

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.

RdV45 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	RdV
AMEC99	Jacobs Clean Energy Limited - Analytical Services	RdV
ANTE01	ALS Environmental - Fort Collins, CO	RdV
ARSL01	ARS Aleut Analytical, LLC	RdV
ASUK99	AWE (Aldermaston)	RdV
CSSL99	Chemistry Support Services	RdV
DINL99	Departamento Ingeniería Energética	RdV
ERCL01	Washington State Public Health Laboratories	RdV
ERHD99	National Monitoring Section, Radiation Protection Bureau, Health Canada	RdV
FDHE01	Florida Dept of Health Environmental Laboratory	RdV
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	RdV
GENE01	GEL Laboratories, LLC	RdV
GPCL01	Georgia Power Company Environmental Laboratory	RdV
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory	RdV
HPAC99	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
JAEC99	Research Laboratories and Information Directorate	RdV
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	RdV
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdV
MDPH01	MDPH-Radiation Control Program	RdV
NARL01	National Analytical Radiation Environmental Laboratory	RdV
NJDH01	New Jersey Dept. of Health, PHEL, ECLS	RdV
NOCS99	National Oceanography Centre, Southampton	RdV
ODHL01	Ohio Department of Health Laboratory	RdV
ORIS01	ORISE/IEAV	RdV
OTLI01	Pace Analytical National Center for Testing & Innovation	RdV
RAVR99	Radiactividad Ambiental y Vigilancia Radiologica	RdV
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
TMAO01	EBERLINE Analytical Corporation	RdV
UNTE01	UniTech-235	RdV
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	RdV
WIPH01	WI, DPH, Radiation Protection Section	RdV
WIPP01	WIPP Laboratories	RdV
WSHL01	Wisconsin State Laboratory of Hygiene	RdV

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
DEHS01	Department of Environmental Health & Safety	RdV
IAEA99	International Atomic Energy Agency	RdV
MSDH01	Mississippi State Dept of Health	RdV
NARL02	USEPA - NAREL - MERL	RdV
RPSC01	Radiation Protection Service	RdV
TELE02	ATI Environmental, Inc., Midwest Lab	RdV

Study Reference Values

MAPEP-21-RdV45

Radiological Reference Date: 08/01/2021

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.102	0.003
Uranium-238	14.2	0.3
Uranium-Total	14.3	0.3

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Americium-241	0.0747	0.0018
Cesium-134	4.34	0.11
Cesium-137	2.21	0.05
Cobalt-57	4.66	0.12
Cobalt-60	3.51	0.09
Plutonium-238	0.0655	0.0015
Strontium-90	1.32	0.03
Uranium-234	0.183	0.005
Uranium-234 (Lg Veg)	0.249	0.006
Uranium-238	0.176	0.004
Uranium-238 (Lg Veg)	0.239	0.006
Zinc-65	2.43	0.06

Sample Statistical Summary

MAPEP-21-RdV45

Radiological Reference Date: 08/01/2021

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Inorganic							Units: (ug/sample)
Uranium-235	3	3			0.102	0.003	0.071 - 0.133
Uranium-238	3	3			14.2	0.3	9.9 - 18.5
Uranium-Total	5	5			14.3	0.3	10.0 - 18.6

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/sample)
Americium-241	24	17	0.0725	0.0079	0.0747	0.0018	0.0523 - 0.0971
Cesium-134	40	35	3.99	0.39	4.34	0.11	3.04 - 5.64
Cesium-137	40	34	2.16	0.24	2.21	0.05	1.55 - 2.87
Cobalt-57	40	34	4.60	0.62	4.66	0.12	3.26 - 6.06
Cobalt-60	40	35	3.46	0.39	3.51	0.09	2.46 - 4.56
Manganese-54	37	35					False Positive Test
Plutonium-238	20	17	0.0626	0.0065	0.0655	0.0015	0.0459 - 0.0852
Plutonium-239/240	19	14					False Positive Test
Strontium-90	22	15	1.18	0.11	1.32	0.03	0.92 - 1.72
Uranium-234	21	17	0.170	0.019	0.183	0.005	0.128 - 0.238
Uranium-238	22	18	0.175	0.020	0.176	0.004	0.123 - 0.229
Zinc-65	40	36	2.44	0.34	2.43	0.06	1.70 - 3.16

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

Results Flags:

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

Uncertainty Flags:

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

Flag Summary Report

MAPEP-21-RdV45

Inorganic				
Analyte	A	W	RW	N
Uranium-Total	5			
Uranium-235	3			
Uranium-238	3			
Radiological				
Analyte	A	W	RW	N
Americium-241	16	1		7
Cesium-134	32	3		5
Cesium-137	32	2		6
Cobalt-57	30	4		6
Cobalt-60	32	3		5
Manganese-54	35			4
Plutonium-238	15	2		3
Plutonium-239/240	14			6
Strontium-90	13	2		7
Uranium-234	15	2		4
Uranium-238	17	1		4
Zinc-65	31	5		4



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

Laboratory Results For MAPEP-21-RdV45
 (ADEM01) Alabama Department of Environmental Management
 1350 Coliseum Blvd.
 Montgomery, AL 36110

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	NR	4.34	N	(28)		3.04 - 5.64		
Cesium-137	1.76	2.21	W		-20.4	1.55 - 2.87	0.088	A
Cobalt-57	0.0426	4.66	N		-99.1	3.26 - 6.06	0.0033	A
Cobalt-60	2.435	3.51	N		-30.6	2.46 - 4.56	0.0760	A
Manganese-54	NR		N	(11)		False Positive Test		
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.755	2.43	A		13.4	1.70 - 3.16	0.2555	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (AMEC99) Jacobs Clean Energy Limited - Analytical Services
 612 Faraday Street
 Birchwood Park, Warrington WA3 6GN

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0685	0.0747	A		-8.3	0.0523 - 0.0971	0.0043	A
Cesium-134	0.210	4.34	N		-95.2	3.04 - 5.64	0.017	A
Cesium-137	0.110	2.21	N		-95.0	1.55 - 2.87	0.011	A
Cobalt-57	0.2203	4.66	N		-95.3	3.26 - 6.06	0.0096	A
Cobalt-60	0.196	3.51	N		-94.4	2.46 - 4.56	0.016	A
Manganese-54	0.032		A			False Positive Test	0.029	
Plutonium-238	0.0695	0.0655	A		6.1	0.0459 - 0.0852	0.0044	A
Plutonium-239/240	0.00024		A			False Positive Test	0.00025	
Strontium-90	0.122	1.32	N		-90.8	0.92 - 1.72	0.018	A
Uranium-234	0.1800	0.183	A		-1.6	0.128 - 0.238	0.0069	A
Uranium-238	0.1755	0.176	A		-0.3	0.123 - 0.229	0.0068	A
Zinc-65	0.168	2.43	N		-93.1	1.70 - 3.16	0.037	W

Radiological Reference Date: August 1, 2021

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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.038	0.0747	N		-49.1	0.0523 - 0.0971	0.003	A
Cesium-134	3.49	4.34	A		-19.6	3.04 - 5.64	0.23	A
Cesium-137	1.95	2.21	A		-11.8	1.55 - 2.87	0.16	A
Cobalt-57	4.06	4.66	A		-12.9	3.26 - 6.06	0.25	A
Cobalt-60	3.24	3.51	A		-7.7	2.46 - 4.56	0.21	A
Manganese-54	0.224			A		False Positive Test	0.224	
Plutonium-238	0.065	0.0655	A		-0.8	0.0459 - 0.0852	0.006	A
Plutonium-239/240	0.001			A		False Positive Test	0.001	
Strontium-90	1.23	1.32	A		-6.8	0.92 - 1.72	0.14	A
Uranium-234	0.174	0.183	A		-4.9	0.128 - 0.238	0.015	A
Uranium-238	0.165	0.176	A		-6.3	0.123 - 0.229	0.014	A
Zinc-65	2.06	2.43	A		-15.2	1.70 - 3.16	0.21	A

Radiological Reference Date: August 1, 2021

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- RW = Report Warning
- NR = Not Reported

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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	2.114	4.34	N		-51.3	3.04 - 5.64	0.103	A
Cesium-137	1.239	2.21	N		-43.9	1.55 - 2.87	0.106	A
Cobalt-57	2.933	4.66	N		-37.1	3.26 - 6.06	0.129	A
Cobalt-60	1.794	3.51	N		-48.9	2.46 - 4.56	0.091	A
Manganese-54	0.016			A		False Positive Test	0.086	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	1.531	2.43	N		-37.0	1.70 - 3.16	0.145	A

Radiological Reference Date: August 1, 2021

Results Flags:

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RW = Report Warning

NR = Not Reported

Uncertainty Flags:

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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-21-RdV45

(ASUK99) AWE (Aldermaston)

A38.1 AWE,

Reading, Berkshire RG7 4PR

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	NR	4.34				3.04 - 5.64		
Cesium-137	NR	2.21				1.55 - 2.87		
Cobalt-57	NR	4.66				3.26 - 6.06		
Cobalt-60	NR	3.51				2.46 - 4.56		
Manganese-54	NR					False Positive Test		
Plutonium-238	0.062	0.0655	A		-5.3	0.0459 - 0.0852	0.003	A
Plutonium-239/240	0.00053			A		False Positive Test	0.00024	
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	0.208	0.183	A		13.7	0.128 - 0.238	0.024	A
Uranium-238	0.221	0.176	W		25.6	0.123 - 0.229	0.025	A
Zinc-65	NR	2.43				1.70 - 3.16		

Radiological Reference Date: August 1, 2021

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N = Result not acceptable.....|Bias| > 30%

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NR = Not Reported

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NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

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

Laboratory Results For MAPEP-21-RdV45

(CSSL99) Chemistry Support Services

Dounreay Site Restoration Limited

Dounreay, Caithness KW14 7TZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	6.23e-2	0.0747	A		-16.6	0.0523 - 0.0971	1.82e-3	A
Cesium-134	6.12	4.34	N		41.0	3.04 - 5.64	5.82e-1	A
Cesium-137	3.20	2.21	N		44.8	1.55 - 2.87	3.05e-1	A
Cobalt-57	7.64	4.66	N		63.9	3.26 - 6.06	7.26e-1	A
Cobalt-60	5.22	3.51	N		48.7	2.46 - 4.56	4.96e-1	A
Manganese-54	1.32e-1		N	(1)		False Positive Test	1.25e-2	
Plutonium-238	6.54e-2	0.0655	A		-0.2	0.0459 - 0.0852	2.01e-3	A
Plutonium-239/240	4.84e-4		N	(1)		False Positive Test	1.46e-5	
Strontium-90	1.27	1.32	A		-3.8	0.92 - 1.72	1.61e-1	A
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	3.41	2.43	N		40.3	1.70 - 3.16	3.24e-1	A

Radiological Reference Date: August 1, 2021

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RW = Report Warning

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NOT ACCEPTABLE.....RP < 2%

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

Laboratory Results For MAPEP-21-RdV45
 (DINL99) Departamento Ingeniería Energética
 Escuela de Ingeniería de Bilbao
 Bilbao, Vizcaya 48013

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.071	0.0747	A		-5.0	0.0523 - 0.0971	0.004	A
Cesium-134	4.432	4.34	A		2.1	3.04 - 5.64	0.248	A
Cesium-137	2.386	2.21	A		8.0	1.55 - 2.87	0.130	A
Cobalt-57	5.025	4.66	A		7.8	3.26 - 6.06	0.264	A
Cobalt-60	3.798	3.51	A		8.2	2.46 - 4.56	0.200	A
Manganese-54	0.084			A		False Positive Test	0.084	
Plutonium-238	0.001	0.0655	N		-98.5	0.0459 - 0.0852	0.001	N
Plutonium-239/240	0.064		N	(1)		False Positive Test	0.004	
Strontium-90	1.171	1.32	A		-11.3	0.92 - 1.72	0.070	A
Uranium-234	0.193	0.183	A		5.5	0.128 - 0.238	0.009	A
Uranium-238	0.188	0.176	A		6.8	0.123 - 0.229	0.008	A
Zinc-65	2.523	2.43	A		3.8	1.70 - 3.16	0.151	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.107	0.102	A		4.9	0.071 - 0.133	0.005	A
Uranium-238	12.7	14.2	A		-10.6	9.9 - 18.5	0.7	A
Uranium-Total	12.7	14.3	A		-11.2	10.0 - 18.6	0.7	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0642	0.0747	A		-14.1	0.0523 - 0.0971	0.0068	A
Cesium-134	4.14	4.34	A		-4.6	3.04 - 5.64	0.11	A
Cesium-137	2.04	2.21	A		-7.7	1.55 - 2.87	0.06	A
Cobalt-57	3.75	4.66	A		-19.5	3.26 - 6.06	0.07	N
Cobalt-60	3.25	3.51	A		-7.4	2.46 - 4.56	0.06	N
Manganese-54	-0.050		A			False Positive Test	0.040	
Plutonium-238	0.0622	0.0655	A		-5.0	0.0459 - 0.0852	0.0066	A
Plutonium-239/240	-0.0011		A			False Positive Test	0.0017	
Strontium-90	1.22	1.32	A		-7.6	0.92 - 1.72	0.05	A
Uranium-234	0.143	0.183	W		-21.9	0.128 - 0.238	0.013	A
Uranium-238	0.142	0.176	A		-19.3	0.123 - 0.229	0.013	A
Zinc-65	2.15	2.43	A		-11.5	1.70 - 3.16	0.12	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

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

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.103	0.102	A		1.0	0.071 - 0.133	0.0004	N
Uranium-238	14.1	14.2	A		-0.7	9.9 - 18.5	0.1	N
Uranium-Total	14.1	14.3	A		-1.4	10.0 - 18.6	0.1	N

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0750	0.0747	A		0.4	0.0523 - 0.0971	0.0024	A
Cesium-134	3.61	4.34	A		-16.8	3.04 - 5.64	0.14	A
Cesium-137	1.795	2.21	A		-18.8	1.55 - 2.87	0.068	A
Cobalt-57	3.65	4.66	W		-21.7	3.26 - 6.06	0.14	A
Cobalt-60	2.78	3.51	W		-20.8	2.46 - 4.56	0.28	A
Manganese-54	0.037		A			False Positive Test	0.042	
Plutonium-238	0.0614	0.0655	A		-6.3	0.0459 - 0.0852	0.0020	A
Plutonium-239/240	0.0008		N	(1)		False Positive Test	0.0002	
Strontium-90	1.3179	1.32	A		-0.2	0.92 - 1.72	0.0162	N
Uranium-234	0.1707	0.183	A		-6.7	0.128 - 0.238	0.0047	A
Uranium-238	0.1773	0.176	A		0.7	0.123 - 0.229	0.0048	A
Zinc-65	1.993	2.43	A		-18.0	1.70 - 3.16	0.077	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.090	0.0747	W		20.5	0.0523 - 0.0971	0.534	N
Cesium-134	4.189	4.34	A		-3.5	3.04 - 5.64	0.097	A
Cesium-137	2.380	2.21	A		7.7	1.55 - 2.87	0.098	A
Cobalt-57	5.169	4.66	A		10.9	3.26 - 6.06	0.165	A
Cobalt-60	3.610	3.51	A		2.8	2.46 - 4.56	0.093	A
Manganese-54	-0.003		A			False Positive Test	0.190	
Plutonium-238	0.07038	0.0655	A		7.5	0.0459 - 0.0852	0.01138	W
Plutonium-239/240	0.001745		A			False Positive Test	0.00087	
Strontium-90	0.646	1.32	N		-51.1	0.92 - 1.72	0.047	A
Uranium-234	0.1586	0.183	A		-13.3	0.128 - 0.238	0.00685	A
Uranium-238	0.1727	0.176	A		-1.9	0.123 - 0.229	0.00716	A
Zinc-65	2.604	2.43	A		7.2	1.70 - 3.16	0.166	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.085	0.0747	A		13.8	0.0523 - 0.0971	0.266	N
Cesium-134	4.35	4.34	A		0.2	3.04 - 5.64	0.079	N
Cesium-137	2.36	2.21	A		6.8	1.55 - 2.87	0.069	A
Cobalt-57	5.233	4.66	A		12.3	3.26 - 6.06	0.133	A
Cobalt-60	3.57	3.51	A		1.7	2.46 - 4.56	0.079	A
Manganese-54	0.028		A			False Positive Test	0.162	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	0.273	0.239	A		14.2	0.167 - 0.311	0.161	N
Zinc-65	2.65	2.43	A		9.1	1.70 - 3.16	0.096	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0724	0.0747	A		-3.1	0.0523 - 0.0971	0.00359	A
Cesium-134	4.02	4.34	A		-7.4	3.04 - 5.64	0.205	A
Cesium-137	2.28	2.21	A		3.2	1.55 - 2.87	0.134	A
Cobalt-57	4.56	4.66	A		-2.1	3.26 - 6.06	0.209	A
Cobalt-60	3.44	3.51	A		-2.0	2.46 - 4.56	0.196	A
Manganese-54	-0.0404		A			False Positive Test	0.0422	
Plutonium-238	0.0603	0.0655	A		-7.9	0.0459 - 0.0852	0.00449	A
Plutonium-239/240	0.0014		A			False Positive Test	0.00079	
Strontium-90	1.10	1.32	A		-16.7	0.92 - 1.72	0.0336	A
Uranium-234	0.1740	0.183	A		-4.9	0.128 - 0.238	0.00846	A
Uranium-238	0.1770	0.176	A		0.6	0.123 - 0.229	0.00861	A
Zinc-65	2.57	2.43	A		5.8	1.70 - 3.16	0.230	A

Radiological Reference Date: August 1, 2021

Results Flags:

A = Result acceptable.....|Bias| <= 20%

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

N = Result not acceptable.....|Bias| > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	4.39	4.34	A		1.2	3.04 - 5.64	.35178	A
Cesium-137	2.33	2.21	A		5.4	1.55 - 2.87	.27824	A
Cobalt-57	4.99	4.66	A		7.1	3.26 - 6.06	.48244	A
Cobalt-60	3.42	3.51	A		-2.6	2.46 - 4.56	.3182	A
Manganese-54	.04		A			False Positive Test	.1655	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.57	2.43	A		5.8	1.70 - 3.16	.49386	W

