

## **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.

## RdV42 Participating Laboratories

<b>Lab Code</b>	<b>Lab Name</b>	<b>Matrix Code</b>
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
CDHS01	California Department of Public Health	RdV
COPS99	Health Canada Radiation Protection Bureau	RdV
DEHS01	Department of Environmental Health & Safety	RdV
DINL99	Departamento Ingeniería Nuclear y Mecánica de Fluidos	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
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	RdV
ISUE01	ISU Environmental Monitoring Laboratory	RdV
ISUP01	ISU - Department of Physics/Health Physics/EAL	RdV
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdV
MDPH01	MDPH-Radiation Control Program	RdV
NRLL99	Environmental Radioactivity - National Centre for Radiation Science	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
SANC99	RadioAnalysis, South Africa Nuclear Energy Corp.	RdV
SEML01	SRS Environmental Monitoring Laboratory	RdV
SOUT01	Southwest Research Institute	RdV
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics	RdV
TDHL01	Texas Department of State Health Services Laboratory	RdV
TELE01	Teledyne Brown Engineering - Environmental Services	RdV
TELE02	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
WSTP99	Cavendish Nuclear Limited	RdV

## Laboratories Not Reporting

<b>Lab Code</b>	<b>Lab Name</b>	<b>Matrix Code</b>
AMEC99	Wood Nuclear Limited - Analytical Services	RdV
CSSL99	Chemistry Support Services	RdV
IAEA99	International Atomic Energy Agency	RdV
JAEC99	Research Laboratories and Information Directorate	RdV
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	RdV
MSDH01	Mississippi State Dept of Health	RdV
NARL01	National Analytical Radiation Environmental Laboratory	RdV
NARL02	USEPA - NAREL - MERL	RdV
NJDH01	New Jersey Dept. of Health, PHEL, ECLS	RdV
NOCS99	National Oceanography Centre, Southampton	RdV
RPSC01	Radiation Protection Service	RdV

## Study Reference Values

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MAPEP-20-RdV42

*Radiological Reference Date: 02/01/2020*

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.0611	0.0014
Uranium-238	8.3	0.2
Uranium-Total	8.4	0.2
Uranium-Total (Lg Veg)	16.8	0.4

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Americium-241	0.075	0.002
Cesium-134	3.82	0.08
Cesium-137	2.77	0.04
Cobalt-60	2.79	0.06
Manganese-54	4.58	0.09
Plutonium-238	0.0472	0.0013
Plutonium-239/240	0.0772	0.0019
Strontium-90	0.492	0.011
Uranium-234	0.102	0.003
Uranium-234 (Lg Veg)	0.221	0.005
Uranium-238	0.103	0.003
Uranium-238 (Lg Veg)	0.207	0.005
Zinc-65	3.79	0.08

## Sample Statistical Summary

MAPEP-20-RdV42

Radiological Reference Date: 02/01/2020

Analyte	T(1)	A(2)	Grand <sup>(3)</sup> Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Inorganic							Units: (ug/sample)
Uranium-235	4	4			0.0611	0.0014	0.0428 - 0.0794
Uranium-238	4	4			8.3	0.2	5.8 - 10.8
Uranium-Total	6	6			8.4	0.2	5.9 - 10.9

Analyte	T(1)	A(2)	Grand <sup>(3)</sup> Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/sample)
Americium-241	24	14	0.069	0.007	0.075	0.002	0.053 - 0.098
Cesium-134	39	35	3.51	0.35	3.82	0.08	2.67 - 4.97
Cesium-137	41	36	2.70	0.25	2.77	0.04	1.94 - 3.60
Cobalt-57	38	38					False Positive Test
Cobalt-60	41	39	2.74	0.35	2.79	0.06	1.95 - 3.63
Manganese-54	41	37	4.48	0.45	4.58	0.09	3.21 - 5.95
Plutonium-238	19	16	0.0466	0.0064	0.0472	0.0013	0.0330 - 0.0614
Plutonium-239/240	19	15	0.0724	0.0052	0.0772	0.0019	0.0540 - 0.1004
Strontium-90	21	12	0.432	0.054	0.492	0.011	0.344 - 0.640
Uranium-234	21	18	0.102	0.009	0.102	0.003	0.071 - 0.133
Uranium-238	22	18	0.102	0.010	0.103	0.003	0.072 - 0.134
Zinc-65	41	37	3.67	0.42	3.79	0.08	2.65 - 4.93

- 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 <=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

## Flag Summary Report

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MAPEP-20-RdV42

### Inorganic

Analyte	A	W	RW	N
Uranium-Total	5	1		
Uranium-235	4			
Uranium-238	4			

### Radiological

Analyte	A	W	RW	N
Americium-241	14			10
Cesium-134	32	3		4
Cesium-137	36			5
Cobalt-57	38			
Cobalt-60	35	4		2
Manganese-54	33	4		4
Plutonium-238	14	2		3
Plutonium-239/240	15			4
Strontium-90	8	4		9
Uranium-234	18			3
Uranium-238	17	1		4
Zinc-65	33	4		4



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	NR	3.82				2.67 - 4.97		
Cesium-137	29.785	2.77	N		975.3	1.94 - 3.60	1.4874	A
Cobalt-57	NR					False Positive Test		
Cobalt-60	28.305	2.79	N		914.5	1.95 - 3.63	1.0582	A
Manganese-54	44.4	4.58	N		869.4	3.21 - 5.95	1.6687	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	33.929	3.79	N		795.2	2.65 - 4.93	2.442	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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:**

(28) = Not Reporting Previously Reported Analyte





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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.10	0.075	N		33.3	0.053 - 0.098	0.04	N
Cesium-134	4.06	3.82	A		6.3	2.67 - 4.97	0.25	A
Cesium-137	2.82	2.77	A		1.8	1.94 - 3.60	0.27	A
Cobalt-57	0.08		A			False Positive Test	0.08	
Cobalt-60	2.82	2.79	A		1.1	1.95 - 3.63	0.24	A
Manganese-54	4.62	4.58	A		0.9	3.21 - 5.95	0.51	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.84	3.79	A		1.3	2.65 - 4.93	0.45	A

Radiological Reference Date: February 1, 2020

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**Uncertainty Flags:**

NOT ACCEPTABLE.....RP<2%

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

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NOT ACCEPTABLE.....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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.062	0.075	A		-17.3	0.053 - 0.098	0.005	A
Cesium-134	3.19	3.82	A		-16.5	2.67 - 4.97	0.20	A
Cesium-137	2.49	2.77	A		-10.1	1.94 - 3.60	0.17	A
Cobalt-57	0.115		A			False Positive Test	0.115	
Cobalt-60	2.61	2.79	A		-6.5	1.95 - 3.63	0.17	A
Manganese-54	4.39	4.58	A		-4.1	3.21 - 5.95	0.29	A
Plutonium-238	0.046	0.0472	A		-2.5	0.0330 - 0.0614	0.004	A
Plutonium-239/240	0.077	0.0772	A		-0.3	0.0540 - 0.1004	0.007	A
Strontium-90	0.443	0.492	A		-10.0	0.344 - 0.640	0.052	A
Uranium-234	0.109	0.102	A		6.9	0.071 - 0.133	0.009	A
Uranium-238	0.105	0.103	A		1.9	0.072 - 0.134	0.009	A
Zinc-65	3.61	3.79	A		-4.7	2.65 - 4.93	0.29	A

Radiological Reference Date: February 1, 2020

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**Uncertainty Flags:**

NOT ACCEPTABLE.....RP<2%

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

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.567	3.82	A		-6.6	2.67 - 4.97	.142	A
Cesium-137	2.781	2.77	A		0.4	1.94 - 3.60	.087	A
Cobalt-57	.002			A		False Positive Test	.199	
Cobalt-60	2.975	2.79	A		6.6	1.95 - 3.63	.086	A
Manganese-54	4.617	4.58	A		0.8	3.21 - 5.95	.177	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.989	3.79	A		5.3	2.65 - 4.93	.252	A

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

Laboratory Results For MAPEP-20-RdV42  
 (CDHS01) California Department of Public Health  
 Drinking Water & Radiation Lab.  
 Richmond, CA 94804-6403

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0628	0.075	A		-16.3	0.053 - 0.098	0.00419	A
Cesium-134	3.73	3.82	A		-2.4	2.67 - 4.97	0.0903	A
Cesium-137	2.89	2.77	A		4.3	1.94 - 3.60	0.0851	A
Cobalt-57	0.00500			A		False Positive Test	0.0189	
Cobalt-60	2.78	2.79	A		-0.4	1.95 - 3.63	0.0813	A
Manganese-54	4.82	4.58	A		5.2	3.21 - 5.95	0.117	A
Plutonium-238	0.0504	0.0472	A		6.8	0.0330 - 0.0614	0.00319	A
Plutonium-239/240	0.0786	0.0772	A		1.8	0.0540 - 0.1004	0.00417	A
Strontium-90	0.471	0.492	A		-4.3	0.344 - 0.640	0.081	W
Uranium-234	0.105	0.102	A		2.9	0.071 - 0.133	0.00569	A
Uranium-238	0.111	0.103	A		7.8	0.072 - 0.134	0.00536	A
Zinc-65	3.73	3.79	A		-1.6	2.65 - 4.93	0.129	A

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

Laboratory Results For MAPEP-20-RdV42  
 (COPS99) Health Canada Radiation Protection Bureau  
 2720 Riverside drive  
 Ottawa, Ontario K1A0K9

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	5.191	3.82	N		35.9	2.67 - 4.97	0.127	A
Cesium-137	3.650	2.77	N		31.8	1.94 - 3.60	0.220	A
Cobalt-57	-0.00763			A		False Positive Test	0.00665	
Cobalt-60	3.604	2.79	W		29.2	1.95 - 3.63	0.104	A
Manganese-54	6.083	4.58	N		32.8	3.21 - 5.95	0.366	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	5.060	3.79	N		33.5	2.65 - 4.93	0.225	A

Radiological Reference Date: February 1, 2020

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NOT ACCEPTABLE.....RP > 30%

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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.29	3.82	A		-13.9	2.67 - 4.97	0.09	A
Cesium-137	2.26	2.77	A		-18.4	1.94 - 3.60	0.10	A
Cobalt-57	0.04		A			False Positive Test	0.06	
Cobalt-60	2.32	2.79	A		-16.8	1.95 - 3.63	0.08	A
Manganese-54	4.15	4.58	A		-9.4	3.21 - 5.95	0.09	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	2.69	3.79	W		-29.0	2.65 - 4.93	0.14	A

Radiological Reference Date: February 1, 2020

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NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (DINL99) Departamento Ingeniería Nuclear y Mecánica de Fluidos  
 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	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	6.306E-02	0.075	A		-15.9	0.053 - 0.098	3.53E-03	A
Cesium-134	3.70	3.82	A		-3.1	2.67 - 4.97	0.20	A
Cesium-137	2.61	2.77	A		-5.8	1.94 - 3.60	0.18	A
Cobalt-57	0.073		A			False Positive Test	0.073	
Cobalt-60	2.80	2.79	A		0.4	1.95 - 3.63	0.15	A
Manganese-54	4.36	4.58	A		-4.8	3.21 - 5.95	0.24	A
Plutonium-238	4.389E-02	0.0472	A		-7.0	0.0330 - 0.0614	2.868E-	A
Plutonium-239/240	6.618E-02	0.0772	A		-14.3	0.0540 - 0.1004	3.8E-03	A
Strontium-90	NR	0.492	N	(28)		0.344 - 0.640		
Uranium-234	1.129E-01	0.102	A		10.7	0.071 - 0.133	6.59E-03	A
Uranium-238	1.178E-01	0.103	A		14.4	0.072 - 0.134	6.785E-	A
Zinc-65	3.96	3.79	A		4.5	2.65 - 4.93	0.24	A

Radiological Reference Date: February 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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	2.51	3.82	N		-34.3	2.67 - 4.97	0.06	A
Cesium-137	2.36	2.77	A		-14.8	1.94 - 3.60	0.06	A
Cobalt-57	0.03			A		False Positive Test	0.11	
Cobalt-60	2.35	2.79	A		-15.8	1.95 - 3.63	0.05	A
Manganese-54	3.66	4.58	W		-20.1	3.21 - 5.95	0.09	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	4.02	3.79	A		6.1	2.65 - 4.93	0.15	A

Radiological Reference Date: February 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:**

(28) = Not Reporting Previously Reported Analyte





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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0633	0.0611	A		3.6	0.0428 - 0.0794	0.0027	A
Uranium-238	8.82	8.3	A		6.3	5.8 - 10.8	0.40	A
Uranium-Total	8.88	8.4	A		5.7	5.9 - 10.9	0.40	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.103	0.075	N		37.3	0.053 - 0.098	0.008	A
Cesium-134	3.78	3.82	A		-1.0	2.67 - 4.97	0.09	A
Cesium-137	3.08	2.77	A		11.2	1.94 - 3.60	0.12	A
Cobalt-57	-0.066		A			False Positive Test	0.064	
Cobalt-60	3.01	2.79	A		7.9	1.95 - 3.63	0.12	A
Manganese-54	5.10	4.58	A		11.4	3.21 - 5.95	0.20	A
Plutonium-238	0.0554	0.0472	A		17.4	0.0330 - 0.0614	0.0054	A
Plutonium-239/240	0.0675	0.0772	A		-12.6	0.0540 - 0.1004	0.0060	A
Strontium-90	3.16	0.492	N		542.3	0.344 - 0.640	0.18	A
Uranium-234	0.106	0.102	A		3.9	0.071 - 0.133	0.007	A
Uranium-238	0.0994	0.103	A		-3.5	0.072 - 0.134	0.0060	A
Zinc-65	4.05	3.79	A		6.9	2.65 - 4.93	0.27	A

Radiological Reference Date: February 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%

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

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0992	0.075	N		32.3	0.053 - 0.098	0.0082	A
Cesium-134	4.62	3.82	W		20.9	2.67 - 4.97	0.69	A
Cesium-137	3.94	2.77	N		42.2	1.94 - 3.60	0.59	A
Cobalt-57	0.011		A			False Positive Test	0.016	
Cobalt-60	3.56	2.79	W		27.6	1.95 - 3.63	0.54	W
Manganese-54	5.08	4.58	A		10.9	3.21 - 5.95	0.76	A
Plutonium-238	0.0600	0.0472	W		27.1	0.0330 - 0.0614	0.0045	A
Plutonium-239/240	0.1095	0.0772	N		41.8	0.0540 - 0.1004	0.0066	A
Strontium-90	0.4331	0.492	A		-12.0	0.344 - 0.640	0.091	W
Uranium-234	0.1155	0.102	A		13.2	0.071 - 0.133	0.0079	A
Uranium-238	0.1143	0.103	A		11.0	0.072 - 0.134	0.0078	A
Zinc-65	3.34	3.79	A		-11.9	2.65 - 4.93	0.5	A

Radiological Reference Date: February 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%

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

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.149	0.075	N		98.7	0.053 - 0.098	0.746	N
Cesium-134	3.664	3.82	A		-4.1	2.67 - 4.97	0.079	A
Cesium-137	2.867	2.77	A		3.5	1.94 - 3.60	0.204	A
Cobalt-57	-0.011		A			False Positive Test	0.371	
Cobalt-60	2.733	2.79	A		-2.0	1.95 - 3.63	0.092	A
Manganese-54	4.867	4.58	A		6.3	3.21 - 5.95	0.292	A
Plutonium-238	0.048	0.0472	A		1.7	0.0330 - 0.0614	0.003	A
Plutonium-239/240	0.074	0.0772	A		-4.1	0.0540 - 0.1004	0.004	A
Strontium-90	0.310	0.492	N		-37.0	0.344 - 0.640	0.039	A
Uranium-234	0.095	0.102	A		-6.9	0.071 - 0.133	0.004	A
Uranium-238	0.097	0.103	A		-5.8	0.072 - 0.134	0.004	A
Zinc-65	3.983	3.79	A		5.1	2.65 - 4.93	0.233	A

Radiological Reference Date: February 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%

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

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.099	0.075	N		32.0	0.053 - 0.098	0.113	N
Cesium-134	3.841	3.82	A		0.6	2.67 - 4.97	0.1	A
Cesium-137	2.989	2.77	A		7.9	1.94 - 3.60	0.181	A
Cobalt-57	0.018		A			False Positive Test	0.0453	
Cobalt-60	2.831	2.79	A		1.5	1.95 - 3.63	0.207	A
Manganese-54	4.928	4.58	A		7.6	3.21 - 5.95	0.261	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	0.27	0.207	N		30.4	0.145 - 0.269	0.436	N
Zinc-65	4.153	3.79	A		9.6	2.65 - 4.93	0.402	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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:**

(28) = Not Reporting Previously Reported Analyte





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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0761	0.075	A		1.5	0.053 - 0.098	0.00389	A
Cesium-134	3.55	3.82	A		-7.1	2.67 - 4.97	0.187	A
Cesium-137	2.83	2.77	A		2.2	1.94 - 3.60	0.147	A
Cobalt-57	0.00561			A		False Positive Test	0.0173	
Cobalt-60	2.84	2.79	A		1.8	1.95 - 3.63	0.169	A
Manganese-54	4.74	4.58	A		3.5	3.21 - 5.95	0.241	A
Plutonium-238	0.0447	0.0472	A		-5.3	0.0330 - 0.0614	0.00347	A
Plutonium-239/240	0.0695	0.0772	A		-10.0	0.0540 - 0.1004	0.00487	A
Strontium-90	0.361	0.492	W		-26.6	0.344 - 0.640	0.0411	A
Uranium-234	0.1070	0.102	A		4.9	0.071 - 0.133	0.00572	A
Uranium-238	0.1150	0.103	A		11.7	0.072 - 0.134	0.00606	A
Zinc-65	4.14	3.79	A		9.2	2.65 - 4.93	0.254	A

Radiological Reference Date: February 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%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	NR	3.82				2.67 - 4.97		
Cesium-137	3.01	2.77	A		8.7	1.94 - 3.60	0.33	A
Cobalt-57	-0.01			A		False Positive Test	0.15	
Cobalt-60	2.75	2.79	A		-1.4	1.95 - 3.63	0.27	A
Manganese-54	4.63	4.58	A		1.1	3.21 - 5.95	0.46	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.97	3.79	A		4.7	2.65 - 4.93	0.61	W

Radiological Reference Date: February 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%

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

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.300	3.82	A		-13.6	2.67 - 4.97	0.2883	A
Cesium-137	2.410	2.77	A		-13.0	1.94 - 3.60	0.3577	A
Cobalt-57	0.02941			A		False Positive Test	0.2576	
Cobalt-60	2.253	2.79	A		-19.2	1.95 - 3.63	0.2518	A
Manganese-54	3.986	4.58	A		-13.0	3.21 - 5.95	0.4842	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.154	3.79	A		-16.8	2.65 - 4.93	0.4990	W

Radiological Reference Date: February 1, 2020

**Result Flags:**

A = Result acceptable Bias <=20%

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

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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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075	N	(28)		0.053 - 0.098		
Cesium-134	5.15	3.82	N		34.8	2.67 - 4.97	0.33	A
Cesium-137	3.73	2.77	N		34.7	1.94 - 3.60	0.28	A
Cobalt-57	0.1		A			False Positive Test	0.1	
Cobalt-60	3.55	2.79	W		27.2	1.95 - 3.63	0.25	A
Manganese-54	5.98	4.58	N		30.6	3.21 - 5.95	0.45	A
Plutonium-238	NR	0.0472	N	(28)		0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772	N	(28)		0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	5.00	3.79	N		31.9	2.65 - 4.93	0.40	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

