

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.

RdF45 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	RdF
AFOH01	USAFSAM/OEA	RdF
AMEC99	Jacobs Clean Energy Limited - Analytical Services	RdF
ANLB01	Argonne National Laboratory	RdF
ANTE01	ALS Environmental - Fort Collins, CO	RdF
ARGO01	Idaho National Laboratory	RdF
ARPL01	Analytical Support Operations - Radiochemical Processing Lab	RdF
ARSL01	ARS Aleut Analytical, LLC	RdF
ASUK99	AWE (Aldermaston)	RdF
CDHS01	California Department of Public Health	RdF
CESL01	Lawrence Livermore National Laboratory - EMRL	RdF
DEHS01	Department of Environmental Health & Safety	RdF
DINL99	Departamento Ingeniería Energética	RdF
ERCL01	Washington State Public Health Laboratories	RdF
ERHD99	National Monitoring Section, Radiation Protection Bureau, Health Canada	RdF
EULC01	EnergySolutions, LLC	RdF
FDHE01	Florida Dept of Health Environmental Laboratory	RdF
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	RdF
FNAL01	Fermi National Accelerator Laboratory (FermiLab)	RdF
GENE01	GEL Laboratories, LLC	RdF
GPCL01	Georgia Power Company Environmental Laboratory	RdF
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory	RdF
HPAC99	PHE, CRCE Glasgow	RdF
HPAL01	Los Alamos National Laboratory	RdF
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	RdF
ISUP01	ISU - Department of Physics/Health Physics/EAL	RdF
JAEC99	Research Laboratories and Information Directorate	RdF
JLNN01	Jefferson Laboratory	RdF
LANL01	Los Alamos National Laboratory	RdF
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	RdF
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdF
MART03	Radioactive Material Analysis Laboratory	RdF
MDPH01	MDPH-Radiation Control Program	RdF
MNDH01	Minnesota Department of Health, Public Health Lab. Division	RdF
NARL01	National Analytical Radiation Environmental Laboratory	RdF
NARL02	USEPA - NAREL - MERL	RdF
NESI01	BWXT-Radioisotope & Analytical Chemistry Laboratory	RdF
NJDH01	New Jersey Dept. of Health, PHEL, ECLS	RdF
NOCS99	National Oceanography Centre, Southampton	RdF
ODHL01	Ohio Department of Health Laboratory	RdF
ORIS01	ORISE/IEAV	RdF
OTLI01	Pace Analytical National Center for Testing & Innovation	RdF
RAVR99	Radiactividad Ambiental y Vigilancia Radiologica	RdF
RPSC01	Radiation Protection Service	RdF

SANC99	RadioAnalysis, South Africa Nuclear Energy Corp.	RdF
SEML01	SRS Environmental Monitoring Laboratory	RdF
SMER01	State of Michigan EGLE Radiological Lab	RdF
SOUT01	Southwest Research Institute	RdF
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics	RdF
TDHL01	Texas Department of State Health Services Laboratory	RdF
TMAO01	EBERLINE Analytical Corporation	RdF
UNEV01	University of Nevada, Reno	RdF
UNTE01	UniTech-235	RdF
WIPH01	WI, DPH, Radiation Protection Section	RdF
WIPP01	WIPP Laboratories	RdF
WSHL01	Wisconsin State Laboratory of Hygiene	RdF
WVDP01	WVDP Environmental Laboratory	RdF
YPGA01	US Army Yuma Proving Ground / Material Analysis Lab	RdF

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
AREV01	Framatome - CMC	RdF
CSSL99	Chemistry Support Services	RdF
IAEA99	International Atomic Energy Agency	RdF
MART01	Fluor B&W Ports Analytical Laboratory	RdF
MSDH01	Mississippi State Dept of Health	RdF
TELE01	Teledyne Brown Engineering - Environmental Services	RdF
TELE02	ATI Environmental, Inc., Midwest Lab	RdF
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	RdF

Study Reference Values

MAPEP-21-RdF45

Radiological Reference Date: 08/01/2021

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.0588	0.0012
Uranium-238	8.3	0.3
Uranium-Total	8.4	0.3

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Americium-241	0.119	0.002
Cesium-134	1.32	0.03
Cesium-137	1.28	0.03
Cobalt-57	0.83	0.02
Cobalt-60	2.28	0.06
Manganese-54	1.46	0.04
Plutonium-238	0.0030	0.0004
Plutonium-239/240	0.0609	0.0012
Strontium-90	0.273	0.008
Uranium-234	0.100	0.003
Uranium-238	0.104	0.003

Sample Statistical Summary

MAPEP-21-RdF45

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			0.0588	0.0012	0.0412 - 0.0764
Uranium-238	3	3			8.3	0.3	5.8 - 10.8
Uranium-Total	6	5			8.4	0.3	5.9 - 10.9

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/sample)
Americium-241	36	32	0.110	0.015	0.119	0.002	0.083 - 0.155
Cesium-134	56	54	1.22	0.13	1.32	0.03	0.92 - 1.72
Cesium-137	56	56	1.31	0.15	1.28	0.03	0.90 - 1.66
Cobalt-57	56	55	0.82	0.09	0.83	0.02	0.58 - 1.08
Cobalt-60	56	56	2.25	0.20	2.28	0.06	1.60 - 2.96
Manganese-54	56	55	1.50	0.18	1.46	0.04	1.02 - 1.90
Plutonium-238	26	25	0.0035	0.0017	0.0030	0.0004	Sensitivity Evaluation
Plutonium-239/240	26	26	0.0581	0.0063	0.0609	0.0012	0.0426 - 0.0792
Strontium-90	24	21	0.261	0.030	0.273	0.008	0.191 - 0.355
Uranium-234	27	25	0.095	0.011	0.100	0.003	0.070 - 0.130
Uranium-238	28	27	0.102	0.010	0.104	0.003	0.073 - 0.135
Zinc-65	48	47					False Positive Test

- 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 and values indicated as "Not Acceptable".

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-RdF45

Inorganic

Analyte	A	W	RW	N
Uranium-Total	5			1
Uranium-235	3			
Uranium-238	3			

Radiological

Analyte	A	W	RW	N
Americium-241	28	4		4
Cesium-134	47	7		2
Cesium-137	51	5		
Cobalt-57	50	5		1
Cobalt-60	55	1		
Manganese-54	47	8		1
Plutonium-238	25			1
Plutonium-239/240	23	3		
Strontium-90	19	2		3
Uranium-234	23	2		2
Uranium-238	26	1		1
Zinc-65	47			5



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	0.655	1.32	N		-50.4	0.92 - 1.72	0.045	A
Cesium-137	1.655	1.28	W		29.3	0.90 - 1.66	0.0679	A
Cobalt-57	1.0349	0.83	W		24.7	0.58 - 1.08	0.0388	A
Cobalt-60	2.595	2.28	A		13.8	1.60 - 2.96	0.0653	A
Manganese-54	2.240	1.46	N		53.4	1.02 - 1.90	0.0912	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR		N	(11)		False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(AFOH01) USAFSAM/OEA

2510 Fifth Street, Area B

Wright-Patterson AFB, OH 45433-7913

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1061	0.119	A		-10.8	0.083 - 0.155	0.0049	A
Cesium-134	1.045	1.32	W		-20.8	0.92 - 1.72	0.058	A
Cesium-137	1.043	1.28	A		-18.5	0.90 - 1.66	0.057	A
Cobalt-57	0.654	0.83	W		-21.2	0.58 - 1.08	0.033	A
Cobalt-60	1.869	2.28	A		-18.0	1.60 - 2.96	0.078	A
Manganese-54	1.152	1.46	W		-21.1	1.02 - 1.90	0.055	A
Plutonium-238	0.0022	0.0030	A			Sensitivity Evaluation	0.0005	
Plutonium-239/240	0.0584	0.0609	A		-4.1	0.0426 - 0.0792	0.0030	A
Strontium-90	0.284	0.273	A		4.0	0.191 - 0.355	0.017	A
Uranium-234	0.0991	0.100	A		-0.9	0.070 - 0.130	0.0047	A
Uranium-238	0.1010	0.104	A		-2.9	0.073 - 0.135	0.0047	A
Zinc-65	-0.106		A			False Positive Test	0.054	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1085	0.119	A		-8.8	0.083 - 0.155	0.0056	A
Cesium-134	1.161	1.32	A		-12.0	0.92 - 1.72	0.044	A
Cesium-137	1.287	1.28	A		0.5	0.90 - 1.66	0.054	A
Cobalt-57	0.861	0.83	A		3.7	0.58 - 1.08	0.028	A
Cobalt-60	2.338	2.28	A		2.5	1.60 - 2.96	0.096	A
Manganese-54	1.614	1.46	A		10.5	1.02 - 1.90	0.093	A
Plutonium-238	0.00345	0.0030	A			Sensitivity Evaluation	0.00093	
Plutonium-239/240	0.0602	0.0609	A		-1.1	0.0426 - 0.0792	0.0041	A
Strontium-90	1.67	0.273	N		511.7	0.191 - 0.355	0.75	N
Uranium-234	0.1009	0.100	A		0.9	0.070 - 0.130	0.0049	A
Uranium-238	0.1034	0.104	A		-0.6	0.073 - 0.135	0.0049	A
Zinc-65	0.19		A			False Positive Test	0.18	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(ANLB01) Argonne National Laboratory

9700 S. Cass Ave

Argonne, IL 60439

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.100	0.119	A		-16.0	0.083 - 0.155	0.008	A
Cesium-134	1.05	1.32	W		-20.5	0.92 - 1.72	0.07	A
Cesium-137	1.269	1.28	A		-0.9	0.90 - 1.66	0.061	A
Cobalt-57	0.776	0.83	A		-6.5	0.58 - 1.08	0.015	N
Cobalt-60	2.162	2.28	A		-5.2	1.60 - 2.96	0.073	A
Manganese-54	1.510	1.46	A		3.4	1.02 - 1.90	0.11	A
Plutonium-238	0.007	0.0030	N	(4)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.070	0.0609	A		14.9	0.0426 - 0.0792	0.008	A
Strontium-90	0.26	0.273	A		-4.8	0.191 - 0.355	0.009	A
Uranium-234	0.098	0.100	A		-2.0	0.070 - 0.130	0.007	A
Uranium-238	0.093	0.104	A		-10.6	0.073 - 0.135	0.007	A
Zinc-65	0.072		A			False Positive Test	0.083	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.102	0.119	A		-14.3	0.083 - 0.155	0.009	A
Cesium-134	1.11	1.32	A		-15.9	0.92 - 1.72	0.08	A
Cesium-137	1.20	1.28	A		-6.3	0.90 - 1.66	0.09	A
Cobalt-57	0.709	0.83	A		-14.6	0.58 - 1.08	0.054	A
Cobalt-60	2.10	2.28	A		-7.9	1.60 - 2.96	0.14	A
Manganese-54	1.32	1.46	A		-9.6	1.02 - 1.90	0.10	A
Plutonium-238	0.004	0.0030	A			Sensitivity Evaluation	0.001	
Plutonium-239/240	0.061	0.0609	A		0.2	0.0426 - 0.0792	0.006	A
Strontium-90	0.284	0.273	A		4.0	0.191 - 0.355	0.034	A
Uranium-234	0.104	0.100	A		4.0	0.070 - 0.130	0.007	A
Uranium-238	0.108	0.104	A		3.8	0.073 - 0.135	0.009	A
Zinc-65	0.349		A			False Positive Test	0.349	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(ARGO01) Idaho National Laboratory
INL, Materials and Fuels Complex
Idaho Falls, ID 83415

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	0.94	1.32	W		-28.8	0.92 - 1.72	0.05	A
Cesium-137	1.08	1.28	A		-15.6	0.90 - 1.66	0.15	A
Cobalt-57	0.61	0.83	W		-26.5	0.58 - 1.08	0.06	A
Cobalt-60	2.04	2.28	A		-10.5	1.60 - 2.96	0.20	A
Manganese-54	1.25	1.46	A		-14.4	1.02 - 1.90	0.09	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.151		A			False Positive Test	0.151	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(ARPL01) Analytical Support Operations - Radiochemical Processing Lab

PO Box 999

Richland, WA 99354

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.109	0.119	A		-8.4	0.083 - 0.155	0.004	A
Cesium-134	1.24	1.32	A		-6.1	0.92 - 1.72	0.057	A
Cesium-137	1.27	1.28	A		-0.8	0.90 - 1.66	0.042	A
Cobalt-57	0.78	0.83	A		-6.0	0.58 - 1.08	0.048	A
Cobalt-60	2.25	2.28	A		-1.3	1.60 - 2.96	0.059	A
Manganese-54	1.44	1.46	A		-1.4	1.02 - 1.90	0.056	A
Plutonium-238	0.0027	0.0030	A	(17)		Sensitivity Evaluation	0.0009	
Plutonium-239/240	0.0619	0.0609	A		1.6	0.0426 - 0.0792	0.0032	A
Strontium-90	0.262	0.273	A		-4.0	0.191 - 0.355	0.013	A
Uranium-234	0.103	0.100	A		3.0	0.070 - 0.130	0.0039	A
Uranium-238	0.104	0.104	A		0.0	0.073 - 0.135	0.0040	A
Zinc-65	0.02		A			False Positive Test	0.022	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	14.896	8.4	N		77.3	5.9 - 10.9	0.0019	N

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.087	0.119	W		-26.9	0.083 - 0.155	0.008	A
Cesium-134	1.126	1.32	A		-14.7	0.92 - 1.72	0.051	A
Cesium-137	1.380	1.28	A		7.8	0.90 - 1.66	0.056	A
Cobalt-57	0.837	0.83	A		0.8	0.58 - 1.08	0.033	A
Cobalt-60	2.284	2.28	A		0.2	1.60 - 2.96	0.071	A
Manganese-54	1.522	1.46	A		4.2	1.02 - 1.90	0.072	A
Plutonium-238	0.003	0.0030	A	(17)		Sensitivity Evaluation	0.003	
Plutonium-239/240	0.051	0.0609	A		-16.3	0.0426 - 0.0792	0.006	A
Strontium-90	0.222	0.273	A		-18.7	0.191 - 0.355	0.034	W
Uranium-234	0.079	0.100	W		-21.0	0.070 - 0.130	0.007	A
Uranium-238	0.077	0.104	W		-26.0	0.073 - 0.135	0.007	A
Zinc-65	0.0001		A			False Positive Test	0.031	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	NR	1.32				0.92 - 1.72		
Cesium-137	NR	1.28				0.90 - 1.66		
Cobalt-57	NR	0.83				0.58 - 1.08		
Cobalt-60	NR	2.28				1.60 - 2.96		
Manganese-54	NR	1.46				1.02 - 1.90		
Plutonium-238	0.003	0.0030	A			Sensitivity Evaluation	0.0006	
Plutonium-239/240	0.062	0.0609	A		1.8	0.0426 - 0.0792	0.0027	A
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	0.085	0.100	A		-15.0	0.070 - 0.130	0.011	A
Uranium-238	0.097	0.104	A		-6.7	0.073 - 0.135	0.013	A
Zinc-65	NR					False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (CDHS01) California Department of Public Health
 Drinking Water & Radiation Lab.
 Richmond, CA 94804-6403

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.104	0.119	A		-12.6	0.083 - 0.155	0.00501	A
Cesium-134	1.35	1.32	A		2.3	0.92 - 1.72	0.0384	A
Cesium-137	1.35	1.28	A		5.5	0.90 - 1.66	0.0396	A
Cobalt-57	0.849	0.83	A		2.3	0.58 - 1.08	0.0191	A
Cobalt-60	2.36	2.28	A		3.5	1.60 - 2.96	0.0416	N
Manganese-54	1.60	1.46	A		9.6	1.02 - 1.90	0.0440	A
Plutonium-238	0.00232	0.0030	A	(17)		Sensitivity Evaluation	0.000923	
Plutonium-239/240	0.0604	0.0609	A		-0.8	0.0426 - 0.0792	0.00367	A
Strontium-90	0.282	0.273	A		3.3	0.191 - 0.355	0.0700	W
Uranium-234	0.0827	0.100	A		-17.3	0.070 - 0.130	0.00597	A
Uranium-238	0.0854	0.104	A		-17.9	0.073 - 0.135	0.00573	A
Zinc-65	0.0106		A			False Positive Test	0.0224	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (CESL01) Lawrence Livermore National Laboratory - EMRL
 7000 East Avenue
 Livermore, CA 94551

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.19E+00	1.32	A		-9.8	0.92 - 1.72	6.23E-02	A
Cesium-137	1.26E+00	1.28	A		-1.6	0.90 - 1.66	1.09E-01	A
Cobalt-57	8.46E-01	0.83	A		1.9	0.58 - 1.08	4.76E-02	A
Cobalt-60	2.21E+00	2.28	A		-3.1	1.60 - 2.96	1.18E-01	A
Manganese-54	1.47E+00	1.46	A		0.7	1.02 - 1.90	1.17E-01	A
Plutonium-238	2.75E-03	0.0030	A			Sensitivity Evaluation	2.61E-04	
Plutonium-239/240	6.13E-02	0.0609	A		0.7	0.0426 - 0.0792	1.46E-03	A
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	1.21E-01		A			False Positive Test	2.41E-01	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (DEHS01) Department of Environmental Health & Safety
 North Carolina State Univ.
 Raleigh, NC 27695-8007