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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(11) = False Positive Test, Result Not Reported

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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.495	4.34	A		-19.5	3.04 - 5.64	0.2478	A
Cesium-137	1.790	2.21	A		-19.0	1.55 - 2.87	0.2533	A
Cobalt-57	4.049	4.66	A		-13.1	3.26 - 6.06	0.3187	A
Cobalt-60	3.185	3.51	A		-9.3	2.46 - 4.56	0.2674	A
Manganese-54	-0.1168			A		False Positive Test	0.2062	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	1.765	2.43	W		-27.4	1.70 - 3.16	0.4372	W

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

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

Laboratory Results For MAPEP-21-RdV45

(HPAC99) PHE, CRCE Glasgow

155 Hardgate Road

Glasgow, Scotland G51 4LS

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.12	0.0747	N		60.6	0.0523 - 0.0971	0.03	W
Cesium-134	4.42	4.34	A		1.8	3.04 - 5.64	0.28	A
Cesium-137	2.36	2.21	A		6.8	1.55 - 2.87	0.16	A
Cobalt-57	5.39	4.66	A		15.7	3.26 - 6.06	0.34	A
Cobalt-60	3.30	3.51	A		-6.0	2.46 - 4.56	0.22	A
Manganese-54	0.13		A			False Positive Test	0.13	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	0.96	1.32	W		-27.3	0.92 - 1.72	0.04	A
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.17	2.43	A		-10.7	1.70 - 3.16	0.16	A

Radiological Reference Date: August 1, 2021

Results Flags:

A = Result acceptable.....|Bias| <= 20%

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

N = Result not acceptable.....|Bias| > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.0679	0.0747	A		-9.1	0.0523 - 0.0971	.0033	A
Cesium-134	3.82	4.34	A		-12.0	3.04 - 5.64	.09	A
Cesium-137	1.93	2.21	A		-12.7	1.55 - 2.87	.11	A
Cobalt-57	4.08	4.66	A		-12.4	3.26 - 6.06	.09	A
Cobalt-60	3.37	3.51	A		-4.0	2.46 - 4.56	.09	A
Manganese-54	-.17			A		False Positive Test	.08	
Plutonium-238	.0647	0.0655	A		-1.2	0.0459 - 0.0852	.0029	A
Plutonium-239/240	.0014		N	(1)		False Positive Test	.0003	
Strontium-90	1.21	1.32	A		-8.3	0.92 - 1.72	0.04	A
Uranium-234	0.1554	0.183	A		-15.1	0.128 - 0.238	0.0052	A
Uranium-238	0.1562	0.176	A		-11.3	0.123 - 0.229	0.0052	A
Zinc-65	2.59	2.43	A		6.6	1.70 - 3.16	.21	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.98	4.34	A		-8.3	3.04 - 5.64	0.132	A
Cesium-137	2.11	2.21	A		-4.5	1.55 - 2.87	0.139	A
Cobalt-57	4.20	4.66	A		-9.9	3.26 - 6.06	0.312	A
Cobalt-60	3.17	3.51	A		-9.7	2.46 - 4.56	0.107	A
Manganese-54	-0.026		N	(29)		False Positive Test	0.002	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.13	2.43	A		-12.3	1.70 - 3.16	0.162	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	38.5	4.34	N		787.1	3.04 - 5.64	1.8	A
Cesium-137	23.1	2.21	N		945.2	1.55 - 2.87	1.1	A
Cobalt-57	47.6	4.66	N		921.5	3.26 - 6.06	2.2	A
Cobalt-60	35.7	3.51	N		917.1	2.46 - 4.56	1.6	A
Manganese-54	0.2			A		False Positive Test	0.5	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	25.1	2.43	N		932.9	1.70 - 3.16	1.2	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (JAEC99) Research Laboratories and Information Directorate
 Jordan Atomic Energy Commission
 Amman, Jordan 70 (11934)

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	4.49	4.34	A		3.5	3.04 - 5.64	0.14	A
Cesium-137	2.36	2.21	A		6.8	1.55 - 2.87	0.19	A
Cobalt-57	4.87	4.66	A		4.5	3.26 - 6.06	0.22	A
Cobalt-60	3.66	3.51	A		4.3	2.46 - 4.56	0.22	A
Manganese-54	NR					False Positive Test		
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	0.143	0.183	W		-21.9	0.128 - 0.238	0.007	A
Uranium-238	0.145	0.176	A		-17.6	0.123 - 0.229	0.007	A
Zinc-65	2.38	2.43	A		-2.1	1.70 - 3.16	0.21	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (LAWR01) LAWRENCE BERKELEY NATIONAL LABORATORY
 1 CYCLOTRON RD.
 BERKELEY, CA 94720

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.947	4.34	A		-9.1	3.04 - 5.64	0.1136	A
Cesium-137	2.407	2.21	A		8.9	1.55 - 2.87	0.08128	A
Cobalt-57	5.118	4.66	A		9.8	3.26 - 6.06	0.1203	A
Cobalt-60	3.811	3.51	A		8.6	2.46 - 4.56	0.1328	A
Manganese-54	0.01128			A		False Positive Test	0.03518	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.878	2.43	A		18.4	1.70 - 3.16	0.1503	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.80	4.34	A		-12.4	3.04 - 5.64	0.26	A
Cesium-137	2.05	2.21	A		-7.2	1.55 - 2.87	0.17	A
Cobalt-57	4.24	4.66	A		-9.0	3.26 - 6.06	0.24	A
Cobalt-60	3.25	3.51	A		-7.4	2.46 - 4.56	0.26	A
Manganese-54	-0.01			A		False Positive Test	0.09	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.38	2.43	A		-2.1	1.70 - 3.16	0.29	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.55	4.34	A		-18.2	3.04 - 5.64	0.10	A
Cesium-137	1.95	2.21	A		-11.8	1.55 - 2.87	0.07	A
Cobalt-57	4.29	4.66	A		-7.9	3.26 - 6.06	0.17	A
Cobalt-60	3.12	3.51	A		-11.1	2.46 - 4.56	0.12	A
Manganese-54	NR		N	(11)		False Positive Test		
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.24	2.43	A		-7.8	1.70 - 3.16	0.10	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(NARL01) National Analytical Radiation Environmental Laboratory
 540 S. Morris Ave.
 Montgomery, AL 36115-2601

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0776	0.0747	A		3.9	0.0523 - 0.0971	0.00892	A
Cesium-134	4.16	4.34	A		-4.1	3.04 - 5.64	0.241	A
Cesium-137	2.01	2.21	A		-9.1	1.55 - 2.87	0.144	A
Cobalt-57	4.49	4.66	A		-3.6	3.26 - 6.06	0.260	A
Cobalt-60	3.15	3.51	A		-10.3	2.46 - 4.56	0.194	A
Manganese-54	-0.0737		A			False Positive Test	0.0828	
Plutonium-238	0.0660	0.0655	A		0.8	0.0459 - 0.0852	0.00549	A
Plutonium-239/240	0.000980		A			False Positive Test	0.000756	
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	0.192	0.183	A		4.9	0.128 - 0.238	0.0118	A
Uranium-238	0.201	0.176	A		14.2	0.123 - 0.229	0.0121	A
Zinc-65	2.64	2.43	A		8.6	1.70 - 3.16	0.245	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (NJDH01) New Jersey Dept. of Health, PHEL, ECLS
 3 Schwarzkopf Drive
 West Trenton, NJ 08628

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.42	0.0747	N		462.2	0.0523 - 0.0971	0.20	N
Cesium-134	3.51	4.34	A		-19.1	3.04 - 5.64	0.16	A
Cesium-137	1.86	2.21	A		-15.8	1.55 - 2.87	0.11	A
Cobalt-57	4.55	4.66	A		-2.4	3.26 - 6.06	0.17	A
Cobalt-60	3.26	3.51	A		-7.1	2.46 - 4.56	0.16	A
Manganese-54	-0.18		A			False Positive Test	0.12	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.1	2.43	A		-13.6	1.70 - 3.16	0.13	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (NOCS99) National Oceanography Centre, Southampton
 GAU-Radioanalytical
 Southampton, Hampshire SO14 3ZH

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.066	0.0747	A		-11.6	0.0523 - 0.0971	0.005	A
Cesium-134	3.9	4.34	A		-10.1	3.04 - 5.64	0.1	A
Cesium-137	2.35	2.21	A		6.3	1.55 - 2.87	0.09	A
Cobalt-57	4.9	4.66	A		5.2	3.26 - 6.06	0.2	A
Cobalt-60	3.6	3.51	A		2.6	2.46 - 4.56	0.1	A
Manganese-54	0.3			A		False Positive Test	1.2	
Plutonium-238	0.055	0.0655	A		-16.0	0.0459 - 0.0852	0.005	A
Plutonium-239/240	0.003			A		False Positive Test	0.014	
Strontium-90	1.21	1.32	A		-8.3	0.92 - 1.72	0.09	A
Uranium-234	0.155	0.183	A		-15.3	0.128 - 0.238	0.009	A
Uranium-238	0.160	0.176	A		-9.1	0.123 - 0.229	0.009	A
Zinc-65	2.6	2.43	A		7.0	1.70 - 3.16	0.2	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	4.15	4.34	A		-4.4	3.04 - 5.64	0.173	A
Cesium-137	2.11	2.21	A		-4.5	1.55 - 2.87	0.156	A
Cobalt-57	4.2	4.66	A		-9.9	3.26 - 6.06	0.309	A
Cobalt-60	3.19	3.51	A		-9.1	2.46 - 4.56	0.12	A
Manganese-54	-0.086			A		False Positive Test	0.059	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.07	2.43	A		-14.8	1.70 - 3.16	0.213	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.069	0.0747	A		-7.6	0.0523 - 0.0971	0.004	A
Cesium-134	4.17	4.34	A		-3.9	3.04 - 5.64	0.17	A
Cesium-137	2.19	2.21	A		-0.9	1.55 - 2.87	0.10	A
Cobalt-57	4.439	4.66	A		-4.7	3.26 - 6.06	0.095	A
Cobalt-60	3.42	3.51	A		-2.6	2.46 - 4.56	0.11	A
Manganese-54	-0.001		A			False Positive Test	0.039	
Plutonium-238	0.068	0.0655	A		3.8	0.0459 - 0.0852	0.004	A
Plutonium-239/240	0.0006		A			False Positive Test	0.0002	
Strontium-90	1.339	1.32	A		1.4	0.92 - 1.72	0.028	A
Uranium-234	0.175	0.183	A		-4.4	0.128 - 0.238	0.012	A
Uranium-238	0.183	0.176	A		4.0	0.123 - 0.229	0.013	A
Zinc-65	2.33	2.43	A		-4.1	1.70 - 3.16	0.12	A

Radiological Reference Date: August 1, 2021

Results Flags:

A = Result acceptable.....|Bias| <= 20%

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

N = Result not acceptable.....|Bias| > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.015	0.0747	N		-79.9	0.0523 - 0.0971	0.010	N
Cesium-134	4.70	4.34	A		8.3	3.04 - 5.64	0.393	A
Cesium-137	3.14	2.21	N		42.1	1.55 - 2.87	0.325	A
Cobalt-57	7.00	4.66	N		50.2	3.26 - 6.06	0.707	A
Cobalt-60	4.42	3.51	W		25.9	2.46 - 4.56	0.324	A
Manganese-54	0.04		A			False Positive Test	0.187	
Plutonium-238	0.0108	0.0655	N		-83.5	0.0459 - 0.0852	0.0115	N
Plutonium-239/240	0.001		A			False Positive Test	0.0056	
Strontium-90	0.58	1.32	N		-56.1	0.92 - 1.72	0.07	A
Uranium-234	0.28	0.183	N		53.0	0.128 - 0.238	0.086	N
Uranium-238	0.28	0.176	N		59.1	0.123 - 0.229	0.075	W
Zinc-65	2.95	2.43	W		21.4	1.70 - 3.16	0.585	W

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	11.6	14.3	A		-18.9	10.0 - 18.6	0.4	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0693	0.0747	A		-7.2	0.0523 - 0.0971	0.0024	A
Cesium-134	3.42	4.34	W		-21.2	3.04 - 5.64	0.16	A
Cesium-137	2.000	2.21	A		-9.5	1.55 - 2.87	0.080	A
Cobalt-57	3.38	4.66	W		-27.5	3.26 - 6.06	0.54	W
Cobalt-60	3.16	3.51	A		-10.0	2.46 - 4.56	0.17	A
Manganese-54	0.1		A			False Positive Test	0.5	
Plutonium-238	0.0475	0.0655	W		-27.5	0.0459 - 0.0852	0.0015	A
Plutonium-239/240	0.0004		N	(1)		False Positive Test	0.0001	
Strontium-90	0.82	1.32	N		-37.9	0.92 - 1.72	0.04	A
Uranium-234	0.1403	0.249	N		-43.7	0.174 - 0.324	0.0077	A
Uranium-238	0.1544	0.239	N		-35.4	0.167 - 0.311	0.0053	A
Zinc-65	2.24	2.43	A		-7.8	1.70 - 3.16	0.13	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	17.64	19.3	A	(5)	-8.6	13.5 - 25.1	1.25	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.11	0.0747	N		47.3	0.0523 - 0.0971	0.02	W
Cesium-134	3.38	4.34	W		-22.1	3.04 - 5.64	0.12	A
Cesium-137	2.57	2.21	A		16.3	1.55 - 2.87	0.16	A
Cobalt-57	5.90	4.66	W		26.6	3.26 - 6.06	0.42	A
Cobalt-60	3.92	3.51	A		11.7	2.46 - 4.56	0.12	A
Manganese-54	0.03		A			False Positive Test	0.03	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	1.729	1.32	N		31.0	0.92 - 1.72	0.249	A
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.63	2.43	A		8.2	1.70 - 3.16	0.17	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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(11) = False Positive Test, Result Not Reported

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(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0711	0.0747	A		-4.8	0.0523 - 0.0971	0.0048	A
Cesium-134	4.59	4.34	A		5.8	3.04 - 5.64	0.30	A
Cesium-137	2.26	2.21	A		2.3	1.55 - 2.87	0.16	A
Cobalt-57	4.64	4.66	A		-0.4	3.26 - 6.06	0.28	A
Cobalt-60	3.43	3.51	A		-2.3	2.46 - 4.56	0.20	A
Manganese-54	-0.001			A		False Positive Test	0.038	
Plutonium-238	0.0630	0.0655	A		-3.8	0.0459 - 0.0852	0.0097	W
Plutonium-239/240	0.00072			A		False Positive Test	0.00025	
Strontium-90	1.104	1.32	A		-16.4	0.92 - 1.72	0.072	A
Uranium-234	0.176	0.183	A		-3.8	0.128 - 0.238	0.013	A
Uranium-238	0.195	0.176	A		10.8	0.123 - 0.229	0.013	A
Zinc-65	2.56	2.43	A		5.4	1.70 - 3.16	0.21	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.108	0.102	A		5.9	0.071 - 0.133	0.0175	W
Uranium-238	14.6	14.2	A		2.8	9.9 - 18.5	2.34	W
Uranium-Total	14.8	14.3	A		3.5	10.0 - 18.6	2.37	W

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0856	0.0747	A		14.6	0.0523 - 0.0971	0.0111	A
Cesium-134	4.37	4.34	A		0.7	3.04 - 5.64	0.170	A
Cesium-137	2.42	2.21	A		9.5	1.55 - 2.87	0.156	A
Cobalt-57	4.89	4.66	A		4.9	3.26 - 6.06	0.179	A
Cobalt-60	3.81	3.51	A		8.5	2.46 - 4.56	0.221	A
Manganese-54	0.0933			A		False Positive Test	0.117	
Plutonium-238	0.0704	0.0655	A		7.5	0.0459 - 0.0852	0.00985	A
Plutonium-239/240	0.0103			A		False Positive Test	0.00349	
Strontium-90	1.04	1.32	W		-21.2	0.92 - 1.72	0.0956	A
Uranium-234	0.147	0.183	A		-19.7	0.128 - 0.238	0.0147	A
Uranium-238	0.169	0.176	A		-4.0	0.123 - 0.229	0.0163	A
Zinc-65	3.06	2.43	W		25.9	1.70 - 3.16	0.320	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	4.40e+0	4.34	A		1.4	3.04 - 5.64	3.28e-1	A
Cesium-137	2.26e+0	2.21	A		2.3	1.55 - 2.87	1.90e-1	A
Cobalt-57	5.48e+0	4.66	A		17.6	3.26 - 6.06	5.68e-1	A
Cobalt-60	4.13e+0	3.51	A		17.7	2.46 - 4.56	2.50e-1	A
Manganese-54	4.88e-2			A		False Positive Test	1.50e-1	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.63e+0	2.43	A		8.2	1.70 - 3.16	3.29e-1	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.072	0.0747	A		-3.6	0.0523 - 0.0971	0.011	W
Cesium-134	3.53	4.34	A		-18.7	3.04 - 5.64	0.10	A
Cesium-137	1.92	2.21	A		-13.1	1.55 - 2.87	0.11	A
Cobalt-57	4.37	4.66	A		-6.2	3.26 - 6.06	0.13	A
Cobalt-60	2.947	3.51	A		-16.0	2.46 - 4.56	0.092	A
Manganese-54	-0.061			A		False Positive Test	0.083	
Plutonium-238	0.050	0.0655	W		-23.7	0.0459 - 0.0852	0.011	W
Plutonium-239/240	0.0018			A		False Positive Test	0.0020	
Strontium-90	1.109	1.32	A		-16.0	0.92 - 1.72	0.032	A
Uranium-234	0.227	0.249	A		-8.8	0.174 - 0.324	0.025	A
Uranium-238	0.210	0.239	A		-12.1	0.167 - 0.311	0.023	A
Zinc-65	2.21	2.43	A		-9.1	1.70 - 3.16	0.20	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.42	4.34	W		-21.2	3.04 - 5.64	.153	A
Cesium-137	2.14	2.21	A		-3.2	1.55 - 2.87	.195	A
Cobalt-57	4.08	4.66	A		-12.4	3.26 - 6.06	.17	A
Cobalt-60	2.81	3.51	A		-19.9	2.46 - 4.56	.183	A
Manganese-54	.035		A			False Positive Test	.11	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	1.15	1.32	A		-12.9	0.92 - 1.72	.0412	A
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.05	2.43	A		-15.6	1.70 - 3.16	.444	W