A = Result acceptable Bias <=20%

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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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075	N	(28)		0.053 - 0.098		
Cesium-134	3.103	3.82	A		-18.8	2.67 - 4.97	0.079	A
Cesium-137	2.405	2.77	A		-13.2	1.94 - 3.60	0.099	A
Cobalt-57	0.020		A			False Positive Test	0.021	
Cobalt-60	2.470	2.79	A		-11.5	1.95 - 3.63	0.071	A
Manganese-54	3.99	4.58	A		-12.9	3.21 - 5.95	0.13	A
Plutonium-238	NR	0.0472	N	(28)		0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772	N	(28)		0.0540 - 0.1004		
Strontium-90	NR	0.492	N	(28)		0.344 - 0.640		
Uranium-234	NR	0.102	N	(28)		0.071 - 0.133		
Uranium-238	NR	0.103	N	(28)		0.072 - 0.134		
Zinc-65	3.47	3.79	A		-8.4	2.65 - 4.93	0.19	A

Radiological Reference Date: February 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%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.30	3.82	A		-13.6	2.67 - 4.97	0.13	A
Cesium-137	2.66	2.77	A		-4.0	1.94 - 3.60	0.17	A
Cobalt-57	0.02			A		False Positive Test	0.01	
Cobalt-60	2.45	2.79	A		-12.2	1.95 - 3.63	0.21	A
Manganese-54	4.21	4.58	A		-8.1	3.21 - 5.95	0.23	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.34	3.79	A		-11.9	2.65 - 4.93	0.21	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.31	3.82	A		-13.4	2.67 - 4.97	0.2	A
Cesium-137	2.73	2.77	A		-1.4	1.94 - 3.60	0.22	A
Cobalt-57	0.01			A		False Positive Test	0.02	
Cobalt-60	2.77	2.79	A		-0.7	1.95 - 3.63	0.18	A
Manganese-54	4.59	4.58	A		0.2	3.21 - 5.95	0.34	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.78	3.79	A		-0.3	2.65 - 4.93	0.3	A

Radiological Reference Date: February 1, 2020

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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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.23	3.82	A		-15.4	2.67 - 4.97	0.28	A
Cesium-137	2.49	2.77	A		-10.1	1.94 - 3.60	0.24	A
Cobalt-57	0.01			A		False Positive Test	0.04	
Cobalt-60	2.53	2.79	A		-9.3	1.95 - 3.63	0.23	A
Manganese-54	4.24	4.58	A		-7.4	3.21 - 5.95	0.37	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.47	3.79	A		-8.4	2.65 - 4.93	0.49	A

Radiological Reference Date: February 1, 2020

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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:**

(28) = Not Reporting Previously Reported Analyte





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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.02	3.82	W		-20.9	2.67 - 4.97	0.09	A
Cesium-137	2.45	2.77	A		-11.6	1.94 - 3.60	0.08	A
Cobalt-57	NR					False Positive Test		
Cobalt-60	2.43	2.79	A		-12.9	1.95 - 3.63	0.09	A
Manganese-54	4.22	4.58	A		-7.9	3.21 - 5.95	0.12	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.67	3.79	A		-3.2	2.65 - 4.93	0.13	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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-RdV42  
 (NRL99) Environmental Radioactivity - National Centre for Radiation Science  
 PO Box 29181  
 Christchurch, Christchurch 8540

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.079	0.075	A		5.3	0.053 - 0.098	0.012	W
Cesium-134	4.14	3.82	A		8.4	2.67 - 4.97	0.26	A
Cesium-137	2.96	2.77	A		6.9	1.94 - 3.60	0.19	A
Cobalt-57	0.037		A			False Positive Test	0.018	
Cobalt-60	2.98	2.79	A		6.8	1.95 - 3.63	0.21	A
Manganese-54	4.66	4.58	A		1.7	3.21 - 5.95	0.30	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	0.485	0.492	A		-1.4	0.344 - 0.640	0.017	A
Uranium-234	0.0947	0.102	A		-7.2	0.071 - 0.133	0.047	N
Uranium-238	0.0932	0.103	A		-9.5	0.072 - 0.134	0.0047	A
Zinc-65	3.83	3.79	A		1.1	2.65 - 4.93	0.29	A

Radiological Reference Date: February 1, 2020

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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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.15	3.82	A		-17.5	2.67 - 4.97	0.128	A
Cesium-137	2.32	2.77	A		-16.2	1.94 - 3.60	0.167	A
Cobalt-57	0.0511			A		False Positive Test	0.0408	
Cobalt-60	2.36	2.79	A		-15.4	1.95 - 3.63	0.0973	A
Manganese-54	3.66	4.58	W		-20.1	3.21 - 5.95	0.247	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	2.81	3.79	W		-25.9	2.65 - 4.93	0.226	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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**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-RdV42

(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	0.061	0.0611	A		-0.2	0.0428 - 0.0794	0.003	A
Uranium-238	8.74	8.3	A		5.3	5.8 - 10.8	0.59	A
Uranium-Total	8.80	8.4	A		4.8	5.9 - 10.9	0.59	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.077	0.075	A		2.7	0.053 - 0.098	0.005	A
Cesium-134	3.58	3.82	A		-6.3	2.67 - 4.97	0.14	A
Cesium-137	2.67	2.77	A		-3.6	1.94 - 3.60	0.12	A
Cobalt-57	0.0003		A			False Positive Test	0.0191	
Cobalt-60	2.612	2.79	A		-6.4	1.95 - 3.63	0.098	A
Manganese-54	4.34	4.58	A		-5.2	3.21 - 5.95	0.16	A
Plutonium-238	0.045	0.0472	A		-4.7	0.0330 - 0.0614	0.003	A
Plutonium-239/240	0.077	0.0772	A		-0.3	0.0540 - 0.1004	0.004	A
Strontium-90	0.451	0.492	A		-8.3	0.344 - 0.640	0.014	A
Uranium-234	0.109	0.102	A		6.9	0.071 - 0.133	0.006	A
Uranium-238	0.109	0.103	A		5.8	0.072 - 0.134	0.006	A
Zinc-65	3.54	3.79	A		-6.6	2.65 - 4.93	0.14	A

Radiological Reference Date: February 1, 2020

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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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	6.05	8.4	W		-28.0	5.9 - 10.9	0.01	N

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.116	0.075	N		54.7	0.053 - 0.098	0.032	W
Cesium-134	3.53	3.82	A		-7.6	2.67 - 4.97	0.62	W
Cesium-137	2.98	2.77	A		7.6	1.94 - 3.60	0.56	W
Cobalt-57	-.11		A			False Positive Test	0.13	
Cobalt-60	3.10	2.79	A		11.1	1.95 - 3.63	0.54	W
Manganese-54	5.39	4.58	A		17.7	3.21 - 5.95	0.82	W
Plutonium-238	0.053	0.0472	A		12.3	0.0330 - 0.0614	0.01	W
Plutonium-239/240	0.063	0.0772	A		-18.4	0.0540 - 0.1004	0.011	W
Strontium-90	0.270	0.492	N		-45.1	0.344 - 0.640	0.068	W
Uranium-234	0.087	0.102	A		-14.7	0.071 - 0.133	0.048	N
Uranium-238	0.100	0.103	A		-2.9	0.072 - 0.134	0.045	N
Zinc-65	3.92	3.79	A		3.4	2.65 - 4.93	0.92	W

Radiological Reference Date: February 1, 2020

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**Uncertainty Flags:**

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NOT ACCEPTABLE.....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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	1.56	0.075	N		1980.0	0.053 - 0.098	3	N
Cesium-134	28.5	3.82	N		646.1	2.67 - 4.97	2.5	A
Cesium-137	25.1	2.77	N		806.1	1.94 - 3.60	2.2	A
Cobalt-57	0.82		A			False Positive Test	1	
Cobalt-60	24.5	2.79	N		778.1	1.95 - 3.63	1.4	A
Manganese-54	41.7	4.58	N		810.5	3.21 - 5.95	3.3	A
Plutonium-238	NR	0.0472	N	(28)		0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772	N	(28)		0.0540 - 0.1004		
Strontium-90	NR	0.492	N	(28)		0.344 - 0.640		
Uranium-234	NR	0.102	N	(28)		0.071 - 0.133		
Uranium-238	NR	0.103	N	(28)		0.072 - 0.134		
Zinc-65	34.4	3.79	N		807.7	2.65 - 4.93	2.6	A

Radiological Reference Date: February 1, 2020

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**Uncertainty Flags:**

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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-RdV42  
 (SANC99) RadioAnalysis, South Africa Nuclear Energy Corp.  
 Sample Receipt Gate 1  
 Pretoria, Gauteng 0001

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	15.44	16.8	A		-8.1	11.8 - 21.8	0.74	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.06	0.075	A		-20.0	0.053 - 0.098	0.01	W
Cesium-134	3.26	3.82	A		-14.7	2.67 - 4.97	0.11	A
Cesium-137	2.26	2.77	A		-18.4	1.94 - 3.60	0.14	A
Cobalt-57	0.01			A		False Positive Test	0.01	
Cobalt-60	2.24	2.79	A		-19.7	1.95 - 3.63	0.07	A
Manganese-54	3.53	4.58	W		-22.9	3.21 - 5.95	0.18	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	0.513	0.492	A		4.3	0.344 - 0.640	0.070	A
Uranium-234	0.307	0.221	N		38.9	0.155 - 0.287	0.014	A
Uranium-238	0.304	0.207	N		46.9	0.145 - 0.269	0.013	A
Zinc-65	2.77	3.79	W		-26.9	2.65 - 4.93	0.13	A

Radiological Reference Date: February 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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0688	0.075	A		-8.3	0.053 - 0.098	0.0047	A
Cesium-134	3.32	3.82	A		-13.1	2.67 - 4.97	0.20	A
Cesium-137	2.71	2.77	A		-2.2	1.94 - 3.60	0.20	A
Cobalt-57	-0.04		A			False Positive Test	0.03	
Cobalt-60	2.63	2.79	A		-5.7	1.95 - 3.63	0.17	A
Manganese-54	4.44	4.58	A		-3.1	3.21 - 5.95	0.31	A
Plutonium-238	0.0463	0.0472	A		-1.9	0.0330 - 0.0614	0.0036	A
Plutonium-239/240	0.0738	0.0772	A		-4.4	0.0540 - 0.1004	0.0055	A
Strontium-90	0.499	0.492	A		1.4	0.344 - 0.640	0.034	A
Uranium-234	0.1010	0.102	A		-1.0	0.071 - 0.133	0.0076	A
Uranium-238	0.1088	0.103	A		5.6	0.072 - 0.134	0.0079	A
Zinc-65	3.88	3.79	A		2.4	2.65 - 4.93	0.39	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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NR = Not Reported

**Uncertainty Flags:**

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

NOT ACCEPTABLE.....RP > 30%

RP = Relative Precision

**Notes:**

(28) = Not Reporting Previously Reported Analyte





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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0619	0.0611	A		1.3	0.0428 - 0.0794	0.00436	A
Uranium-238	8.02	8.3	A		-3.4	5.8 - 10.8	0.541	A
Uranium-Total	8.09	8.4	A		-3.7	5.9 - 10.9	0.546	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0659	0.075	A		-12.1	0.053 - 0.098	0.00944	A
Cesium-134	3.62	3.82	A		-5.2	2.67 - 4.97	0.146	A
Cesium-137	3.04	2.77	A		9.7	1.94 - 3.60	0.176	A
Cobalt-57	0.113		A			False Positive Test	0.0448	
Cobalt-60	3.00	2.79	A		7.5	1.95 - 3.63	0.188	A
Manganese-54	5.04	4.58	A		10.0	3.21 - 5.95	0.274	A
Plutonium-238	0.0334	0.0472	W		-29.2	0.0330 - 0.0614	0.00604	W
Plutonium-239/240	0.0667	0.0772	A		-13.6	0.0540 - 0.1004	0.00900	A
Strontium-90	0.271	0.492	N		-44.9	0.344 - 0.640	0.0489	W
Uranium-234	0.0848	0.102	A		-16.9	0.071 - 0.133	0.0102	A
Uranium-238	0.0815	0.103	W		-20.9	0.072 - 0.134	0.00993	A
Zinc-65	4.07	3.79	A		7.4	2.65 - 4.93	0.339	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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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**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.07	3.82	A		-19.6	2.67 - 4.97	0.133	A
Cesium-137	2.32	2.77	A		-16.2	1.94 - 3.60	0.159	A
Cobalt-57	-0.0164			A		False Positive Test	0.0677	
Cobalt-60	2.14	2.79	W		-23.3	1.95 - 3.63	0.162	A
Manganese-54	3.64	4.58	W		-20.5	3.21 - 5.95	0.191	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	2.97	3.79	W		-21.6	2.65 - 4.93	0.292	A

Radiological Reference Date: February 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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**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.084	0.075	A		12.0	0.053 - 0.098	0.027	N
Cesium-134	3.98	3.82	A		4.2	2.67 - 4.97	0.11	A
Cesium-137	2.93	2.77	A		5.8	1.94 - 3.60	0.13	A
Cobalt-57	-0.114		A			False Positive Test	0.086	
Cobalt-60	2.983	2.79	A		6.9	1.95 - 3.63	0.099	A
Manganese-54	4.78	4.58	A		4.4	3.21 - 5.95	0.17	A
Plutonium-238	0.0480	0.0472	A		1.7	0.0330 - 0.0614	0.0081	W
Plutonium-239/240	0.079	0.0772	A		2.3	0.0540 - 0.1004	0.011	A
Strontium-90	0.336	0.492	N		-31.7	0.344 - 0.640	0.020	A
Uranium-234	0.226	0.221	A		2.3	0.155 - 0.287	0.021	A
Uranium-238	0.204	0.207	A		-1.4	0.145 - 0.269	0.020	A
Zinc-65	3.81	3.79	A		0.5	2.65 - 4.93	0.23	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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NR = Not Reported

**Uncertainty Flags:**

NOT ACCEPTABLE.....RP<2%

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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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.23	3.82	A		-15.4	2.67 - 4.97	.172	A
Cesium-137	2.64	2.77	A		-4.7	1.94 - 3.60	.237	A
Cobalt-57	.0281		A			False Positive Test	.0739	
Cobalt-60	2.62	2.79	A		-6.1	1.95 - 3.63	.163	A
Manganese-54	4.3	4.58	A		-6.1	3.21 - 5.95	.235	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	.396	0.492	A		-19.5	0.344 - 0.640	.0371	A
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.93	3.79	A		3.7	2.65 - 4.93	.428	A

Radiological Reference Date: February 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%

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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.51	3.82	A		-8.1	2.67 - 4.97	0.22	A
Cesium-137	3.04	2.77	A		9.7	1.94 - 3.60	0.18	A
Cobalt-57	0.02			A		False Positive Test	0.03	
Cobalt-60	2.92	2.79	A		4.7	1.95 - 3.63	0.08	A
Manganese-54	5.16	4.58	A		12.7	3.21 - 5.95	0.14	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	4.36	3.79	A		15.0	2.65 - 4.93	0.16	A

Radiological Reference Date: February 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%
- 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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.653	3.82	A		-4.4	2.67 - 4.97	.464	A
Cesium-137	3.024	2.77	A		9.2	1.94 - 3.60	.625	W
Cobalt-57	-0.009		A			False Positive Test	.02	
Cobalt-60	3.083	2.79	A		10.5	1.95 - 3.63	.468	W
Manganese-54	4.788	4.58	A		4.5	3.21 - 5.95	.859	W
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	.102	0.102	A		0.0	0.071 - 0.133	.024	W
Uranium-238	.088	0.103	A		-14.6	0.072 - 0.134	.022	W
Zinc-65	3.689	3.79	A		-2.7	2.65 - 4.93	1.552	N

Radiological Reference Date: February 1, 2020

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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-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.075				0.053 - 0.098		
Cesium-134	3.62	3.82	A		-5.2	2.67 - 4.97	1.09e-5	N
Cesium-137	2.96	2.77	A		6.9	1.94 - 3.60	1.57e-5	N
Cobalt-57	NR					False Positive Test		
Cobalt-60	2.52	2.79	A		-9.7	1.95 - 3.63	1.16e-5	N
Manganese-54	4.75	4.58	A		3.7	3.21 - 5.95	1.95e5	N
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	4.38	3.79	A		15.6	2.65 - 4.93	3.5e-5	N

Radiological Reference Date: February 1, 2020

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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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0681	0.075	A		-9.2	0.053 - 0.098	0.0127	W
Cesium-134	2.885	3.82	W		-24.5	2.67 - 4.97	0.356	A
Cesium-137	2.54	2.77	A		-8.3	1.94 - 3.60	0.327	A
Cobalt-57	-0.002		A			False Positive Test	0.07	
Cobalt-60	2.702	2.79	A		-3.2	1.95 - 3.63	0.324	A
Manganese-54	4.727	4.58	A		3.2	3.21 - 5.95	0.562	A
Plutonium-238	0.0481	0.0472	A		1.9	0.0330 - 0.0614	0.0101	W
Plutonium-239/240	0.0788	0.0772	A		2.1	0.0540 - 0.1004	0.0148	W
Strontium-90	0.3641	0.492	W		-26.0	0.344 - 0.640	0.0607	W
Uranium-234	0.1032	0.102	A		1.2	0.071 - 0.133	0.0161	W
Uranium-238	0.101	0.103	A		-1.9	0.072 - 0.134	0.0158	W
Zinc-65	3.169	3.79	A		-16.4	2.65 - 4.93	0.417	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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**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-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.047	0.075	N		-37.3	0.053 - 0.098	0.224	N
Cesium-134	3.378	3.82	A		-11.6	2.67 - 4.97	0.074	A
Cesium-137	2.731	2.77	A		-1.4	1.94 - 3.60	0.105	A
Cobalt-57	0.006		A			False Positive Test	0.029	
Cobalt-60	2.550	2.79	A		-8.6	1.95 - 3.63	0.073	A
Manganese-54	4.471	4.58	A		-2.4	3.21 - 5.95	0.153	A
Plutonium-238	NR	0.0472				0.0330 - 0.0614		
Plutonium-239/240	NR	0.0772				0.0540 - 0.1004		
Strontium-90	NR	0.492				0.344 - 0.640		
Uranium-234	NR	0.102				0.071 - 0.133		
Uranium-238	NR	0.103				0.072 - 0.134		
Zinc-65	3.546	3.79	A		-6.4	2.65 - 4.93	0.231	A

Radiological Reference Date: February 1, 2020

**Result Flags:**

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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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**Notes:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42

(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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.0632	0.075	A		-15.7	0.053 - 0.098	.00336	A
Cesium-134	3.48	3.82	A		-8.9	2.67 - 4.97	.141	A
Cesium-137	2.68	2.77	A		-3.2	1.94 - 3.60	.153	A
Cobalt-57	-.00961		A			False Positive Test	.0513	
Cobalt-60	2.65	2.79	A		-5.0	1.95 - 3.63	.138	A
Manganese-54	4.28	4.58	A		-6.6	3.21 - 5.95	.189	A
Plutonium-238	.0395	0.0472	A		-16.3	0.0330 - 0.0614	.00230	A
Plutonium-239/240	.0703	0.0772	A		-8.9	0.0540 - 0.1004	.00317	A
Strontium-90	.383	0.492	W		-22.2	0.344 - 0.640	.0272	A
Uranium-234	.109	0.102	A		6.9	0.071 - 0.133	.00996	A
Uranium-238	.104	0.103	A		1.0	0.072 - 0.134	.00953	A
Zinc-65	3.54	3.79	A		-6.6	2.65 - 4.93	.337	A

Radiological Reference Date: February 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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (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	0.0611				0.0428 - 0.0794		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.06761	0.075	A		-9.9	0.053 - 0.098	0.004906	A
Cesium-134	3.66	3.82	A		-4.2	2.67 - 4.97	0.118	A
Cesium-137	2.654	2.77	A		-4.2	1.94 - 3.60	0.0889	A
Cobalt-57	0.0207			A		False Positive Test	0.0387	
Cobalt-60	2.815	2.79	A		0.9	1.95 - 3.63	0.223	A
Manganese-54	4.673	4.58	A		2.0	3.21 - 5.95	0.203	A
Plutonium-238	0.040776	0.0472	A		-13.6	0.0330 - 0.0614	0.003502	A
Plutonium-239/240	0.07382	0.0772	A		-4.4	0.0540 - 0.1004	0.004837	A
Strontium-90	0.379919	0.492	W		-22.8	0.344 - 0.640	0.31	N
Uranium-234	0.106	0.102	A		3.9	0.071 - 0.133	0.006513	A
Uranium-238	0.096823	0.103	A		-6.0	0.072 - 0.134	0.006037	A
Zinc-65	3.86	3.79	A		1.8	2.65 - 4.93	0.293	A

