

RESL CUSTOMER EXPORT CONTROL AGREEMENT

It is the Radiological and Environmental Sciences Laboratory's (RESL) policy to conduct business in accordance with all applicable U.S. export control laws and regulations. It is also RESL's policy that its Customers comply with U.S. export control laws and regulations. Therefore, Customer agrees to the following:

1. Because products, technical data, and technical assistance (i.e., services) provided to Customer by RESL may be subject to U.S. export control laws and regulations, (i) transactions with certain persons and companies and (ii) the export or reexport of certain types and levels of products, technical data, and services are prohibited or restricted.
2. Customer acknowledges that it is responsible for its own compliance with U.S. export control laws and regulations. Customer further agrees that it assumes the responsibility to obtain all necessary U.S. export licenses or other U.S. governmental authorizations, as well as all liability for the failure to do so.
3. Customer acknowledges that export control requirements may change and that the export or reexport of RESL products, technical data, and services without an export license or other appropriate governmental authorization may result in criminal and/or civil liability.
4. The obligations and requirements described herein shall survive the expiration or termination of any agreement or contract between RESL and Customer.

RdV50 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	RdV
ADFC99	Abu Dhabi Quality and Conformity Council-Central Testing Lab	RdV
AMEC99	Jacobs Clean Energy Limited - Analytical Services	RdV
ARSL01	ARS	RdV
ASUK99	AWE (Aldermaston)	RdV
CMRC01	Carlsbad Environmental Monitoring and Research Center	RdV
COPS99	Health Canada Radiation Protection Bureau	RdV
CSSL99	Chemistry Support Services	RdV
ERCL01	Washington State Public Health Laboratories	RdV
ERHD99	National Monitoring Section, Radiation Protection Bureau, Health Canada	RdV
FDHE01	Florida Dept of Health Environmental Laboratory	RdV
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	RdV
GENE01	GEL Laboratories, LLC	RdV
GPCL01	Georgia Power Company Environmental Laboratory	RdV
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory	RdV
HPAC99	UKHSA, RCE Glasgow	RdV
IAEA20	IAEA Marine Environment Laboratories, Radiometrics Laboratory	RdV
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	RdV
ISUE01	ISU Environmental Monitoring Laboratory	RdV
JNRC99	Energy and Mineral Regulatory Commission	RdV
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdV
MDPH01	MDPH-Radiation Control Program	RdV
NARL01	National Analytical Radiation Environmental Laboratory	RdV
NJDH01	New Jersey Dept. of Health, ECLS	RdV
NOCS99	National Oceanography Centre, Southampton	RdV
NSPH01	Nevada State Public Health Laboratory	RdV
ODHL01	Ohio Department of Health Laboratory	RdV
SANC99	RadioAnalysis, South Africa Nuclear Energy Corp.	RdV
SEML01	SRS Environmental Monitoring Laboratory	RdV
SOUT01	Southwest Research Institute	RdV
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics	RdV
TDHL01	Texas Department of State Health Services Laboratory	RdV
TELE01	Teledyne Brown Engineering - Environmental Services	RdV
TELE02	Microbac Laboratories Inc. - Northbrook	RdV
TMAO01	EBERLINE Analytical Corporation	RdV
UNTE01	UniTech-235	RdV
WIPH01	WI, DPH, Radiation Protection Section	RdV
WIPP01	WIPP Laboratories	RdV
WSHL01	Wisconsin State Laboratory of Hygiene	RdV

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
IAEA99	International Atomic Energy Agency	RdV
ISUP01	ISU - Department of Physics/Health Physics/EAL	RdV
MSDH01	Mississippi State Dept of Health	RdV
STRL01	South Texas Project Radiological Laboratory	RdV

Study Reference Values

MAPEP-24-RdV50

Radiological Reference Date: 02/01/2024

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.0383	0.0010
Uranium-238	5.6	0.2
Uranium-Total	5.6	0.3

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Cesium-134	3.67	0.07
Cesium-137	2.57	0.04
Cobalt-57	2.53	0.05
Cobalt-60	2.96	0.06
Plutonium-238	0.0413	0.0013
Plutonium-239/240	0.0431	0.0016
Strontium-90	0.529	0.012
Uranium-234	0.067	0.003
Uranium-234 (Lg Veg)	0.129	0.005
Uranium-238	0.070	0.003
Uranium-238 (Lg Veg)	0.135	0.006
Zinc-65	8.02	0.16

Sample Statistical Summary

MAPEP-24-RdV50

Radiological Reference Date: 02/01/2024

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (ug/sample)
Inorganic							
Uranium-235	4	4			0.0383	0.0010	0.0268 - 0.0498
Uranium-238	4	4			5.6	0.2	3.9 - 7.3
Uranium-Total	2	2			5.6	0.3	3.9 - 7.3

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (Bq/sample)
Radiological							
Americium-241	16	13					False Positive Test
Cesium-134	36	33	3.48	0.41	3.67	0.07	2.57 - 4.77
Cesium-137	37	33	2.61	0.27	2.57	0.04	1.80 - 3.34
Cobalt-57	36	31	2.52	0.30	2.53	0.05	1.77 - 3.29
Cobalt-60	37	34	2.94	0.30	2.96	0.06	2.07 - 3.85
Manganese-54	30	27					False Positive Test
Plutonium-238	16	13	0.0400	0.0058	0.0413	0.0013	0.0289 - 0.0537
Plutonium-239/240	16	14	0.0417	0.0046	0.0431	0.0016	0.0302 - 0.0560
Strontium-90	16	11	0.478	0.049	0.529	0.012	0.370 - 0.688
Uranium-234	16	12	0.066	0.006	0.067	0.003	0.047 - 0.087
Uranium-238	17	13	0.066	0.008	0.070	0.003	0.049 - 0.091
Zinc-65	36	34	8.16	0.83	8.02	0.16	5.61 - 10.43

- Note:**
- (1) T = Total number of laboratories reporting analyte.
 - (2) A = Number of laboratories with 'Acceptable' performance.
 - (3) Mean excludes values derived as total metals, from large vegetation sample size and values indicated as "Not Acceptable".
 - (4) Uranium Reference values shown for small vegetation sample size only.

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% ≤ RP ≤ 15%
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- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Flag Summary Report

MAPEP-24-RdV50

Inorganic

Analyte	A	W	RW	N
Uranium-Total	2			
Uranium-235	4			
Uranium-238	4			

Radiological

Analyte	A	W	RW	N
Americium-241	13			5
Cesium-134	29	4		3
Cesium-137	32	1		4
Cobalt-57	28	3		5
Cobalt-60	32	2		3
Manganese-54	27			6
Plutonium-238	10	3		3
Plutonium-239/240	13	1		2
Strontium-90	10	1		5
Uranium-234	12			4
Uranium-238	12	1		4
Zinc-65	32	2		2



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ADEM01) Alabama Department of Environmental Management
 1350 Coliseum Blvd.
 Montgomery, AL 36110

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.9600	3.67	A		-19.3	2.57 - 4.77	0.0846	A
Cesium-137	2.5000	2.57	A		-2.7	1.80 - 3.34	0.0939	A
Cobalt-57	2.6500	2.53	A		4.7	1.77 - 3.29	0.0552	A
Cobalt-60	2.9200	2.96	A		-1.4	2.07 - 3.85	0.0841	A
Manganese-54	NR		N	(11)		False Positive Test		
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.3100	8.02	A		3.6	5.61 - 10.43	0.2970	A

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ADFC99) Abu Dhabi Quality and Conformity Council-Central Testing Lab
 Radiation Lab
 Abu Dhabi, Abu Dhabi 853

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.72	3.67	W		-25.9	2.57 - 4.77	0.20	A
Cesium-137	2.27	2.57	A		-11.7	1.80 - 3.34	0.22	A
Cobalt-57	1.84	2.53	W		-27.3	1.77 - 3.29	0.40	W
Cobalt-60	2.53	2.96	A		-14.5	2.07 - 3.85	0.20	A
Manganese-54	0.01			A		False Positive Test	0.01	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.62	8.02	A		-5.0	5.61 - 10.43	0.70	A

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (AMEC99) Jacobs Clean Energy Limited - Analytical Services
 612 Faraday Street
 Birchwood Park, Warrington WA3 6GN

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.75		N	(1)		False Positive Test	0.16	
Cesium-134	4.03	3.67	A		9.8	2.57 - 4.77	0.15	A
Cesium-137	2.95	2.57	A		14.8	1.80 - 3.34	0.11	A
Cobalt-57	3.42	2.53	N		35.2	1.77 - 3.29	0.42	A
Cobalt-60	3.68	2.96	W		24.3	2.07 - 3.85	0.21	A
Manganese-54	0.038		A			False Positive Test	0.059	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	1.16	0.529	N		119.3	0.370 - 0.688	0.35	N
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	9.63	8.02	W		20.1	5.61 - 10.43	0.45	A

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ARSL01) ARS
 2609 North River Road
 Port Allen, LA 70767

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.585	3.67	A		-2.3	2.57 - 4.77	0.136	A
Cesium-137	2.801	2.57	A		9.0	1.80 - 3.34	0.091	A
Cobalt-57	2.836	2.53	A		12.1	1.77 - 3.29	0.117	A
Cobalt-60	3.065	2.96	A		3.5	2.07 - 3.85	0.087	A
Manganese-54	0.048			A		False Positive Test	0.057	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	9.08	8.02	A		13.2	5.61 - 10.43	0.369	A

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(ASUK99) AWE (Aldermaston)

A38.1 AWE

Reading, Berkshire RG7 4PR

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	NR	3.67				2.57 - 4.77		
Cesium-137	NR	2.57				1.80 - 3.34		
Cobalt-57	NR	2.53				1.77 - 3.29		
Cobalt-60	NR	2.96				2.07 - 3.85		
Manganese-54	NR					False Positive Test		
Plutonium-238	0.0328	0.0413	W		-20.6	0.0289 - 0.0537	0.005	W
Plutonium-239/240	0.0345	0.0431	A		-20.0	0.0302 - 0.0560	0.005	A
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	0.0604	0.067	A		-9.9	0.047 - 0.087	0.009	A
Uranium-238	0.0595	0.070	A		-15.0	0.049 - 0.091	0.0089	A
Zinc-65	NR	8.02				5.61 - 10.43		

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (CMRC01) Carlsbad Environmental Monitoring and Research Center
 1400 University Dr.
 Carlsbad, NM 88220

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	NR	3.67				2.57 - 4.77		
Cesium-137	3.78E+00	2.57	N		47.1	1.80 - 3.34	6.08E-02	N
Cobalt-57	NR	2.53				1.77 - 3.29		
Cobalt-60	2.68E+00	2.96	A		-9.5	2.07 - 3.85	4.94E-02	N
Manganese-54	NR					False Positive Test		
Plutonium-238	4.00E-02	0.0413	A		-3.1	0.0289 - 0.0537	2.14E-03	A
Plutonium-239/240	4.07E-02	0.0431	A		-5.6	0.0302 - 0.0560	2.19E-03	A
Strontium-90	4.48E-01	0.529	A		-15.3	0.370 - 0.688	6.94E-04	N
Uranium-234	3.81E-02	0.067	N		-43.1	0.047 - 0.087	1.50E-03	A
Uranium-238	3.94E-02	0.070	N		-43.7	0.049 - 0.091	1.57E-03	A
Zinc-65	NR	8.02				5.61 - 10.43		

Radiological Reference Date: February 1, 2024

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (COPS99) Health Canada Radiation Protection Bureau
 775 Brookfield Road
 Ottawa, Ontario K1A 1C1

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.90	3.67	A		6.3	2.57 - 4.77	0.13	A
Cesium-137	2.69	2.57	A		4.7	1.80 - 3.34	0.17	A
Cobalt-57	2.60	2.53	A		2.8	1.77 - 3.29	0.20	A
Cobalt-60	3.06	2.96	A		3.4	2.07 - 3.85	0.10	A
Manganese-54	0.012		N	(1)		False Positive Test	0.003	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.28	8.02	A		3.2	5.61 - 10.43	0.39	A

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Notes:

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- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (CSSL99) Chemistry Support Services
 Dounreay
 Dounreay, Caithness KW14 7TZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0002956		N	(1)		False Positive Test	8.6323E-	
Cesium-134	3.17	3.67	A		-13.6	2.57 - 4.77	0.55031	W
Cesium-137	2.2960	2.57	A		-10.7	1.80 - 3.34	0.39859	W
Cobalt-57	3.5150	2.53	N		38.9	1.77 - 3.29	0.61020	W
Cobalt-60	3.147	2.96	A		6.3	2.07 - 3.85	0.54632	W
Manganese-54	0.1518		N	(1)		False Positive Test	0.026352	
Plutonium-238	0.039357	0.0413	A		-4.7	0.0289 - 0.0537	0.001212	A
Plutonium-239/240	0.038991	0.0431	A		-9.5	0.0302 - 0.0560	0.001177	A
Strontium-90	0.511	0.529	A		-3.4	0.370 - 0.688	0.0649	A
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.449	8.02	A		5.3	5.61 - 10.43	1.4667	W

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ERCL01) Washington State Public Health Laboratories
 1610 N.E. 150th Street
 Shoreline, WA 98155-9701

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0387	0.0383	A		1.0	0.0268 - 0.0498	0.0038	A
Uranium-238	5.21	5.6	A		-7.0	3.9 - 7.3	0.41	A
Uranium-Total	5.26	5.6	A		-6.1	3.9 - 7.3	0.41	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-0.0008		A			False Positive Test	0.0031	
Cesium-134	4.10	3.67	A		11.7	2.57 - 4.77	0.09	A
Cesium-137	3.33	2.57	W		29.6	1.80 - 3.34	0.16	A
Cobalt-57	3.29	2.53	N		30.0	1.77 - 3.29	0.09	A
Cobalt-60	3.57	2.96	W		20.6	2.07 - 3.85	0.52	A
Manganese-54	0.070		A			False Positive Test	0.038	
Plutonium-238	0.0375	0.0413	A		-9.2	0.0289 - 0.0537	0.0037	A
Plutonium-239/240	0.0343	0.0431	W		-20.4	0.0302 - 0.0560	0.0031	A
Strontium-90	0.266	0.529	N		-49.7	0.370 - 0.688	0.031	A
Uranium-234	0.0650	0.067	A		-3.0	0.047 - 0.087	0.0058	A
Uranium-238	0.0610	0.070	A		-12.9	0.049 - 0.091	0.0058	A
Zinc-65	9.49	8.02	A		18.3	5.61 - 10.43	0.25	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(ERHD99) National Monitoring Section, Radiation Protection Bureau, Health Canada
 775 Brookfield Road AL6302D1
 Ottawa, Ontario K1A 1C1

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.045	0.0383	A		17.5	0.0268 - 0.0498	0.001	A
Uranium-238	5.963	5.6	A		6.5	3.9 - 7.3	0.17	A
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0006		A			False Positive Test	0.0006	
Cesium-134	3.72	3.67	A		1.4	2.57 - 4.77	0.18	A
Cesium-137	2.65	2.57	A		3.1	1.80 - 3.34	0.18	A
Cobalt-57	2.56	2.53	A		1.2	1.77 - 3.29	0.12	A
Cobalt-60	3.11	2.96	A		5.1	2.07 - 3.85	0.14	A
Manganese-54	0.05		A			False Positive Test	0.12	
Plutonium-238	0.0458	0.0413	A		10.9	0.0289 - 0.0537	0.0020	A
Plutonium-239/240	0.0432	0.0431	A		0.2	0.0302 - 0.0560	0.0020	A
Strontium-90	0.529	0.529	A		0.0	0.370 - 0.688	0.025	A
Uranium-234	0.0717	0.067	A		7.0	0.047 - 0.087	0.0030	A
Uranium-238	0.0683	0.070	A		-2.4	0.049 - 0.091	0.0030	A
Zinc-65	8.37	8.02	A		4.4	5.61 - 10.43	0.86	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (FDHE01) Florida Dept of Health Environmental Laboratory
 2100 All Childrens Way
 Orlando, FL 32818-5271

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-0.072		A			False Positive Test	0.239	
Cesium-134	3.699	3.67	A		0.8	2.57 - 4.77	0.084	A
Cesium-137	2.63	2.57	A		2.3	1.80 - 3.34	0.091	A
Cobalt-57	2.79	2.53	A		10.3	1.77 - 3.29	0.091	A
Cobalt-60	2.75	2.96	A		-7.1	2.07 - 3.85	0.159	A
Manganese-54	-0.056		A			False Positive Test	0.192	
Plutonium-238	0.117	0.0413	N		183.3	0.0289 - 0.0537	0.06	N
Plutonium-239/240	0.049	0.0431	A		13.7	0.0302 - 0.0560	0.02	N
Strontium-90	0.55	0.529	A		4.0	0.370 - 0.688	0.05	A
Uranium-234	0.0652	0.067	A		-2.7	0.047 - 0.087	0.022	N
Uranium-238	0.068	0.070	A		-2.9	0.049 - 0.091	0.023	N
Zinc-65	8.2	8.02	A		2.2	5.61 - 10.43	0.404	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
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- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(FDOH01) Florida Dept. of Health, Mobile Environmental Radiological Lab
 2100 All Childrens Way
 Orlando, FL 32818-5271

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-0.002		A			False Positive Test	0.115	
Cesium-134	3.79	3.67	A		3.3	2.57 - 4.77	0.062	N
Cesium-137	2.78	2.57	A		8.2	1.80 - 3.34	0.076	A
Cobalt-57	2.846	2.53	A		12.5	1.77 - 3.29	0.082	A
Cobalt-60	2.956	2.96	A		-0.1	2.07 - 3.85	0.061	A
Manganese-54	-0.021		A			False Positive Test	0.136	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	0.081	0.135	N		-40.0	0.095 - 0.176	0.955	N
Zinc-65	8.627	8.02	A		7.6	5.61 - 10.43	0.22	A

Radiological Reference Date: February 1, 2024

Results Flags:

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- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (GENE01) GEL Laboratories, LLC
 2040 Savage Road
 Charleston, SC 29407

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.000884		A			False Positive Test	0.000526	
Cesium-134	3.28	3.67	A		-10.6	2.57 - 4.77	0.174	A
Cesium-137	2.82	2.57	A		9.7	1.80 - 3.34	0.148	A
Cobalt-57	2.64	2.53	A		4.3	1.77 - 3.29	0.116	A
Cobalt-60	3.14	2.96	A		6.1	2.07 - 3.85	0.176	A
Manganese-54	0.0188		A			False Positive Test	0.0299	
Plutonium-238	0.0363	0.0413	A		-12.1	0.0289 - 0.0537	0.00418	A
Plutonium-239/240	0.0397	0.0431	A		-7.9	0.0302 - 0.0560	0.00448	A
Strontium-90	0.391	0.529	W		-26.1	0.370 - 0.688	0.021	A
Uranium-234	0.0709	0.067	A		5.8	0.047 - 0.087	0.00401	A
Uranium-238	0.0770	0.070	A		10.0	0.049 - 0.091	0.00430	A
Zinc-65	8.69	8.02	A		8.4	5.61 - 10.43	0.422	A