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (TMAO01) EBERLINE Analytical Corporation
 601 A SCARBORO RD
 OAK RIDGE, TN 37830-

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.684	4.34	A		-15.1	3.04 - 5.64	0.504	A
Cesium-137	1.946	2.21	A		-11.9	1.55 - 2.87	0.680	N
Cobalt-57	3.916	4.66	A		-16.0	3.26 - 6.06	0.921	W
Cobalt-60	3.464	3.51	A		-1.3	2.46 - 4.56	0.563	W
Manganese-54	-0.028			A		False Positive Test	0.466	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	0.153	0.249	N		-38.6	0.174 - 0.324	0.021	A
Uranium-238	0.151	0.239	N		-36.8	0.167 - 0.311	0.022	A
Zinc-65	3.022	2.43	W		24.4	1.70 - 3.16	1.571	N

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	4.25	4.34	A		-2.1	3.04 - 5.64	.495	A
Cesium-137	2.85	2.21	W		29.0	1.55 - 2.87	.563	W
Cobalt-57	6.05	4.66	W		29.8	3.26 - 6.06	.599	A
Cobalt-60	4.47	3.51	W		27.4	2.46 - 4.56	.509	A
Manganese-54	0.01		A			False Positive Test	0.01	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.91	2.43	A		19.8	1.70 - 3.16	1.12	N

Radiological Reference Date: August 1, 2021

Results Flags:

A = Result acceptable.....|Bias| <= 20%

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

N = Result not acceptable.....|Bias| > 30%

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747	N	(28)		0.0523 - 0.0971		
Cesium-134	3.559	4.34	A		-18.0	3.04 - 5.64	0.421	A
Cesium-137	1.984	2.21	A		-10.2	1.55 - 2.87	0.284	A
Cobalt-57	4.195	4.66	A		-10.0	3.26 - 6.06	0.767	W
Cobalt-60	3.24	3.51	A		-7.7	2.46 - 4.56	0.377	A
Manganese-54	0.0001		A			False Positive Test	0.114	
Plutonium-238	NR	0.0655	N	(28)		0.0459 - 0.0852		
Plutonium-239/240	NR		N	(11)		False Positive Test		
Strontium-90	NR	1.32	N	(28)		0.92 - 1.72		
Uranium-234	NR	0.183	N	(28)		0.128 - 0.238		
Uranium-238	NR	0.176	N	(28)		0.123 - 0.229		
Zinc-65	1.765	2.43	W		-27.4	1.70 - 3.16	0.352	W

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.196	0.0747	N		162.4	0.0523 - 0.0971	.169	N
Cesium-134	3.987	4.34	A		-8.1	3.04 - 5.64	.08	A
Cesium-137	2.193	2.21	A		-0.8	1.55 - 2.87	.097	A
Cobalt-57	4.751	4.66	A		2.0	3.26 - 6.06	.142	A
Cobalt-60	3.611	3.51	A		2.9	2.46 - 4.56	.089	A
Manganese-54	.009		A			False Positive Test	.04	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32				0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.728	2.43	A		12.3	1.70 - 3.16	.193	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45

(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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	6.61E-02	0.0747	A		-11.5	0.0523 - 0.0971	1.17E-02	W
Cesium-134	4.49E+00	4.34	A		3.5	3.04 - 5.64	2.33E-01	A
Cesium-137	258E+00	2.21	N		11574.2	1.55 - 2.87	2.41E-01	N
Cobalt-57	5.26E+00	4.66	A		12.9	3.26 - 6.06	3.09E-01	A
Cobalt-60	3.78E+00	3.51	A		7.7	2.46 - 4.56	2.57E-01	A
Manganese-54	2.84E-02			A		False Positive Test	6.70E-02	
Plutonium-238	6.37E-02	0.0655	A		-2.7	0.0459 - 0.0852	1.20E-02	W
Plutonium-239/240	4.64E-04			A		False Positive Test	2.82E-04	
Strontium-90	1.33E+00	1.32	A		0.8	0.92 - 1.72	5.83E-02	A
Uranium-234	1.71E-01	0.183	A		-6.6	0.128 - 0.238	1.61E-02	A
Uranium-238	1.67E-01	0.176	A		-5.1	0.123 - 0.229	1.57E-02	A
Zinc-65	2.70E+00	2.43	A		11.1	1.70 - 3.16	2.86E-01	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

(1) = False Positive

(5) = Total Metal

(11) = False Positive Test, Result Not Reported

(28) = Not Reporting Previously Reported Analyte

(29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-RdV45
 (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	0.102				0.071 - 0.133		
Uranium-238	NR	14.2				9.9 - 18.5		
Uranium-Total	NR	14.3				10.0 - 18.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0747				0.0523 - 0.0971		
Cesium-134	3.733	4.34	A		-14.0	3.04 - 5.64	0.117	A
Cesium-137	2.054	2.21	A		-7.1	1.55 - 2.87	0.078	A
Cobalt-57	4.264	4.66	A		-8.5	3.26 - 6.06	0.142	A
Cobalt-60	3.149	3.51	A		-10.3	2.46 - 4.56	0.244	A
Manganese-54	0.035			A		False Positive Test	0.039	
Plutonium-238	NR	0.0655				0.0459 - 0.0852		
Plutonium-239/240	NR					False Positive Test		
Strontium-90	NR	1.32	N	(28)		0.92 - 1.72		
Uranium-234	NR	0.183				0.128 - 0.238		
Uranium-238	NR	0.176				0.123 - 0.229		
Zinc-65	2.088	2.43	A		-14.1	1.70 - 3.16	0.186	A

Radiological Reference Date: August 1, 2021

Results Flags:

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

Uncertainty Flags:

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

Radiological Units: (Bq/sample)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
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ACCEPTABLE WITH WARNING.....15% < RP <= 30%

NOT ACCEPTABLE.....RP > 30%

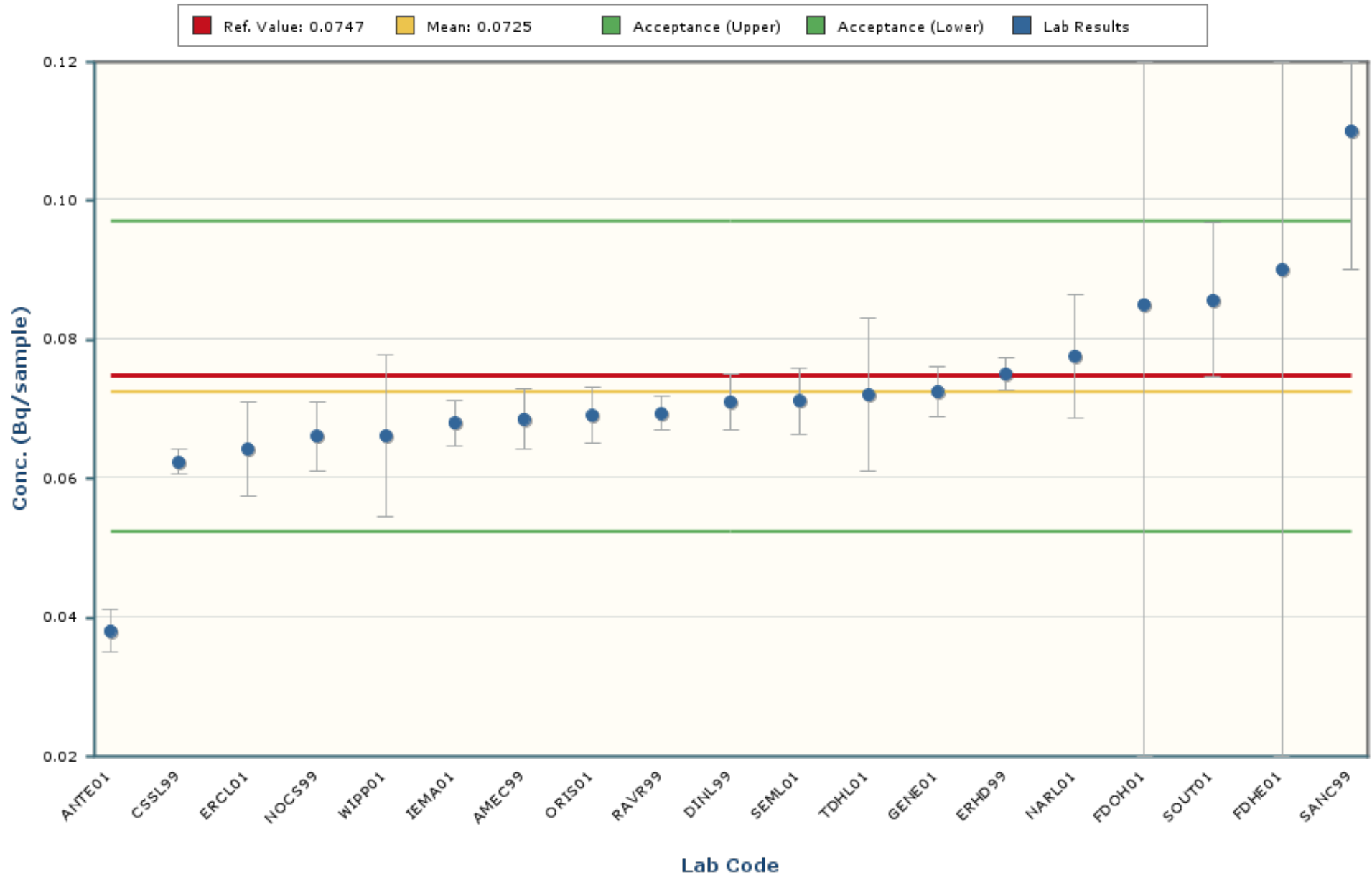
Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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

Americium-241

MAPEP-21-RdV45



Notes:

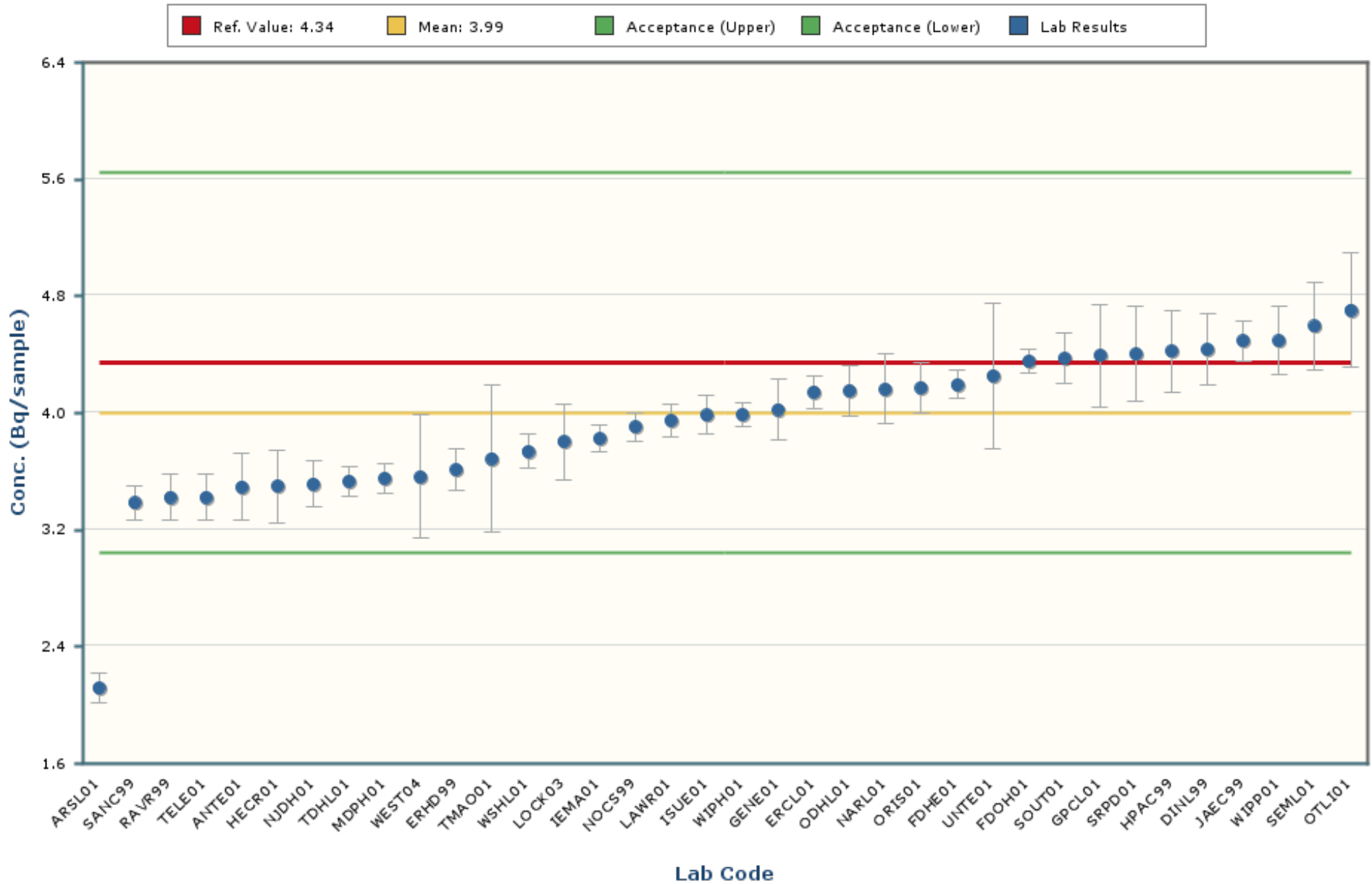
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0333 and 0.1118 (± 5 Standard Deviations).

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

Cesium-134

MAPEP-21-RdV45



Notes:

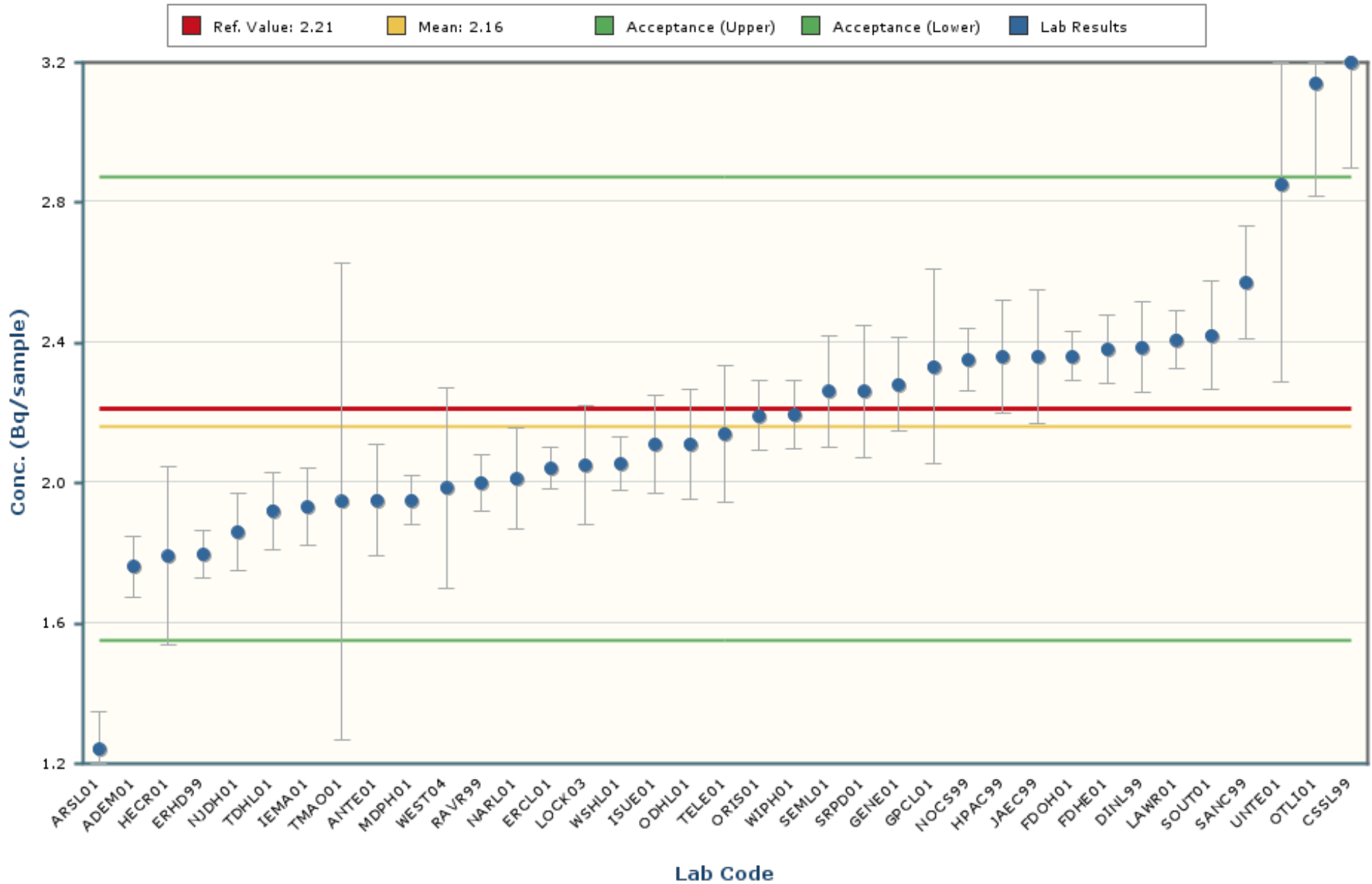
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.02 and 5.96 (± 5 Standard Deviations).