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.34	1.32	A		1.5	0.92 - 1.72	0.08	A
Cesium-137	1.11	1.28	A		-13.3	0.90 - 1.66	0.04	A
Cobalt-57	0.83	0.83	A		0.0	0.58 - 1.08	0.02	A
Cobalt-60	2.03	2.28	A		-11.0	1.60 - 2.96	0.04	N
Manganese-54	1.42	1.46	A		-2.7	1.02 - 1.90	0.02	N
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.07		A			False Positive Test	0.10	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.101	0.119	A		-15.1	0.083 - 0.155	0.005	A
Cesium-134	1.279	1.32	A		-3.1	0.92 - 1.72	0.067	A
Cesium-137	1.273	1.28	A		-0.5	0.90 - 1.66	0.067	A
Cobalt-57	0.804	0.83	A		-3.1	0.58 - 1.08	0.043	A
Cobalt-60	2.250	2.28	A		-1.3	1.60 - 2.96	0.117	A
Manganese-54	1.430	1.46	A		-2.1	1.02 - 1.90	0.076	A
Plutonium-238	0.003	0.0030	A	(17)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.064	0.0609	A		5.1	0.0426 - 0.0792	0.004	A
Strontium-90	0.242	0.273	A		-11.4	0.191 - 0.355	0.015	A
Uranium-234	0.101	0.100	A		1.0	0.070 - 0.130	0.005	A
Uranium-238	0.106	0.104	A		1.9	0.073 - 0.135	0.006	A
Zinc-65	0.035		A			False Positive Test	0.035	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.107	0.119	A		-10.1	0.083 - 0.155	0.011	A
Cesium-134	1.26	1.32	A		-4.5	0.92 - 1.72	0.03	A
Cesium-137	1.11	1.28	A		-13.3	0.90 - 1.66	0.03	A
Cobalt-57	3.59	0.83	N		332.5	0.58 - 1.08	0.12	A
Cobalt-60	2.32	2.28	A		1.8	1.60 - 2.96	0.04	N
Manganese-54	1.44	1.46	A		-1.4	1.02 - 1.90	0.03	A
Plutonium-238	0.00300	0.0030	A			Sensitivity Evaluation	0.00066	
Plutonium-239/240	0.0585	0.0609	A		-3.9	0.0426 - 0.0792	0.0028	A
Strontium-90	0.300	0.273	A		9.9	0.191 - 0.355	0.021	A
Uranium-234	0.0895	0.100	A		-10.5	0.070 - 0.130	0.0047	A
Uranium-238	0.100	0.104	A		-3.8	0.073 - 0.135	0.005	A
Zinc-65	-0.011		A			False Positive Test	0.024	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1180	0.119	A		-0.8	0.083 - 0.155	0.0029	A
Cesium-134	1.452	1.32	A		10.0	0.92 - 1.72	0.055	A
Cesium-137	1.601	1.28	W		25.1	0.90 - 1.66	0.065	A
Cobalt-57	0.998	0.83	W		20.2	0.58 - 1.08	0.034	A
Cobalt-60	2.232	2.28	A		-2.1	1.60 - 2.96	0.088	A
Manganese-54	1.807	1.46	W		23.8	1.02 - 1.90	0.064	A
Plutonium-238	0.0028	0.0030	A			Sensitivity Evaluation	0.0004	
Plutonium-239/240	0.0492	0.0609	A		-19.2	0.0426 - 0.0792	0.0017	A
Strontium-90	0.2722	0.273	A		-0.3	0.191 - 0.355	0.0109	A
Uranium-234	0.0918	0.100	A		-8.2	0.070 - 0.130	0.0033	A
Uranium-238	0.0994	0.104	A		-4.4	0.073 - 0.135	0.0034	A
Zinc-65	0.010		A			False Positive Test	0.017	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(EULC01) EnergySolutions, LLC

I-80, Exit 49

Clive, UT 84029

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.174936	0.119	N		47.0	0.083 - 0.155	.038221	W
Cesium-134	1.40304	1.32	A		6.3	0.92 - 1.72	.08991	A
Cesium-137	1.63466	1.28	W		27.7	0.90 - 1.66	.172198	A
Cobalt-57	1.03822	0.83	W		25.1	0.58 - 1.08	.112036	A
Cobalt-60	2.62552	2.28	A		15.2	1.60 - 2.96	.153328	A
Manganese-54	1.81818	1.46	W		24.5	1.02 - 1.90	.18167	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	.085		A			False Positive Test	.069	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.099	0.119	A		-16.8	0.083 - 0.155	0.049	N
Cesium-134	1.202	1.32	A		-8.9	0.92 - 1.72	0.029	A
Cesium-137	1.305	1.28	A		2.0	0.90 - 1.66	0.042	A
Cobalt-57	0.779	0.83	A		-6.1	0.58 - 1.08	0.024	A
Cobalt-60	2.230	2.28	A		-2.2	1.60 - 2.96	0.050	A
Manganese-54	1.540	1.46	A		5.5	1.02 - 1.90	0.047	A
Plutonium-238	0.0057	0.0030	A			Sensitivity Evaluation	0.0014	
Plutonium-239/240	0.066	0.0609	A		8.4	0.0426 - 0.0792	0.0067	A
Strontium-90	0.279	0.273	A		2.2	0.191 - 0.355	0.031	A
Uranium-234	0.08947	0.100	A		-10.5	0.070 - 0.130	0.0062	A
Uranium-238	0.08969	0.104	A		-13.8	0.073 - 0.135	0.0062	A
Zinc-65	0.014		A			False Positive Test	0.140	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.096	0.119	A		-19.3	0.083 - 0.155	0.049	N
Cesium-134	1.181	1.32	A		-10.5	0.92 - 1.72	0.021	N
Cesium-137	1.28	1.28	A		0.0	0.90 - 1.66	0.023	N
Cobalt-57	0.789	0.83	A		-4.9	0.58 - 1.08	0.014	N
Cobalt-60	2.22	2.28	A		-2.6	1.60 - 2.96	0.034	N
Manganese-54	1.512	1.46	A		3.6	1.02 - 1.90	0.031	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	0.096	0.104	A		-7.7	0.073 - 0.135	0.084	N
Zinc-65	0.062		A			False Positive Test	0.117	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (FNAL01) Fermi National Accelerator Laboratory (FermiLab)
 PO Box 500, MS325
 Batavia, IL 60510

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.30	1.32	A		-1.5	0.92 - 1.72	0.12	A
Cesium-137	1.36	1.28	A		6.3	0.90 - 1.66	0.17	A
Cobalt-57	0.858	0.83	A		3.4	0.58 - 1.08	0.097	A
Cobalt-60	2.38	2.28	A		4.4	1.60 - 2.96	0.19	A
Manganese-54	1.57	1.46	A		7.5	1.02 - 1.90	0.19	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.07		A			False Positive Test	0.20	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0594	0.0588	A		1.0	0.0412 - 0.0764	0.000924	N
Uranium-238	8.52	8.3	A		2.7	5.8 - 10.8	0.282	A
Uranium-Total	8.579	8.4	A		2.1	5.9 - 10.9	0.283	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.109	0.119	A		-8.4	0.083 - 0.155	0.0054	A
Cesium-134	1.23	1.32	A		-6.8	0.92 - 1.72	0.0812	A
Cesium-137	1.31	1.28	A		2.3	0.90 - 1.66	0.0788	A
Cobalt-57	0.828	0.83	A		-0.2	0.58 - 1.08	0.0532	A
Cobalt-60	2.37	2.28	A		3.9	1.60 - 2.96	0.133	A
Manganese-54	1.60	1.46	A		9.6	1.02 - 1.90	0.0974	A
Plutonium-238	0.00232	0.0030	A			Sensitivity Evaluation	0.000445	
Plutonium-239/240	0.0574	0.0609	A		-5.7	0.0426 - 0.0792	0.00299	A
Strontium-90	0.195	0.273	W		-28.6	0.191 - 0.355	0.033	W
Uranium-234	0.101	0.100	A		1.0	0.070 - 0.130	0.00566	A
Uranium-238	0.107	0.104	A		2.9	0.073 - 0.135	0.00589	A
Zinc-65	0.0579		A			False Positive Test	0.0554	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.293	1.32	A		-2.0	0.92 - 1.72	.126	A
Cesium-137	1.291	1.28	A		0.9	0.90 - 1.66	.1646	A
Cobalt-57	.763	0.83	A		-8.1	0.58 - 1.08	.1103	A
Cobalt-60	2.098	2.28	A		-8.0	1.60 - 2.96	.1971	A
Manganese-54	1.484	1.46	A		1.6	1.02 - 1.90	.186	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-.077		A			False Positive Test	.2683	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.244	1.32	A		-5.8	0.92 - 1.72	0.2212	W
Cesium-137	1.168	1.28	A		-8.8	0.90 - 1.66	0.3724	N
Cobalt-57	0.8912	0.83	A		7.4	0.58 - 1.08	0.2299	W
Cobalt-60	1.939	2.28	A		-15.0	1.60 - 2.96	0.3133	W
Manganese-54	1.255	1.46	A		-14.0	1.02 - 1.90	0.3523	W
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.1701		A			False Positive Test	0.9453	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.14	0.119	A		17.6	0.083 - 0.155	0.02	A
Cesium-134	1.33	1.32	A		0.8	0.92 - 1.72	0.08	A
Cesium-137	1.26	1.28	A		-1.6	0.90 - 1.66	0.08	A
Cobalt-57	0.80	0.83	A		-3.6	0.58 - 1.08	0.05	A
Cobalt-60	2.40	2.28	A		5.3	1.60 - 2.96	0.15	A
Manganese-54	1.37	1.46	A		-6.2	1.02 - 1.90	0.09	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.10		A			False Positive Test	0.10	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (HPAL01) Los Alamos National Laboratory
 Milan Gadd, MS G761
 Los Alamos, NM 87545-1663

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.19	0.119	N		59.7	0.083 - 0.155	0.05	W
Cesium-134	1.37	1.32	A		3.8	0.92 - 1.72	0.08	A
Cesium-137	1.51	1.28	A		18.0	0.90 - 1.66	0.12	A
Cobalt-57	0.89	0.83	A		7.2	0.58 - 1.08	0.05	A
Cobalt-60	2.60	2.28	A		14.0	1.60 - 2.96	0.14	A
Manganese-54	1.83	1.46	W		25.3	1.02 - 1.90	0.14	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	-7.08	0.100	N		-7180.0	0.070 - 0.130	27.71	N
Uranium-238	0.12	0.104	A		15.4	0.073 - 0.135	0.76	N
Zinc-65	0.15		A			False Positive Test	0.33	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.107	0.119	A		-10.1	0.083 - 0.155	.005	A
Cesium-134	1.26	1.32	A		-4.5	0.92 - 1.72	.07	A
Cesium-137	1.25	1.28	A		-2.3	0.90 - 1.66	.13	A
Cobalt-57	.798	0.83	A		-3.9	0.58 - 1.08	.053	A
Cobalt-60	2.18	2.28	A		-4.4	1.60 - 2.96	.12	A
Manganese-54	1.43	1.46	A		-2.1	1.02 - 1.90	.14	A
Plutonium-238	.0034	0.0030	A			Sensitivity Evaluation	.0005	
Plutonium-239/240	.0599	0.0609	A		-1.6	0.0426 - 0.0792	.0027	A
Strontium-90	0.24	0.273	A		-12.1	0.191 - 0.355	0.02	A
Uranium-234	.0813	0.100	A		-18.7	0.070 - 0.130	.00316	A
Uranium-238	.0849	0.104	A		-18.4	0.073 - 0.135	.00325	A
Zinc-65	-.05		A			False Positive Test	.18	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.25	1.32	A		-5.3	0.92 - 1.72	0.06	A
Cesium-137	1.34	1.28	A		4.7	0.90 - 1.66	0.06	A
Cobalt-57	0.84	0.83	A		1.2	0.58 - 1.08	0.04	A
Cobalt-60	2.35	2.28	A		3.1	1.60 - 2.96	0.11	A
Manganese-54	1.54	1.46	A		5.5	1.02 - 1.90	0.07	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.12		A			False Positive Test	0.08	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.38	1.32	A		4.5	0.92 - 1.72	0.06	A
Cesium-137	1.36	1.28	A		6.3	0.90 - 1.66	0.10	A
Cobalt-57	0.78	0.83	A		-6.0	0.58 - 1.08	0.05	A
Cobalt-60	2.27	2.28	A		-0.4	1.60 - 2.96	0.12	A
Manganese-54	1.58	1.46	A		8.2	1.02 - 1.90	0.11	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR					False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(JLNN01) Jefferson Laboratory
 111 Hadron Drive
 Newport News, VA 23606

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1161	0.119	A		-2.4	0.083 - 0.155	0.01198	A
Cesium-134	1.091	1.32	A		-17.3	0.92 - 1.72	0.02815	A
Cesium-137	1.169	1.28	A		-8.7	0.90 - 1.66	0.04318	A
Cobalt-57	0.717	0.83	A		-13.6	0.58 - 1.08	0.02065	A
Cobalt-60	2.149	2.28	A		-5.7	1.60 - 2.96	0.04104	N
Manganese-54	1.397	1.46	A		-4.3	1.02 - 1.90	0.05113	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.02724		A			False Positive Test	0.05354	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (LANL01) Los Alamos National Laboratory
 P. O. Box 1663
 Los Alamos, NM 87545

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.15	0.119	W		26.1	0.083 - 0.155	0.01	A
Cesium-134	1.18	1.32	A		-10.6	0.92 - 1.72	0.04	A
Cesium-137	1.33	1.28	A		3.9	0.90 - 1.66	0.04	A
Cobalt-57	0.79	0.83	A		-4.8	0.58 - 1.08	0.06	A
Cobalt-60	2.33	2.28	A		2.2	1.60 - 2.96	0.10	A
Manganese-54	1.57	1.46	A		7.5	1.02 - 1.90	0.06	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR					False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.108	1.32	A		-16.1	0.92 - 1.72	0.04718	A
Cesium-137	1.214	1.28	A		-5.2	0.90 - 1.66	0.05117	A
Cobalt-57	0.7665	0.83	A		-7.7	0.58 - 1.08	0.02894	A
Cobalt-60	2.151	2.28	A		-5.7	1.60 - 2.96	0.08171	A
Manganese-54	1.456	1.46	A		-0.3	1.02 - 1.90	0.05887	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.01639			A		False Positive Test	0.1639	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.10	1.32	A		-16.7	0.92 - 1.72	0.06	A
Cesium-137	1.29	1.28	A		0.8	0.90 - 1.66	0.07	A
Cobalt-57	0.83	0.83	A		0.0	0.58 - 1.08	0.04	A
Cobalt-60	2.25	2.28	A		-1.3	1.60 - 2.96	0.12	A
Manganese-54	1.58	1.46	A		8.2	1.02 - 1.90	0.09	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.06		A			False Positive Test	0.03	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (MART03) Radioactive Material Analysis Laboratory
 ORNL
 Oak Ridge, TN 37830

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.121	0.119	A		1.7	0.083 - 0.155	0.006	A
Cesium-134	1.262	1.32	A		-4.4	0.92 - 1.72	0.031	A
Cesium-137	1.336	1.28	A		4.4	0.90 - 1.66	0.044	A
Cobalt-57	0.826	0.83	A		-0.5	0.58 - 1.08	0.022	A
Cobalt-60	2.315	2.28	A		1.5	1.60 - 2.96	0.050	A
Manganese-54	1.416	1.46	A		-3.0	1.02 - 1.90	0.045	A
Plutonium-238	0.002	0.0030	A	(17)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.063	0.0609	A		3.4	0.0426 - 0.0792	0.004	A
Strontium-90	0.275	0.273	A		0.7	0.191 - 0.355	0.023	A
Uranium-234	0.106	0.100	A		6.0	0.070 - 0.130	0.006	A
Uranium-238	0.101	0.104	A		-2.9	0.073 - 0.135	0.006	A
Zinc-65	-0.008		A			False Positive Test	0.085	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.14	0.119	A		17.6	0.083 - 0.155	0.02	A
Cesium-134	1.22	1.32	A		-7.6	0.92 - 1.72	0.05	A
Cesium-137	1.37	1.28	A		7.0	0.90 - 1.66	0.06	A
Cobalt-57	0.82	0.83	A		-1.2	0.58 - 1.08	0.04	A
Cobalt-60	2.23	2.28	A		-2.2	1.60 - 2.96	0.10	A
Manganese-54	1.59	1.46	A		8.9	1.02 - 1.90	0.08	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR		N	(11)		False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(MNDH01) Minnesota Department of Health, Public Health Lab. Division
601 Robert St. N.
St. Paul, MN 55155

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.19833	0.119	N		66.7	0.083 - 0.155	.0822	N
Cesium-134	1.1393	1.32	A		-13.7	0.92 - 1.72	.0432	A
Cesium-137	1.4752	1.28	A		15.3	0.90 - 1.66	.05639	A
Cobalt-57	.94299	0.83	A		13.6	0.58 - 1.08	.02712	A
Cobalt-60	2.0983	2.28	A		-8.0	1.60 - 2.96	.05122	A
Manganese-54	1.5707	1.46	A		7.6	1.02 - 1.90	.05985	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	.055715			A		False Positive Test	.05374	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0942	0.119	W		-20.8	0.083 - 0.155	0.00973	A
Cesium-134	1.26	1.32	A		-4.5	0.92 - 1.72	0.0709	A
Cesium-137	1.27	1.28	A		-0.8	0.90 - 1.66	0.0726	A
Cobalt-57	0.770	0.83	A		-7.2	0.58 - 1.08	0.0434	A
Cobalt-60	2.10	2.28	A		-7.9	1.60 - 2.96	0.114	A
Manganese-54	1.49	1.46	A		2.1	1.02 - 1.90	0.0847	A
Plutonium-238	0.00394	0.0030	A	(17)		Sensitivity Evaluation	0.00186	
Plutonium-239/240	0.0654	0.0609	A		7.4	0.0426 - 0.0792	0.00741	A
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	0.110	0.100	A		10.0	0.070 - 0.130	0.0105	A
Uranium-238	0.103	0.104	A		-1.0	0.073 - 0.135	0.0101	A
Zinc-65	-0.00553		A			False Positive Test	0.0343	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(NARL02) USEPA - NAREL - MERL