Radiological Reference Date: February 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:**

(28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-20-RdV42  
 (WSTP99) Cavendish Nuclear Limited  
 Greeson Court  
 Cumbria, UK CA24 3HZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0564	0.0611	A		-7.7	0.0428 - 0.0794	0.0020	A
Uranium-238	7.83	8.3	A		-5.7	5.8 - 10.8	0.26	A
Uranium-Total	8.54	8.4	A		1.7	5.9 - 10.9	0.28	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0655	0.075	A		-12.7	0.053 - 0.098	0.0048	A
Cesium-134	3.60	3.82	A		-5.8	2.67 - 4.97	0.16	A
Cesium-137	2.64	2.77	A		-4.7	1.94 - 3.60	0.16	A
Cobalt-57	-0.017		A			False Positive Test	0.029	
Cobalt-60	2.51	2.79	A		-10.0	1.95 - 3.63	0.08	A
Manganese-54	4.10	4.58	A		-10.5	3.21 - 5.95	0.16	A
Plutonium-238	0.0424	0.0472	A		-10.2	0.0330 - 0.0614	0.0032	A
Plutonium-239/240	0.0706	0.0772	A		-8.5	0.0540 - 0.1004	0.0047	A
Strontium-90	0.0536	0.492	N		-89.1	0.344 - 0.640	0.0033	A
Uranium-234	0.0899	0.102	A		-11.9	0.071 - 0.133	0.0053	A
Uranium-238	0.0974	0.103	A		-5.4	0.072 - 0.134	0.0032	A
Zinc-65	3.36	3.79	A		-11.3	2.65 - 4.93	0.12	A

Radiological Reference Date: February 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

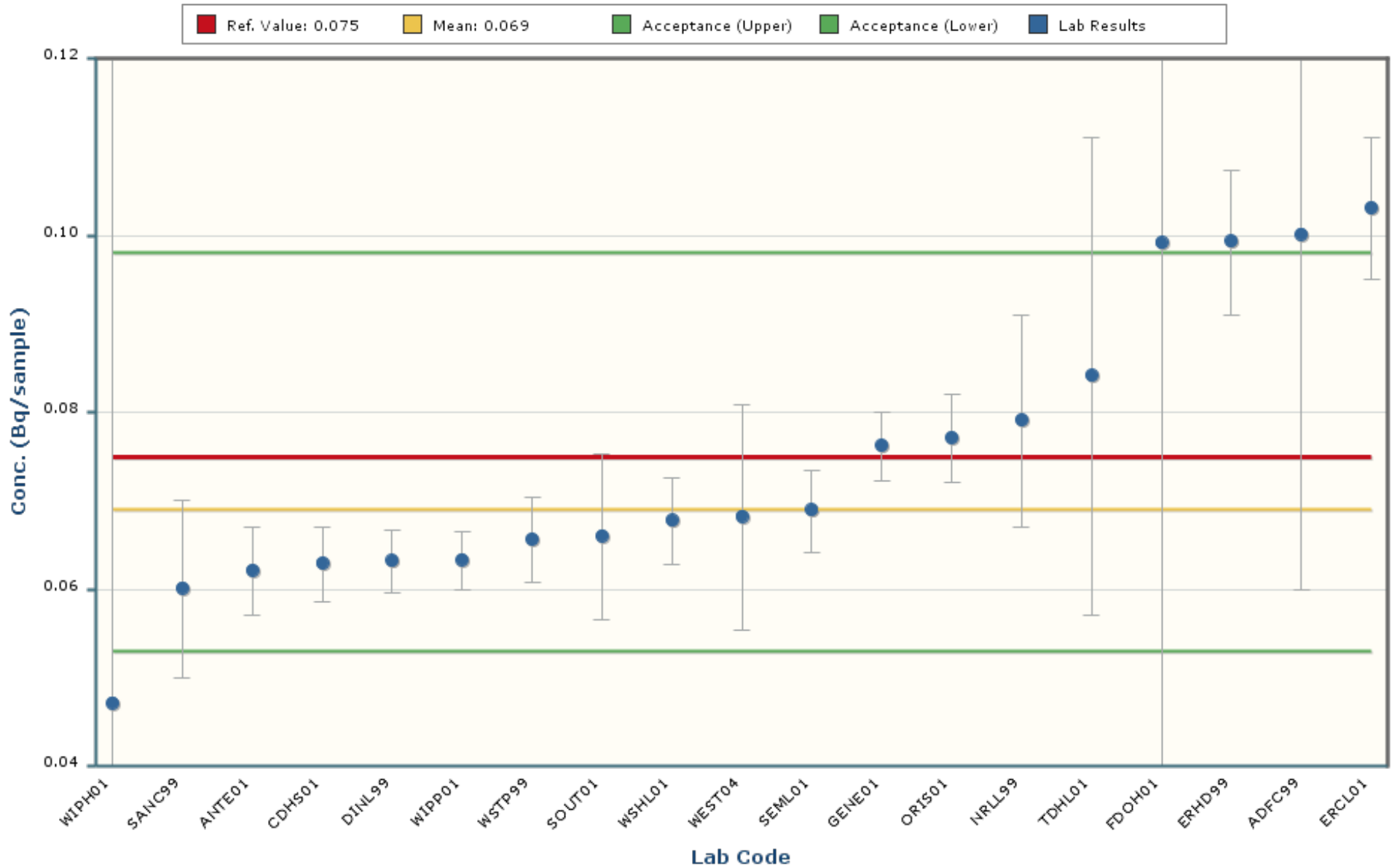
**Notes:**

(28) = Not Reporting Previously Reported Analyte



# Americium-241

## MAPEP-20-RdV42



### Notes:

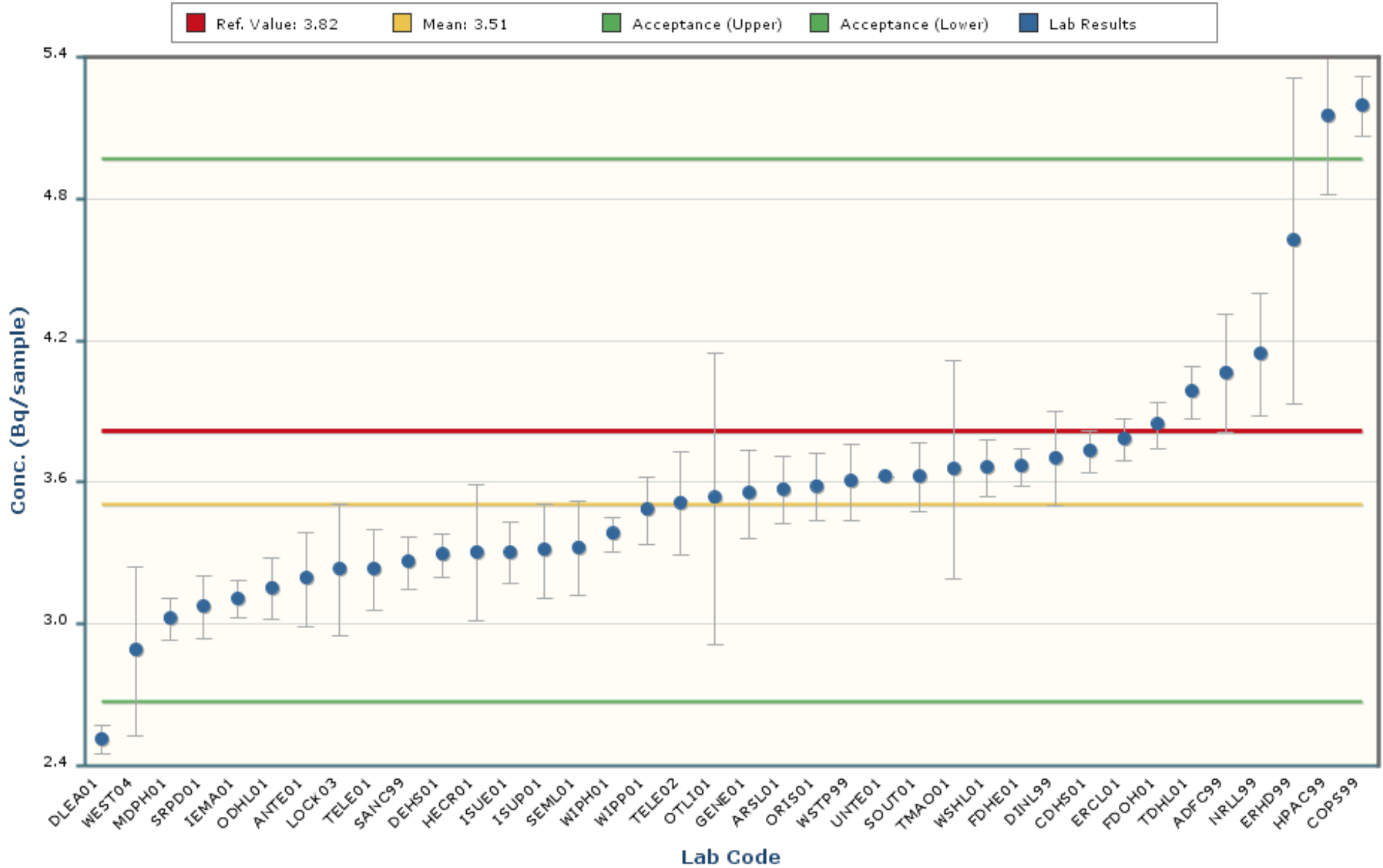
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.032 and 0.106 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  standard deviation.

# Cesium-134

## MAPEP-20-RdV42



### Notes:

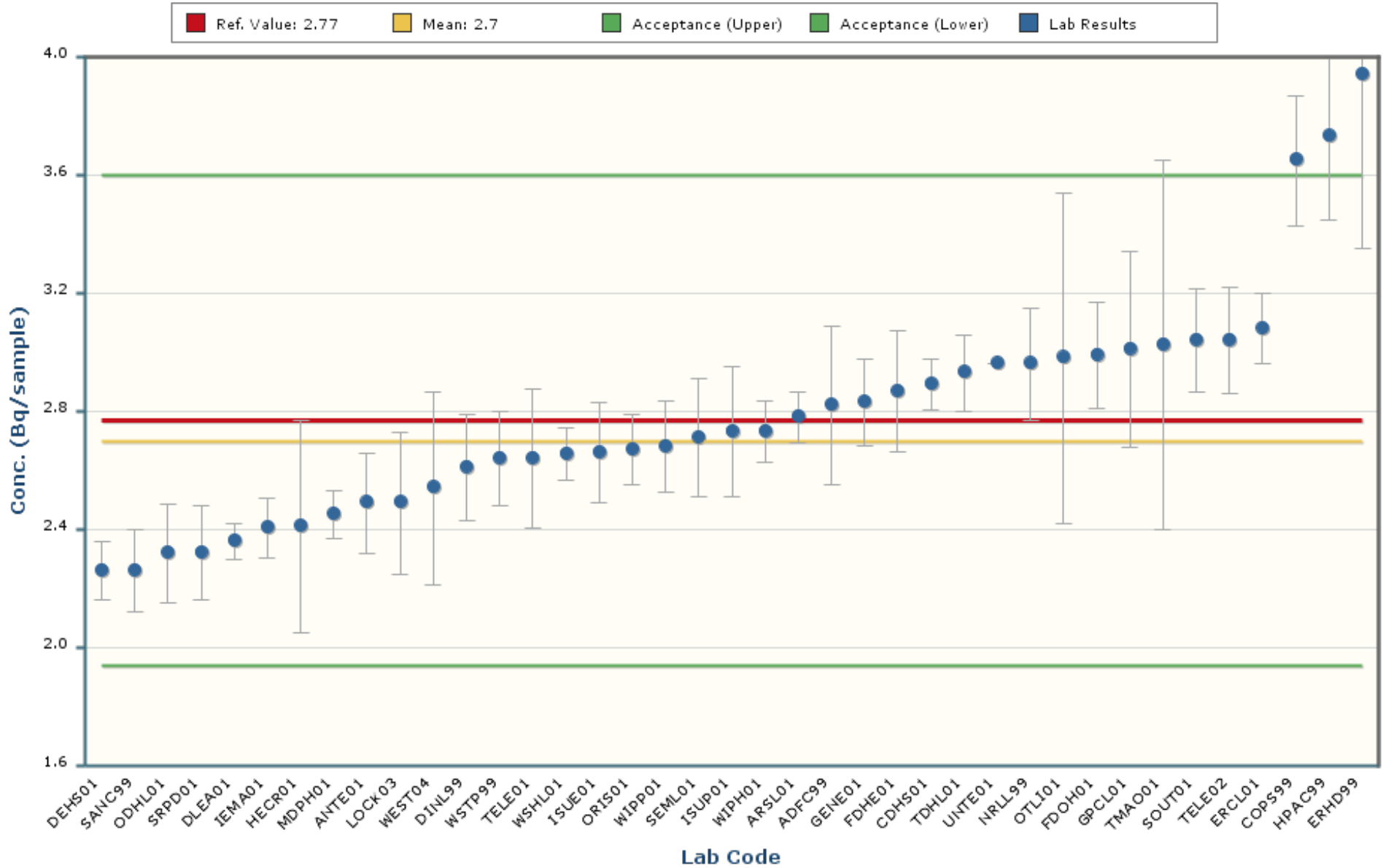
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 1.75 and 5.27 ( $\pm 5$  Standard Deviations).

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

# Cesium-137

## MAPEP-20-RdV42



### Notes:

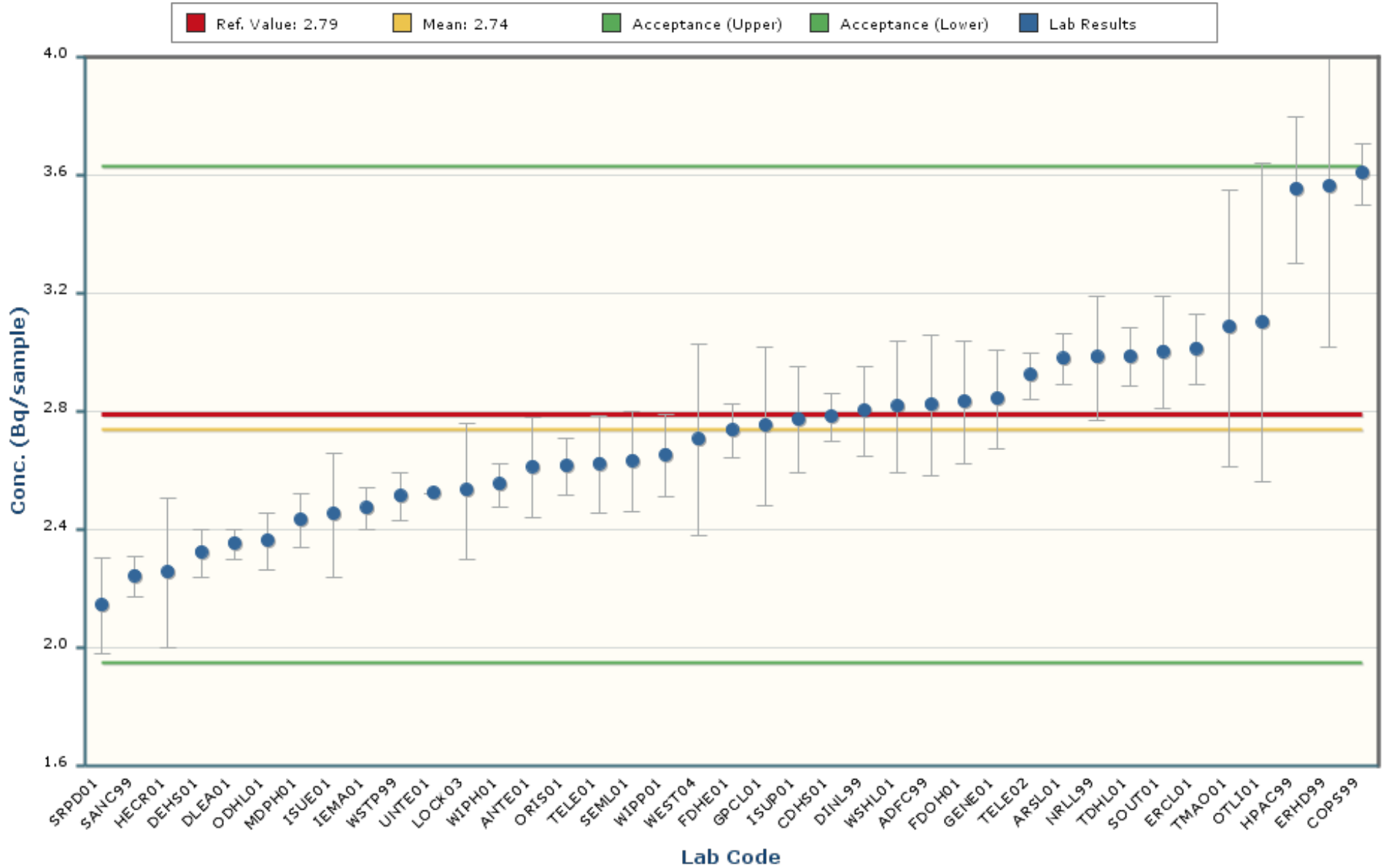
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 1.45 and 3.95 ( $\pm 5$  Standard Deviations).

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

# Cobalt-60

## MAPEP-20-RdV42



### Notes:

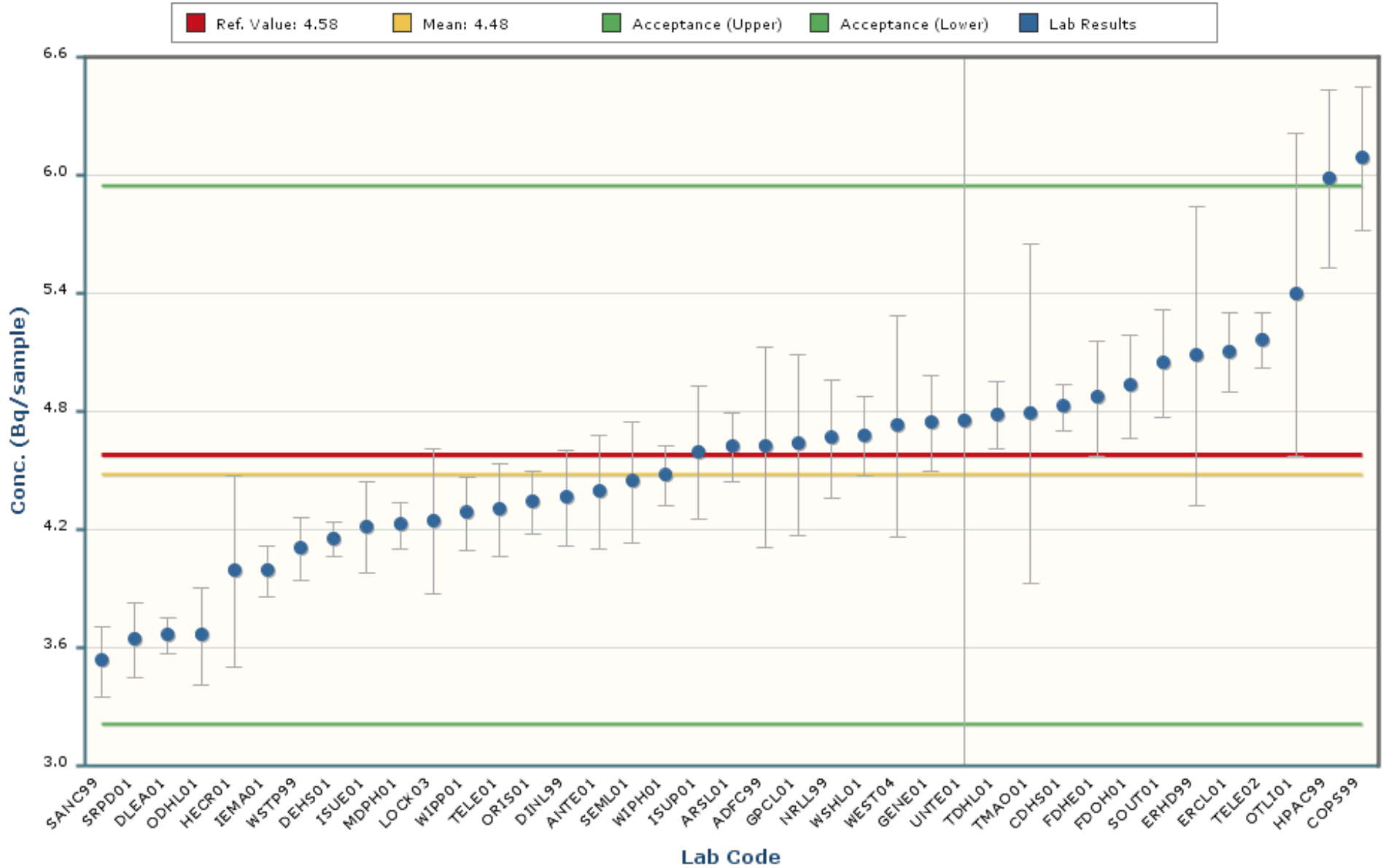
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 1.01 and 4.47 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  standard deviation.