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

Cesium-137

MAPEP-21-RdV45



Notes:

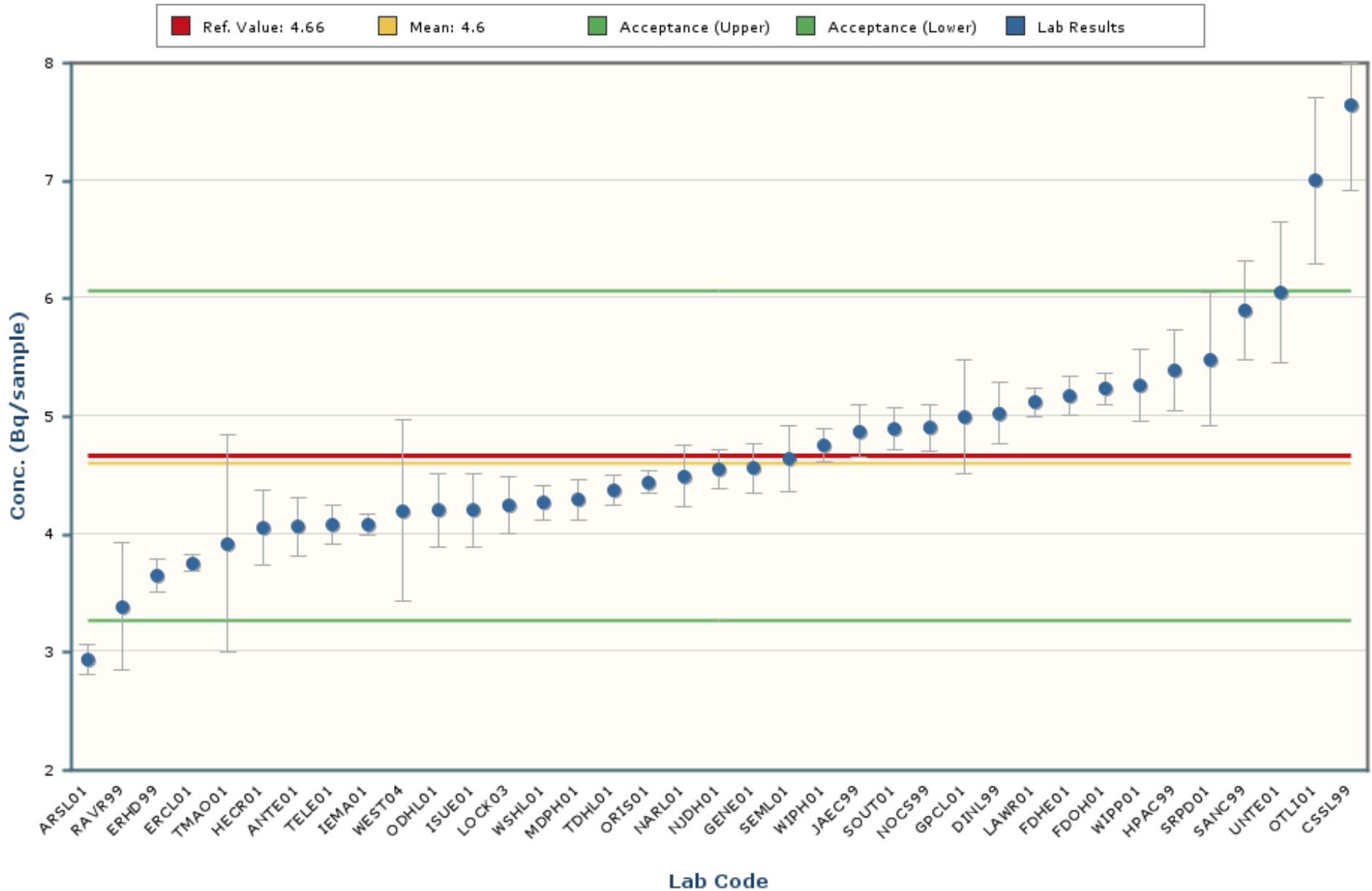
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.93 and 3.38 (± 5 Standard Deviations).

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

Cobalt-57

MAPEP-21-RdV45



Notes:

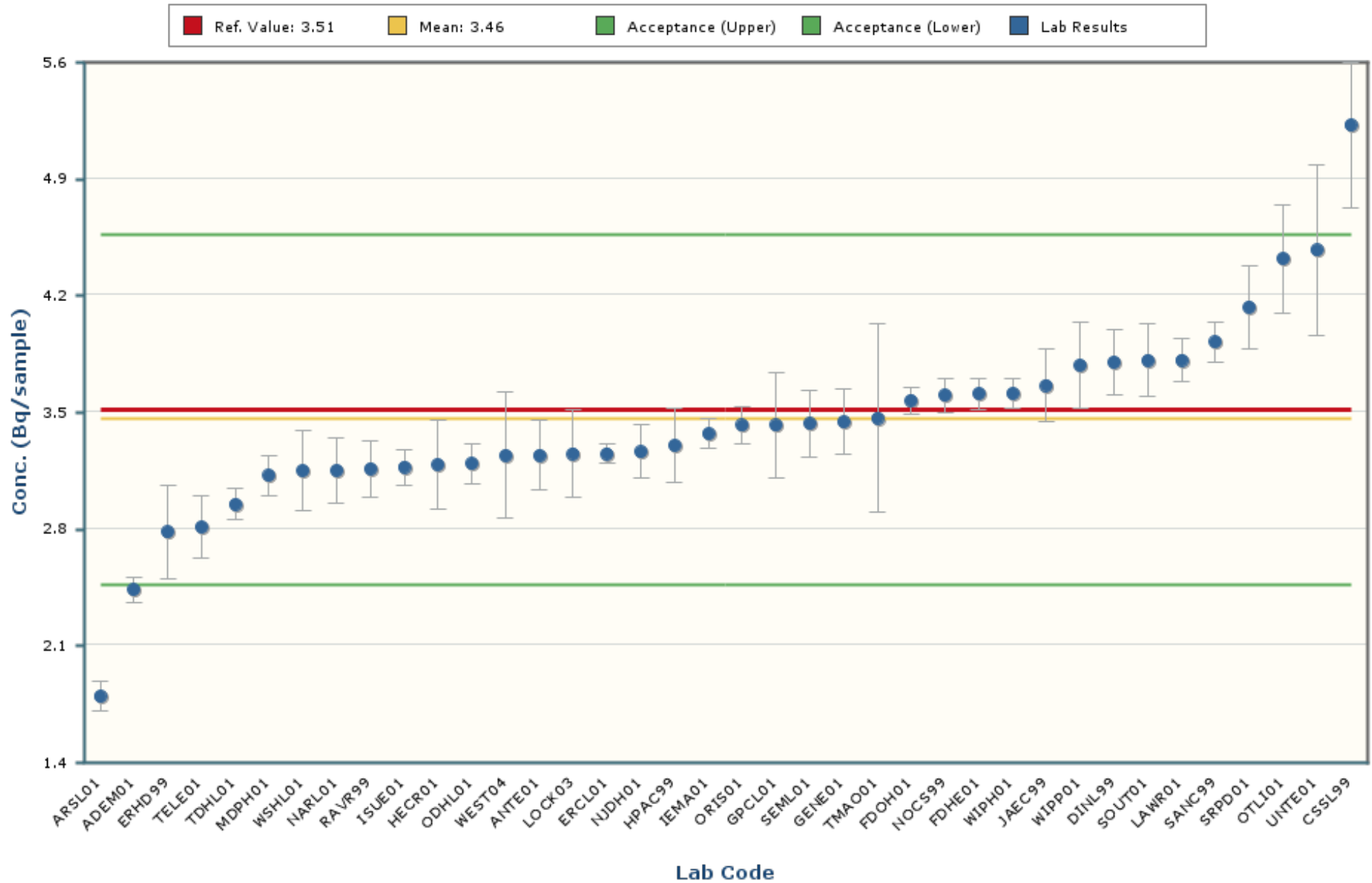
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.48 and 7.72 (± 5 Standard Deviations).

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

Cobalt-60

MAPEP-21-RdV45



Notes:

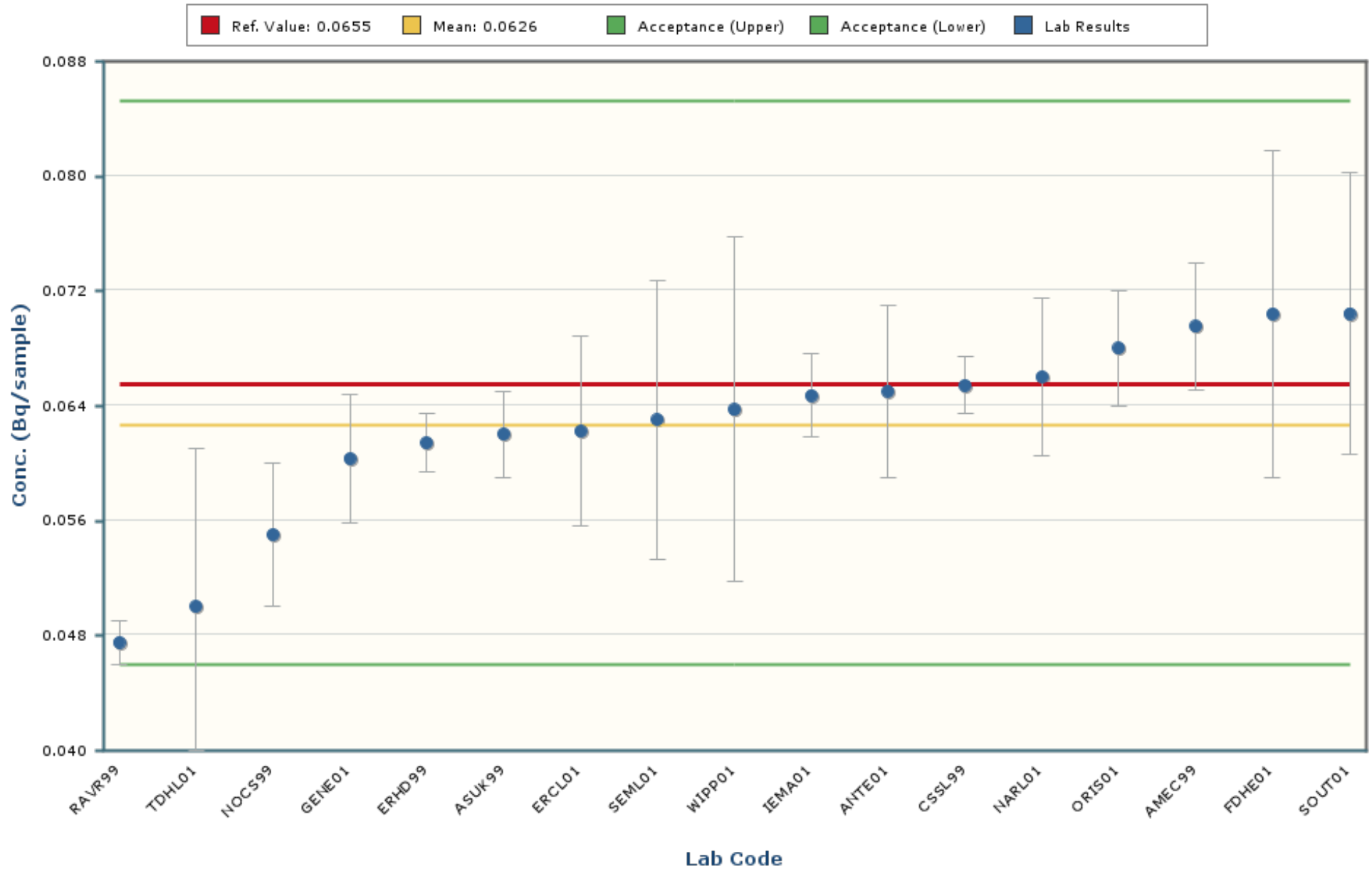
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.50 and 5.42 (± 5 Standard Deviations).

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

Plutonium-238

MAPEP-21-RdV45



Notes:

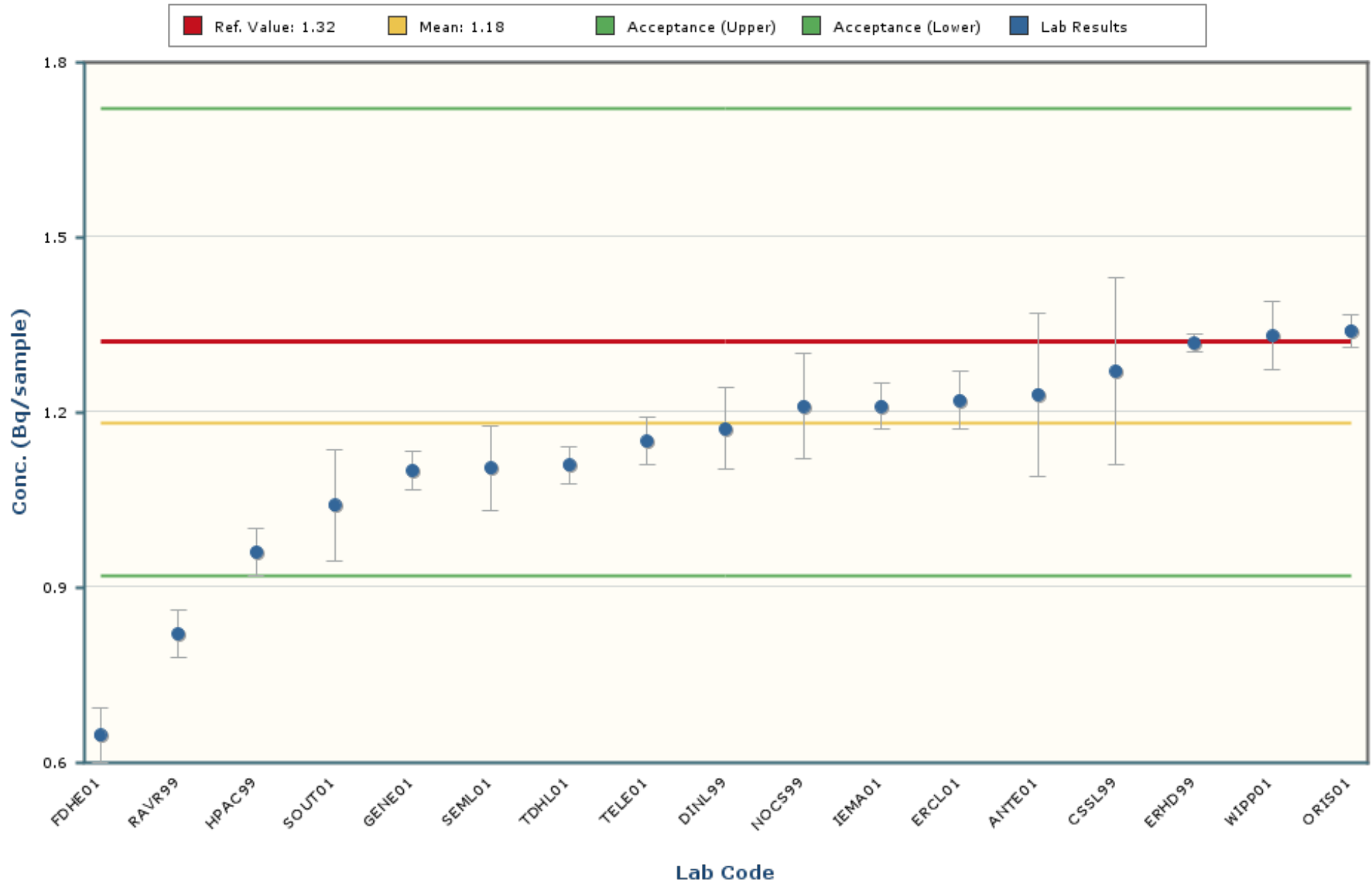
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0300 and 0.0952 (± 5 Standard Deviations).

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

Strontium-90

MAPEP-21-RdV45



Notes:

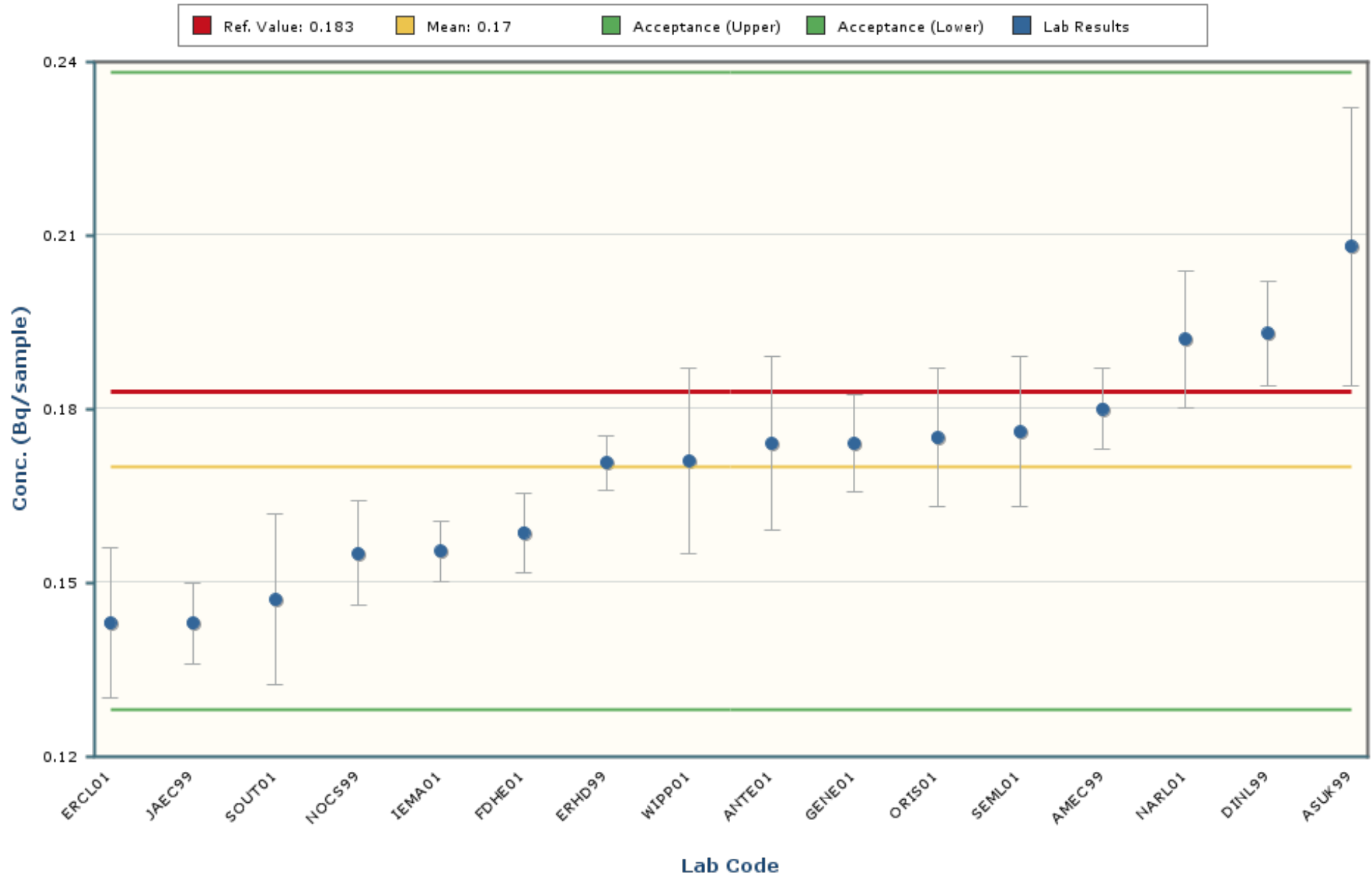
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.64 and 1.73 (± 5 Standard Deviations).

