

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.

RdV43 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
ANTE01	ALS Environmental - Fort Collins, CO	RdV
ARSL01	ARS Aleut Analytical, LLC	RdV
CSSL99	Chemistry Support Services	RdV
DEHS01	Department of Environmental Health & Safety	RdV
DINL99	Departamento Ingeniería Energética	RdV
DLEA01	DLE Associates	RdV
ERCL01	Washington State Public Health Laboratories	RdV
ERHD99	Radiation Protection Bureau Health Canada RSD NMS	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	PHE, CRCE Glasgow	RdV
IAEA20	IAEA Radiometrics Laboratory	RdV
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	RdV
ISUE01	ISU Environmental Monitoring Laboratory	RdV
ISUP01	ISU - Department of Physics/Health Physics/EAL	RdV
JAEC99	Research Laboratories and Information Directorate	RdV
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	RdV
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdV
MALA99	Alypz Sdn. Bhd.	RdV
MDPH01	MDPH-Radiation Control Program	RdV
NJDH01	New Jersey Dept. of Health, PHEL, ECLS	RdV
NOCS99	National Oceanography Centre, Southampton	RdV
ODHL01	Ohio Department of Health Laboratory	RdV
ORIS01	ORISE/IEAV	RdV
OTLI01	Pace Analytical National Center for Testing & Innovation	RdV
RAVR99	Radiactividad Ambiental y Vigilancia Radiologica	RdV
RPSC01	Radiation Protection Service	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	ATI Environmental, Inc., Midwest Lab	RdV
TMAO01	EBERLINE SERVICES OAK RIDGE LABORATORY	RdV
UNTE01	UniTech-235	RdV
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	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
AMEC99	Jacobs Clean Energy Limited - Analytical Services	RdV
IAEA99	International Atomic Energy Agency	RdV
MSDH01	Mississippi State Dept of Health	RdV
NARL01	National Analytical Radiation Environmental Laboratory	RdV
NARL02	USEPA - NAREL - MERL	RdV

Study Reference Values

MAPEP-20-RdV43

Radiological Reference Date: 08/01/2020

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.070	0.002
Uranium-238	9.6	0.2
Uranium-Total	9.7	0.2
Uranium-Total (Lg Veg)	11.0	0.3

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Americium-241	0.103	0.002
Cesium-134	4.94	0.10
Cobalt-57	6.67	0.13
Cobalt-60	4.13	0.08
Manganese-54	5.84	0.12
Plutonium-238	0.0010	0.0003
Plutonium-239/240	0.0624	0.0018
Strontium-90	1.39	0.03
Uranium-234	0.115	0.003
Uranium-238	0.120	0.003
Zinc-65	6.38	0.13

Sample Statistical Summary

MAPEP-20-RdV43

Radiological Reference Date: 08/01/2020

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Inorganic							Units: (ug/sample)
Uranium-235	6	4			0.070	0.002	0.049 - 0.091
Uranium-238	6	5			9.6	0.2	6.7 - 12.5
Uranium-Total	8	6	10.4	1.2	9.7	0.2	6.8 - 12.6

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/sample)
Americium-241	24	20	0.100	0.013	0.103	0.002	0.072 - 0.134
Cesium-134	44	41	4.64	0.49	4.94	0.10	3.46 - 6.42
Cesium-137	39	37					False Positive Test
Cobalt-57	44	40	6.77	0.85	6.67	0.13	4.67 - 8.67
Cobalt-60	45	42	4.08	0.33	4.13	0.08	2.89 - 5.37
Manganese-54	45	42	5.87	0.50	5.84	0.12	4.09 - 7.59
Plutonium-238	20	17	0.0024	0.0034	0.0010	0.0003	Sensitivity Evaluation
Plutonium-239/240	21	17	0.0597	0.0069	0.0624	0.0018	0.0437 - 0.0811
Strontium-90	22	19	1.25	0.16	1.39	0.03	0.97 - 1.81
Uranium-234	19	16	0.117	0.011	0.115	0.003	0.081 - 0.150
Uranium-238	20	16	0.119	0.008	0.120	0.003	0.084 - 0.156
Zinc-65	45	41	6.34	0.61	6.38	0.13	4.47 - 8.29

- 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.

Result Flags:

- A = Result acceptable Bias $\leq 20\%$
- W = Result acceptable with warning $20\% < \text{Bias} < 30\%$
- N = Result not acceptable Bias $> 30\%$
- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP $< 2\%$
- ACCEPTABLE..... $2\% \leq \text{RP} \leq 15\%$
- ACCEPTABLE WITH WARNING..... $15\% < \text{RP} \leq 30\%$
- NOT ACCEPTABLE.....RP $> 30\%$
- RP = Relative Precision

Flag Summary Report

MAPEP-20-RdV43

Inorganic				
Analyte	A	W	RW	N
Uranium-Total	5	1		2
Uranium-235	4			2
Uranium-238	5			1
Radiological				
Analyte	A	W	RW	N
Americium-241	19	1		4
Cesium-134	37	4		3
Cesium-137	37			5
Cobalt-57	36	4		4
Cobalt-60	41	1		3
Manganese-54	41	1		3
Plutonium-238	17			3
Plutonium-239/240	15	2		4
Strontium-90	15	4		3
Uranium-234	16			3
Uranium-238	16			4
Zinc-65	39	2		4



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

Laboratory Results For MAPEP-20-RdV43
 (ADEM01) Alabama Department of Environmental Management
 1350 Coliseum Blvd.
 Montgomery, Alabama 36110

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	0.0005843	4.94	N		-100.0	3.46 - 6.42	0.0001	W
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	NR	6.67				4.67 - 8.67		
Cobalt-60	0.0004698	4.13	N		-100.0	2.89 - 5.37	0.0001	W
Manganese-54	0.0007422	5.84	N		-100.0	4.09 - 7.59	0.0001	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	0.0007580	6.38	N		-100.0	4.47 - 8.29	0.0001	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
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- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43

(ADFC99) Abu Dhabi Quality and Conformity Council-Central Testing Lab

Radiation Lab

Abu Dhabi, - -

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.90	4.94	A		-0.8	3.46 - 6.42	0.36	A
Cesium-137	0.01		A			False Positive Test	0.01	
Cobalt-57	6.87	6.67	A		3.0	4.67 - 8.67	0.93	A
Cobalt-60	4.37	4.13	A		5.8	2.89 - 5.37	0.37	A
Manganese-54	5.74	5.84	A		-1.7	4.09 - 7.59	0.66	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.31	6.38	A		-1.1	4.47 - 8.29	0.69	A

Radiological Reference Date: August 1, 2020

Result 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%

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

Laboratory Results For MAPEP-20-RdV43
 (ANTE01) ALS Environmental - Fort Collins, CO
 225 Commerce Drive
 Fort Collins, CO 80524-1416

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.089	0.103	A		-13.6	0.072 - 0.134	0.008	A
Cesium-134	4.40	4.94	A		-10.9	3.46 - 6.42	0.28	A
Cesium-137	0.234		A			False Positive Test	0.234	
Cobalt-57	5.70	6.67	A		-14.5	4.67 - 8.67	0.35	A
Cobalt-60	3.55	4.13	A		-14.0	2.89 - 5.37	0.23	A
Manganese-54	5.41	5.84	A		-7.4	4.09 - 7.59	0.35	A
Plutonium-238	0.002	0.0010	A	(17)		Sensitivity Evaluation	0.002	
Plutonium-239/240	0.064	0.0624	A		2.6	0.0437 - 0.0811	0.007	A
Strontium-90	1.48	1.39	A		6.5	0.97 - 1.81	0.17	A
Uranium-234	0.117	0.115	A		1.7	0.081 - 0.150	0.010	A
Uranium-238	0.125	0.120	A		4.2	0.084 - 0.156	0.011	A
Zinc-65	5.81	6.38	A		-8.9	4.47 - 8.29	0.44	A

Radiological Reference Date: August 1, 2020

Result 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%

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

Laboratory Results For MAPEP-20-RdV43

(ARSL01) ARS Aleut Analytical, LLC

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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.535	4.94	A		-8.2	3.46 - 6.42	.168	A
Cesium-137	.022		A			False Positive Test	.037	
Cobalt-57	7.006	6.67	A		5.0	4.67 - 8.67	.247	A
Cobalt-60	4.026	4.13	A		-2.5	2.89 - 5.37	.099	A
Manganese-54	5.909	5.84	A		1.2	4.09 - 7.59	.209	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.535	6.38	A		2.4	4.47 - 8.29	.287	A

Radiological Reference Date: August 1, 2020

Result Flags:

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Uncertainty Flags:

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

Laboratory Results For MAPEP-20-RdV43

(CSSL99) Chemistry Support Services

Dounreay Site Restoration Limited

Dounreay, Caithness KW14 7TZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0914	0.103	A		-11.3	0.072 - 0.134	0.00267	A
Cesium-134	4.29	4.94	A		-13.2	3.46 - 6.42	0.408	A
Cesium-137	0.0378		N	(1)		False Positive Test	0.00359	
Cobalt-57	5.81	6.67	A		-12.9	4.67 - 8.67	0.552	A
Cobalt-60	3.72	4.13	A		-9.9	2.89 - 5.37	0.353	A
Manganese-54	5.02	5.84	A		-14.0	4.09 - 7.59	0.477	A
Plutonium-238	0.0537	0.0010	N	(4)		Sensitivity Evaluation	0.00165	
Plutonium-239/240	0.000339	0.0624	N		-99.5	0.0437 - 0.0811	0.000010	A
Strontium-90	1.23	1.39	A		-11.5	0.97 - 1.81	0.156	A
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	5.72	6.38	A		-10.3	4.47 - 8.29	0.544	A

Radiological Reference Date: August 1, 2020

Result Flags:

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W = Result acceptable with warning 20% < Bias < 30%

N = Result not acceptable Bias > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

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ACCEPTABLE.....2%<=RP<=15%

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NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

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

Laboratory Results For MAPEP-20-RdV43
 (DEHS01) Department of Environmental Health & Safety
 North Carolina State Univ.
 Raleigh, NC 27695-8007

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.46	4.94	A		10.5	3.46 - 6.42	0.13	A
Cesium-137	0.6		A			False Positive Test	0.5	
Cobalt-57	7.30	6.67	A		9.4	4.67 - 8.67	0.08	N
Cobalt-60	4.71	4.13	A		14.0	2.89 - 5.37	0.12	A
Manganese-54	6.93	5.84	A		18.7	4.09 - 7.59	0.13	N
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	8.53	6.38	N		33.7	4.47 - 8.29	0.16	N

Radiological Reference Date: August 1, 2020

Result Flags:

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- W = Result acceptable with warning 20% < Bias < 30%
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- 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%

RP = Relative Precision

Notes:

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- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (DINL99) Departamento Ingeniería Energética
 Escuela de Ingeniería de Bilbao
 Bilbao, Vizcaya 48013

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.09506	0.070	N		35.8	0.049 - 0.091	0.02166	W
Uranium-238	9.808	9.6	A		2.2	6.7 - 12.5	0.6357	A
Uranium-Total	9.808	9.7	A		1.1	6.8 - 12.6	0.6357	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.09336	0.103	A		-9.4	0.072 - 0.134	0.00494	A
Cesium-134	4.855	4.94	A		-1.7	3.46 - 6.42	0.2584	A
Cesium-137	0.08522		A			False Positive Test	0.08522	
Cobalt-57	6.677	6.67	A		0.1	4.67 - 8.67	0.3482	A
Cobalt-60	4.228	4.13	A		2.4	2.89 - 5.37	0.2289	A
Manganese-54	5.735	5.84	A		-1.8	4.09 - 7.59	0.3032	A
Plutonium-238	0.002394	0.0010	A	(17)		Sensitivity Evaluation	0.002394	
Plutonium-239/240	0.05108	0.0624	A		-18.1	0.0437 - 0.0811	0.003586	A
Strontium-90	1.312	1.39	A		-5.6	0.97 - 1.81	0.05978	A
Uranium-234	0.1218	0.115	A		5.9	0.081 - 0.150	0.007907	A
Uranium-238	0.1220	0.120	A		1.7	0.084 - 0.156	0.007907	A
Zinc-65	6.375	6.38	A		-0.1	4.47 - 8.29	0.3466	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
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- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(DLEA01) DLE Associates
730 Alfred Nobel Drive
Hercules, CA 94547

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.07	4.94	A		2.6	3.46 - 6.42	0.26	A
Cesium-137	0.05		A			False Positive Test	0.16	
Cobalt-57	5.43	6.67	A		-18.6	4.67 - 8.67	0.38	A
Cobalt-60	4.14	4.13	A		0.2	2.89 - 5.37	0.28	A
Manganese-54	6.10	5.84	A		4.5	4.09 - 7.59	0.48	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.30	6.38	A		-1.3	4.47 - 8.29	0.42	A

Radiological Reference Date: August 1, 2020

Result 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-20-RdV43
 (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	0.0704	0.070	A		0.6	0.049 - 0.091	0.0019	A
Uranium-238	9.99	9.6	A		4.1	6.7 - 12.5	0.26	A
Uranium-Total	10.1	9.7	A		4.1	6.8 - 12.6	0.3	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.108	0.103	A		4.9	0.072 - 0.134	0.010	A
Cesium-134	4.02	4.94	A		-18.6	3.46 - 6.42	0.05	N
Cesium-137	-0.090		A			False Positive Test	0.035	
Cobalt-57	5.41	6.67	A		-18.9	4.67 - 8.67	0.07	N
Cobalt-60	3.95	4.13	A		-4.4	2.89 - 5.37	0.07	N
Manganese-54	5.10	5.84	A		-12.7	4.09 - 7.59	0.09	N
Plutonium-238	0.0073	0.0010	A	(17)		Sensitivity Evaluation	0.0044	
Plutonium-239/240	0.0654	0.0624	A		4.8	0.0437 - 0.0811	0.0093	A
Strontium-90	1.33	1.39	A		-4.3	0.97 - 1.81	0.11	A
Uranium-234	0.117	0.115	A		1.7	0.081 - 0.150	0.011	A
Uranium-238	0.128	0.120	A		6.7	0.084 - 0.156	0.011	A
Zinc-65	5.65	6.38	A		-11.4	4.47 - 8.29	0.18	A

Radiological Reference Date: August 1, 2020

Result Flags:

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N = Result not acceptable Bias > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

NOT ACCEPTABLE.....RP<2%

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

Laboratory Results For MAPEP-20-RdV43
 (ERHD99) Radiation Protection Bureau Health Canada RSD NMS
 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	0.13	0.070	N		85.7	0.049 - 0.091	.001	N
Uranium-238	18.54	9.6	N		93.1	6.7 - 12.5	0.167	N
Uranium-Total	18.67	9.7	N		92.5	6.8 - 12.6	0.17	N

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1129	0.103	A		9.6	0.072 - 0.134	0.0029	A
Cesium-134	0.984	4.94	N		-80.1	3.46 - 6.42	0.037	A
Cesium-137	0.0066		A			False Positive Test	0.008	
Cobalt-57	1.34	6.67	N		-79.9	4.67 - 8.67	0.050	A
Cobalt-60	0.796	4.13	N		-80.7	2.89 - 5.37	0.08	A
Manganese-54	1.177	5.84	N		-79.8	4.09 - 7.59	0.042	A
Plutonium-238	0.0005	0.0010	A			Sensitivity Evaluation	0.00003	
Plutonium-239/240	0.0657	0.0624	A		5.3	0.0437 - 0.0811	0.0022	A
Strontium-90	1.415	1.39	A		1.8	0.97 - 1.81	0.017	N
Uranium-234	0.1185	0.115	A		3.0	0.081 - 0.150	0.0033	A
Uranium-238	0.1256	0.120	A		4.7	0.084 - 0.156	0.0034	A
Zinc-65	1.283	6.38	N		-79.9	4.47 - 8.29	0.049	A

Radiological Reference Date: August 1, 2020

Result 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%

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

Laboratory Results For MAPEP-20-RdV43

(FDHE01) Florida Dept of Health Environmental Laboratory
 PO Box 680069
 Orlando, FL 32868-0069

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.130	0.103	W		26.2	0.072 - 0.134	0.031	W
Cesium-134	4.911	4.94	A		-0.6	3.46 - 6.42	0.127	A
Cesium-137	0.028		A			False Positive Test	0.139	
Cobalt-57	7.992	6.67	A		19.8	4.67 - 8.67	0.239	A
Cobalt-60	4.425	4.13	A		7.1	2.89 - 5.37	0.097	A
Manganese-54	6.261	5.84	A		7.2	4.09 - 7.59	0.247	A
Plutonium-238	0.006	0.0010	A	(17)		Sensitivity Evaluation	0.002	
Plutonium-239/240	0.061	0.0624	A		-2.2	0.0437 - 0.0811	0.006	A
Strontium-90	1.1455	1.39	A		-17.6	0.97 - 1.81	0.0614	A
Uranium-234	0.10855	0.115	A		-5.6	0.081 - 0.150	0.00438	A
Uranium-238	0.10873	0.120	A		-9.4	0.084 - 0.156	0.00438	A
Zinc-65	7.075	6.38	A		10.9	4.47 - 8.29	0.242	A

Radiological Reference Date: August 1, 2020

Result Flags:

A = Result acceptable Bias <=20%

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N = Result not acceptable Bias > 30%

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-20-RdV43

(FDOH01) Florida Dept. of Health, Mobile Environmental Radiological Lab
 PO Box 680069
 Orlando, FL 32868-0069

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.122	0.103	A		18.4	0.072 - 0.134	0.18	N
Cesium-134	5.093	4.94	A		3.1	3.46 - 6.42	0.095	N
Cesium-137	0.027		A			False Positive Test	0.17	
Cobalt-57	7.929	6.67	A		18.9	4.67 - 8.67	0.199	A
Cobalt-60	4.329	4.13	A		4.8	2.89 - 5.37	0.089	A
Manganese-54	6.483	5.84	A		11.0	4.09 - 7.59	0.168	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	0.255	0.120	N		112.5	0.084 - 0.156	0.777	N
Zinc-65	7.167	6.38	A		12.3	4.47 - 8.29	0.219	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.104	0.103	A		1.0	0.072 - 0.134	0.00773	A
Cesium-134	4.5	4.94	A		-8.9	3.46 - 6.42	0.225	A
Cesium-137	0.0134		A			False Positive Test	0.027	
Cobalt-57	6.70	6.67	A		0.5	4.67 - 8.67	0.270	A
Cobalt-60	4.27	4.13	A		3.4	2.89 - 5.37	0.227	A
Manganese-54	6.04	5.84	A		3.4	4.09 - 7.59	0.299	A
Plutonium-238	0.0002	0.0010	A	(17)		Sensitivity Evaluation	0.00074	
Plutonium-239/240	0.0537	0.0624	A		-13.9	0.0437 - 0.0811	0.00497	A
Strontium-90	1.07	1.39	W		-23.0	0.97 - 1.81	0.0362	A
Uranium-234	0.1270	0.115	A		10.4	0.081 - 0.150	0.0139	A
Uranium-238	0.126	0.120	A		5.0	0.084 - 0.156	0.0137	A
Zinc-65	7.04	6.38	A		10.3	4.47 - 8.29	0.364	A

Radiological Reference Date: August 1, 2020

Result 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%

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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.09	4.94	A		3.0	3.46 - 6.42	0.40	A
Cesium-137	-0.07		A			False Positive Test	0.20	
Cobalt-57	7.28	6.67	A		9.1	4.67 - 8.67	0.67	A
Cobalt-60	4.06	4.13	A		-1.7	2.89 - 5.37	0.38	A
Manganese-54	6.27	5.84	A		7.4	4.09 - 7.59	0.57	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.57	6.38	A		3.0	4.47 - 8.29	0.79	A

Radiological Reference Date: August 1, 2020

Result 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:

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ACCEPTABLE WITH WARNING.....15% <RP <= 30%

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

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.159	4.94	A		-15.8	3.46 - 6.42	0.2770	A
Cesium-137	0.02445		A			False Positive Test	0.1898	
Cobalt-57	5.377	6.67	A		-19.4	4.67 - 8.67	0.3948	A
Cobalt-60	3.506	4.13	A		-15.1	2.89 - 5.37	0.2871	A
Manganese-54	5.305	5.84	A		-9.2	4.09 - 7.59	0.5580	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.037	6.38	A		-5.4	4.47 - 8.29	0.7243	A

Radiological Reference Date: August 1, 2020

Result Flags:

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Uncertainty Flags:

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

Laboratory Results For MAPEP-20-RdV43

(HPAC99) PHE, CRCE Glasgow

155 Hardgate Road

Glasgow, Scotland G514LS

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	6.54	0.103	N		6249.5	0.072 - 0.134	0.29	A
Cesium-134	NR	4.94	N	(28)		3.46 - 6.42		
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	NR	6.67	N	(28)		4.67 - 8.67		
Cobalt-60	NR	4.13	N	(28)		2.89 - 5.37		
Manganese-54	NR	5.84	N	(28)		4.09 - 7.59		
Plutonium-238	0.066	0.0010	N	(4)		Sensitivity Evaluation	0.016	
Plutonium-239/240	4.82	0.0624	N		7624.4	0.0437 - 0.0811	0.22	A
Strontium-90	10.71	1.39	N		670.5	0.97 - 1.81	0.59	A
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	NR	6.38	N	(28)		4.47 - 8.29		

Radiological Reference Date: August 1, 2020

Result 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-20-RdV43
 (IAEA20) IAEA 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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.088	0.103	A		-14.6	0.072 - 0.134	0.016	W
Cesium-134	4.78	4.94	A		-3.2	3.46 - 6.42	0.18	A
Cesium-137	NR			(11)		False Positive Test		
Cobalt-57	6.66	6.67	A		-0.2	4.67 - 8.67	0.27	A
Cobalt-60	4.22	4.13	A		2.2	2.89 - 5.37	0.16	A
Manganese-54	5.93	5.84	A		1.5	4.09 - 7.59	0.28	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.58	6.38	A		3.1	4.47 - 8.29	0.32	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0887	0.103	A		-13.9	0.072 - 0.134	0.0046	A
Cesium-134	4.240	4.94	A		-14.2	3.46 - 6.42	0.065	N
Cesium-137	-0.023		A			False Positive Test	0.049	
Cobalt-57	6.085	6.67	A		-8.8	4.67 - 8.67	0.072	N
Cobalt-60	3.595	4.13	A		-13.0	2.89 - 5.37	0.081	A
Manganese-54	5.33	5.84	A		-8.7	4.09 - 7.59	0.12	A
Plutonium-238	0.00156	0.0010	A	(17)		Sensitivity Evaluation	0.00059	
Plutonium-239/240	0.0629	0.0624	A		0.8	0.0437 - 0.0811	0.0049	A
Strontium-90	1.21	1.39	A		-13.0	0.97 - 1.81	0.07	A
Uranium-234	0.1071	0.115	A		-6.9	0.081 - 0.150	0.0048	A
Uranium-238	0.1108	0.120	A		-7.7	0.084 - 0.156	0.0049	A
Zinc-65	5.67	6.38	A		-11.1	4.47 - 8.29	0.23	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
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- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.02	0.103	N		-80.6	0.072 - 0.134	0.02	N
Cesium-134	4.1	4.94	A		-17.0	3.46 - 6.42	0.13	A
Cesium-137	0.03		A			False Positive Test	0.03	
Cobalt-57	6.3	6.67	A		-5.5	4.67 - 8.67	0.46	A
Cobalt-60	3.7	4.13	A		-10.4	2.89 - 5.37	0.12	A
Manganese-54	5.5	5.84	A		-5.8	4.09 - 7.59	0.30	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	5.8	6.38	A		-9.1	4.47 - 8.29	0.19	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43

(ISUP01) ISU - Department of Physics/Health Physics/EAL

785 S. 8th Ave, Rm 120

Pocatello, ID 83209-8106

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.25	4.94	A		-14.0	3.46 - 6.42	.1	A
Cesium-137	-.01		A			False Positive Test	.03	
Cobalt-57	6.46	6.67	A		-3.1	4.67 - 8.67	0.23	A
Cobalt-60	4.15	4.13	A		0.5	2.89 - 5.37	.11	A
Manganese-54	5.78	5.84	A		-1.0	4.09 - 7.59	.22	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.11	6.38	A		-4.2	4.47 - 8.29	0.26	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (JAEC99) Research Laboratories and Information Directorate
 Jordan Atomic Energy Commission
 Amman, Jordan 70 (11934)

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	NR	4.94				3.46 - 6.42		
Cesium-137	5.43		N	(1)		False Positive Test	0.19	
Cobalt-57	7.27	6.67	A		9.0	4.67 - 8.67	0.35	A
Cobalt-60	4.28	4.13	A		3.6	2.89 - 5.37	0.27	A
Manganese-54	6.44	5.84	A		10.3	4.09 - 7.59	0.47	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	0.067	0.0624	A		7.4	0.0437 - 0.0811	0.0062	A
Strontium-90	1.419	1.39	A		2.1	0.97 - 1.81	0.051	A
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.42	6.38	A		0.6	4.47 - 8.29	0.56	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (LAWR01) LAWRENCE BERKELEY NATIONAL LABORATORY
 1 CYCLOTRON RD.
 BERKELEY, CA 94720

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.674	4.94	A		-5.4	3.46 - 6.42	.1311	A
Cesium-137	0.01508		A			False Positive Test	0.0346	
Cobalt-57	7.116	6.67	A		6.7	4.67 - 8.67	.1626	A
Cobalt-60	4.489	4.13	A		8.7	2.89 - 5.37	.1492	A
Manganese-54	6.269	5.84	A		7.3	4.09 - 7.59	0.1773	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	7.399	6.38	A		16.0	4.47 - 8.29	0.2616	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.32	4.94	A		-12.6	3.46 - 6.42	0.26	A
Cesium-137	-0.04		A			False Positive Test	0.11	
Cobalt-57	6.26	6.67	A		-6.1	4.67 - 8.67	0.34	A
Cobalt-60	3.92	4.13	A		-5.1	2.89 - 5.37	0.26	A
Manganese-54	5.46	5.84	A		-6.5	4.09 - 7.59	0.34	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	5.94	6.38	A		-6.9	4.47 - 8.29	0.50	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(MALA99) Alypz Sdn. Bhd.

No. 14, JLN USJ 1/1

Subang Jaya, Selangor 47600

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.35	4.94	A		8.3	3.46 - 6.42	0.21	A
Cesium-137	-0.16		A			False Positive Test	0.18	
Cobalt-57	8.42	6.67	W		26.2	4.67 - 8.67	0.47	A
Cobalt-60	4.30	4.13	A		4.1	2.89 - 5.37	0.24	A
Manganese-54	6.40	5.84	A		9.6	4.09 - 7.59	0.42	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.80	6.38	A		6.6	4.47 - 8.29	0.59	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (MDPH01) MDPH-Radiation Control Program
 MERL-Room 002
 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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	3.89	4.94	W		-21.3	3.46 - 6.42	0.11	A
Cesium-137	NR					False Positive Test		
Cobalt-57	6.29	6.67	A		-5.7	4.67 - 8.67	0.24	A
Cobalt-60	3.85	4.13	A		-6.8	2.89 - 5.37	0.13	A
Manganese-54	5.44	5.84	A		-6.8	4.09 - 7.59	0.15	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.11	6.38	A		-4.2	4.47 - 8.29	0.19	A

Radiological Reference Date: August 1, 2020

Result 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%

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RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (NJDH01) New Jersey Dept. of Health, PHEL, ECLS
 3 Schwarzkopf Drive
 West Trenton, NJ 08628

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.28	4.94	A		-13.4	3.46 - 6.42	0.20	A
Cesium-137	0.208		A			False Positive Test	0.077	
Cobalt-57	6.75	6.67	A		1.2	4.67 - 8.67	0.24	A
Cobalt-60	3.99	4.13	A		-3.4	2.89 - 5.37	0.19	A
Manganese-54	5.33	5.84	A		-8.7	4.09 - 7.59	0.21	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	5.58	6.38	A		-12.5	4.47 - 8.29	0.26	A

Radiological Reference Date: August 1, 2020

Result Flags:

- A = Result acceptable Bias <=20%
- W = Result acceptable with warning 20% < Bias < 30%
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- RW = Report Warning
- NR = Not Reported

Uncertainty Flags:

- NOT ACCEPTABLE.....RP<2%
- ACCEPTABLE.....2%<=RP<=15%

ACCEPTABLE WITH WARNING.....15% <RP <= 30%

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RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (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	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.087	0.103	A		-15.5	0.072 - 0.134	0.007	A
Cesium-134	4.4	4.94	A		-10.9	3.46 - 6.42	0.1	A
Cesium-137	0.2		A			False Positive Test	0.2	
Cobalt-57	6.8	6.67	A		1.9	4.67 - 8.67	0.2	A
Cobalt-60	4.1	4.13	A		-0.7	2.89 - 5.37	0.1	A
Manganese-54	6.0	5.84	A		2.7	4.09 - 7.59	0.2	A
Plutonium-238	0.004	0.0010	A	(17)		Sensitivity Evaluation	0.004	
Plutonium-239/240	0.055	0.0624	A		-11.9	0.0437 - 0.0811	0.004	A
Strontium-90	1.15	1.39	A		-17.3	0.97 - 1.81	0.08	A
Uranium-234	0.108	0.115	A		-6.1	0.081 - 0.150	0.006	A
Uranium-238	0.110	0.120	A		-8.3	0.084 - 0.156	0.007	A
Zinc-65	6.8	6.38	A		6.6	4.47 - 8.29	0.3	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.88	4.94	A		-1.2	3.46 - 6.42	0.179	A
Cesium-137	-0.0691			A		False Positive Test	0.0437	
Cobalt-57	6.70	6.67	A		0.5	4.67 - 8.67	0.502	A
Cobalt-60	3.94	4.13	A		-4.6	2.89 - 5.37	0.138	A
Manganese-54	5.55	5.84	A		-5.0	4.09 - 7.59	0.363	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.05	6.38	A		-5.2	4.47 - 8.29	0.370	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(ORIS01) ORISE/IEAV

PO Box 117

Oak Ridge, TN 37831-0117

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.077	0.070	A		10.0	0.049 - 0.091	0.002	A
Uranium-238	10.87	9.6	A		13.2	6.7 - 12.5	0.23	A
Uranium-Total	10.95	9.7	A		12.9	6.8 - 12.6	0.23	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.097	0.103	A		-5.8	0.072 - 0.134	0.005	A
Cesium-134	4.78	4.94	A		-3.2	3.46 - 6.42	0.18	A
Cesium-137	-0.007		A			False Positive Test	0.047	
Cobalt-57	6.30	6.67	A		-5.5	4.67 - 8.67	0.13	A
Cobalt-60	4.00	4.13	A		-3.1	2.89 - 5.37	0.13	A
Manganese-54	5.69	5.84	A		-2.6	4.09 - 7.59	0.21	A
Plutonium-238	0.0005	0.0010	A	(17)		Sensitivity Evaluation	0.0002	
Plutonium-239/240	0.058	0.0624	A		-7.1	0.0437 - 0.0811	0.004	A
Strontium-90	1.285	1.39	A		-7.6	0.97 - 1.81	0.027	A
Uranium-234	0.131	0.115	A		13.9	0.081 - 0.150	0.007	A
Uranium-238	0.130	0.120	A		8.3	0.084 - 0.156	0.007	A
Zinc-65	5.94	6.38	A		-6.9	4.47 - 8.29	0.21	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (11) = False Positive Test, Result Not Reported
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- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (OTLI01) Pace Analytical National Center for Testing & Innovation
 12065 Lebanon Road
 Mt. Juliet, TN 37122

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	12.3	9.7	W		26.8	6.8 - 12.6	0.2	N

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.038	0.103	N		-63.1	0.072 - 0.134	0.013	N
Cesium-134	4.04	4.94	A		-18.2	3.46 - 6.42	0.647	W
Cesium-137	-.05		A			False Positive Test	0.123	
Cobalt-57	6.55	6.67	A		-1.8	4.67 - 8.67	1.60	W
Cobalt-60	3.74	4.13	A		-9.4	2.89 - 5.37	0.478	A
Manganese-54	5.71	5.84	A		-2.2	4.09 - 7.59	0.872	W
Plutonium-238	.010	0.0010	A	(17)		Sensitivity Evaluation	.010	
Plutonium-239/240	.026	0.0624	N		-58.3	0.0437 - 0.0811	.009	N
Strontium-90	1.98	1.39	N		42.4	0.97 - 1.81	0.120	A
Uranium-234	0.181	0.115	N		57.4	0.081 - 0.150	0.057	N
Uranium-238	.216	0.120	N		80.0	0.084 - 0.156	.050	W
Zinc-65	5.96	6.38	A		-6.6	4.47 - 8.29	0.923	W

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (11) = False Positive Test, Result Not Reported
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- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (RAVR99) Radiactividad Ambiental y Vigilancia Radiologica
 CIEMAT (Ed 70 P2 D11)
 Madrid, Madrid 28040

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	6.7	11.0	N		-39.1	7.7 - 14.3	0.2	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0899	0.103	A		-12.7	0.072 - 0.134	0.0022	A
Cesium-134	3.81	4.94	W		-22.9	3.46 - 6.42	0.18	A
Cesium-137	0.12		A			False Positive Test	0.5	
Cobalt-57	4.75	6.67	W		-28.8	4.67 - 8.67	0.86	W
Cobalt-60	3.66	4.13	A		-11.4	2.89 - 5.37	0.30	A
Manganese-54	5.37	5.84	A		-8.0	4.09 - 7.59	0.35	A
Plutonium-238	0.00056	0.0010	A	(17)		Sensitivity Evaluation	0.00081	
Plutonium-239/240	0.0479	0.0624	W		-23.2	0.0437 - 0.0811	0.0011	A
Strontium-90	0.83	1.39	N		-40.3	0.97 - 1.81	0.04	A
Uranium-234	0.108	0.115	A		-6.1	0.081 - 0.150	0.012	A
Uranium-238	0.114	0.120	A		-5.0	0.084 - 0.156	0.012	A
Zinc-65	5.95	6.38	A		-6.7	4.47 - 8.29	0.49	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (RPSC01) Radiation Protection Service
 Ontario Ministry of Labour, Training And Skills Development
 Toronto, Ontario M9P 3T1

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.38	4.94	A		8.9	3.46 - 6.42	0.345	A
Cesium-137	NR					False Positive Test		
Cobalt-57	8.32	6.67	W		24.7	4.67 - 8.67	1.17	A
Cobalt-60	4.21	4.13	A		1.9	2.89 - 5.37	0.267	A
Manganese-54	5.92	5.84	A		1.4	4.09 - 7.59	0.735	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.31	6.38	A		-1.1	4.47 - 8.29	0.643	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0949	0.103	A		-7.9	0.072 - 0.134	0.0073	A
Cesium-134	5.18	4.94	A		4.9	3.46 - 6.42	0.15	A
Cesium-137	0.01		A			False Positive Test	0.02	
Cobalt-57	6.75	6.67	A		1.2	4.67 - 8.67	0.20	A
Cobalt-60	4.24	4.13	A		2.7	2.89 - 5.37	0.12	A
Manganese-54	6.21	5.84	A		6.3	4.09 - 7.59	0.20	A
Plutonium-238	0.00062	0.0010	A	(17)		Sensitivity Evaluation	0.00040	
Plutonium-239/240	0.0577	0.0624	A		-7.5	0.0437 - 0.0811	0.00433	A
Strontium-90	1.290	1.39	A		-7.2	0.97 - 1.81	0.075	A
Uranium-234	0.1143	0.115	A		-0.6	0.081 - 0.150	0.0081	A
Uranium-238	0.1160	0.120	A		-3.3	0.084 - 0.156	0.0079	A
Zinc-65	6.98	6.38	A		9.4	4.47 - 8.29	0.23	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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

Laboratory Results For MAPEP-20-RdV43
 (SOUT01) Southwest Research Institute
 6220 Culebra Rd.
 San Antonio, TX 78228-0510

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0756	0.070	A		8.0	0.049 - 0.091	0.00525	A
Uranium-238	10.4	9.6	A		8.3	6.7 - 12.5	0.702	A
Uranium-Total	10.4	9.7	A		7.2	6.8 - 12.6	0.702	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.103	0.103	A		0.0	0.072 - 0.134	0.0124	A
Cesium-134	4.81	4.94	A		-2.6	3.46 - 6.42	0.250	A
Cesium-137	0.188		A			False Positive Test	0.0967	
Cobalt-57	7.37	6.67	A		10.5	4.67 - 8.67	0.240	A
Cobalt-60	3.96	4.13	A		-4.1	2.89 - 5.37	0.218	A
Manganese-54	6.63	5.84	A		13.5	4.09 - 7.59	0.339	A
Plutonium-238	-0.00210	0.0010	A	(17)		Sensitivity Evaluation	0.00210	
Plutonium-239/240	0.0752	0.0624	W		20.5	0.0437 - 0.0811	0.0103	A
Strontium-90	1.04	1.39	W		-25.2	0.97 - 1.81	0.0915	A
Uranium-234	0.116	0.115	A		0.9	0.081 - 0.150	0.0127	A
Uranium-238	0.118	0.120	A		-1.7	0.084 - 0.156	0.0130	A
Zinc-65	7.00	6.38	A		9.7	4.47 - 8.29	0.441	A

Radiological Reference Date: August 1, 2020

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

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	5.47	4.94	A		10.7	3.46 - 6.42	0.392	A
Cesium-137	0.00449		A			False Positive Test	0.126	
Cobalt-57	7.61	6.67	A		14.1	4.67 - 8.67	0.776	A
Cobalt-60	4.33	4.13	A		4.8	2.89 - 5.37	0.250	A
Manganese-54	6.20	5.84	A		6.2	4.09 - 7.59	0.377	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.64	6.38	A		4.1	4.47 - 8.29	0.466	A

Radiological Reference Date: August 1, 2020

Result 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%

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Notes:

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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.103	0.103	A		0.0	0.072 - 0.134	0.031	N
Cesium-134	5.61	4.94	A		13.6	3.46 - 6.42	0.13	A
Cesium-137	0.070		A			False Positive Test	0.094	
Cobalt-57	8.14	6.67	W		22.0	4.67 - 8.67	0.21	A
Cobalt-60	4.39	4.13	A		6.3	2.89 - 5.37	0.12	A
Manganese-54	6.20	5.84	A		6.2	4.09 - 7.59	0.20	A
Plutonium-238	-0.00050	0.0010	A	(17)		Sensitivity Evaluation	0.00021	
Plutonium-239/240	0.060	0.0624	A		-3.8	0.0437 - 0.0811	0.010	W
Strontium-90	0.994	1.39	W		-28.5	0.97 - 1.81	0.027	A
Uranium-234	0.190	0.115	N		65.2	0.081 - 0.150	0.022	A
Uranium-238	0.161	0.120	N		34.2	0.084 - 0.156	0.020	A
Zinc-65	6.74	6.38	A		5.6	4.47 - 8.29	0.31	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	3.635	4.94	W		-26.4	3.46 - 6.42	0.162	A
Cesium-137	0.0341		A			False Positive Test	0.0987	
Cobalt-57	5.855	6.67	A		-12.2	4.67 - 8.67	0.155	A
Cobalt-60	3.122	4.13	W		-24.4	2.89 - 5.37	0.177	A
Manganese-54	4.524	5.84	W		-22.5	4.09 - 7.59	0.282	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	1.01	1.39	W		-27.3	0.97 - 1.81	0.0249	A
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	4.706	6.38	W		-26.2	4.47 - 8.29	0.586	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43
 (TELE02) ATI Environmental, Inc., Midwest Lab
 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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.73	4.94	A		-4.3	3.46 - 6.42	0.10	A
Cesium-137	0.03		A			False Positive Test	0.06	
Cobalt-57	7.83	6.67	A		17.4	4.67 - 8.67	0.12	N
Cobalt-60	4.41	4.13	A		6.8	2.89 - 5.37	0.10	A
Manganese-54	6.52	5.84	A		11.6	4.09 - 7.59	0.18	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	7.26	6.38	A		13.8	4.47 - 8.29	0.19	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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

Laboratory Results For MAPEP-20-RdV43
 (TMAO01) EBERLINE SERVICES OAK RIDGE LABORATORY
 601 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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.417	4.94	A		-10.6	3.46 - 6.42	.722	W
Cesium-137	-0.143		A			False Positive Test	.477	
Cobalt-57	2.01	6.67	N		-69.9	4.67 - 8.67	.238	A
Cobalt-60	4.295	4.13	A		4.0	2.89 - 5.37	.555	A
Manganese-54	5.96	5.84	A		2.1	4.09 - 7.59	.987	W
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	.137	0.115	A		19.1	0.081 - 0.150	.025	W
Uranium-238	.128	0.120	A		6.7	0.084 - 0.156	.025	W
Zinc-65	6.434	6.38	A		0.8	4.47 - 8.29	1.598	W

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103				0.072 - 0.134		
Cesium-134	4.78	4.94	A		-3.2	3.46 - 6.42	0.44	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	6.76	6.67	A		1.3	4.67 - 8.67	0.56	A
Cobalt-60	4.37	4.13	A		5.8	2.89 - 5.37	0.47	A
Manganese-54	6.30	5.84	A		7.9	4.09 - 7.59	0.77	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.79	6.38	A		6.4	4.47 - 8.29	1.37	W