# Manganese-54

## MAPEP-20-RdV42



### Notes:

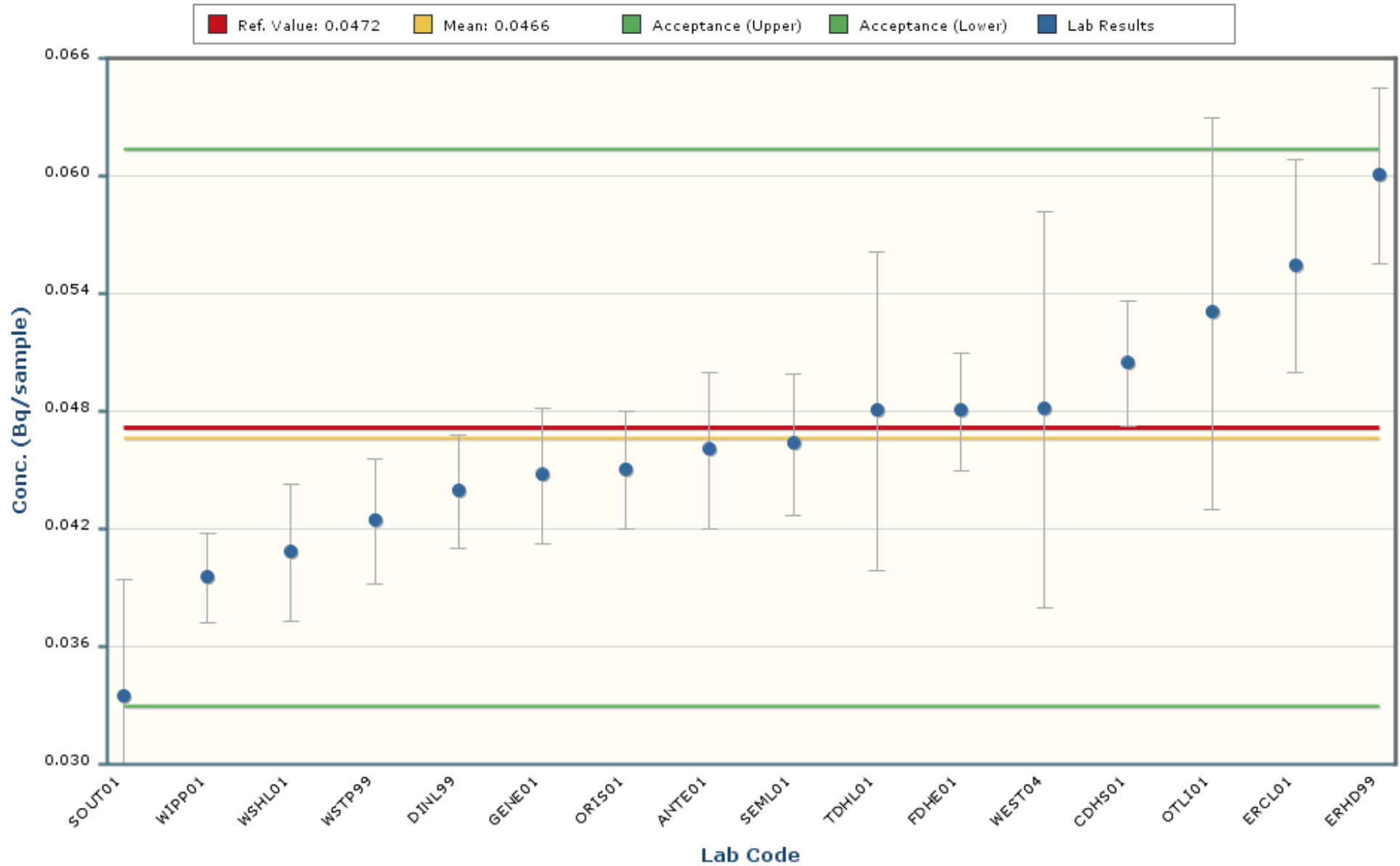
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 2.23 and 6.74 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  standard deviation.

# Plutonium-238

## MAPEP-20-RdV42



### Notes:

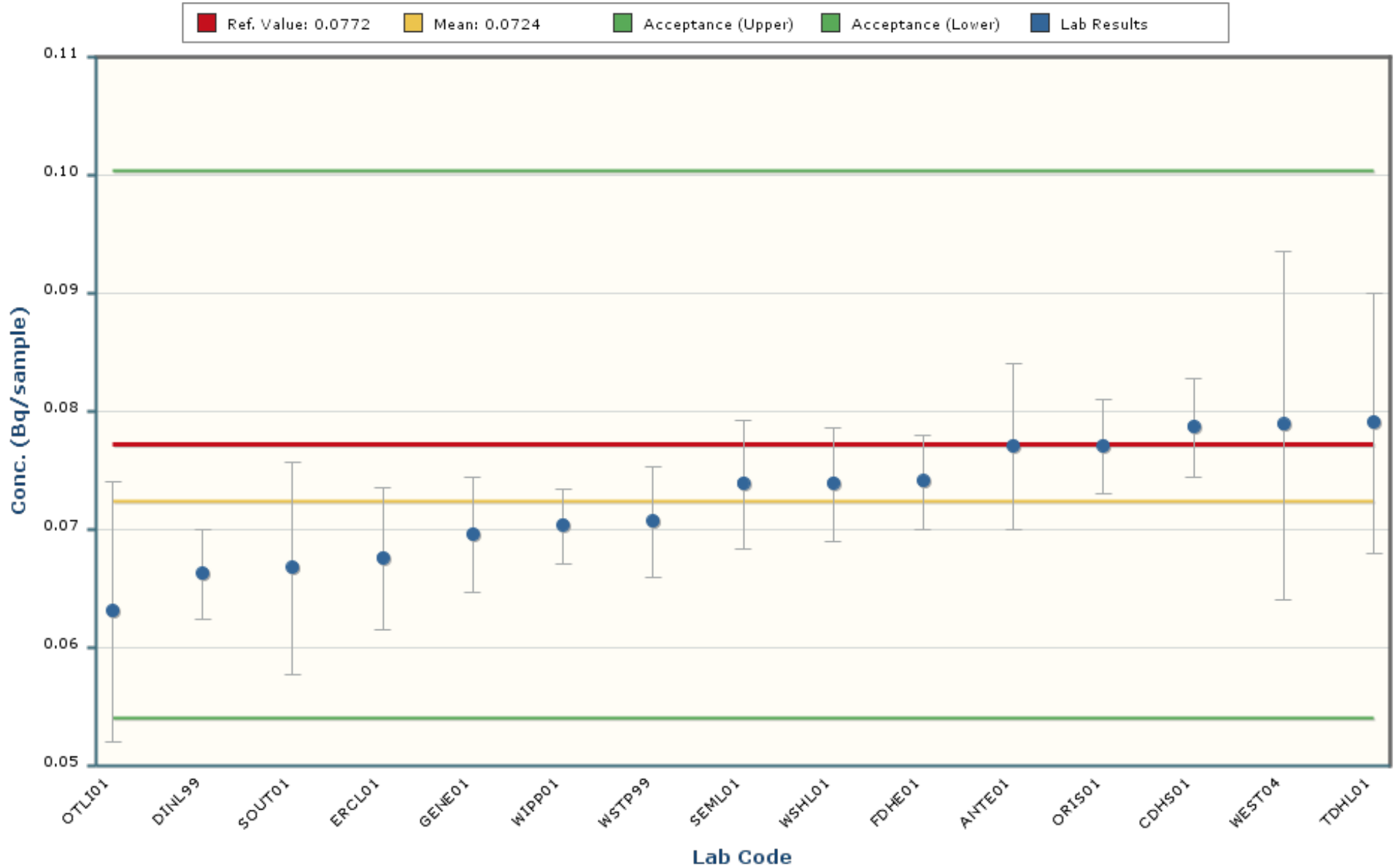
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.0147 and 0.0784 ( $\pm 5$  Standard Deviations).

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

# Plutonium-239/240

## MAPEP-20-RdV42



### Notes:

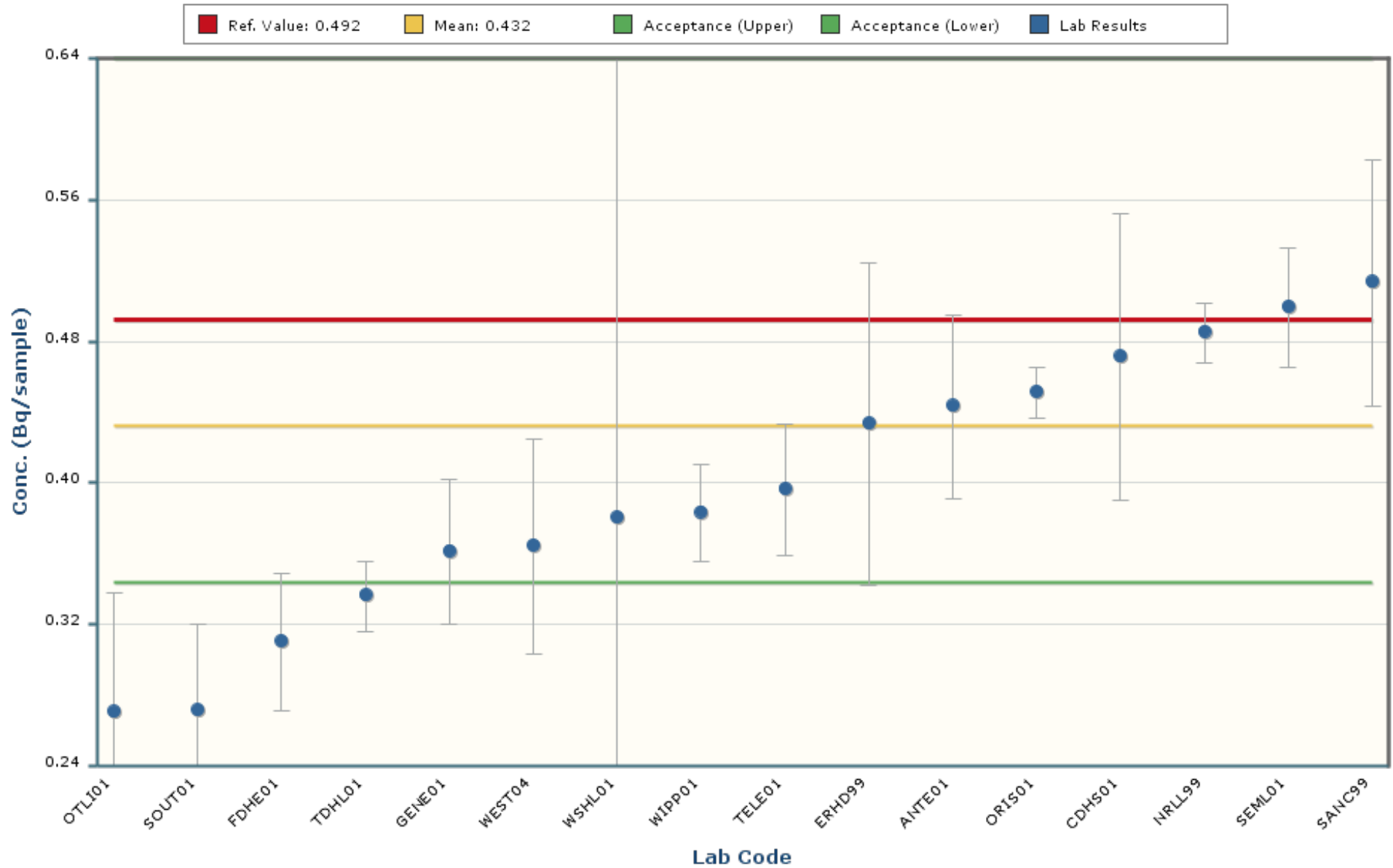
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.0466 and 0.0981 ( $\pm 5$  Standard Deviations).

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

# Strontium-90

## MAPEP-20-RdV42



### Notes:

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

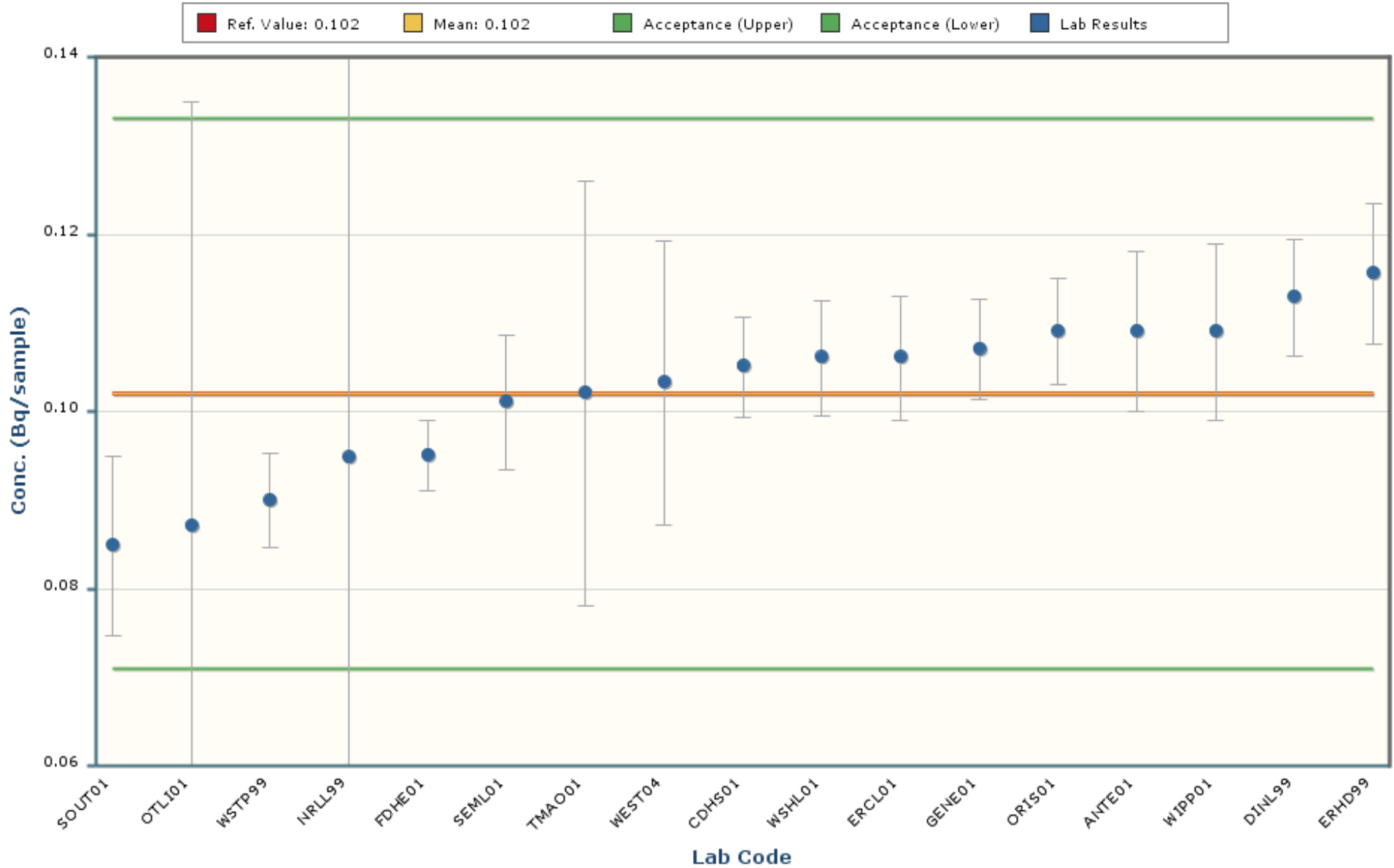
The chart shows only data points with values between 0.162 and 0.701 ( $\pm 5$  Standard Deviations).

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



# Uranium-234

## MAPEP-20-RdV42



### Notes:

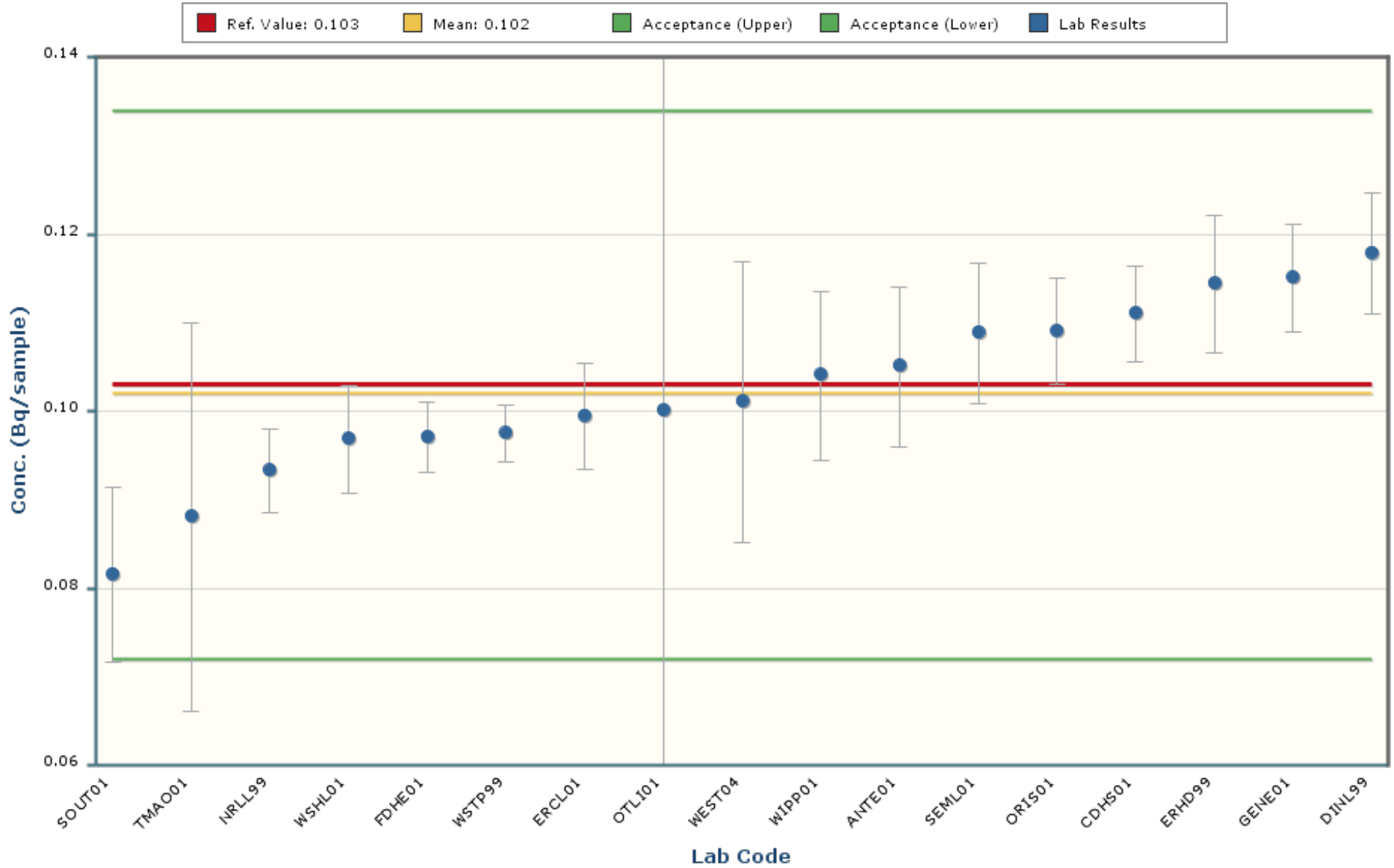
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.057 and 0.147 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  standard deviation.