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

Uranium-234

MAPEP-21-RdV45



Notes:

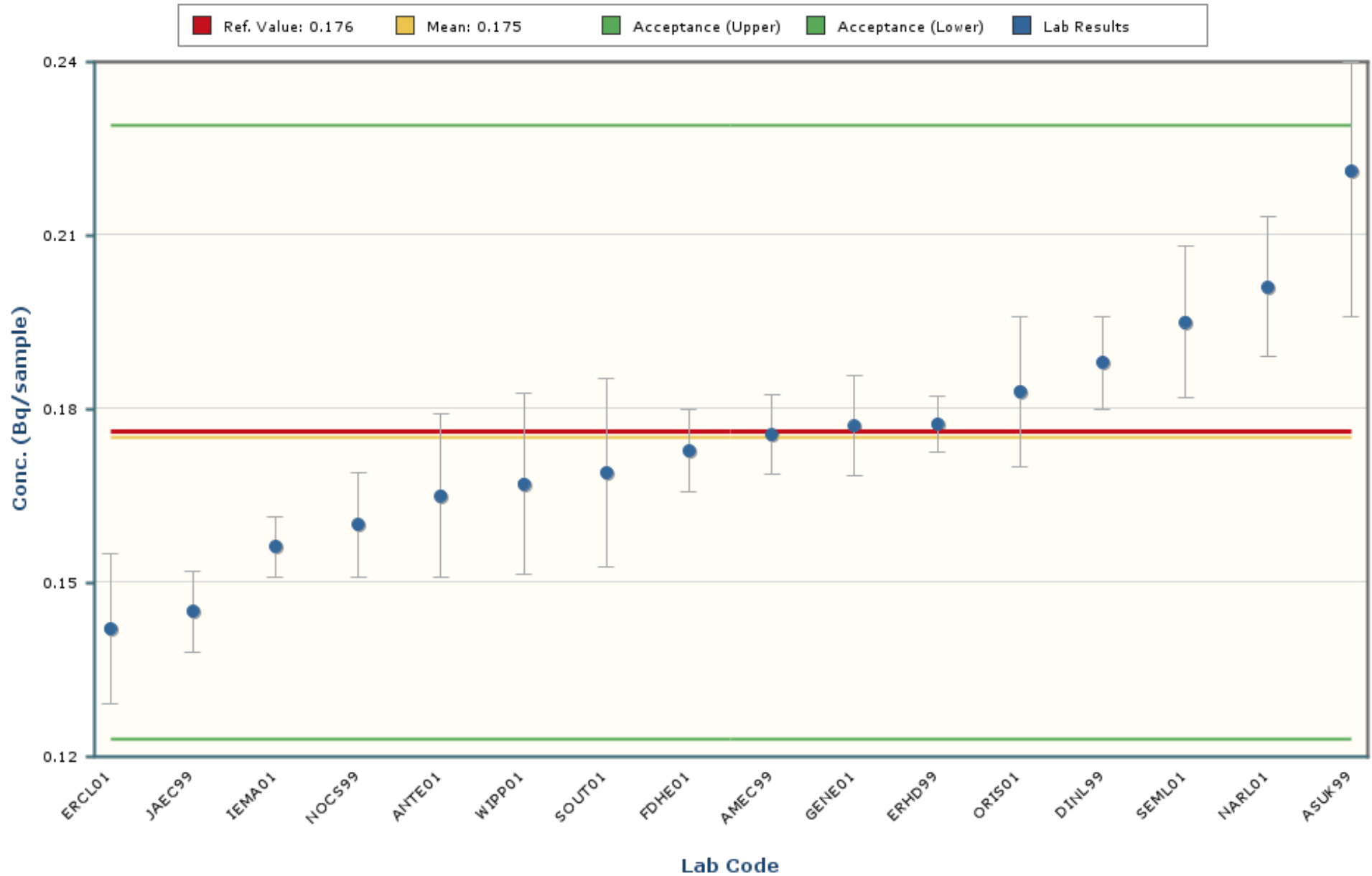
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.077 and 0.263 (± 5 Standard Deviations).

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

Uranium-238

MAPEP-21-RdV45



Notes:

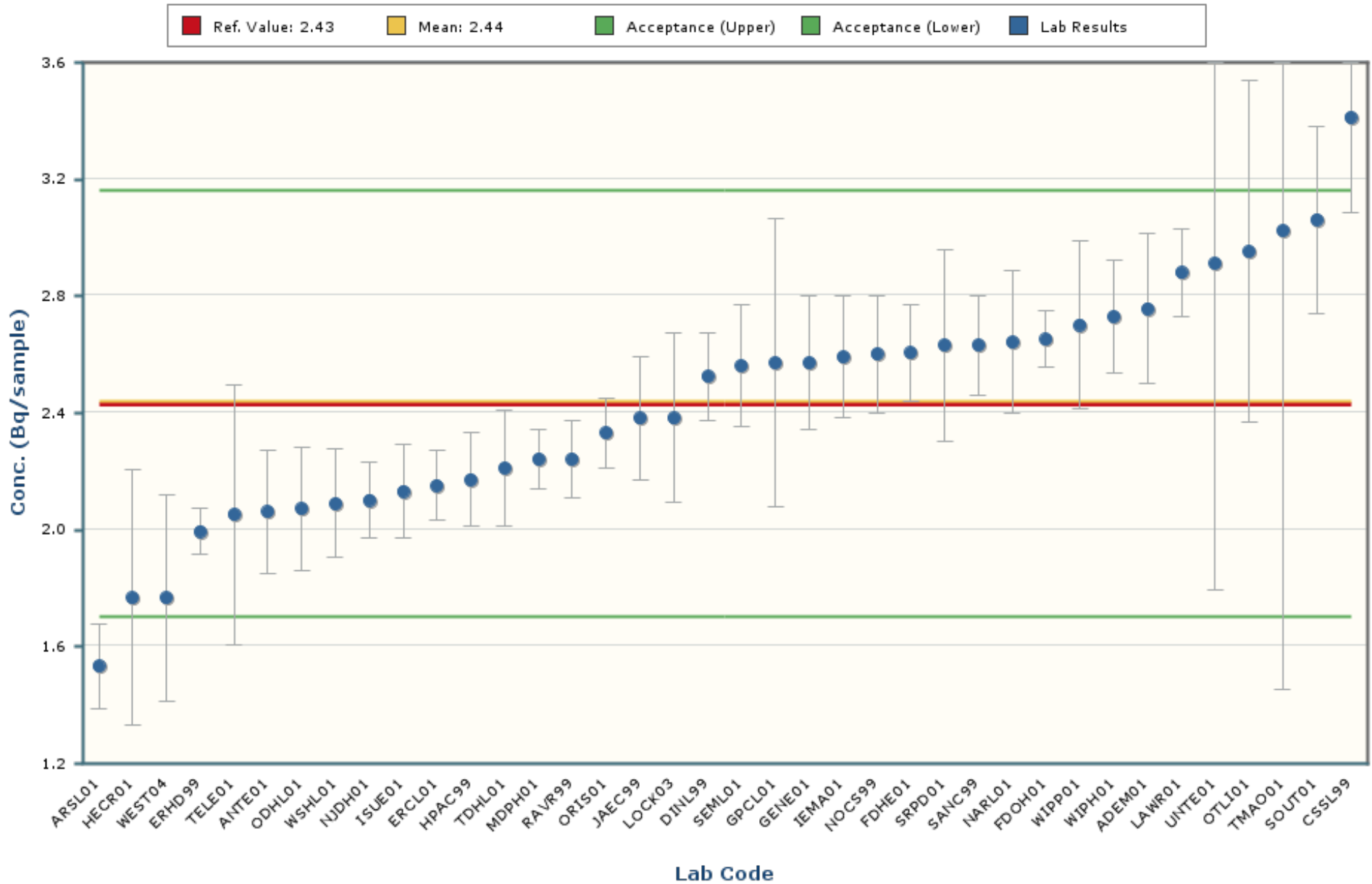
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.073 and 0.276 (± 5 Standard Deviations).

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

Zinc-65

MAPEP-21-RdV45



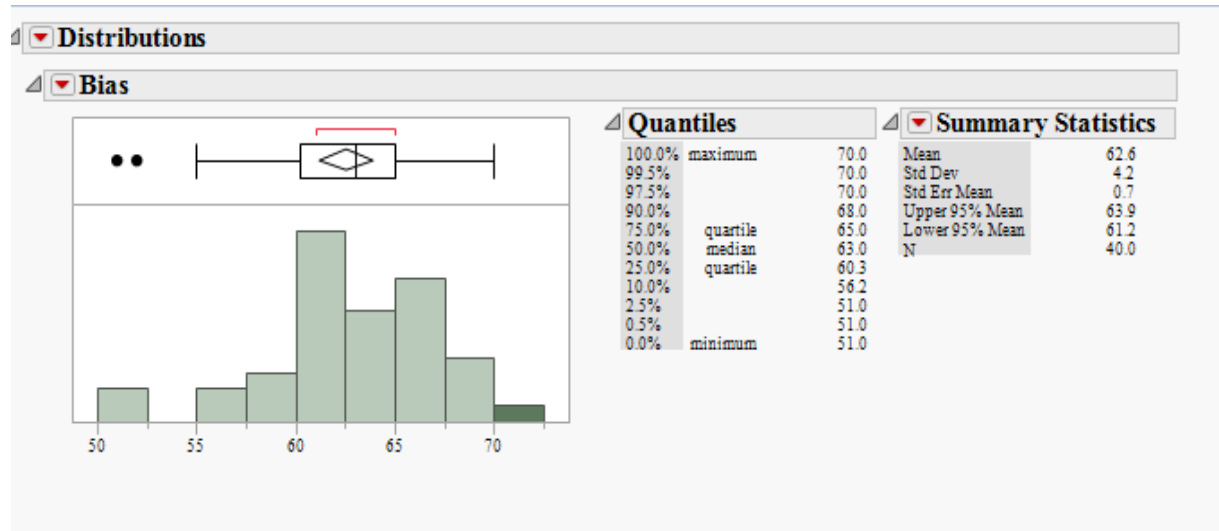
Notes:

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

The chart shows only data points with values between 0.72 and 4.15 (± 5 Standard Deviations).

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

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

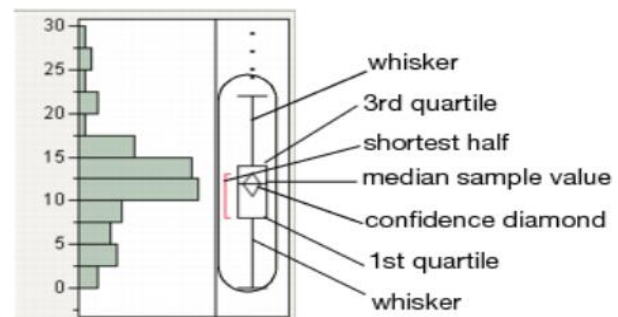


Outlier Box Plot

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

3rd quartile + 1.5*(interquartile range)

1st quartile - 1.5*(interquartile range)

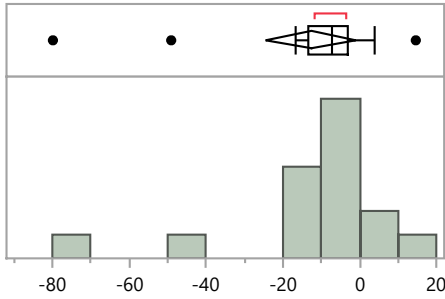


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

RdV Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

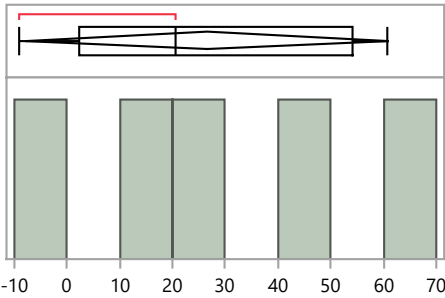
Bias



Quantiles			Summary Statistics	
100.0%	maximum	14.6	Mean	-12.7
99.5%		14.6	Std Dev	22.2
97.5%		14.6	Std Err Mean	5.6
90.0%		7.1	Upper 95% Mean	-0.9
75.0%	quartile	-3.2	Lower 95% Mean	-24.6
50.0%	median	-7.4	N	16.0
25.0%	quartile	-13.5		
10.0%		-58.3		
2.5%		-79.9		
0.5%		-79.9		
0.0%	minimum	-79.9		

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

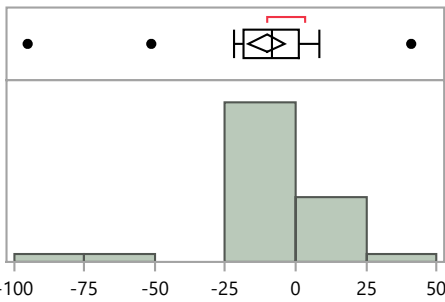
Bias



Quantiles			Summary Statistics	
100.0%	maximum	60.6	Mean	26.6
99.5%		60.6	Std Dev	27.7
97.5%		60.6	Std Err Mean	12.4
90.0%		60.6	Upper 95% Mean	61.0
75.0%	quartile	54.0	Lower 95% Mean	-7.7
50.0%	median	20.5	N	5.0
25.0%	quartile	2.4		
10.0%		-9.1		
2.5%		-9.1		
0.5%		-9.1		
0.0%	minimum	-9.1		

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias

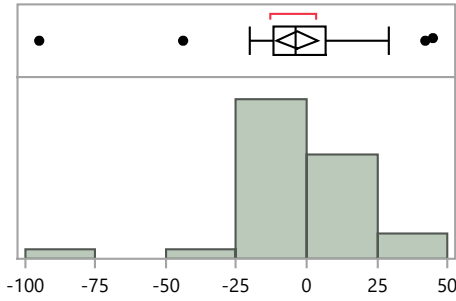


Quantiles			Summary Statistics	
100.0%	maximum	41.0	Mean	-10.3
99.5%		41.0	Std Dev	19.8
97.5%		41.0	Std Err Mean	3.2
90.0%		3.7	Upper 95% Mean	-3.8
75.0%	quartile	0.8	Lower 95% Mean	-16.8
50.0%	median	-8.2	N	38.0
25.0%	quartile	-18.3		
10.0%		-21.3		
2.5%		-95.2		
0.5%		-95.2		
0.0%	minimum	-95.2		

RdV Distribution by Detection Method

Distributions Analyte_Detection=Cesium-137 Gamma Spectrometry

Bias



Quantiles

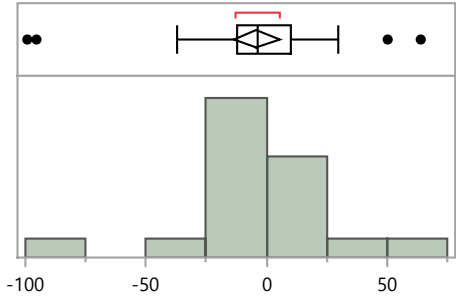
100.0%	maximum	44.8
99.5%		44.8
97.5%		44.8
90.0%		17.6
75.0%	quartile	6.8
50.0%	median	-3.9
25.0%	quartile	-11.8
10.0%		-19.1
2.5%		-95.0
0.5%		-95.0
0.0%	minimum	-95.0

Summary Statistics

Mean	-3.5
Std Dev	22.4
Std Err Mean	3.6
Upper 95% Mean	3.9
Lower 95% Mean	-10.8
N	38.0

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

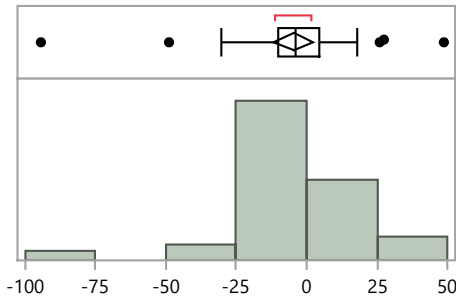
100.0%	maximum	63.9
99.5%		63.9
97.5%		63.9
90.0%		26.6
75.0%	quartile	9.8
50.0%	median	-3.6
25.0%	quartile	-12.4
10.0%		-27.5
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics

Mean	-4.1
Std Dev	29.1
Std Err Mean	4.7
Upper 95% Mean	5.3
Lower 95% Mean	-13.5
N	39.0

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	48.7
99.5%		48.7
97.5%		48.7
90.0%		17.7
75.0%	quartile	4.3
50.0%	median	-4.0
25.0%	quartile	-10.0
10.0%		-20.8
2.5%		-94.4
0.5%		-94.4
0.0%	minimum	-94.4