Radiological Reference Date: August 1, 2020

Result Flags:

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

Laboratory Results For MAPEP-20-RdV43
 (WEST04) PACE ANALYTICAL SERVICES, PITTSBURGH
 1638 Roseytown Road
 Greensburg, PA 15601

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0947	0.103	A		-8.1	0.072 - 0.134	0.0165	W
Cesium-134	3.873	4.94	W		-21.6	3.46 - 6.42	0.452	A
Cesium-137	-0.0238		A			False Positive Test	0.1023	
Cobalt-57	3.9601	6.67	N		-40.6	4.67 - 8.67	0.4912	A
Cobalt-60	3.7808	4.13	A		-8.5	2.89 - 5.37	0.4337	A
Manganese-54	5.7344	5.84	A		-1.8	4.09 - 7.59	0.6711	A
Plutonium-238	-0.0004	0.0010	A	(17)		Sensitivity Evaluation	0.0020	
Plutonium-239/240	0.0566	0.0624	A		-9.3	0.0437 - 0.0811	0.0102	W
Strontium-90	1.1970	1.39	A		-13.9	0.97 - 1.81	0.1931	W
Uranium-234	0.1251	0.115	A		8.8	0.081 - 0.150	0.0191	W
Uranium-238	0.1247	0.120	A		3.9	0.084 - 0.156	0.0190	W
Zinc-65	4.9628	6.38	W		-22.2	4.47 - 8.29	0.6120	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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

Laboratory Results For MAPEP-20-RdV43
 (WIPH01) WI, DPH, Radiation Protection Section
 1 West Wilson Street
 Madison, WI 53701

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.113	0.103	A		9.7	0.072 - 0.134	.2404	N
Cesium-134	4.744	4.94	A		-4.0	3.46 - 6.42	.1019	A
Cesium-137	.021		A			False Positive Test	.0408	
Cobalt-57	7.057	6.67	A		5.8	4.67 - 8.67	.2047	A
Cobalt-60	4.296	4.13	A		4.0	2.89 - 5.37	.1069	A
Manganese-54	6.016	5.84	A		3.0	4.09 - 7.59	.2029	A
Plutonium-238	NR	0.0010				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624				0.0437 - 0.0811		
Strontium-90	NR	1.39				0.97 - 1.81		
Uranium-234	NR	0.115				0.081 - 0.150		
Uranium-238	NR	0.120				0.084 - 0.156		
Zinc-65	6.886	6.38	A		7.9	4.47 - 8.29	.2993	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.104	0.103	A		1.0	0.072 - 0.134	.00438	A
Cesium-134	4.64	4.94	A		-6.1	3.46 - 6.42	.117	A
Cesium-137	.0364		A			False Positive Test	.0519	
Cobalt-57	7.75	6.67	A		16.2	4.67 - 8.67	.207	A
Cobalt-60	4.61	4.13	A		11.6	2.89 - 5.37	.134	A
Manganese-54	6.64	5.84	A		13.7	4.09 - 7.59	.160	A
Plutonium-238	.000585	0.0010	A	(17)		Sensitivity Evaluation	.000343	
Plutonium-239/240	.0622	0.0624	A		-0.3	0.0437 - 0.0811	.00521	A
Strontium-90	1.27	1.39	A		-8.6	0.97 - 1.81	.0687	A
Uranium-234	.116	0.115	A		0.9	0.081 - 0.150	.0130	A
Uranium-238	.116	0.120	A		-3.3	0.084 - 0.156	.0130	A
Zinc-65	7.23	6.38	A		13.3	4.47 - 8.29	.315	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

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- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43
 (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	0.070				0.049 - 0.091		
Uranium-238	NR	9.6				6.7 - 12.5		
Uranium-Total	NR	9.7				6.8 - 12.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.103	N	(28)		0.072 - 0.134		
Cesium-134	4.775	4.94	A		-3.3	3.46 - 6.42	0.144	A
Cesium-137	0.0277		A			False Positive Test	0.0274	
Cobalt-57	6.518	6.67	A		-2.3	4.67 - 8.67	0.21	A
Cobalt-60	4.0629	4.13	A		-1.6	2.89 - 5.37	0.333	A
Manganese-54	5.811	5.84	A		-0.5	4.09 - 7.59	0.251	A
Plutonium-238	NR	0.0010	N	(18)		Sensitivity Evaluation		
Plutonium-239/240	NR	0.0624	N	(28)		0.0437 - 0.0811		
Strontium-90	1.35	1.39	A		-2.9	0.97 - 1.81	0.48	N
Uranium-234	NR	0.115	N	(28)		0.081 - 0.150		
Uranium-238	NR	0.120	N	(28)		0.084 - 0.156		
Zinc-65	6.422	6.38	A		0.7	4.47 - 8.29	0.479	A

Radiological Reference Date: August 1, 2020

Result 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%

RP = Relative Precision

Notes:

- (1) = False Positive
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- (18) = Sensitivity Evaluation, Value Not Reported
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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-20-RdV43

(WSTP99) Cavendish Nuclear Limited

Greson Court

Cumbria, UK CA24 3HZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0610	0.070	A		-12.9	0.049 - 0.091	0.0020	A
Uranium-238	8.53	9.6	A		-11.1	6.7 - 12.5	0.27	A
Uranium-Total	8.84	9.7	A		-8.9	6.8 - 12.6	0.28	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0829	0.103	A		-19.5	0.072 - 0.134	0.0064	A
Cesium-134	5.00	4.94	A		1.2	3.46 - 6.42	0.23	A
Cesium-137	0.053		A			False Positive Test	0.066	
Cobalt-57	6.70	6.67	A		0.5	4.67 - 8.67	0.23	A
Cobalt-60	3.96	4.13	A		-4.1	2.89 - 5.37	0.11	A
Manganese-54	5.49	5.84	A		-6.0	4.09 - 7.59	0.21	A
Plutonium-238	0.0080	0.0010	A	(17)		Sensitivity Evaluation	0.0031	
Plutonium-239/240	0.0507	0.0624	A		-18.8	0.0437 - 0.0811	0.0037	A
Strontium-90	1.594	1.39	A		14.7	0.97 - 1.81	0.092	A
Uranium-234	0.0937	0.115	A		-18.5	0.081 - 0.150	0.0057	A
Uranium-238	0.1061	0.120	A		-11.6	0.084 - 0.156	0.0033	A
Zinc-65	5.90	6.38	A		-7.5	4.47 - 8.29	0.13	A

Radiological Reference Date: August 1, 2020

Result 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%

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag

ACCEPTABLE WITH WARNING.....15%<RP<=30%

NOT ACCEPTABLE.....RP>30%

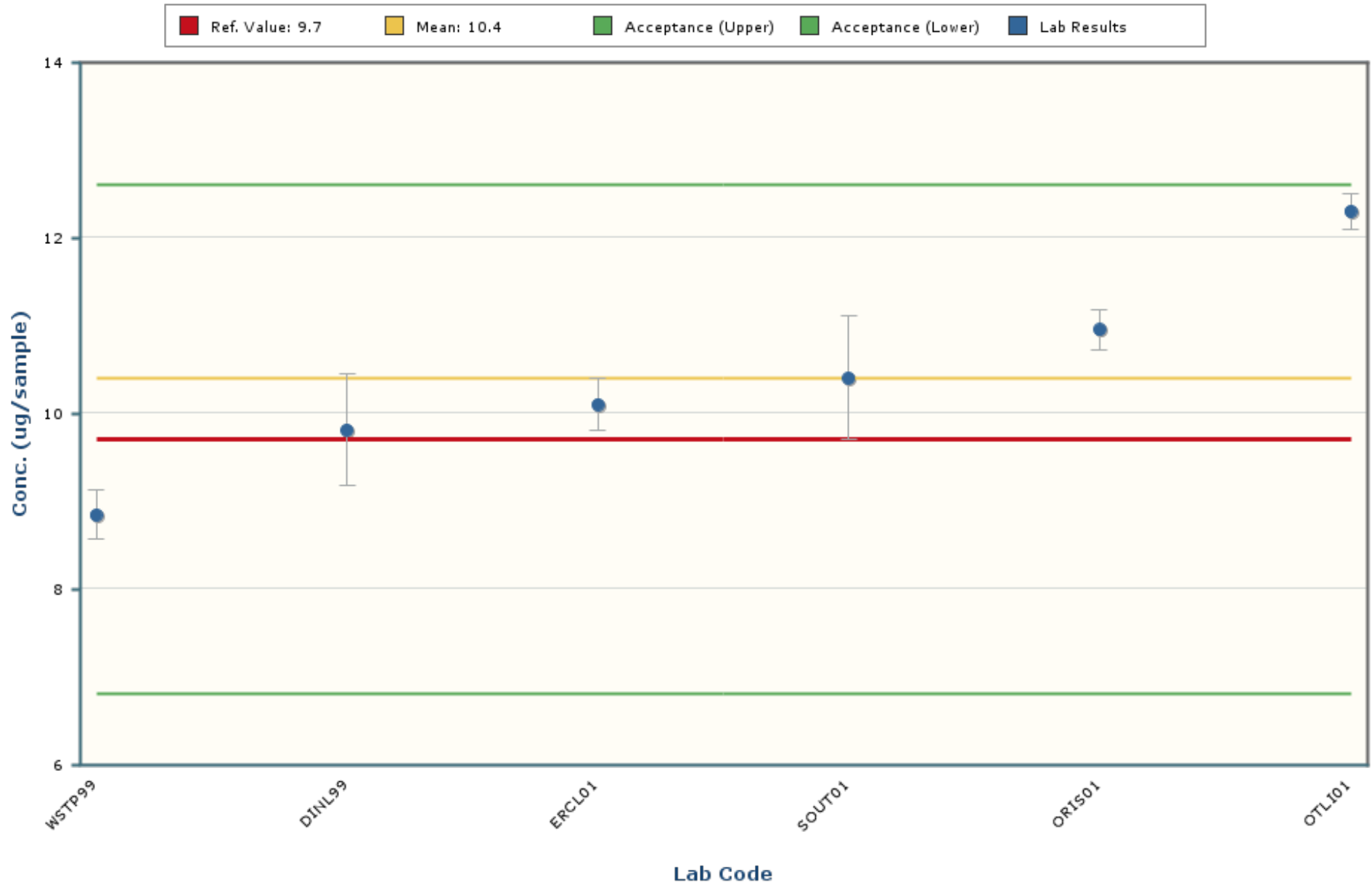
RP = Relative Precision

Notes:

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Uranium-Total

MAPEP-20-RdV43



Notes:

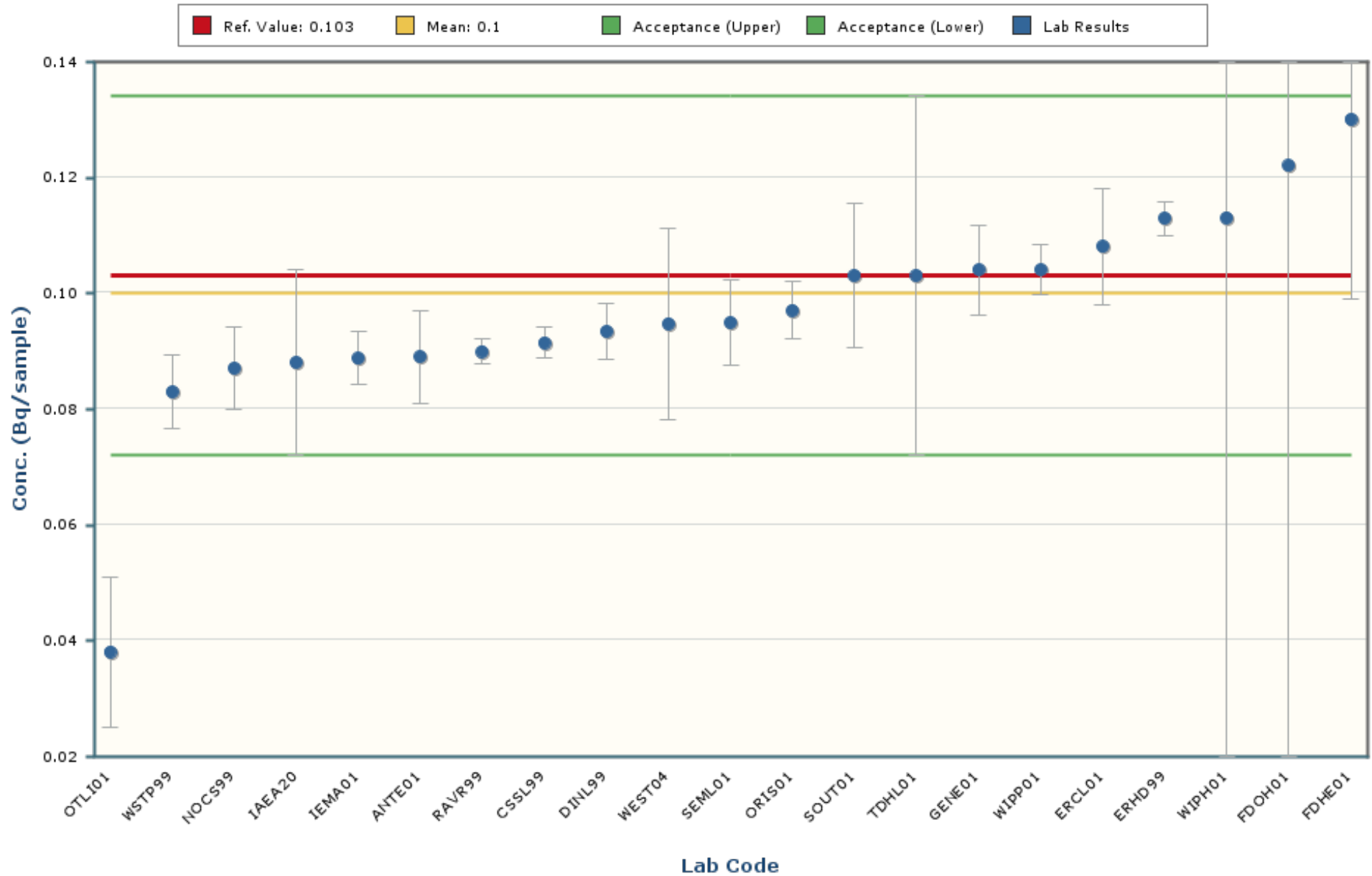
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 4.6 and 16.2 (± 5 Standard Deviations).

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

Americium-241

MAPEP-20-RdV43



Notes:

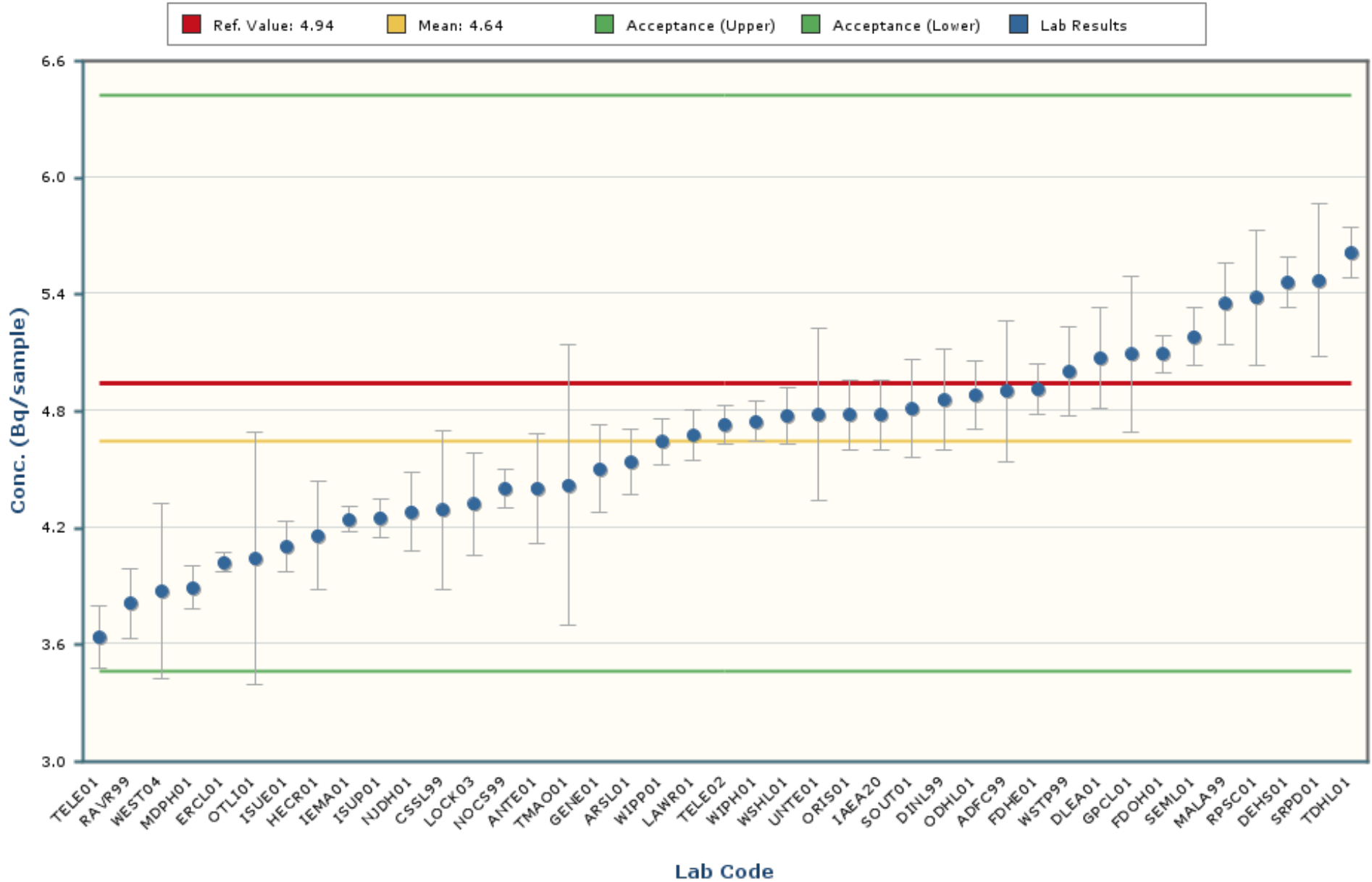
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.037 and 0.162 (± 5 Standard Deviations).

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

Cesium-134

MAPEP-20-RdV43



Notes:

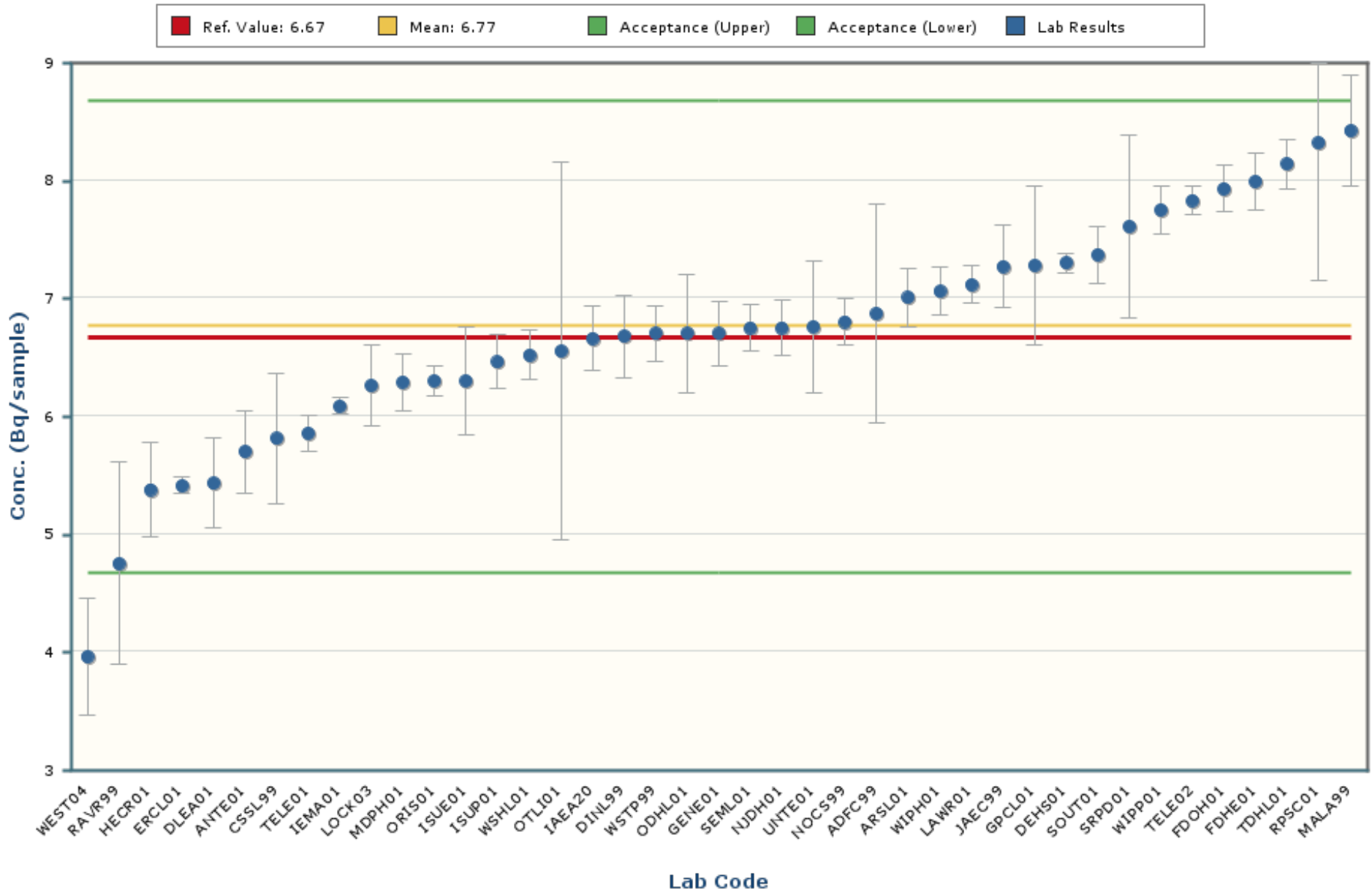
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.17 and 7.10 (± 5 Standard Deviations).