Radiological Reference Date: February 1, 2024

Results Flags:

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- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
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 - NOT ACCEPTABLE.....RP > 30%
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (GPCL01) Georgia Power Company Environmental Laboratory 2480
 Maner Road
 Atlanta, GA 30339

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.62	3.67	A		-1.4	2.57 - 4.77	0.31	A
Cesium-137	2.71	2.57	A		5.4	1.80 - 3.34	0.32	A
Cobalt-57	2.76	2.53	A		9.1	1.77 - 3.29	0.29	A
Cobalt-60	2.99	2.96	A		1.0	2.07 - 3.85	0.29	A
Manganese-54	0.001			A		False Positive Test	0.2	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.36	8.02	A		4.2	5.61 - 10.43	0.91	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(HECR01) SC Dept. Health and Environmental Control Radiological Laboratory
 8231 Parklane Road
 Columbia, SC 29223

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.175	3.67	A		-13.5	2.57 - 4.77	0.2338	A
Cesium-137	2.251	2.57	A		-12.4	1.80 - 3.34	0.3009	A
Cobalt-57	2.116	2.53	A		-16.4	1.77 - 3.29	0.2240	A
Cobalt-60	2.812	2.96	A		-5.0	2.07 - 3.85	0.2516	A
Manganese-54	-0.3141			A		False Positive Test	0.2598	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.255	8.02	A		-9.5	5.61 - 10.43	0.7852	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (HPAC99) UKHSA, RCE Glasgow
 155 Hardgate Road
 Glasgow, Scotland G51 4LS

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR		N	(11)		False Positive Test		
Cesium-134	NR	3.67				2.57 - 4.77		
Cesium-137	NR	2.57				1.80 - 3.34		
Cobalt-57	NR	2.53				1.77 - 3.29		
Cobalt-60	NR	2.96				2.07 - 3.85		
Manganese-54	NR					False Positive Test		
Plutonium-238	NR	0.0413	N	(28)		0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431	N	(28)		0.0302 - 0.0560		
Strontium-90	.543	0.529	A		2.6	0.370 - 0.688	.033	A
Uranium-234	.0597	0.067	A		-10.9	0.047 - 0.087	.0026	A
Uranium-238	.0610	0.070	A		-12.9	0.049 - 0.091	.0026	A
Zinc-65	NR	8.02				5.61 - 10.43		

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(IAEA20) IAEA Marine Environment Laboratories, Radiometrics Laboratory
 4a, Quai Antoine 1er
 Monaco, Monaco 98000

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.37	3.67	A		-8.2	2.57 - 4.77	0.23	A
Cesium-137	2.97	2.57	A		15.6	1.80 - 3.34	0.21	A
Cobalt-57	2.56	2.53	A		1.2	1.77 - 3.29	0.28	A
Cobalt-60	2.85	2.96	A		-3.7	2.07 - 3.85	0.15	A
Manganese-54	-0.001		N	(29)		False Positive Test	0.0001	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.79	8.02	A		9.6	5.61 - 10.43	0.48	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(IEMA01) Illinois Emergency Management Agency Radiochemistry Laboratory
 1301 Knotts St.
 Springfield, IL 62703

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.000422		A			False Positive Test	0.000273	
Cesium-134	3.22	3.67	A		-12.3	2.57 - 4.77	0.057	N
Cesium-137	2.46	2.57	A		-4.3	1.80 - 3.34	0.080	A
Cobalt-57	2.37	2.53	A		-6.3	1.77 - 3.29	0.037	N
Cobalt-60	2.81	2.96	A		-5.1	2.07 - 3.85	0.070	A
Manganese-54	0.08		A			False Positive Test	0.041	
Plutonium-238	0.0445	0.0413	A		7.7	0.0289 - 0.0537	0.0025	A
Plutonium-239/240	0.0427	0.0431	A		-0.9	0.0302 - 0.0560	0.0024	A
Strontium-90	0.453	0.529	A		-14.4	0.370 - 0.688	0.041	A
Uranium-234	0.0729	0.067	A		8.8	0.047 - 0.087	0.0033	A
Uranium-238	0.0742	0.070	A		6.0	0.049 - 0.091	0.0033	A
Zinc-65	7.83	8.02	A		-2.4	5.61 - 10.43	0.245	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ISUE01) ISU Environmental Monitoring Laboratory
 785 5th 8th Ave Rm B107
 Pocatello, Idaho 83209

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.62	3.67	A		-1.4	2.57 - 4.77	.086	A
Cesium-137	2.58	2.57	A		0.4	1.80 - 3.34	.082	A
Cobalt-57	2.68	2.53	A		5.9	1.77 - 3.29	.076	A
Cobalt-60	.297	2.96	N		-90.0	2.07 - 3.85	.074	W
Manganese-54	NR		N	(11)		False Positive Test		
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.69	8.02	A		8.4	5.61 - 10.43	.267	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
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- (28) = Not Reporting Previously Reported Analyte
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (JNRC99) Energy and Mineral Regulatory Commission
 Radiological laboratories directorate
 Amman, Amman 11821

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.47	3.67	A		-5.5	2.57 - 4.77	0.06	N
Cesium-137	2.51	2.57	A		-2.3	1.80 - 3.34	0.08	A
Cobalt-57	2.71	2.53	A		7.1	1.77 - 3.29	0.07	A
Cobalt-60	3.10	2.96	A		4.7	2.07 - 3.85	0.07	A
Manganese-54	NR					False Positive Test		
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.44	8.02	A		5.2	5.61 - 10.43	0.26	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(LOCK03) Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory

INL/Battelle Energy Alliance, LLC

Idaho Falls, ID 83415-7111

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.4	3.67	A		-7.4	2.57 - 4.77	0.11	A
Cesium-137	2.63	2.57	A		2.3	1.80 - 3.34	0.16	A
Cobalt-57	2.54	2.53	A		0.4	1.77 - 3.29	0.18	A
Cobalt-60	3.14	2.96	A		6.1	2.07 - 3.85	0.14	A
Manganese-54	0.06		A			False Positive Test	0.03	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.27	8.02	A		3.1	5.61 - 10.43	0.36	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (MDPH01) MDPH-Radiation Control Program
 MERL-Room 0066
 Jamaica Plain, MA 02130-3597

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.92	3.67	W		-20.4	2.57 - 4.77	0.09	A
Cesium-137	2.42	2.57	A		-5.8	1.80 - 3.34	0.08	A
Cobalt-57	2.32	2.53	A		-8.3	1.77 - 3.29	0.09	A
Cobalt-60	2.68	2.96	A		-9.5	2.07 - 3.85	0.10	A
Manganese-54	NR					False Positive Test		
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.88	8.02	A		-1.7	5.61 - 10.43	0.24	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (NARL01) National Analytical Radiation Environmental Laboratory
 540 S. Morris Ave.
 Montgomery, AL 36115-2601

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.000963		A			False Positive Test	0.00132	
Cesium-134	4.20	3.67	A		14.4	2.57 - 4.77	0.239	A
Cesium-137	2.66	2.57	A		3.5	1.80 - 3.34	0.167	A
Cobalt-57	2.67	2.53	A		5.5	1.77 - 3.29	0.159	A
Cobalt-60	2.87	2.96	A		-3.0	2.07 - 3.85	0.168	A
Manganese-54	-0.0629		A			False Positive Test	0.0649	
Plutonium-238	0.0427	0.0413	A		3.4	0.0289 - 0.0537	0.0052	A
Plutonium-239/240	0.0441	0.0431	A		2.3	0.0302 - 0.0560	0.00527	A
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	0.0598	0.067	A		-10.7	0.047 - 0.087	0.00597	A
Uranium-238	0.0576	0.070	A		-17.7	0.049 - 0.091	0.00583	A
Zinc-65	7.94	8.02	A		-1.0	5.61 - 10.43	0.477	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
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- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (NJDH01) New Jersey Dept. of Health, ECLS
 3 Schwarzkopf Drive
 Ewing, NJ 08628

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.66	3.67	A		-0.3	2.57 - 4.77	0.08	A
Cesium-137	2.96	2.57	A		15.2	1.80 - 3.34	0.09	A
Cobalt-57	2.88	2.53	A		13.8	1.77 - 3.29	0.08	A
Cobalt-60	3.25	2.96	A		9.8	2.07 - 3.85	0.12	A
Manganese-54	-0.02			A		False Positive Test	0.04	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	9.62	8.02	A		20.0	5.61 - 10.43	0.27	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (NOCS99) National Oceanography Centre, Southampton
 GAU-Radioanalytical
 Southampton, Hampshire SO14 3ZH

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.035	0.0383	A		-8.6	0.0268 - 0.0498	0.003	A
Uranium-238	5.0	5.6	A		-10.7	3.9 - 7.3	0.5	A
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0026		N	(1)		False Positive Test	0.0003	
Cesium-134	3.4	3.67	A		-7.4	2.57 - 4.77	0.1	A
Cesium-137	2.8	2.57	A		8.9	1.80 - 3.34	0.1	A
Cobalt-57	2.70	2.53	A		6.7	1.77 - 3.29	0.1	A
Cobalt-60	3.2	2.96	A		8.1	2.07 - 3.85	0.1	A
Manganese-54	0.2		A			False Positive Test	2	
Plutonium-238	0.036	0.0413	A		-12.8	0.0289 - 0.0537	0.003	A
Plutonium-239/240	0.039	0.0431	A		-9.5	0.0302 - 0.0560	0.003	A
Strontium-90	0.46	0.529	A		-13.0	0.370 - 0.688	0.03	A
Uranium-234	0.056	0.067	A		-16.4	0.047 - 0.087	0.004	A
Uranium-238	0.055	0.070	W		-21.4	0.049 - 0.091	0.004	A
Zinc-65	9.2	8.02	A		14.7	5.61 - 10.43	0.3	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (NSPH01) Nevada State Public Health Laboratory
 1664 North Virginia Street, MS 328
 Reno, NV 89557

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	5.94	3.67	N		61.9	2.57 - 4.77	0.243	A
Cesium-137	4.16	2.57	N		61.9	1.80 - 3.34	0.175	A
Cobalt-57	4.49	2.53	N		77.5	1.77 - 3.29	0.186	A
Cobalt-60	4.97	2.96	N		67.9	2.07 - 3.85	0.309	A
Manganese-54	NR					False Positive Test		
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	12.9	8.02	N		60.8	5.61 - 10.43	0.532	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (ODHL01) Ohio Department of Health Laboratory
 8995 E Main Street
 Reynoldsburg, OH 43068

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.86	3.67	W		-22.1	2.57 - 4.77	0.12	A
Cesium-137	2.12	2.57	A		-17.5	1.80 - 3.34	0.158	A
Cobalt-57	2.13	2.53	A		-15.8	1.77 - 3.29	0.168	A
Cobalt-60	2.65	2.96	A		-10.5	2.07 - 3.85	0.104	A
Manganese-54	0.0415		A			False Positive Test	0.0607	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.02	8.02	A		-12.5	5.61 - 10.43	0.39	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (SANC99) RadioAnalysis, South Africa Nuclear Energy Corp.
 Sample Receipt Gate 1
 Pretoria, Gauteng 0001

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.02		A			False Positive Test	0.02	
Cesium-134	3.55	3.67	A		-3.3	2.57 - 4.77	0.21	A
Cesium-137	2.46	2.57	A		-4.3	1.80 - 3.34	0.15	A
Cobalt-57	2.33	2.53	A		-7.9	1.77 - 3.29	0.17	A
Cobalt-60	2.88	2.96	A		-2.7	2.07 - 3.85	0.18	A
Manganese-54	0.04		A			False Positive Test	0.04	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.54	8.02	A		-6.0	5.61 - 10.43	0.35	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (SEML01) SRS Environmental Monitoring Laboratory
 Bldg 735-B
 Aiken, SC 29808

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.00058		A			False Positive Test	0.00024	
Cesium-134	3.58	3.67	A		-2.5	2.57 - 4.77	0.30	A
Cesium-137	2.42	2.57	A		-5.8	1.80 - 3.34	0.25	A
Cobalt-57	2.46	2.53	A		-2.8	1.77 - 3.29	0.21	A
Cobalt-60	2.91	2.96	A		-1.7	2.07 - 3.85	0.24	A
Manganese-54	0.05		A			False Positive Test	0.15	
Plutonium-238	0.0364	0.0413	A		-11.9	0.0289 - 0.0537	0.0023	A
Plutonium-239/240	0.0411	0.0431	A		-4.6	0.0302 - 0.0560	0.0025	A
Strontium-90	0.439	0.529	A		-17.0	0.370 - 0.688	0.027	A
Uranium-234	0.0648	0.067	A		-3.3	0.047 - 0.087	0.0040	A
Uranium-238	0.0699	0.070	A		-0.1	0.049 - 0.091	0.0043	A
Zinc-65	7.87	8.02	A		-1.9	5.61 - 10.43	0.83	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
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- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
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- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (SOUT01) Southwest Research Institute
 6220 Culebra Rd.
 San Antonio, TX 78238-5166

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0432	0.0383	A		12.8	0.0268 - 0.0498	0.00749	W
Uranium-238	6.03	5.6	A		7.7	3.9 - 7.3	0.965	W
Uranium-Total	6.07	5.6	A		8.4	3.9 - 7.3	0.971	W

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR		N	(11)		False Positive Test		
Cesium-134	NR	3.67	N	(28)		2.57 - 4.77		
Cesium-137	NR	2.57	N	(28)		1.80 - 3.34		
Cobalt-57	NR	2.53	N	(28)		1.77 - 3.29		
Cobalt-60	NR	2.96	N	(28)		2.07 - 3.85		
Manganese-54	NR		N	(11)		False Positive Test		
Plutonium-238	NR	0.0413	N	(28)		0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431	N	(28)		0.0302 - 0.0560		
Strontium-90	NR	0.529	N	(28)		0.370 - 0.688		
Uranium-234	NR	0.067	N	(28)		0.047 - 0.087		
Uranium-238	NR	0.070	N	(28)		0.049 - 0.091		
Zinc-65	NR	8.02	N	(28)		5.61 - 10.43		

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(SRPD01) Sandia National Laboratories, Radiation Protection Sample Diagnostics

PO Box 5800, MS1103

Albuquerque, NM 87185-1103

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	4.01E+00	3.67	A		9.3	2.57 - 4.77	2.84E-01	A
Cesium-137	2.99E+00	2.57	A		16.3	1.80 - 3.34	2.26E-01	A
Cobalt-57	2.57E+00	2.53	A		1.6	1.77 - 3.29	2.73E-01	A
Cobalt-60	3.27E+00	2.96	A		10.5	2.07 - 3.85	2.03E-01	A
Manganese-54	-3.30E-02			A		False Positive Test	1.08E-01	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.57E+00	8.02	A		-5.6	5.61 - 10.43	4.67E-01	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
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- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (TDHL01) Texas Department of State Health Services Laboratory
 1100 W 49th Street
 Austin, TX 78756

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0020		A			False Positive Test	0.0013	
Cesium-134	4.20	3.67	A		14.4	2.57 - 4.77	0.11	A
Cesium-137	2.91	2.57	A		13.2	1.80 - 3.34	0.14	A
Cobalt-57	3.23	2.53	W		27.7	1.77 - 3.29	0.11	A
Cobalt-60	3.314	2.96	A		12.0	2.07 - 3.85	0.099	A
Manganese-54	-0.077		A			False Positive Test	0.099	
Plutonium-238	0.0316	0.0413	W		-23.5	0.0289 - 0.0537	0.0044	A
Plutonium-239/240	0.0424	0.0431	A		-1.6	0.0302 - 0.0560	0.0051	A
Strontium-90	0.457	0.529	A		-13.6	0.370 - 0.688	0.027	A
Uranium-234	0.176	0.129	N		36.4	0.090 - 0.168	0.020	A
Uranium-238	0.143	0.135	A		5.9	0.095 - 0.176	0.018	A
Zinc-65	8.86	8.02	A		10.5	5.61 - 10.43	0.37	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (TELE01) Teledyne Brown Engineering - Environmental Services
 2508 Quality Lane
 Knoxville, TN 37931-6819

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.80	3.67	W		-23.7	2.57 - 4.77	0.23	A
Cesium-137	2.21	2.57	A		-14.0	1.80 - 3.34	0.23	A
Cobalt-57	2.23	2.53	A		-11.9	1.77 - 3.29	0.12	A
Cobalt-60	2.42	2.96	A		-18.2	2.07 - 3.85	0.16	A
Manganese-54	0.033		A			False Positive Test	0.096	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	0.276	0.529	N		-47.8	0.370 - 0.688	0.012	A
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	6.83	8.02	A		-14.8	5.61 - 10.43	0.49	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (TELE02) Microbac Laboratories Inc. - Northbrook
 700 Landwehr Road
 Northbrook, IL 60062-

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	2.97	3.67	A		-19.1	2.57 - 4.77	0.08	A
Cesium-137	2.36	2.57	A		-8.2	1.80 - 3.34	0.15	A
Cobalt-57	1.78	2.53	W		-29.6	1.77 - 3.29	0.09	A
Cobalt-60	2.61	2.96	A		-11.8	2.07 - 3.85	0.13	A
Manganese-54	0.03			A		False Positive Test	0.07	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	6.41	8.02	W		-20.1	5.61 - 10.43	0.30	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (TMAO01) EBERLINE Analytical Corporation
 601 A SCARBORO RD
 OAK RIDGE, TN 37830-

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	5.224	3.67	N		42.3	2.57 - 4.77	.567	A
Cesium-137	3.729	2.57	N		45.1	1.80 - 3.34	.685	W
Cobalt-57	2.594	2.53	A		2.5	1.77 - 3.29	.470	W
Cobalt-60	2.411	2.96	A		-18.5	2.07 - 3.85	.483	W
Manganese-54	.023		A			False Positive Test	.401	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	.181	0.067	N		170.1	0.047 - 0.087	.036	W
Uranium-238	.151	0.070	N		115.7	0.049 - 0.091	.031	W
Zinc-65	6.620	8.02	A		-17.5	5.61 - 10.43	1.862	W

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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- (28) = Not Reporting Previously Reported Analyte
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(UNTE01) UniTech-235