# Uranium-238

## MAPEP-20-RdV42



### Notes:

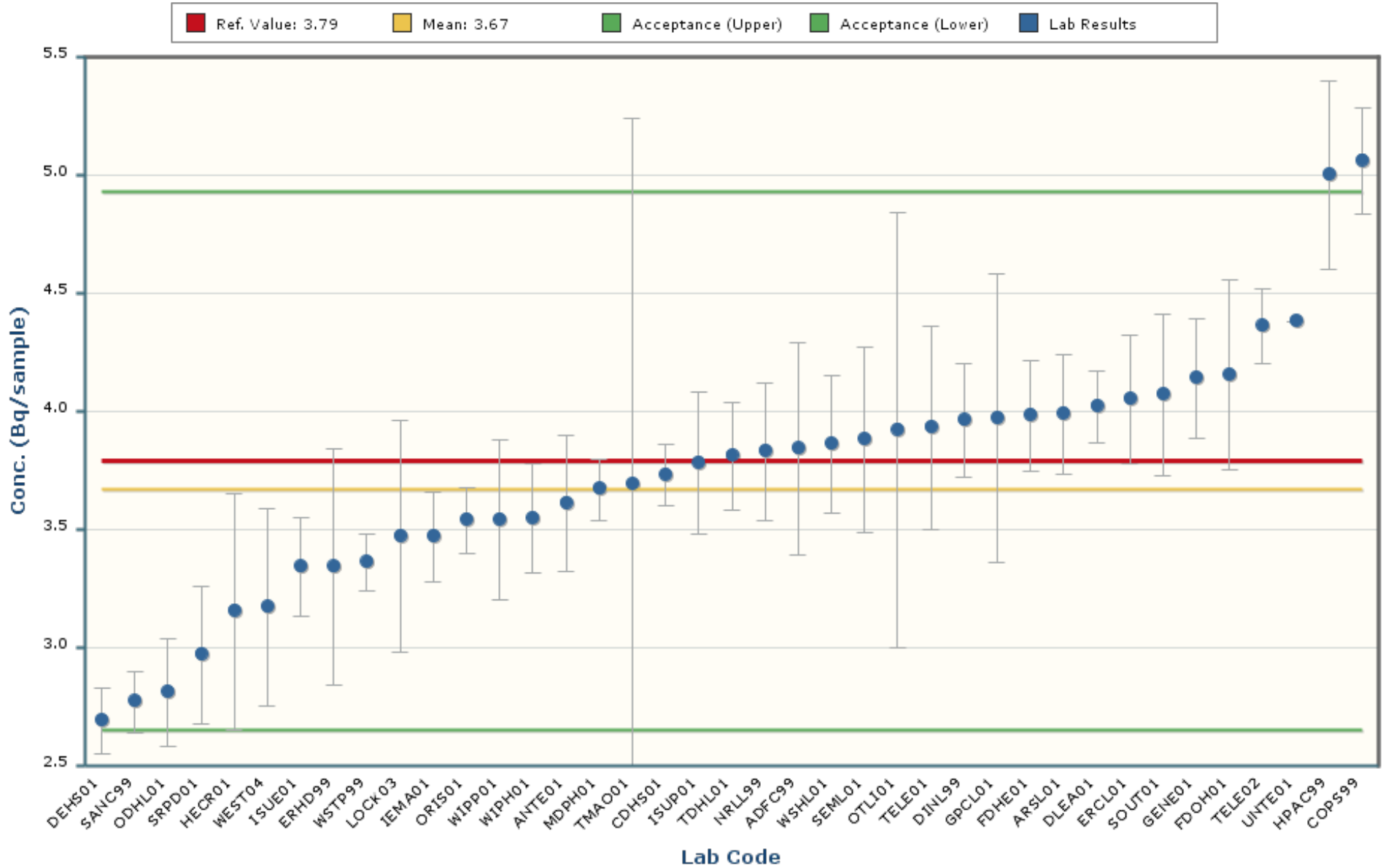
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.053 and 0.151 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  standard deviation.

# Zinc-65

## MAPEP-20-RdV42



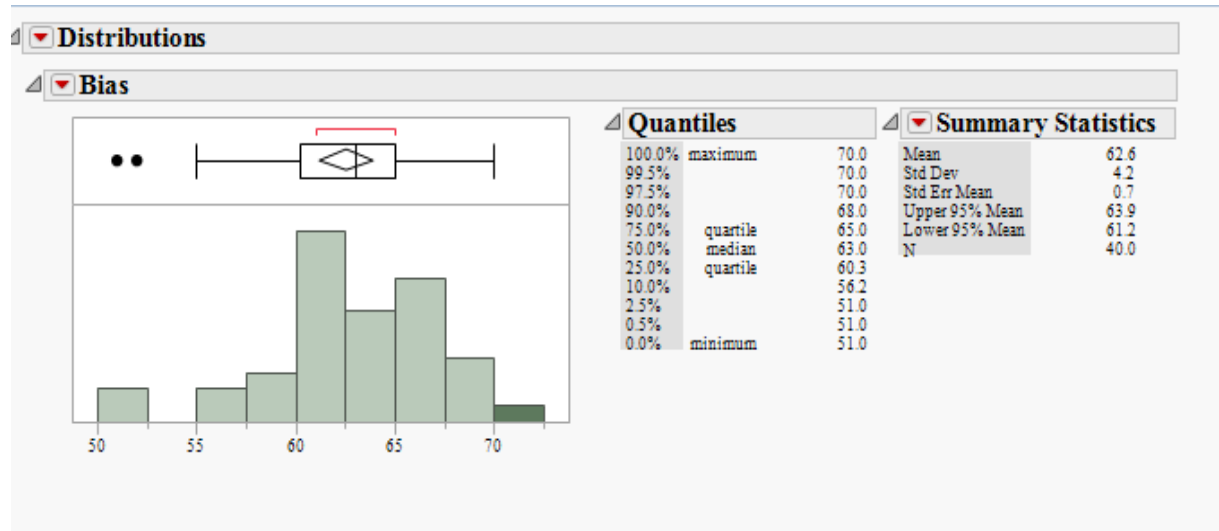
### Notes:

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

The chart shows only data points with values between 1.55 and 5.79 ( $\pm 5$  Standard Deviations).

The error bars encompassing each result are plotted at  $\pm 1$  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.

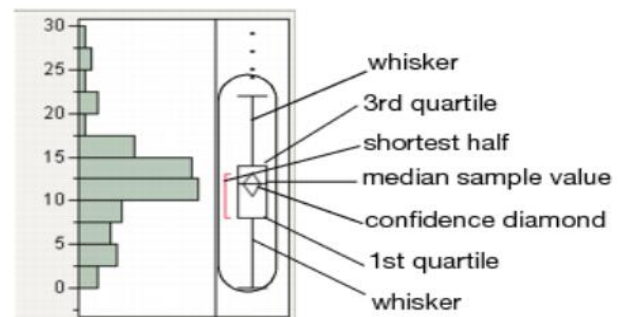


### Outlier Box Plot

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 1<sup>st</sup> and 3<sup>rd</sup> quartile. The difference between the 1<sup>st</sup> and 3<sup>rd</sup> 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)

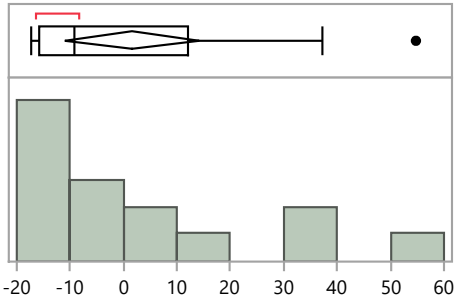


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Americium-241 Alpha Spectrometry**

**Bias**



**Quantiles**

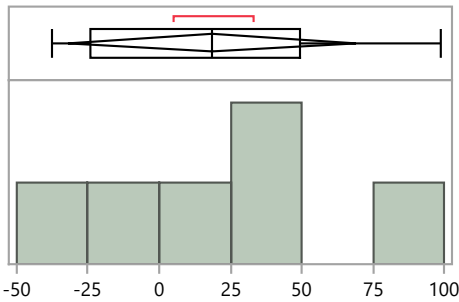
100.0%	maximum	54.7
99.5%		54.7
97.5%		54.7
90.0%		44.3
75.0%	quartile	12.0
50.0%	median	-9.2
25.0%	quartile	-15.7
10.0%		-16.7
2.5%		-17.3
0.5%		-17.3
0.0%	minimum	-17.3

**Summary Statistics**

Mean	1.5
Std Dev	22.6
Std Err Mean	5.8
Upper 95% Mean	14.1
Lower 95% Mean	-11.0
N	15.0

**Distributions Analyte\_Detection=Americium-241 Gamma Spectrometry**

**Bias**



**Quantiles**

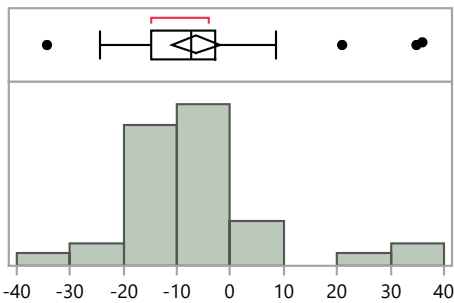
100.0%	maximum	98.7
99.5%		98.7
97.5%		98.7
90.0%		98.7
75.0%	quartile	49.7
50.0%	median	18.7
25.0%	quartile	-24.3
10.0%		-37.3
2.5%		-37.3
0.5%		-37.3
0.0%	minimum	-37.3

**Summary Statistics**

Mean	18.7
Std Dev	48.2
Std Err Mean	19.7
Upper 95% Mean	69.2
Lower 95% Mean	-31.9
N	6.0

**Distributions Analyte\_Detection=Cesium-134 Gamma Spectrometry**

**Bias**



**Quantiles**

100.0%	maximum	35.9
99.5%		35.9
97.5%		35.9
90.0%		9.7
75.0%	quartile	-2.9
50.0%	median	-7.4
25.0%	quartile	-14.9
10.0%		-19.7
2.5%		-34.3
0.5%		-34.3
0.0%	minimum	-34.3

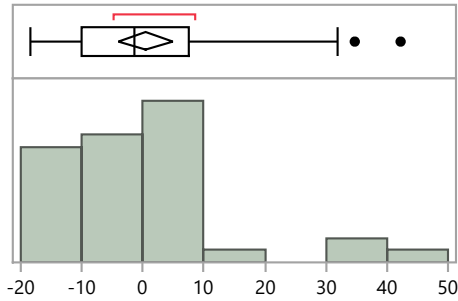
**Summary Statistics**

Mean	-6.5
Std Dev	14.0
Std Err Mean	2.3
Upper 95% Mean	-1.9
Lower 95% Mean	-11.1
N	38.0

**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Cesium-137 Gamma Spectrometry**

**Bias**



**Quantiles**

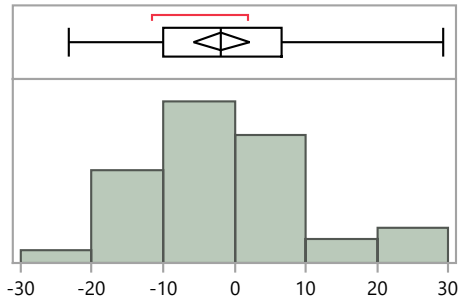
100.0%	maximum	42.2
99.5%		42.2
97.5%		42.2
90.0%		11.2
75.0%	quartile	7.6
50.0%	median	-1.4
25.0%	quartile	-10.1
10.0%		-16.2
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

**Summary Statistics**

Mean	0.5
Std Dev	13.6
Std Err Mean	2.2
Upper 95% Mean	4.9
Lower 95% Mean	-3.9
N	39.0

**Distributions Analyte\_Detection=Cobalt-60 Gamma Spectrometry**

**Bias**



**Quantiles**

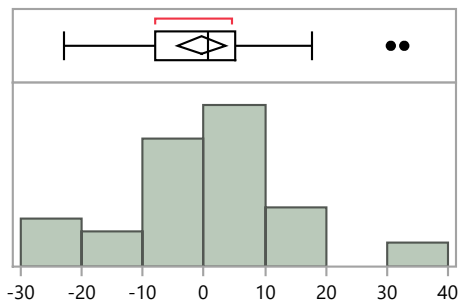
100.0%	maximum	29.2
99.5%		29.2
97.5%		29.2
90.0%		11.1
75.0%	quartile	6.6
50.0%	median	-2.0
25.0%	quartile	-10.0
10.0%		-16.8
2.5%		-23.3
0.5%		-23.3
0.0%	minimum	-23.3

**Summary Statistics**

Mean	-1.8
Std Dev	12.4
Std Err Mean	2.0
Upper 95% Mean	2.2
Lower 95% Mean	-5.8
N	39.0

**Distributions Analyte\_Detection=Manganese-54 Gamma Spectrometry**

**Bias**



**Quantiles**

100.0%	maximum	32.8
99.5%		32.8
97.5%		32.8
90.0%		12.7
75.0%	quartile	5.2
50.0%	median	0.8
25.0%	quartile	-7.9
10.0%		-20.1
2.5%		-22.9
0.5%		-22.9
0.0%	minimum	-22.9

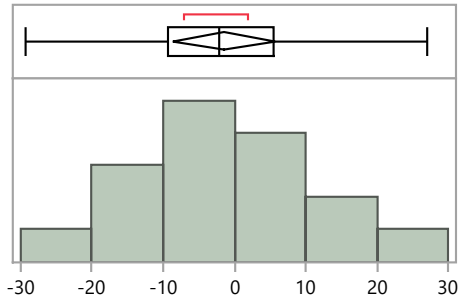
**Summary Statistics**

Mean	-0.4
Std Dev	12.2
Std Err Mean	2.0
Upper 95% Mean	3.6
Lower 95% Mean	-4.3
N	39.0

**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Plutonium-238 Alpha Spectrometry**

**Bias**



**Quantiles**

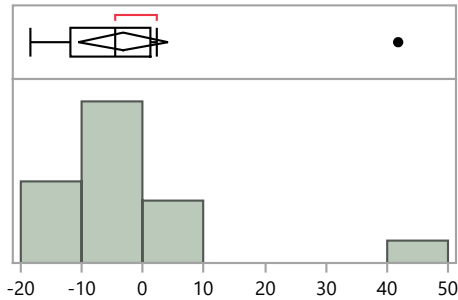
100.0%	maximum	27.1
99.5%		27.1
97.5%		27.1
90.0%		20.3
75.0%	quartile	5.6
50.0%	median	-2.2
25.0%	quartile	-9.4
10.0%		-20.2
2.5%		-29.2
0.5%		-29.2
0.0%	minimum	-29.2

**Summary Statistics**

Mean	-1.4
Std Dev	13.5
Std Err Mean	3.4
Upper 95% Mean	5.8
Lower 95% Mean	-8.6
N	16.0

**Distributions Analyte\_Detection=Plutonium-239/240 Alpha Spectrometry**

**Bias**



**Quantiles**

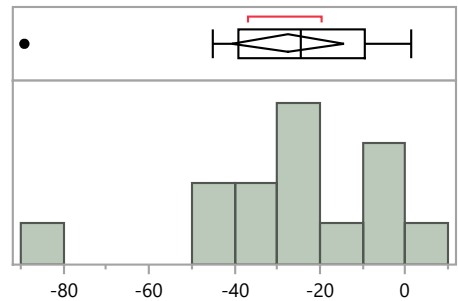
100.0%	maximum	41.8
99.5%		41.8
97.5%		41.8
90.0%		14.2
75.0%	quartile	1.3
50.0%	median	-4.4
25.0%	quartile	-12.0
10.0%		-15.5
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

**Summary Statistics**

Mean	-3.2
Std Dev	13.6
Std Err Mean	3.4
Upper 95% Mean	4.0
Lower 95% Mean	-10.5
N	16.0

**Distributions Analyte\_Detection=Strontium-90 Beta Counting - 2 pi gas flow proportional counter**

**Bias**



**Quantiles**

100.0%	maximum	1.4
99.5%		1.4
97.5%		1.4
90.0%		-1.5
75.0%	quartile	-9.6
50.0%	median	-24.4
25.0%	quartile	-39.0
10.0%		-67.1
2.5%		-89.1
0.5%		-89.1
0.0%	minimum	-89.1

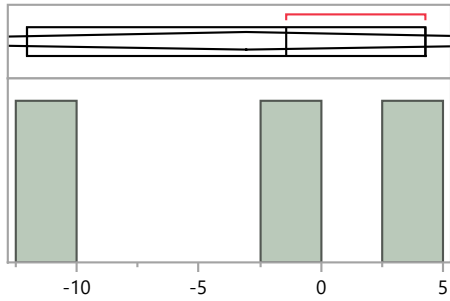
**Summary Statistics**

Mean	-27.6
Std Dev	22.7
Std Err Mean	6.1
Upper 95% Mean	-14.5
Lower 95% Mean	-40.7
N	14.0

**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Strontium-90 Beta Counting - liquid scintillation counter**

**Bias**

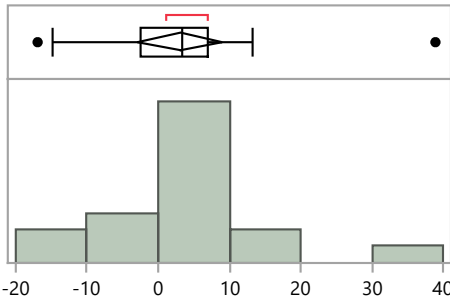


Quantiles		
100.0%	maximum	4.3
99.5%		4.3
97.5%		4.3
90.0%		4.3
75.0%	quartile	4.3
50.0%	median	-1.4
25.0%	quartile	-12.0
10.0%		-12.0
2.5%		-12.0
0.5%		-12.0
0.0%	minimum	-12.0

Summary Statistics	
Mean	-3.0
Std Dev	8.3
Std Err Mean	4.8
Upper 95% Mean	17.5
Lower 95% Mean	-23.6
N	3.0

**Distributions Analyte\_Detection=Uranium-234 Alpha Spectrometry**

**Bias**

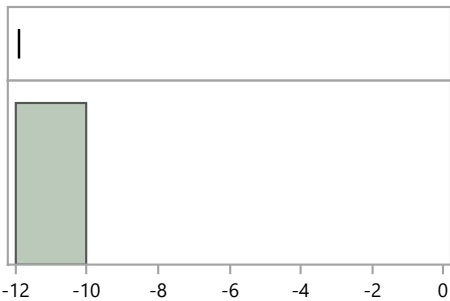


Quantiles		
100.0%	maximum	38.9
99.5%		38.9
97.5%		38.9
90.0%		15.8
75.0%	quartile	6.9
50.0%	median	3.4
25.0%	quartile	-2.5
10.0%		-14.9
2.5%		-16.9
0.5%		-16.9
0.0%	minimum	-16.9

Summary Statistics	
Mean	3.1
Std Dev	12.0
Std Err Mean	2.8
Upper 95% Mean	9.1
Lower 95% Mean	-2.9
N	18.0