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

Cobalt-57

MAPEP-20-RdV43



Notes:

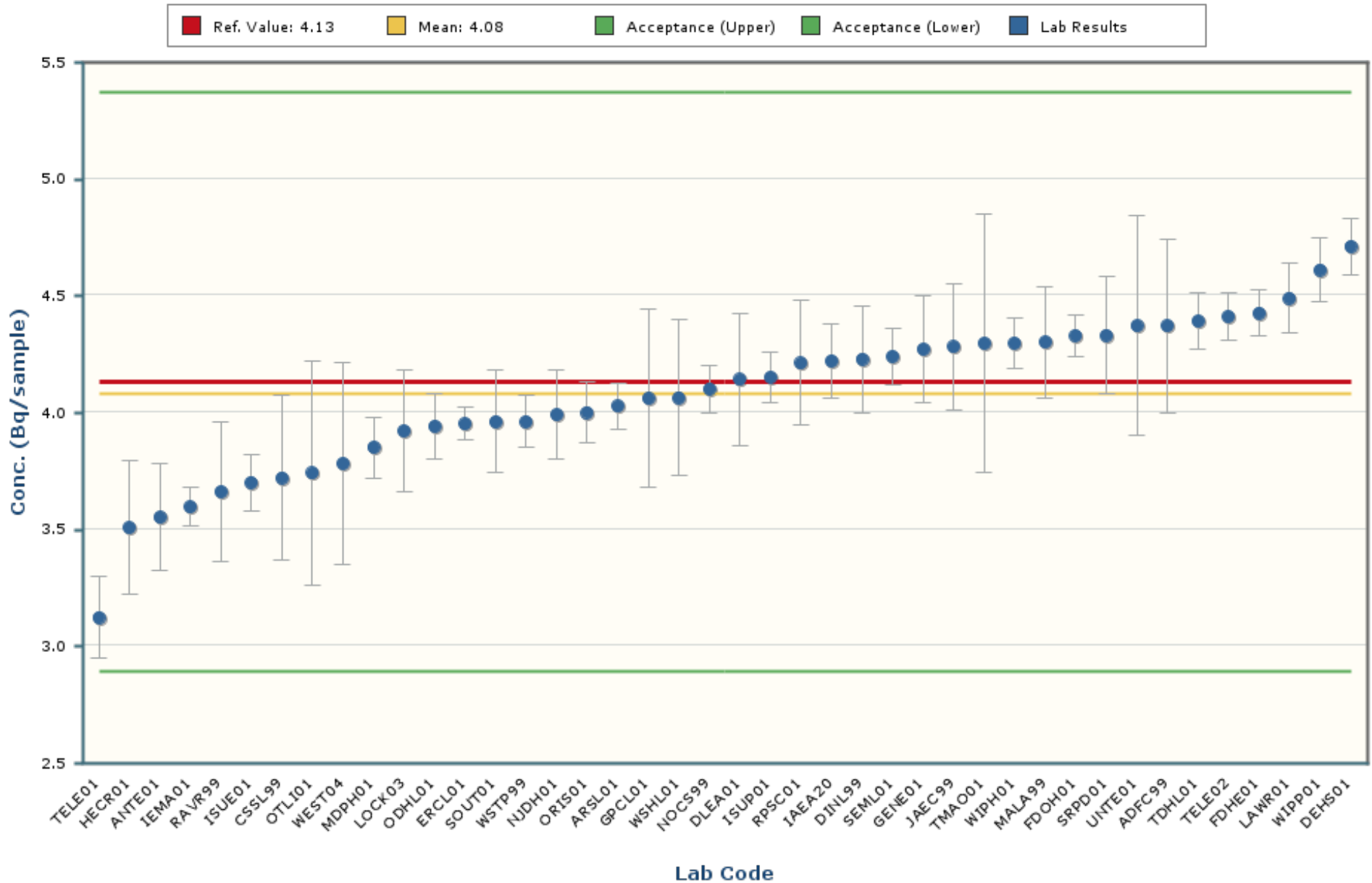
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.51 and 11.03 (± 5 Standard Deviations).

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

Cobalt-60

MAPEP-20-RdV43



Notes:

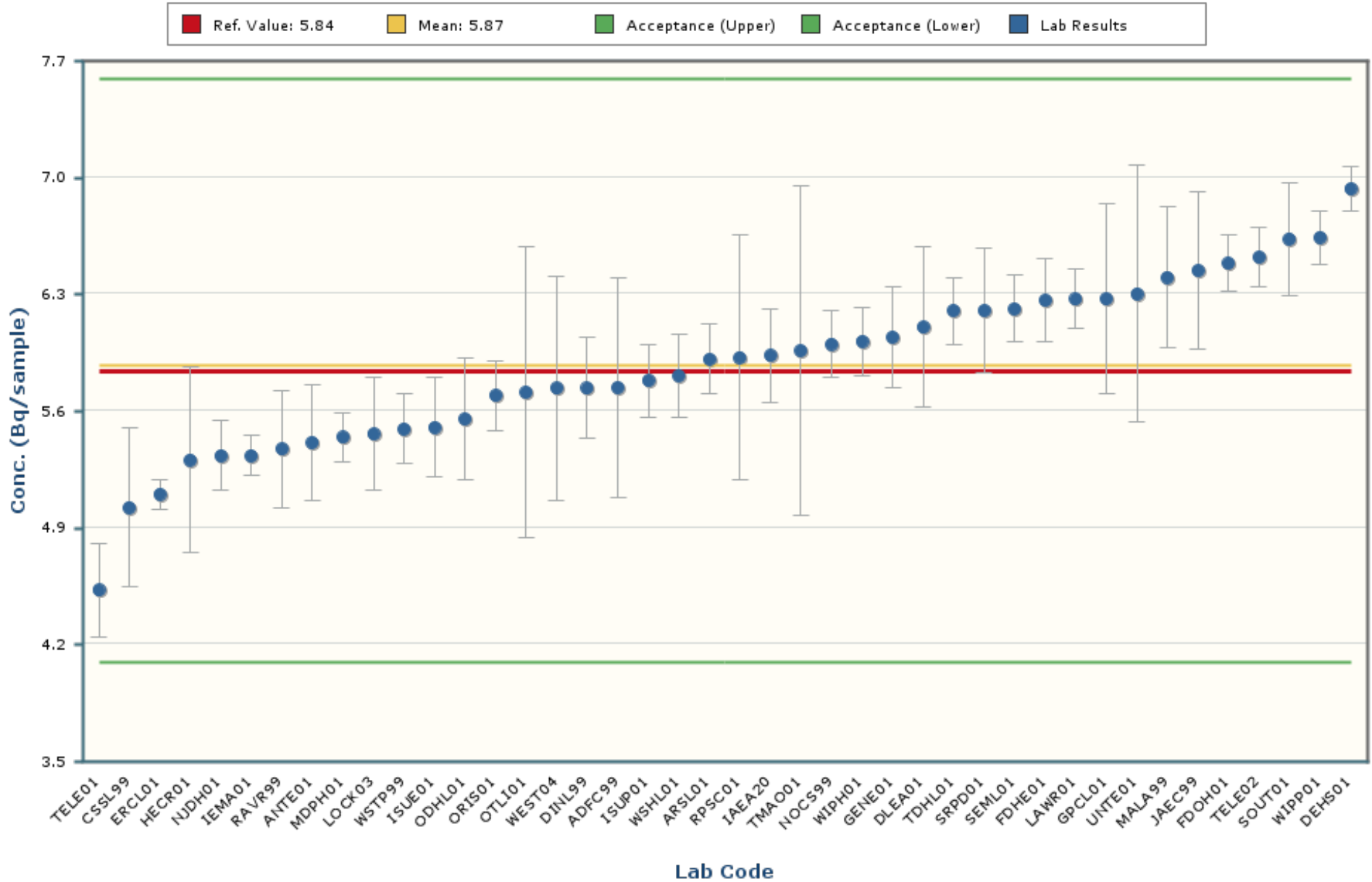
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.45 and 5.71 (± 5 Standard Deviations).

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

Manganese-54

MAPEP-20-RdV43



Notes:

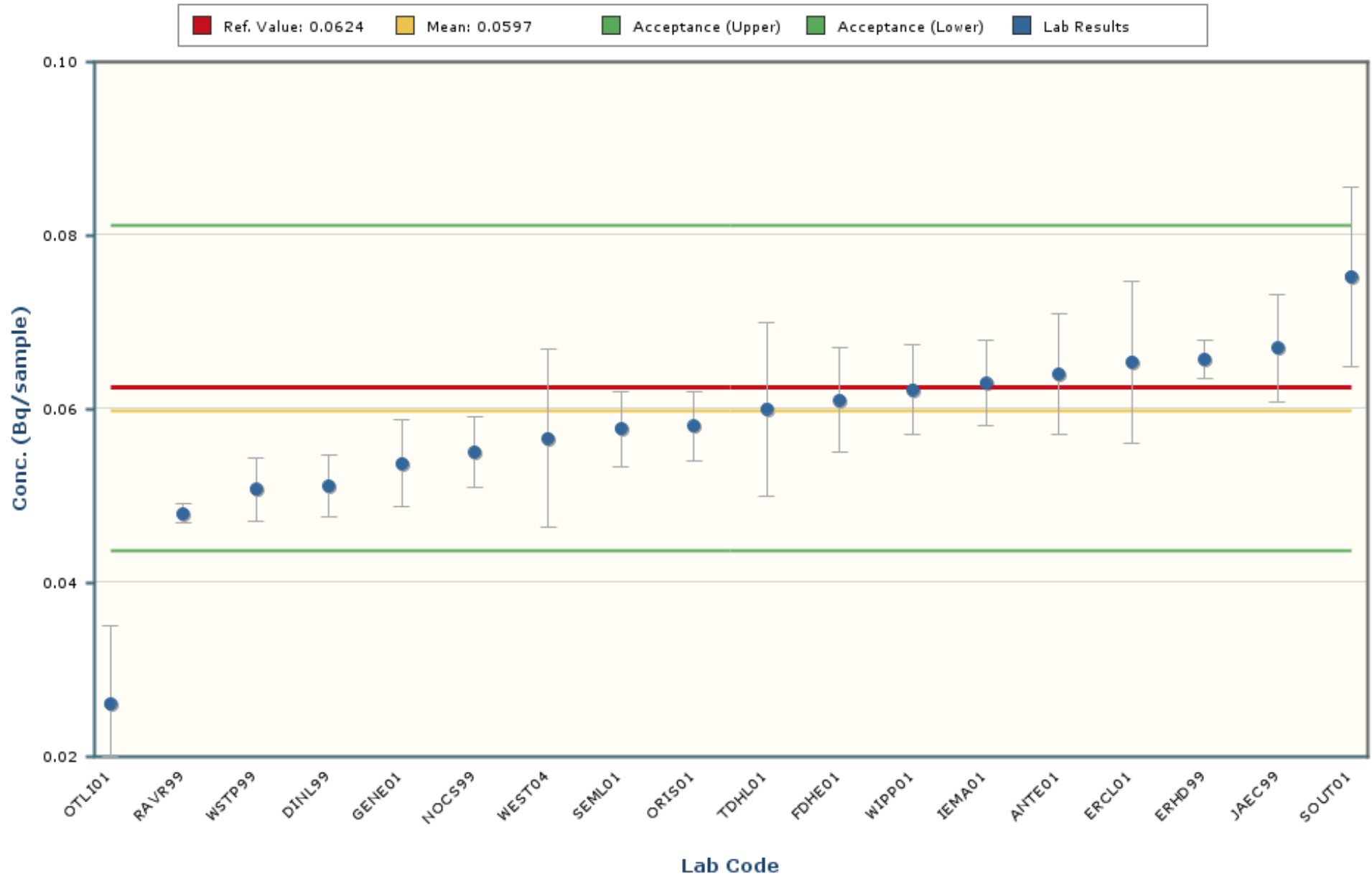
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 3.38 and 8.36 (± 5 Standard Deviations).

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

Plutonium-239/240

MAPEP-20-RdV43



Notes:

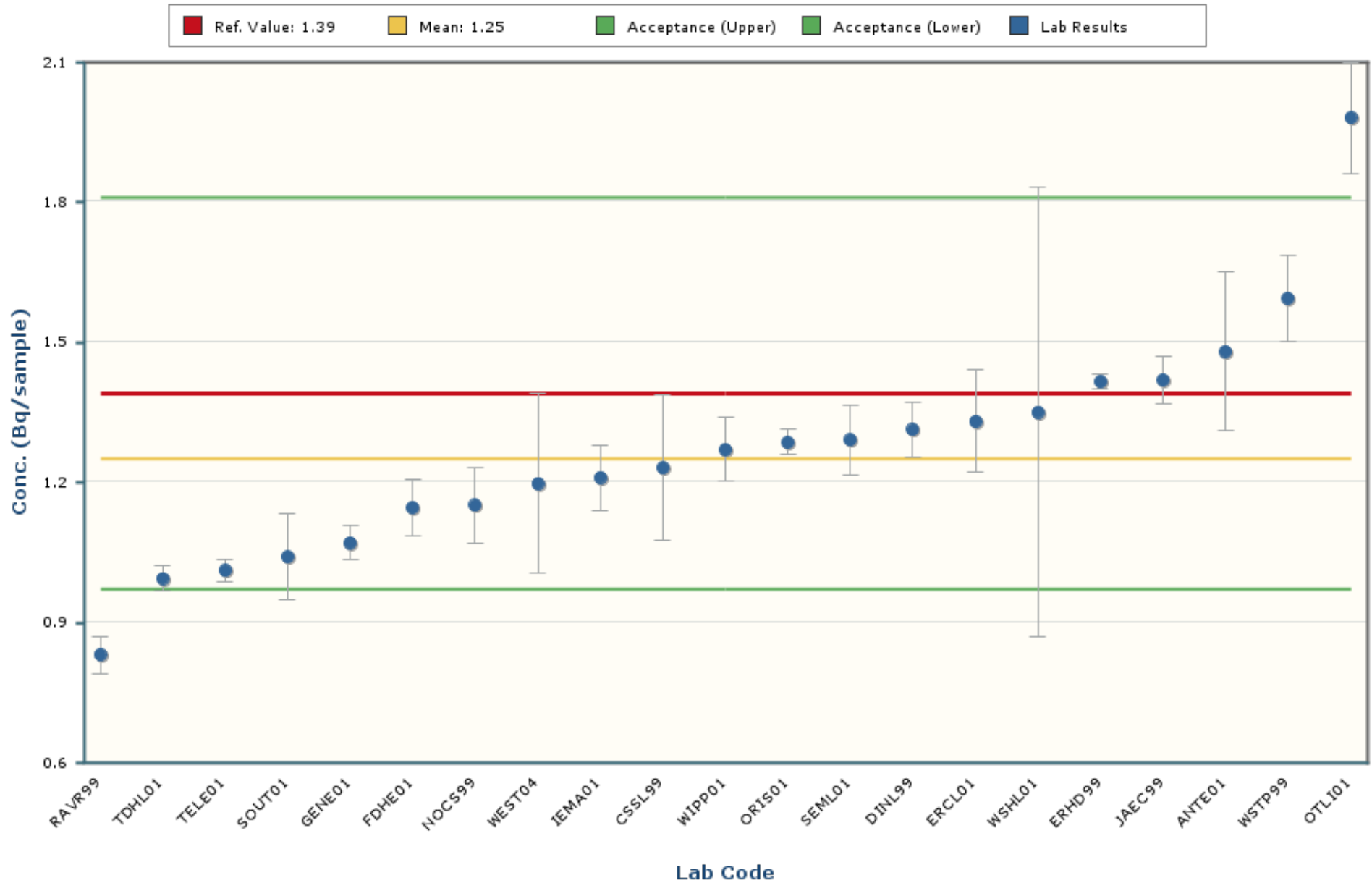
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0250 and 0.0943 (± 5 Standard Deviations).

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

Strontium-90

MAPEP-20-RdV43



Notes:

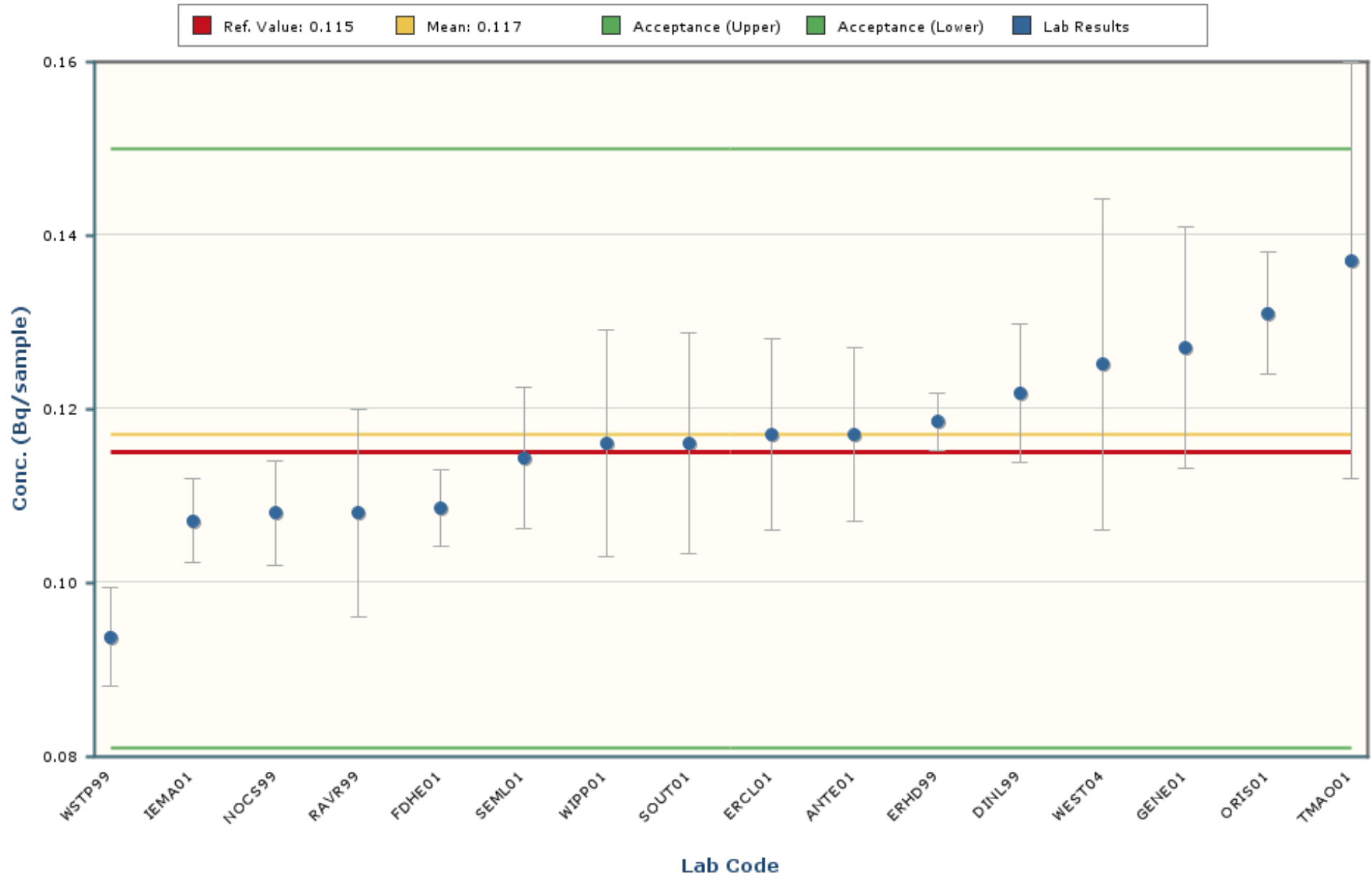
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.44 and 2.07 (± 5 Standard Deviations).