178 Aldo Drive

Barnwell, SC 29812

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR					False Positive Test		
Cesium-134	3.26	3.67	A		-11.2	2.57 - 4.77	0.37	A
Cesium-137	2.6	2.57	A		1.2	1.80 - 3.34	0.51	W
Cobalt-57	2.63	2.53	A		4.0	1.77 - 3.29	0.37	A
Cobalt-60	3.08	2.96	A		4.1	2.07 - 3.85	0.43	A
Manganese-54	0.02			A		False Positive Test	0.03	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	8.54	8.02	A		6.5	5.61 - 10.43	1.49	W

Radiological Reference Date: February 1, 2024

Results Flags:

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- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (WIPH01) WI, DPH, Radiation Protection Section
 1 West Wilson Street
 Madison, WI 53703

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-0.055		A			False Positive Test	0.243	
Cesium-134	3.851	3.67	A		4.9	2.57 - 4.77	0.134	A
Cesium-137	2.463	2.57	A		-4.2	1.80 - 3.34	0.165	A
Cobalt-57	2.555	2.53	A		1.0	1.77 - 3.29	0.221	A
Cobalt-60	3.043	2.96	A		2.8	2.07 - 3.85	0.107	A
Manganese-54	0.0394		A			False Positive Test	0.047	
Plutonium-238	NR	0.0413				0.0289 - 0.0537		
Plutonium-239/240	NR	0.0431				0.0302 - 0.0560		
Strontium-90	NR	0.529				0.370 - 0.688		
Uranium-234	NR	0.067				0.047 - 0.087		
Uranium-238	NR	0.070				0.049 - 0.091		
Zinc-65	7.927	8.02	A		-1.2	5.61 - 10.43	0.393	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50

(WIPP01) WIPP Laboratories

1400 University Drive

Carlsbad, NM 88220

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	3.24E-004		A			False Positive Test	1.78E-	
Cesium-134	3.25E+000	3.67	A		-11.4	2.57 - 4.77	1.17E-	A
Cesium-137	2.52E+000	2.57	A		-1.9	1.80 - 3.34	1.46E-	A
Cobalt-57	2.29E+000	2.53	A		-9.5	1.77 - 3.29	8.16E-	A
Cobalt-60	2.50E+000	2.96	A		-15.5	2.07 - 3.85	1.62E-	A
Manganese-54	2.45E-002		A			False Positive Test	6.68E-	
Plutonium-238	4.47E-002	0.0413	A		8.2	0.0289 - 0.0537	4.56E-	A
Plutonium-239/240	4.32E-002	0.0431	A		0.2	0.0302 - 0.0560	4.43E-	A
Strontium-90	4.75E-001	0.529	A		-10.2	0.370 - 0.688	2.86E-	A
Uranium-234	7.78E-002	0.067	A		16.1	0.047 - 0.087	6.86E-	A
Uranium-238	7.92E-002	0.070	A		13.1	0.049 - 0.091	6.97E-	A
Zinc-65	6.88E+000	8.02	A		-14.2	5.61 - 10.43	3.93E-	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-24-RdV50
 (WSHL01) Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive
 Madison, WI 53718

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0383				0.0268 - 0.0498		
Uranium-238	NR	5.6				3.9 - 7.3		
Uranium-Total	NR	5.6				3.9 - 7.3		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0101		A			False Positive Test	0.0036	
Cesium-134	3.379	3.67	A		-7.9	2.57 - 4.77	0.116	A
Cesium-137	2.454	2.57	A		-4.5	1.80 - 3.34	0.086	A
Cobalt-57	2.326	2.53	A		-8.1	1.77 - 3.29	0.138	A
Cobalt-60	2.685	2.96	A		-9.3	2.07 - 3.85	0.234	A
Manganese-54	0.0426		A			False Positive Test	0.0318	
Plutonium-238	0.052	0.0413	W		25.9	0.0289 - 0.0537	0.0077	A
Plutonium-239/240	0.051	0.0431	A		18.3	0.0302 - 0.0560	0.0065	A
Strontium-90	0.31	0.529	N		-41.4	0.370 - 0.688	0.02	A
Uranium-234	0.0651	0.067	A		-2.8	0.047 - 0.087	0.0077	A
Uranium-238	0.0600	0.070	A		-14.3	0.049 - 0.091	0.0059	A
Zinc-65	8.306	8.02	A		3.6	5.61 - 10.43	0.68	A

Radiological Reference Date: February 1, 2024

Results Flags:

- A = Result acceptable.....|Bias| ≤ 20%
- W = Result acceptable with warning.....20% < |Bias| ≤ 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

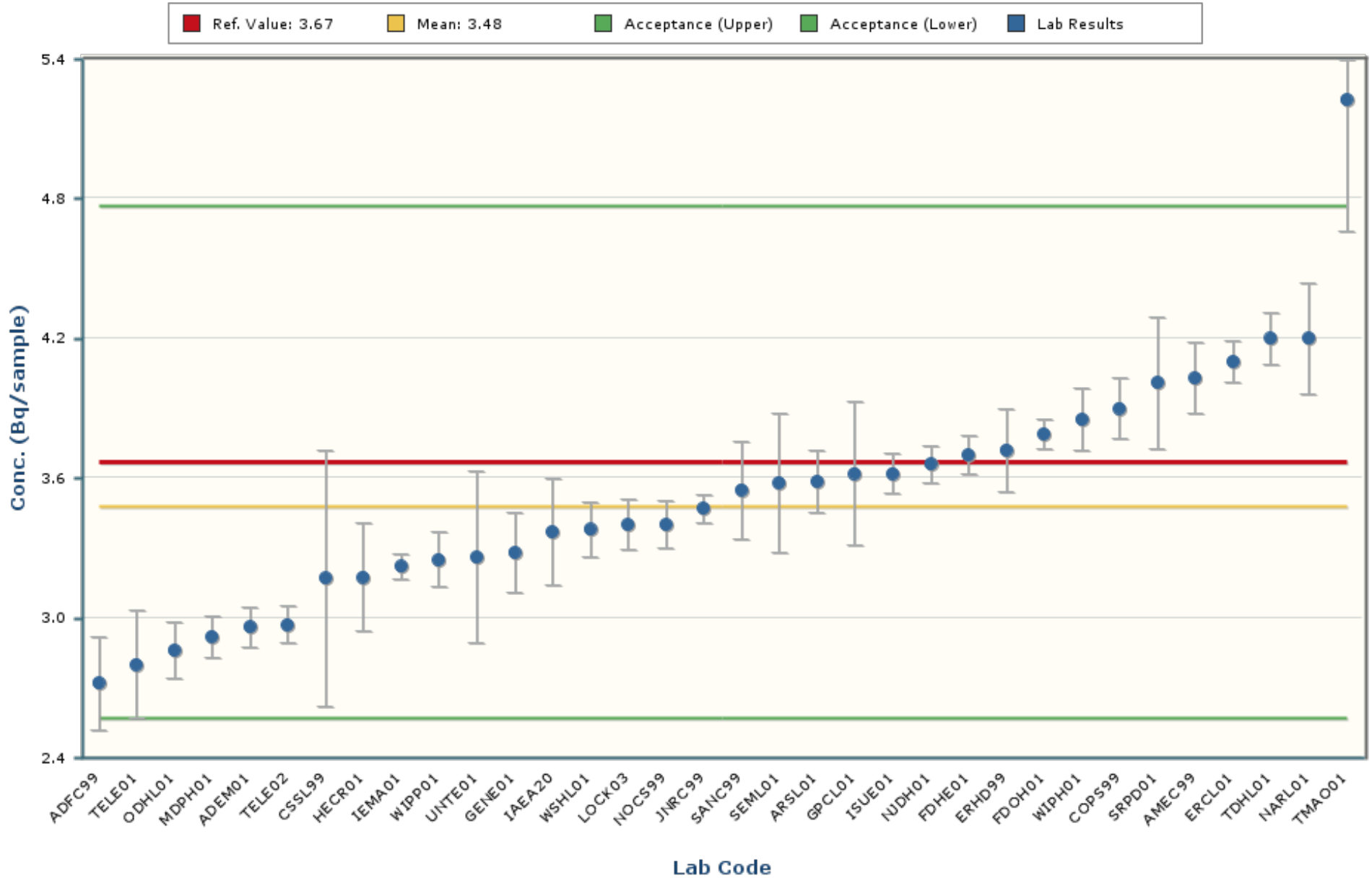
- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% ≤ RP ≤ 15%
 - ACCEPTABLE WITH WARNING.....15% < RP ≤ 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (11) = False Positive Test, Result Not Reported
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations

Cesium-134

MAPEP-24-RdV50



Notes:

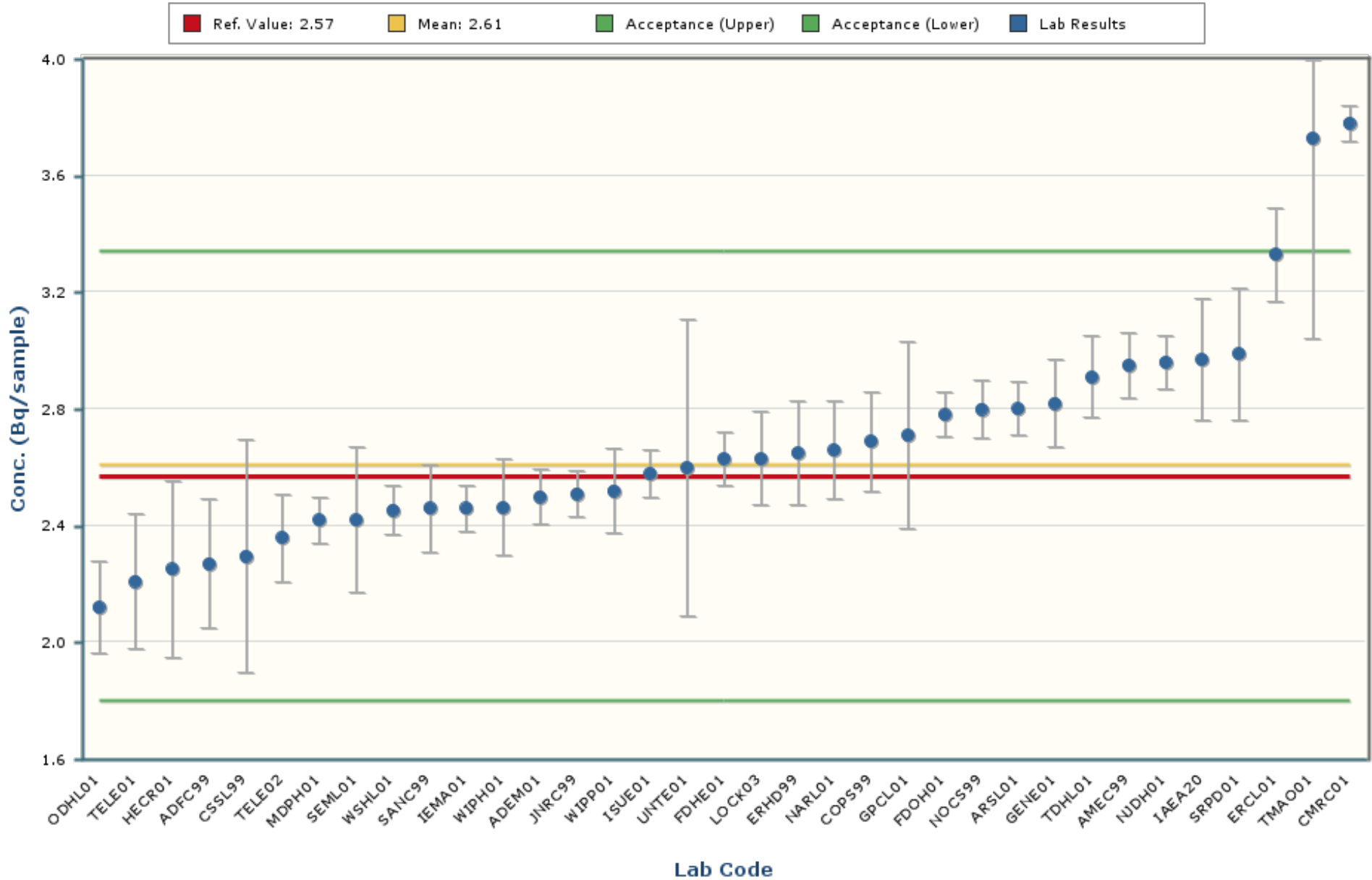
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.44 and 5.51 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Cesium-137

MAPEP-24-RdV50



Notes:

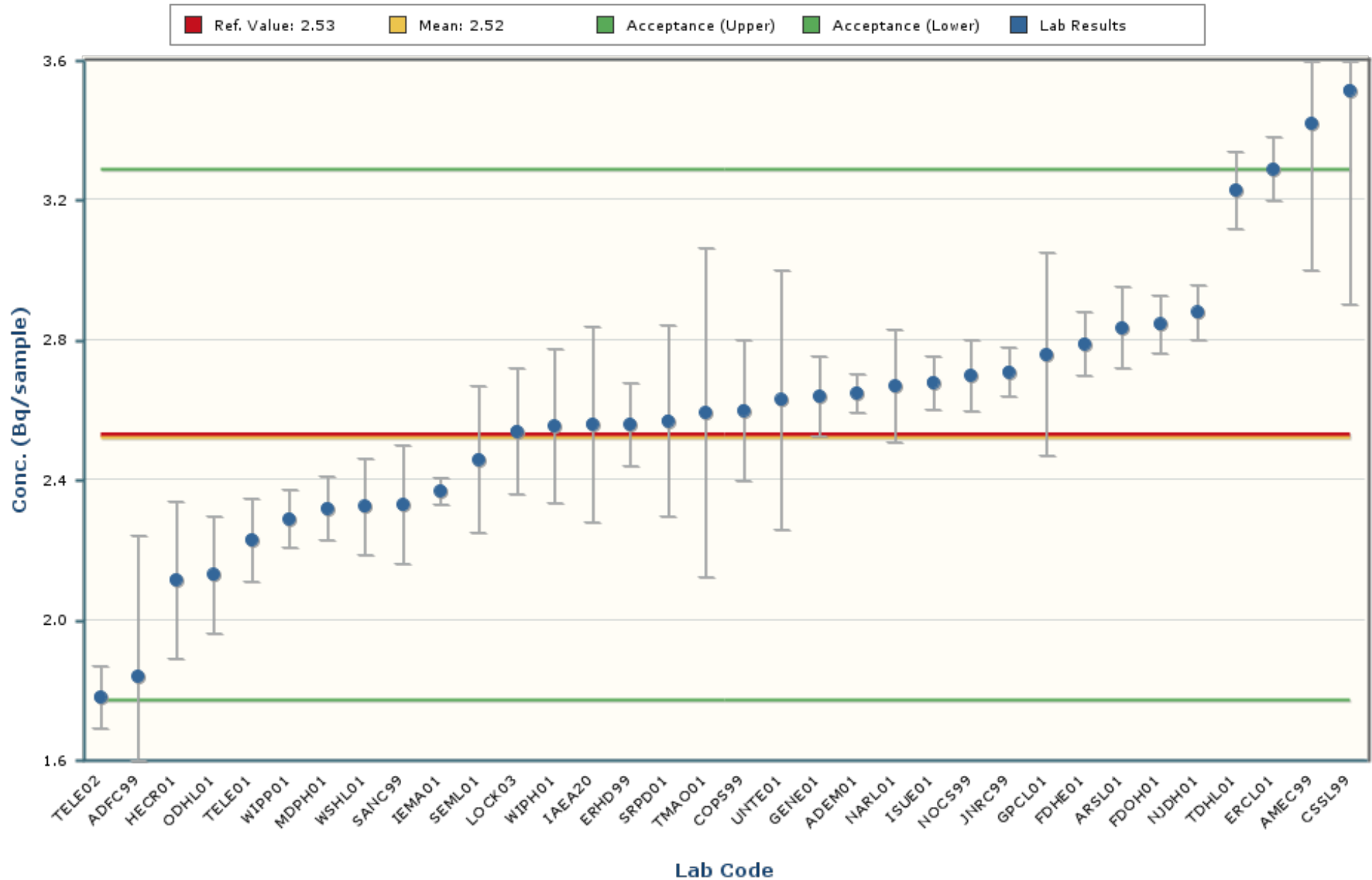
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.27 and 3.95 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Cobalt-57

MAPEP-24-RdV50



Notes:

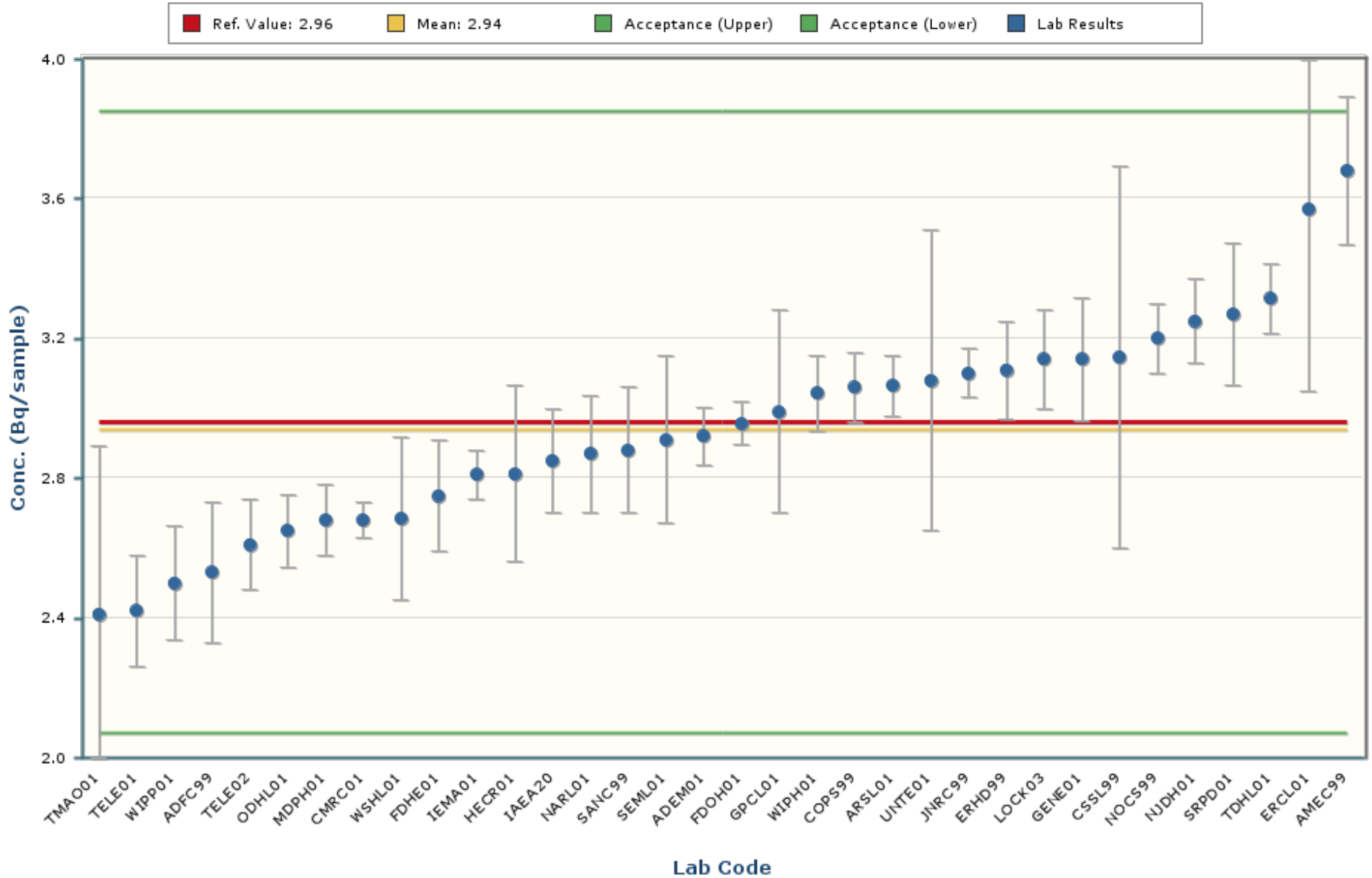
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.01 and 4.04 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at ± 1 standard deviation.

