100) 02/18/25
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (59.18)/(0.006) = 0.36
Total Purge Volume (Gallons): ~3.5 Purge Water Management: On site containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge Time: 1554

Sample Time: 1710 Field Filtered (0.45µm): ☐ Yes ☒ No
Sample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium
☒ Ni, Ag
☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems: DTP = 59.18'Sample ID: 021825NT16150Sampler Signature: T. Torrisi Date: 02/18/25 Page 1 of 1QA/QC Signature: M. Ky Date: 2/25/25



MICROPURGE SAMPLING LOG

Date: 2/20/25
Weather: cloudy 20's

Project Name: Possum Point Power Station Project No./Task No.: US0041019.5094
Event: 1SA25 CCR + VSWMR Sampler(s): S. Carmichael
Unique Well ID: Panel E Field Blank Field Calibration Completed: —
Well Diameter: — inches Initial Depth to Water: — feet
Depth to Bottom: — feet Water Column Thickness: — feet
Equipment Used: ☒ WL Indicator ☒ Turbidity Meter ☐ Air Tank ☒ Dedicated Bladder Pump
☒ YSI — ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ — ☐ MP-10 Controller Box ☒ MP-15 Controller Box ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1235	—	5	A	M	P	C	E	—
MK 2/25/25								

Purge Cycle (End): — @ — psi Flow Rate (mL/min End): —
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —
Total Purge Volume (Gallons): — Purge Water Management: On site containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample taken with lab supplied
Purge Time: — DF water near ES-1609
Sample Time: 1235 Field Filtered (0.45µm): ☐ Yes ☒ No
Sample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium
☒ Ni, Ag
☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems: —Sample ID: 023025 NEFB BLANKSampler Signature: S. CarmichaelDate: 2/20/25Page 1 of 1QA/QC Signature: M. KyjDate: 2/25/25



MICROPURGE SAMPLING LOG

Date: 2/18/25 - 2/20/25Weather: cloudy 30'sProject Name: Possum Point Power StationProject No./Task No.: US0041019.5094Event: 1SA25 CCR + VSWMRSampler(s): S. CarmichaelUnique Well ID: ED-22RAField Calibration Completed: 0955 on 2/18/25Well Diameter: 2.0 inchesInitial Depth to Water: 26.52 feetDepth to Bottom: - 35.90 feetWater Column Thickness: - 9.38 feetEquipment Used: ☒ WL Indicator☒ Turbidity Meter H18703☐ Air Tank☒ Dedicated Bladder Pump☒ YSI 605235100253☐ Peristaltic Pump☐ Compressor☐ Non-dedicated BP☐ In-Situ☐ MP-10 Controller Box☒ MP-15 Controller Box☐

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) ^{25°C}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1248	4.61	197.6	8.01	2.56	12.2	257.1	BTOP	~75
1253	4.64	198.1	8.00	3.12	10.8	260.9	BTOP	~30
1256	4.57	197.9	8.41	3.59	10.0	266.8	BTOP	~10
1259	4.56	197.7	8.64	3.79	8.4	261.7	BTOP	~10
1304	DRY	—	—	—	—	—	—	—
19/25 0930	4.70	227.1	6.48	5.15	8.2	233.9	22.60	~100
0938	—	S	A	M	P	L	E	—
0944	DRY	—	—	—	—	—	—	—
1308	—	S	A	M	P	L	E	—
1320	DRY	—	—	—	—	—	—	—
1533	—	S	A	M	P	L	E	—
1545	DRY	—	—	—	—	—	—	—
2/20/25 1010	—	S	A	M	P	L	E	—
1038	DRY	—	—	—	—	—	—	—
1305	—	S	A	M	P	L	E	—
1310	5.03	218.3	12.2	9.33	8.1	176.8	BTOP	~100
mk 2/25/25								

Purge Cycle (End): 25/5 @ ~25 psiFlow Rate (mL/min End): ~100Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 0.006 x 28.00 = 0.17Total Purge Volume (Gallons): ~0.5

Purge Water Management

On site containment

Purge Observations (color, odor, turbidity, sheen):

clear grab samplePurge Time: 1241Sample Time: 2/19/25 0938, 1308, 1533 on 2/20/25 @ 1010, 1305

Field Filtered (0.45µm):

☐ Yes☒ No

Sample Parameters/Analyte(s):

☒ CCR Appendix III & IV Constituents☒ Hexavalent Chromium☒ Ni, Ag☒ Radium 226 and 228 (combined)

Other Observations / Equipment Operation Problems:

DTW = 28.00Sample ID: 022025 NEO22RASampler Signature: Sybil CarmichaelDate: 2/20/25Page 1 of 1QA/QC Signature: mkDate: 2/25/25

Attachment IX-B
Field Data Sheets
April 17, 2025, Verification Event



May 01, 2025

Kelly Hicks
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

RE: Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on April 18, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephanie Knott
stephanie.knott@pacelabs.com
704-977-0981
Project Manager

Enclosures

cc: ENV STD DM
Michael Knez, WSP
Rashida Marlowe, Dominion Energy Services, Inc.
Catherine Pezzaro, WSP USA, Inc.
Crystal Shadle, Golder Associates Inc.
Environmental Standards, Inc., Environmental Standards,
Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LA000356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92791987001	041725NES3D	Water	04/17/25 12:45	04/18/25 08:45
92791987002	041725NT1615S	Water	04/17/25 15:38	04/18/25 08:45
92791987003	041725BEFBBLANK	Water	04/17/25 10:25	04/18/25 08:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92791987001	041725NES3D	EPA 6010D	MAP	1	PAN
		EPA 6020B	LD	1	PAN
92791987002	041725NT1615S	EPA 6010D	MAP	1	PAN
		EPA 6020B	LD	1	PAN
92791987003	041725BEFBBLANK	EPA 6010D	MAP	2	PAN
		EPA 6020B	SJM	2	PAN