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

Uranium-234

MAPEP-20-RdV43



Notes:

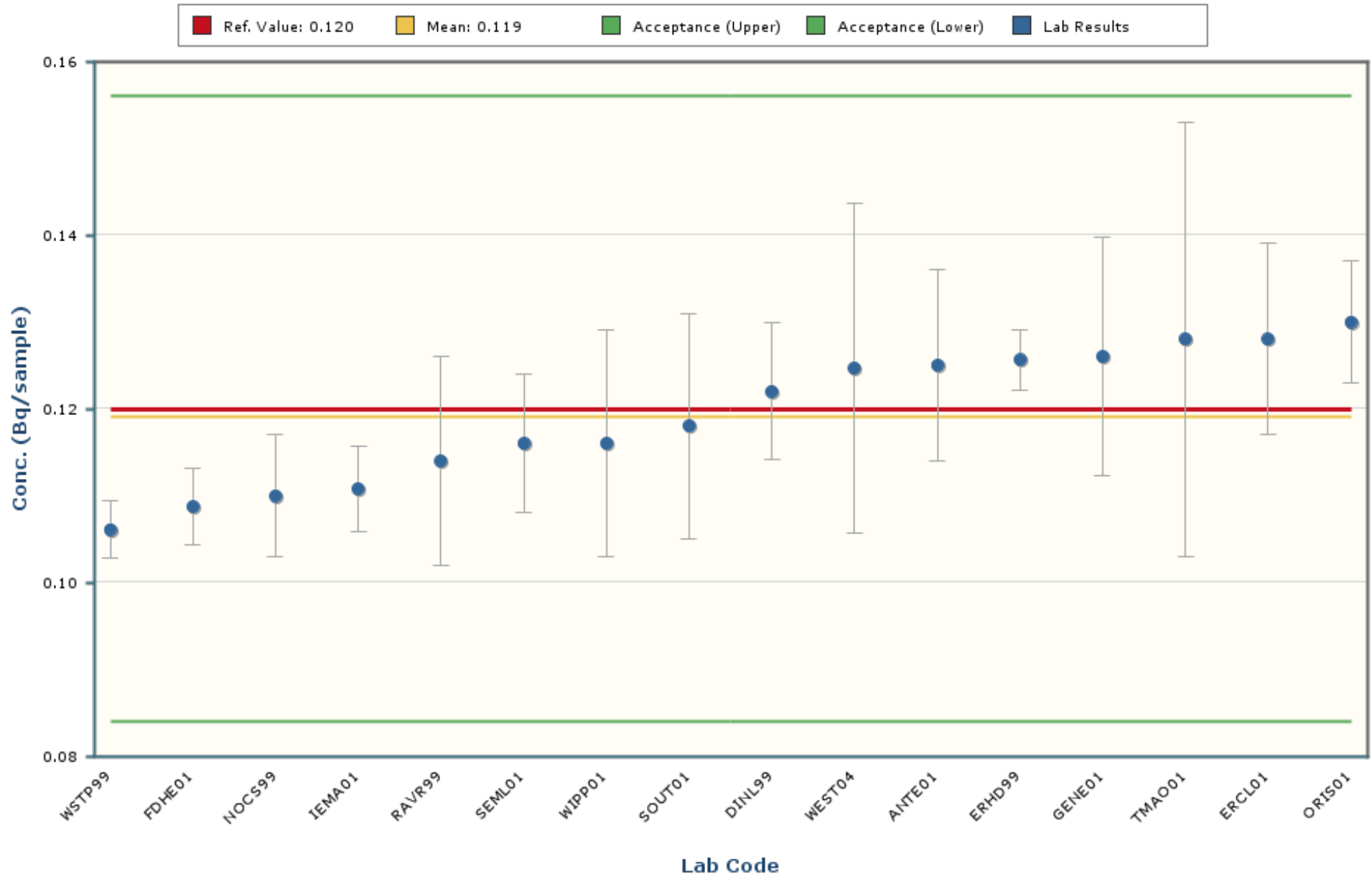
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.064 and 0.169 (± 5 Standard Deviations).

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

Uranium-238

MAPEP-20-RdV43



Notes:

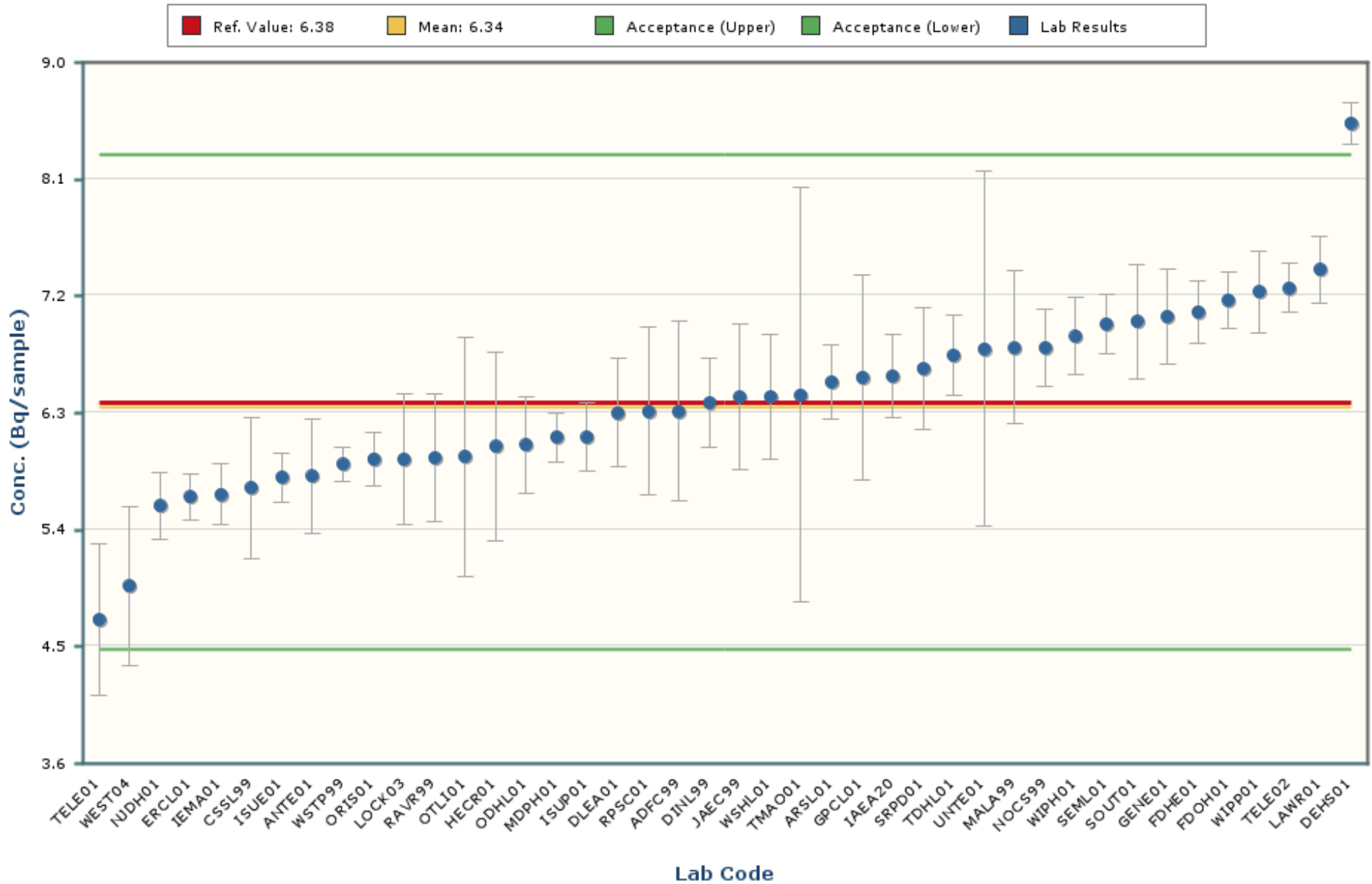
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.080 and 0.158 (± 5 Standard Deviations).

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

Zinc-65

MAPEP-20-RdV43



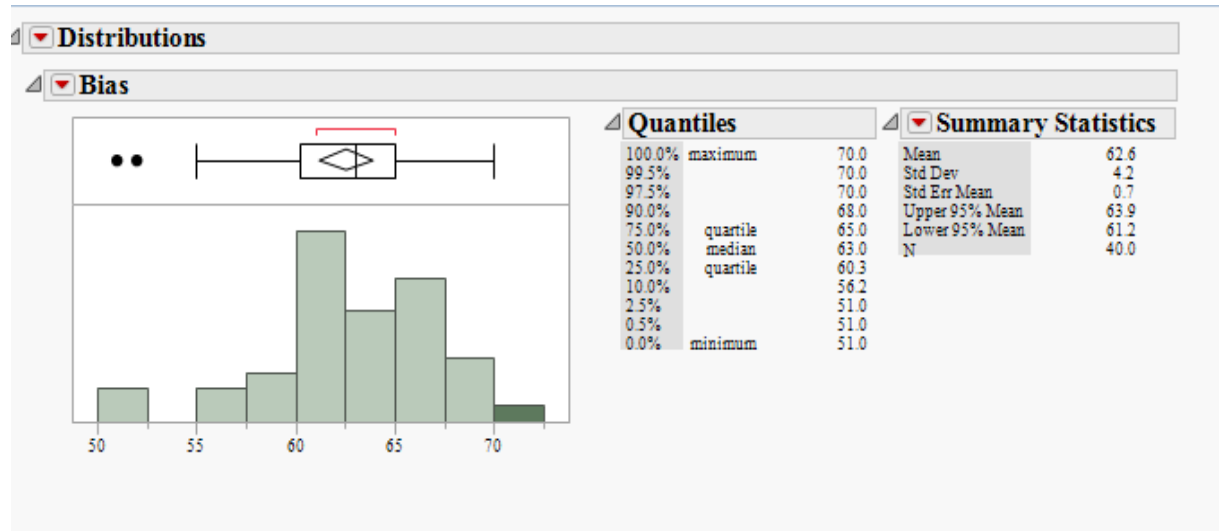
Notes:

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

The chart shows only data points with values between 3.30 and 9.38 (± 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.

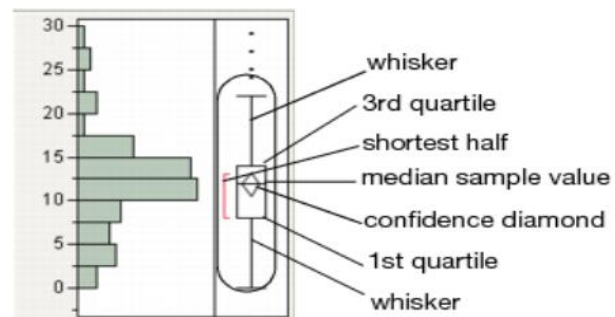


Outlier Box Plot

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)

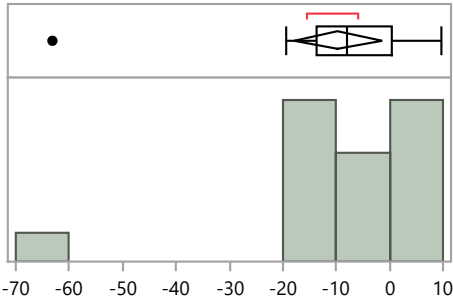


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

RdV Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

Bias



Quantiles

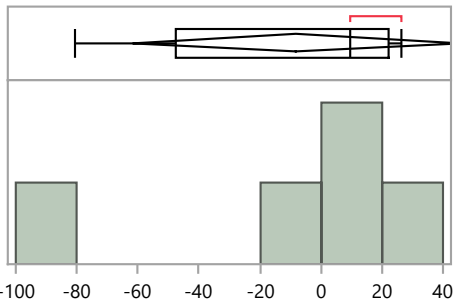
100.0%	maximum	9.6
99.5%		9.6
97.5%		9.6
90.0%		5.8
75.0%	quartile	0.5
50.0%	median	-8.1
25.0%	quartile	-13.8
10.0%		-28.2
2.5%		-63.1
0.5%		-63.1
0.0%	minimum	-63.1

Summary Statistics

Mean	-9.7
Std Dev	15.9
Std Err Mean	3.9
Upper 95% Mean	-1.5
Lower 95% Mean	-17.8
N	17.0

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

Bias



Quantiles

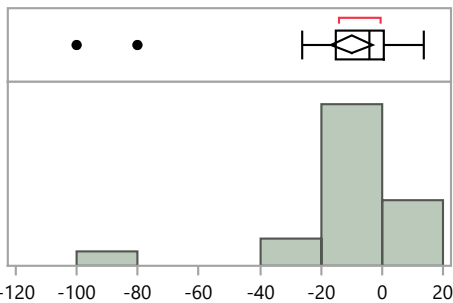
100.0%	maximum	26.2
99.5%		26.2
97.5%		26.2
90.0%		26.2
75.0%	quartile	22.3
50.0%	median	9.7
25.0%	quartile	-47.6
10.0%		-80.6
2.5%		-80.6
0.5%		-80.6
0.0%	minimum	-80.6

Summary Statistics

Mean	-8.2
Std Dev	43.3
Std Err Mean	19.4
Upper 95% Mean	45.6
Lower 95% Mean	-61.9
N	5.0

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	13.6
99.5%		13.6
97.5%		13.5
90.0%		8.8
75.0%	quartile	0.3
50.0%	median	-4.3
25.0%	quartile	-15.0
10.0%		-22.6
2.5%		-99.0
0.5%		-100.0
0.0%	minimum	-100.0

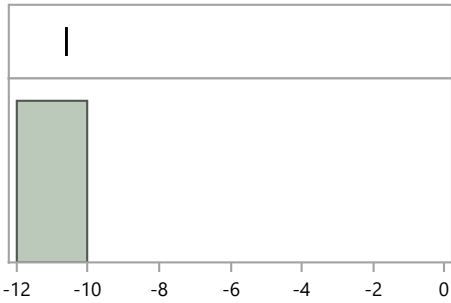
Summary Statistics

Mean	-10.0
Std Dev	21.0
Std Err Mean	3.3
Upper 95% Mean	-3.4
Lower 95% Mean	-16.6
N	41.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Cesium-134 Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Quantiles

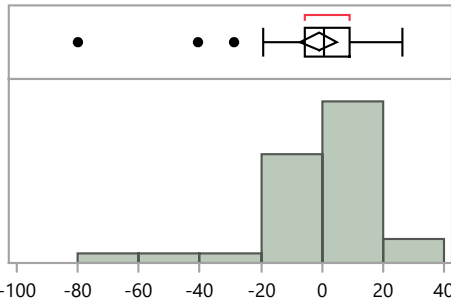
100.0%	maximum	-10.6
99.5%		-10.6
97.5%		-10.6
90.0%		-10.6
75.0%	quartile	-10.6
50.0%	median	-10.6
25.0%	quartile	-10.6
10.0%		-10.6
2.5%		-10.6
0.5%		-10.6
0.0%	minimum	-10.6

Summary Statistics

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

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

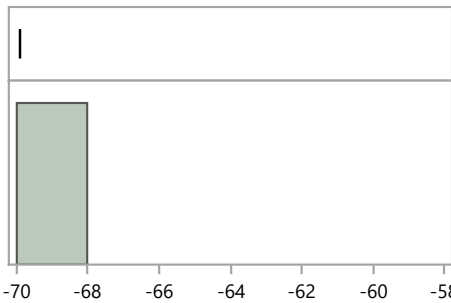
100.0%	maximum	26.2
99.5%		26.2
97.5%		26.1
90.0%		19.6
75.0%	quartile	9.3
50.0%	median	0.5
25.0%	quartile	-5.9
10.0%		-19.3
2.5%		-77.9
0.5%		-79.9
0.0%	minimum	-79.9

Summary Statistics

Mean	-1.1
Std Dev	18.8
Std Err Mean	2.9
Upper 95% Mean	4.8
Lower 95% Mean	-7.1
N	41.0

Distributions Analyte_Detection=Cobalt-57 Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Quantiles

100.0%	maximum	-69.9
99.5%		-69.9
97.5%		-69.9
90.0%		-69.9
75.0%	quartile	-69.9
50.0%	median	-69.9
25.0%	quartile	-69.9
10.0%		-69.9
2.5%		-69.9
0.5%		-69.9
0.0%	minimum	-69.9

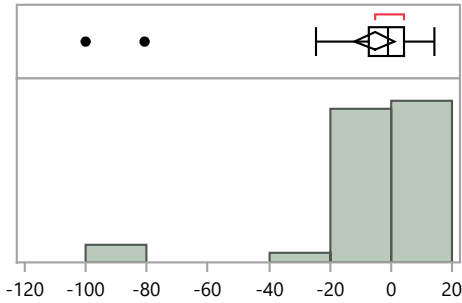
Summary Statistics

Mean	-69.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

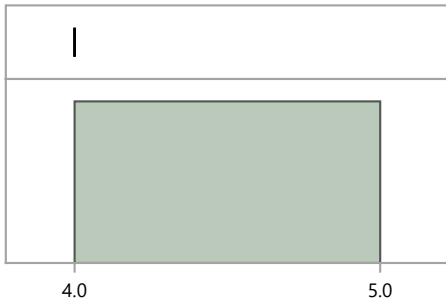
100.0%	maximum	14.0
99.5%		14.0
97.5%		13.8
90.0%		7.0
75.0%	quartile	4.3
50.0%	median	-1.2
25.0%	quartile	-7.2
10.0%		-14.5
2.5%		-98.6
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics

Mean	-5.3
Std Dev	20.8
Std Err Mean	3.2
Upper 95% Mean	1.1
Lower 95% Mean	-11.8
N	42.0

Distributions Analyte_Detection=Cobalt-60 Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Quantiles

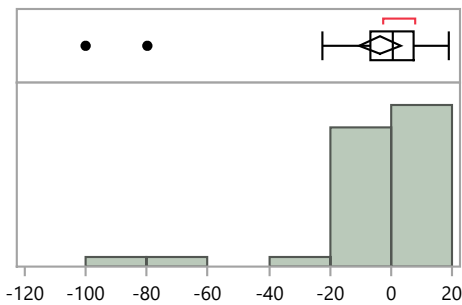
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	4.0
50.0%	median	4.0
25.0%	quartile	4.0
10.0%		4.0
2.5%		4.0
0.5%		4.0
0.0%	minimum	4.0

Summary Statistics

Mean	4.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Manganese-54 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	18.7
99.5%		18.7
97.5%		18.3
90.0%		11.4
75.0%	quartile	7.2
50.0%	median	0.4
25.0%	quartile	-6.6
10.0%		-13.6
2.5%		-98.5
0.5%		-100.0
0.0%	minimum	-100.0

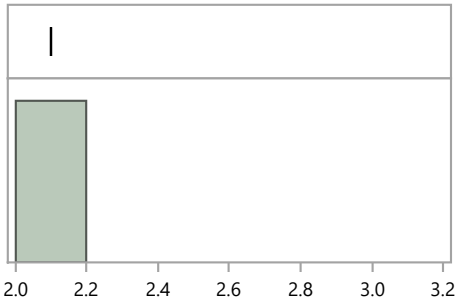
Summary Statistics

Mean	-3.6
Std Dev	21.4
Std Err Mean	3.3
Upper 95% Mean	3.1
Lower 95% Mean	-10.3
N	42.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Manganese-54 Gross Alpha/Beta - 2 pi gas flow proportional counter

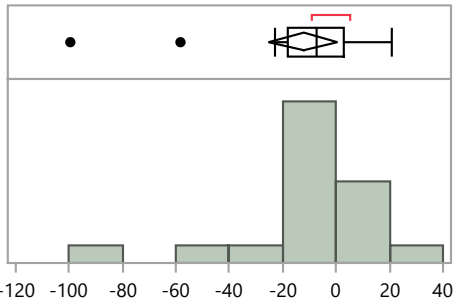
Bias



Quantiles		Summary Statistics		
100.0%	maximum	2.1	Mean	2.1
99.5%		2.1	Std Dev	.
97.5%		2.1	Std Err Mean	.
90.0%		2.1	Upper 95% Mean	.
75.0%	quartile	2.1	Lower 95% Mean	.
50.0%	median	2.1	N	1.0
25.0%	quartile	2.1		
10.0%		2.1		
2.5%		2.1		
0.5%		2.1		
0.0%	minimum	2.1		