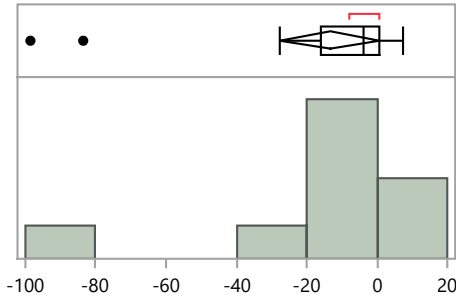
Summary Statistics

Mean	-4.6
Std Dev	21.8
Std Err Mean	3.5
Upper 95% Mean	2.5
Lower 95% Mean	-11.7
N	39.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Plutonium-238 Alpha Spectrometry

Bias



Quantiles

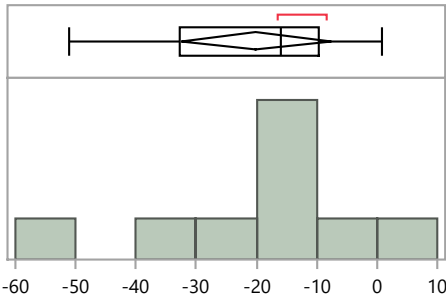
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	0.8
50.0%	median	-3.8
25.0%	quartile	-16.0
10.0%		-83.5
2.5%		-98.5
0.5%		-98.5
0.0%	minimum	-98.5

Summary Statistics

Mean	-13.5
Std Dev	29.0
Std Err Mean	6.7
Upper 95% Mean	0.5
Lower 95% Mean	-27.5
N	19.0

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias



Quantiles

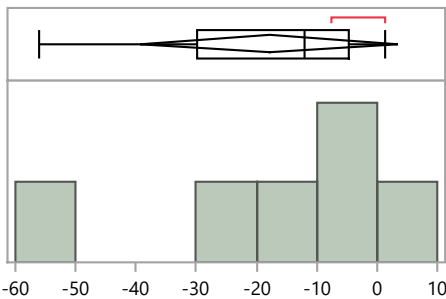
100.0%	maximum	0.8
99.5%		0.8
97.5%		0.8
90.0%		0.8
75.0%	quartile	-9.8
50.0%	median	-16.0
25.0%	quartile	-32.6
10.0%		-51.1
2.5%		-51.1
0.5%		-51.1
0.0%	minimum	-51.1

Summary Statistics

Mean	-20.0
Std Dev	16.1
Std Err Mean	5.4
Upper 95% Mean	-7.7
Lower 95% Mean	-32.4
N	9.0

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

Bias



Quantiles

100.0%	maximum	1.4
99.5%		1.4
97.5%		1.4
90.0%		1.4
75.0%	quartile	-4.8
50.0%	median	-12.2
25.0%	quartile	-29.9
10.0%		-56.1
2.5%		-56.1
0.5%		-56.1
0.0%	minimum	-56.1

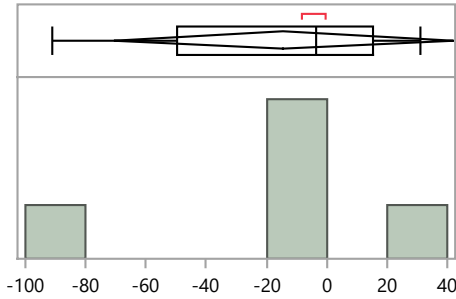
Summary Statistics

Mean	-17.8
Std Dev	20.4
Std Err Mean	8.3
Upper 95% Mean	3.5
Lower 95% Mean	-39.2
N	6.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias



Quantiles

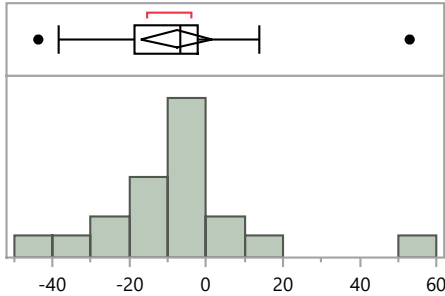
100.0%	maximum	31.0
99.5%		31.0
97.5%		31.0
90.0%		31.0
75.0%	quartile	15.4
50.0%	median	-3.8
25.0%	quartile	-49.6
10.0%		-90.8
2.5%		-90.8
0.5%		-90.8
0.0%	minimum	-90.8

Summary Statistics

Mean	-14.4
Std Dev	45.4
Std Err Mean	20.3
Upper 95% Mean	42.0
Lower 95% Mean	-70.8
N	5.0

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

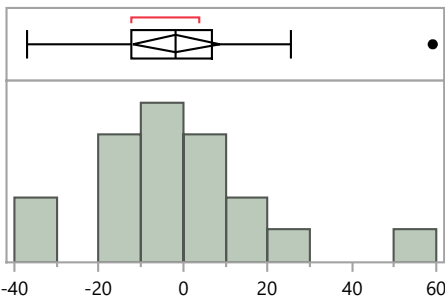
100.0%	maximum	53.0
99.5%		53.0
97.5%		53.0
90.0%		12.9
75.0%	quartile	-2.2
50.0%	median	-6.7
25.0%	quartile	-18.6
10.0%		-36.9
2.5%		-43.7
0.5%		-43.7
0.0%	minimum	-43.7

Summary Statistics

Mean	-7.7
Std Dev	19.9
Std Err Mean	4.4
Upper 95% Mean	1.6
Lower 95% Mean	-17.0
N	20.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	59.1
99.5%		59.1
97.5%		59.1
90.0%		25.6
75.0%	quartile	6.8
50.0%	median	-1.9
25.0%	quartile	-12.1
10.0%		-35.4
2.5%		-36.8
0.5%		-36.8
0.0%	minimum	-36.8

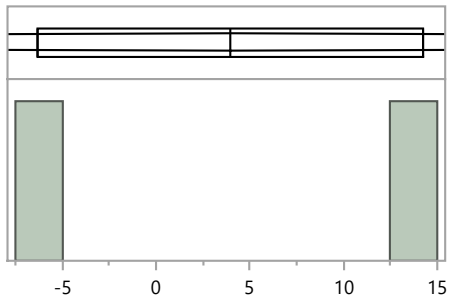
Summary Statistics

Mean	-1.6
Std Dev	21.3
Std Err Mean	4.9
Upper 95% Mean	8.6
Lower 95% Mean	-11.9
N	19.0

RdV Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

Bias



Quantiles

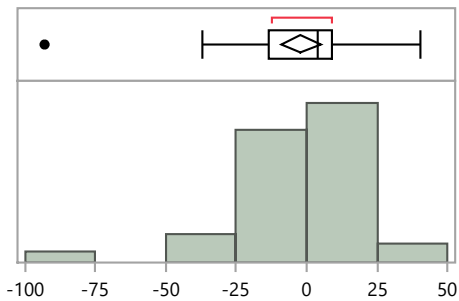
100.0%	maximum	14.2
99.5%		14.2
97.5%		14.2
90.0%		14.2
75.0%	quartile	14.2
50.0%	median	4.0
25.0%	quartile	-6.3
10.0%		-6.3
2.5%		-6.3
0.5%		-6.3
0.0%	minimum	-6.3

Summary Statistics

Mean	4.0
Std Dev	14.5
Std Err Mean	10.3
Upper 95% Mean	134.2
Lower 95% Mean	-126.3
N	2.0

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	40.3
99.5%		40.3
97.5%		40.3
90.0%		21.4
75.0%	quartile	9.1
50.0%	median	3.8
25.0%	quartile	-13.6
10.0%		-27.4
2.5%		-93.1
0.5%		-93.1
0.0%	minimum	-93.1

Summary Statistics

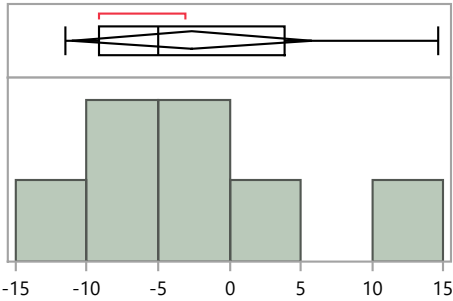
Mean	-2.1
Std Dev	22.1
Std Err Mean	3.5
Upper 95% Mean	5.1
Lower 95% Mean	-9.2
N	39.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Acid dissolution with hydrofluoric acid

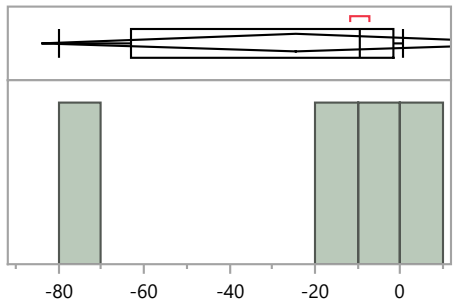
Bias



Quantiles			Summary Statistics	
100.0%	maximum	14.6	Mean	-2.6
99.5%		14.6	Std Dev	9.1
97.5%		14.6	Std Err Mean	3.4
90.0%		14.6	Upper 95% Mean	5.8
75.0%	quartile	3.9	Lower 95% Mean	-11.1
50.0%	median	-5.0	N	7.0
25.0%	quartile	-9.1		
10.0%		-11.5		
2.5%		-11.5		
0.5%		-11.5		
0.0%	minimum	-11.5		

Distributions Analyte_Method=Americium-241 Acid leaching without hydrofluoric acid

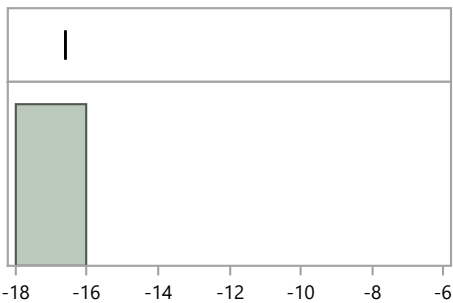
Bias



Quantiles			Summary Statistics	
100.0%	maximum	0.4	Mean	-24.6
99.5%		0.4	Std Dev	37.2
97.5%		0.4	Std Err Mean	18.6
90.0%		0.4	Upper 95% Mean	34.6
75.0%	quartile	-1.5	Lower 95% Mean	-83.8
50.0%	median	-9.4	N	4.0
25.0%	quartile	-62.8		
10.0%		-79.9		
2.5%		-79.9		
0.5%		-79.9		
0.0%	minimum	-79.9		

Distributions Analyte_Method=Americium-241 EPA 907, Actinide Elements, 600/4/80-032

Bias



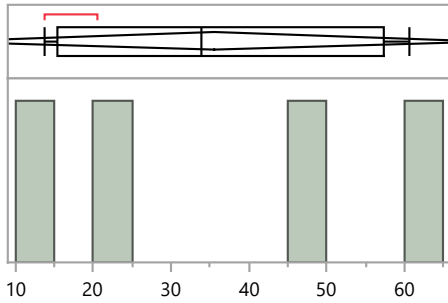
Quantiles			Summary Statistics	
100.0%	maximum	-16.6	Mean	-16.6
99.5%		-16.6	Std Dev	.
97.5%		-16.6	Std Err Mean	.
90.0%		-16.6	Upper 95% Mean	.
75.0%	quartile	-16.6	Lower 95% Mean	.
50.0%	median	-16.6	N	1.0
25.0%	quartile	-16.6		
10.0%		-16.6		
2.5%		-16.6		
0.5%		-16.6		
0.0%	minimum	-16.6		

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

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

Bias



Quantiles

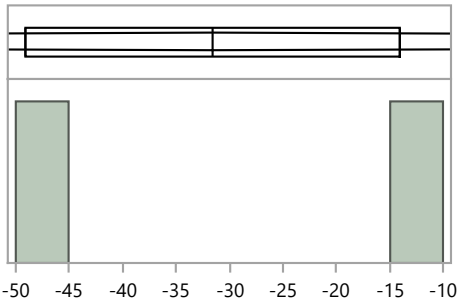
100.0%	maximum	60.6
99.5%		60.6
97.5%		60.6
90.0%		60.6
75.0%	quartile	57.3
50.0%	median	33.9
25.0%	quartile	15.5
10.0%		13.8
2.5%		13.8
0.5%		13.8
0.0%	minimum	13.8

Summary Statistics

Mean	35.6
Std Dev	22.1
Std Err Mean	11.0
Upper 95% Mean	70.7
Lower 95% Mean	0.4
N	4.0

Distributions Analyte_Method=Americium-241 Other

Bias



Quantiles

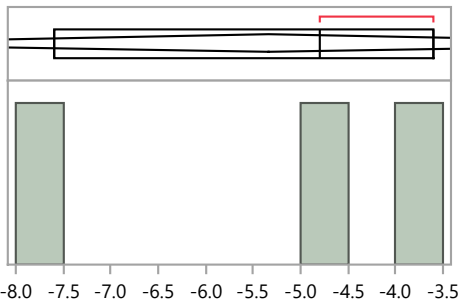
100.0%	maximum	-14.1
99.5%		-14.1
97.5%		-14.1
90.0%		-14.1
75.0%	quartile	-14.1
50.0%	median	-31.6
25.0%	quartile	-49.1
10.0%		-49.1
2.5%		-49.1
0.5%		-49.1
0.0%	minimum	-49.1

Summary Statistics

Mean	-31.6
Std Dev	24.7
Std Err Mean	17.5
Upper 95% Mean	190.8
Lower 95% Mean	-254.0
N	2.0

Distributions Analyte_Method=Americium-241 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	-3.6
99.5%		-3.6
97.5%		-3.6
90.0%		-3.6
75.0%	quartile	-3.6
50.0%	median	-4.8
25.0%	quartile	-7.6
10.0%		-7.6
2.5%		-7.6
0.5%		-7.6
0.0%	minimum	-7.6

Summary Statistics

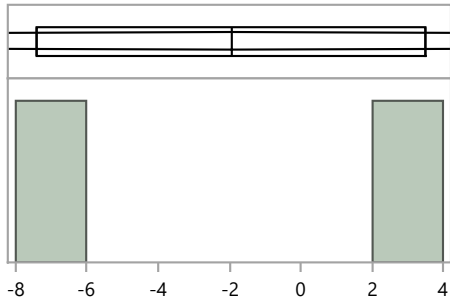
Mean	-5.3
Std Dev	2.1
Std Err Mean	1.2
Upper 95% Mean	-0.2
Lower 95% Mean	-10.4
N	3.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Cesium-134 Acid dissolution with hydrofluoric acid

Bias



Quantiles

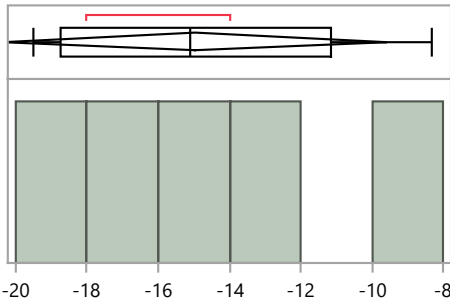
100.0%	maximum	3.5
99.5%		3.5
97.5%		3.5
90.0%		3.5
75.0%	quartile	3.5
50.0%	median	-2.0
25.0%	quartile	-7.4
10.0%		-7.4
2.5%		-7.4
0.5%		-7.4
0.0%	minimum	-7.4

Summary Statistics

Mean	-2.0
Std Dev	7.7
Std Err Mean	5.5
Upper 95% Mean	67.3
Lower 95% Mean	-71.2
N	2.0

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

Bias



Quantiles

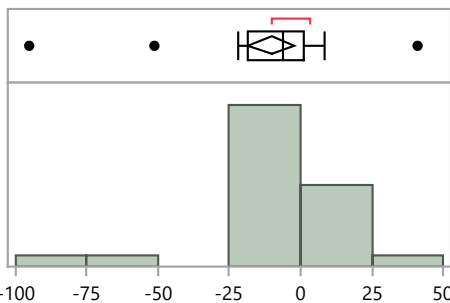
100.0%	maximum	-8.3
99.5%		-8.3
97.5%		-8.3
90.0%		-8.3
75.0%	quartile	-11.2
50.0%	median	-15.1
25.0%	quartile	-18.8
10.0%		-19.5
2.5%		-19.5
0.5%		-19.5
0.0%	minimum	-19.5

Summary Statistics

Mean	-15.0
Std Dev	4.3
Std Err Mean	1.9
Upper 95% Mean	-9.6
Lower 95% Mean	-20.4
N	5.0

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

Bias



Quantiles

100.0%	maximum	41.0
99.5%		41.0
97.5%		41.0
90.0%		5.6
75.0%	quartile	1.3
50.0%	median	-6.4
25.0%	quartile	-18.8
10.0%		-22.0
2.5%		-95.2
0.5%		-95.2
0.0%	minimum	-95.2

Summary Statistics

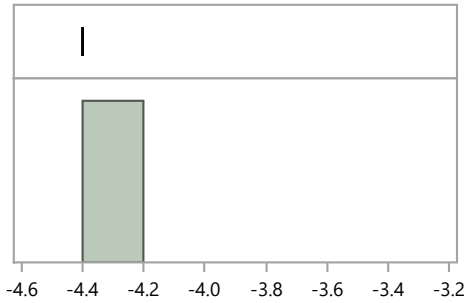
Mean	-10.2
Std Dev	22.0
Std Err Mean	4.0
Upper 95% Mean	-2.0
Lower 95% Mean	-18.5
N	30.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Cesium-134 Other

Bias



Quantiles

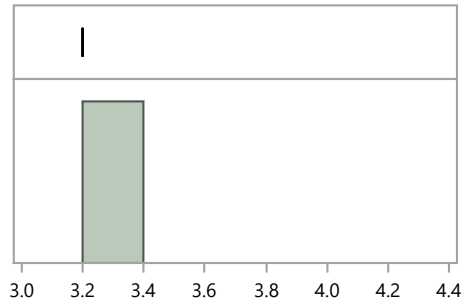
100.0%	maximum	-4.4
99.5%		-4.4
97.5%		-4.4
90.0%		-4.4
75.0%	quartile	-4.4
50.0%	median	-4.4
25.0%	quartile	-4.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

Summary Statistics

Mean	-4.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cesium-137 Acid dissolution with hydrofluoric acid