PAN = Pace National - Mt. Juliet

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SUMMARY OF DETECTION

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92791987001	041725NES3D					
EPA 6020B	Vanadium	2.02J	ug/L	5.00	04/24/25 22:20	J
92791987002	041725NT1615S					
EPA 6010D	Arsenic	16.2	ug/L	10.0	04/21/25 11:24	
EPA 6020B	Arsenic	9.84	ug/L	2.00	05/01/25 01:56	

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Date: May 01, 2025

Report revised to include Vanadium reanalysis by EPA 6020. SJK 4/22/25

Report revised to include Arsenic reanalysis by EPA 6020 and to revise units. SJK 4/28/25

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Method: EPA 6010D

Description: Metals (ICP) 6010D

Client: Dominion Energy_VA

Date: May 01, 2025

General Information:

3 samples were analyzed for EPA 6010D by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

Method: EPA 6020B
Description: Metals (ICPMS) 6020B
Client: Dominion Energy_VA
Date: May 01, 2025

General Information:

3 samples were analyzed for EPA 6020B by Pace National Mt. Juliet. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725NES3D		Lab ID: 92791987001		Collected: 04/17/25 12:45		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D		Analytical Method: EPA 6010D Preparation Method: 3015 Pace National - Mt. Juliet							
Vanadium	ND	ug/L	20.0	5.64	1	04/20/25 13:38	04/21/25 11:17	7440-62-2	
Metals (ICPMS) 6020B		Analytical Method: EPA 6020B Preparation Method: 3015 Pace National - Mt. Juliet							
Vanadium	2.02J	ug/L	5.00	0.520	1	04/24/25 07:45	04/24/25 22:20	7440-62-2	J

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725NT1615S		Lab ID: 92791987002		Collected: 04/17/25 15:38		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D		Analytical Method: EPA 6010D Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	16.2	ug/L	10.0	7.83	1	04/20/25 13:38	04/21/25 11:24	7440-38-2	
Metals (ICPMS) 6020B		Analytical Method: EPA 6020B Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	9.84	ug/L	2.00	0.120	1	04/30/25 22:22	05/01/25 01:56	7440-38-2	

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ANALYTICAL RESULTS

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Sample: 041725BEFBLANK		Lab ID: 92791987003		Collected: 04/17/25 10:25		Received: 04/18/25 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Metals (ICP) 6010D		Analytical Method: EPA 6010D Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	ND	ug/L	10.0	7.83	1	04/20/25 13:38	04/21/25 11:26	7440-38-2	
Vanadium	ND	ug/L	20.0	5.64	1	04/20/25 13:38	04/21/25 11:26	7440-62-2	
Metals (ICPMS) 6020B		Analytical Method: EPA 6020B Preparation Method: 3015 Pace National - Mt. Juliet							
Arsenic	ND	ug/L	2.00	0.120	1	04/24/25 07:45	04/24/25 22:23	7440-38-2	
Vanadium	ND	ug/L	5.00	0.520	1	04/24/25 07:45	04/24/25 22:23	7440-62-2	

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

QC Batch: 2495323 Analysis Method: EPA 6010D
QC Batch Method: 3015 Analysis Description: Metals (ICP) 6010D
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 92791987001, 92791987002, 92791987003

METHOD BLANK: R4202624-1 Matrix: Water
Associated Lab Samples: 92791987001, 92791987002, 92791987003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	7.83	04/21/25 11:14	
Vanadium	ug/L	ND	20.0	5.64	04/21/25 11:14	

LABORATORY CONTROL SAMPLE: R4202624-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1000	1010	101	80.0-120	
Vanadium	ug/L	1000	983	98.3	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4202624-4 R4202624-5

Parameter	Units	92791987001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	1000	1000	985	1000	98.5	100	75.0-125	1.56	20	
Vanadium	ug/L	ND	1000	1000	962	964	96.2	96.4	75.0-125	0.148	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

QC Batch: 2497606 Analysis Method: EPA 6020B
QC Batch Method: 3015 Analysis Description: Metals (ICPMS) 6020B
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92791987001, 92791987003

METHOD BLANK: R4204770-6 Matrix: Water

Associated Lab Samples: 92791987001, 92791987003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	2.00	0.120	04/24/25 20:31	
Vanadium	ug/L	ND	5.00	0.520	04/24/25 20:31	

LABORATORY CONTROL SAMPLE: R4204770-7

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	50.0	52.0	104	80.0-120	
Vanadium	ug/L	50.0	50.9	102	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4204770-9 R4204770-10

Parameter	Units	L1848948-03 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.23	50.0	50.0	53.6	53.0	105	104	75.0-125	1.13	20	
Vanadium	ug/L	1.66	50.0	50.0	53.6	53.3	104	103	75.0-125	0.501	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

QC Batch: 2503355

Analysis Method: EPA 6020B

QC Batch Method: 3015

Analysis Description: Metals (ICPMS) 6020B

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92791987002

METHOD BLANK: R4207986-1

Matrix: Water

Associated Lab Samples: 92791987002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	2.00	0.120	05/01/25 01:37	

LABORATORY CONTROL SAMPLE: R4207986-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	50.0	49.8	99.5	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R4207986-4 R4207986-5

Parameter	Units	L1851558-04 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.155	50.0	50.0	49.8	50.3	99.3	100	75.0-125	1.04	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: PPS_1SA25_CCR&VSWMR_Verif_E
Pace Project No.: 92791987

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 92791987

[1]