Cobalt-60

MAPEP-24-RdV50



Notes:

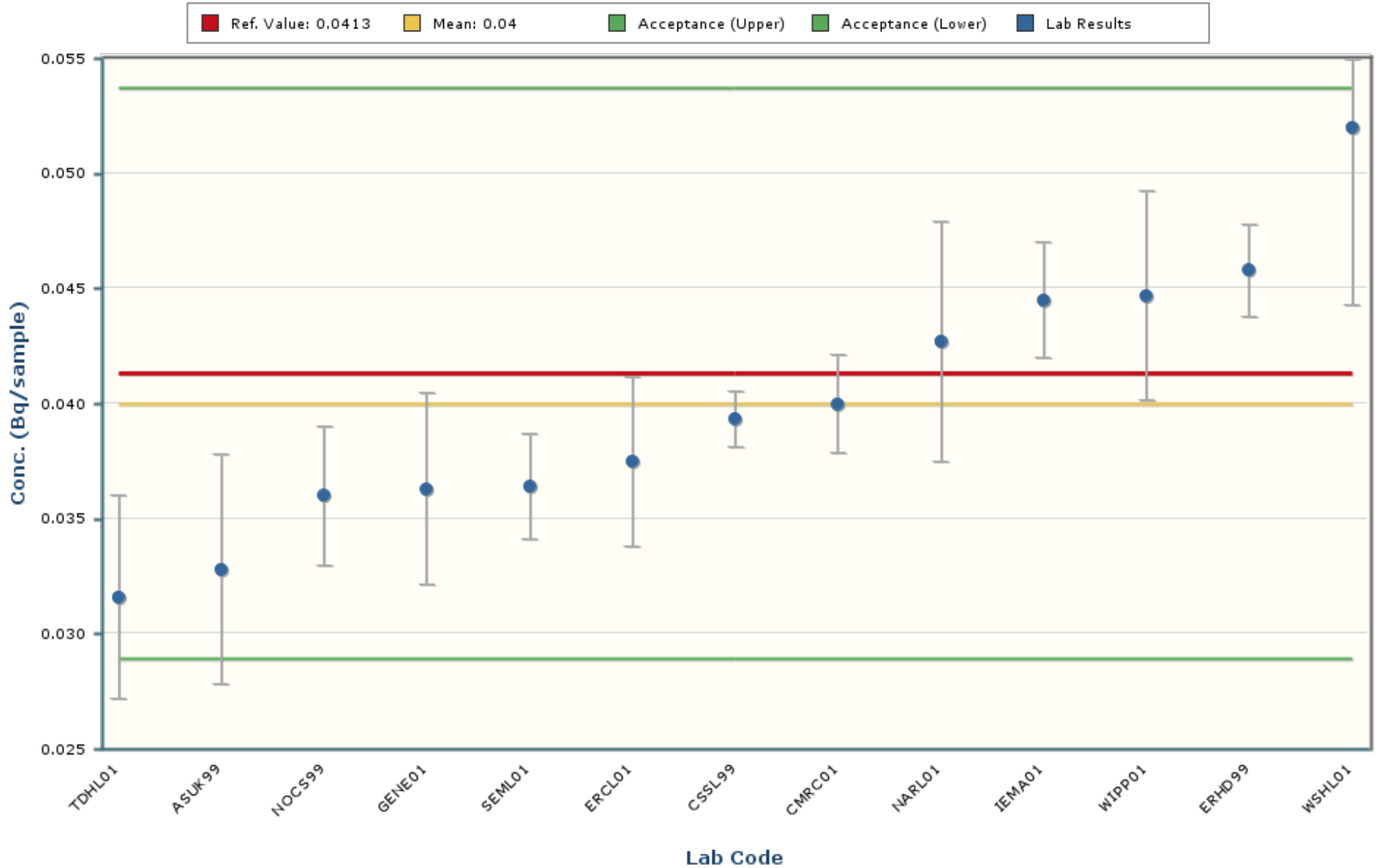
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.44 and 4.45 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at ± 1 standard deviation.

Plutonium-238

MAPEP-24-RdV50



Notes:

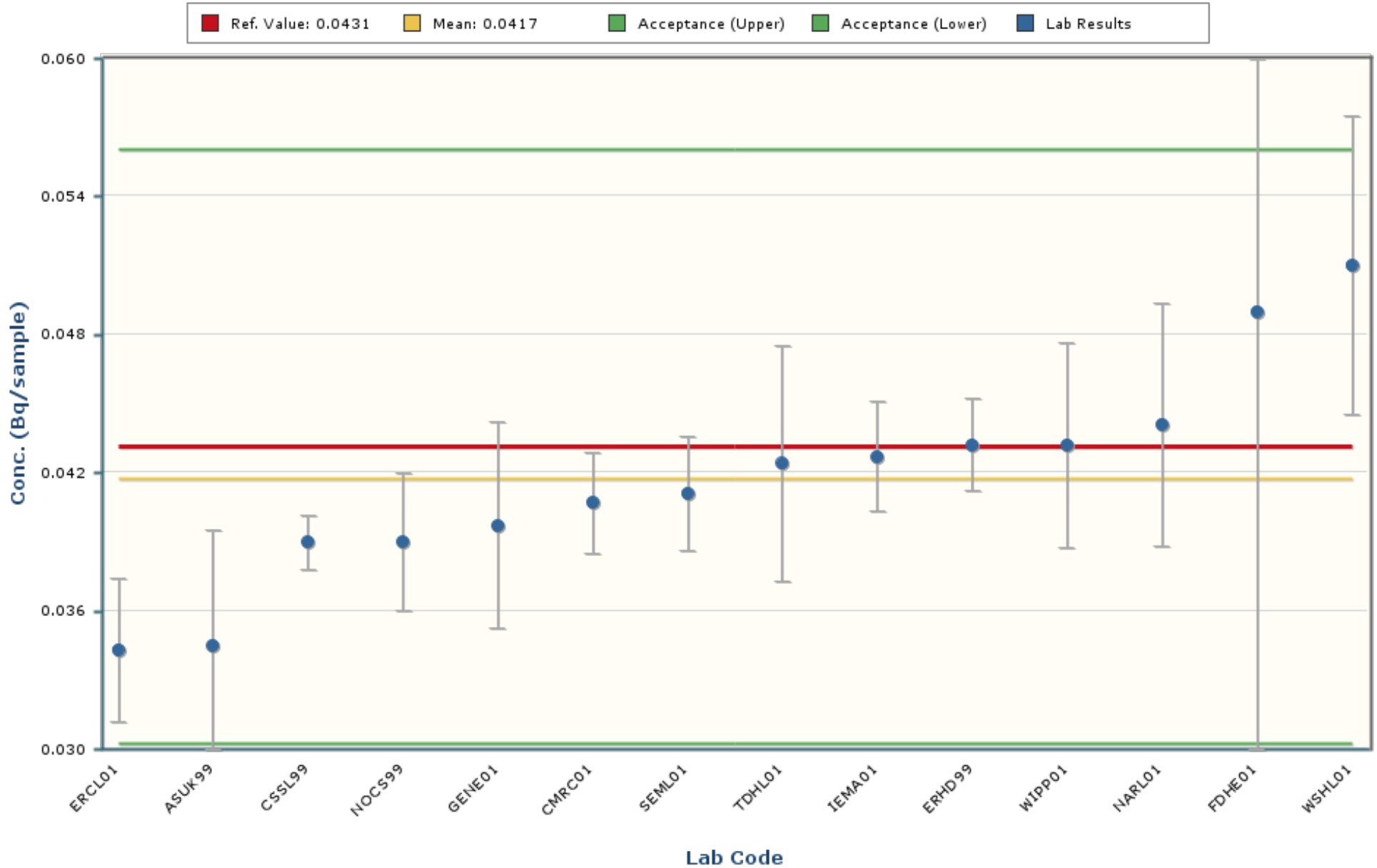
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0111 and 0.0688 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Plutonium-239/240

MAPEP-24-RdV50



Notes:

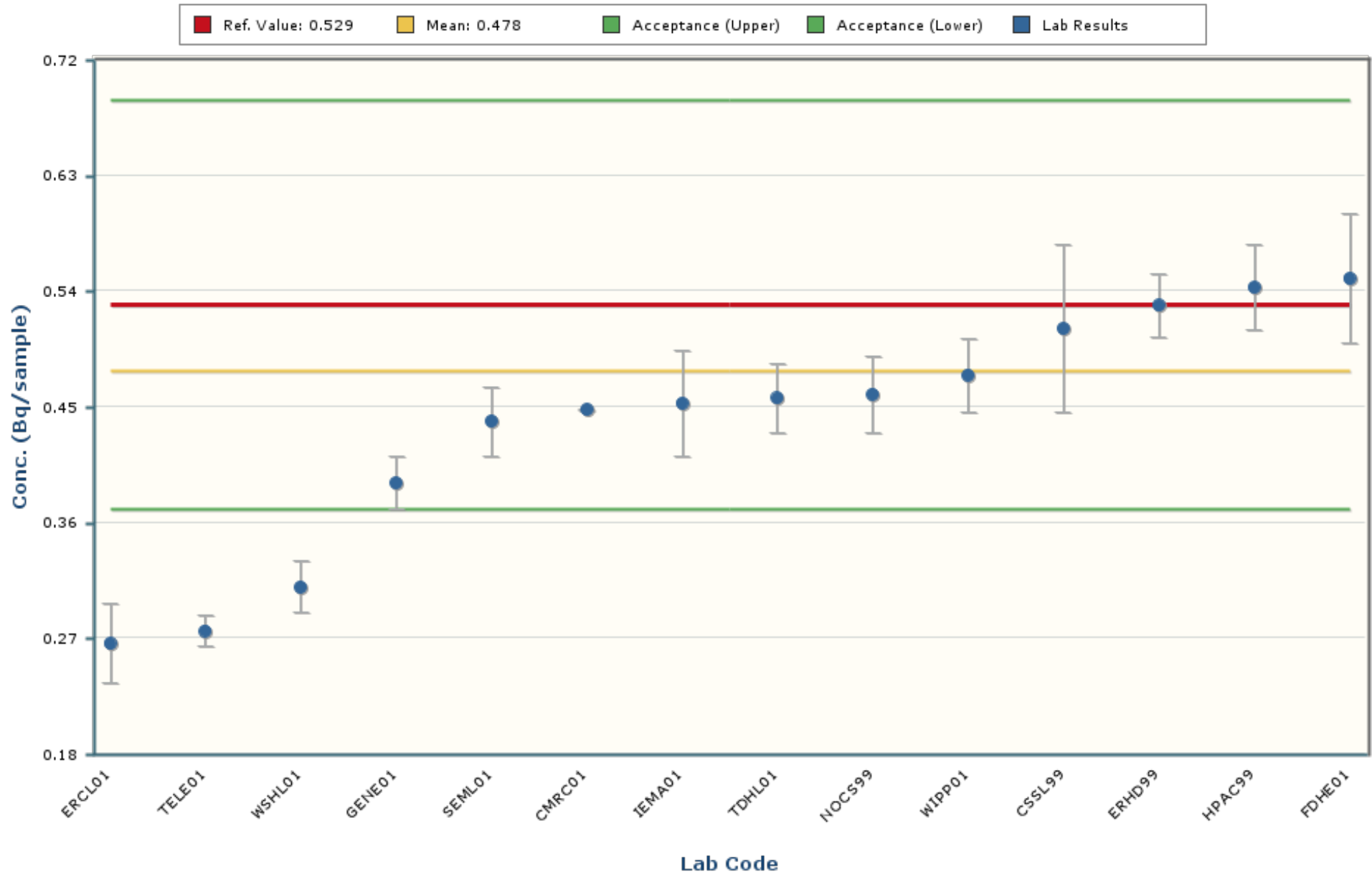
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0186 and 0.0648 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Strontium-90

MAPEP-24-RdV50



Notes:

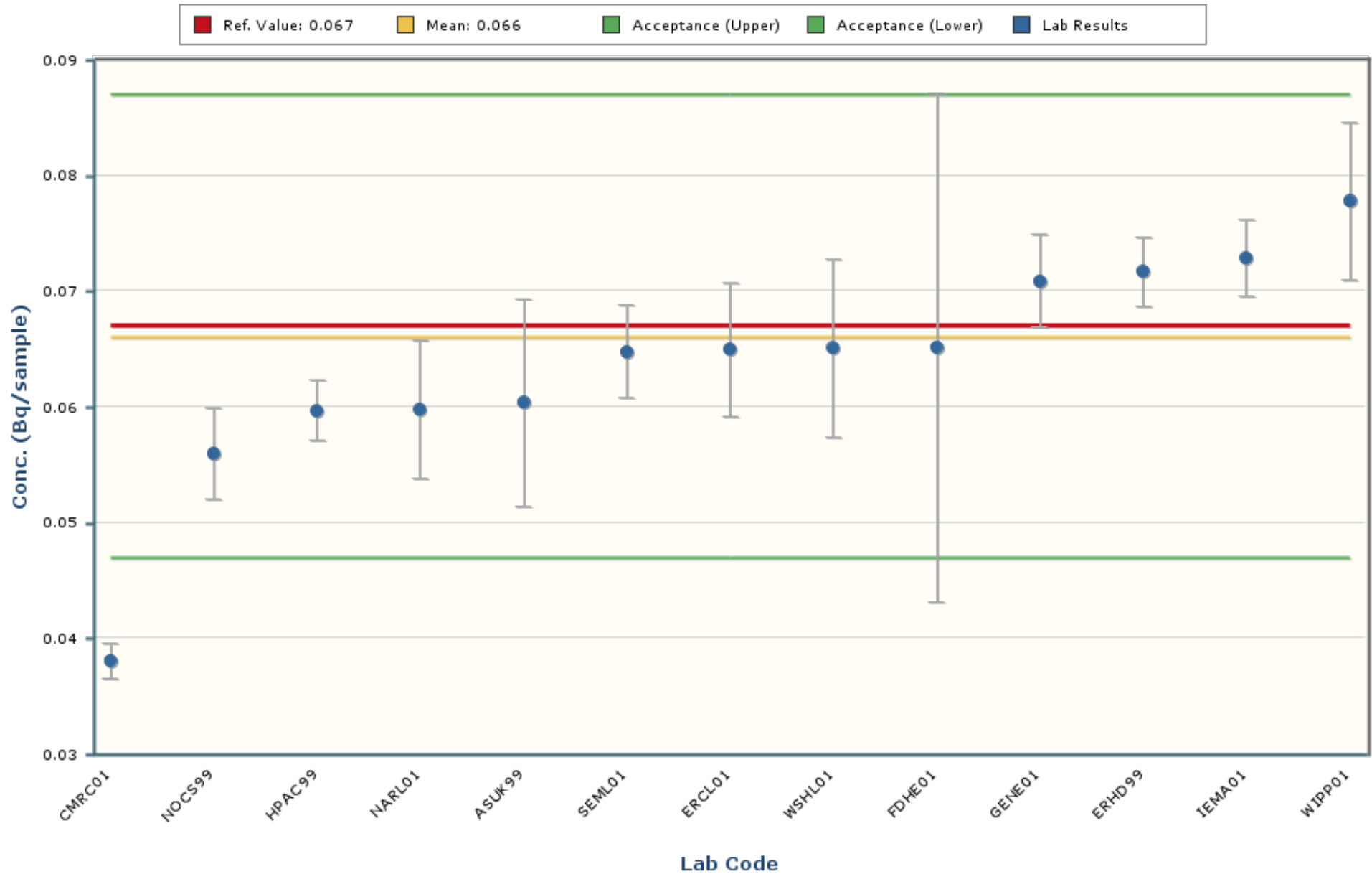
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.230 and 0.725 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at ± 1 standard deviation.