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

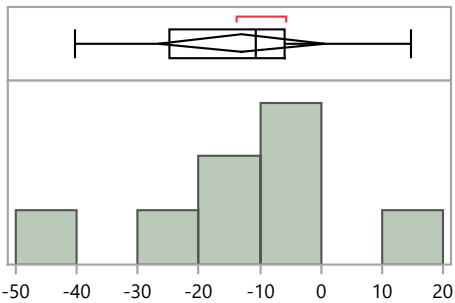
Bias



Quantiles		Summary Statistics		
100.0%	maximum	20.5	Mean	-12.2
99.5%		20.5	Std Dev	26.6
97.5%		20.5	Std Err Mean	6.1
90.0%		7.4	Upper 95% Mean	0.6
75.0%	quartile	2.6	Lower 95% Mean	-25.1
50.0%	median	-7.1	N	19.0
25.0%	quartile	-18.1		
10.0%		-58.3		
2.5%		-99.5		
0.5%		-99.5		
0.0%	minimum	-99.5		

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias

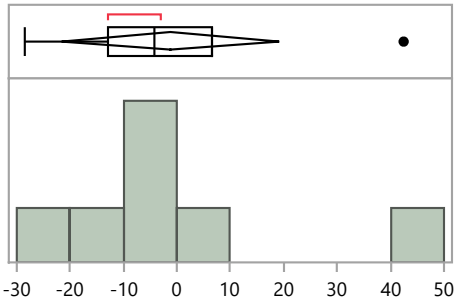


Quantiles		Summary Statistics		
100.0%	maximum	14.7	Mean	-13.1
99.5%		14.7	Std Dev	16.3
97.5%		14.7	Std Err Mean	5.8
90.0%		14.7	Upper 95% Mean	0.5
75.0%	quartile	-6.0	Lower 95% Mean	-26.7
50.0%	median	-10.8	N	8.0
25.0%	quartile	-24.9		
10.0%		-40.3		
2.5%		-40.3		
0.5%		-40.3		
0.0%	minimum	-40.3		

RdV Distribution by Detection Method

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

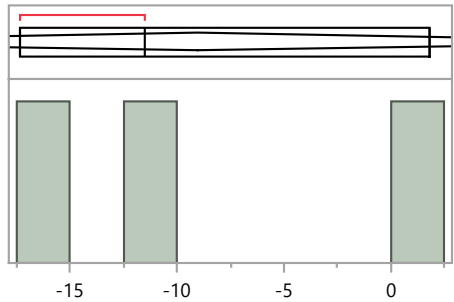
Bias



Quantiles			Summary Statistics	
100.0%	maximum	42.4	Mean	-1.2
99.5%		42.4	Std Dev	22.0
97.5%		42.4	Std Err Mean	8.3
90.0%		42.4	Upper 95% Mean	19.2
75.0%	quartile	6.5	Lower 95% Mean	-21.6
50.0%	median	-4.3	N	7.0
25.0%	quartile	-13.0		
10.0%		-28.5		
2.5%		-28.5		
0.5%		-28.5		
0.0%	minimum	-28.5		

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

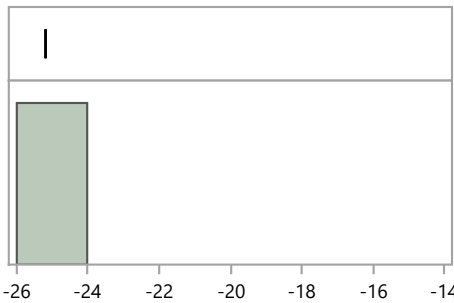
Bias



Quantiles			Summary Statistics	
100.0%	maximum	1.8	Mean	-9.0
99.5%		1.8	Std Dev	9.8
97.5%		1.8	Std Err Mean	5.7
90.0%		1.8	Upper 95% Mean	15.3
75.0%	quartile	1.8	Lower 95% Mean	-33.3
50.0%	median	-11.5	N	3.0
25.0%	quartile	-17.3		
10.0%		-17.3		
2.5%		-17.3		
0.5%		-17.3		
0.0%	minimum	-17.3		

Distributions Analyte_Detection=Strontium-90 Other

Bias

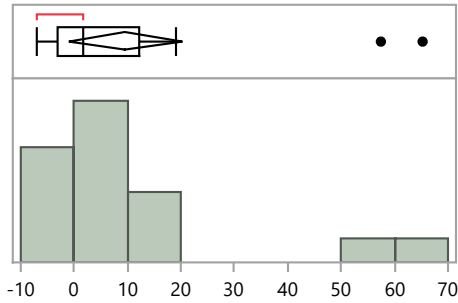


Quantiles			Summary Statistics	
100.0%	maximum	-25.2	Mean	-25.2
99.5%		-25.2	Std Dev	.
97.5%		-25.2	Std Err Mean	.
90.0%		-25.2	Upper 95% Mean	.
75.0%	quartile	-25.2	Lower 95% Mean	.
50.0%	median	-25.2	N	1.0
25.0%	quartile	-25.2		
10.0%		-25.2		
2.5%		-25.2		
0.5%		-25.2		
0.0%	minimum	-25.2		

RdV Distribution by Detection Method

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

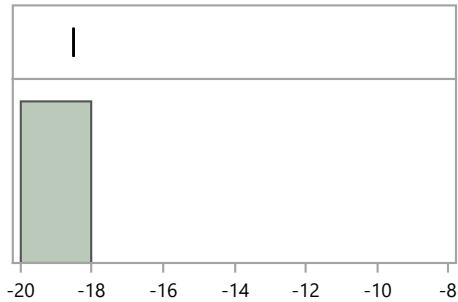
100.0%	maximum	65.2
99.5%		65.2
97.5%		65.2
90.0%		59.0
75.0%	quartile	12.2
50.0%	median	1.7
25.0%	quartile	-3.1
10.0%		-6.3
2.5%		-6.9
0.5%		-6.9
0.0%	minimum	-6.9

Summary Statistics

Mean	9.6
Std Dev	20.8
Std Err Mean	5.0
Upper 95% Mean	20.3
Lower 95% Mean	-1.1
N	17.0

Distributions Analyte_Detection=Uranium-234 Inductively Coupled Plasma Mass Spectrometry

Bias



Quantiles

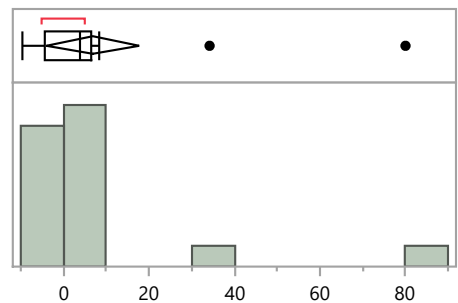
100.0%	maximum	-18.5
99.5%		-18.5
97.5%		-18.5
90.0%		-18.5
75.0%	quartile	-18.5
50.0%	median	-18.5
25.0%	quartile	-18.5
10.0%		-18.5
2.5%		-18.5
0.5%		-18.5
0.0%	minimum	-18.5

Summary Statistics

Mean	-18.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	80.0
99.5%		80.0
97.5%		80.0
90.0%		43.4
75.0%	quartile	6.7
50.0%	median	3.9
25.0%	quartile	-4.2
10.0%		-8.5
2.5%		-9.4
0.5%		-9.4
0.0%	minimum	-9.4

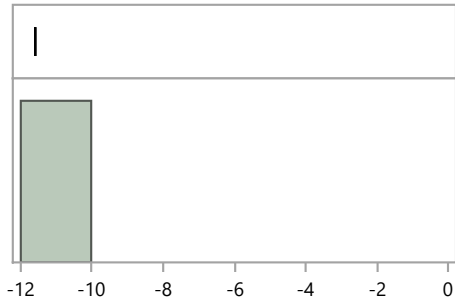
Summary Statistics

Mean	6.9
Std Dev	21.3
Std Err Mean	5.2
Upper 95% Mean	17.8
Lower 95% Mean	-4.1
N	17.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Inductively Coupled Plasma Mass Spectrometry

Bias



Quantiles

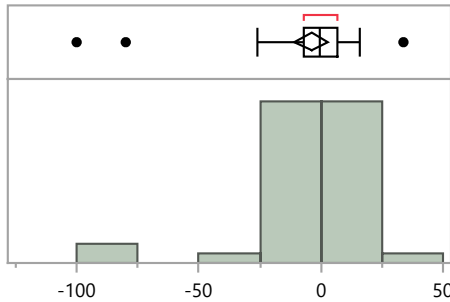
100.0%	maximum	-11.6
99.5%		-11.6
97.5%		-11.6
90.0%		-11.6
75.0%	quartile	-11.6
50.0%	median	-11.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics

Mean	-11.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

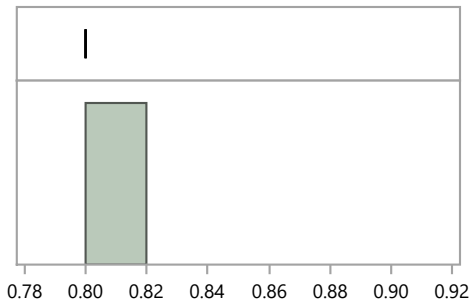
100.0%	maximum	33.7
99.5%		33.7
97.5%		32.4
90.0%		13.0
75.0%	quartile	6.9
50.0%	median	-0.6
25.0%	quartile	-7.1
10.0%		-19.3
2.5%		-98.5
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics

Mean	-3.9
Std Dev	22.3
Std Err Mean	3.4
Upper 95% Mean	3.1
Lower 95% Mean	-10.9
N	42.0

Distributions Analyte_Detection=Zinc-65 Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Quantiles

100.0%	maximum	0.8
99.5%		0.8
97.5%		0.8
90.0%		0.8
75.0%	quartile	0.8
50.0%	median	0.8
25.0%	quartile	0.8
10.0%		0.8
2.5%		0.8
0.5%		0.8
0.0%	minimum	0.8

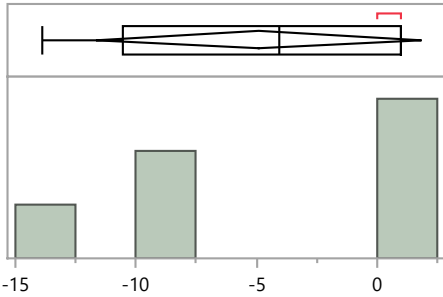
Summary Statistics

Mean	0.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Acid dissolution with hydrofluoric acid

Bias

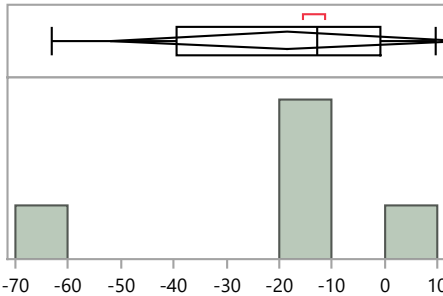


Quantiles		
100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	1.0
50.0%	median	-4.1
25.0%	quartile	-10.5
10.0%		-13.9
2.5%		-13.9
0.5%		-13.9
0.0%	minimum	-13.9

Summary Statistics	
Mean	-4.9
Std Dev	6.4
Std Err Mean	2.6
Upper 95% Mean	1.8
Lower 95% Mean	-11.6
N	6.0

Distributions Analyte_Method=Americium-241 Acid leaching without hydrofluoric acid

Bias

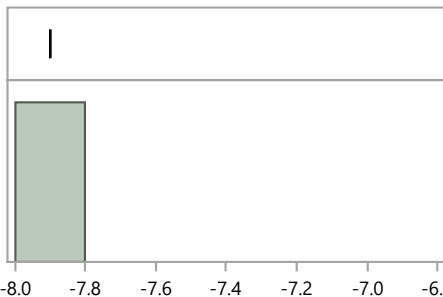


Quantiles		
100.0%	maximum	9.6
99.5%		9.6
97.5%		9.6
90.0%		9.6
75.0%	quartile	-0.9
50.0%	median	-12.7
25.0%	quartile	-39.3
10.0%		-63.1
2.5%		-63.1
0.5%		-63.1
0.0%	minimum	-63.1

Summary Statistics	
Mean	-18.6
Std Dev	26.8
Std Err Mean	12.0
Upper 95% Mean	14.7
Lower 95% Mean	-51.9
N	5.0

Distributions Analyte_Method=Americium-241 Coprecipitation, straight

Bias



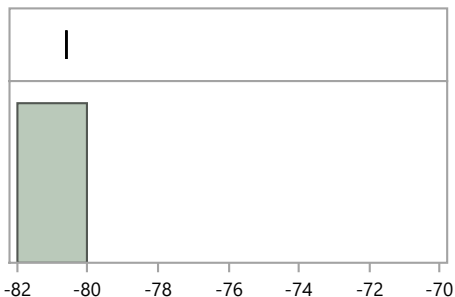
Quantiles		
100.0%	maximum	-7.9
99.5%		-7.9
97.5%		-7.9
90.0%		-7.9
75.0%	quartile	-7.9
50.0%	median	-7.9
25.0%	quartile	-7.9
10.0%		-7.9
2.5%		-7.9
0.5%		-7.9
0.0%	minimum	-7.9

Summary Statistics	
Mean	-7.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Americium-241 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



Quantiles

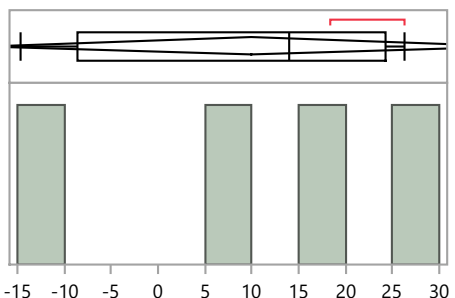
100.0%	maximum	-80.6
99.5%		-80.6
97.5%		-80.6
90.0%		-80.6
75.0%	quartile	-80.6
50.0%	median	-80.6
25.0%	quartile	-80.6
10.0%		-80.6
2.5%		-80.6
0.5%		-80.6
0.0%	minimum	-80.6

Summary Statistics

Mean	-80.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Americium-241 No preparation - analyzed as received

Bias



Quantiles

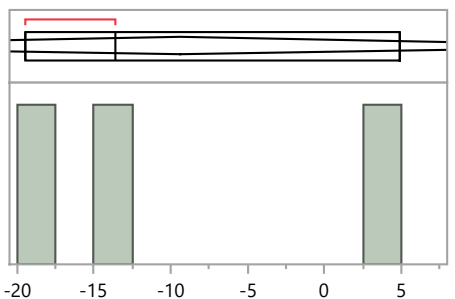
100.0%	maximum	26.2
99.5%		26.2
97.5%		26.2
90.0%		26.2
75.0%	quartile	24.3
50.0%	median	14.1
25.0%	quartile	-8.5
10.0%		-14.6
2.5%		-14.6
0.5%		-14.6
0.0%	minimum	-14.6

Summary Statistics

Mean	9.9
Std Dev	17.7
Std Err Mean	8.8
Upper 95% Mean	38.1
Lower 95% Mean	-18.2
N	4.0

Distributions Analyte_Method=Americium-241 Other

Bias



Quantiles

100.0%	maximum	4.9
99.5%		4.9
97.5%		4.9
90.0%		4.9
75.0%	quartile	4.9
50.0%	median	-13.6
25.0%	quartile	-19.5
10.0%		-19.5
2.5%		-19.5
0.5%		-19.5
0.0%	minimum	-19.5

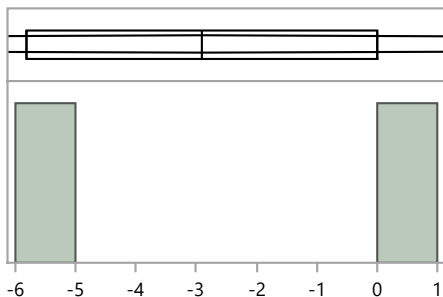
Summary Statistics

Mean	-9.4
Std Dev	12.7
Std Err Mean	7.4
Upper 95% Mean	22.2
Lower 95% Mean	-41.0
N	3.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Total dissolution by fusion

Bias



Quantiles

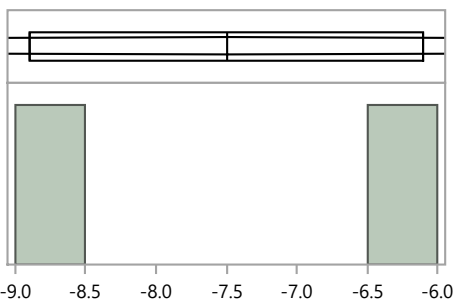
100.0%	maximum	0.0
99.5%		0.0
97.5%		0.0
90.0%		0.0
75.0%	quartile	0.0
50.0%	median	-2.9
25.0%	quartile	-5.8
10.0%		-5.8
2.5%		-5.8
0.5%		-5.8
0.0%	minimum	-5.8

Summary Statistics

Mean	-2.9
Std Dev	4.1
Std Err Mean	2.9
Upper 95% Mean	33.9
Lower 95% Mean	-39.7
N	2.0

Distributions Analyte_Method=Cesium-134 Acid dissolution with hydrofluoric acid

Bias



Quantiles

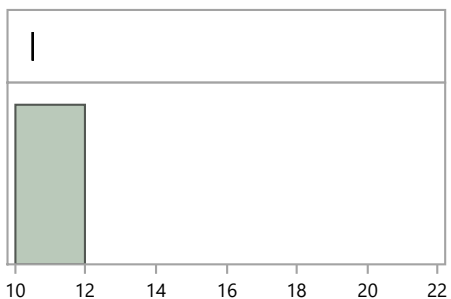
100.0%	maximum	-6.1
99.5%		-6.1
97.5%		-6.1
90.0%		-6.1
75.0%	quartile	-6.1
50.0%	median	-7.5
25.0%	quartile	-8.9
10.0%		-8.9
2.5%		-8.9
0.5%		-8.9
0.0%	minimum	-8.9

Summary Statistics

Mean	-7.5
Std Dev	2.0
Std Err Mean	1.4
Upper 95% Mean	10.3
Lower 95% Mean	-25.3
N	2.0

Distributions Analyte_Method=Cesium-134 Acid leaching without hydrofluoric acid

Bias



Quantiles

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

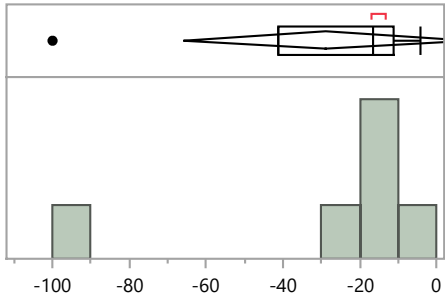
Summary Statistics

Mean	10.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

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

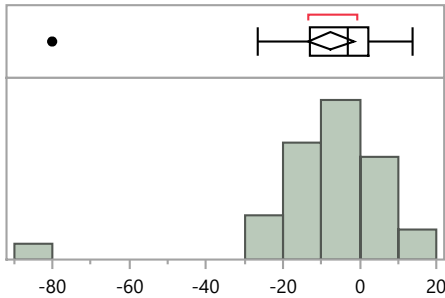
Bias



Quantiles			Summary Statistics	
100.0%	maximum	-4.3	Mean	-28.7
99.5%		-4.3	Std Dev	35.4
97.5%		-4.3	Std Err Mean	14.5
90.0%		-4.3	Upper 95% Mean	8.5
75.0%	quartile	-11.1	Lower 95% Mean	-65.8
50.0%	median	-16.4	N	6.0
25.0%	quartile	-41.2		
10.0%		-100.0		
2.5%		-100.0		
0.5%		-100.0		
0.0%	minimum	-100.0		

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

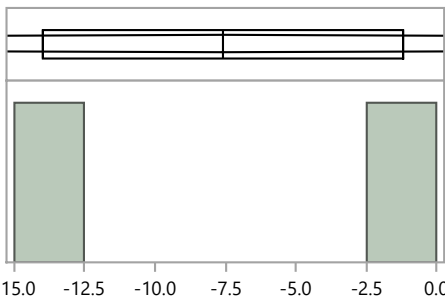
Bias



Quantiles			Summary Statistics	
100.0%	maximum	13.6	Mean	-7.5
99.5%		13.6	Std Dev	16.6
97.5%		13.6	Std Err Mean	2.9
90.0%		8.7	Upper 95% Mean	-1.5
75.0%	quartile	2.3	Lower 95% Mean	-13.5
50.0%	median	-3.3	N	32.0
25.0%	quartile	-13.1		
10.0%		-22.4		
2.5%		-80.1		
0.5%		-80.1		
0.0%	minimum	-80.1		