[1]

[1] Report revised to include Vanadium reanalysis by EPA 6020. SJK 4/22/25

[2] Report revised to include Arsenic reanalysis by EPA 6020 and to revise units. SJK 4/28/25

ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PPS_1SA25_CCR&VSWMR_Verif_E

Pace Project No.: 92791987

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92791987001	041725NES3D	3015	2495323	EPA 6010D	2495323
92791987002	041725NT1615S	3015	2495323	EPA 6010D	2495323
92791987003	041725BEFBBLANK	3015	2495323	EPA 6010D	2495323
92791987001	041725NES3D	3015	2497606	EPA 6020B	2497606
92791987002	041725NT1615S	3015	2503355	EPA 6020B	2503355
92791987003	041725BEFBBLANK	3015	2497606	EPA 6020B	2497606

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Attachment X
Background Statistical Analyses
(See Table 1)

Attachment XI
Special Conditions Description

Attachment XI
Special Conditions Description
First Semi-Annual 2025 Sampling Event (February 2025)
Possum Point Power Station, Pond E – Solid Waste Permit No. 617

Verification Sampling Event

In response to suspect concentrations of arsenic at downgradient compliance well T-1615S and vanadium at downgradient compliance well ES-3D, Dominion Energy conducted a verification sampling event, consistent with Section XI.L.3 of the Unit's SWP, on April 17, 2025. The final laboratory certificates of analysis were received on April 21, 2025 (revised April 25, 2025, and May 1, 2025). As presented in Table 2, the vanadium concentration in the sample collected at compliance well ES-3D was not confirmed with verification sampling. The arsenic concentration exceedance in the sample collected at compliance well T-1615 was confirmed with verification sampling; however, there is a discrepancy between the arsenic results as analyzed by EPA Solid Waste (SW)-846 Method 6010D versus SW-846 Method 6020B that Dominion Energy is evaluating further. The verification event analytical laboratory report and associated field notes are included in Attachments VII-B and IX-B, respectively.

Groundwater Protection Standard Exceedance Notification

Consistent with XI.H.2 of the Unit's SWP, the Modified AMP constituent [CCR Rule Appendix IV constituents, VSWMR metals, and boron] detections were evaluated against MCL-based GPS and background-based SWP GPS. Background-based SWP GPS that were used for the first semi-annual 2025 data evaluations were approved by the DEQ on March 18, 2024. Pursuant to section XI.H.4.a of the Unit's SWP, a *2025 1st Semi-Annual GPS SSI Notification* was submitted to the DEQ on May 9, 2025, documenting SWP GPS exceedances for arsenic at monitoring well T-1615S; cobalt at monitoring wells ES-3D, ES-1609, and ES-1613; nickel at monitoring wells ES-3D, ES-1609, ES-1613, and T-1615S; and zinc at monitoring well ES-3D using a value-to-standard comparison.

In response to the SWP GPS exceedances for cobalt, nickel, and zinc, and the federal CCR GWPS exceedances for cobalt, Dominion Energy completed a Nature and Extent Study (NES) and an Assessment of Corrective Measures (ACM) on August 26, 2020 (revised October 16, 2024), consistent with 9VAC20-81-260 *et seq.* of the VSWMR and §257.96 of the CCR Rule. In response to the SWP GPS and federal CCR GWPS exceedance for arsenic, Dominion Energy will submit an ASD within the regulatory timeframe.

Attachment XII-A
Data Validation Forms
February 18-20, 2025, Sampling Event

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Possum Point Groundwater Sampling
Samples Collected between: 2/18/2025 and 2/20/2025**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

92780477

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
021825NED26	ED-26	N	SM 2540C	Total Dissolved Solids	N		U	BF	86.8	86.8		mg/L
021825NED26	ED-26	N	SW-846 6010D	Boron	T		U	BF	5.9	50.0		ug/L
021825NED26	ED-26	N	SW-846 6010D	Copper	T	0.74	J	RL	0.62	5.0		ug/L
021825NED26	ED-26	N	SW-846 6020B	Cobalt	T	0.44	J	RL	0.14	1.0		ug/L
021825NED26	ED-26	N	SW-846 6020B	Iron	T	183	J+	BL,M	3.0	20.0		ug/L
021825NED26	ED-26	N	SW-846 6020B	Lithium	T	1.3	J	RL	0.33	2.5		ug/L
021825NT1615S	T-1615S	N	SM 2540C	Total Dissolved Solids	N	250	J+	BF	10.0	10.0		mg/L
021825NT1615S	T-1615S	N	SW-846 6010D	Copper	T	0.98	J	RL	0.62	5.0		ug/L
021825NT1615S	T-1615S	N	SW-846 6010D	Zinc	T	3.6	J	RL	3.0	10.0		ug/L
021825NT1615S	T-1615S	N	SW-846 6020B	Iron	T	2590	J+	M	14.9	100		ug/L
021825NT1615S	T-1615S	N	SW-846 6020B	Lithium	T	12.2	J	RL	1.7	12.5		ug/L
021825NT1615S	T-1615S	N	SW-846 7199	Chromium, Hexavalent	D	0.012	J	RL	0.0043	0.025		ug/L
021825NT1615D	T-1615D	N	SM 2540C	Total Dissolved Solids	N	260	J+	BF	10.0	10.0		mg/L
021825NT1615D	T-1615D	N	SW-846 6010D	Boron	T		U	BF	6.7	50.0		ug/L
021825NT1615D	T-1615D	N	SW-846 6010D	Copper	T	0.65	J	RL	0.62	5.0		ug/L
021825NT1615D	T-1615D	N	SW-846 6010D	Nickel	T	2.0	J	RL	0.88	5.0		ug/L
021825NT1615D	T-1615D	N	SW-846 6010D	Zinc	T	5.6	J	RL	3.0	10.0		ug/L
021825NT1615D	T-1615D	N	SW-846 6020B	Cobalt	T	0.56	J	RL	0.14	1.0		ug/L
021825NT1615D	T-1615D	N	SW-846 6020B	Iron	T	12300	J+	M	29.8	200		ug/L
021925NES1613	ES-1613	N	SM 2540C	Total Dissolved Solids	N	408	J+	BF	10.0	10.0		mg/L
021925NES1613	ES-1613	N	SW-846 6010D	Beryllium	T	0.85	J	RL	0.16	1.0		ug/L
021925NES1613	ES-1613	N	SW-846 6010D	Copper	T	0.65	J	RL	0.62	5.0		ug/L
021925NES1613	ES-1613	N	SW-846 6020B	Thallium	T	0.043	J	RL	0.028	0.20		ug/L
021925NES1613	ES-1613	N	SW-846 9060A	Mean Total Organic Carbon	N	0.55	J	RL	0.50	1.0		mg/L
021925NES3D	ES-03D	N	SM 2540C	Total Dissolved Solids	N	315	J+	BF	10.0	10.0		mg/L
021925NES3D	ES-03D	N	SW-846 6010D	Beryllium	T	0.96	J	RL	0.16	1.0		ug/L
021925NES3D	ES-03D	N	SW-846 6010D	Silver	T	2.0	J	RL	0.49	5.0		ug/L
021925NES3D	ES-03D	N	SW-846 6020B	Lithium	T	15.9	J	RL	3.3	25.0		ug/L
021925NEFDDUPLICATE	ES-1613	FD	SM 2540C	Total Dissolved Solids	N	404	J+	BF	10.0	10.0		mg/L
021925NEFDDUPLICATE	ES-1613	FD	SW-846 6010D	Beryllium	T	0.87	J	RL	0.16	1.0		ug/L