**Distributions Analyte\_Detection=Uranium-234 Inductively Coupled Plasma Mass Spectrometry**

**Bias**



Quantiles		
100.0%	maximum	-11.9
99.5%		-11.9
97.5%		-11.9
90.0%		-11.9
75.0%	quartile	-11.9
50.0%	median	-11.9
25.0%	quartile	-11.9
10.0%		-11.9
2.5%		-11.9
0.5%		-11.9
0.0%	minimum	-11.9

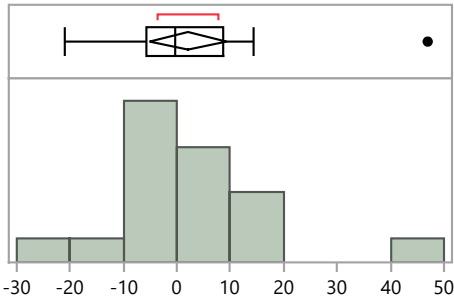
Summary Statistics	
Mean	-11.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0



**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Uranium-238 Alpha Spectrometry**

**Bias**



**Quantiles**

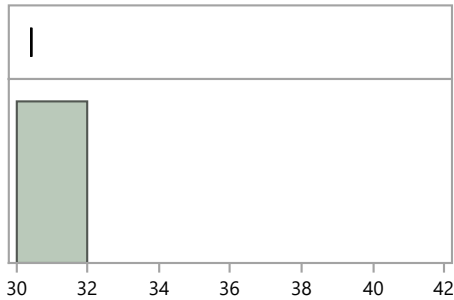
100.0%	maximum	46.9
99.5%		46.9
97.5%		46.9
90.0%		17.7
75.0%	quartile	8.6
50.0%	median	-0.2
25.0%	quartile	-5.9
10.0%		-15.2
2.5%		-20.9
0.5%		-20.9
0.0%	minimum	-20.9

**Summary Statistics**

Mean	2.2
Std Dev	14.4
Std Err Mean	3.4
Upper 95% Mean	9.4
Lower 95% Mean	-5.0
N	18.0

**Distributions Analyte\_Detection=Uranium-238 Gamma Spectrometry**

**Bias**



**Quantiles**

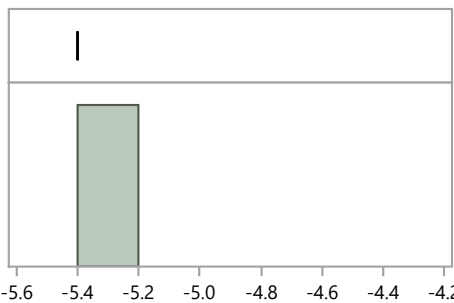
100.0%	maximum	30.4
99.5%		30.4
97.5%		30.4
90.0%		30.4
75.0%	quartile	30.4
50.0%	median	30.4
25.0%	quartile	30.4
10.0%		30.4
2.5%		30.4
0.5%		30.4
0.0%	minimum	30.4

**Summary Statistics**

Mean	30.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Detection=Uranium-238 Inductively Coupled Plasma Mass Spectrometry**

**Bias**



**Quantiles**

100.0%	maximum	-5.4
99.5%		-5.4
97.5%		-5.4
90.0%		-5.4
75.0%	quartile	-5.4
50.0%	median	-5.4
25.0%	quartile	-5.4
10.0%		-5.4
2.5%		-5.4
0.5%		-5.4
0.0%	minimum	-5.4

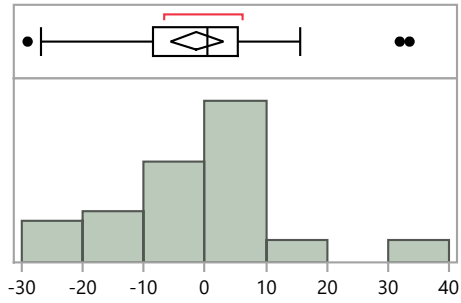
**Summary Statistics**

Mean	-5.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**RdV Distribution by Detection Method**

**Distributions Analyte\_Detection=Zinc-65 Gamma Spectrometry**

**Bias**



**Quantiles**

100.0%	maximum	33.5
99.5%		33.5
97.5%		33.5
90.0%		15.0
75.0%	quartile	5.3
50.0%	median	0.5
25.0%	quartile	-8.4
10.0%		-21.6
2.5%		-29.0
0.5%		-29.0
0.0%	minimum	-29.0

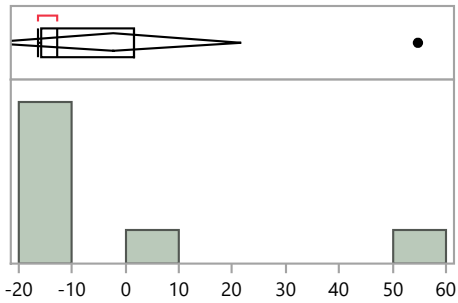
**Summary Statistics**

Mean	-1.3
Std Dev	13.5
Std Err Mean	2.2
Upper 95% Mean	3.1
Lower 95% Mean	-5.7
N	39.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Americium-241 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

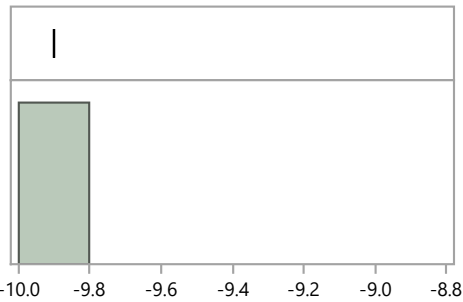
100.0%	maximum	54.7
99.5%		54.7
97.5%		54.7
90.0%		54.7
75.0%	quartile	1.5
50.0%	median	-12.7
25.0%	quartile	-15.9
10.0%		-16.3
2.5%		-16.3
0.5%		-16.3
0.0%	minimum	-16.3

**Summary Statistics**

Mean	-2.4
Std Dev	25.9
Std Err Mean	9.8
Upper 95% Mean	21.6
Lower 95% Mean	-26.3
N	7.0

**Distributions Analyte\_Method=Americium-241 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

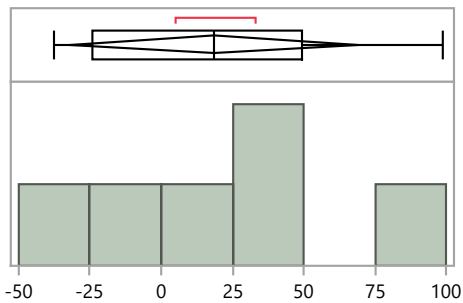
100.0%	maximum	-9.9
99.5%		-9.9
97.5%		-9.9
90.0%		-9.9
75.0%	quartile	-9.9
50.0%	median	-9.9
25.0%	quartile	-9.9
10.0%		-9.9
2.5%		-9.9
0.5%		-9.9
0.0%	minimum	-9.9

**Summary Statistics**

Mean	-9.9
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	98.7
99.5%		98.7
97.5%		98.7
90.0%		98.7
75.0%	quartile	49.7
50.0%	median	18.7
25.0%	quartile	-24.3
10.0%		-37.3
2.5%		-37.3
0.5%		-37.3
0.0%	minimum	-37.3

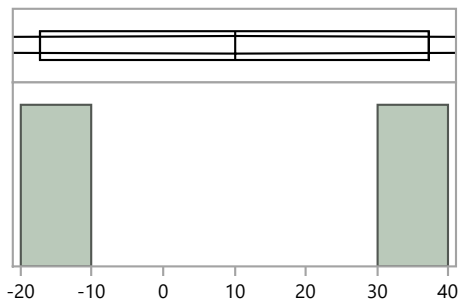
**Summary Statistics**

Mean	18.7
Std Dev	48.2
Std Err Mean	19.7
Upper 95% Mean	69.2
Lower 95% Mean	-31.9
N	6.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Americium-241 Other**

**Bias**



**Quantiles**

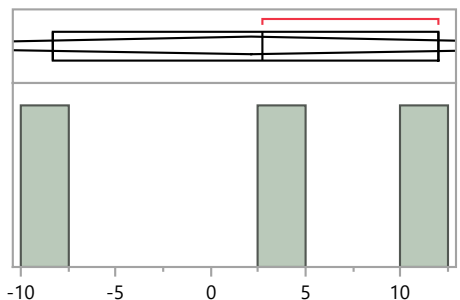
100.0%	maximum	37.3
99.5%		37.3
97.5%		37.3
90.0%		37.3
75.0%	quartile	37.3
50.0%	median	10.0
25.0%	quartile	-17.3
10.0%		-17.3
2.5%		-17.3
0.5%		-17.3
0.0%	minimum	-17.3

**Summary Statistics**

Mean	10.0
Std Dev	38.6
Std Err Mean	27.3
Upper 95% Mean	356.9
Lower 95% Mean	-336.9
N	2.0

**Distributions Analyte\_Method=Americium-241 Total dissolution by fusion**

**Bias**



**Quantiles**

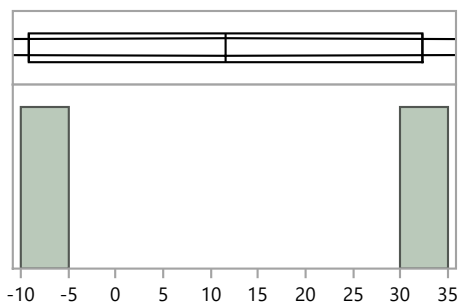
100.0%	maximum	12.0
99.5%		12.0
97.5%		12.0
90.0%		12.0
75.0%	quartile	12.0
50.0%	median	2.7
25.0%	quartile	-8.3
10.0%		-8.3
2.5%		-8.3
0.5%		-8.3
0.0%	minimum	-8.3

**Summary Statistics**

Mean	2.1
Std Dev	10.2
Std Err Mean	5.9
Upper 95% Mean	27.4
Lower 95% Mean	-23.1
N	3.0

**Distributions Analyte\_Method=Americium-241 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

100.0%	maximum	32.3
99.5%		32.3
97.5%		32.3
90.0%		32.3
75.0%	quartile	32.3
50.0%	median	11.6
25.0%	quartile	-9.2
10.0%		-9.2
2.5%		-9.2
0.5%		-9.2
0.0%	minimum	-9.2

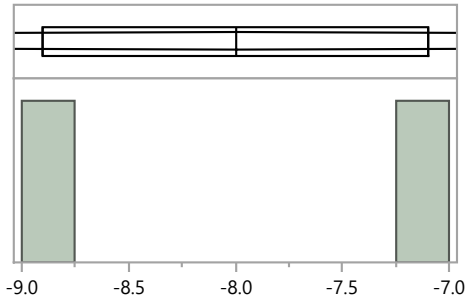
**Summary Statistics**

Mean	11.6
Std Dev	29.3
Std Err Mean	20.8
Upper 95% Mean	275.2
Lower 95% Mean	-252.1
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Cesium-134 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

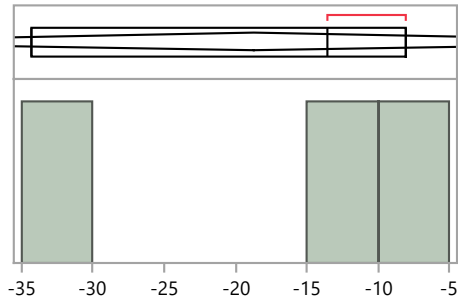
100.0%	maximum	-7.1
99.5%		-7.1
97.5%		-7.1
90.0%		-7.1
75.0%	quartile	-7.1
50.0%	median	-8.0
25.0%	quartile	-8.9
10.0%		-8.9
2.5%		-8.9
0.5%		-8.9
0.0%	minimum	-8.9

**Summary Statistics**

Mean	-8.0
Std Dev	1.3
Std Err Mean	0.9
Upper 95% Mean	3.4
Lower 95% Mean	-19.4
N	2.0

**Distributions Analyte\_Method=Cesium-134 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

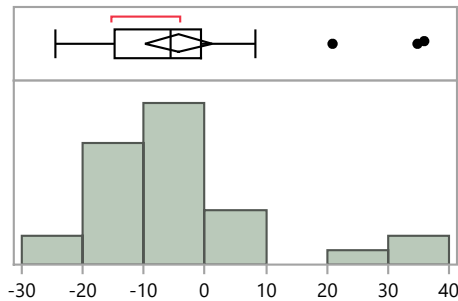
100.0%	maximum	-8.1
99.5%		-8.1
97.5%		-8.1
90.0%		-8.1
75.0%	quartile	-8.1
50.0%	median	-13.6
25.0%	quartile	-34.3
10.0%		-34.3
2.5%		-34.3
0.5%		-34.3
0.0%	minimum	-34.3

**Summary Statistics**

Mean	-18.7
Std Dev	13.8
Std Err Mean	8.0
Upper 95% Mean	15.7
Lower 95% Mean	-53.0
N	3.0

**Distributions Analyte\_Method=Cesium-134 No preparation - analyzed as received**

**Bias**



**Quantiles**

100.0%	maximum	35.9
99.5%		35.9
97.5%		35.9
90.0%		19.7
75.0%	quartile	-0.6
50.0%	median	-5.5
25.0%	quartile	-14.9
10.0%		-19.5
2.5%		-24.5
0.5%		-24.5
0.0%	minimum	-24.5

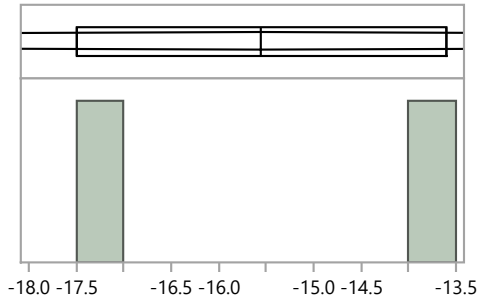
**Summary Statistics**

Mean	-4.3
Std Dev	14.4
Std Err Mean	2.6
Upper 95% Mean	1.1
Lower 95% Mean	-9.7
N	30.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Cesium-134 Other**

**Bias**



**Quantiles**

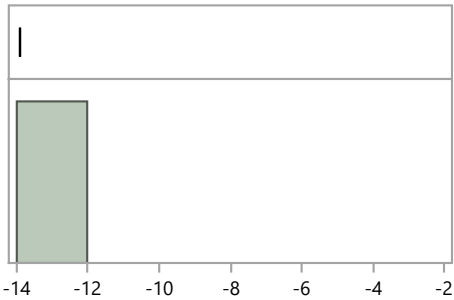
100.0%	maximum	-13.6
99.5%		-13.6
97.5%		-13.6
90.0%		-13.6
75.0%	quartile	-13.6
50.0%	median	-15.6
25.0%	quartile	-17.5
10.0%		-17.5
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

**Summary Statistics**

Mean	-15.6
Std Dev	2.8
Std Err Mean	2.0
Upper 95% Mean	9.2
Lower 95% Mean	-40.3
N	2.0

**Distributions Analyte\_Method=Cesium-134 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

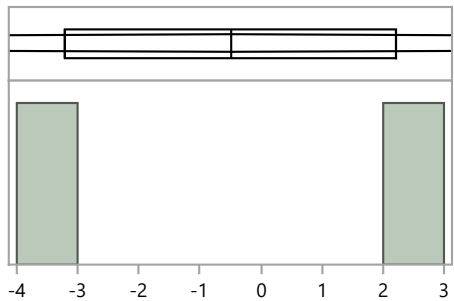
100.0%	maximum	-13.9
99.5%		-13.9
97.5%		-13.9
90.0%		-13.9
75.0%	quartile	-13.9
50.0%	median	-13.9
25.0%	quartile	-13.9
10.0%		-13.9
2.5%		-13.9
0.5%		-13.9
0.0%	minimum	-13.9

**Summary Statistics**

Mean	-13.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Cesium-137 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

100.0%	maximum	2.2
99.5%		2.2
97.5%		2.2
90.0%		2.2
75.0%	quartile	2.2
50.0%	median	-0.5
25.0%	quartile	-3.2
10.0%		-3.2
2.5%		-3.2
0.5%		-3.2
0.0%	minimum	-3.2

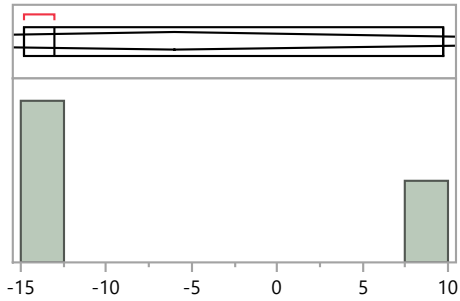
**Summary Statistics**

Mean	-0.5
Std Dev	3.8
Std Err Mean	2.7
Upper 95% Mean	33.8
Lower 95% Mean	-34.8
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Cesium-137 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

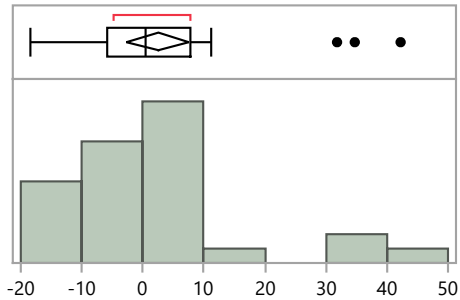
100.0%	maximum	9.7
99.5%		9.7
97.5%		9.7
90.0%		9.7
75.0%	quartile	9.7
50.0%	median	-13.0
25.0%	quartile	-14.8
10.0%		-14.8
2.5%		-14.8
0.5%		-14.8
0.0%	minimum	-14.8

**Summary Statistics**

Mean	-6.0
Std Dev	13.7
Std Err Mean	7.9
Upper 95% Mean	27.9
Lower 95% Mean	-40.0
N	3.0

**Distributions Analyte\_Method=Cesium-137 No preparation - analyzed as received**

**Bias**



**Quantiles**

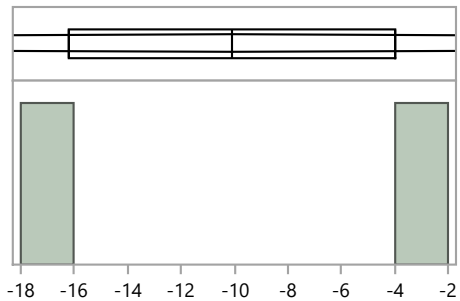
100.0%	maximum	42.2
99.5%		42.2
97.5%		42.2
90.0%		27.7
75.0%	quartile	7.9
50.0%	median	0.4
25.0%	quartile	-5.8
10.0%		-12.9
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

**Summary Statistics**

Mean	2.5
Std Dev	13.9
Std Err Mean	2.5
Upper 95% Mean	7.6
Lower 95% Mean	-2.6
N	31.0

**Distributions Analyte\_Method=Cesium-137 Other**

**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	-10.1
25.0%	quartile	-16.2
10.0%		-16.2
2.5%		-16.2
0.5%		-16.2
0.0%	minimum	-16.2

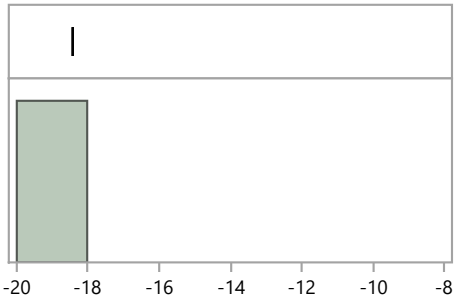
**Summary Statistics**

Mean	-10.1
Std Dev	8.6
Std Err Mean	6.1
Upper 95% Mean	67.4
Lower 95% Mean	-87.6
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Cesium-137 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

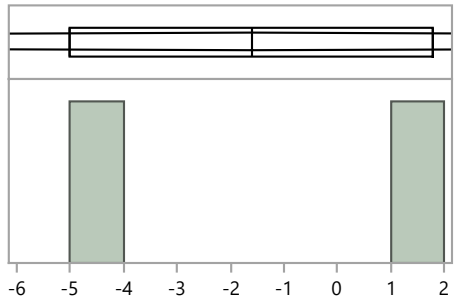
100.0%	maximum	-18.4
99.5%		-18.4
97.5%		-18.4
90.0%		-18.4
75.0%	quartile	-18.4
50.0%	median	-18.4
25.0%	quartile	-18.4
10.0%		-18.4
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