540 S Morris Ave

Montgomery, AL 36115

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.34	1.32	A		1.5	0.92 - 1.72	0.0420	A
Cesium-137	1.25	1.28	A		-2.3	0.90 - 1.66	0.0470	A
Cobalt-57	0.818	0.83	A		-1.4	0.58 - 1.08	0.0190	A
Cobalt-60	2.21	2.28	A		-3.1	1.60 - 2.96	0.0610	A
Manganese-54	1.41	1.46	A		-3.4	1.02 - 1.90	0.0490	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.00306		A			False Positive Test	0.0320	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (NESI01) BWXT-Radioisotope & Analytical Chemistry Laboratory
 Lynchburg Technology Center
 Lynchburg, VA 24504-5447

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.109	0.119	A		-8.4	0.083 - 0.155	0.007	A
Cesium-134	1.14	1.32	A		-13.6	0.92 - 1.72	0.06	A
Cesium-137	1.36	1.28	A		6.3	0.90 - 1.66	0.07	A
Cobalt-57	0.819	0.83	A		-1.3	0.58 - 1.08	0.033	A
Cobalt-60	2.33	2.28	A		2.2	1.60 - 2.96	0.09	A
Manganese-54	1.54	1.46	A		5.5	1.02 - 1.90	0.08	A
Plutonium-238	0.009	0.0030	A			Sensitivity Evaluation	0.002	
Plutonium-239/240	0.048	0.0609	W		-21.2	0.0426 - 0.0792	0.005	A
Strontium-90	0.184	0.273	N		-32.6	0.191 - 0.355	0.017	A
Uranium-234	0.098	0.100	A		-2.0	0.070 - 0.130	0.006	A
Uranium-238	0.111	0.104	A		6.7	0.073 - 0.135	0.007	A
Zinc-65	0.071		A			False Positive Test	0.170	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.17	1.32	A		-11.4	0.92 - 1.72	0.15	A
Cesium-137	1.24	1.28	A		-3.1	0.90 - 1.66	0.16	A
Cobalt-57	0.78	0.83	A		-6.0	0.58 - 1.08	0.16	W
Cobalt-60	2.1	2.28	A		-7.9	1.60 - 2.96	0.18	A
Manganese-54	1.31	1.46	A		-10.3	1.02 - 1.90	0.17	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.105		A			False Positive Test	0.079	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.102	0.119	A		-14.3	0.083 - 0.155	0.007	A
Cesium-134	1.29	1.32	A		-2.3	0.92 - 1.72	0.05	A
Cesium-137	1.22	1.28	A		-4.7	0.90 - 1.66	0.04	A
Cobalt-57	0.74	0.83	A		-10.8	0.58 - 1.08	0.03	A
Cobalt-60	2.18	2.28	A		-4.4	1.60 - 2.96	0.07	A
Manganese-54	1.37	1.46	A		-6.2	1.02 - 1.90	0.05	A
Plutonium-238	0.004	0.0030	A	(17)		Sensitivity Evaluation	0.02	
Plutonium-239/240	0.060	0.0609	A		-1.5	0.0426 - 0.0792	0.005	A
Strontium-90	0.26	0.273	A		-4.8	0.191 - 0.355	0.02	A
Uranium-234	0.099	0.100	A		-1.0	0.070 - 0.130	0.006	A
Uranium-238	0.098	0.104	A		-5.8	0.073 - 0.135	0.006	A
Zinc-65	0.1		A			False Positive Test	2.8	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.21	1.32	A		-8.3	0.92 - 1.72	0.044287	A
Cesium-137	1.1975	1.28	A		-6.4	0.90 - 1.66	0.075887	A
Cobalt-57	0.782375	0.83	A		-5.7	0.58 - 1.08	0.057725	A
Cobalt-60	2.0925	2.28	A		-8.2	1.60 - 2.96	0.064625	A
Manganese-54	1.3475	1.46	A		-7.7	1.02 - 1.90	0.085062	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.0274825		A			False Positive Test	0.033575	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.102	0.119	A		-14.3	0.083 - 0.155	0.005	A
Cesium-134	1.426	1.32	A		8.0	0.92 - 1.72	0.079	A
Cesium-137	1.395	1.28	A		9.0	0.90 - 1.66	0.081	A
Cobalt-57	0.878	0.83	A		5.8	0.58 - 1.08	0.031	A
Cobalt-60	2.329	2.28	A		2.1	1.60 - 2.96	0.094	A
Manganese-54	1.577	1.46	A		8.0	1.02 - 1.90	0.089	A
Plutonium-238	0.002	0.0030	A	(17)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.059	0.0609	A		-3.1	0.0426 - 0.0792	0.004	A
Strontium-90	0.259	0.273	A		-5.1	0.191 - 0.355	0.011	A
Uranium-234	0.099	0.100	A		-1.0	0.070 - 0.130	0.007	A
Uranium-238	0.105	0.104	A		1.0	0.073 - 0.135	0.008	A
Zinc-65	-0.028		A			False Positive Test	0.076	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	9.31	8.4	A		10.8	5.9 - 10.9	0.2	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0849	0.119	W		-28.7	0.083 - 0.155	0.011	A
Cesium-134	1.04	1.32	W		-21.2	0.92 - 1.72	.078	A
Cesium-137	1.52	1.28	A		18.8	0.90 - 1.66	0.116	A
Cobalt-57	0.837	0.83	A		0.8	0.58 - 1.08	0.064	A
Cobalt-60	2.47	2.28	A		8.3	1.60 - 2.96	0.154	A
Manganese-54	1.8	1.46	W		23.3	1.02 - 1.90	0.137	A
Plutonium-238	0.004	0.0030	A	(17)		Sensitivity Evaluation	0.005	
Plutonium-239/240	0.047	0.0609	W		-22.8	0.0426 - 0.0792	0.009	W
Strontium-90	0.32	0.273	A		17.2	0.191 - 0.355	0.04	A
Uranium-234	0.098	0.100	A		-2.0	0.070 - 0.130	0.029	W
Uranium-238	0.115	0.104	A		10.6	0.073 - 0.135	0.027	W
Zinc-65	-0.14		A			False Positive Test	0.103	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	7.3	8.4	A		-13.1	5.9 - 10.9	0.3	A

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1000	0.119	A		-16.0	0.083 - 0.155	0.0044	A
Cesium-134	1.277	1.32	A		-3.3	0.92 - 1.72	0.081	A
Cesium-137	1.572	1.28	W		22.8	0.90 - 1.66	0.082	A
Cobalt-57	0.922	0.83	A		11.1	0.58 - 1.08	0.071	A
Cobalt-60	2.59	2.28	A		13.6	1.60 - 2.96	0.14	A
Manganese-54	1.79	1.46	W		22.6	1.02 - 1.90	0.11	A
Plutonium-238	0.0016	0.0030	A			Sensitivity Evaluation	0.0004	
Plutonium-239/240	0.0443	0.0609	W		-27.3	0.0426 - 0.0792	0.0021	A
Strontium-90	0.25	0.273	A		-8.4	0.191 - 0.355	0.01	A
Uranium-234	0.0702	0.100	W		-29.8	0.070 - 0.130	0.0032	A
Uranium-238	0.0686	0.104	N		-34.0	0.073 - 0.135	0.0032	A
Zinc-65	0.2		A			False Positive Test	0.5	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (RPSC01) Radiation Protection Service
 Ontario Ministry of Labour, Training And Skills Development
 Toronto, Ontario M9P 3T1

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.2	1.32	A		-9.1	0.92 - 1.72	0.0804	A
Cesium-137	1.09	1.28	A		-14.8	0.90 - 1.66	0.139	A
Cobalt-57	0.783	0.83	A		-5.7	0.58 - 1.08	0.12	W
Cobalt-60	1.94	2.28	A		-14.9	1.60 - 2.96	0.121	A
Manganese-54	1.22	1.46	A		-16.4	1.02 - 1.90	0.132	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR		N	(11)		False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.140	0.119	A		17.6	0.083 - 0.155	0.016	A
Cesium-134	1.484	1.32	A		12.4	0.92 - 1.72	0.059	A
Cesium-137	1.597	1.28	W		24.8	0.90 - 1.66	0.098	A
Cobalt-57	0.992	0.83	A		19.5	0.58 - 1.08	0.073	A
Cobalt-60	2.772	2.28	W		21.6	1.60 - 2.96	0.082	A
Manganese-54	1.889	1.46	W		29.4	1.02 - 1.90	0.116	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.164		N	(1)		False Positive Test	0.023	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1084	0.119	A		-8.9	0.083 - 0.155	0.0090	A
Cesium-134	1.35	1.32	A		2.3	0.92 - 1.72	0.11	A
Cesium-137	1.19	1.28	A		-7.0	0.90 - 1.66	0.12	A
Cobalt-57	0.771	0.83	A		-7.1	0.58 - 1.08	0.077	A
Cobalt-60	2.10	2.28	A		-7.9	1.60 - 2.96	0.15	A
Manganese-54	1.36	1.46	A		-6.8	1.02 - 1.90	0.16	A
Plutonium-238	0.00241	0.0030	A			Sensitivity Evaluation	0.00041	
Plutonium-239/240	0.0571	0.0609	A		-6.2	0.0426 - 0.0792	0.0023	A
Strontium-90	0.257	0.273	A		-5.9	0.191 - 0.355	0.019	A
Uranium-234	0.0978	0.100	A		-2.2	0.070 - 0.130	0.0066	A
Uranium-238	0.1044	0.104	A		0.4	0.073 - 0.135	0.0067	A
Zinc-65	-0.02		A			False Positive Test	0.12	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (SMER01) State of Michigan EGLE Radiological Lab
 815 Filley St.
 Lansing, MI 48906

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.11	0.119	A		-7.6	0.083 - 0.155	0.04	N
Cesium-134	1.03	1.32	W		-22.0	0.92 - 1.72	0.1	A
Cesium-137	1.21	1.28	A		-5.5	0.90 - 1.66	0.13	A
Cobalt-57	0.70	0.83	A		-15.7	0.58 - 1.08	0.09	A
Cobalt-60	1.89	2.28	A		-17.1	1.60 - 2.96	0.1	A
Manganese-54	1.29	1.46	A		-11.6	1.02 - 1.90	0.12	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR					False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0676	0.0588	A		15.0	0.0412 - 0.0764	0.0112	W
Uranium-238	8.84	8.3	A		6.5	5.8 - 10.8	1.41	W
Uranium-Total	8.92	8.4	A		6.2	5.9 - 10.9	1.43	W

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.108	0.119	A		-9.2	0.083 - 0.155	0.0111	A
Cesium-134	1.15	1.32	A		-12.9	0.92 - 1.72	0.0911	A
Cesium-137	1.41	1.28	A		10.2	0.90 - 1.66	0.0941	A
Cobalt-57	0.867	0.83	A		4.5	0.58 - 1.08	0.133	W
Cobalt-60	2.44	2.28	A		7.0	1.60 - 2.96	0.0852	A
Manganese-54	1.69	1.46	A		15.8	1.02 - 1.90	0.116	A
Plutonium-238	0.00611	0.0030	A	(17)		Sensitivity Evaluation	0.00207	
Plutonium-239/240	0.0585	0.0609	A		-3.9	0.0426 - 0.0792	0.00663	A
Strontium-90	0.203	0.273	W		-25.6	0.191 - 0.355	0.0389	W
Uranium-234	0.115	0.100	A		15.0	0.070 - 0.130	0.0103	A
Uranium-238	0.114	0.104	A		9.6	0.073 - 0.135	0.0103	A
Zinc-65	-0.0667		A			False Positive Test	0.126	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.06e+0	1.32	A		-19.7	0.92 - 1.72	8.27e-2	A
Cesium-137	1.21e+0	1.28	A		-5.5	0.90 - 1.66	8.32e-2	A
Cobalt-57	7.05e-1	0.83	A		-15.1	0.58 - 1.08	7.42e-2	A
Cobalt-60	1.85e+0	2.28	A		-18.9	1.60 - 2.96	9.41e-2	A
Manganese-54	1.20e+0	1.46	A		-17.8	1.02 - 1.90	8.36e-2	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-4.83e-2		A			False Positive Test	6.38e-2	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.111	0.119	A		-6.7	0.083 - 0.155	0.012	A
Cesium-134	1.009	1.32	W		-23.6	0.92 - 1.72	0.023	A
Cesium-137	1.342	1.28	A		4.8	0.90 - 1.66	0.043	A
Cobalt-57	0.794	0.83	A		-4.3	0.58 - 1.08	0.021	A
Cobalt-60	2.377	2.28	A		4.3	1.60 - 2.96	0.050	A
Manganese-54	1.719	1.46	A		17.7	1.02 - 1.90	0.050	A
Plutonium-238	0.0061	0.0030	A	(17)		Sensitivity Evaluation	0.0024	
Plutonium-239/240	0.0494	0.0609	A		-18.9	0.0426 - 0.0792	0.0076	W
Strontium-90	0.247	0.273	A		-9.5	0.191 - 0.355	0.016	A
Uranium-234	0.0807	0.100	A		-19.3	0.070 - 0.130	0.0093	A
Uranium-238	0.099	0.104	A		-4.8	0.073 - 0.135	0.011	A
Zinc-65	0.047		A			False Positive Test	0.045	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.282	1.32	A		-2.9	0.92 - 1.72	0.143	A
Cesium-137	1.217	1.28	A		-4.9	0.90 - 1.66	0.204	W
Cobalt-57	0.840	0.83	A		1.2	0.58 - 1.08	0.089	A
Cobalt-60	2.104	2.28	A		-7.7	1.60 - 2.96	0.245	A
Manganese-54	1.807	1.46	W		23.8	1.02 - 1.90	0.292	W
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	0.358	0.273	N		31.1	0.191 - 0.355	0.039	A
Uranium-234	0.133	0.100	N		33.0	0.070 - 0.130	0.022	W
Uranium-238	0.123	0.104	A		18.3	0.073 - 0.135	0.021	W
Zinc-65	NR		N	(11)		False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(UNEV01) University of Nevada, Reno
 1664 North Virginia St, MS 328
 Reno, NV 89557

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.181	0.119	N		52.1	0.083 - 0.155	0.0461	W
Cesium-134	1.161	1.32	A		-12.0	0.92 - 1.72	0.096	A
Cesium-137	1.470	1.28	A		14.8	0.90 - 1.66	0.144	A
Cobalt-57	0.749	0.83	A		-9.8	0.58 - 1.08	0.070	A
Cobalt-60	2.378	2.28	A		4.3	1.60 - 2.96	0.115	A
Manganese-54	1.571	1.46	A		7.6	1.02 - 1.90	0.168	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR					False Positive Test		

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	0.461	1.32	N		-65.1	0.92 - 1.72	0.119	W
Cesium-137	1.161	1.28	A		-9.3	0.90 - 1.66	0.356	N
Cobalt-57	0.814	0.83	A		-1.9	0.58 - 1.08	0.215	W
Cobalt-60	2.269	2.28	A		-0.5	1.60 - 2.96	0.355	W
Manganese-54	1.168	1.46	A		-20.0	1.02 - 1.90	0.317	W
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.01		A			False Positive Test	0.01	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.1153	0.119	A		-3.1	0.083 - 0.155	.052	N
Cesium-134	.9933	1.32	W		-24.8	0.92 - 1.72	.0234	A
Cesium-137	1.1467	1.28	A		-10.4	0.90 - 1.66	.0418	A
Cobalt-57	.7895	0.83	A		-4.9	0.58 - 1.08	.0277	A
Cobalt-60	2.4676	2.28	A		8.2	1.60 - 2.96	.054	A
Manganese-54	1.4177	1.46	A		-2.9	1.02 - 1.90	.0525	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	.0141		A			False Positive Test	0.0424	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45

(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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	1.11E-01	0.119	A		-6.7	0.083 - 0.155	1.81E-02	W
Cesium-134	1.32E+00	1.32	A		0.0	0.92 - 1.72	3.06E-02	A
Cesium-137	1.35E+00	1.28	A		5.5	0.90 - 1.66	2.95E-02	A
Cobalt-57	8.79E-01	0.83	A		5.9	0.58 - 1.08	2.29E-02	A
Cobalt-60	2.50E+00	2.28	A		9.6	1.60 - 2.96	5.27E-02	A
Manganese-54	1.56E+00	1.46	A		6.8	1.02 - 1.90	3.38E-02	A
Plutonium-238	3.19E-03	0.0030	A			Sensitivity Evaluation	9.49E-04	
Plutonium-239/240	5.83E-02	0.0609	A		-4.3	0.0426 - 0.0792	1.03E-02	W
Strontium-90	2.90E-01	0.273	A		6.2	0.191 - 0.355	1.60E-02	A
Uranium-234	9.76E-02	0.100	A		-2.4	0.070 - 0.130	7.74E-03	A
Uranium-238	9.67E-02	0.104	A		-7.0	0.073 - 0.135	7.66E-03	A
Zinc-65	1.48E-02		A			False Positive Test	2.27E-02	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (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	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.44	1.32	A		9.1	0.92 - 1.72	0.0548	A
Cesium-137	1.53	1.28	A		19.5	0.90 - 1.66	0.0752	A
Cobalt-57	0.988	0.83	A		19.0	0.58 - 1.08	0.0386	A
Cobalt-60	2.38	2.28	A		4.4	1.60 - 2.96	0.148	A
Manganese-54	1.62	1.46	A		11.0	1.02 - 1.90	0.0814	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	0.0746			A		False Positive Test	0.0579	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (WVDP01) WVDP Environmental Laboratory
 10282 Rock Springs Road
 West Valley, NY 14171

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0588				0.0412 - 0.0764		
Uranium-238	NR	8.3				5.8 - 10.8		
Uranium-Total	NR	8.4				5.9 - 10.9		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	1.15	1.32	A		-12.9	0.92 - 1.72	0.113	A
Cesium-137	1.16	1.28	A		-9.4	0.90 - 1.66	0.0612	A
Cobalt-57	0.762	0.83	A		-8.2	0.58 - 1.08	0.0416	A
Cobalt-60	2.07	2.28	A		-9.2	1.60 - 2.96	0.0750	A
Manganese-54	1.46	1.46	A		0.0	1.02 - 1.90	0.0726	A
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	-0.0182		A			False Positive Test	0.0414	