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
021925NEFDDUPLICATE	ES-1613	FD	SW-846 6020B	Thallium	T	0.046	J	RL	0.028	0.20		ug/L
021925NEFDDUPLICATE	ES-1613	FD	SW-846 7199	Chromium, Hexavalent	D	0.0080	J	RL	0.0043	0.025		ug/L
021925NEFDDUPLICATE	ES-1613	FD	SW-846 9060A	Mean Total Organic Carbon	N	0.57	J	RL	0.50	1.0		mg/L
022025NES1609	ES-1609	N	SM 2540C	Total Dissolved Solids	N	350	J+	BF	10.0	10.0		mg/L
022025NES1609	ES-1609	N	SW-846 6010D	Beryllium	T	0.87	J	RL	0.16	1.0		ug/L
022025NES1609	ES-1609	N	SW-846 6010D	Copper	T	1.3	J	RL	0.62	5.0		ug/L
022025NES1609	ES-1609	N	SW-846 6020B	Thallium	T	0.055	J	RL	0.028	0.20		ug/L
022025NEFDBLANK	Field Blank	FB	SW-846 6010D	Boron	T	7.9	J	RL	4.0	50.0		ug/L
021825NT1615D	T-1615D	N	CALC	Combined Radium	N	0.950	J	BF,Y			0.340	pCi/L
021825NT1615D	T-1615D	N	SW-846 9315	Radium-226	N	0.409	J+	Y	0.322	0.322	0.245	pCi/L
021825NT1615D	T-1615D	N	SW-846 9320	RADIUM-228	N	0.542	U	BF	0.542	0.542	0.236	pCi/L
021925NES1613	ES-1613	N	CALC	Combined Radium	N	1.64	J	FD			0.309	pCi/L
021925NES1613	ES-1613	N	SW-846 9320	RADIUM-228	N	1.24	J	FD	0.364	0.364	0.222	pCi/L
021925NEFDDUPLICATE	ES-1613	FD	CALC	Combined Radium	N	0.190	UJ	FD,S			0.796	pCi/L
021925NEFDDUPLICATE	ES-1613	FD	SW-846 9320	RADIUM-228	N	-0.259	UJ	FD	1.41	1.41	0.771	pCi/L
022025NES1609	ES-1609	N	CALC	Combined Radium	N	1.26	J	BF			0.339	pCi/L
022025NES1609	ES-1609	N	SW-846 9320	RADIUM-228	N	0.865	U	BF	0.865	0.865	0.235	pCi/L
022025NEFDBLANK	Field Blank	FB	CALC	Combined Radium	N	0.840	J	S			0.308	pCi/L

Data Qualifiers	
U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.
Reason Codes and Explanations	
BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 30%.
Y	Chemical yield outside of acceptance limits

ZZ	Other
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Lab Sample ID	92780477001
Sys Sample Code	021825NED26
Sample Name	021825NED26
Sample Date	2/18/2025 1:30:00 PM
Location	PP-APE-ED-26 / ED-26
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	28800				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L		U	BF		86.8	86.8	86.8	N	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	30.3				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.16	0.16	1.0	N	Yes	1	NA
	Boron	7440-42-8	T	ug/L		U	BF		5.9	5.9	50.0	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	7540				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	0.74	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U			0.88	0.88	5.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			3.0	3.0	10.0	N	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	0.44	J	RL		0.14	0.14	1.0	Y	Yes	1	NA
	Iron	7439-89-6	T	ug/L	183	J+	BL,M		3.0	3.0	20.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	1.3	J	RL		0.33	0.33	2.5	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	10.5				0.24	0.24	2.0	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	2300				18.0	18.0	100	Y	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	1950				14.4	14.4	250	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	2.0				0.60	0.60	1.0	Y	Yes	1	NA