**Summary Statistics**

Mean	-18.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Cobalt-60 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

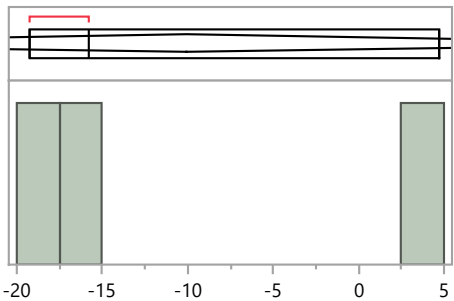
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	1.8
50.0%	median	-1.6
25.0%	quartile	-5.0
10.0%		-5.0
2.5%		-5.0
0.5%		-5.0
0.0%	minimum	-5.0

**Summary Statistics**

Mean	-1.6
Std Dev	4.8
Std Err Mean	3.4
Upper 95% Mean	41.6
Lower 95% Mean	-44.8
N	2.0

**Distributions Analyte\_Method=Cobalt-60 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

100.0%	maximum	4.7
99.5%		4.7
97.5%		4.7
90.0%		4.7
75.0%	quartile	4.7
50.0%	median	-15.8
25.0%	quartile	-19.2
10.0%		-19.2
2.5%		-19.2
0.5%		-19.2
0.0%	minimum	-19.2

**Summary Statistics**

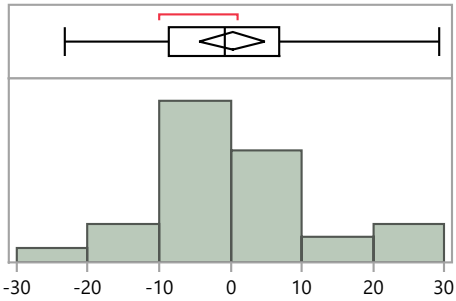
Mean	-10.1
Std Dev	12.9
Std Err Mean	7.5
Upper 95% Mean	22.0
Lower 95% Mean	-42.2
N	3.0



**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Cobalt-60 No preparation - analyzed as received**

**Bias**



**Quantiles**

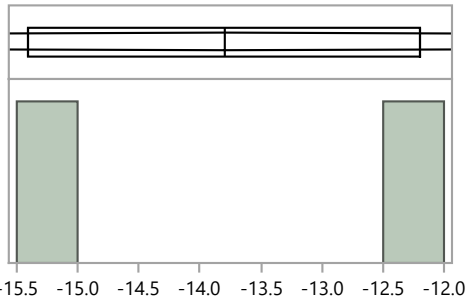
100.0%	maximum	29.2
99.5%		29.2
97.5%		29.2
90.0%		24.0
75.0%	quartile	6.9
50.0%	median	-0.7
25.0%	quartile	-8.6
10.0%		-12.6
2.5%		-23.3
0.5%		-23.3
0.0%	minimum	-23.3

**Summary Statistics**

Mean	0.3
Std Dev	12.4
Std Err Mean	2.2
Upper 95% Mean	4.8
Lower 95% Mean	-4.3
N	31.0

**Distributions Analyte\_Method=Cobalt-60 Other**

**Bias**



**Quantiles**

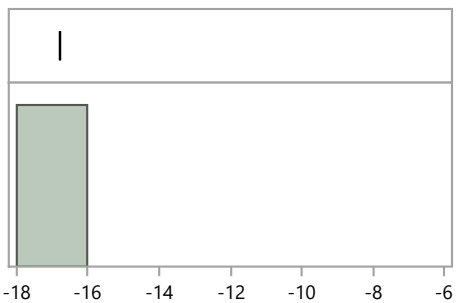
100.0%	maximum	-12.2
99.5%		-12.2
97.5%		-12.2
90.0%		-12.2
75.0%	quartile	-12.2
50.0%	median	-13.8
25.0%	quartile	-15.4
10.0%		-15.4
2.5%		-15.4
0.5%		-15.4
0.0%	minimum	-15.4

**Summary Statistics**

Mean	-13.8
Std Dev	2.3
Std Err Mean	1.6
Upper 95% Mean	6.5
Lower 95% Mean	-34.1
N	2.0

**Distributions Analyte\_Method=Cobalt-60 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

100.0%	maximum	-16.8
99.5%		-16.8
97.5%		-16.8
90.0%		-16.8
75.0%	quartile	-16.8
50.0%	median	-16.8
25.0%	quartile	-16.8
10.0%		-16.8
2.5%		-16.8
0.5%		-16.8
0.0%	minimum	-16.8

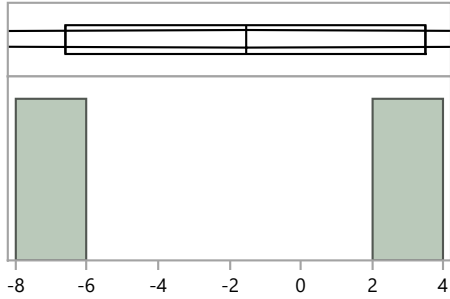
**Summary Statistics**

Mean	-16.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Manganese-54 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

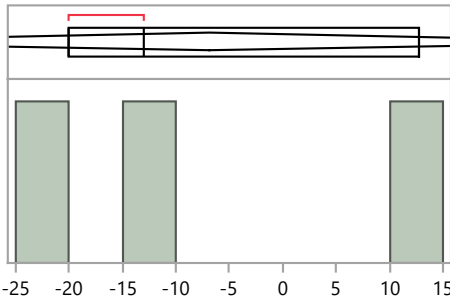
100.0%	maximum	3.5
99.5%		3.5
97.5%		3.5
90.0%		3.5
75.0%	quartile	3.5
50.0%	median	-1.6
25.0%	quartile	-6.6
10.0%		-6.6
2.5%		-6.6
0.5%		-6.6
0.0%	minimum	-6.6

**Summary Statistics**

Mean	-1.6
Std Dev	7.1
Std Err Mean	5.1
Upper 95% Mean	62.6
Lower 95% Mean	-65.7
N	2.0

**Distributions Analyte\_Method=Manganese-54 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

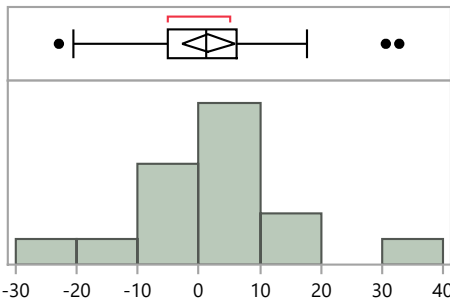
100.0%	maximum	12.7
99.5%		12.7
97.5%		12.7
90.0%		12.7
75.0%	quartile	12.7
50.0%	median	-13.0
25.0%	quartile	-20.1
10.0%		-20.1
2.5%		-20.1
0.5%		-20.1
0.0%	minimum	-20.1

**Summary Statistics**

Mean	-6.8
Std Dev	17.3
Std Err Mean	10.0
Upper 95% Mean	36.1
Lower 95% Mean	-49.7
N	3.0

**Distributions Analyte\_Method=Manganese-54 No preparation - analyzed as received**

**Bias**



**Quantiles**

100.0%	maximum	32.8
99.5%		32.8
97.5%		32.8
90.0%		16.4
75.0%	quartile	6.3
50.0%	median	1.1
25.0%	quartile	-5.2
10.0%		-12.4
2.5%		-22.9
0.5%		-22.9
0.0%	minimum	-22.9

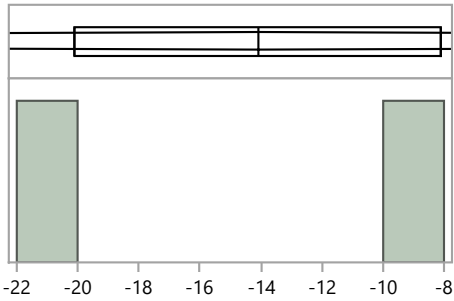
**Summary Statistics**

Mean	1.5
Std Dev	11.9
Std Err Mean	2.1
Upper 95% Mean	5.9
Lower 95% Mean	-2.8
N	31.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Manganese-54 Other**

**Bias**



**Quantiles**

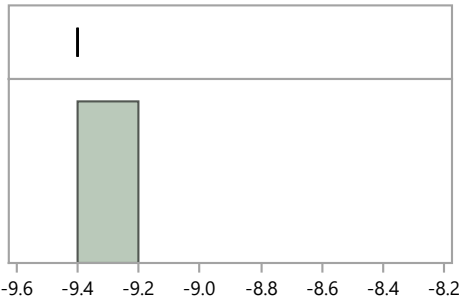
100.0%	maximum	-8.1
99.5%		-8.1
97.5%		-8.1
90.0%		-8.1
75.0%	quartile	-8.1
50.0%	median	-14.1
25.0%	quartile	-20.1
10.0%		-20.1
2.5%		-20.1
0.5%		-20.1
0.0%	minimum	-20.1

**Summary Statistics**

Mean	-14.1
Std Dev	8.5
Std Err Mean	6.0
Upper 95% Mean	62.1
Lower 95% Mean	-90.3
N	2.0

**Distributions Analyte\_Method=Manganese-54 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

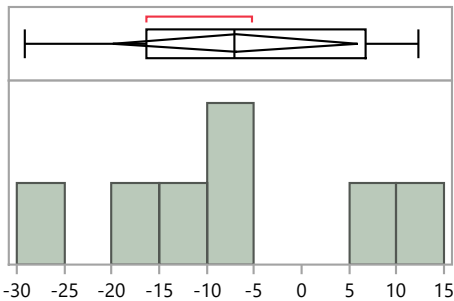
100.0%	maximum	-9.4
99.5%		-9.4
97.5%		-9.4
90.0%		-9.4
75.0%	quartile	-9.4
50.0%	median	-9.4
25.0%	quartile	-9.4
10.0%		-9.4
2.5%		-9.4
0.5%		-9.4
0.0%	minimum	-9.4

**Summary Statistics**

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

**Distributions Analyte\_Method=Plutonium-238 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

100.0%	maximum	12.3
99.5%		12.3
97.5%		12.3
90.0%		12.3
75.0%	quartile	6.8
50.0%	median	-7.0
25.0%	quartile	-16.3
10.0%		-29.2
2.5%		-29.2
0.5%		-29.2
0.0%	minimum	-29.2

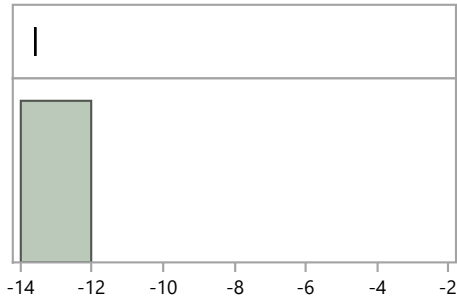
**Summary Statistics**

Mean	-7.0
Std Dev	13.9
Std Err Mean	5.2
Upper 95% Mean	5.8
Lower 95% Mean	-19.8
N	7.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Plutonium-238 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

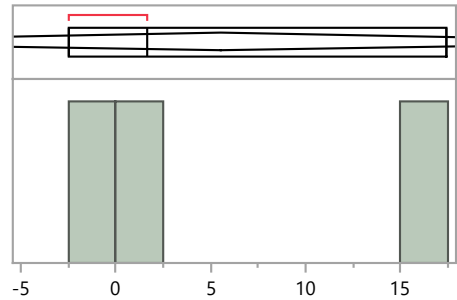
100.0%	maximum	-13.6
99.5%		-13.6
97.5%		-13.6
90.0%		-13.6
75.0%	quartile	-13.6
50.0%	median	-13.6
25.0%	quartile	-13.6
10.0%		-13.6
2.5%		-13.6
0.5%		-13.6
0.0%	minimum	-13.6

**Summary Statistics**

Mean	-13.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Plutonium-238 Other**

**Bias**



**Quantiles**

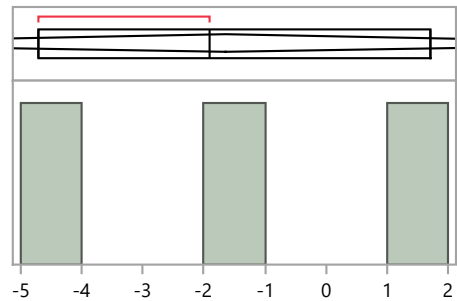
100.0%	maximum	17.4
99.5%		17.4
97.5%		17.4
90.0%		17.4
75.0%	quartile	17.4
50.0%	median	1.7
25.0%	quartile	-2.5
10.0%		-2.5
2.5%		-2.5
0.5%		-2.5
0.0%	minimum	-2.5

**Summary Statistics**

Mean	5.5
Std Dev	10.5
Std Err Mean	6.1
Upper 95% Mean	31.6
Lower 95% Mean	-20.5
N	3.0

**Distributions Analyte\_Method=Plutonium-238 Total dissolution by fusion**

**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	-1.9
25.0%	quartile	-4.7
10.0%		-4.7
2.5%		-4.7
0.5%		-4.7
0.0%	minimum	-4.7

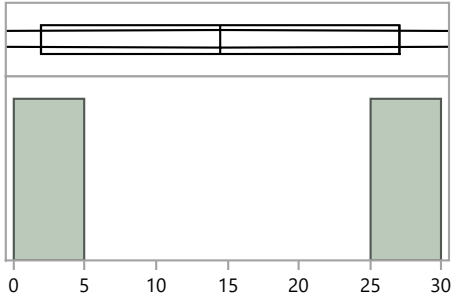
**Summary Statistics**

Mean	-1.6
Std Dev	3.2
Std Err Mean	1.9
Upper 95% Mean	6.3
Lower 95% Mean	-9.6
N	3.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Plutonium-238 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

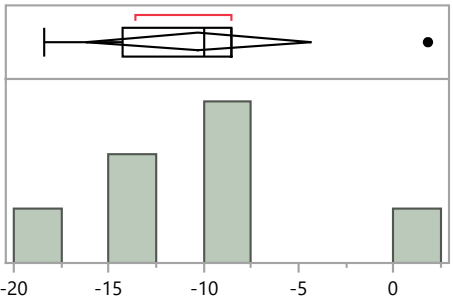
100.0%	maximum	27.1
99.5%		27.1
97.5%		27.1
90.0%		27.1
75.0%	quartile	27.1
50.0%	median	14.5
25.0%	quartile	1.9
10.0%		1.9
2.5%		1.9
0.5%		1.9
0.0%	minimum	1.9

**Summary Statistics**

Mean	14.5
Std Dev	17.8
Std Err Mean	12.6
Upper 95% Mean	174.6
Lower 95% Mean	-145.6
N	2.0

**Distributions Analyte\_Method=Plutonium-239/240 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

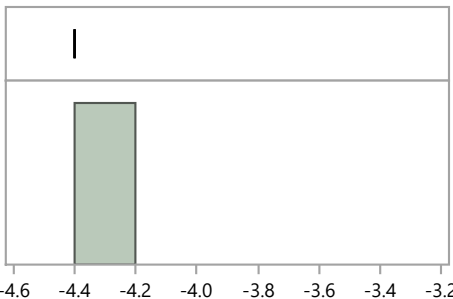
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	-8.5
50.0%	median	-10.0
25.0%	quartile	-14.3
10.0%		-18.4
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

**Summary Statistics**

Mean	-10.3
Std Dev	6.4
Std Err Mean	2.4
Upper 95% Mean	-4.4
Lower 95% Mean	-16.2
N	7.0

**Distributions Analyte\_Method=Plutonium-239/240 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

100.0%	maximum	-4.4
99.5%		-4.4
97.5%		-4.4
90.0%		-4.4
75.0%	quartile	-4.4
50.0%	median	-4.4
25.0%	quartile	-4.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

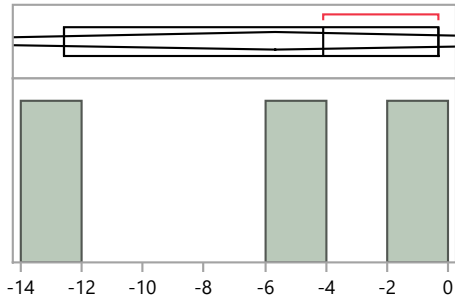
**Summary Statistics**

Mean	-4.4
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 Other**

**Bias**



**Quantiles**

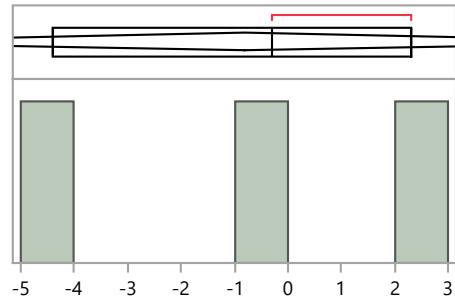
100.0%	maximum	-0.3
99.5%		-0.3
97.5%		-0.3
90.0%		-0.3
75.0%	quartile	-0.3
50.0%	median	-4.1
25.0%	quartile	-12.6
10.0%		-12.6
2.5%		-12.6
0.5%		-12.6
0.0%	minimum	-12.6

**Summary Statistics**

Mean	-5.7
Std Dev	6.3
Std Err Mean	3.6
Upper 95% Mean	10.0
Lower 95% Mean	-21.3
N	3.0

**Distributions Analyte\_Method=Plutonium-239/240 Total dissolution by fusion**

**Bias**



**Quantiles**

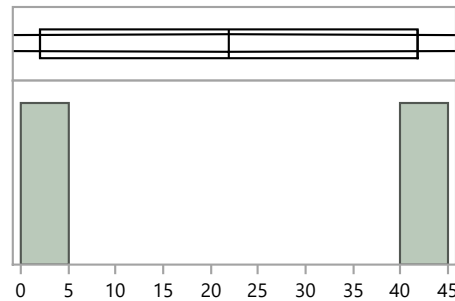
100.0%	maximum	2.3
99.5%		2.3
97.5%		2.3
90.0%		2.3
75.0%	quartile	2.3
50.0%	median	-0.3
25.0%	quartile	-4.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

**Summary Statistics**

Mean	-0.8
Std Dev	3.4
Std Err Mean	2.0
Upper 95% Mean	7.6
Lower 95% Mean	-9.2
N	3.0

**Distributions Analyte\_Method=Plutonium-239/240 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

100.0%	maximum	41.8
99.5%		41.8
97.5%		41.8
90.0%		41.8
75.0%	quartile	41.8
50.0%	median	22.0
25.0%	quartile	2.1
10.0%		2.1
2.5%		2.1
0.5%		2.1
0.0%	minimum	2.1

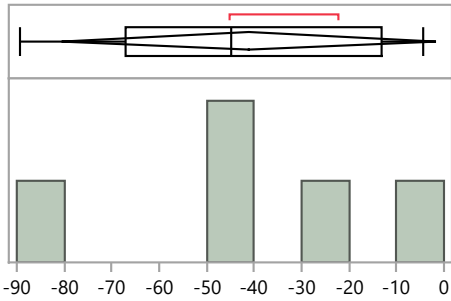
**Summary Statistics**

Mean	22.0
Std Dev	28.1
Std Err Mean	19.9
Upper 95% Mean	274.2
Lower 95% Mean	-230.3
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Strontium-90 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

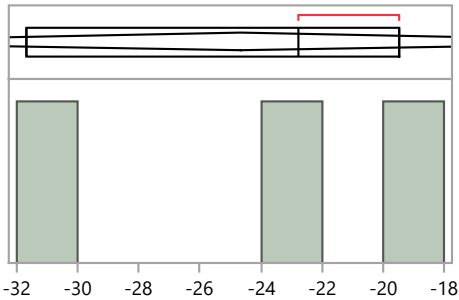
100.0%	maximum	-4.3
99.5%		-4.3
97.5%		-4.3
90.0%		-4.3
75.0%	quartile	-13.3
50.0%	median	-44.9
25.0%	quartile	-67.1
10.0%		-89.1
2.5%		-89.1
0.5%		-89.1
0.0%	minimum	-89.1

**Summary Statistics**

Mean	-41.1
Std Dev	31.8
Std Err Mean	14.2
Upper 95% Mean	-1.6
Lower 95% Mean	-80.6
N	5.0