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

(4) = Sensitivity Evaluation

(11) = False Positive Test, Result Not Reported

(17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-21-RdF45
 (YPGA01) US Army Yuma Proving Ground / Material Analysis Lab
 301 C. Street
 Yuma, AZ 85365

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.066	0.0588	A		12.2	0.0412 - 0.0764	0.007	A
Uranium-238	9.086	8.3	A		9.5	5.8 - 10.8	0.7	A
Uranium-Total	9.15	8.4	A		8.9	5.9 - 10.9	0.7	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.119				0.083 - 0.155		
Cesium-134	NR	1.32				0.92 - 1.72		
Cesium-137	NR	1.28				0.90 - 1.66		
Cobalt-57	NR	0.83				0.58 - 1.08		
Cobalt-60	NR	2.28				1.60 - 2.96		
Manganese-54	NR	1.46				1.02 - 1.90		
Plutonium-238	NR	0.0030				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0609				0.0426 - 0.0792		
Strontium-90	NR	0.273				0.191 - 0.355		
Uranium-234	NR	0.100				0.070 - 0.130		
Uranium-238	NR	0.104				0.073 - 0.135		
Zinc-65	NR					False Positive Test		

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
---------	--------	-----------	------	-------	----------	------------------	-----------	----------

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

NOT ACCEPTABLE.....RP > 30%

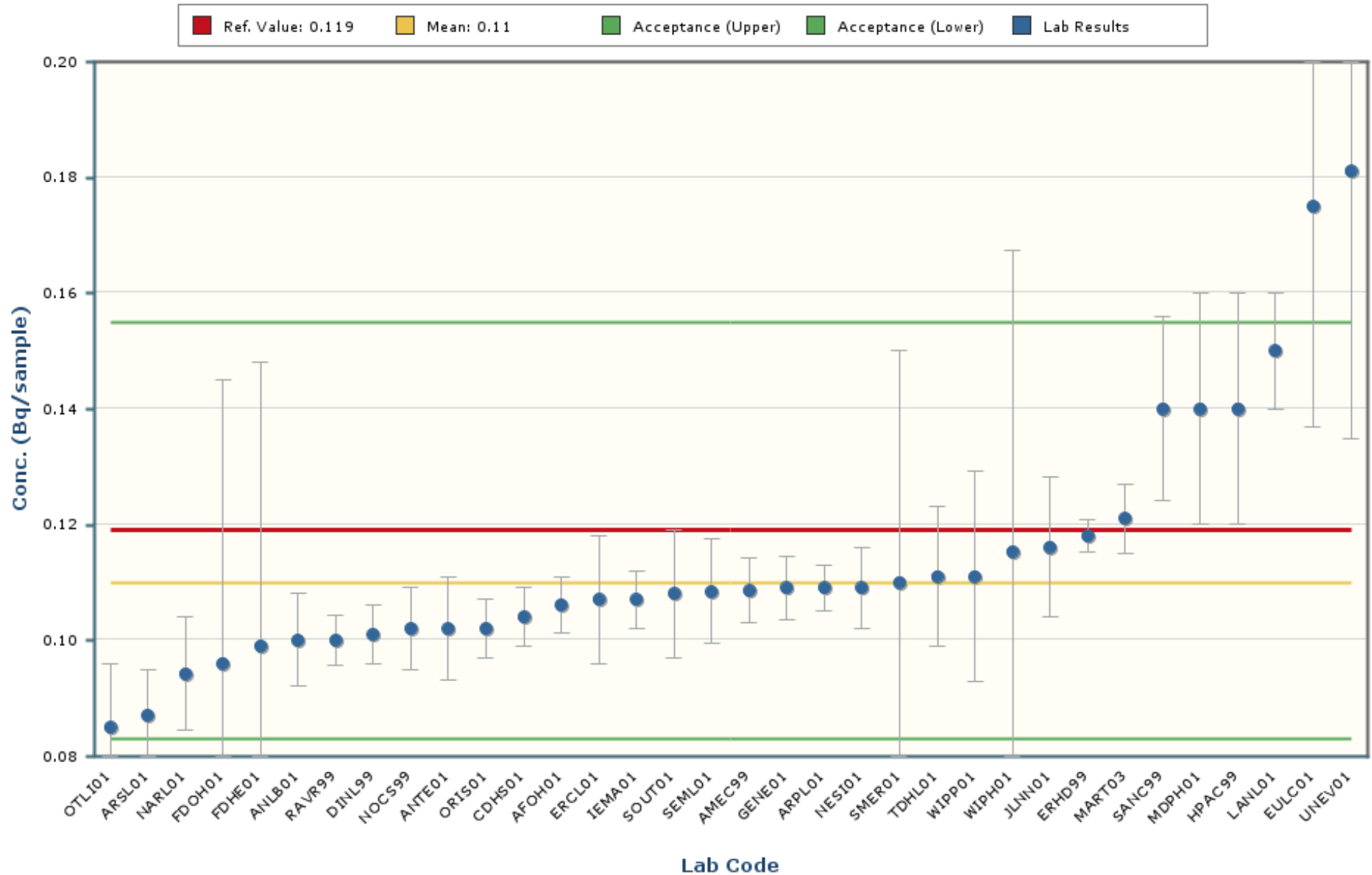
Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

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

Americium-241

MAPEP-21-RdF45



Notes:

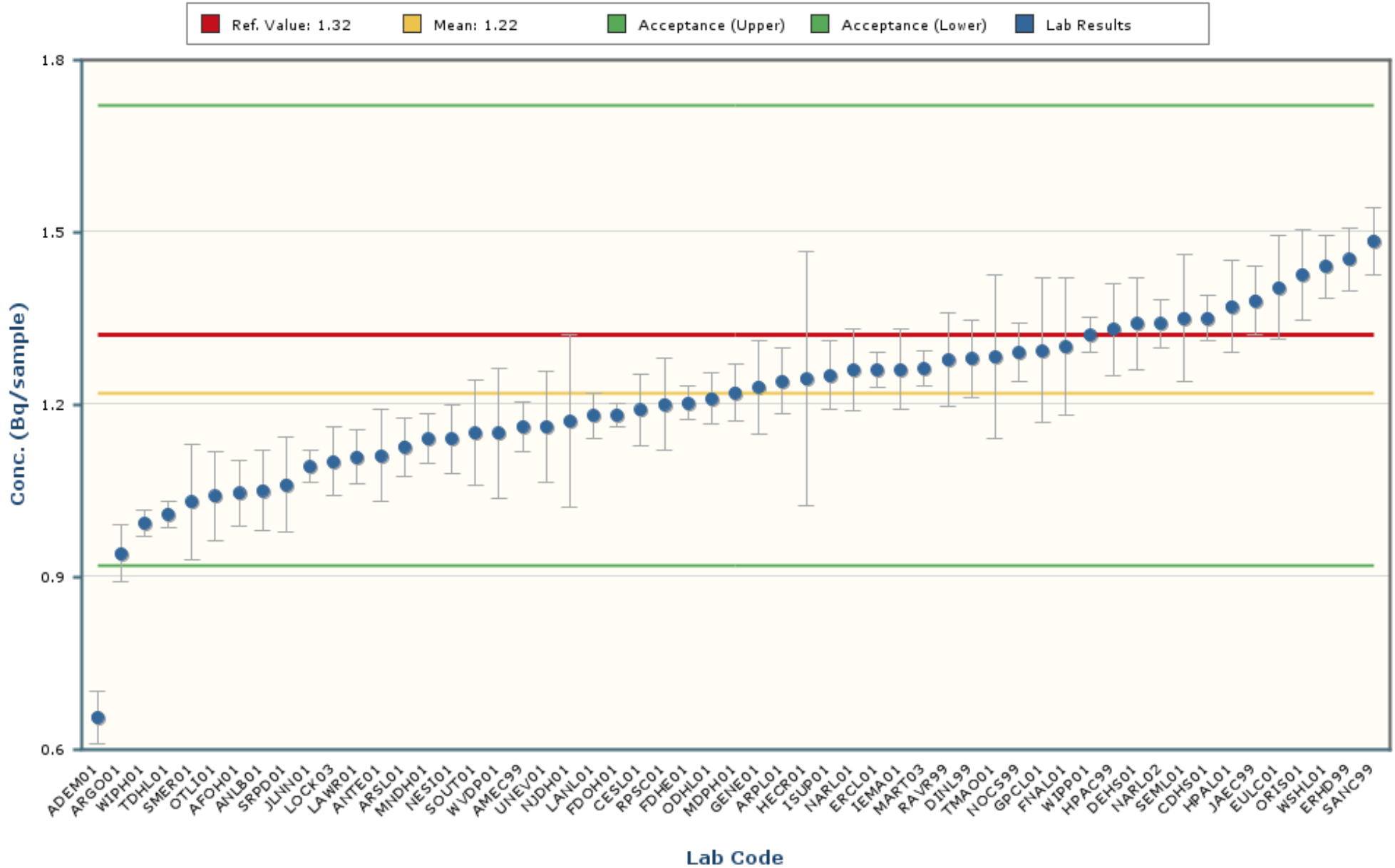
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.036 and 0.184 (± 5 Standard Deviations).

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

Cesium-134

MAPEP-21-RdF45



Notes:

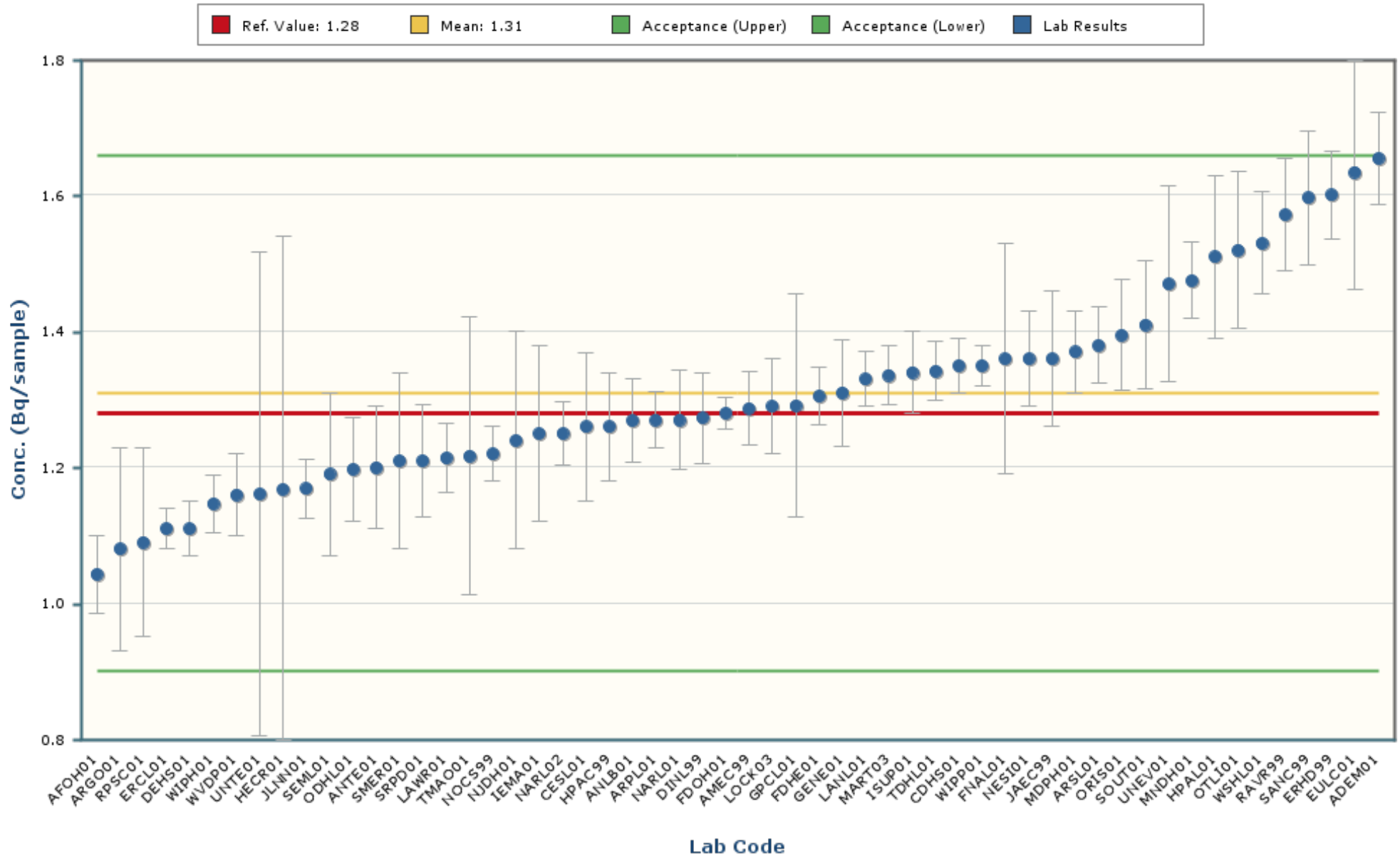
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.59 and 1.85 (± 5 Standard Deviations).

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

Cesium-137

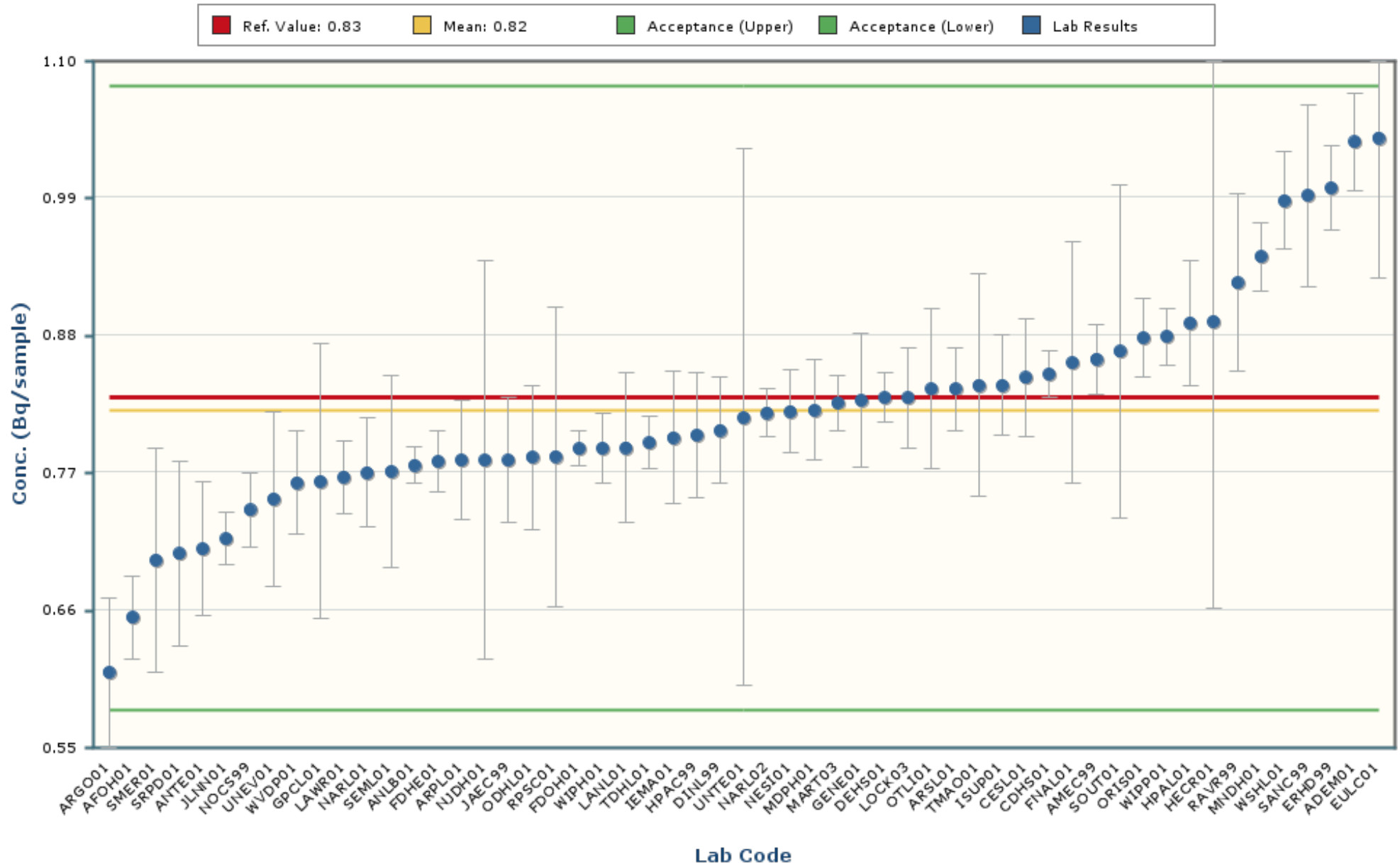
MAPEP-21-RdF45



Notes:
The chart mean excludes values outside of a bias range of $\pm 30\%$.
The chart shows only data points with values between 0.58 and 2.03 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at \pm one standard deviation.