Distributions Analyte_Method=Cesium-134 Other

Bias

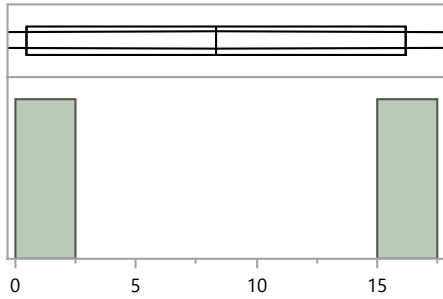


Quantiles			Summary Statistics	
100.0%	maximum	-1.2	Mean	-7.6
99.5%		-1.2	Std Dev	9.1
97.5%		-1.2	Std Err Mean	6.4
90.0%		-1.2	Upper 95% Mean	73.7
75.0%	quartile	-1.2	Lower 95% Mean	-88.9
50.0%	median	-7.6	N	2.0
25.0%	quartile	-14.0		
10.0%		-14.0		
2.5%		-14.0		
0.5%		-14.0		
0.0%	minimum	-14.0		

RdV Distribution by Prep Method

Distributions Analyte_Method=Cobalt-57 Acid dissolution with hydrofluoric acid

Bias



Quantiles

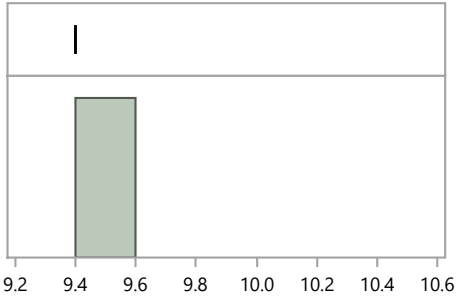
100.0%	maximum	16.2
99.5%		16.2
97.5%		16.2
90.0%		16.2
75.0%	quartile	16.2
50.0%	median	8.4
25.0%	quartile	0.5
10.0%		0.5
2.5%		0.5
0.5%		0.5
0.0%	minimum	0.5

Summary Statistics

Mean	8.4
Std Dev	11.1
Std Err Mean	7.9
Upper 95% Mean	108.1
Lower 95% Mean	-91.4
N	2.0

Distributions Analyte_Method=Cobalt-57 Acid leaching without hydrofluoric acid

Bias



Quantiles

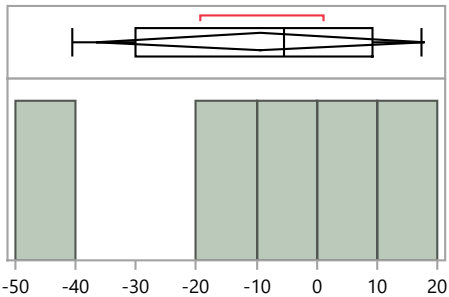
100.0%	maximum	9.4
99.5%		9.4
97.5%		9.4
90.0%		9.4
75.0%	quartile	9.4
50.0%	median	9.4
25.0%	quartile	9.4
10.0%		9.4
2.5%		9.4
0.5%		9.4
0.0%	minimum	9.4

Summary Statistics

Mean	9.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	17.4
99.5%		17.4
97.5%		17.4
90.0%		17.4
75.0%	quartile	9.3
50.0%	median	-5.5
25.0%	quartile	-30.0
10.0%		-40.6
2.5%		-40.6
0.5%		-40.6
0.0%	minimum	-40.6

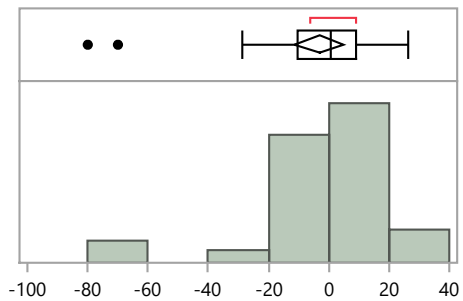
Summary Statistics

Mean	-9.4
Std Dev	21.9
Std Err Mean	9.8
Upper 95% Mean	17.8
Lower 95% Mean	-36.6
N	5.0

RdV Distribution by Prep Method

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

Bias

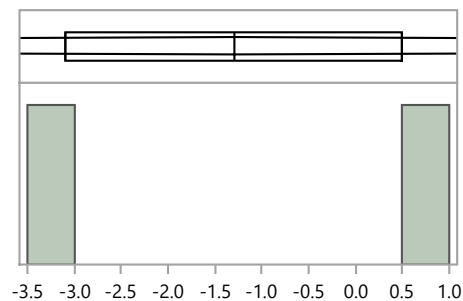


Quantiles		
100.0%	maximum	26.2
99.5%		26.2
97.5%		26.2
90.0%		21.1
75.0%	quartile	9.1
50.0%	median	0.5
25.0%	quartile	-10.5
10.0%		-24.8
2.5%		-79.9
0.5%		-79.9
0.0%	minimum	-79.9

Summary Statistics	
Mean	-3.2
Std Dev	22.6
Std Err Mean	3.9
Upper 95% Mean	4.8
Lower 95% Mean	-11.2
N	33.0

Distributions Analyte_Method=Cobalt-57 Other

Bias

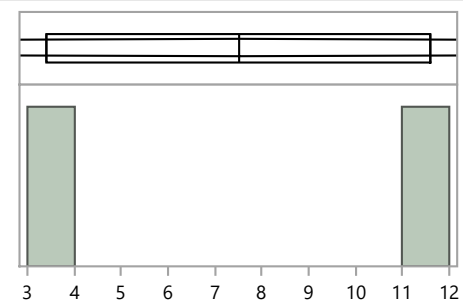


Quantiles		
100.0%	maximum	0.5
99.5%		0.5
97.5%		0.5
90.0%		0.5
75.0%	quartile	0.5
50.0%	median	-1.3
25.0%	quartile	-3.1
10.0%		-3.1
2.5%		-3.1
0.5%		-3.1
0.0%	minimum	-3.1

Summary Statistics	
Mean	-1.3
Std Dev	2.5
Std Err Mean	1.8
Upper 95% Mean	21.6
Lower 95% Mean	-24.2
N	2.0

Distributions Analyte_Method=Cobalt-60 Acid dissolution with hydrofluoric acid

Bias



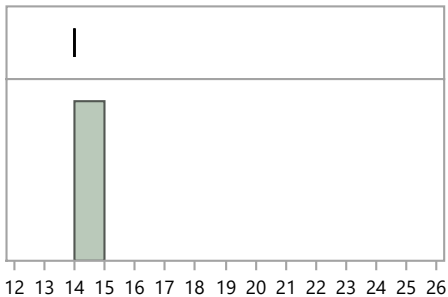
Quantiles		
100.0%	maximum	11.6
99.5%		11.6
97.5%		11.6
90.0%		11.6
75.0%	quartile	11.6
50.0%	median	7.5
25.0%	quartile	3.4
10.0%		3.4
2.5%		3.4
0.5%		3.4
0.0%	minimum	3.4

Summary Statistics	
Mean	7.5
Std Dev	5.8
Std Err Mean	4.1
Upper 95% Mean	59.6
Lower 95% Mean	-44.6
N	2.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Acid leaching without hydrofluoric acid

Bias



Quantiles

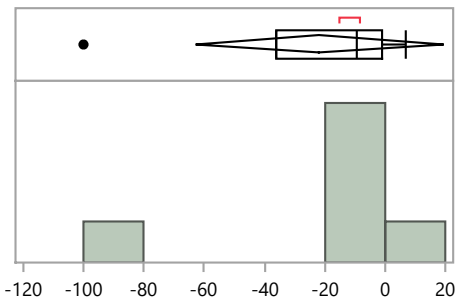
100.0%	maximum	14.0
99.5%		14.0
97.5%		14.0
90.0%		14.0
75.0%	quartile	14.0
50.0%	median	14.0
25.0%	quartile	14.0
10.0%		14.0
2.5%		14.0
0.5%		14.0
0.0%	minimum	14.0

Summary Statistics

Mean	14.0
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

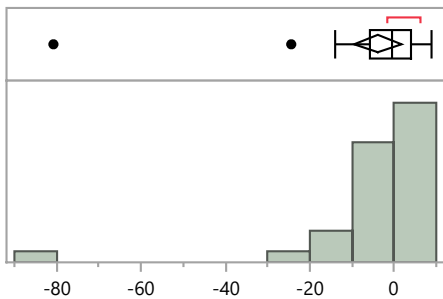
100.0%	maximum	6.8
99.5%		6.8
97.5%		6.8
90.0%		6.8
75.0%	quartile	-0.9
50.0%	median	-9.5
25.0%	quartile	-36.3
10.0%		-100.0
2.5%		-100.0
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics

Mean	-21.8
Std Dev	39.0
Std Err Mean	15.9
Upper 95% Mean	19.2
Lower 95% Mean	-62.7
N	6.0

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

Bias



Quantiles

100.0%	maximum	8.7
99.5%		8.7
97.5%		8.7
90.0%		6.1
75.0%	quartile	4.1
50.0%	median	-0.7
25.0%	quartile	-6.0
10.0%		-13.6
2.5%		-80.7
0.5%		-80.7
0.0%	minimum	-80.7

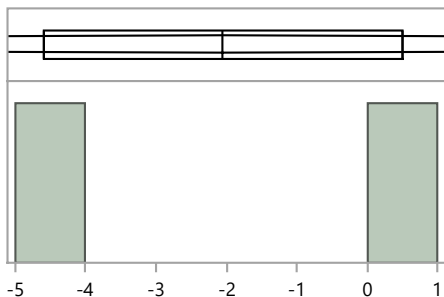
Summary Statistics

Mean	-3.9
Std Dev	15.6
Std Err Mean	2.7
Upper 95% Mean	1.6
Lower 95% Mean	-9.4
N	33.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Other

Bias

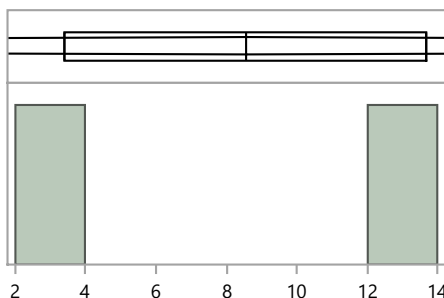


Quantiles		
100.0%	maximum	0.5
99.5%		0.5
97.5%		0.5
90.0%		0.5
75.0%	quartile	0.5
50.0%	median	-2.1
25.0%	quartile	-4.6
10.0%		-4.6
2.5%		-4.6
0.5%		-4.6
0.0%	minimum	-4.6

Summary Statistics	
Mean	-2.1
Std Dev	3.6
Std Err Mean	2.6
Upper 95% Mean	30.4
Lower 95% Mean	-34.5
N	2.0

Distributions Analyte_Method=Manganese-54 Acid dissolution with hydrofluoric acid

Bias

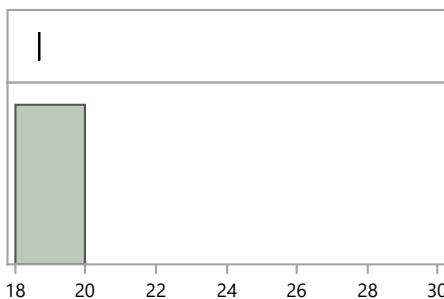


Quantiles		
100.0%	maximum	13.7
99.5%		13.7
97.5%		13.7
90.0%		13.7
75.0%	quartile	13.7
50.0%	median	8.6
25.0%	quartile	3.4
10.0%		3.4
2.5%		3.4
0.5%		3.4
0.0%	minimum	3.4

Summary Statistics	
Mean	8.6
Std Dev	7.3
Std Err Mean	5.1
Upper 95% Mean	74.0
Lower 95% Mean	-56.9
N	2.0

Distributions Analyte_Method=Manganese-54 Acid leaching without hydrofluoric acid

Bias



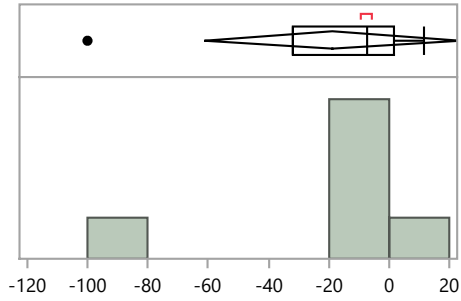
Quantiles		
100.0%	maximum	18.7
99.5%		18.7
97.5%		18.7
90.0%		18.7
75.0%	quartile	18.7
50.0%	median	18.7
25.0%	quartile	18.7
10.0%		18.7
2.5%		18.7
0.5%		18.7
0.0%	minimum	18.7

Summary Statistics	
Mean	18.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Manganese-54 EPA 901.1, Gamma Emitting, 600/4-80-032

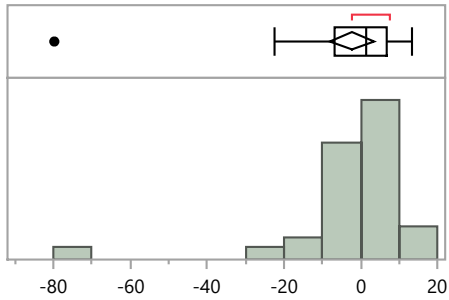
Bias



Quantiles			Summary Statistics	
100.0%	maximum	11.6	Mean	-19.0
99.5%		11.6	Std Dev	40.4
97.5%		11.6	Std Err Mean	16.5
90.0%		11.6	Upper 95% Mean	23.4
75.0%	quartile	1.6	Lower 95% Mean	-61.4
50.0%	median	-7.3	N	6.0
25.0%	quartile	-31.9		
10.0%		-100.0		
2.5%		-100.0		
0.5%		-100.0		
0.0%	minimum	-100.0		

Distributions Analyte_Method=Manganese-54 No preparation - analyzed as received

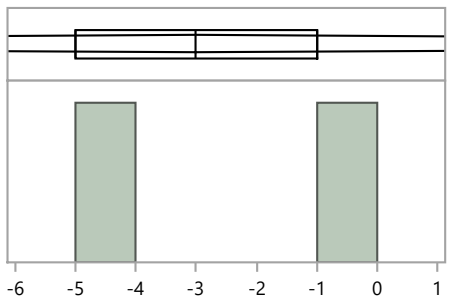
Bias



Quantiles			Summary Statistics	
100.0%	maximum	13.5	Mean	-2.2
99.5%		13.5	Std Dev	16.1
97.5%		13.5	Std Err Mean	2.8
90.0%		10.0	Upper 95% Mean	3.5
75.0%	quartile	6.8	Lower 95% Mean	-7.9
50.0%	median	1.4	N	33.0
25.0%	quartile	-6.7		
10.0%		-13.5		
2.5%		-79.8		
0.5%		-79.8		
0.0%	minimum	-79.8		

Distributions Analyte_Method=Manganese-54 Other

Bias

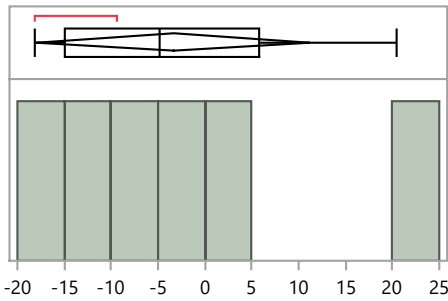


Quantiles			Summary Statistics	
100.0%	maximum	-1.0	Mean	-3.0
99.5%		-1.0	Std Dev	2.8
97.5%		-1.0	Std Err Mean	2.0
90.0%		-1.0	Upper 95% Mean	22.4
75.0%	quartile	-1.0	Lower 95% Mean	-28.4
50.0%	median	-3.0	N	2.0
25.0%	quartile	-5.0		
10.0%		-5.0		
2.5%		-5.0		
0.5%		-5.0		
0.0%	minimum	-5.0		

RdV Distribution by Prep Method

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

Bias

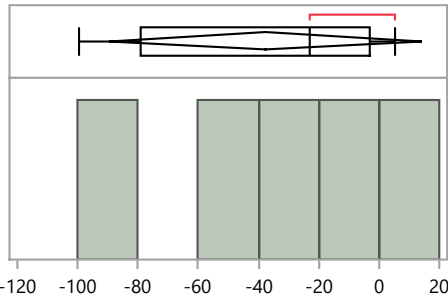


Quantiles		
100.0%	maximum	20.5
99.5%		20.5
97.5%		20.5
90.0%		20.5
75.0%	quartile	5.7
50.0%	median	-4.8
25.0%	quartile	-15.0
10.0%		-18.1
2.5%		-18.1
0.5%		-18.1
0.0%	minimum	-18.1

Summary Statistics	
Mean	-3.4
Std Dev	13.9
Std Err Mean	5.7
Upper 95% Mean	11.2
Lower 95% Mean	-17.9
N	6.0

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

Bias

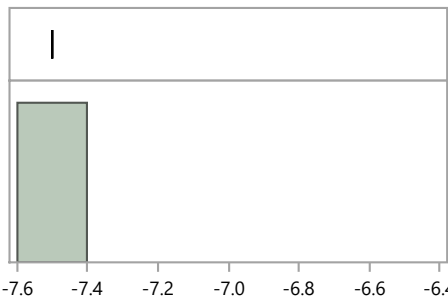


Quantiles		
100.0%	maximum	5.3
99.5%		5.3
97.5%		5.3
90.0%		5.3
75.0%	quartile	-3.3
50.0%	median	-23.2
25.0%	quartile	-78.9
10.0%		-99.5
2.5%		-99.5
0.5%		-99.5
0.0%	minimum	-99.5

Summary Statistics	
Mean	-37.5
Std Dev	41.7
Std Err Mean	18.7
Upper 95% Mean	14.3
Lower 95% Mean	-89.3
N	5.0

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, straight

Bias



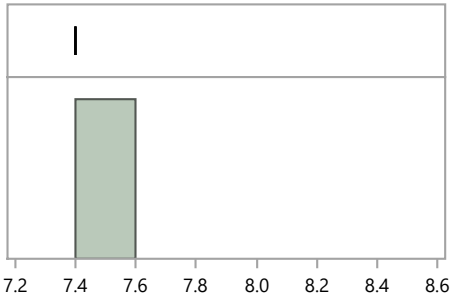
Quantiles		
100.0%	maximum	-7.5
99.5%		-7.5
97.5%		-7.5
90.0%		-7.5
75.0%	quartile	-7.5
50.0%	median	-7.5
25.0%	quartile	-7.5
10.0%		-7.5
2.5%		-7.5
0.5%		-7.5
0.0%	minimum	-7.5

Summary Statistics	
Mean	-7.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

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

Bias

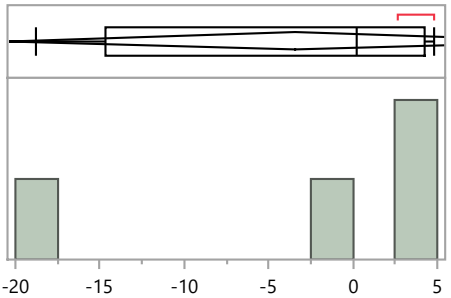


Quantiles		
100.0%	maximum	7.4
99.5%		7.4
97.5%		7.4
90.0%		7.4
75.0%	quartile	7.4
50.0%	median	7.4
25.0%	quartile	7.4
10.0%		7.4
2.5%		7.4
0.5%		7.4
0.0%	minimum	7.4

Summary Statistics	
Mean	7.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-239/240 Other

Bias

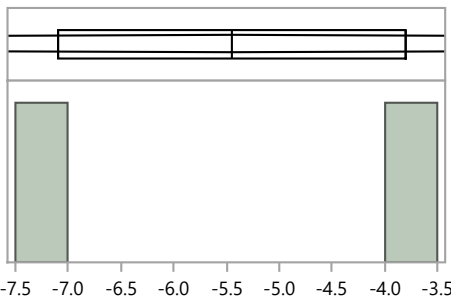


Quantiles		
100.0%	maximum	4.8
99.5%		4.8
97.5%		4.8
90.0%		4.8
75.0%	quartile	4.3
50.0%	median	0.2
25.0%	quartile	-14.7
10.0%		-18.8
2.5%		-18.8
0.5%		-18.8
0.0%	minimum	-18.8

Summary Statistics	
Mean	-3.4
Std Dev	10.7
Std Err Mean	5.3
Upper 95% Mean	13.6
Lower 95% Mean	-20.4
N	4.0