Uranium-234

MAPEP-24-RdV50



Notes:

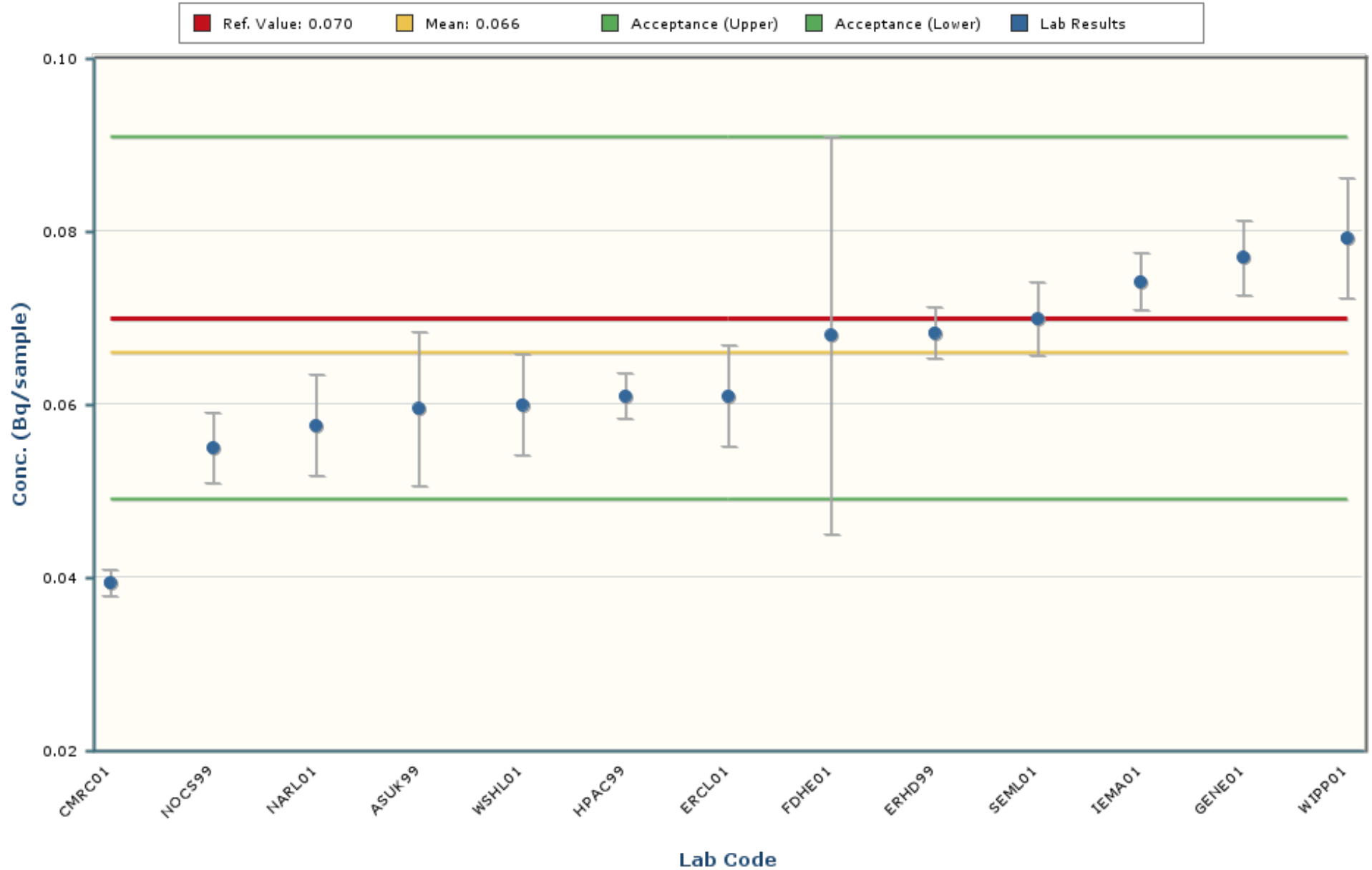
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.034 and 0.098 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Uranium-238

MAPEP-24-RdV50



Notes:

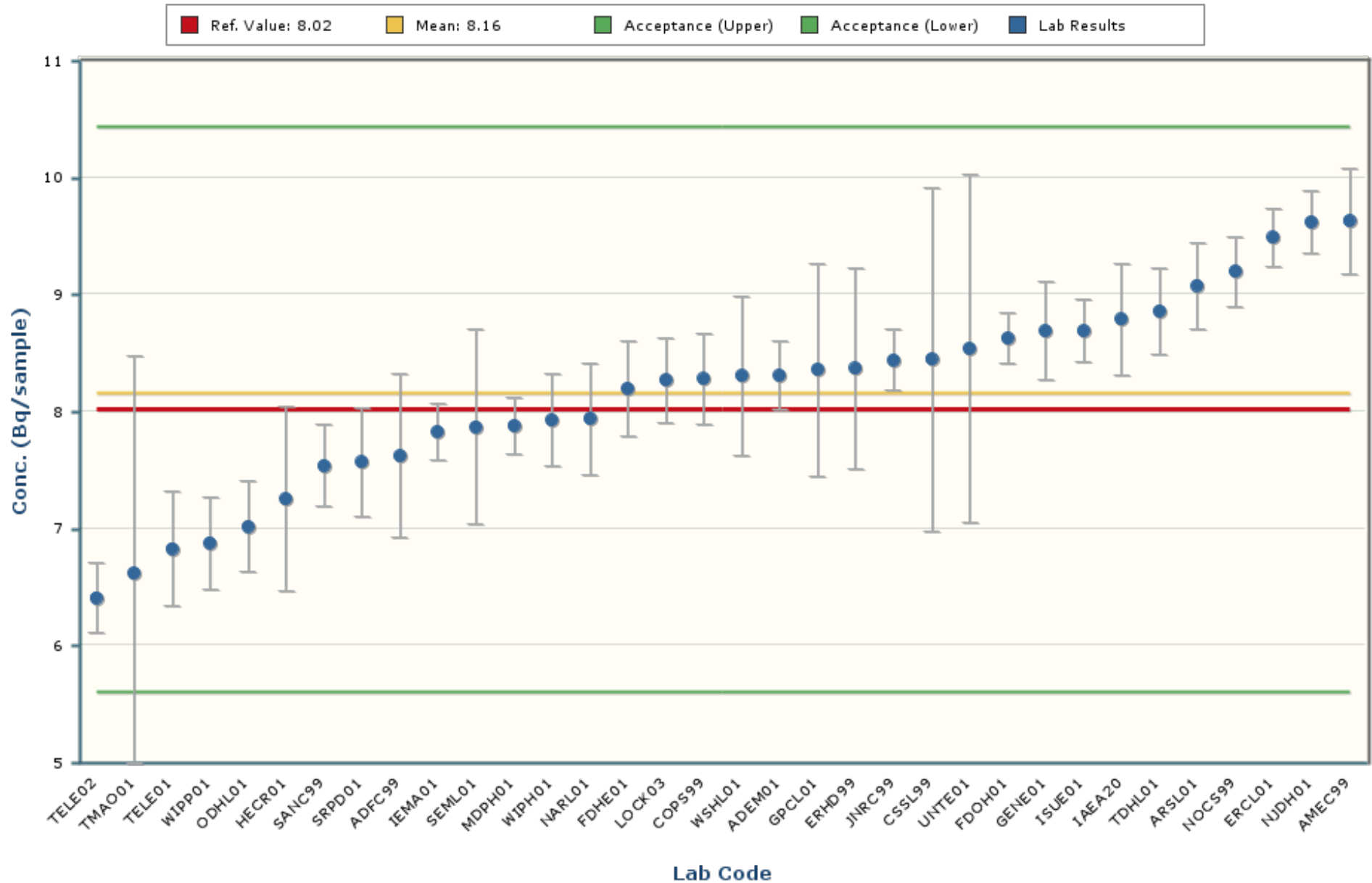
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.026 and 0.106 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

Zinc-65

MAPEP-24-RdV50



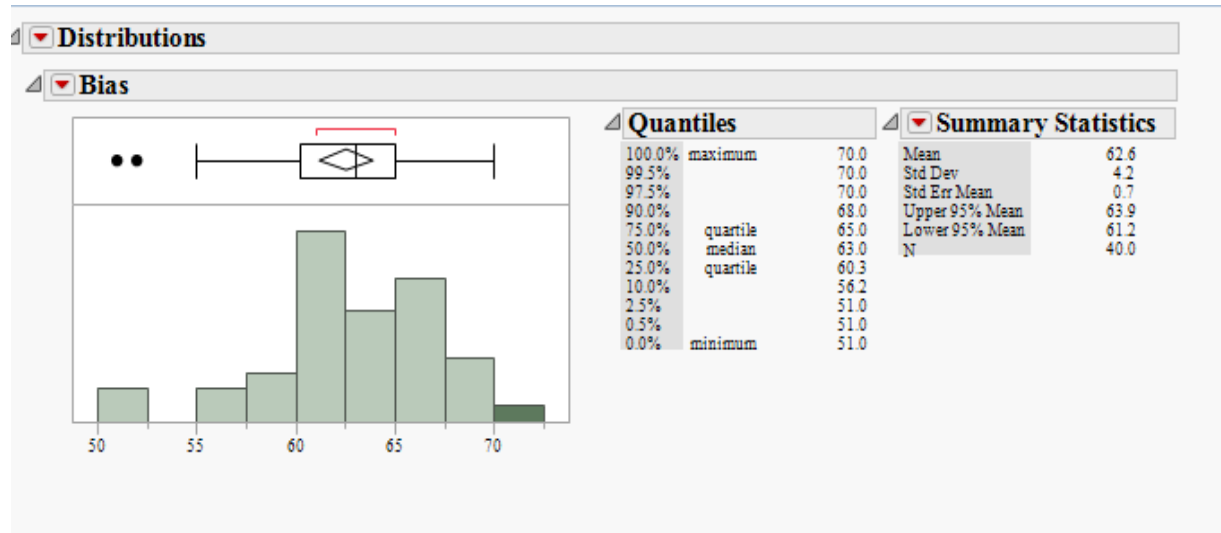
Notes:

The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 4.03 and 12.29 (± 5 Standard Deviations).

The error bars encompassing each result are plotted at \pm one standard deviation.

The intent of the distribution graphs contained within this report is to graphically demonstrate to users how % Bias data within the current MAPEP Series appears when examined by matrix, by analyte, by method of sample preparation or by method of detection. Biases greater than +/- 100% have been screened from the data. The box plot of the bias data points and the mean visually illustrate the breadth of the distribution and where potential outliers in the distribution might lie. The statistics for the distribution plot are provided adjacent to the Bias plot. In some cases, N becomes very small and thus developed statistics may not accurately reflect estimates of the population if N were a significantly larger value.

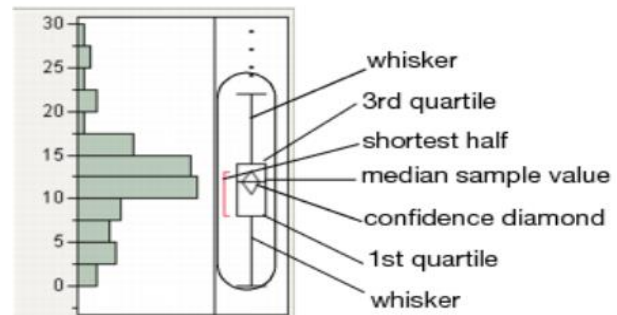


Outlier Box Plot

The BLACK small vertical line inside the small rectangle at the top of the data distribution graph is the median of the population of the bias shown for that analyte in the matrix. The confidence diamond contains the mean and the upper and lower 95% of the mean. If you drew a line through the middle of the diamond, you would have the mean. The top and bottom points of the diamond represent the upper and lower 95% of the mean. The ends of the box represent the 25th and 75th quantiles, also expressed as 1st and 3rd quartile. The difference between the 1st and 3rd quartiles is called the interquartile range. Each box has lines that extend from each end, sometimes called whiskers. The whiskers extend from the ends of the box to the outermost data point that falls within the distances computed as follows:

3rd quartile + 1.5*(interquartile range)

1st quartile - 1.5*(interquartile range)

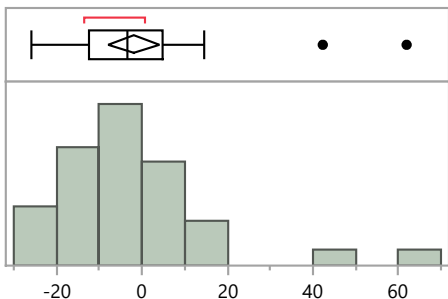


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

RdV50 Distribution by Detection Method

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias



Quantiles

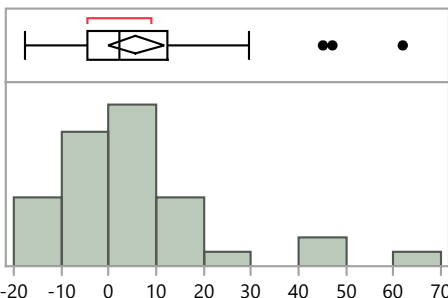
100.0%	maximum	61.9
99.5%		61.9
97.5%		61.9
90.0%		14.4
75.0%	quartile	4.9
50.0%	median	-3.3
25.0%	quartile	-12.3
10.0%		-21.1
2.5%		-25.9
0.5%		-25.9
0.0%	minimum	-25.9

Summary Statistics

Mean	-2.0
Std Dev	17.4
Std Err Mean	2.9
Upper 95% Mean	4.0
Lower 95% Mean	-8.0
N	35.0

Distributions Analyte_Detection=Cesium-137 Gamma Spectrometry

Bias



Quantiles

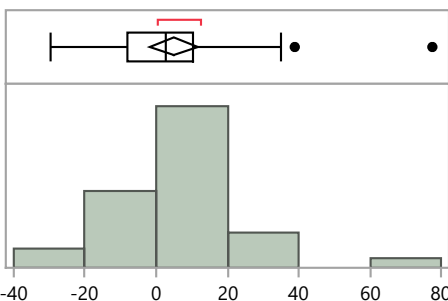
100.0%	maximum	61.9
99.5%		61.9
97.5%		61.9
90.0%		34.3
75.0%	quartile	12.3
50.0%	median	2.3
25.0%	quartile	-4.5
10.0%		-11.9
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

Summary Statistics

Mean	5.8
Std Dev	17.3
Std Err Mean	2.9
Upper 95% Mean	11.6
Lower 95% Mean	-0.1
N	36.0

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	77.5
99.5%		77.5
97.5%		77.5
90.0%		32.1
75.0%	quartile	10.3
50.0%	median	2.8
25.0%	quartile	-7.9
10.0%		-16.0
2.5%		-29.6
0.5%		-29.6
0.0%	minimum	-29.6

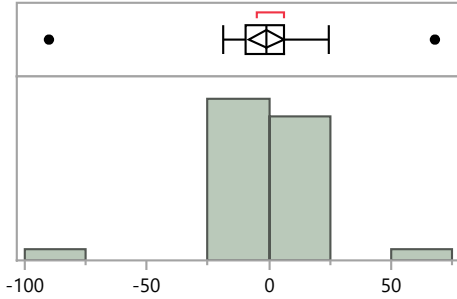
Summary Statistics

Mean	4.9
Std Dev	19.6
Std Err Mean	3.3
Upper 95% Mean	11.7
Lower 95% Mean	-1.8
N	35.0

RdV50 Distribution by Detection Method

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

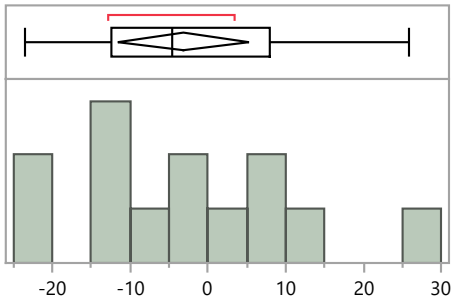
100.0%	maximum	67.9
99.5%		67.9
97.5%		67.9
90.0%		14.6
75.0%	quartile	6.1
50.0%	median	-0.8
25.0%	quartile	-9.5
10.0%		-16.3
2.5%		-90.0
0.5%		-90.0
0.0%	minimum	-90.0

Summary Statistics

Mean	-1.1
Std Dev	21.4
Std Err Mean	3.6
Upper 95% Mean	6.1
Lower 95% Mean	-8.4
N	36.0

Distributions Analyte_Detection=Plutonium-238 Alpha Spectrometry

Bias



Quantiles

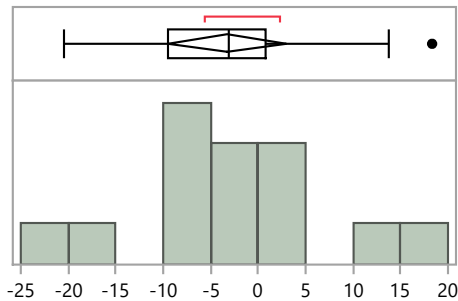
100.0%	maximum	25.9
99.5%		25.9
97.5%		25.9
90.0%		19.9
75.0%	quartile	8.0
50.0%	median	-4.7
25.0%	quartile	-12.5
10.0%		-22.3
2.5%		-23.5
0.5%		-23.5
0.0%	minimum	-23.5

Summary Statistics

Mean	-3.2
Std Dev	14.0
Std Err Mean	3.9
Upper 95% Mean	5.2
Lower 95% Mean	-11.7
N	13.0

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	18.3
99.5%		18.3
97.5%		18.3
90.0%		16.0
75.0%	quartile	0.7
50.0%	median	-3.1
25.0%	quartile	-9.5
10.0%		-20.2
2.5%		-20.4
0.5%		-20.4
0.0%	minimum	-20.4

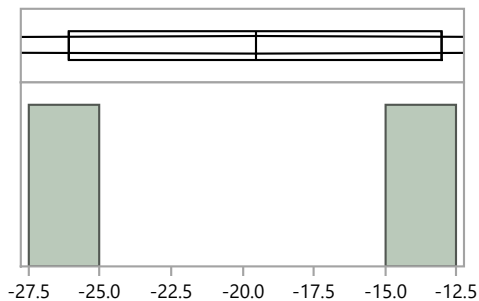
Summary Statistics

Mean	-3.2
Std Dev	10.7
Std Err Mean	2.9
Upper 95% Mean	3.0
Lower 95% Mean	-9.4
N	14.0

RdV50 Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Alpha Spectrometry

Bias



Quantiles

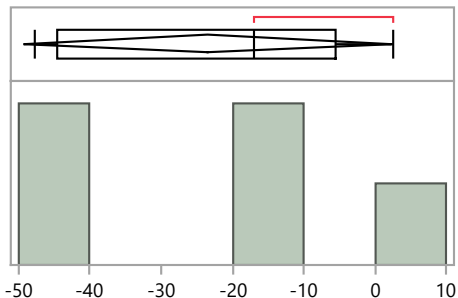
100.0%	maximum	-13.0
99.5%		-13.0
97.5%		-13.0
90.0%		-13.0
75.0%	quartile	-13.0
50.0%	median	-19.6
25.0%	quartile	-26.1
10.0%		-26.1
2.5%		-26.1
0.5%		-26.1
0.0%	minimum	-26.1

Summary Statistics

Mean	-19.6
Std Dev	9.3
Std Err Mean	6.6
Upper 95% Mean	63.7
Lower 95% Mean	-102.8
N	2.0

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias



Quantiles

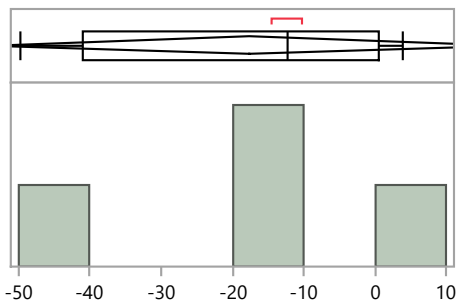
100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	-5.5
50.0%	median	-17.0
25.0%	quartile	-44.6
10.0%		-47.8
2.5%		-47.8
0.5%		-47.8
0.0%	minimum	-47.8

Summary Statistics

Mean	-23.4
Std Dev	20.8
Std Err Mean	9.3
Upper 95% Mean	2.4
Lower 95% Mean	-49.3
N	5.0