Lab Sample ID	92780477001
Sys Sample Code	021825NED26
Sample Name	021825NED26
Sample Date	2/18/2025 1:30:00 PM
Location	PP-APE-ED-26 / ED-26
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.20				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	1.6				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477002
Sys Sample Code	021825NT1615S
Sample Name	021825NT1615S
Sample Date	2/18/2025 2:50:00 PM
Location	PP-APE-T-1615S / T-1615S
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	26100				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	250	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	11.7				2.5	2.5	10.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	34.4				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.16	0.16	1.0	N	Yes	1	NA
	Boron	7440-42-8	T	ug/L	393				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	4330				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	0.98	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	10.0				0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	3.6	J	RL		3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L		U			0.71	0.71	5.0	N	Yes	5	NA
	Iron	7439-89-6	T	ug/L	2590	J+	M		14.9	14.9	100	Y	Yes	5	NA
	Lead	7439-92-1	T	ug/L		U			0.88	0.88	5.0	N	Yes	5	NA
	Lithium	7439-93-2	T	ug/L	12.2	J	RL		1.7	1.7	12.5	Y	Yes	5	NA
	Manganese	7439-96-5	T	ug/L	81.2				1.2	1.2	10.0	Y	Yes	5	NA
	Potassium	7440-09-7	T	ug/L	5300				90.1	90.1	500	Y	Yes	5	NA
	Sodium	7440-23-5	T	ug/L	1790				72.0	72.0	1250	Y	Yes	5	NA
	Thallium	7440-28-0	T	ug/L		U			0.14	0.14	1.0	N	Yes	5	NA
SW-846 7199	Tin	7440-31-5	T	ug/L		U			0.72	0.72	5.0	N	Yes	5	NA
	Chromium, Hexavalent	18540-29-9	D	ug/L	0.012	J	RL		0.0043	0.0043	0.025	Y	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477002
Sys Sample Code	021825NT1615S
Sample Name	021825NT1615S
Sample Date	2/18/2025 2:50:00 PM
Location	PP-APE-T-1615S / T-1615S
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	45.8				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.42				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	24.0				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	6.3				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477003
Sys Sample Code	021825NT1615D
Sample Name	021825NT1615D
Sample Date	2/18/2025 5:10:00 PM
Location	PP-APE-T-1615D / T-1615D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	96800				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	260	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	122				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.16	0.16	1.0	N	Yes	1	NA
	Boron	7440-42-8	T	ug/L		U	BF		6.7	6.7	50.0	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	20800				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	0.65	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	2.0	J	RL		0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	5.6	J	RL		3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	0.56	J	RL		0.14	0.14	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	15.8				0.33	0.33	2.5	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	13600				18.0	18.0	100	Y	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	9580				14.4	14.4	250	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 6020B	Iron	7439-89-6	T	ug/L	12300	J+	M		29.8	29.8	200	Y	Yes	10	NA
	Manganese	7439-96-5	T	ug/L	363				2.4	2.4	20.0	Y	Yes	10	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477003
Sys Sample Code	021825NT1615D
Sample Name	021825NT1615D
Sample Date	2/18/2025 5:10:00 PM
Location	PP-APE-T-1615D / T-1615D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	81.9				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.22				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	1.1				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477004
Sys Sample Code	021925NES1613
Sample Name	021925NES1613
Sample Date	2/19/2025 2:27:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	121000				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	408	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	59.9				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.85	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	1190				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	22700				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	0.65	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	25.6				0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	17.4				3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	25.2				0.14	0.14	1.0	Y	Yes	1	NA
	Iron	7439-89-6	T	ug/L	9720				3.0	3.0	20.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	16.3				0.33	0.33	2.5	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	3400				18.0	18.0	100	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L	0.043	J	RL		0.028	0.028	0.20	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 6020B	Manganese	7439-96-5	T	ug/L	953				2.4	2.4	20.0	Y	Yes	10	NA
	Sodium	7440-23-5	T	ug/L	71800				144	144	2500	Y	Yes	10	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477004
Sys Sample Code	021925NES1613
Sample Name	021925NES1613
Sample Date	2/19/2025 2:27:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	114				1.8	1.8	3.0	Y	Yes	3	NA
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.15				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	90.3				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	0.55	J	RL		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477005
Sys Sample Code	021925NES3D
Sample Name	021925NES3D
Sample Date	2/19/2025 4:15:00 PM
Location	PP-APE-ES-03D / ES-03D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	101000				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	315	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	89.2				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.96	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	397				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	16200				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	5.4				0.63	0.63	5.0	Y	Yes	1	NA
	Copper	7440-50-8	T	ug/L	5.8				0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	32.7				0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L	2.0	J	RL		0.49	0.49	5.0	Y	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	5.3				1.6	1.6	5.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	160				3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	47.4				1.4	1.4	10.0	Y	Yes	10	NA
	Iron	7439-89-6	T	ug/L	11200				29.8	29.8	200	Y	Yes	10	NA
	Lead	7439-92-1	T	ug/L		U			1.8	1.8	10.0	N	Yes	10	NA
	Lithium	7439-93-2	T	ug/L	15.9	J	RL		3.3	3.3	25.0	Y	Yes	10	NA
	Manganese	7439-96-5	T	ug/L	1090				2.4	2.4	20.0	Y	Yes	10	NA
	Potassium	7440-09-7	T	ug/L	4700				180	180	1000	Y	Yes	10	NA
	Sodium	7440-23-5	T	ug/L	58700				144	144	2500	Y	Yes	10	NA
	Thallium	7440-28-0	T	ug/L		U			0.28	0.28	2.0	N	Yes	10	NA
SW-846 7199	Tin	7440-31-5	T	ug/L		U			1.4	1.4	10.0	N	Yes	10	NA
	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0086	0.0086	0.050	N	Yes	2	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477005
Sys Sample Code	021925NES3D
Sample Name	021925NES3D
Sample Date	2/19/2025 4:15:00 PM
Location	PP-APE-ES-03D / ES-03D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	106				1.8	1.8	3.0	Y	Yes	3	NA
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.63				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	43.2				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477006
Sys Sample Code	021925NEFDDUPLICATE
Sample Name	021925NEFDDUPLICATE
Sample Date	2/19/2025 2:42:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	FD
Matrix	GW
Parent Sample	021925NES1613
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	123000				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	404	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	60.2				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.87	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	1190				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	23100				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L		U			0.62	0.62	5.0	N	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	24.8				0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	17.2				3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	26.6				0.14	0.14	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	16.9				0.33	0.33	2.5	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	3670				18.0	18.0	100	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L	0.046	J	RL		0.028	0.028	0.20	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 6020B	Iron	7439-89-6	T	ug/L	10300				29.8	29.8	200	Y	Yes	10	NA
	Manganese	7439-96-5	T	ug/L	1000				2.4	2.4	20.0	Y	Yes	10	NA
	Sodium	7440-23-5	T	ug/L	75300				144	144	2500	Y	Yes	10	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L	0.0080	J	RL		0.0043	0.0043	0.025	Y	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477006
Sys Sample Code	021925NEFDDUPLICATE
Sample Name	021925NEFDDUPLICATE
Sample Date	2/19/2025 2:42:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	FD
Matrix	GW
Parent Sample	021925NES1613
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.17				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	89.9				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	111				1.8	1.8	3.0	Y	Yes	3	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	0.57	J	RL		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477007
Sys Sample Code	022025NES1609
Sample Name	022025NES1609
Sample Date	2/20/2025 12:00:00 PM
Location	PP-APE-ES-1609 / ES-1609
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	65100				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	350	J+	BF		10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	54.7				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.87	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	1200				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	13300				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	1.3	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	10.1				0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	22.1				3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	17.8				0.14	0.14	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	7.9				0.33	0.33	2.5	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	5450				18.0	18.0	100	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L	0.055	J	RL		0.028	0.028	0.20	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 6020B	Iron	7439-89-6	T	ug/L	11400				29.8	29.8	200	Y	Yes	10	NA
	Manganese	7439-96-5	T	ug/L	612				2.4	2.4	20.0	Y	Yes	10	NA
	Sodium	7440-23-5	T	ug/L	84700				144	144	2500	Y	Yes	10	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780477007
Sys Sample Code	022025NES1609
Sample Name	022025NES1609
Sample Date	2/20/2025 12:00:00 PM
Location	PP-APE-ES-1609 / ES-1609
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	88.7				1.2	1.2	2.0	Y	Yes	2	NA
	Sulfate	14808-79-8	N	mg/L	84.9				1.0	1.0	2.0	Y	Yes	2	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780477008
Sys Sample Code	022025NEFBBLANK
Sample Name	022025NEFBBLANK
Sample Date	2/20/2025 12:35:00 PM
Location	PP-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L		U			36.8	36.8	662	N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	52.0				10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L		U			0.79	0.79	5.0	N	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.16	0.16	1.0	N	Yes	1	NA
	Boron	7440-42-8	T	ug/L	7.9	J	RL		4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			14.7	14.7	100	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L		U			0.62	0.62	5.0	N	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U			0.88	0.88	5.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			3.0	3.0	10.0	N	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L		U			3.0	3.0	20.0	N	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L		U			0.33	0.33	2.5	N	Yes	1	NA
	Manganese	7439-96-5	T	ug/L		U			0.24	0.24	2.0	N	Yes	1	NA
	Potassium	7440-09-7	T	ug/L		U			18.0	18.0	100	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L		U			14.4	14.4	250	N	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L		U			0.60	0.60	1.0	N	Yes	1	NA