Bias



Quantiles

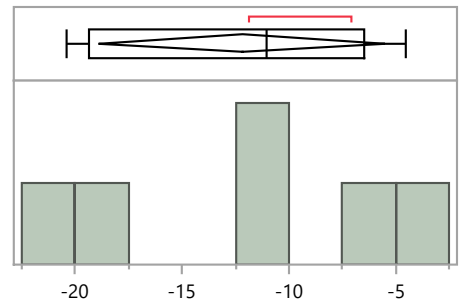
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	3.2
25.0%	quartile	3.2
10.0%		3.2
2.5%		3.2
0.5%		3.2
0.0%	minimum	3.2

Summary Statistics

Mean	3.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	-4.5
99.5%		-4.5
97.5%		-4.5
90.0%		-4.5
75.0%	quartile	-6.5
50.0%	median	-11.1
25.0%	quartile	-19.4
10.0%		-20.4
2.5%		-20.4
0.5%		-20.4
0.0%	minimum	-20.4

Summary Statistics

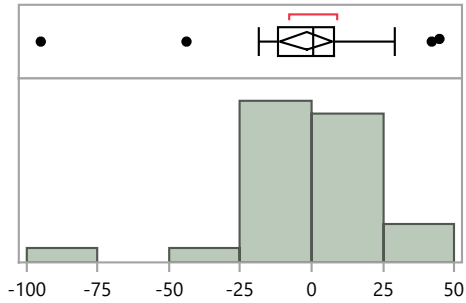
Mean	-12.2
Std Dev	6.4
Std Err Mean	2.6
Upper 95% Mean	-5.5
Lower 95% Mean	-18.9
N	6.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

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

Bias



Quantiles

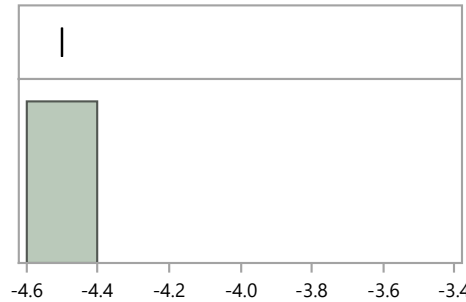
100.0%	maximum	44.8
99.5%		44.8
97.5%		44.8
90.0%		27.7
75.0%	quartile	7.8
50.0%	median	0.8
25.0%	quartile	-11.8
10.0%		-18.5
2.5%		-95.0
0.5%		-95.0
0.0%	minimum	-95.0

Summary Statistics

Mean	-1.9
Std Dev	24.7
Std Err Mean	4.5
Upper 95% Mean	7.3
Lower 95% Mean	-11.2
N	30.0

Distributions Analyte_Method=Cesium-137 Other

Bias



Quantiles

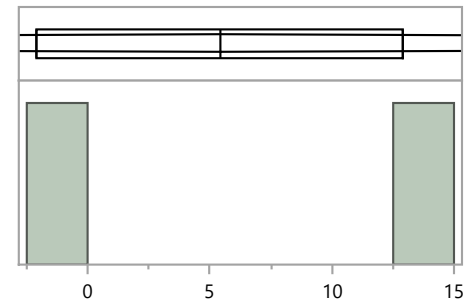
100.0%	maximum	-4.5
99.5%		-4.5
97.5%		-4.5
90.0%		-4.5
75.0%	quartile	-4.5
50.0%	median	-4.5
25.0%	quartile	-4.5
10.0%		-4.5
2.5%		-4.5
0.5%		-4.5
0.0%	minimum	-4.5

Summary Statistics

Mean	-4.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cobalt-57 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.9
75.0%	quartile	12.9
50.0%	median	5.4
25.0%	quartile	-2.1
10.0%		-2.1
2.5%		-2.1
0.5%		-2.1
0.0%	minimum	-2.1

Summary Statistics

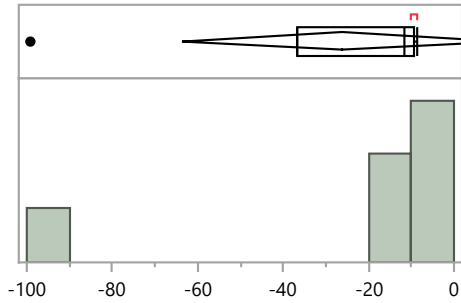
Mean	5.4
Std Dev	10.6
Std Err Mean	7.5
Upper 95% Mean	100.7
Lower 95% Mean	-89.9
N	2.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

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

Bias



Quantiles

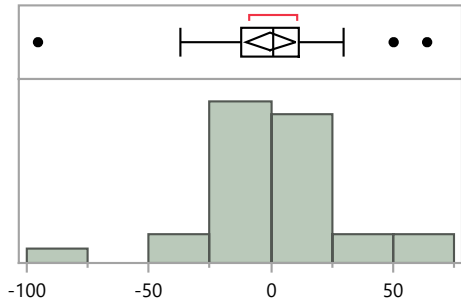
100.0%	maximum	-8.5
99.5%		-8.5
97.5%		-8.5
90.0%		-8.5
75.0%	quartile	-9.6
50.0%	median	-11.6
25.0%	quartile	-36.8
10.0%		-99.1
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics

Mean	-26.1
Std Dev	35.9
Std Err Mean	14.6
Upper 95% Mean	11.5
Lower 95% Mean	-63.7
N	6.0

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

Bias



Quantiles

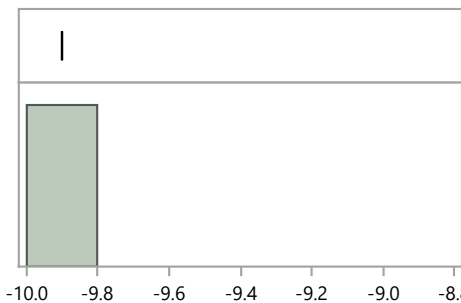
100.0%	maximum	63.9
99.5%		63.9
97.5%		63.9
90.0%		29.5
75.0%	quartile	11.3
50.0%	median	0.8
25.0%	quartile	-12.4
10.0%		-26.9
2.5%		-95.3
0.5%		-95.3
0.0%	minimum	-95.3

Summary Statistics

Mean	-0.2
Std Dev	27.6
Std Err Mean	5.0
Upper 95% Mean	10.1
Lower 95% Mean	-10.5
N	30.0

Distributions Analyte_Method=Cobalt-57 Other

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

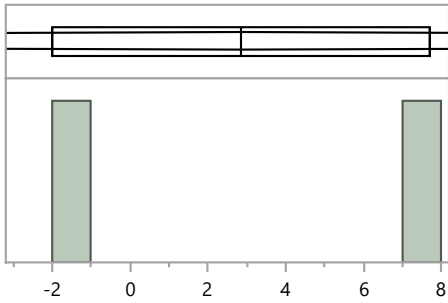
Mean	-9.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Acid dissolution with hydrofluoric acid

Bias



Quantiles

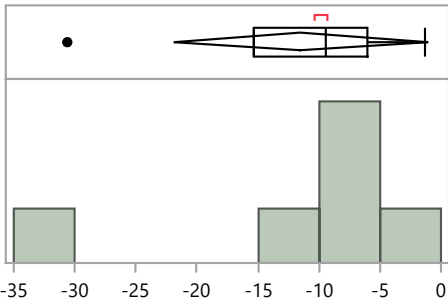
100.0%	maximum	7.7
99.5%		7.7
97.5%		7.7
90.0%		7.7
75.0%	quartile	7.7
50.0%	median	2.9
25.0%	quartile	-2.0
10.0%		-2.0
2.5%		-2.0
0.5%		-2.0
0.0%	minimum	-2.0

Summary Statistics

Mean	2.9
Std Dev	6.9
Std Err Mean	4.9
Upper 95% Mean	64.5
Lower 95% Mean	-58.8
N	2.0

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

Bias



Quantiles

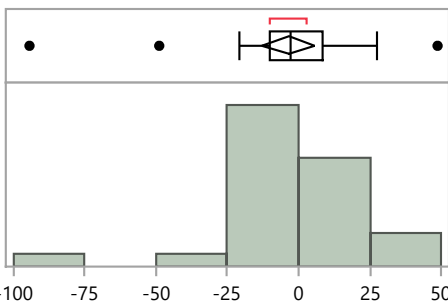
100.0%	maximum	-1.3
99.5%		-1.3
97.5%		-1.3
90.0%		-1.3
75.0%	quartile	-6.1
50.0%	median	-9.5
25.0%	quartile	-15.4
10.0%		-30.6
2.5%		-30.6
0.5%		-30.6
0.0%	minimum	-30.6

Summary Statistics

Mean	-11.5
Std Dev	9.9
Std Err Mean	4.1
Upper 95% Mean	-1.1
Lower 95% Mean	-21.9
N	6.0

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

Bias



Quantiles

100.0%	maximum	48.7
99.5%		48.7
97.5%		48.7
90.0%		25.1
75.0%	quartile	8.3
50.0%	median	-2.6
25.0%	quartile	-10.1
10.0%		-20.7
2.5%		-94.4
0.5%		-94.4
0.0%	minimum	-94.4

Summary Statistics

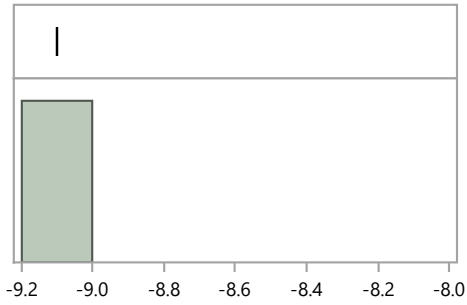
Mean	-3.6
Std Dev	24.3
Std Err Mean	4.4
Upper 95% Mean	5.5
Lower 95% Mean	-12.7
N	30.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Other

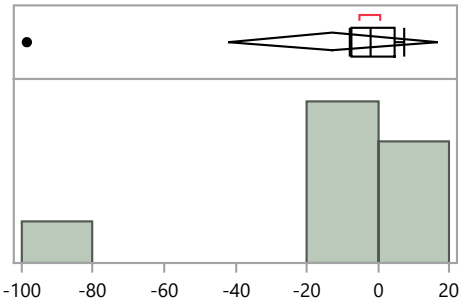
Bias



Quantiles			Summary Statistics	
100.0%	maximum	-9.1	Mean	-9.1
99.5%		-9.1	Std Dev	.
97.5%		-9.1	Std Err Mean	.
90.0%		-9.1	Upper 95% Mean	.
75.0%	quartile	-9.1	Lower 95% Mean	.
50.0%	median	-9.1	N	1.0
25.0%	quartile	-9.1		
10.0%		-9.1		
2.5%		-9.1		
0.5%		-9.1		
0.0%	minimum	-9.1		

Distributions Analyte_Method=Plutonium-238 Acid dissolution with hydrofluoric acid

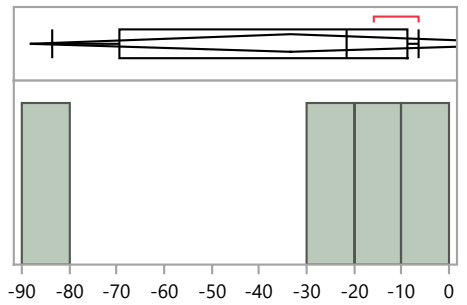
Bias



Quantiles			Summary Statistics	
100.0%	maximum	7.5	Mean	-12.7
99.5%		7.5	Std Dev	35.1
97.5%		7.5	Std Err Mean	12.4
90.0%		7.5	Upper 95% Mean	16.7
75.0%	quartile	4.8	Lower 95% Mean	-42.0
50.0%	median	-2.0	N	8.0
25.0%	quartile	-7.3		
10.0%		-98.5		
2.5%		-98.5		
0.5%		-98.5		
0.0%	minimum	-98.5		

Distributions Analyte_Method=Plutonium-238 Acid leaching without hydrofluoric acid

Bias



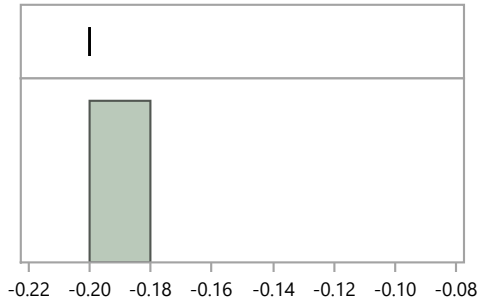
Quantiles			Summary Statistics	
100.0%	maximum	-6.3	Mean	-33.3
99.5%		-6.3	Std Dev	34.6
97.5%		-6.3	Std Err Mean	17.3
90.0%		-6.3	Upper 95% Mean	21.7
75.0%	quartile	-8.7	Lower 95% Mean	-88.3
50.0%	median	-21.8	N	4.0
25.0%	quartile	-69.5		
10.0%		-83.5		
2.5%		-83.5		
0.5%		-83.5		
0.0%	minimum	-83.5		

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

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

Bias



Quantiles

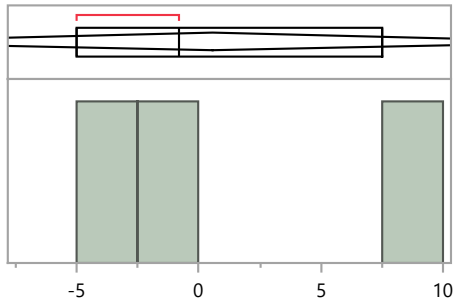
100.0%	maximum	-0.2
99.5%		-0.2
97.5%		-0.2
90.0%		-0.2
75.0%	quartile	-0.2
50.0%	median	-0.2
25.0%	quartile	-0.2
10.0%		-0.2
2.5%		-0.2
0.5%		-0.2
0.0%	minimum	-0.2

Summary Statistics

Mean	-0.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-238 Other

Bias



Quantiles

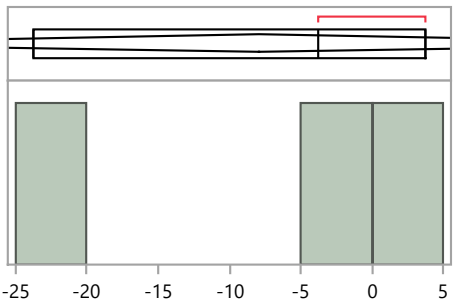
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	7.5
50.0%	median	-0.8
25.0%	quartile	-5.0
10.0%		-5.0
2.5%		-5.0
0.5%		-5.0
0.0%	minimum	-5.0

Summary Statistics

Mean	0.6
Std Dev	6.4
Std Err Mean	3.7
Upper 95% Mean	16.4
Lower 95% Mean	-15.2
N	3.0

Distributions Analyte_Method=Plutonium-238 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	3.8
99.5%		3.8
97.5%		3.8
90.0%		3.8
75.0%	quartile	3.8
50.0%	median	-3.8
25.0%	quartile	-23.7
10.0%		-23.7
2.5%		-23.7
0.5%		-23.7
0.0%	minimum	-23.7

Summary Statistics

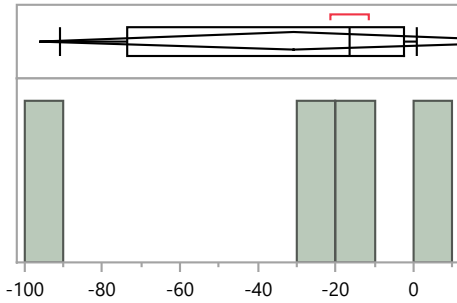
Mean	-7.9
Std Dev	14.2
Std Err Mean	8.2
Upper 95% Mean	27.4
Lower 95% Mean	-43.2
N	3.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias



Quantiles

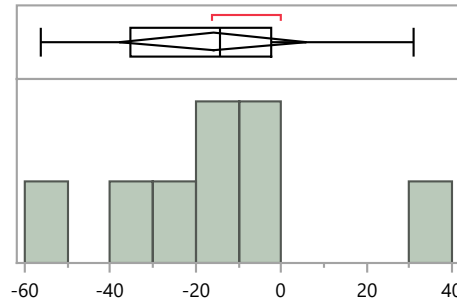
100.0%	maximum	0.8
99.5%		0.8
97.5%		0.8
90.0%		0.8
75.0%	quartile	-2.2
50.0%	median	-16.3
25.0%	quartile	-73.4
10.0%		-90.8
2.5%		-90.8
0.5%		-90.8
0.0%	minimum	-90.8

Summary Statistics

Mean	-30.6
Std Dev	41.1
Std Err Mean	20.6
Upper 95% Mean	34.8
Lower 95% Mean	-96.0
N	4.0

Distributions Analyte_Method=Strontium-90 Acid leaching without hydrofluoric acid

Bias



Quantiles

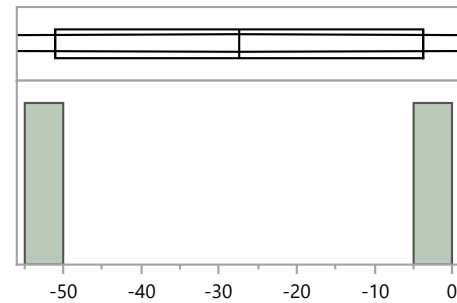
100.0%	maximum	31.0
99.5%		31.0
97.5%		31.0
90.0%		31.0
75.0%	quartile	-2.2
50.0%	median	-14.5
25.0%	quartile	-35.3
10.0%		-56.1
2.5%		-56.1
0.5%		-56.1
0.0%	minimum	-56.1

Summary Statistics

Mean	-16.0
Std Dev	26.0
Std Err Mean	9.2
Upper 95% Mean	5.8
Lower 95% Mean	-37.7
N	8.0

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

Bias



Quantiles

100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-27.5
25.0%	quartile	-51.1
10.0%		-51.1
2.5%		-51.1
0.5%		-51.1
0.0%	minimum	-51.1

Summary Statistics

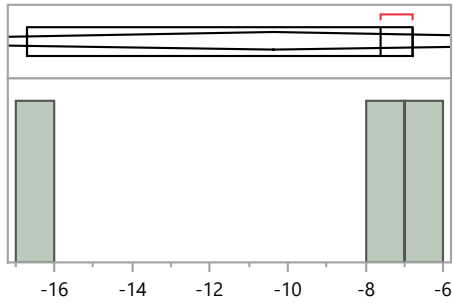
Mean	-27.5
Std Dev	33.4
Std Err Mean	23.7
Upper 95% Mean	273.1
Lower 95% Mean	-328.0
N	2.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