Distributions Analyte_Detection=Strontium-90 Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Quantiles

100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	0.5
50.0%	median	-12.3
25.0%	quartile	-40.9
10.0%		-49.7
2.5%		-49.7
0.5%		-49.7
0.0%	minimum	-49.7

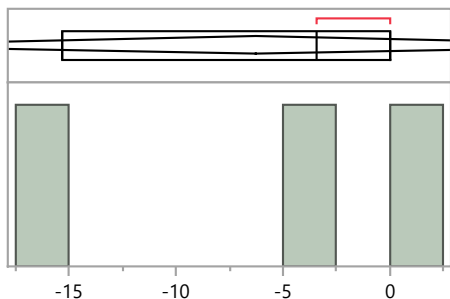
Summary Statistics

Mean	-17.6
Std Dev	22.8
Std Err Mean	11.4
Upper 95% Mean	18.7
Lower 95% Mean	-53.9
N	4.0

RdV50 Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias



Quantiles

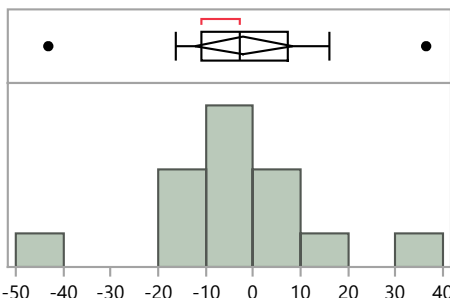
100.0%	maximum	0.0
99.5%		0.0
97.5%		0.0
90.0%		0.0
75.0%	quartile	0.0
50.0%	median	-3.4
25.0%	quartile	-15.3
10.0%		-15.3
2.5%		-15.3
0.5%		-15.3
0.0%	minimum	-15.3

Summary Statistics

Mean	-6.2
Std Dev	8.0
Std Err Mean	4.6
Upper 95% Mean	13.7
Lower 95% Mean	-26.2
N	3.0

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

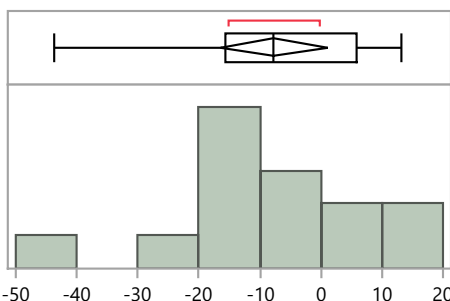
100.0%	maximum	36.4
99.5%		36.4
97.5%		36.4
90.0%		26.3
75.0%	quartile	7.5
50.0%	median	-2.9
25.0%	quartile	-10.8
10.0%		-29.8
2.5%		-43.1
0.5%		-43.1
0.0%	minimum	-43.1

Summary Statistics

Mean	-2.0
Std Dev	17.9
Std Err Mean	4.8
Upper 95% Mean	8.3
Lower 95% Mean	-12.4
N	14.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	13.1
99.5%		13.1
97.5%		13.1
90.0%		11.6
75.0%	quartile	5.9
50.0%	median	-7.9
25.0%	quartile	-15.7
10.0%		-32.6
2.5%		-43.7
0.5%		-43.7
0.0%	minimum	-43.7

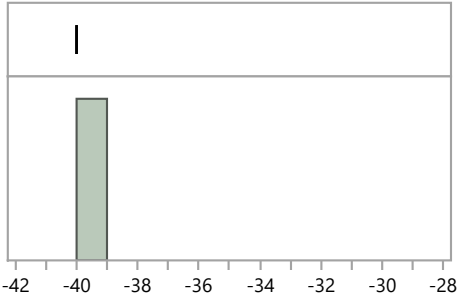
Summary Statistics

Mean	-7.7
Std Dev	15.1
Std Err Mean	4.0
Upper 95% Mean	1.0
Lower 95% Mean	-16.5
N	14.0

RdV50 Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

Bias



Quantiles

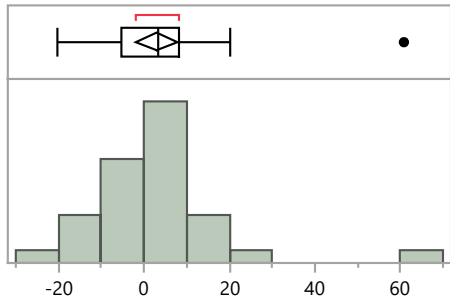
100.0%	maximum	-40.0
99.5%		-40.0
97.5%		-40.0
90.0%		-40.0
75.0%	quartile	-40.0
50.0%	median	-40.0
25.0%	quartile	-40.0
10.0%		-40.0
2.5%		-40.0
0.5%		-40.0
0.0%	minimum	-40.0

Summary Statistics

Mean	-40.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

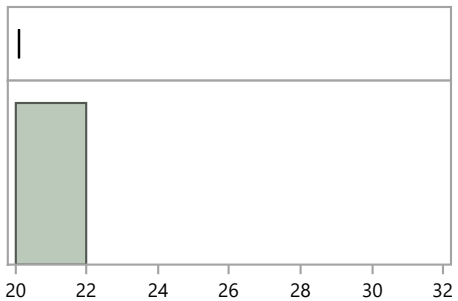
100.0%	maximum	60.8
99.5%		60.8
97.5%		60.8
90.0%		16.5
75.0%	quartile	8.4
50.0%	median	3.4
25.0%	quartile	-5.2
10.0%		-14.5
2.5%		-20.1
0.5%		-20.1
0.0%	minimum	-20.1

Summary Statistics

Mean	2.9
Std Dev	14.1
Std Err Mean	2.4
Upper 95% Mean	7.9
Lower 95% Mean	-2.0
N	34.0

Distributions Analyte_Detection=Zinc-65 Liquid Scintillation Counter

Bias



Quantiles

100.0%	maximum	20.1
99.5%		20.1
97.5%		20.1
90.0%		20.1
75.0%	quartile	20.1
50.0%	median	20.1
25.0%	quartile	20.1
10.0%		20.1
2.5%		20.1
0.5%		20.1
0.0%	minimum	20.1

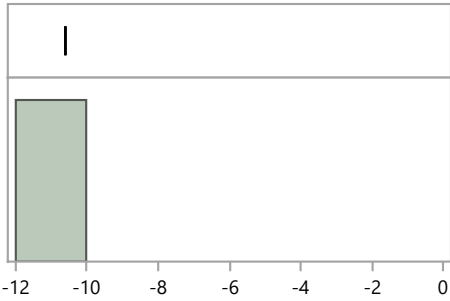
Summary Statistics

Mean	20.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 Acid dissolution with hydrofluoric acid

Bias



Quantiles

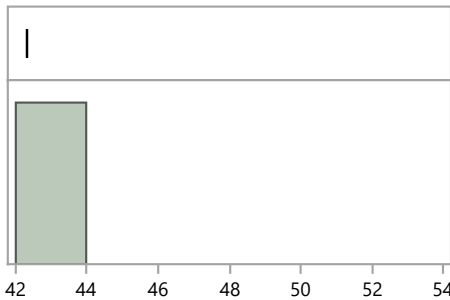
100.0%	maximum	-10.6
99.5%		-10.6
97.5%		-10.6
90.0%		-10.6
75.0%	quartile	-10.6
50.0%	median	-10.6
25.0%	quartile	-10.6
10.0%		-10.6
2.5%		-10.6
0.5%		-10.6
0.0%	minimum	-10.6

Summary Statistics

Mean	-10.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cesium-134 EPA 901, Radioactive Cesium, 600/4-80-032

Bias



Quantiles

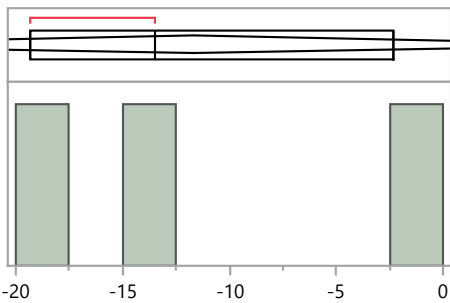
100.0%	maximum	42.3
99.5%		42.3
97.5%		42.3
90.0%		42.3
75.0%	quartile	42.3
50.0%	median	42.3
25.0%	quartile	42.3
10.0%		42.3
2.5%		42.3
0.5%		42.3
0.0%	minimum	42.3

Summary Statistics

Mean	42.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cesium-134 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



Quantiles

100.0%	maximum	-2.3
99.5%		-2.3
97.5%		-2.3
90.0%		-2.3
75.0%	quartile	-2.3
50.0%	median	-13.5
25.0%	quartile	-19.3
10.0%		-19.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

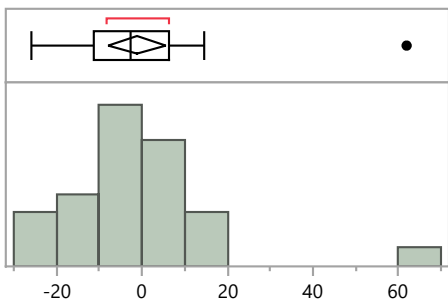
Summary Statistics

Mean	-11.7
Std Dev	8.6
Std Err Mean	5.0
Upper 95% Mean	9.8
Lower 95% Mean	-33.2
N	3.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 No preparation - analyzed as received

Bias



Quantiles

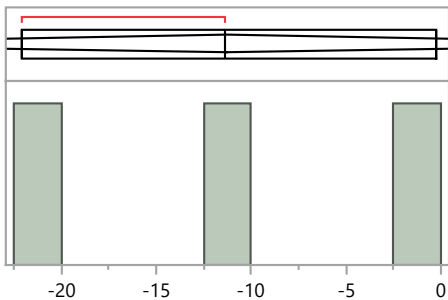
100.0%	maximum	61.9
99.5%		61.9
97.5%		61.9
90.0%		14.4
75.0%	quartile	6.3
50.0%	median	-2.5
25.0%	quartile	-11.2
10.0%		-21.1
2.5%		-25.9
0.5%		-25.9
0.0%	minimum	-25.9

Summary Statistics

Mean	-1.2
Std Dev	16.8
Std Err Mean	3.2
Upper 95% Mean	5.4
Lower 95% Mean	-7.9
N	27.0

Distributions Analyte_Method=Cesium-134 Other

Bias



Quantiles

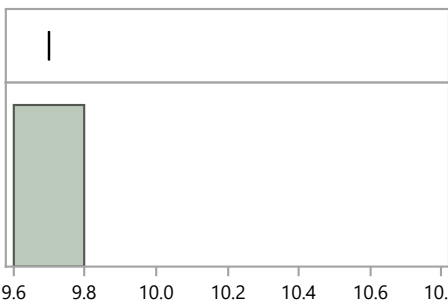
100.0%	maximum	-0.3
99.5%		-0.3
97.5%		-0.3
90.0%		-0.3
75.0%	quartile	-0.3
50.0%	median	-11.4
25.0%	quartile	-22.1
10.0%		-22.1
2.5%		-22.1
0.5%		-22.1
0.0%	minimum	-22.1

Summary Statistics

Mean	-11.3
Std Dev	10.9
Std Err Mean	6.3
Upper 95% Mean	15.8
Lower 95% Mean	-38.3
N	3.0

Distributions Analyte_Method=Cesium-137 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	9.7
99.5%		9.7
97.5%		9.7
90.0%		9.7
75.0%	quartile	9.7
50.0%	median	9.7
25.0%	quartile	9.7
10.0%		9.7
2.5%		9.7
0.5%		9.7
0.0%	minimum	9.7

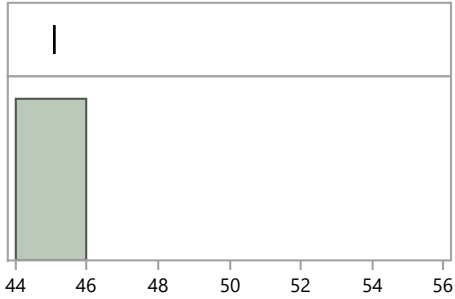
Summary Statistics

Mean	9.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-137 EPA 901, Radioactive Cesium, 600/4-80-032

Bias



Quantiles

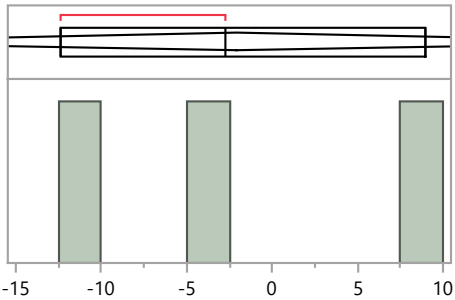
100.0%	maximum	45.1
99.5%		45.1
97.5%		45.1
90.0%		45.1
75.0%	quartile	45.1
50.0%	median	45.1
25.0%	quartile	45.1
10.0%		45.1
2.5%		45.1
0.5%		45.1
0.0%	minimum	45.1

Summary Statistics

Mean	45.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cesium-137 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



Quantiles

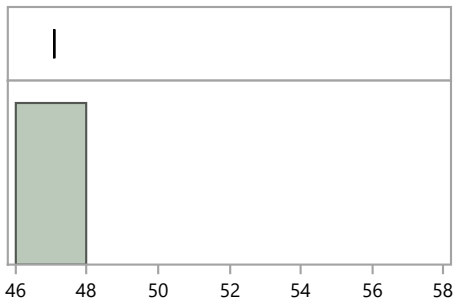
100.0%	maximum	9.0
99.5%		9.0
97.5%		9.0
90.0%		9.0
75.0%	quartile	9.0
50.0%	median	-2.7
25.0%	quartile	-12.4
10.0%		-12.4
2.5%		-12.4
0.5%		-12.4
0.0%	minimum	-12.4

Summary Statistics

Mean	-2.0
Std Dev	10.7
Std Err Mean	6.2
Upper 95% Mean	24.6
Lower 95% Mean	-28.7
N	3.0

Distributions Analyte_Method=Cesium-137 Evaporation, acidified

Bias



Quantiles

100.0%	maximum	47.1
99.5%		47.1
97.5%		47.1
90.0%		47.1
75.0%	quartile	47.1
50.0%	median	47.1
25.0%	quartile	47.1
10.0%		47.1
2.5%		47.1
0.5%		47.1
0.0%	minimum	47.1

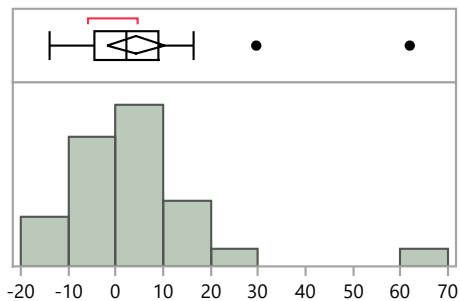
Summary Statistics

Mean	47.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-137 No preparation - analyzed as received

Bias



Quantiles

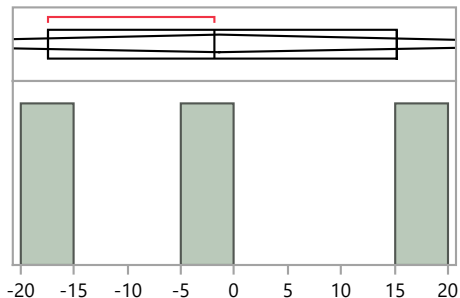
100.0%	maximum	61.9
99.5%		61.9
97.5%		61.9
90.0%		19.0
75.0%	quartile	8.9
50.0%	median	2.3
25.0%	quartile	-4.5
10.0%		-10.9
2.5%		-14.0
0.5%		-14.0
0.0%	minimum	-14.0

Summary Statistics

Mean	4.3
Std Dev	15.2
Std Err Mean	2.9
Upper 95% Mean	10.3
Lower 95% Mean	-1.7
N	27.0

Distributions Analyte_Method=Cesium-137 Other

Bias



Quantiles

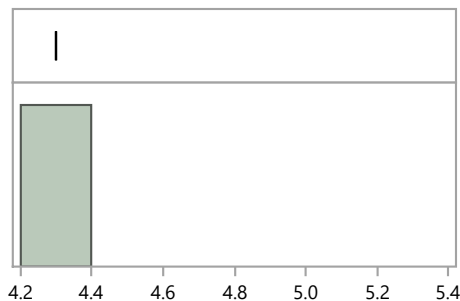
100.0%	maximum	15.2
99.5%		15.2
97.5%		15.2
90.0%		15.2
75.0%	quartile	15.2
50.0%	median	-1.9
25.0%	quartile	-17.5
10.0%		-17.5
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

Summary Statistics

Mean	-1.4
Std Dev	16.4
Std Err Mean	9.4
Upper 95% Mean	39.2
Lower 95% Mean	-42.0
N	3.0

Distributions Analyte_Method=Cobalt-57 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	4.3
99.5%		4.3
97.5%		4.3
90.0%		4.3
75.0%	quartile	4.3
50.0%	median	4.3
25.0%	quartile	4.3
10.0%		4.3
2.5%		4.3
0.5%		4.3
0.0%	minimum	4.3

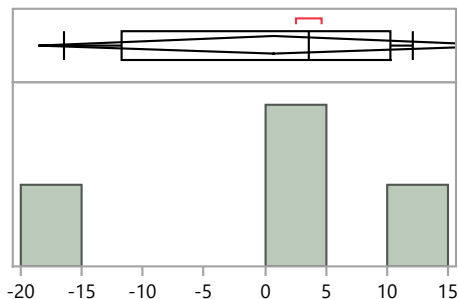
Summary Statistics

Mean	4.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt-57 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



Quantiles

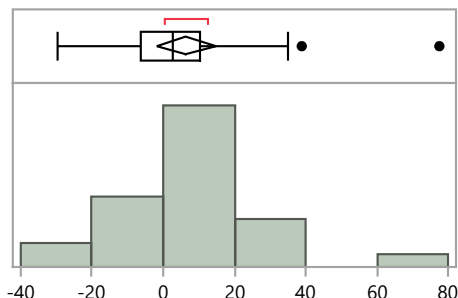
100.0%	maximum	12.1
99.5%		12.1
97.5%		12.1
90.0%		12.1
75.0%	quartile	10.3
50.0%	median	3.6
25.0%	quartile	-11.7
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics

Mean	0.7
Std Dev	12.1
Std Err Mean	6.1
Upper 95% Mean	20.0
Lower 95% Mean	-18.6
N	4.0