Lab Sample ID	92780477008
Sys Sample Code	022025NEFBBLANK
Sample Name	022025NEFBBLANK
Sample Date	2/20/2025 12:35:00 PM
Location	PP-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	L1829574-01
Sys Sample Code	021825NED26
Sample Name	021825NED26
Sample Date	2/18/2025 1:30:00 PM
Location	PP-APE-ED-26 / ED-26
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.446	U		0.294				N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0238	U		0.155	0.319	0.319	0.319	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.423	U		0.250	0.445	0.445	0.445	N	Yes	1	NA

Lab Sample ID	L1829574-02
Sys Sample Code	021825NT1615S
Sample Name	021825NT1615S
Sample Date	2/18/2025 2:50:00 PM
Location	PP-APE-T-1615S / T-1615S
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.828	U		0.542				N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.463	U		0.378	0.564	0.564	0.564	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.365	U		0.389	0.699	0.699	0.699	N	Yes	1	NA

Lab Sample ID	L1829574-03
Sys Sample Code	021825NT1615D
Sample Name	021825NT1615D
Sample Date	2/18/2025 5:10:00 PM
Location	PP-APE-T-1615D / T-1615D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.950	J	BF,Y	0.340				Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.409	J+	Y	0.245	0.322	0.322	0.322	Y	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.542	U	BF	0.236	0.542	0.542	0.542	N	Yes	1	NA

Lab Sample ID	L1829574-04
Sys Sample Code	021925NES1613
Sample Name	021925NES1613
Sample Date	2/19/2025 2:27:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	1.64	J	FD	0.309				Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.407			0.215	0.229	0.229	0.229	Y	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	1.24	J	FD	0.222	0.364	0.364	0.364	Y	Yes	1	NA