Cobalt-57

MAPEP-21-RdF45



Notes:

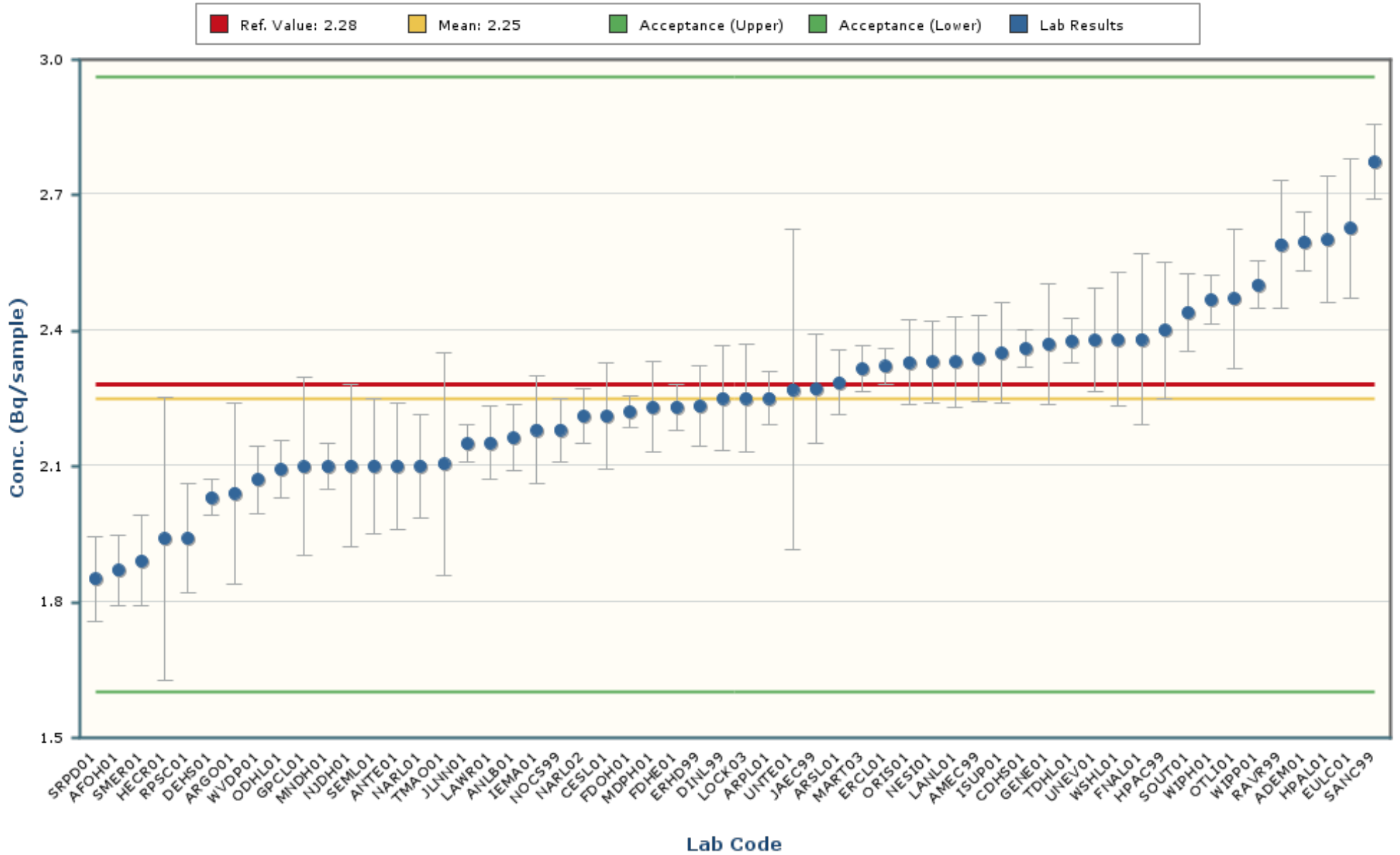
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.39 and 1.25 (± 5 Standard Deviations).

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

Cobalt-60

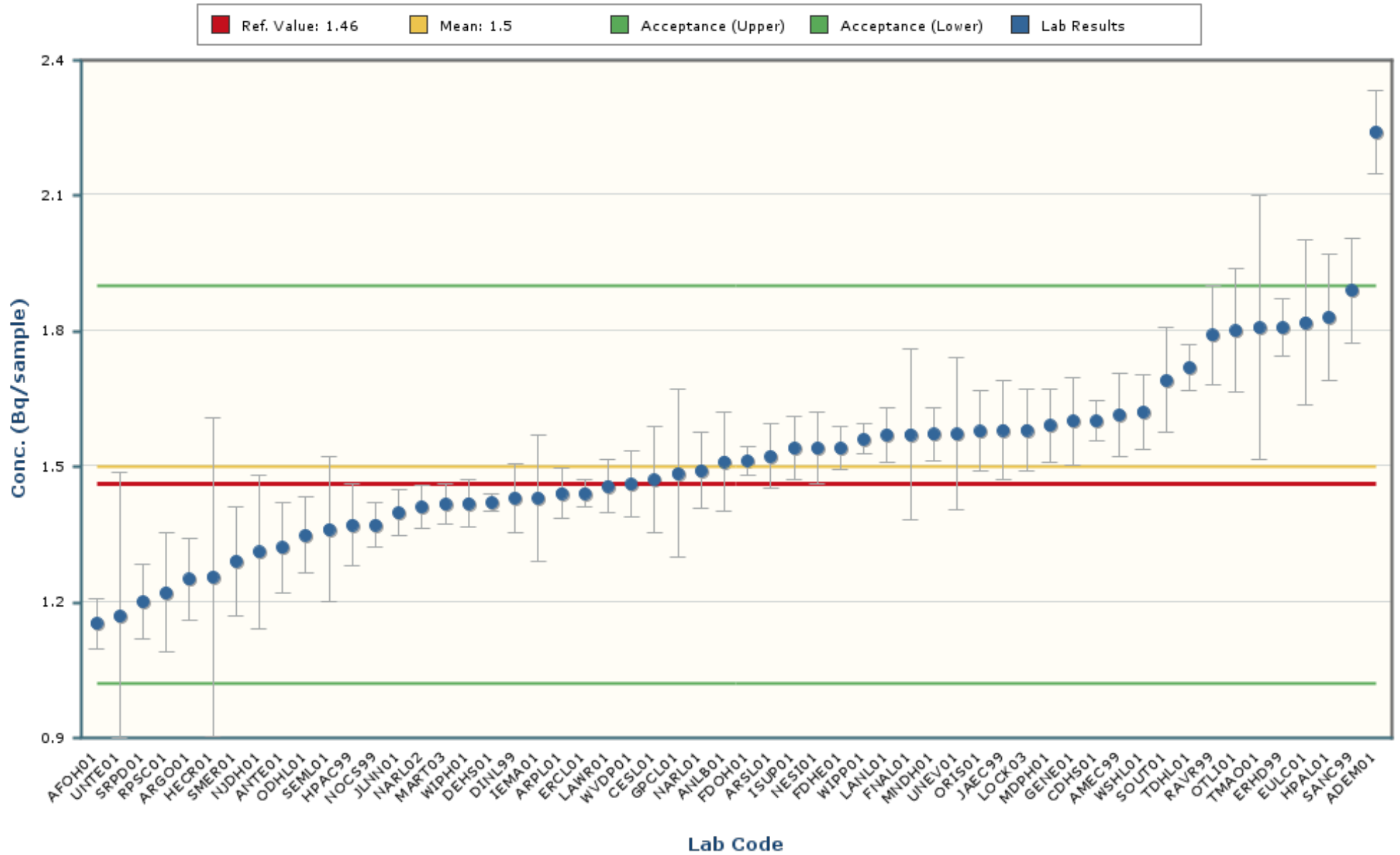
MAPEP-21-RdF45



Notes:
The chart mean excludes values outside of a bias range of $\pm 30\%$.
The chart shows only data points with values between 1.27 and 3.23 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at \pm one standard deviation.

Manganese-54

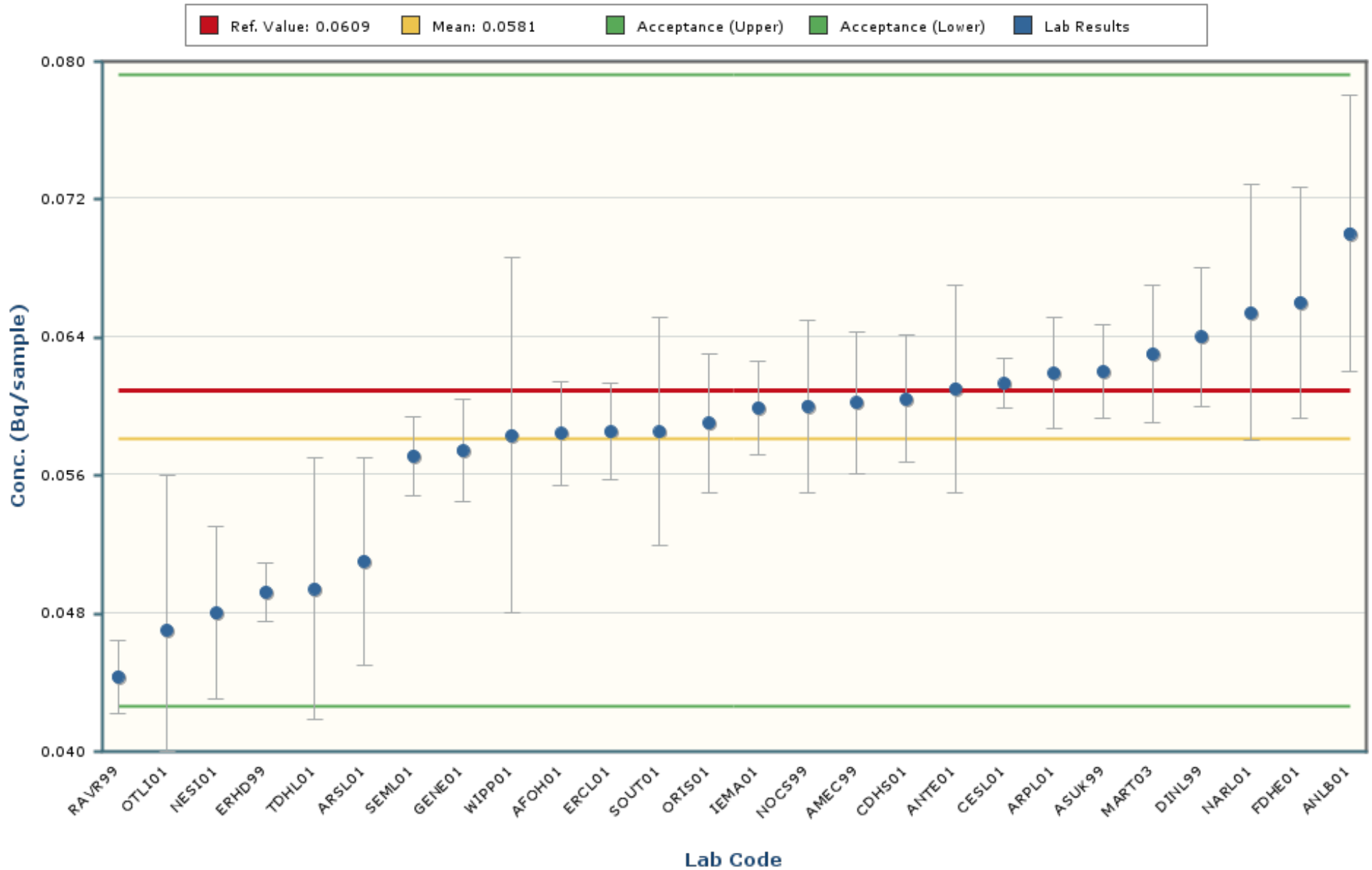
MAPEP-21-RdF45



Notes:
The chart mean excludes values outside of a bias range of $\pm 30\%$.
The chart shows only data points with values between 0.62 and 2.39 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at \pm one standard deviation.

Plutonium-239/240

MAPEP-21-RdF45



Notes:

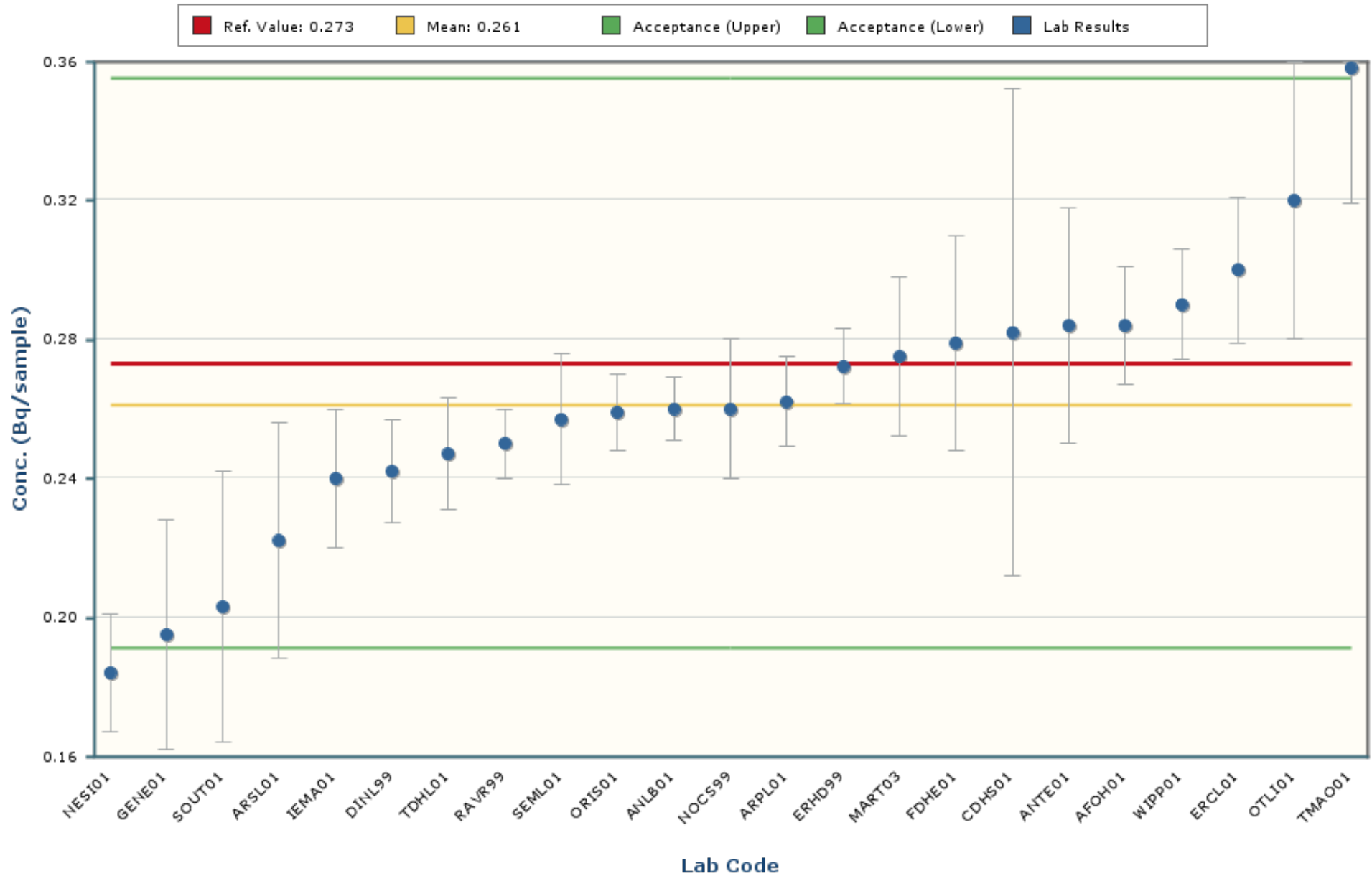
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0264 and 0.0898 (± 5 Standard Deviations).

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

Strontium-90

MAPEP-21-RdF45



Notes:

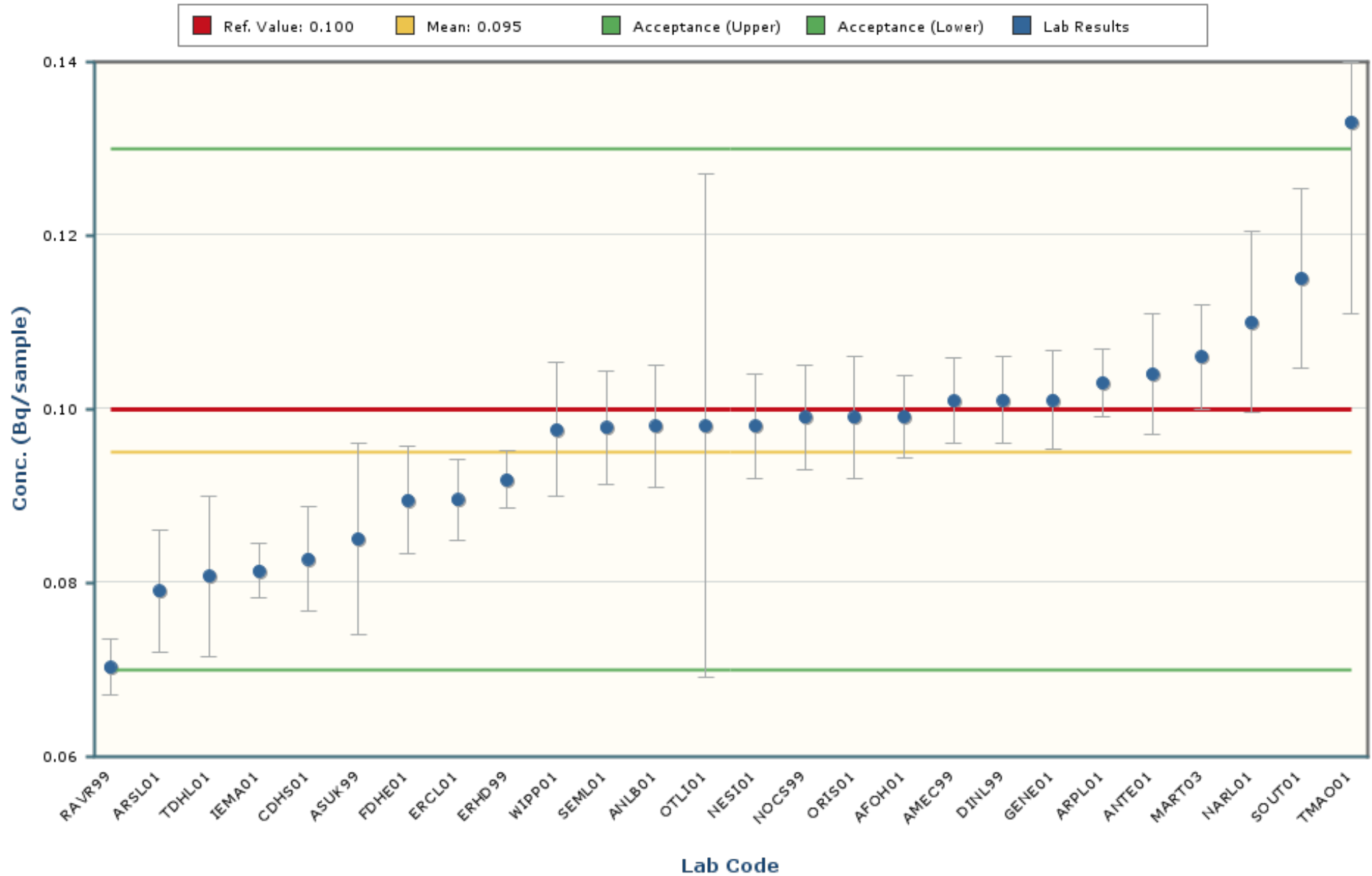
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.110 and 0.413 (± 5 Standard Deviations).