Distributions Analyte_Method=Cobalt-57 No preparation - analyzed as received

Bias



Quantiles

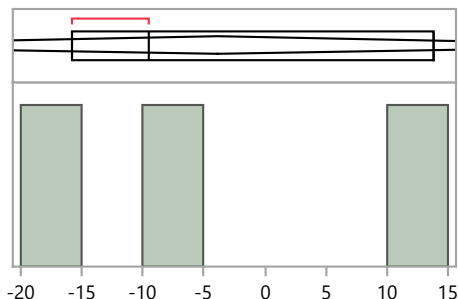
100.0%	maximum	77.5
99.5%		77.5
97.5%		77.5
90.0%		35.9
75.0%	quartile	10.3
50.0%	median	2.8
25.0%	quartile	-6.3
10.0%		-15.0
2.5%		-29.6
0.5%		-29.6
0.0%	minimum	-29.6

Summary Statistics

Mean	6.5
Std Dev	21.3
Std Err Mean	4.1
Upper 95% Mean	15.0
Lower 95% Mean	-1.9
N	27.0

Distributions Analyte_Method=Cobalt-57 Other

Bias



Quantiles

100.0%	maximum	13.8
99.5%		13.8
97.5%		13.8
90.0%		13.8
75.0%	quartile	13.8
50.0%	median	-9.5
25.0%	quartile	-15.8
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

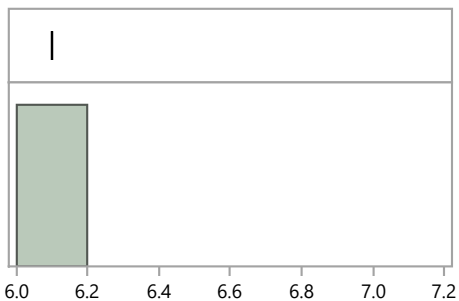
Summary Statistics

Mean	-3.8
Std Dev	15.6
Std Err Mean	9.0
Upper 95% Mean	34.9
Lower 95% Mean	-42.6
N	3.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt-60 Acid dissolution with hydrofluoric acid

Bias



Quantiles

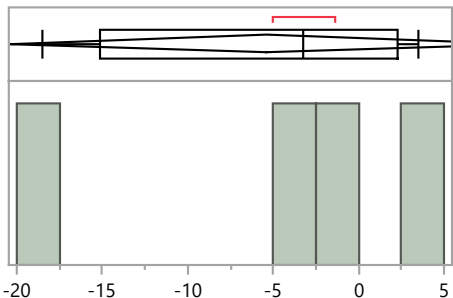
100.0%	maximum	6.1
99.5%		6.1
97.5%		6.1
90.0%		6.1
75.0%	quartile	6.1
50.0%	median	6.1
25.0%	quartile	6.1
10.0%		6.1
2.5%		6.1
0.5%		6.1
0.0%	minimum	6.1

Summary Statistics

Mean	6.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cobalt-60 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



Quantiles

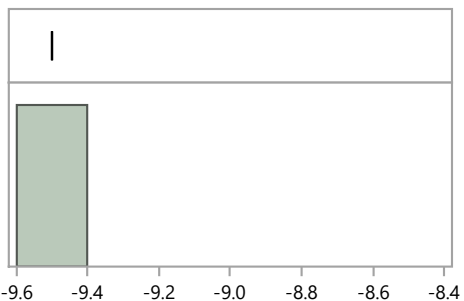
100.0%	maximum	3.5
99.5%		3.5
97.5%		3.5
90.0%		3.5
75.0%	quartile	2.3
50.0%	median	-3.2
25.0%	quartile	-15.1
10.0%		-18.5
2.5%		-18.5
0.5%		-18.5
0.0%	minimum	-18.5

Summary Statistics

Mean	-5.4
Std Dev	9.4
Std Err Mean	4.7
Upper 95% Mean	9.7
Lower 95% Mean	-20.4
N	4.0

Distributions Analyte_Method=Cobalt-60 Evaporation, acidified

Bias



Quantiles

100.0%	maximum	-9.5
99.5%		-9.5
97.5%		-9.5
90.0%		-9.5
75.0%	quartile	-9.5
50.0%	median	-9.5
25.0%	quartile	-9.5
10.0%		-9.5
2.5%		-9.5
0.5%		-9.5
0.0%	minimum	-9.5

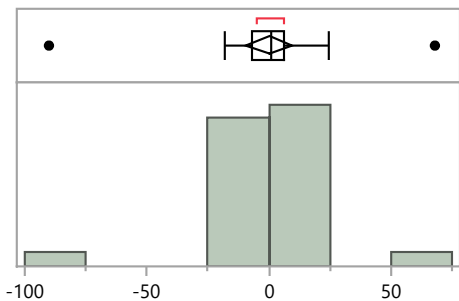
Summary Statistics

Mean	-9.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt-60 No preparation - analyzed as received

Bias

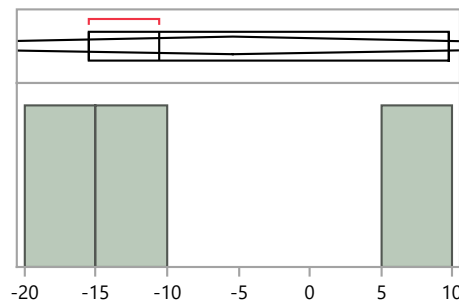


Quantiles		
100.0%	maximum	67.9
99.5%		67.9
97.5%		67.9
90.0%		21.3
75.0%	quartile	6.3
50.0%	median	1.0
25.0%	quartile	-7.1
10.0%		-15.2
2.5%		-90.0
0.5%		-90.0
0.0%	minimum	-90.0

Summary Statistics	
Mean	0.0
Std Dev	24.2
Std Err Mean	4.6
Upper 95% Mean	9.6
Lower 95% Mean	-9.5
N	27.0

Distributions Analyte_Method=Cobalt-60 Other

Bias

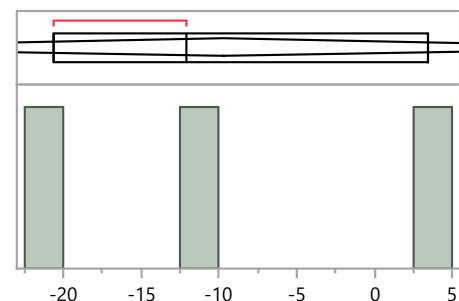


Quantiles		
100.0%	maximum	9.8
99.5%		9.8
97.5%		9.8
90.0%		9.8
75.0%	quartile	9.8
50.0%	median	-10.5
25.0%	quartile	-15.5
10.0%		-15.5
2.5%		-15.5
0.5%		-15.5
0.0%	minimum	-15.5

Summary Statistics	
Mean	-5.4
Std Dev	13.4
Std Err Mean	7.7
Upper 95% Mean	27.9
Lower 95% Mean	-38.7
N	3.0

Distributions Analyte_Method=Plutonium-238 Acid dissolution with hydrofluoric acid

Bias



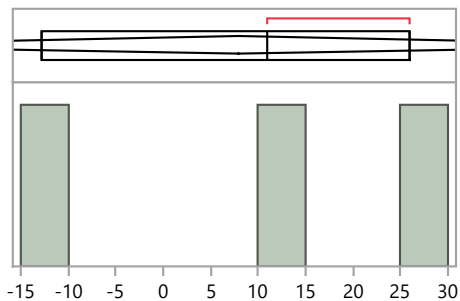
Quantiles		
100.0%	maximum	3.4
99.5%		3.4
97.5%		3.4
90.0%		3.4
75.0%	quartile	3.4
50.0%	median	-12.1
25.0%	quartile	-20.6
10.0%		-20.6
2.5%		-20.6
0.5%		-20.6
0.0%	minimum	-20.6

Summary Statistics	
Mean	-9.8
Std Dev	12.2
Std Err Mean	7.0
Upper 95% Mean	20.5
Lower 95% Mean	-40.0
N	3.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-238 Acid leaching without hydrofluoric acid

Bias



Quantiles

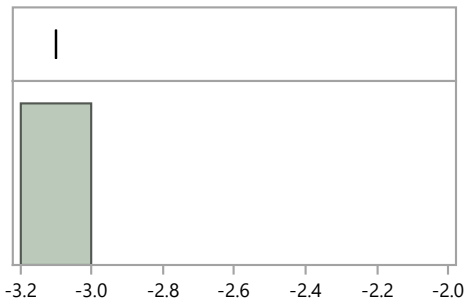
100.0%	maximum	25.9
99.5%		25.9
97.5%		25.9
90.0%		25.9
75.0%	quartile	25.9
50.0%	median	10.9
25.0%	quartile	-12.8
10.0%		-12.8
2.5%		-12.8
0.5%		-12.8
0.0%	minimum	-12.8

Summary Statistics

Mean	8.0
Std Dev	19.5
Std Err Mean	11.3
Upper 95% Mean	56.5
Lower 95% Mean	-40.5
N	3.0

Distributions Analyte_Method=Plutonium-238 Coprecipitation, acidified

Bias



Quantiles

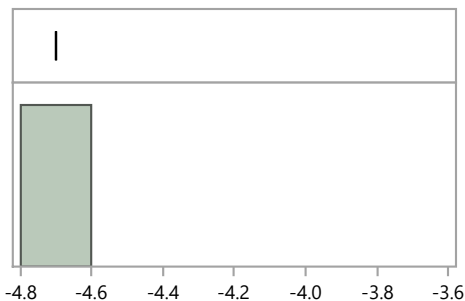
100.0%	maximum	-3.1
99.5%		-3.1
97.5%		-3.1
90.0%		-3.1
75.0%	quartile	-3.1
50.0%	median	-3.1
25.0%	quartile	-3.1
10.0%		-3.1
2.5%		-3.1
0.5%		-3.1
0.0%	minimum	-3.1

Summary Statistics

Mean	-3.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-238 EPA 907, Actinide Elements, 600/4/80-032

Bias



Quantiles

100.0%	maximum	-4.7
99.5%		-4.7
97.5%		-4.7
90.0%		-4.7
75.0%	quartile	-4.7
50.0%	median	-4.7
25.0%	quartile	-4.7
10.0%		-4.7
2.5%		-4.7
0.5%		-4.7
0.0%	minimum	-4.7

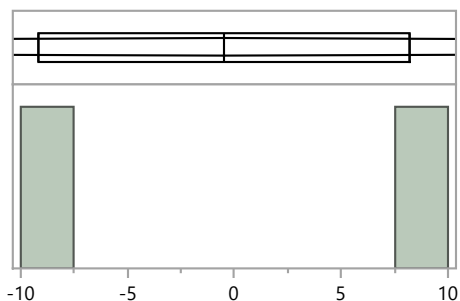
Summary Statistics

Mean	-4.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-238 Other

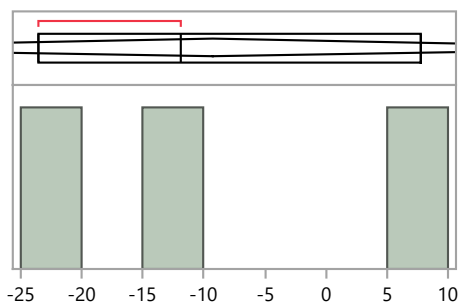
Bias



Quantiles			Summary Statistics	
100.0%	maximum	8.2	Mean	-0.5
99.5%		8.2	Std Dev	12.3
97.5%		8.2	Std Err Mean	8.7
90.0%		8.2	Upper 95% Mean	110.0
75.0%	quartile	8.2	Lower 95% Mean	-111.0
50.0%	median	-0.5	N	2.0
25.0%	quartile	-9.2		
10.0%		-9.2		
2.5%		-9.2		
0.5%		-9.2		
0.0%	minimum	-9.2		

Distributions Analyte_Method=Plutonium-238 Total dissolution by fusion

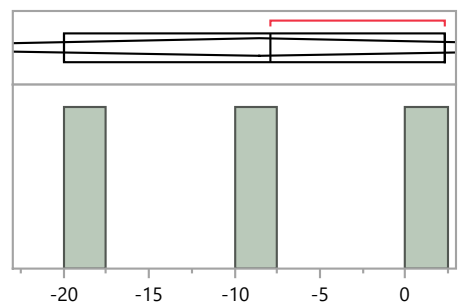
Bias



Quantiles			Summary Statistics	
100.0%	maximum	7.7	Mean	-9.2
99.5%		7.7	Std Dev	15.8
97.5%		7.7	Std Err Mean	9.1
90.0%		7.7	Upper 95% Mean	29.9
75.0%	quartile	7.7	Lower 95% Mean	-48.4
50.0%	median	-11.9	N	3.0
25.0%	quartile	-23.5		
10.0%		-23.5		
2.5%		-23.5		
0.5%		-23.5		
0.0%	minimum	-23.5		

Distributions Analyte_Method=Plutonium-239/240 Acid dissolution with hydrofluoric acid

Bias

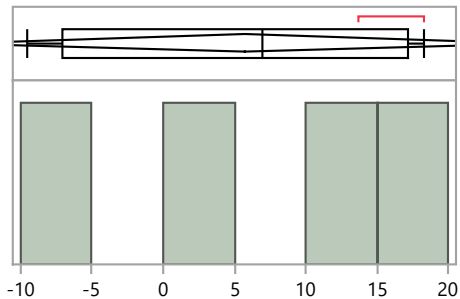


Quantiles			Summary Statistics	
100.0%	maximum	2.3	Mean	-8.5
99.5%		2.3	Std Dev	11.2
97.5%		2.3	Std Err Mean	6.4
90.0%		2.3	Upper 95% Mean	19.2
75.0%	quartile	2.3	Lower 95% Mean	-36.3
50.0%	median	-7.9	N	3.0
25.0%	quartile	-20.0		
10.0%		-20.0		
2.5%		-20.0		
0.5%		-20.0		
0.0%	minimum	-20.0		

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Acid leaching without hydrofluoric acid

Bias



Quantiles

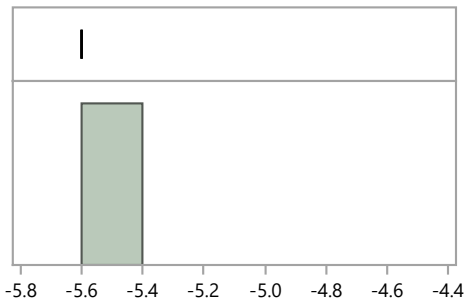
100.0%	maximum	18.3
99.5%		18.3
97.5%		18.3
90.0%		18.3
75.0%	quartile	17.2
50.0%	median	7.0
25.0%	quartile	-7.1
10.0%		-9.5
2.5%		-9.5
0.5%		-9.5
0.0%	minimum	-9.5

Summary Statistics

Mean	5.7
Std Dev	12.7
Std Err Mean	6.4
Upper 95% Mean	25.9
Lower 95% Mean	-14.5
N	4.0

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, acidified

Bias



Quantiles

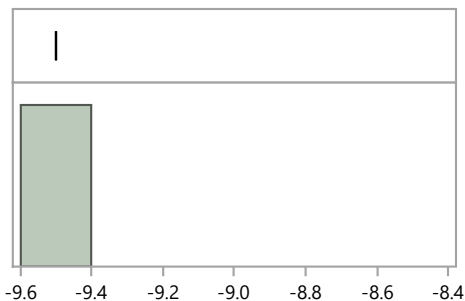
100.0%	maximum	-5.6
99.5%		-5.6
97.5%		-5.6
90.0%		-5.6
75.0%	quartile	-5.6
50.0%	median	-5.6
25.0%	quartile	-5.6
10.0%		-5.6
2.5%		-5.6
0.5%		-5.6
0.0%	minimum	-5.6

Summary Statistics

Mean	-5.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-239/240 EPA 907, Actinide Elements, 600/4/80-032

Bias



Quantiles

100.0%	maximum	-9.5
99.5%		-9.5
97.5%		-9.5
90.0%		-9.5
75.0%	quartile	-9.5
50.0%	median	-9.5
25.0%	quartile	-9.5
10.0%		-9.5
2.5%		-9.5
0.5%		-9.5
0.0%	minimum	-9.5

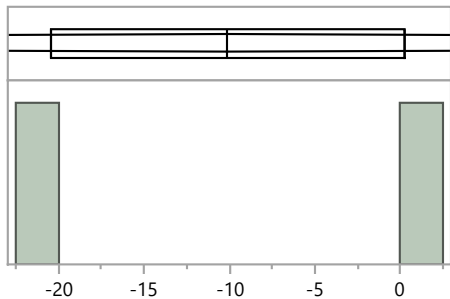
Summary Statistics

Mean	-9.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Other

Bias

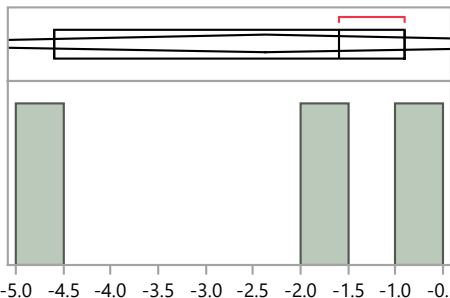


Quantiles		
100.0%	maximum	0.2
99.5%		0.2
97.5%		0.2
90.0%		0.2
75.0%	quartile	0.2
50.0%	median	-10.1
25.0%	quartile	-20.4
10.0%		-20.4
2.5%		-20.4
0.5%		-20.4
0.0%	minimum	-20.4

Summary Statistics	
Mean	-10.1
Std Dev	14.6
Std Err Mean	10.3
Upper 95% Mean	120.8
Lower 95% Mean	-141.0
N	2.0

Distributions Analyte_Method=Plutonium-239/240 Total dissolution by fusion

Bias

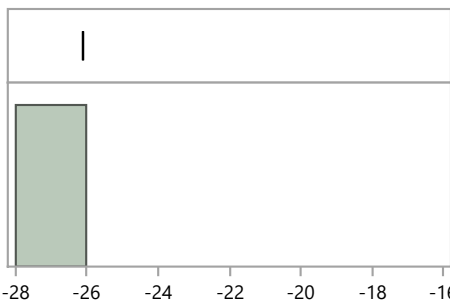


Quantiles		
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-1.6
25.0%	quartile	-4.6
10.0%		-4.6
2.5%		-4.6
0.5%		-4.6
0.0%	minimum	-4.6

Summary Statistics	
Mean	-2.4
Std Dev	2.0
Std Err Mean	1.1
Upper 95% Mean	2.5
Lower 95% Mean	-7.2
N	3.0

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias



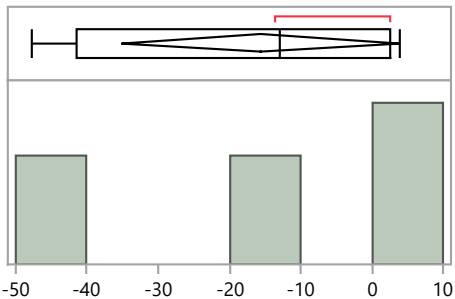
Quantiles		
100.0%	maximum	-26.1
99.5%		-26.1
97.5%		-26.1
90.0%		-26.1
75.0%	quartile	-26.1
50.0%	median	-26.1
25.0%	quartile	-26.1
10.0%		-26.1
2.5%		-26.1
0.5%		-26.1
0.0%	minimum	-26.1