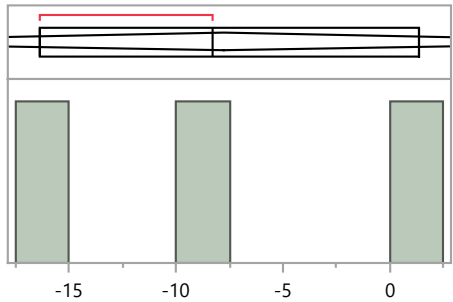
100.0%	maximum	-6.8
99.5%		-6.8
97.5%		-6.8
90.0%		-6.8
75.0%	quartile	-6.8
50.0%	median	-7.6
25.0%	quartile	-16.7
10.0%		-16.7
2.5%		-16.7
0.5%		-16.7
0.0%	minimum	-16.7

Summary Statistics

Mean	-10.4
Std Dev	5.5
Std Err Mean	3.2
Upper 95% Mean	3.3
Lower 95% Mean	-24.0
N	3.0

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

Bias



Quantiles

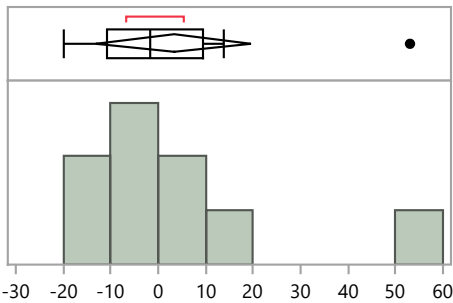
100.0%	maximum	1.4
99.5%		1.4
97.5%		1.4
90.0%		1.4
75.0%	quartile	1.4
50.0%	median	-8.3
25.0%	quartile	-16.4
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics

Mean	-7.8
Std Dev	8.9
Std Err Mean	5.1
Upper 95% Mean	14.4
Lower 95% Mean	-29.9
N	3.0

Distributions Analyte_Method=Uranium-234 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	53.0
99.5%		53.0
97.5%		53.0
90.0%		53.0
75.0%	quartile	9.6
50.0%	median	-1.6
25.0%	quartile	-10.9
10.0%		-19.7
2.5%		-19.7
0.5%		-19.7
0.0%	minimum	-19.7

Summary Statistics

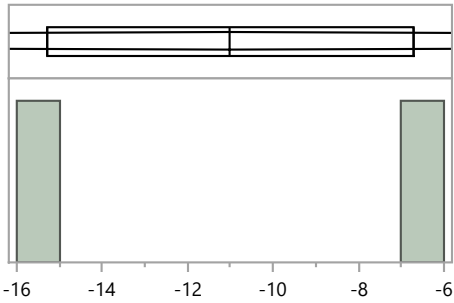
Mean	3.2
Std Dev	21.3
Std Err Mean	7.1
Upper 95% Mean	19.6
Lower 95% Mean	-13.2
N	9.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Acid leaching without hydrofluoric acid

Bias



Quantiles

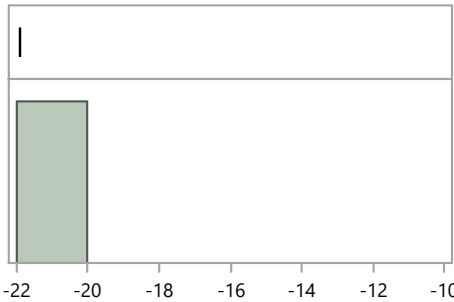
100.0%	maximum	-6.7
99.5%		-6.7
97.5%		-6.7
90.0%		-6.7
75.0%	quartile	-6.7
50.0%	median	-11.0
25.0%	quartile	-15.3
10.0%		-15.3
2.5%		-15.3
0.5%		-15.3
0.0%	minimum	-15.3

Summary Statistics

Mean	-11.0
Std Dev	6.1
Std Err Mean	4.3
Upper 95% Mean	43.6
Lower 95% Mean	-65.6
N	2.0

Distributions Analyte_Method=Uranium-234 EPA 00-07 - Radiochemistry Procedures Manual

Bias



Quantiles

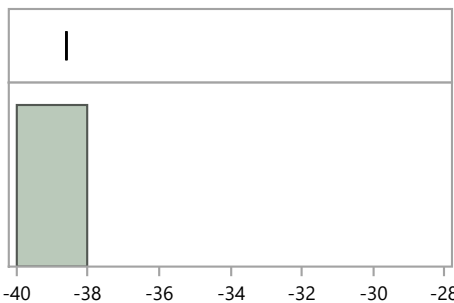
100.0%	maximum	-21.9
99.5%		-21.9
97.5%		-21.9
90.0%		-21.9
75.0%	quartile	-21.9
50.0%	median	-21.9
25.0%	quartile	-21.9
10.0%		-21.9
2.5%		-21.9
0.5%		-21.9
0.0%	minimum	-21.9

Summary Statistics

Mean	-21.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-234 EPA 908, Uranium-Radiochemical Method, 600/4/80-032

Bias



Quantiles

100.0%	maximum	-38.6
99.5%		-38.6
97.5%		-38.6
90.0%		-38.6
75.0%	quartile	-38.6
50.0%	median	-38.6
25.0%	quartile	-38.6
10.0%		-38.6
2.5%		-38.6
0.5%		-38.6
0.0%	minimum	-38.6

Summary Statistics

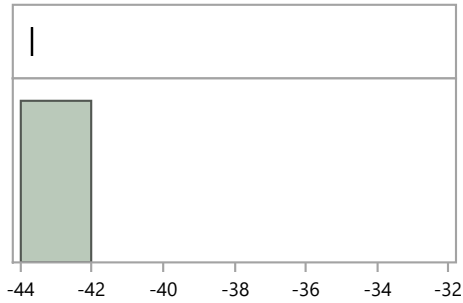
Mean	-38.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 No preparation - analyzed as received

Bias



Quantiles

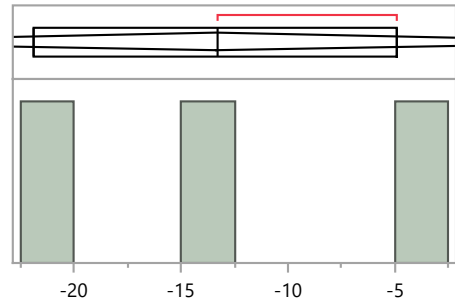
100.0%	maximum	-43.7
99.5%		-43.7
97.5%		-43.7
90.0%		-43.7
75.0%	quartile	-43.7
50.0%	median	-43.7
25.0%	quartile	-43.7
10.0%		-43.7
2.5%		-43.7
0.5%		-43.7
0.0%	minimum	-43.7

Summary Statistics

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

Distributions Analyte_Method=Uranium-234 Other

Bias



Quantiles

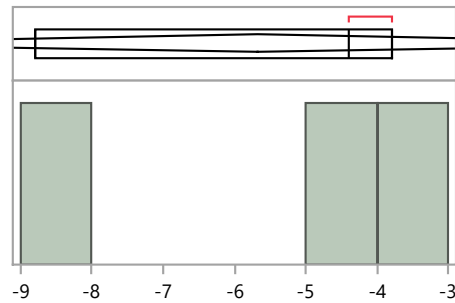
100.0%	maximum	-4.9
99.5%		-4.9
97.5%		-4.9
90.0%		-4.9
75.0%	quartile	-4.9
50.0%	median	-13.3
25.0%	quartile	-21.9
10.0%		-21.9
2.5%		-21.9
0.5%		-21.9
0.0%	minimum	-21.9

Summary Statistics

Mean	-13.4
Std Dev	8.5
Std Err Mean	4.9
Upper 95% Mean	7.7
Lower 95% Mean	-34.5
N	3.0

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-4.4
25.0%	quartile	-8.8
10.0%		-8.8
2.5%		-8.8
0.5%		-8.8
0.0%	minimum	-8.8

Summary Statistics

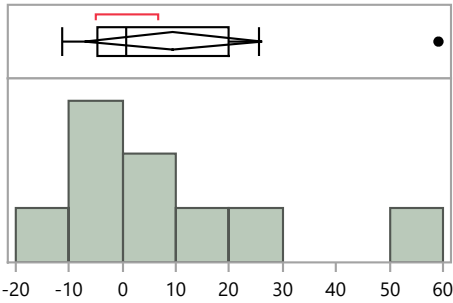
Mean	-5.7
Std Dev	2.7
Std Err Mean	1.6
Upper 95% Mean	1.1
Lower 95% Mean	-12.4
N	3.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Acid dissolution with hydrofluoric acid

Bias



Quantiles

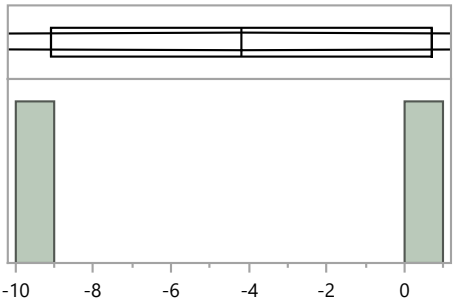
100.0%	maximum	59.1
99.5%		59.1
97.5%		59.1
90.0%		59.1
75.0%	quartile	19.9
50.0%	median	0.6
25.0%	quartile	-4.6
10.0%		-11.3
2.5%		-11.3
0.5%		-11.3
0.0%	minimum	-11.3

Summary Statistics

Mean	9.5
Std Dev	21.7
Std Err Mean	7.2
Upper 95% Mean	26.2
Lower 95% Mean	-7.1
N	9.0

Distributions Analyte_Method=Uranium-238 Acid leaching without hydrofluoric acid

Bias



Quantiles

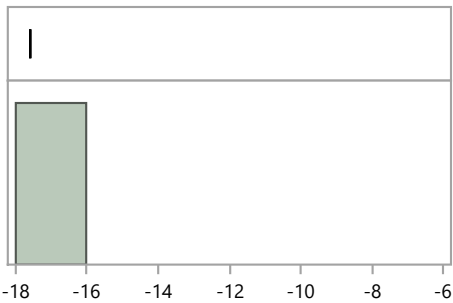
100.0%	maximum	0.7
99.5%		0.7
97.5%		0.7
90.0%		0.7
75.0%	quartile	0.7
50.0%	median	-4.2
25.0%	quartile	-9.1
10.0%		-9.1
2.5%		-9.1
0.5%		-9.1
0.0%	minimum	-9.1

Summary Statistics

Mean	-4.2
Std Dev	6.9
Std Err Mean	4.9
Upper 95% Mean	58.1
Lower 95% Mean	-66.5
N	2.0

Distributions Analyte_Method=Uranium-238 EPA 00-07 - Radiochemistry Procedures Manual

Bias



Quantiles

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

Summary Statistics

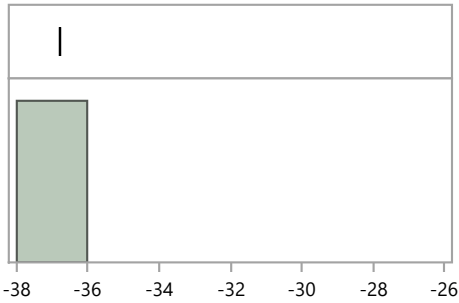
Mean	-17.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 EPA 908, Uranium-Radiochemical Method, 600/4/80-032

Bias



Quantiles

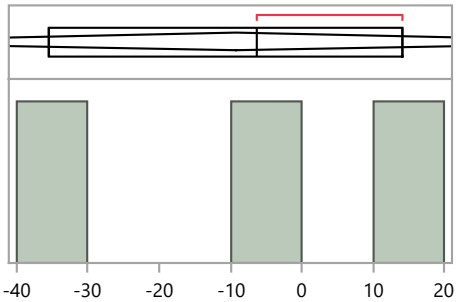
100.0%	maximum	-36.8
99.5%		-36.8
97.5%		-36.8
90.0%		-36.8
75.0%	quartile	-36.8
50.0%	median	-36.8
25.0%	quartile	-36.8
10.0%		-36.8
2.5%		-36.8
0.5%		-36.8
0.0%	minimum	-36.8

Summary Statistics

Mean	-36.8
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

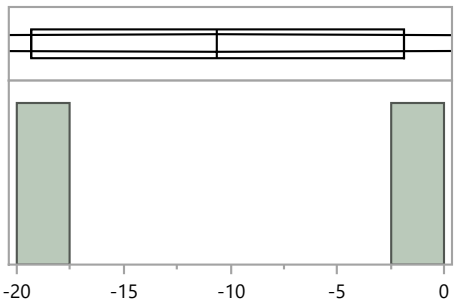
100.0%	maximum	14.2
99.5%		14.2
97.5%		14.2
90.0%		14.2
75.0%	quartile	14.2
50.0%	median	-6.3
25.0%	quartile	-35.4
10.0%		-35.4
2.5%		-35.4
0.5%		-35.4
0.0%	minimum	-35.4

Summary Statistics

Mean	-9.2
Std Dev	24.9
Std Err Mean	14.4
Upper 95% Mean	52.7
Lower 95% Mean	-71.1
N	3.0

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	-10.6
25.0%	quartile	-19.3
10.0%		-19.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

Summary Statistics

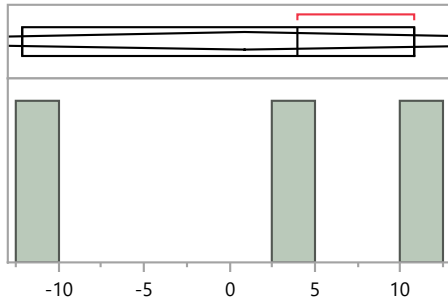
Mean	-10.6
Std Dev	12.3
Std Err Mean	8.7
Upper 95% Mean	99.9
Lower 95% Mean	-121.1
N	2.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias



Quantiles

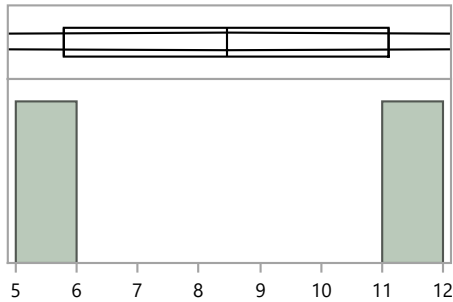
100.0%	maximum	10.8
99.5%		10.8
97.5%		10.8
90.0%		10.8
75.0%	quartile	10.8
50.0%	median	4.0
25.0%	quartile	-12.1
10.0%		-12.1
2.5%		-12.1
0.5%		-12.1
0.0%	minimum	-12.1

Summary Statistics

Mean	0.9
Std Dev	11.8
Std Err Mean	6.8
Upper 95% Mean	30.1
Lower 95% Mean	-28.3
N	3.0

Distributions Analyte_Method=Zinc-65 Acid dissolution with hydrofluoric acid

Bias



Quantiles

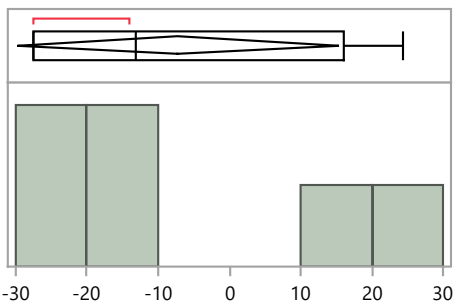
100.0%	maximum	11.1
99.5%		11.1
97.5%		11.1
90.0%		11.1
75.0%	quartile	11.1
50.0%	median	8.5
25.0%	quartile	5.8
10.0%		5.8
2.5%		5.8
0.5%		5.8
0.0%	minimum	5.8

Summary Statistics

Mean	8.5
Std Dev	3.7
Std Err Mean	2.6
Upper 95% Mean	42.1
Lower 95% Mean	-25.2
N	2.0

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

Bias



Quantiles

100.0%	maximum	24.4
99.5%		24.4
97.5%		24.4
90.0%		24.4
75.0%	quartile	16.2
50.0%	median	-13.2
25.0%	quartile	-27.4
10.0%		-27.4
2.5%		-27.4
0.5%		-27.4
0.0%	minimum	-27.4

Summary Statistics

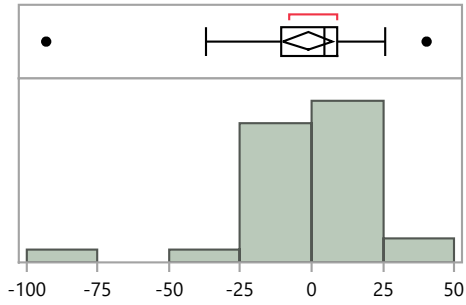
Mean	-7.2
Std Dev	21.5
Std Err Mean	8.8
Upper 95% Mean	15.3
Lower 95% Mean	-29.8
N	6.0

RdV45 Distribution by Preparation Method

RdV Distribution by Prep Method

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

Bias



Quantiles

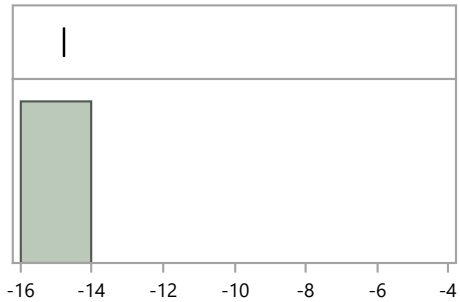
100.0%	maximum	40.3
99.5%		40.3
97.5%		40.3
90.0%		21.2
75.0%	quartile	8.7
50.0%	median	4.6
25.0%	quartile	-10.9
10.0%		-17.8
2.5%		-93.1
0.5%		-93.1
0.0%	minimum	-93.1

Summary Statistics

Mean	-1.3
Std Dev	23.2
Std Err Mean	4.2
Upper 95% Mean	7.3
Lower 95% Mean	-10.0
N	30.0

Distributions Analyte_Method=Zinc-65 Other

Bias



Quantiles

100.0%	maximum	-14.8
99.5%		-14.8
97.5%		-14.8
90.0%		-14.8
75.0%	quartile	-14.8
50.0%	median	-14.8
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	-14.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0