Lab Sample ID	L1829574-05
Sys Sample Code	021925NES3D
Sample Name	021925NES3D
Sample Date	2/19/2025 4:15:00 PM
Location	PP-APE-ES-03D / ES-03D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	2.05			0.564				Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.468			0.239	0.249	0.249	0.249	Y	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	1.58			0.511	0.883	0.883	0.883	Y	Yes	1	NA

Lab Sample ID	L1829574-06
Sys Sample Code	021925NEFDDUPLICATE
Sample Name	021925NEFDDUPLICATE
Sample Date	2/19/2025 2:42:00 PM
Location	PP-APE-ES-1613 / ES-1613
Sample Type	FD
Matrix	GW
Parent Sample	021925NES1613
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.190	UJ	FD,S	0.796				N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.190	U		0.197	0.318	0.318	0.318	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-0.259	UJ	FD	0.771	1.41	1.41	1.41	N	Yes	1	NA

Lab Sample ID	L1829574-07
Sys Sample Code	022025NES1609
Sample Name	022025NES1609
Sample Date	2/20/2025 12:00:00 PM
Location	PP-APE-ES-1609 / ES-1609
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	1.26	J	BF	0.339				Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.390			0.244	0.327	0.327	0.327	Y	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.865	U	BF	0.235	0.865	0.865	0.865	N	Yes	1	NA

Lab Sample ID	L1829574-08
Sys Sample Code	022025NEFBBLANK
Sample Name	022025NEFBBLANK
Sample Date	2/20/2025 12:35:00 PM
Location	PP-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.840	J	S	0.308				Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.123	U		0.144	0.235	0.235	0.235	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.718			0.272	0.476	0.476	0.476	Y	Yes	1	NA

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Possum Point Groundwater Sampling
Samples Collected between: 2/18/2025 and 2/20/2025**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

92780475

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
021825NED23R	ED-23R	N	SW-846 6010D	Boron	T	5.0	J	RL	4.0	50.0		ug/L
022025NED22RA	ED-22RA	N	SW-846 6010D	Beryllium	T	0.18	J	RL	0.16	1.0		ug/L
022025NED22RA	ED-22RA	N	SW-846 6010D	Copper	T	2.0	J	RL	0.62	5.0		ug/L
022025NED22RA	ED-22RA	N	SW-846 6010D	Nickel	T	3.6	J	RL	0.88	5.0		ug/L
022025NED22RA	ED-22RA	N	SW-846 6020B	Lithium	T	1.8	J	RL	0.33	2.5		ug/L
022025NED22RA	ED-22RA	N	SW-846 9060A	Mean Total Organic Carbon	N	0.90	J	RL	0.50	1.0		mg/L

Data Qualifiers

U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.

Reason Codes and Explanations

BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits

MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 30%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Lab Sample ID	92780475001
Sys Sample Code	021825NED23R
Sample Name	021825NED23R
Sample Date	2/18/2025 2:05:00 PM
Location	PP-APE-ED-23R / ED-23R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	17400				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	91.2				10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	23.6				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.16	0.16	1.0	N	Yes	1	NA
	Boron	7440-42-8	T	ug/L	5.0	J	RL		4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	3650				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L		U			0.62	0.62	5.0	N	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U			0.88	0.88	5.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			3.0	3.0	10.0	N	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	2730				3.0	3.0	20.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	66.6				0.24	0.24	2.0	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	5720				18.0	18.0	100	Y	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	5080				14.4	14.4	250	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
SW-846 6020B	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	9.7				0.33	0.33	2.5	Y	Yes	1	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780475001
Sys Sample Code	021825NED23R
Sample Name	021825NED23R
Sample Date	2/18/2025 2:05:00 PM
Location	PP-APE-ED-23R / ED-23R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	2.8				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.29				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	4.7				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	92780475002
Sys Sample Code	022025NED22RA
Sample Name	022025NED22RA
Sample Date	2/20/2025 1:05:00 PM
Location	PP-APE-ED-22RA / ED-22RA
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	9140				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	127				10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	23.4				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.18	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	135				4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	1910				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.63	0.63	5.0	N	Yes	1	NA
	Copper	7440-50-8	T	ug/L	2.0	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	3.6	J	RL		0.88	0.88	5.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	11.9				3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6010D	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	3.0				0.14	0.14	1.0	Y	Yes	1	NA
	Iron	7439-89-6	T	ug/L	327				3.0	3.0	20.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	1.8	J	RL		0.33	0.33	2.5	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	46.8				0.24	0.24	2.0	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	1150				18.0	18.0	100	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	32900				144	144	2500	Y	Yes	10	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L		U			0.0043	0.0043	0.025	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780475002
Sys Sample Code	022025NED22RA
Sample Name	022025NED22RA
Sample Date	2/20/2025 1:05:00 PM
Location	PP-APE-ED-22RA / ED-22RA
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	10.1				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	51.0				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	0.90	J	RL		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	L1829565-01
Sys Sample Code	021825NED23R
Sample Name	021825NED23R
Sample Date	2/18/2025 2:05:00 PM
Location	PP-APE-ED-23R / ED-23R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.353	U		0.329				N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0964	U		0.177	0.323	0.323	0.323	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.257	U		0.277	0.503	0.503	0.503	N	Yes	1	NA

Lab Sample ID	L1829565-02
Sys Sample Code	022025NED22RA
Sample Name	022025NED22RA
Sample Date	2/20/2025 1:05:00 PM
Location	PP-APE-ED-22RA / ED-22RA
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.409	U		0.668				N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.192	U		0.163	0.230	0.230	0.230	N	Yes	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.217	U		0.648	1.18	1.18	1.18	N	Yes	1	NA