Summary Statistics	
Mean	-26.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Acid leaching without hydrofluoric acid

Bias



Quantiles

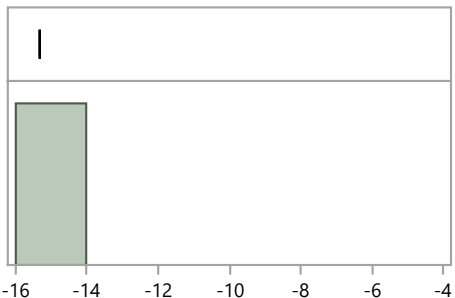
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	2.6
50.0%	median	-13.0
25.0%	quartile	-41.4
10.0%		-47.8
2.5%		-47.8
0.5%		-47.8
0.0%	minimum	-47.8

Summary Statistics

Mean	-15.6
Std Dev	21.1
Std Err Mean	8.0
Upper 95% Mean	3.9
Lower 95% Mean	-35.1
N	7.0

Distributions Analyte_Method=Strontium-90 Coprecipitation, acidified

Bias



Quantiles

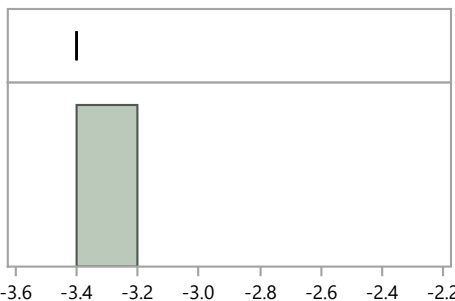
100.0%	maximum	-15.3
99.5%		-15.3
97.5%		-15.3
90.0%		-15.3
75.0%	quartile	-15.3
50.0%	median	-15.3
25.0%	quartile	-15.3
10.0%		-15.3
2.5%		-15.3
0.5%		-15.3
0.0%	minimum	-15.3

Summary Statistics

Mean	-15.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Strontium-90 EPA 905, Radioactive Strontium, 600/4-80-032

Bias



Quantiles

100.0%	maximum	-3.4
99.5%		-3.4
97.5%		-3.4
90.0%		-3.4
75.0%	quartile	-3.4
50.0%	median	-3.4
25.0%	quartile	-3.4
10.0%		-3.4
2.5%		-3.4
0.5%		-3.4
0.0%	minimum	-3.4

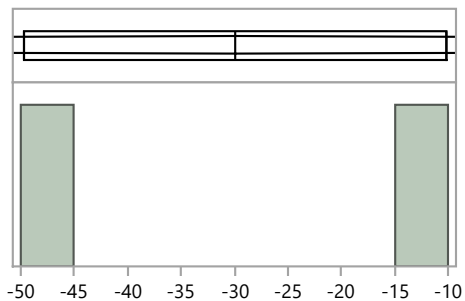
Summary Statistics

Mean	-3.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

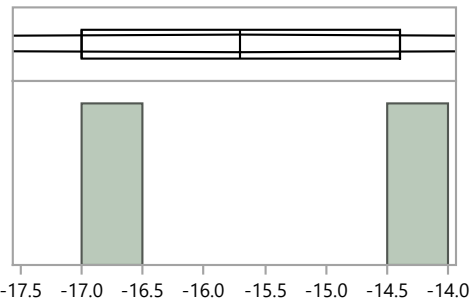
100.0%	maximum	-10.2
99.5%		-10.2
97.5%		-10.2
90.0%		-10.2
75.0%	quartile	-10.2
50.0%	median	-30.0
25.0%	quartile	-49.7
10.0%		-49.7
2.5%		-49.7
0.5%		-49.7
0.0%	minimum	-49.7

Summary Statistics

Mean	-30.0
Std Dev	27.9
Std Err Mean	19.8
Upper 95% Mean	221.0
Lower 95% Mean	-280.9
N	2.0

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

Bias



Quantiles

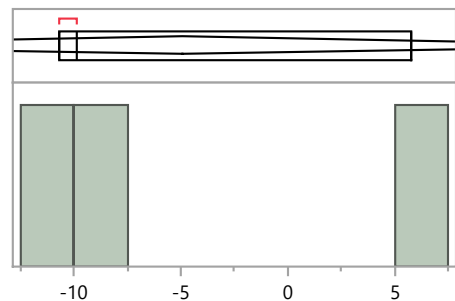
100.0%	maximum	-14.4
99.5%		-14.4
97.5%		-14.4
90.0%		-14.4
75.0%	quartile	-14.4
50.0%	median	-15.7
25.0%	quartile	-17.0
10.0%		-17.0
2.5%		-17.0
0.5%		-17.0
0.0%	minimum	-17.0

Summary Statistics

Mean	-15.7
Std Dev	1.8
Std Err Mean	1.3
Upper 95% Mean	0.8
Lower 95% Mean	-32.2
N	2.0

Distributions Analyte_Method=Uranium-234 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	5.8
99.5%		5.8
97.5%		5.8
90.0%		5.8
75.0%	quartile	5.8
50.0%	median	-9.9
25.0%	quartile	-10.7
10.0%		-10.7
2.5%		-10.7
0.5%		-10.7
0.0%	minimum	-10.7

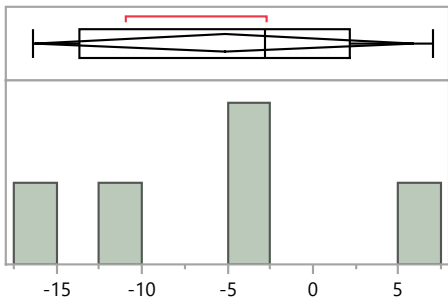
Summary Statistics

Mean	-4.9
Std Dev	9.3
Std Err Mean	5.4
Upper 95% Mean	18.2
Lower 95% Mean	-28.0
N	3.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Acid leaching without hydrofluoric acid

Bias



Quantiles

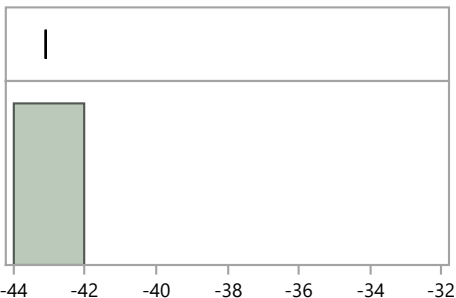
100.0%	maximum	7.0
99.5%		7.0
97.5%		7.0
90.0%		7.0
75.0%	quartile	2.2
50.0%	median	-2.8
25.0%	quartile	-13.7
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics

Mean	-5.2
Std Dev	8.9
Std Err Mean	4.0
Upper 95% Mean	5.9
Lower 95% Mean	-16.2
N	5.0

Distributions Analyte_Method=Uranium-234 Coprecipitation, acidified

Bias



Quantiles

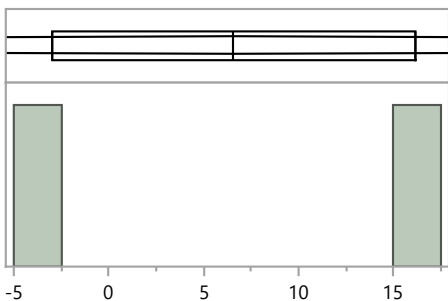
100.0%	maximum	-43.1
99.5%		-43.1
97.5%		-43.1
90.0%		-43.1
75.0%	quartile	-43.1
50.0%	median	-43.1
25.0%	quartile	-43.1
10.0%		-43.1
2.5%		-43.1
0.5%		-43.1
0.0%	minimum	-43.1

Summary Statistics

Mean	-43.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-234 Other

Bias



Quantiles

100.0%	maximum	16.1
99.5%		16.1
97.5%		16.1
90.0%		16.1
75.0%	quartile	16.1
50.0%	median	6.6
25.0%	quartile	-3.0
10.0%		-3.0
2.5%		-3.0
0.5%		-3.0
0.0%	minimum	-3.0

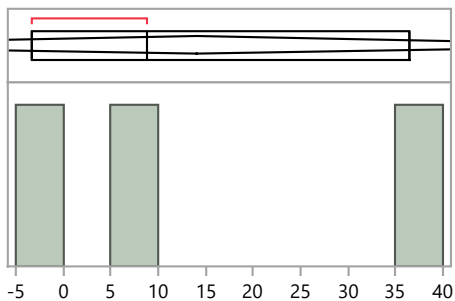
Summary Statistics

Mean	6.6
Std Dev	13.5
Std Err Mean	9.6
Upper 95% Mean	127.9
Lower 95% Mean	-114.8
N	2.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

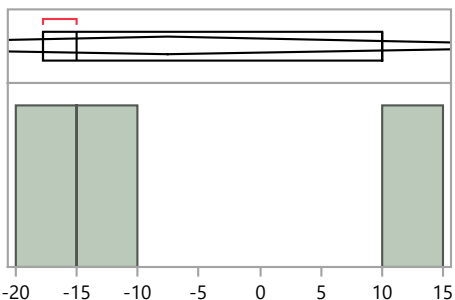
100.0%	maximum	36.4
99.5%		36.4
97.5%		36.4
90.0%		36.4
75.0%	quartile	36.4
50.0%	median	8.8
25.0%	quartile	-3.3
10.0%		-3.3
2.5%		-3.3
0.5%		-3.3
0.0%	minimum	-3.3

Summary Statistics

Mean	14.0
Std Dev	20.3
Std Err Mean	11.7
Upper 95% Mean	64.5
Lower 95% Mean	-36.6
N	3.0

Distributions Analyte_Method=Uranium-238 Acid dissolution with hydrofluoric acid

Bias



Quantiles

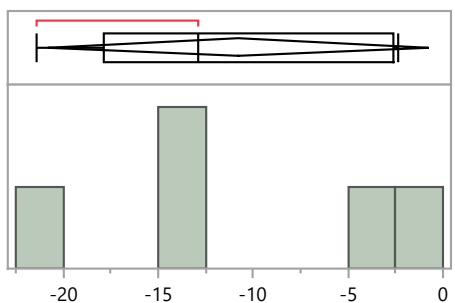
100.0%	maximum	10.0
99.5%		10.0
97.5%		10.0
90.0%		10.0
75.0%	quartile	10.0
50.0%	median	-15.0
25.0%	quartile	-17.7
10.0%		-17.7
2.5%		-17.7
0.5%		-17.7
0.0%	minimum	-17.7

Summary Statistics

Mean	-7.6
Std Dev	15.3
Std Err Mean	8.8
Upper 95% Mean	30.4
Lower 95% Mean	-45.5
N	3.0

Distributions Analyte_Method=Uranium-238 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	-2.4
99.5%		-2.4
97.5%		-2.4
90.0%		-2.4
75.0%	quartile	-2.7
50.0%	median	-12.9
25.0%	quartile	-17.9
10.0%		-21.4
2.5%		-21.4
0.5%		-21.4
0.0%	minimum	-21.4

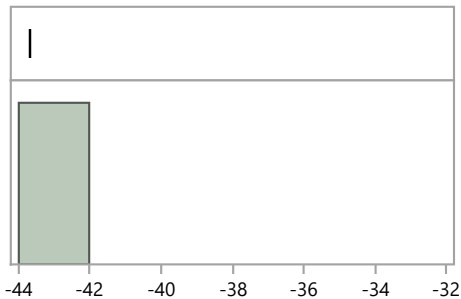
Summary Statistics

Mean	-10.8
Std Dev	8.1
Std Err Mean	3.6
Upper 95% Mean	-0.7
Lower 95% Mean	-20.8
N	5.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 Coprecipitation, acidified

Bias

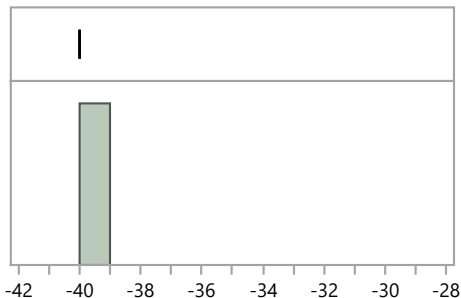


Quantiles		
100.0%	maximum	-43.7
99.5%		-43.7
97.5%		-43.7
90.0%		-43.7
75.0%	quartile	-43.7
50.0%	median	-43.7
25.0%	quartile	-43.7
10.0%		-43.7
2.5%		-43.7
0.5%		-43.7
0.0%	minimum	-43.7

Summary Statistics	
Mean	-43.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-238 No preparation - analyzed as received

Bias

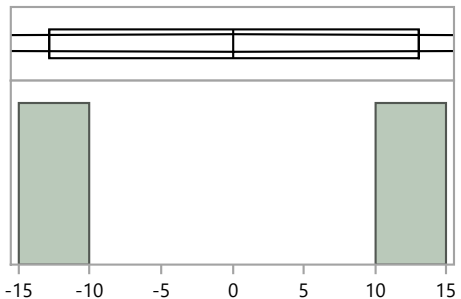


Quantiles		
100.0%	maximum	-40.0
99.5%		-40.0
97.5%		-40.0
90.0%		-40.0
75.0%	quartile	-40.0
50.0%	median	-40.0
25.0%	quartile	-40.0
10.0%		-40.0
2.5%		-40.0
0.5%		-40.0
0.0%	minimum	-40.0

Summary Statistics	
Mean	-40.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-238 Other

Bias



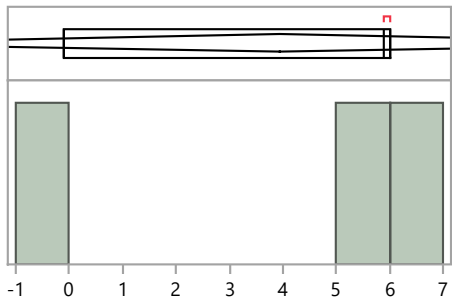
Quantiles		
100.0%	maximum	13.1
99.5%		13.1
97.5%		13.1
90.0%		13.1
75.0%	quartile	13.1
50.0%	median	0.1
25.0%	quartile	-12.9
10.0%		-12.9
2.5%		-12.9
0.5%		-12.9
0.0%	minimum	-12.9

Summary Statistics	
Mean	0.1
Std Dev	18.4
Std Err Mean	13.0
Upper 95% Mean	165.3
Lower 95% Mean	-165.1
N	2.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias

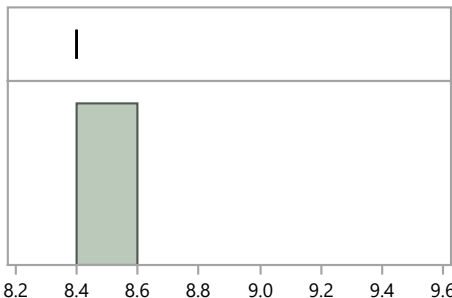


Quantiles		
100.0%	maximum	6.0
99.5%		6.0
97.5%		6.0
90.0%		6.0
75.0%	quartile	6.0
50.0%	median	5.9
25.0%	quartile	-0.1
10.0%		-0.1
2.5%		-0.1
0.5%		-0.1
0.0%	minimum	-0.1

Summary Statistics	
Mean	3.9
Std Dev	3.5
Std Err Mean	2.0
Upper 95% Mean	12.6
Lower 95% Mean	-4.7
N	3.0

Distributions Analyte_Method=Zinc-65 Acid dissolution with hydrofluoric acid

Bias

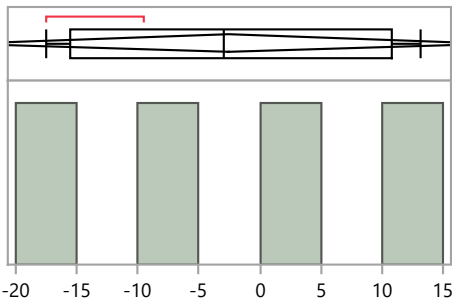


Quantiles		
100.0%	maximum	8.4
99.5%		8.4
97.5%		8.4
90.0%		8.4
75.0%	quartile	8.4
50.0%	median	8.4
25.0%	quartile	8.4
10.0%		8.4
2.5%		8.4
0.5%		8.4
0.0%	minimum	8.4

Summary Statistics	
Mean	8.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Zinc-65 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



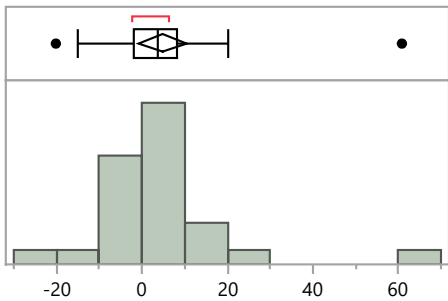
Quantiles		
100.0%	maximum	13.2
99.5%		13.2
97.5%		13.2
90.0%		13.2
75.0%	quartile	10.8
50.0%	median	-3.0
25.0%	quartile	-15.5
10.0%		-17.5
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

Summary Statistics	
Mean	-2.6
Std Dev	13.6
Std Err Mean	6.8
Upper 95% Mean	19.1
Lower 95% Mean	-24.2
N	4.0

RdV50 Distribution by Preparation Method

Distributions Analyte_Method=Zinc-65 No preparation - analyzed as received

Bias

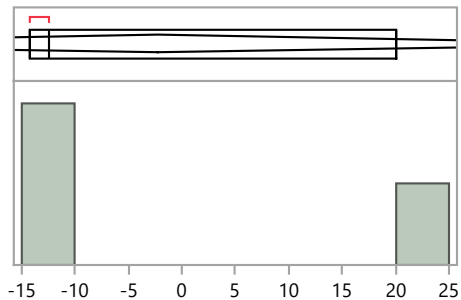


Quantiles		
100.0%	maximum	60.8
99.5%		60.8
97.5%		60.8
90.0%		18.7
75.0%	quartile	8.4
50.0%	median	3.6
25.0%	quartile	-1.9
10.0%		-7.8
2.5%		-20.1
0.5%		-20.1
0.0%	minimum	-20.1

Summary Statistics	
Mean	4.7
Std Dev	14.2
Std Err Mean	2.7
Upper 95% Mean	10.4
Lower 95% Mean	-0.9
N	27.0

Distributions Analyte_Method=Zinc-65 Other

Bias



Quantiles		
100.0%	maximum	20.0
99.5%		20.0
97.5%		20.0
90.0%		20.0
75.0%	quartile	20.0
50.0%	median	-12.5
25.0%	quartile	-14.2
10.0%		-14.2
2.5%		-14.2
0.5%		-14.2
0.0%	minimum	-14.2

Summary Statistics	
Mean	-2.2
Std Dev	19.3
Std Err Mean	11.1
Upper 95% Mean	45.6
Lower 95% Mean	-50.1
N	3.0