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

Bias



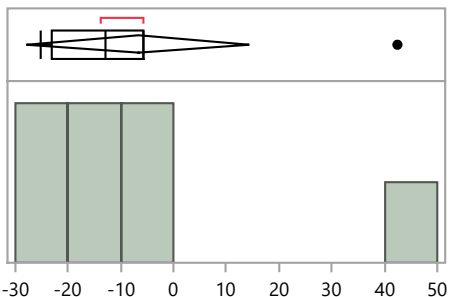
Quantiles		
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-5.5
25.0%	quartile	-7.1
10.0%		-7.1
2.5%		-7.1
0.5%		-7.1
0.0%	minimum	-7.1

Summary Statistics	
Mean	-5.5
Std Dev	2.3
Std Err Mean	1.7
Upper 95% Mean	15.5
Lower 95% Mean	-26.4
N	2.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias



Quantiles

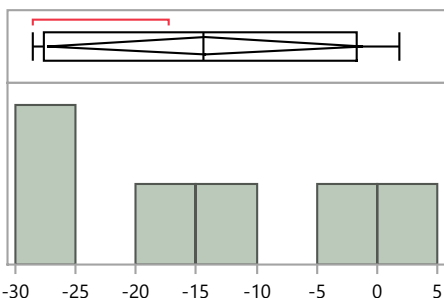
100.0%	maximum	42.4
99.5%		42.4
97.5%		42.4
90.0%		42.4
75.0%	quartile	-5.6
50.0%	median	-13.0
25.0%	quartile	-23.0
10.0%		-25.2
2.5%		-25.2
0.5%		-25.2
0.0%	minimum	-25.2

Summary Statistics

Mean	-6.7
Std Dev	22.8
Std Err Mean	8.6
Upper 95% Mean	14.4
Lower 95% Mean	-27.8
N	7.0

Distributions Analyte_Method=Strontium-90 Acid leaching without hydrofluoric acid

Bias



Quantiles

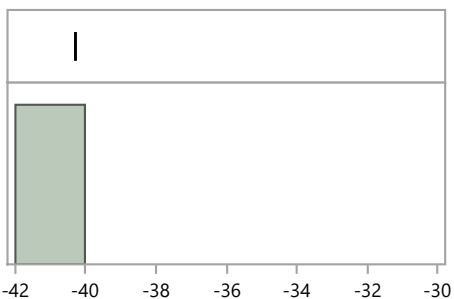
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	-1.7
50.0%	median	-14.4
25.0%	quartile	-27.6
10.0%		-28.5
2.5%		-28.5
0.5%		-28.5
0.0%	minimum	-28.5

Summary Statistics

Mean	-14.3
Std Dev	12.5
Std Err Mean	5.1
Upper 95% Mean	-1.2
Lower 95% Mean	-27.4
N	6.0

Distributions Analyte_Method=Strontium-90 Coprecipitation, acidified

Bias



Quantiles

100.0%	maximum	-40.3
99.5%		-40.3
97.5%		-40.3
90.0%		-40.3
75.0%	quartile	-40.3
50.0%	median	-40.3
25.0%	quartile	-40.3
10.0%		-40.3
2.5%		-40.3
0.5%		-40.3
0.0%	minimum	-40.3

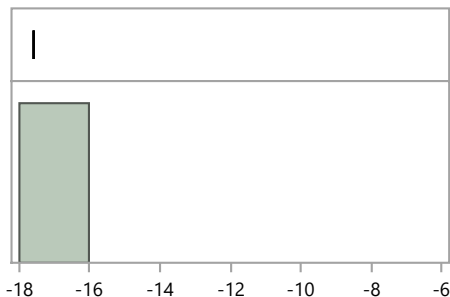
Summary Statistics

Mean	-40.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV Distribution by Prep Method

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

Bias



Quantiles

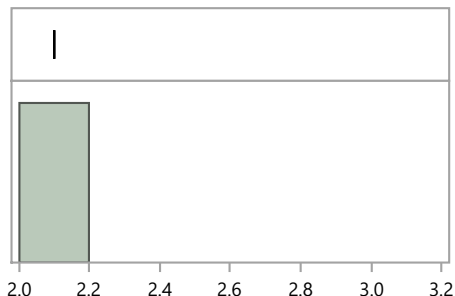
100.0%	maximum	-17.6
99.5%		-17.6
97.5%		-17.6
90.0%		-17.6
75.0%	quartile	-17.6
50.0%	median	-17.6
25.0%	quartile	-17.6
10.0%		-17.6
2.5%		-17.6
0.5%		-17.6
0.0%	minimum	-17.6

Summary Statistics

Mean	-17.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Strontium-90 EPA 907, Actinide Elements, 600/4/80-032

Bias



Quantiles

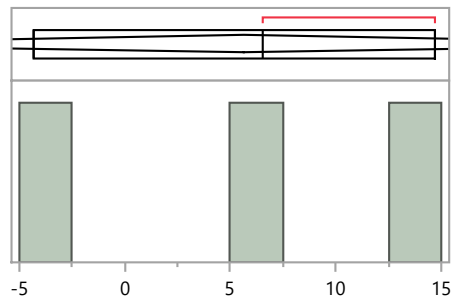
100.0%	maximum	2.1
99.5%		2.1
97.5%		2.1
90.0%		2.1
75.0%	quartile	2.1
50.0%	median	2.1
25.0%	quartile	2.1
10.0%		2.1
2.5%		2.1
0.5%		2.1
0.0%	minimum	2.1

Summary Statistics

Mean	2.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

100.0%	maximum	14.7
99.5%		14.7
97.5%		14.7
90.0%		14.7
75.0%	quartile	14.7
50.0%	median	6.5
25.0%	quartile	-4.3
10.0%		-4.3
2.5%		-4.3
0.5%		-4.3
0.0%	minimum	-4.3

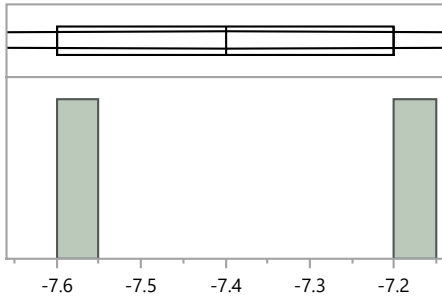
Summary Statistics

Mean	5.6
Std Dev	9.5
Std Err Mean	5.5
Upper 95% Mean	29.3
Lower 95% Mean	-18.0
N	3.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

Bias



Quantiles

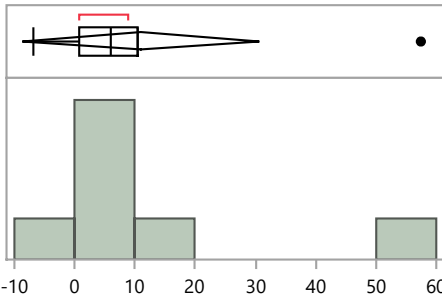
100.0%	maximum	-7.2
99.5%		-7.2
97.5%		-7.2
90.0%		-7.2
75.0%	quartile	-7.2
50.0%	median	-7.4
25.0%	quartile	-7.6
10.0%		-7.6
2.5%		-7.6
0.5%		-7.6
0.0%	minimum	-7.6

Summary Statistics

Mean	-7.4
Std Dev	0.3
Std Err Mean	0.2
Upper 95% Mean	-4.9
Lower 95% Mean	-9.9
N	2.0

Distributions Analyte_Method=Uranium-234 Acid dissolution with hydrofluoric acid

Bias



Quantiles

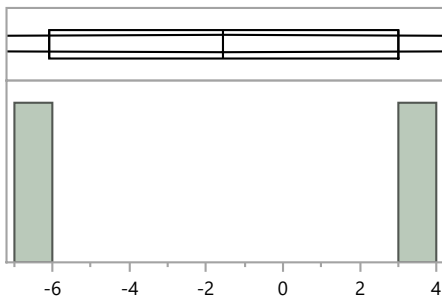
100.0%	maximum	57.4
99.5%		57.4
97.5%		57.4
90.0%		57.4
75.0%	quartile	10.4
50.0%	median	5.9
25.0%	quartile	0.9
10.0%		-6.9
2.5%		-6.9
0.5%		-6.9
0.0%	minimum	-6.9

Summary Statistics

Mean	11.1
Std Dev	21.2
Std Err Mean	8.0
Upper 95% Mean	30.7
Lower 95% Mean	-8.6
N	7.0

Distributions Analyte_Method=Uranium-234 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	3.0
99.5%		3.0
97.5%		3.0
90.0%		3.0
75.0%	quartile	3.0
50.0%	median	-1.6
25.0%	quartile	-6.1
10.0%		-6.1
2.5%		-6.1
0.5%		-6.1
0.0%	minimum	-6.1

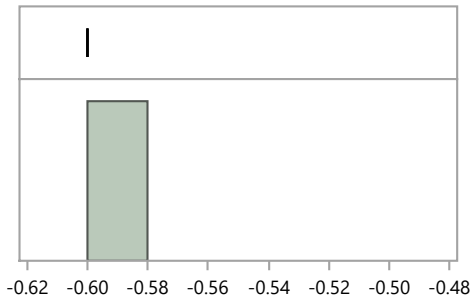
Summary Statistics

Mean	-1.6
Std Dev	6.4
Std Err Mean	4.6
Upper 95% Mean	56.3
Lower 95% Mean	-59.4
N	2.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Coprecipitation, straight

Bias



Quantiles

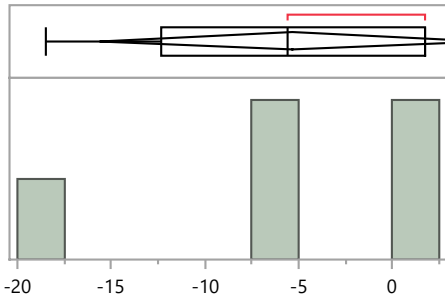
100.0%	maximum	-0.6
99.5%		-0.6
97.5%		-0.6
90.0%		-0.6
75.0%	quartile	-0.6
50.0%	median	-0.6
25.0%	quartile	-0.6
10.0%		-0.6
2.5%		-0.6
0.5%		-0.6
0.0%	minimum	-0.6

Summary Statistics

Mean	-0.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-234 Other

Bias



Quantiles

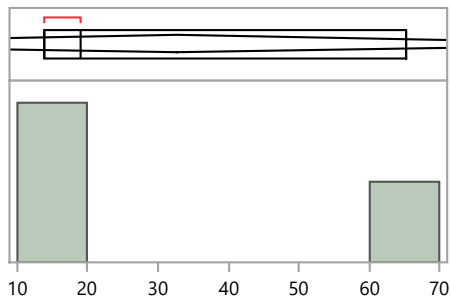
100.0%	maximum	1.7
99.5%		1.7
97.5%		1.7
90.0%		1.7
75.0%	quartile	1.7
50.0%	median	-5.6
25.0%	quartile	-12.3
10.0%		-18.5
2.5%		-18.5
0.5%		-18.5
0.0%	minimum	-18.5

Summary Statistics

Mean	-5.4
Std Dev	8.3
Std Err Mean	3.7
Upper 95% Mean	4.9
Lower 95% Mean	-15.6
N	5.0

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	65.2
99.5%		65.2
97.5%		65.2
90.0%		65.2
75.0%	quartile	65.2
50.0%	median	19.1
25.0%	quartile	13.9
10.0%		13.9
2.5%		13.9
0.5%		13.9
0.0%	minimum	13.9

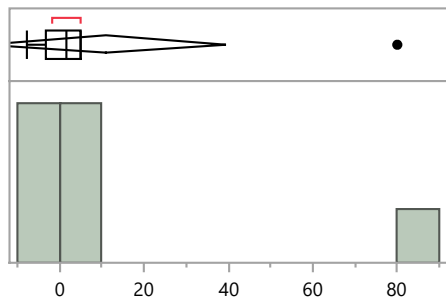
Summary Statistics

Mean	32.7
Std Dev	28.2
Std Err Mean	16.3
Upper 95% Mean	102.9
Lower 95% Mean	-37.4
N	3.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Acid dissolution with hydrofluoric acid

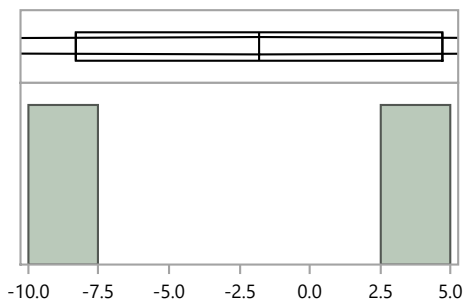
Bias



Quantiles			Summary Statistics	
100.0%	maximum	80.0	Mean	11.1
99.5%		80.0	Std Dev	30.7
97.5%		80.0	Std Err Mean	11.6
90.0%		80.0	Upper 95% Mean	39.5
75.0%	quartile	5.0	Lower 95% Mean	-17.2
50.0%	median	1.7	N	7.0
25.0%	quartile	-3.3		
10.0%		-7.7		
2.5%		-7.7		
0.5%		-7.7		
0.0%	minimum	-7.7		

Distributions Analyte_Method=Uranium-238 Acid leaching without hydrofluoric acid

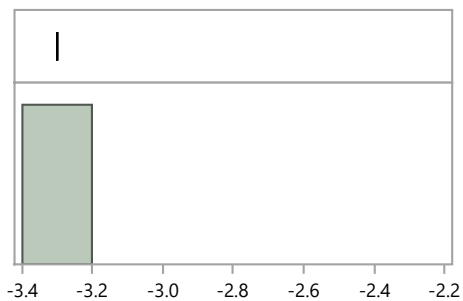
Bias



Quantiles			Summary Statistics	
100.0%	maximum	4.7	Mean	-1.8
99.5%		4.7	Std Dev	9.2
97.5%		4.7	Std Err Mean	6.5
90.0%		4.7	Upper 95% Mean	80.8
75.0%	quartile	4.7	Lower 95% Mean	-84.4
50.0%	median	-1.8	N	2.0
25.0%	quartile	-8.3		
10.0%		-8.3		
2.5%		-8.3		
0.5%		-8.3		
0.0%	minimum	-8.3		

Distributions Analyte_Method=Uranium-238 Coprecipitation, straight

Bias

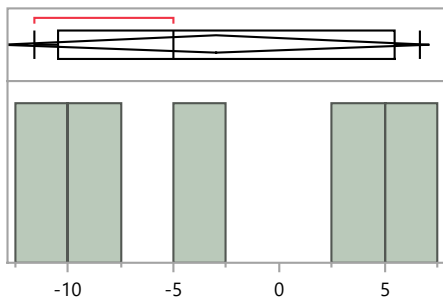


Quantiles			Summary Statistics	
100.0%	maximum	-3.3	Mean	-3.3
99.5%		-3.3	Std Dev	.
97.5%		-3.3	Std Err Mean	.
90.0%		-3.3	Upper 95% Mean	.
75.0%	quartile	-3.3	Lower 95% Mean	.
50.0%	median	-3.3	N	1.0
25.0%	quartile	-3.3		
10.0%		-3.3		
2.5%		-3.3		
0.5%		-3.3		
0.0%	minimum	-3.3		

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Other

Bias



Quantiles

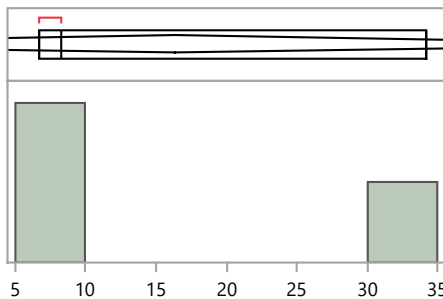
100.0%	maximum	6.7
99.5%		6.7
97.5%		6.7
90.0%		6.7
75.0%	quartile	5.5
50.0%	median	-5.0
25.0%	quartile	-10.5
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics

Mean	-3.0
Std Dev	8.1
Std Err Mean	3.6
Upper 95% Mean	7.1
Lower 95% Mean	-13.1
N	5.0

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias



Quantiles

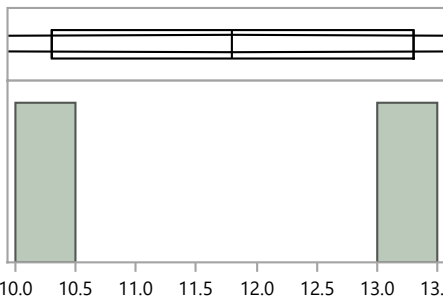
100.0%	maximum	34.2
99.5%		34.2
97.5%		34.2
90.0%		34.2
75.0%	quartile	34.2
50.0%	median	8.3
25.0%	quartile	6.7
10.0%		6.7
2.5%		6.7
0.5%		6.7
0.0%	minimum	6.7

Summary Statistics

Mean	16.4
Std Dev	15.4
Std Err Mean	8.9
Upper 95% Mean	54.7
Lower 95% Mean	-21.9
N	3.0

Distributions Analyte_Method=Zinc-65 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	13.3
99.5%		13.3
97.5%		13.3
90.0%		13.3
75.0%	quartile	13.3
50.0%	median	11.8
25.0%	quartile	10.3
10.0%		10.3
2.5%		10.3
0.5%		10.3
0.0%	minimum	10.3

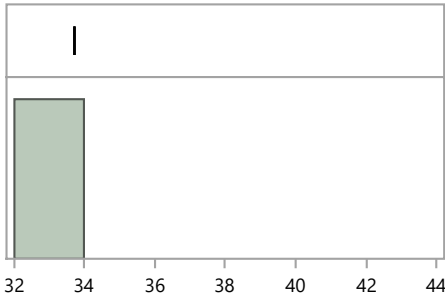
Summary Statistics

Mean	11.8
Std Dev	2.1
Std Err Mean	1.5
Upper 95% Mean	30.9
Lower 95% Mean	-7.3
N	2.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Zinc-65 Acid leaching without hydrofluoric acid

Bias

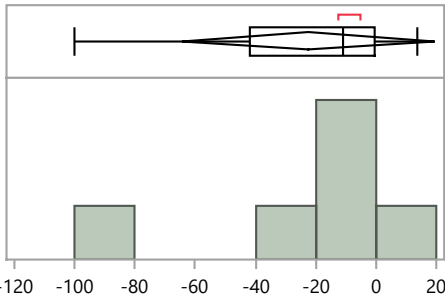


Quantiles		
100.0%	maximum	33.7
99.5%		33.7
97.5%		33.7
90.0%		33.7
75.0%	quartile	33.7
50.0%	median	33.7
25.0%	quartile	33.7
10.0%		33.7
2.5%		33.7
0.5%		33.7
0.0%	minimum	33.7

Summary Statistics	
Mean	33.7
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

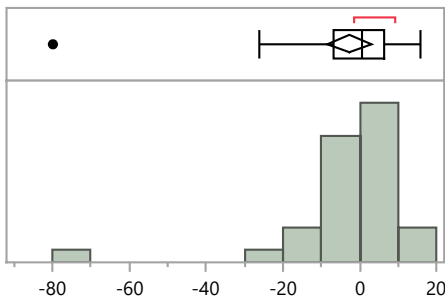


Quantiles		
100.0%	maximum	13.8
99.5%		13.8
97.5%		13.8
90.0%		13.8
75.0%	quartile	-0.6
50.0%	median	-10.8
25.0%	quartile	-41.7
10.0%		-100.0
2.5%		-100.0
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics	
Mean	-22.6
Std Dev	39.7
Std Err Mean	16.2
Upper 95% Mean	19.1
Lower 95% Mean	-64.3
N	6.0

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

Bias



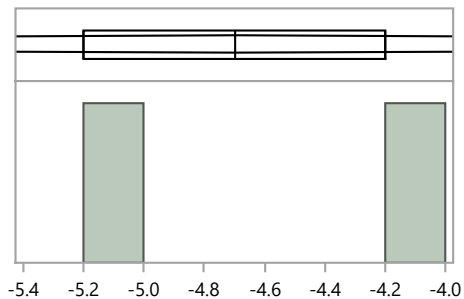
Quantiles		
100.0%	maximum	16.0
99.5%		16.0
97.5%		16.0
90.0%		10.4
75.0%	quartile	6.5
50.0%	median	0.6
25.0%	quartile	-6.9
10.0%		-11.3
2.5%		-79.9
0.5%		-79.9
0.0%	minimum	-79.9

Summary Statistics	
Mean	-2.5
Std Dev	16.3
Std Err Mean	2.8
Upper 95% Mean	3.2
Lower 95% Mean	-8.3
N	33.0

RdV Distribution by Prep Method

Distributions Analyte_Method=Zinc-65 Other

Bias



Quantiles

100.0%	maximum	-4.2
99.5%		-4.2
97.5%		-4.2
90.0%		-4.2
75.0%	quartile	-4.2
50.0%	median	-4.7
25.0%	quartile	-5.2
10.0%		-5.2
2.5%		-5.2
0.5%		-5.2
0.0%	minimum	-5.2

Summary Statistics

Mean	-4.7
Std Dev	0.7
Std Err Mean	0.5
Upper 95% Mean	1.7
Lower 95% Mean	-11.1
N	2.0