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Possum Point Groundwater Sampling
Samples Collected between: 2/18/2025 and 2/20/2025**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

92780476

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
021825NED24R	ED-24R	N	SW-846 6010D	Beryllium	T	0.16	J	RL	0.16	1.0		ug/L
021825NED24R	ED-24R	N	SW-846 6010D	Boron	T	4.8	J	RL	4.0	50.0		ug/L
021825NED24R	ED-24R	N	SW-846 6010D	Chromium	T	2.1	J	RL	0.63	5.0		ug/L
021825NED24R	ED-24R	N	SW-846 6010D	Copper	T	1.4	J	RL	0.62	5.0		ug/L
021825NED24R	ED-24R	N	SW-846 6010D	Nickel	T	1.4	J	RL	0.88	5.0		ug/L
021825NED24R	ED-24R	N	SW-846 6010D	Zinc	T	4.2	J	RL	3.0	10.0		ug/L
021825NED24R	ED-24R	N	SW-846 7199	Chromium, Hexavalent	D	1.8	J	H	0.043	0.25		ug/L

Data Qualifiers

U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.

Reason Codes and Explanations

BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.

M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 30%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Lab Sample ID	92780476001
Sys Sample Code	021825NED24R
Sample Name	021825NED24R
Sample Date	2/18/2025 1:50:00 PM
Location	PP-BKGD-ED-24R / ED-24R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	8760				36.8	36.8	662	Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	49.6				10.0	10.0	10.0	Y	Yes	1	NA
SW-846 6010D	Antimony	7440-36-0	T	ug/L		U			3.6	3.6	5.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			2.5	2.5	10.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	18.0				0.79	0.79	5.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.16	J	RL		0.16	0.16	1.0	Y	Yes	1	NA
	Boron	7440-42-8	T	ug/L	4.8	J	RL		4.0	4.0	50.0	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.29	0.29	1.0	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	2100				14.7	14.7	100	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	2.1	J	RL		0.63	0.63	5.0	Y	Yes	1	NA
	Copper	7440-50-8	T	ug/L	1.4	J	RL		0.62	0.62	5.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			2.6	2.6	5.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	1.4	J	RL		0.88	0.88	5.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			4.1	4.1	10.0	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.49	0.49	5.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			1.6	1.6	5.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	4.2	J	RL		3.0	3.0	10.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L		U			0.14	0.14	1.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	2690				3.0	3.0	20.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.18	0.18	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	8.5				0.33	0.33	2.5	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	65.6				0.24	0.24	2.0	Y	Yes	1	NA
	Potassium	7440-09-7	T	ug/L	5630				18.0	18.0	100	Y	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	4580				14.4	14.4	250	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.028	0.028	0.20	N	Yes	1	NA
SW-846 7199	Chromium, Hexavalent	18540-29-9	D	ug/L	1.8	J	H		0.043	0.043	0.25	Y	Yes	10	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA

Lab Sample ID	92780476001
Sys Sample Code	021825NED24R
Sample Name	021825NED24R
Sample Date	2/18/2025 1:50:00 PM
Location	PP-BKGD-ED-24R / ED-24R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9056A	Chloride	16887-00-6	N	mg/L	2.2				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	2.0				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9066	Phenolics, Total Recoverable	PHENOLICS	N	mg/L		U			0.0115	0.0115	0.0400	N	Yes	1	NA

Lab Sample ID	L1829570-01
Sys Sample Code	021825NED24R
Sample Name	021825NED24R
Sample Date	2/18/2025 1:50:00 PM
Location	PP-BKGD-ED-24R / ED-24R
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	1.00			0.431				Y	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.279			0.192	0.243	0.243	0.243	Y	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.722			0.386	0.683	0.683	0.683	Y	Y	1	NA

Attachment XII-B
Data Validation Forms
April 17, 2025, Verification Event

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Possum Point Groundwater Sampling
Samples Collected: 4/17/2025**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

92791987

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
041725NES3D	ES-03D	N	SW-846 6020B	Vanadium	T	2.02	J	RL	0.520	5.00		ug/L

Data Qualifiers

U	The analyte was not detected above the level of the sample reporting limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	The analyte was not detected; the reporting limit is approximate and may be inaccurate or imprecise.
R	Unreliable positive result; analyte may or may not be present in sample.

Reason Codes and Explanations

BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and QL.
S	Radium-226+228 flagged due to reporting protocol for combined results

T	Temperature preservation issue.
X	Percent solids < 30%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Lab Sample ID	92791987001
Sys Sample Code	041725NES3D
Sample Name	041725NES3D
Sample Date	4/17/2025 12:45:00 PM
Location	PP-APE-ES-03D / ES-03D
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020B	Vanadium	7440-62-2	T	ug/L	2.02	J	RL		0.520	0.520	5.00	Y	Yes	1	NA

Lab Sample ID	92791987002
Sys Sample Code	041725NT1615S
Sample Name	041725NT1615S
Sample Date	4/17/2025 3:38:00 PM
Location	PP-APE-T-1615S / T-1615S
Sample Type	N
Matrix	GW
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020B	Arsenic	7440-38-2	T	ug/L	9.84				0.120	0.120	2.00	Y	Yes	1	NA

Lab Sample ID	92791987003
Sys Sample Code	041725BEFBBLANK
Sample Name	041725BEFBBLANK
Sample Date	4/17/2025 10:25:00 AM
Location	PP-FB / Field Blank
Sample Type	FB
Matrix	AQ
Parent Sample	
Percent Moisture	0.00

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020B	Arsenic	7440-38-2	T	ug/L		U			0.120	0.120	2.00	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			0.520	0.520	5.00	N	Yes	1	NA