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

Uranium-234

MAPEP-21-RdF45



Notes:

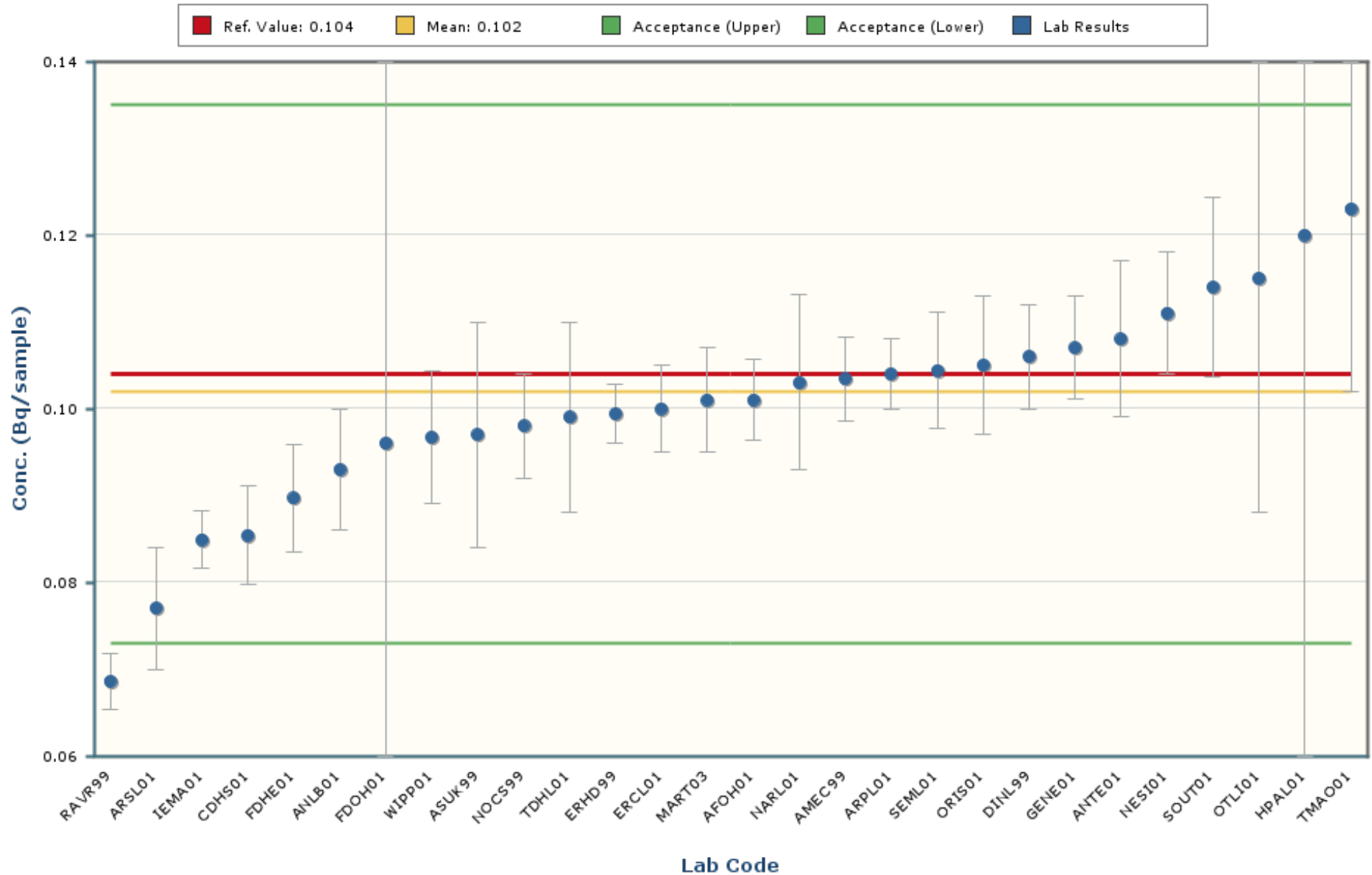
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.042 and 0.148 (± 5 Standard Deviations).

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

Uranium-238

MAPEP-21-RdF45



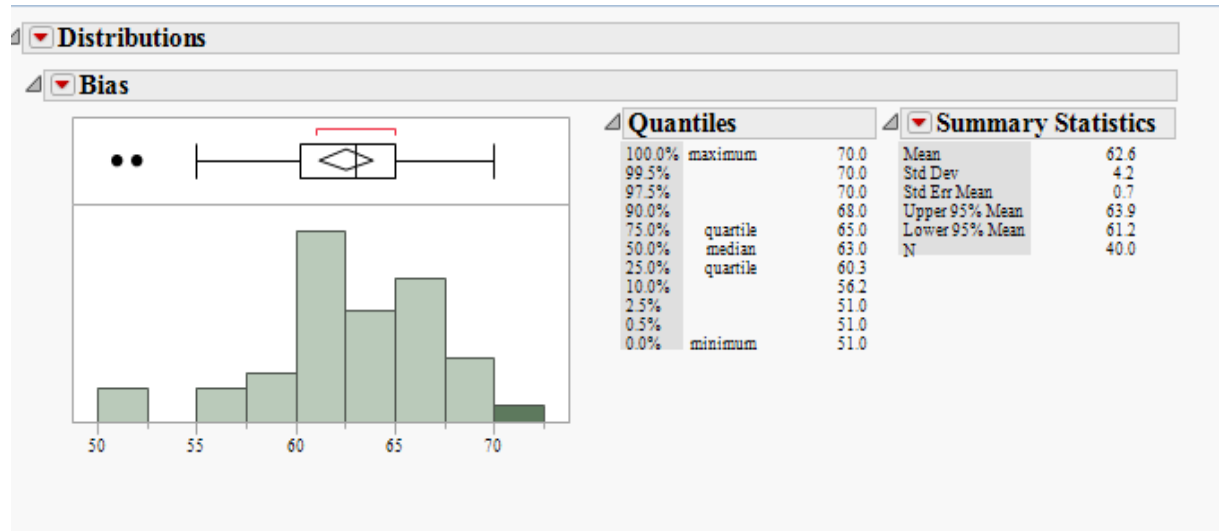
Notes:

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

The chart shows only data points with values between 0.050 and 0.153 (± 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.

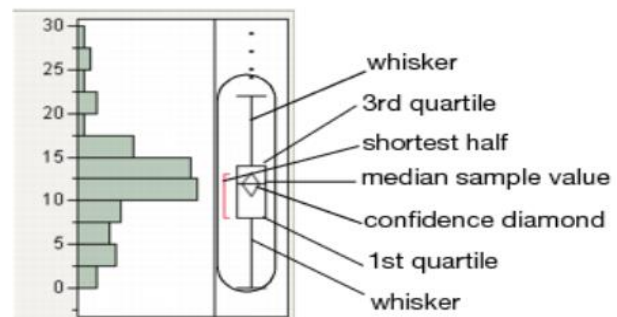


Outlier Box Plot

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)

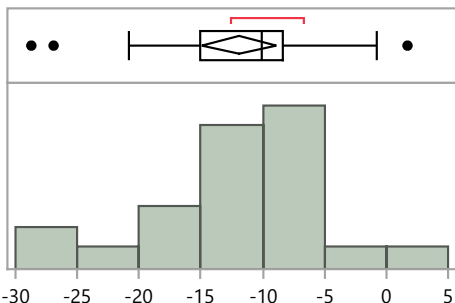


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

RdF Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

Bias

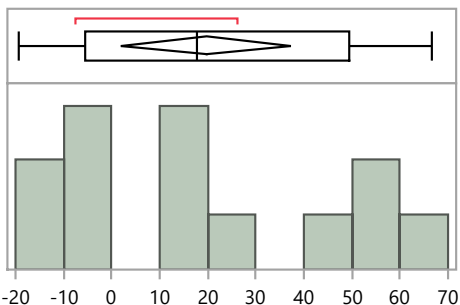


Quantiles		
100.0%	maximum	1.7
99.5%		1.7
97.5%		1.7
90.0%		-3.2
75.0%	quartile	-8.4
50.0%	median	-10.1
25.0%	quartile	-15.1
10.0%		-24.5
2.5%		-28.7
0.5%		-28.7
0.0%	minimum	-28.7

Summary Statistics	
Mean	-11.9
Std Dev	7.0
Std Err Mean	1.5
Upper 95% Mean	-8.9
Lower 95% Mean	-15.0
N	23.0

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

Bias

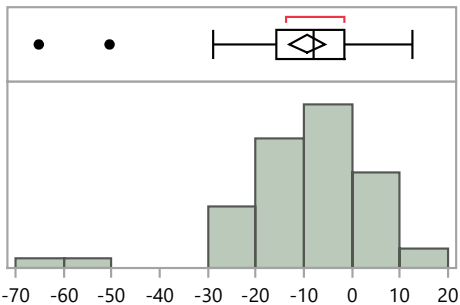


Quantiles		
100.0%	maximum	66.7
99.5%		66.7
97.5%		66.7
90.0%		63.9
75.0%	quartile	49.6
50.0%	median	17.6
25.0%	quartile	-5.4
10.0%		-18.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

Summary Statistics	
Mean	19.6
Std Dev	29.2
Std Err Mean	8.1
Upper 95% Mean	37.3
Lower 95% Mean	2.0
N	13.0

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias



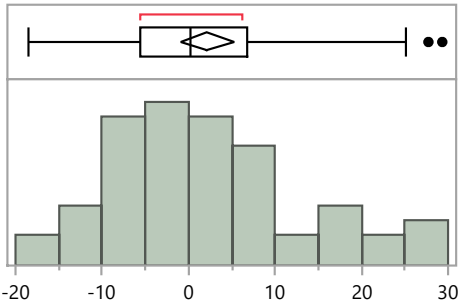
Quantiles		
100.0%	maximum	12.4
99.5%		12.4
97.5%		11.4
90.0%		5.0
75.0%	quartile	-1.6
50.0%	median	-8.0
25.0%	quartile	-15.6
10.0%		-22.5
2.5%		-58.9
0.5%		-65.1
0.0%	minimum	-65.1

Summary Statistics	
Mean	-9.4
Std Dev	13.4
Std Err Mean	1.8
Upper 95% Mean	-5.8
Lower 95% Mean	-13.0
N	56.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Cesium-137 Gamma Spectrometry

Bias



Quantiles

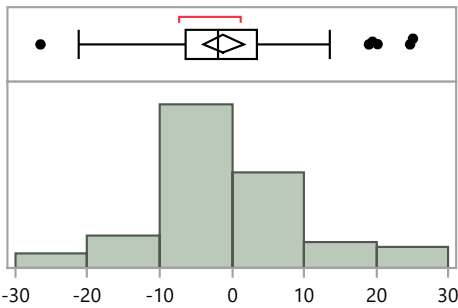
100.0%	maximum	29.3
99.5%		29.3
97.5%		28.6
90.0%		20.5
75.0%	quartile	6.8
50.0%	median	0.3
25.0%	quartile	-5.5
10.0%		-11.3
2.5%		-17.3
0.5%		-18.5
0.0%	minimum	-18.5

Summary Statistics

Mean	2.2
Std Dev	11.3
Std Err Mean	1.5
Upper 95% Mean	5.2
Lower 95% Mean	-0.8
N	56.0

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

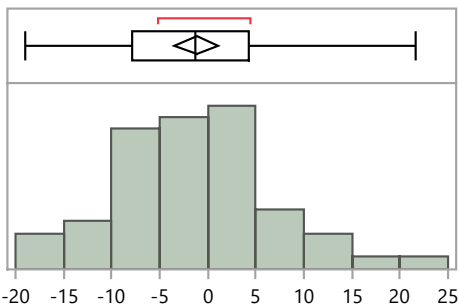
100.0%	maximum	25.1
99.5%		25.1
97.5%		24.9
90.0%		15.8
75.0%	quartile	3.4
50.0%	median	-1.9
25.0%	quartile	-6.5
10.0%		-14.0
2.5%		-24.4
0.5%		-26.5
0.0%	minimum	-26.5

Summary Statistics

Mean	-1.2
Std Dev	10.3
Std Err Mean	1.4
Upper 95% Mean	1.6
Lower 95% Mean	-4.0
N	55.0

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	21.6
99.5%		21.6
97.5%		18.9
90.0%		10.8
75.0%	quartile	4.2
50.0%	median	-1.3
25.0%	quartile	-7.9
10.0%		-12.2
2.5%		-18.5
0.5%		-18.9
0.0%	minimum	-18.9

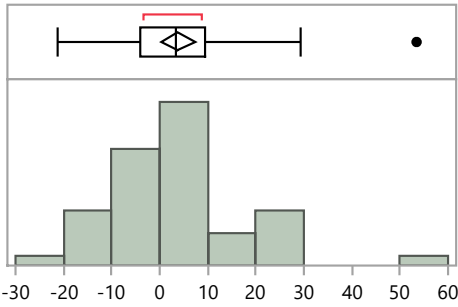
Summary Statistics

Mean	-1.2
Std Dev	8.6
Std Err Mean	1.1
Upper 95% Mean	1.1
Lower 95% Mean	-3.5
N	56.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Manganese-54 Gamma Spectrometry

Bias



Quantiles

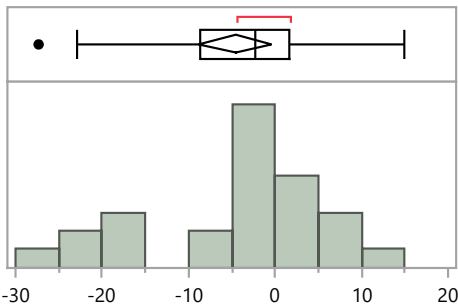
100.0%	maximum	53.4
99.5%		53.4
97.5%		43.2
90.0%		23.8
75.0%	quartile	9.4
50.0%	median	3.5
25.0%	quartile	-4.1
10.0%		-14.1
2.5%		-20.6
0.5%		-21.1
0.0%	minimum	-21.1

Summary Statistics

Mean	3.9
Std Dev	13.7
Std Err Mean	1.8
Upper 95% Mean	7.6
Lower 95% Mean	0.2
N	56.0

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

Bias



Quantiles

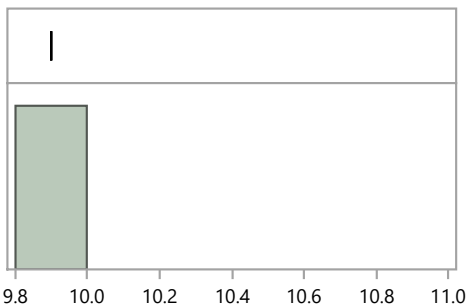
100.0%	maximum	14.9
99.5%		14.9
97.5%		14.9
90.0%		7.7
75.0%	quartile	1.7
50.0%	median	-2.4
25.0%	quartile	-8.7
10.0%		-21.7
2.5%		-27.3
0.5%		-27.3
0.0%	minimum	-27.3

Summary Statistics

Mean	-4.6
Std Dev	10.4
Std Err Mean	2.0
Upper 95% Mean	-0.3
Lower 95% Mean	-8.8
N	26.0

Distributions Analyte_Detection=Strontium-90 Alpha Spectrometry

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

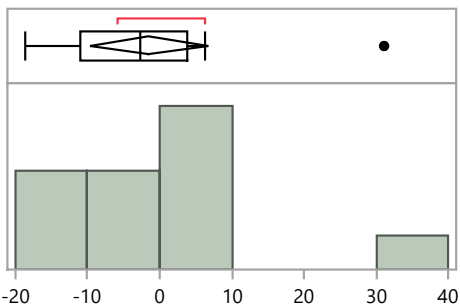
Summary Statistics

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

RdF Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias



Quantiles

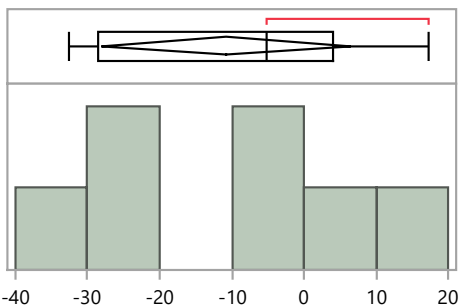
100.0%	maximum	31.1
99.5%		31.1
97.5%		31.1
90.0%		23.6
75.0%	quartile	3.8
50.0%	median	-2.6
25.0%	quartile	-10.9
10.0%		-16.7
2.5%		-18.7
0.5%		-18.7
0.0%	minimum	-18.7