**Distributions Analyte\_Method=Strontium-90 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

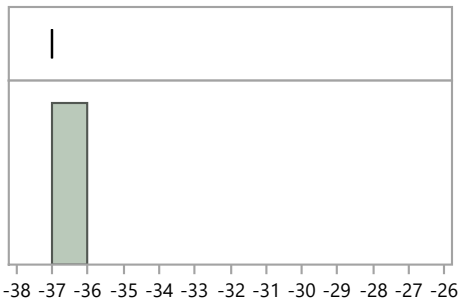
100.0%	maximum	-19.5
99.5%		-19.5
97.5%		-19.5
90.0%		-19.5
75.0%	quartile	-19.5
50.0%	median	-22.8
25.0%	quartile	-31.7
10.0%		-31.7
2.5%		-31.7
0.5%		-31.7
0.0%	minimum	-31.7

**Summary Statistics**

Mean	-24.7
Std Dev	6.3
Std Err Mean	3.6
Upper 95% Mean	-9.0
Lower 95% Mean	-40.3
N	3.0

**Distributions Analyte\_Method=Strontium-90 EPA 905, Radioactive Strontium, 600/4-80-032**

**Bias**



**Quantiles**

100.0%	maximum	-37.0
99.5%		-37.0
97.5%		-37.0
90.0%		-37.0
75.0%	quartile	-37.0
50.0%	median	-37.0
25.0%	quartile	-37.0
10.0%		-37.0
2.5%		-37.0
0.5%		-37.0
0.0%	minimum	-37.0

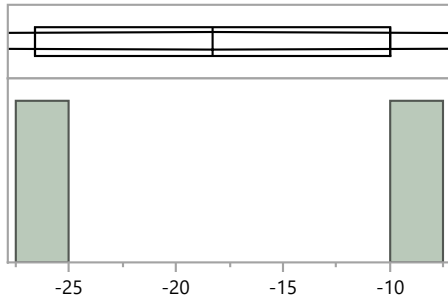
**Summary Statistics**

Mean	-37.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Strontium-90 Other**

**Bias**



**Quantiles**

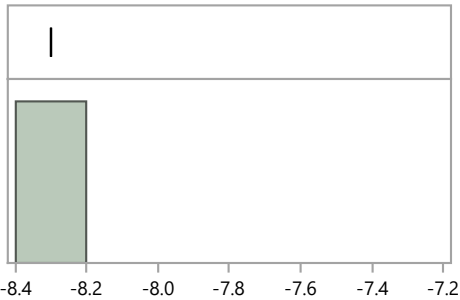
100.0%	maximum	-10.0
99.5%		-10.0
97.5%		-10.0
90.0%		-10.0
75.0%	quartile	-10.0
50.0%	median	-18.3
25.0%	quartile	-26.6
10.0%		-26.6
2.5%		-26.6
0.5%		-26.6
0.0%	minimum	-26.6

**Summary Statistics**

Mean	-18.3
Std Dev	11.7
Std Err Mean	8.3
Upper 95% Mean	87.2
Lower 95% Mean	-123.8
N	2.0

**Distributions Analyte\_Method=Strontium-90 Total dissolution by fusion**

**Bias**



**Quantiles**

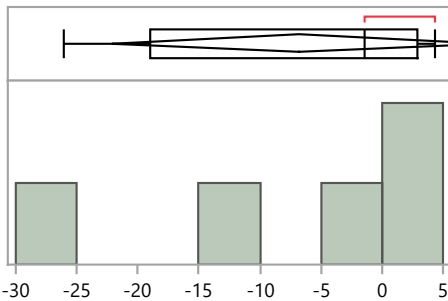
100.0%	maximum	-8.3
99.5%		-8.3
97.5%		-8.3
90.0%		-8.3
75.0%	quartile	-8.3
50.0%	median	-8.3
25.0%	quartile	-8.3
10.0%		-8.3
2.5%		-8.3
0.5%		-8.3
0.0%	minimum	-8.3

**Summary Statistics**

Mean	-8.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Strontium-90 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

100.0%	maximum	4.3
99.5%		4.3
97.5%		4.3
90.0%		4.3
75.0%	quartile	2.9
50.0%	median	-1.4
25.0%	quartile	-19.0
10.0%		-26.0
2.5%		-26.0
0.5%		-26.0
0.0%	minimum	-26.0

**Summary Statistics**

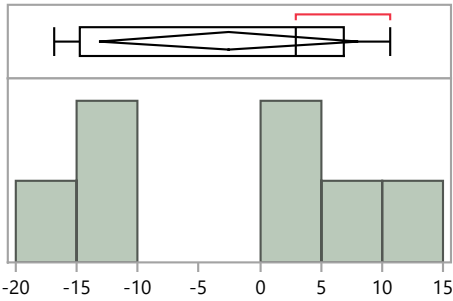
Mean	-6.7
Std Dev	12.4
Std Err Mean	5.5
Upper 95% Mean	8.7
Lower 95% Mean	-22.1
N	5.0



**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-234 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

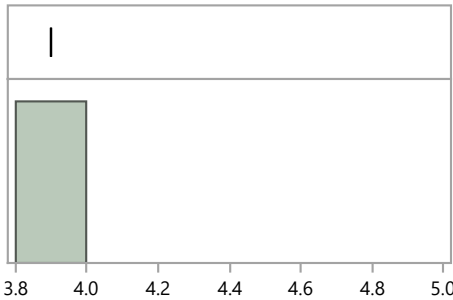
100.0%	maximum	10.7
99.5%		10.7
97.5%		10.7
90.0%		10.7
75.0%	quartile	6.9
50.0%	median	2.9
25.0%	quartile	-14.7
10.0%		-16.9
2.5%		-16.9
0.5%		-16.9
0.0%	minimum	-16.9

**Summary Statistics**

Mean	-2.6
Std Dev	11.5
Std Err Mean	4.3
Upper 95% Mean	8.0
Lower 95% Mean	-13.2
N	7.0

**Distributions Analyte\_Method=Uranium-234 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

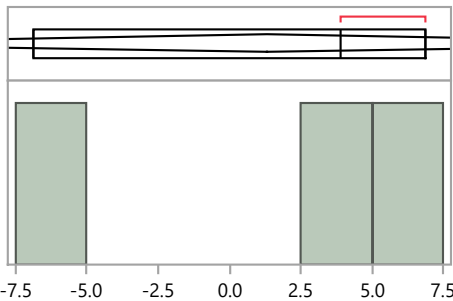
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	3.9
50.0%	median	3.9
25.0%	quartile	3.9
10.0%		3.9
2.5%		3.9
0.5%		3.9
0.0%	minimum	3.9

**Summary Statistics**

Mean	3.9
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	6.9
99.5%		6.9
97.5%		6.9
90.0%		6.9
75.0%	quartile	6.9
50.0%	median	3.9
25.0%	quartile	-6.9
10.0%		-6.9
2.5%		-6.9
0.5%		-6.9
0.0%	minimum	-6.9

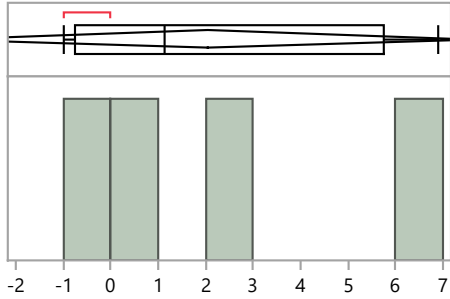
**Summary Statistics**

Mean	1.3
Std Dev	7.3
Std Err Mean	4.2
Upper 95% Mean	19.3
Lower 95% Mean	-16.7
N	3.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-234 Total dissolution by fusion**

**Bias**



**Quantiles**

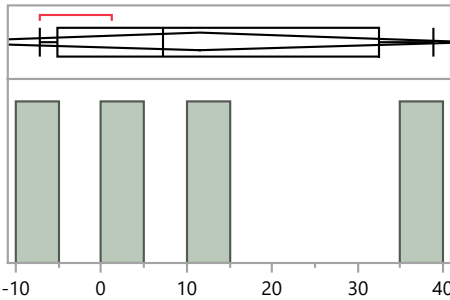
100.0%	maximum	6.9
99.5%		6.9
97.5%		6.9
90.0%		6.9
75.0%	quartile	5.8
50.0%	median	1.2
25.0%	quartile	-0.8
10.0%		-1.0
2.5%		-1.0
0.5%		-1.0
0.0%	minimum	-1.0

**Summary Statistics**

Mean	2.1
Std Dev	3.5
Std Err Mean	1.8
Upper 95% Mean	7.6
Lower 95% Mean	-3.5
N	4.0

**Distributions Analyte\_Method=Uranium-234 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

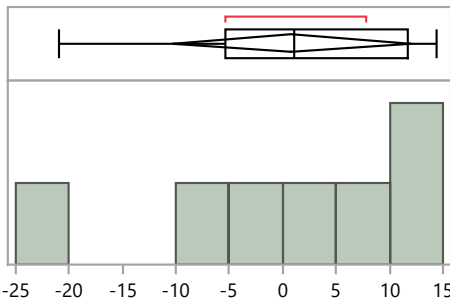
100.0%	maximum	38.9
99.5%		38.9
97.5%		38.9
90.0%		38.9
75.0%	quartile	32.5
50.0%	median	7.2
25.0%	quartile	-5.1
10.0%		-7.2
2.5%		-7.2
0.5%		-7.2
0.0%	minimum	-7.2

**Summary Statistics**

Mean	11.5
Std Dev	20.1
Std Err Mean	10.0
Upper 95% Mean	43.5
Lower 95% Mean	-20.4
N	4.0

**Distributions Analyte\_Method=Uranium-238 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

100.0%	maximum	14.4
99.5%		14.4
97.5%		14.4
90.0%		14.4
75.0%	quartile	11.7
50.0%	median	1.0
25.0%	quartile	-5.4
10.0%		-20.9
2.5%		-20.9
0.5%		-20.9
0.0%	minimum	-20.9

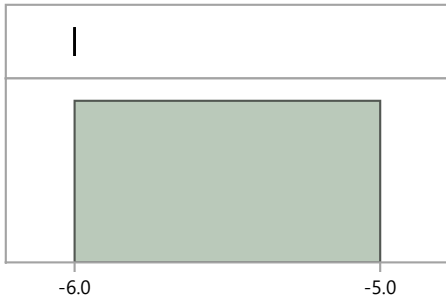
**Summary Statistics**

Mean	0.8
Std Dev	12.1
Std Err Mean	4.6
Upper 95% Mean	12.0
Lower 95% Mean	-10.4
N	7.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-238 Acid leaching without hydrofluoric acid**

**Bias**



**Quantiles**

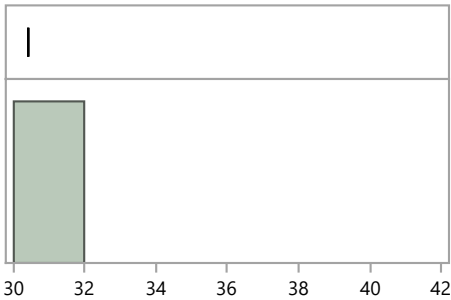
100.0%	maximum	-6.0
99.5%		-6.0
97.5%		-6.0
90.0%		-6.0
75.0%	quartile	-6.0
50.0%	median	-6.0
25.0%	quartile	-6.0
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

**Summary Statistics**

Mean	-6.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Uranium-238 No preparation - analyzed as received**

**Bias**



**Quantiles**

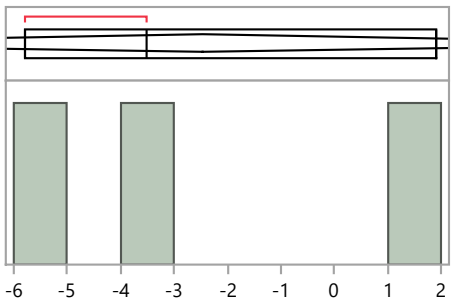
100.0%	maximum	30.4
99.5%		30.4
97.5%		30.4
90.0%		30.4
75.0%	quartile	30.4
50.0%	median	30.4
25.0%	quartile	30.4
10.0%		30.4
2.5%		30.4
0.5%		30.4
0.0%	minimum	30.4

**Summary Statistics**

Mean	30.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

**Distributions Analyte\_Method=Uranium-238 Other**

**Bias**



**Quantiles**

100.0%	maximum	1.9
99.5%		1.9
97.5%		1.9
90.0%		1.9
75.0%	quartile	1.9
50.0%	median	-3.5
25.0%	quartile	-5.8
10.0%		-5.8
2.5%		-5.8
0.5%		-5.8
0.0%	minimum	-5.8

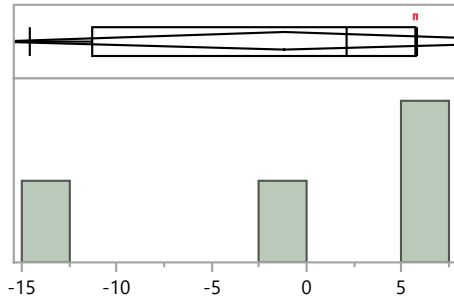
**Summary Statistics**

Mean	-2.5
Std Dev	4.0
Std Err Mean	2.3
Upper 95% Mean	7.4
Lower 95% Mean	-12.3
N	3.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-238 Total dissolution by fusion**

**Bias**



**Quantiles**

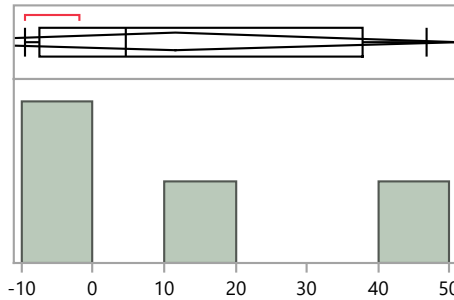
100.0%	maximum	5.8
99.5%		5.8
97.5%		5.8
90.0%		5.8
75.0%	quartile	5.8
50.0%	median	2.1
25.0%	quartile	-11.3
10.0%		-14.6
2.5%		-14.6
0.5%		-14.6
0.0%	minimum	-14.6

**Summary Statistics**

Mean	-1.2
Std Dev	9.6
Std Err Mean	4.8
Upper 95% Mean	14.1
Lower 95% Mean	-16.4
N	4.0

**Distributions Analyte\_Method=Uranium-238 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



**Quantiles**

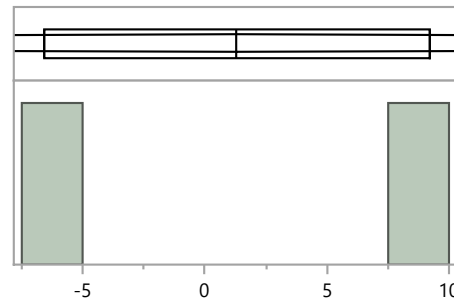
100.0%	maximum	46.9
99.5%		46.9
97.5%		46.9
90.0%		46.9
75.0%	quartile	37.9
50.0%	median	4.6
25.0%	quartile	-7.6
10.0%		-9.5
2.5%		-9.5
0.5%		-9.5
0.0%	minimum	-9.5

**Summary Statistics**

Mean	11.6
Std Dev	25.0
Std Err Mean	12.5
Upper 95% Mean	51.4
Lower 95% Mean	-28.1
N	4.0

**Distributions Analyte\_Method=Zinc-65 Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.**

**Bias**



**Quantiles**

100.0%	maximum	9.2
99.5%		9.2
97.5%		9.2
90.0%		9.2
75.0%	quartile	9.2
50.0%	median	1.3
25.0%	quartile	-6.6
10.0%		-6.6
2.5%		-6.6
0.5%		-6.6
0.0%	minimum	-6.6

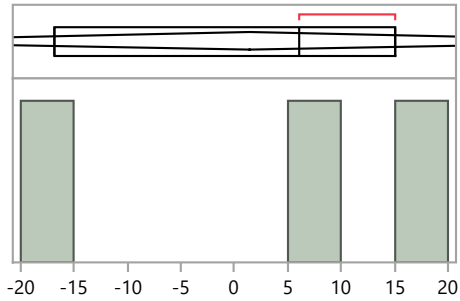
**Summary Statistics**

Mean	1.3
Std Dev	11.2
Std Err Mean	7.9
Upper 95% Mean	101.7
Lower 95% Mean	-99.1
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Zinc-65 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

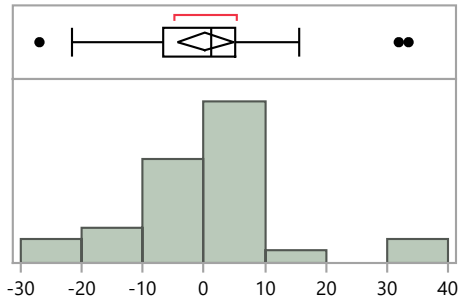
100.0%	maximum	15.0
99.5%		15.0
97.5%		15.0
90.0%		15.0
75.0%	quartile	15.0
50.0%	median	6.1
25.0%	quartile	-16.8
10.0%		-16.8
2.5%		-16.8
0.5%		-16.8
0.0%	minimum	-16.8

**Summary Statistics**

Mean	1.4
Std Dev	16.4
Std Err Mean	9.5
Upper 95% Mean	42.2
Lower 95% Mean	-39.3
N	3.0

**Distributions Analyte\_Method=Zinc-65 No preparation - analyzed as received**

**Bias**



**Quantiles**

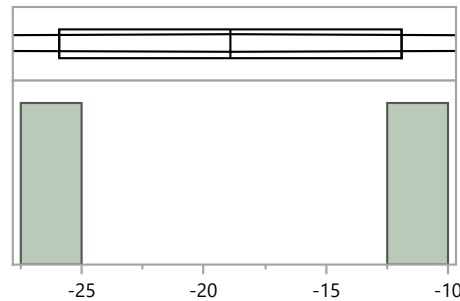
100.0%	maximum	33.5
99.5%		33.5
97.5%		33.5
90.0%		14.4
75.0%	quartile	5.1
50.0%	median	1.1
25.0%	quartile	-6.6
10.0%		-15.5
2.5%		-26.9
0.5%		-26.9
0.0%	minimum	-26.9

**Summary Statistics**

Mean	0.3
Std Dev	12.5
Std Err Mean	2.2
Upper 95% Mean	4.9
Lower 95% Mean	-4.3
N	31.0

**Distributions Analyte\_Method=Zinc-65 Other**

**Bias**



**Quantiles**

100.0%	maximum	-11.9
99.5%		-11.9
97.5%		-11.9
90.0%		-11.9
75.0%	quartile	-11.9
50.0%	median	-18.9
25.0%	quartile	-25.9
10.0%		-25.9
2.5%		-25.9
0.5%		-25.9
0.0%	minimum	-25.9

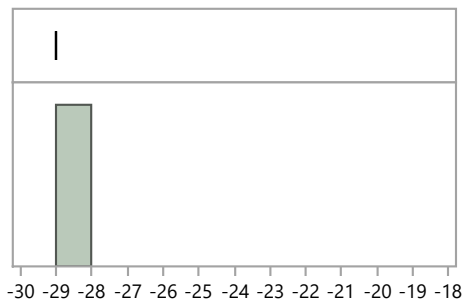
**Summary Statistics**

Mean	-18.9
Std Dev	9.9
Std Err Mean	7.0
Upper 95% Mean	70.0
Lower 95% Mean	-107.8
N	2.0

**RdV Distribution by Prep Method**

**Distributions Analyte\_Method=Zinc-65 Wet ash - Acid digestion - the use of oxidizers to destroy organics**

**Bias**



Quantiles			Summary Statistics	
100.0%	maximum	-29.0	Mean	-29.0
99.5%		-29.0	Std Dev	.
97.5%		-29.0	Std Err Mean	.
90.0%		-29.0	Upper 95% Mean	.
75.0%	quartile	-29.0	Lower 95% Mean	.
50.0%	median	-29.0	N	1.0
25.0%	quartile	-29.0		
10.0%		-29.0		
2.5%		-29.0		
0.5%		-29.0		
0.0%	minimum	-29.0		