Summary Statistics

Mean	-1.5
Std Dev	12.9
Std Err Mean	3.7
Upper 95% Mean	6.7
Lower 95% Mean	-9.7
N	12.0

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

Bias



Quantiles

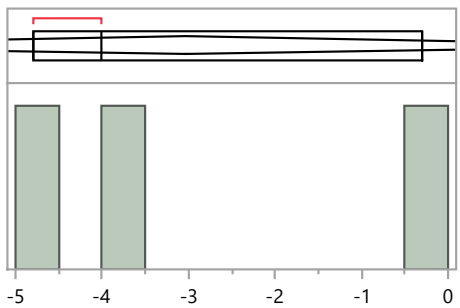
100.0%	maximum	17.2
99.5%		17.2
97.5%		17.2
90.0%		17.2
75.0%	quartile	4.0
50.0%	median	-5.1
25.0%	quartile	-28.6
10.0%		-32.6
2.5%		-32.6
0.5%		-32.6
0.0%	minimum	-32.6

Summary Statistics

Mean	-10.8
Std Dev	18.6
Std Err Mean	7.0
Upper 95% Mean	6.4
Lower 95% Mean	-28.0
N	7.0

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias



Quantiles

100.0%	maximum	-0.3
99.5%		-0.3
97.5%		-0.3
90.0%		-0.3
75.0%	quartile	-0.3
50.0%	median	-4.0
25.0%	quartile	-4.8
10.0%		-4.8
2.5%		-4.8
0.5%		-4.8
0.0%	minimum	-4.8

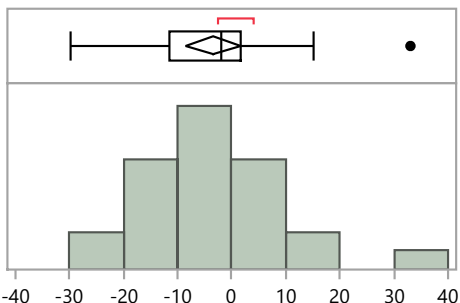
Summary Statistics

Mean	-3.0
Std Dev	2.4
Std Err Mean	1.4
Upper 95% Mean	2.9
Lower 95% Mean	-9.0
N	3.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

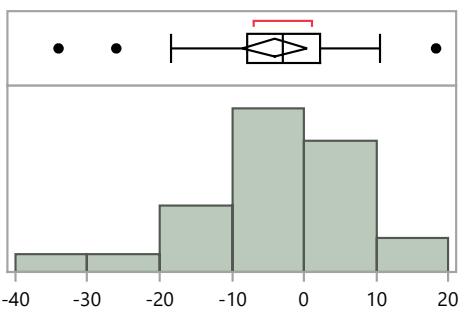
100.0%	maximum	33.0
99.5%		33.0
97.5%		33.0
90.0%		11.5
75.0%	quartile	1.5
50.0%	median	-2.0
25.0%	quartile	-11.6
10.0%		-19.8
2.5%		-29.8
0.5%		-29.8
0.0%	minimum	-29.8

Summary Statistics

Mean	-3.5
Std Dev	12.7
Std Err Mean	2.5
Upper 95% Mean	1.7
Lower 95% Mean	-8.6
N	26.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

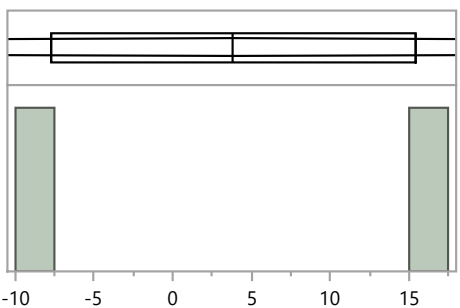
100.0%	maximum	18.3
99.5%		18.3
97.5%		18.3
90.0%		9.9
75.0%	quartile	2.2
50.0%	median	-2.9
25.0%	quartile	-7.9
10.0%		-20.7
2.5%		-34.0
0.5%		-34.0
0.0%	minimum	-34.0

Summary Statistics

Mean	-4.1
Std Dev	11.3
Std Err Mean	2.2
Upper 95% Mean	0.5
Lower 95% Mean	-8.6
N	26.0

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	15.4
99.5%		15.4
97.5%		15.4
90.0%		15.4
75.0%	quartile	15.4
50.0%	median	3.9
25.0%	quartile	-7.7
10.0%		-7.7
2.5%		-7.7
0.5%		-7.7
0.0%	minimum	-7.7

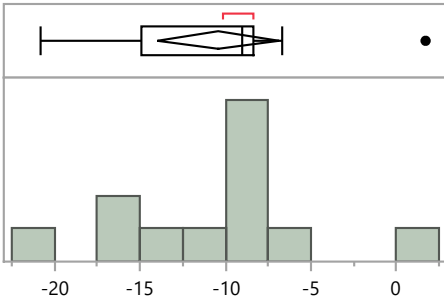
Summary Statistics

Mean	3.9
Std Dev	16.3
Std Err Mean	11.6
Upper 95% Mean	150.6
Lower 95% Mean	-142.9
N	2.0

RdF Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Acid dissolution with hydrofluoric acid

Bias



Quantiles

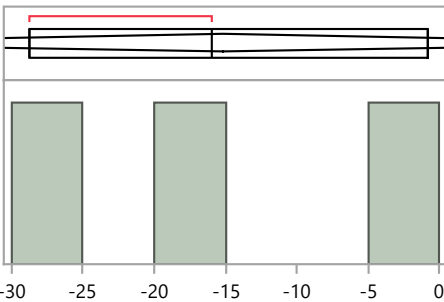
100.0%	maximum	1.7
99.5%		1.7
97.5%		1.7
90.0%		-0.8
75.0%	quartile	-8.4
50.0%	median	-9.1
25.0%	quartile	-14.9
10.0%		-19.4
2.5%		-20.8
0.5%		-20.8
0.0%	minimum	-20.8

Summary Statistics

Mean	-10.4
Std Dev	5.7
Std Err Mean	1.6
Upper 95% Mean	-6.8
Lower 95% Mean	-14.0
N	12.0

Distributions Analyte_Method=Americium-241 Acid leaching without hydrofluoric acid

Bias



Quantiles

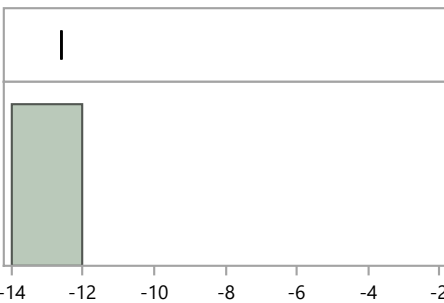
100.0%	maximum	-0.8
99.5%		-0.8
97.5%		-0.8
90.0%		-0.8
75.0%	quartile	-0.8
50.0%	median	-16.0
25.0%	quartile	-28.7
10.0%		-28.7
2.5%		-28.7
0.5%		-28.7
0.0%	minimum	-28.7

Summary Statistics

Mean	-15.2
Std Dev	14.0
Std Err Mean	8.1
Upper 95% Mean	19.5
Lower 95% Mean	-49.9
N	3.0

Distributions Analyte_Method=Americium-241 Coprecipitation, acidified

Bias



Quantiles

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

Summary Statistics

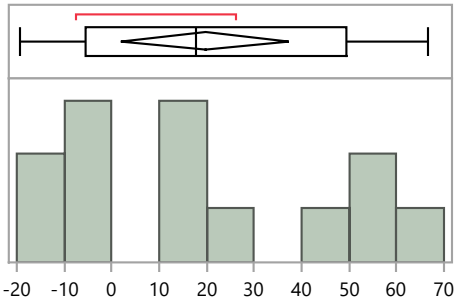
Mean	-12.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

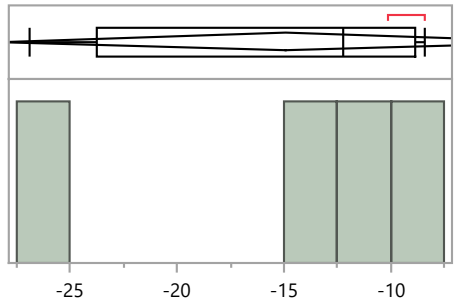
100.0%	maximum	66.7
99.5%		66.7
97.5%		66.7
90.0%		63.9
75.0%	quartile	49.6
50.0%	median	17.6
25.0%	quartile	-5.4
10.0%		-18.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

Summary Statistics

Mean	19.6
Std Dev	29.2
Std Err Mean	8.1
Upper 95% Mean	37.3
Lower 95% Mean	2.0
N	13.0

Distributions Analyte_Method=Amercium-241 Other

Bias



Quantiles

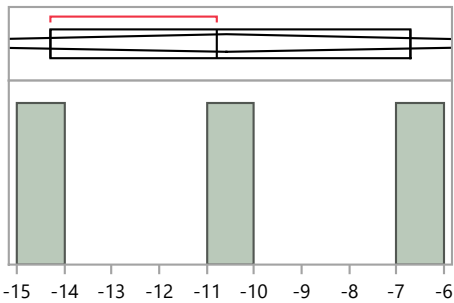
100.0%	maximum	-8.4
99.5%		-8.4
97.5%		-8.4
90.0%		-8.4
75.0%	quartile	-8.8
50.0%	median	-12.2
25.0%	quartile	-23.8
10.0%		-26.9
2.5%		-26.9
0.5%		-26.9
0.0%	minimum	-26.9

Summary Statistics

Mean	-14.9
Std Dev	8.4
Std Err Mean	4.2
Upper 95% Mean	-1.6
Lower 95% Mean	-28.2
N	4.0

Distributions Analyte_Method=Amercium-241 Total dissolution by fusion

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	-10.8
25.0%	quartile	-14.3
10.0%		-14.3
2.5%		-14.3
0.5%		-14.3
0.0%	minimum	-14.3

Summary Statistics

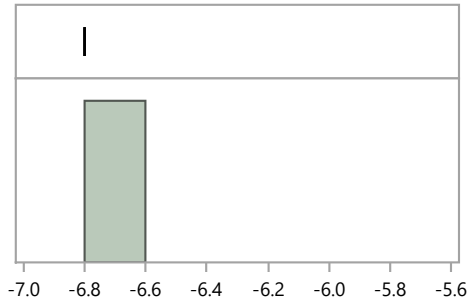
Mean	-10.6
Std Dev	3.8
Std Err Mean	2.2
Upper 95% Mean	-1.2
Lower 95% Mean	-20.0
N	3.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Cesium-134 Acid dissolution with hydrofluoric acid

Bias



Quantiles

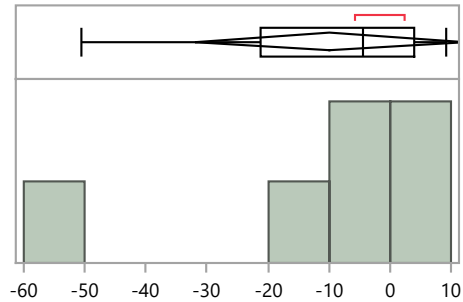
100.0%	maximum	-6.8
99.5%		-6.8
97.5%		-6.8
90.0%		-6.8
75.0%	quartile	-6.8
50.0%	median	-6.8
25.0%	quartile	-6.8
10.0%		-6.8
2.5%		-6.8
0.5%		-6.8
0.0%	minimum	-6.8

Summary Statistics

Mean	-6.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

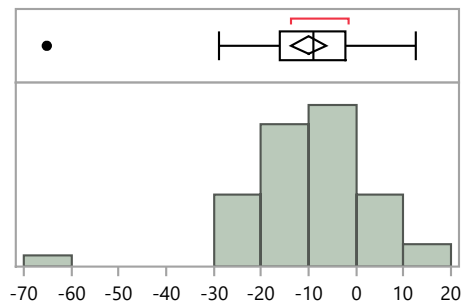
100.0%	maximum	9.1
99.5%		9.1
97.5%		9.1
90.0%		9.1
75.0%	quartile	4.0
50.0%	median	-4.4
25.0%	quartile	-21.2
10.0%		-50.4
2.5%		-50.4
0.5%		-50.4
0.0%	minimum	-50.4

Summary Statistics

Mean	-9.9
Std Dev	21.1
Std Err Mean	8.6
Upper 95% Mean	12.3
Lower 95% Mean	-32.0
N	6.0

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

Bias



Quantiles

100.0%	maximum	12.4
99.5%		12.4
97.5%		11.9
90.0%		4.3
75.0%	quartile	-2.3
50.0%	median	-9.1
25.0%	quartile	-16.1
10.0%		-22.3
2.5%		-57.8
0.5%		-65.1
0.0%	minimum	-65.1

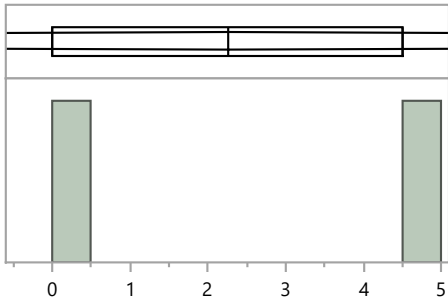
Summary Statistics

Mean	-9.9
Std Dev	12.6
Std Err Mean	1.8
Upper 95% Mean	-6.2
Lower 95% Mean	-13.6
N	47.0

RdF Distribution by Prep Method

Distributions Analyte_Method=Cesium-134 Other

Bias



Quantiles

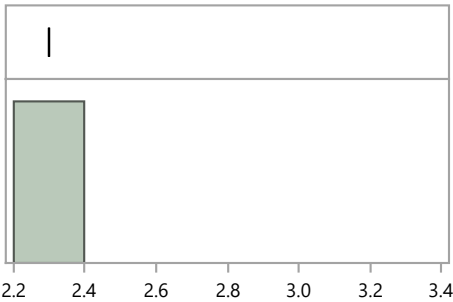
100.0%	maximum	4.5
99.5%		4.5
97.5%		4.5
90.0%		4.5
75.0%	quartile	4.5
50.0%	median	2.3
25.0%	quartile	0.0
10.0%		0.0
2.5%		0.0
0.5%		0.0
0.0%	minimum	0.0

Summary Statistics

Mean	2.3
Std Dev	3.2
Std Err Mean	2.3
Upper 95% Mean	30.8
Lower 95% Mean	-26.3
N	2.0

Distributions Analyte_Method=Cesium-137 Acid dissolution with hydrofluoric acid

Bias



Quantiles

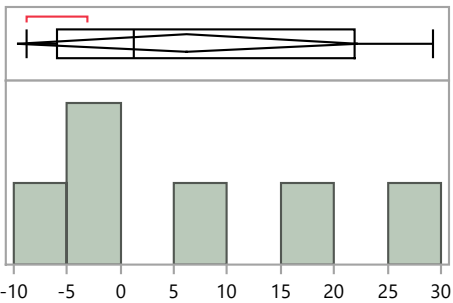
100.0%	maximum	2.3
99.5%		2.3
97.5%		2.3
90.0%		2.3
75.0%	quartile	2.3
50.0%	median	2.3
25.0%	quartile	2.3
10.0%		2.3
2.5%		2.3
0.5%		2.3
0.0%	minimum	2.3

Summary Statistics

Mean	2.3
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	29.3
99.5%		29.3
97.5%		29.3
90.0%		29.3
75.0%	quartile	22.0
50.0%	median	1.2
25.0%	quartile	-5.9
10.0%		-8.8
2.5%		-8.8
0.5%		-8.8
0.0%	minimum	-8.8

Summary Statistics

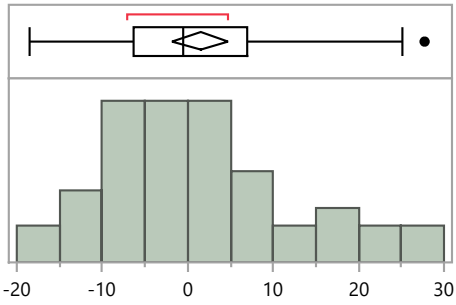
Mean	6.3
Std Dev	15.1
Std Err Mean	6.2
Upper 95% Mean	22.1
Lower 95% Mean	-9.6
N	6.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

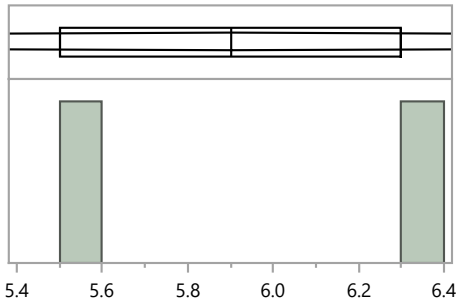
100.0%	maximum	27.7
99.5%		27.7
97.5%		27.2
90.0%		19.6
75.0%	quartile	7.0
50.0%	median	-0.5
25.0%	quartile	-6.3
10.0%		-13.3
2.5%		-17.9
0.5%		-18.5
0.0%	minimum	-18.5

Summary Statistics

Mean	1.5
Std Dev	11.2
Std Err Mean	1.6
Upper 95% Mean	4.8
Lower 95% Mean	-1.8
N	47.0

Distributions Analyte_Method=Cesium-137 Other

Bias



Quantiles

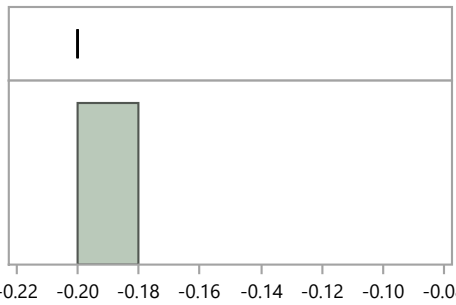
100.0%	maximum	6.3
99.5%		6.3
97.5%		6.3
90.0%		6.3
75.0%	quartile	6.3
50.0%	median	5.9
25.0%	quartile	5.5
10.0%		5.5
2.5%		5.5
0.5%		5.5
0.0%	minimum	5.5

Summary Statistics

Mean	5.9
Std Dev	0.6
Std Err Mean	0.4
Upper 95% Mean	11.0
Lower 95% Mean	0.8
N	2.0

Distributions Analyte_Method=Cobalt-57 Acid dissolution with hydrofluoric acid

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

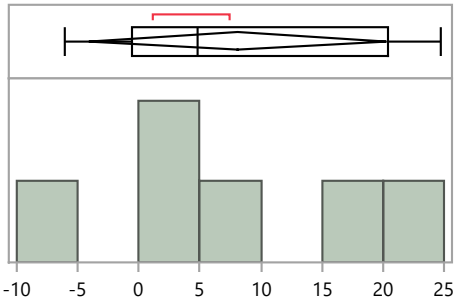
Mean	-0.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

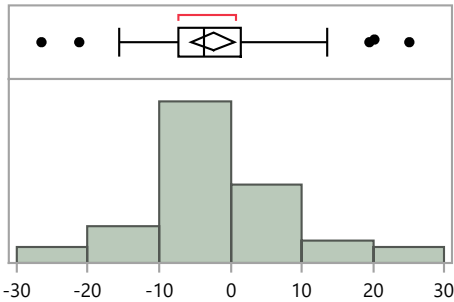
100.0%	maximum	24.7
99.5%		24.7
97.5%		24.7
90.0%		24.7
75.0%	quartile	20.4
50.0%	median	4.9
25.0%	quartile	-0.6
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

Summary Statistics

Mean	8.1
Std Dev	11.6
Std Err Mean	4.7
Upper 95% Mean	20.3
Lower 95% Mean	-4.1
N	6.0

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

Bias



Quantiles

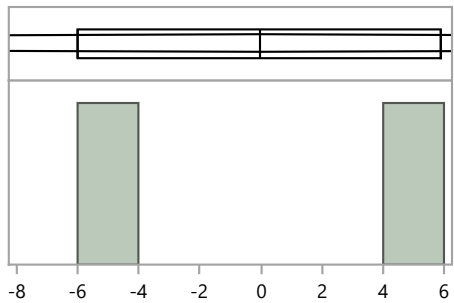
100.0%	maximum	25.1
99.5%		25.1
97.5%		24.2
90.0%		11.9
75.0%	quartile	1.4
50.0%	median	-3.8
25.0%	quartile	-7.3
10.0%		-14.8
2.5%		-25.6
0.5%		-26.5
0.0%	minimum	-26.5

Summary Statistics

Mean	-2.4
Std Dev	9.9
Std Err Mean	1.5
Upper 95% Mean	0.5
Lower 95% Mean	-5.4
N	46.0

Distributions Analyte_Method=Cobalt-57 Other

Bias



Quantiles

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

Summary Statistics

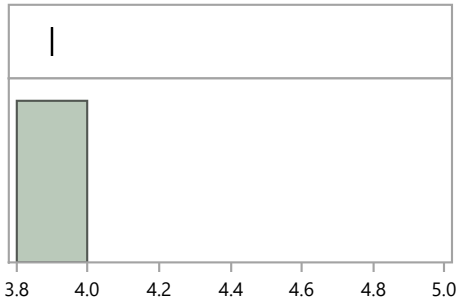
Mean	-0.0
Std Dev	8.4
Std Err Mean	6.0
Upper 95% Mean	75.6
Lower 95% Mean	-75.7
N	2.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Acid dissolution with hydrofluoric acid

Bias



Quantiles

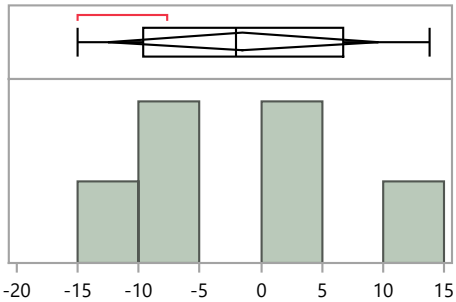
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	3.9
50.0%	median	3.9
25.0%	quartile	3.9
10.0%		3.9
2.5%		3.9
0.5%		3.9
0.0%	minimum	3.9

Summary Statistics

Mean	3.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

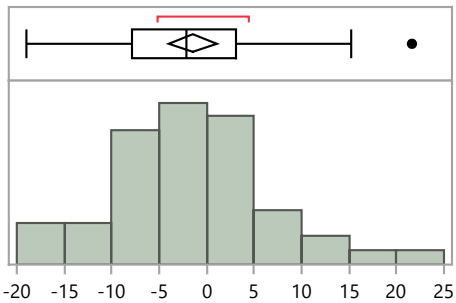
100.0%	maximum	13.8
99.5%		13.8
97.5%		13.8
90.0%		13.8
75.0%	quartile	6.8
50.0%	median	-2.1
25.0%	quartile	-9.7
10.0%		-15.0
2.5%		-15.0
0.5%		-15.0
0.0%	minimum	-15.0

Summary Statistics

Mean	-1.5
Std Dev	10.5
Std Err Mean	4.3
Upper 95% Mean	9.6
Lower 95% Mean	-12.5
N	6.0

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

Bias



Quantiles

100.0%	maximum	21.6
99.5%		21.6
97.5%		20.3
90.0%		9.4
75.0%	quartile	3.1
50.0%	median	-2.1
25.0%	quartile	-7.9
10.0%		-11.8
2.5%		-18.7
0.5%		-18.9
0.0%	minimum	-18.9

Summary Statistics

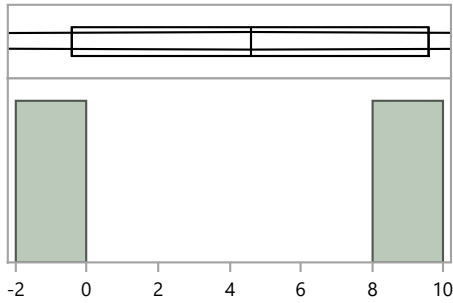
Mean	-1.5
Std Dev	8.5
Std Err Mean	1.2
Upper 95% Mean	1.0
Lower 95% Mean	-4.0
N	47.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 Other

Bias



Quantiles

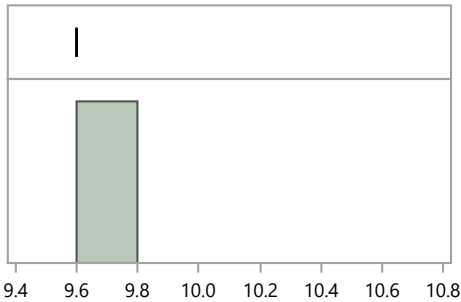
100.0%	maximum	9.6
99.5%		9.6
97.5%		9.6
90.0%		9.6
75.0%	quartile	9.6
50.0%	median	4.6
25.0%	quartile	-0.4
10.0%		-0.4
2.5%		-0.4
0.5%		-0.4
0.0%	minimum	-0.4

Summary Statistics

Mean	4.6
Std Dev	7.1
Std Err Mean	5.0
Upper 95% Mean	68.1
Lower 95% Mean	-58.9
N	2.0

Distributions Analyte_Method=Manganese-54 Acid dissolution with hydrofluoric acid

Bias



Quantiles

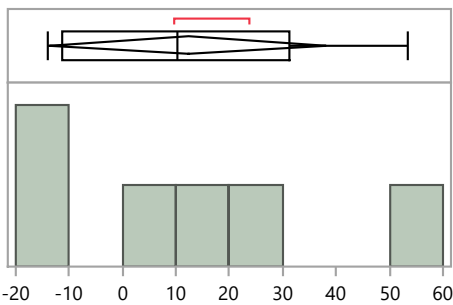
100.0%	maximum	9.6
99.5%		9.6
97.5%		9.6
90.0%		9.6
75.0%	quartile	9.6
50.0%	median	9.6
25.0%	quartile	9.6
10.0%		9.6
2.5%		9.6
0.5%		9.6
0.0%	minimum	9.6

Summary Statistics

Mean	9.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	53.4
99.5%		53.4
97.5%		53.4
90.0%		53.4
75.0%	quartile	31.2
50.0%	median	10.3
25.0%	quartile	-11.2
10.0%		-14.0
2.5%		-14.0
0.5%		-14.0
0.0%	minimum	-14.0

Summary Statistics

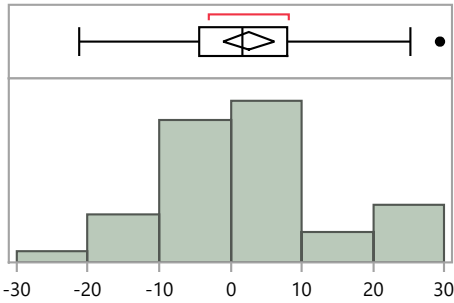
Mean	12.3
Std Dev	24.6
Std Err Mean	10.1
Upper 95% Mean	38.1
Lower 95% Mean	-13.6
N	6.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

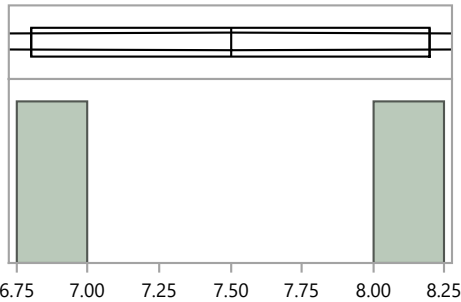
100.0%	maximum	29.4
99.5%		29.4
97.5%		28.6
90.0%		23.4
75.0%	quartile	8.0
50.0%	median	1.6
25.0%	quartile	-4.3
10.0%		-14.8
2.5%		-20.9
0.5%		-21.1
0.0%	minimum	-21.1

Summary Statistics

Mean	2.5
Std Dev	12.2
Std Err Mean	1.8
Upper 95% Mean	6.1
Lower 95% Mean	-1.0
N	47.0

Distributions Analyte_Method=Manganese-54 Other

Bias



Quantiles

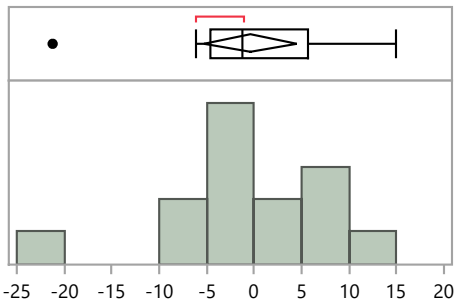
100.0%	maximum	8.2
99.5%		8.2
97.5%		8.2
90.0%		8.2
75.0%	quartile	8.2
50.0%	median	7.5
25.0%	quartile	6.8
10.0%		6.8
2.5%		6.8
0.5%		6.8
0.0%	minimum	6.8

Summary Statistics

Mean	7.5
Std Dev	1.0
Std Err Mean	0.7
Upper 95% Mean	16.4
Lower 95% Mean	-1.4
N	2.0

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

Bias



Quantiles

100.0%	maximum	14.9
99.5%		14.9
97.5%		14.9
90.0%		11.7
75.0%	quartile	5.7
50.0%	median	-1.3
25.0%	quartile	-4.7
10.0%		-13.7
2.5%		-21.2
0.5%		-21.2
0.0%	minimum	-21.2

Summary Statistics

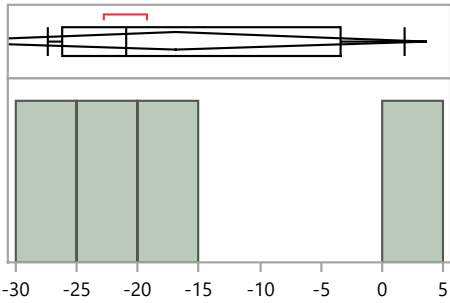
Mean	-0.4
Std Dev	8.5
Std Err Mean	2.3
Upper 95% Mean	4.5
Lower 95% Mean	-5.3
N	14.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

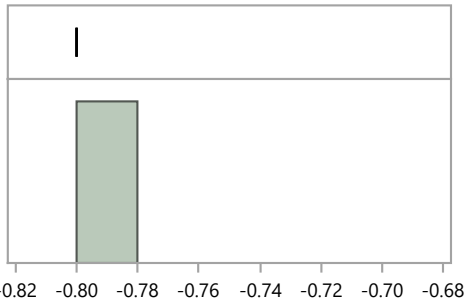
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	-3.5
50.0%	median	-21.0
25.0%	quartile	-26.2
10.0%		-27.3
2.5%		-27.3
0.5%		-27.3
0.0%	minimum	-27.3

Summary Statistics

Mean	-16.9
Std Dev	12.9
Std Err Mean	6.4
Upper 95% Mean	3.6
Lower 95% Mean	-37.4
N	4.0

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, acidified

Bias



Quantiles

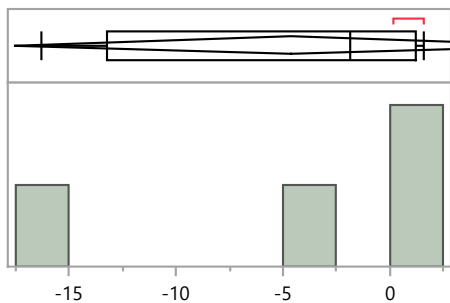
100.0%	maximum	-0.8
99.5%		-0.8
97.5%		-0.8
90.0%		-0.8
75.0%	quartile	-0.8
50.0%	median	-0.8
25.0%	quartile	-0.8
10.0%		-0.8
2.5%		-0.8
0.5%		-0.8
0.0%	minimum	-0.8

Summary Statistics

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

Distributions Analyte_Method=Plutonium-239/240 Other

Bias



Quantiles

100.0%	maximum	1.6
99.5%		1.6
97.5%		1.6
90.0%		1.6
75.0%	quartile	1.3
50.0%	median	-1.9
25.0%	quartile	-13.2
10.0%		-16.3
2.5%		-16.3
0.5%		-16.3
0.0%	minimum	-16.3

Summary Statistics

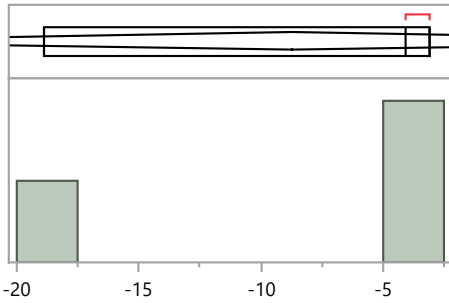
Mean	-4.6
Std Dev	8.1
Std Err Mean	4.1
Upper 95% Mean	8.4
Lower 95% Mean	-17.6
N	4.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

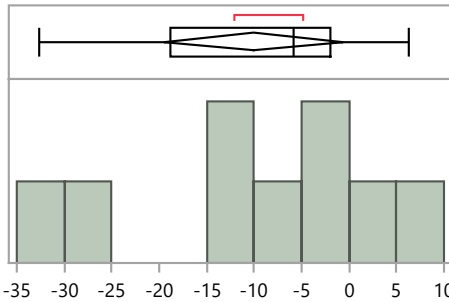
100.0%	maximum	-3.1
99.5%		-3.1
97.5%		-3.1
90.0%		-3.1
75.0%	quartile	-3.1
50.0%	median	-4.1
25.0%	quartile	-18.9
10.0%		-18.9
2.5%		-18.9
0.5%		-18.9
0.0%	minimum	-18.9

Summary Statistics

Mean	-8.7
Std Dev	8.8
Std Err Mean	5.1
Upper 95% Mean	13.3
Lower 95% Mean	-30.7
N	3.0

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias



Quantiles

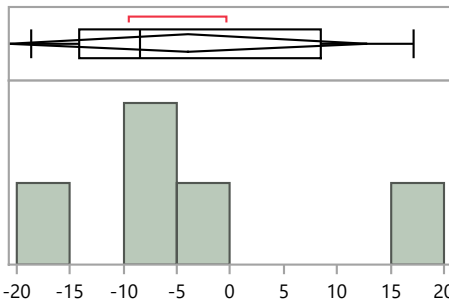
100.0%	maximum	6.2
99.5%		6.2
97.5%		6.2
90.0%		6.2
75.0%	quartile	-2.1
50.0%	median	-5.9
25.0%	quartile	-18.9
10.0%		-32.6
2.5%		-32.6
0.5%		-32.6
0.0%	minimum	-32.6

Summary Statistics

Mean	-10.0
Std Dev	12.3
Std Err Mean	4.1
Upper 95% Mean	-0.6
Lower 95% Mean	-19.5
N	9.0

Distributions Analyte_Method=Strontium-90 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	17.2
99.5%		17.2
97.5%		17.2
90.0%		17.2
75.0%	quartile	8.5
50.0%	median	-8.4
25.0%	quartile	-14.1
10.0%		-18.7
2.5%		-18.7
0.5%		-18.7
0.0%	minimum	-18.7

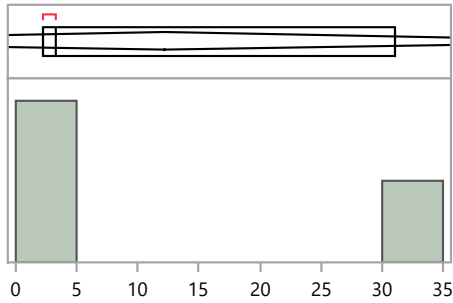
Summary Statistics

Mean	-3.9
Std Dev	13.5
Std Err Mean	6.0
Upper 95% Mean	12.8
Lower 95% Mean	-20.7
N	5.0

RdF Distribution by Prep Method

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

Bias



Quantiles

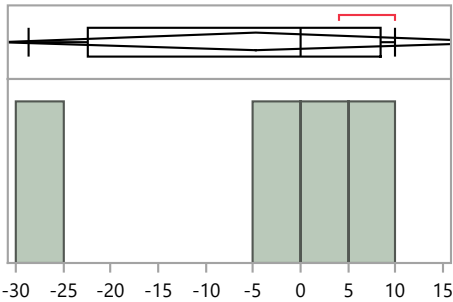
100.0%	maximum	31.1
99.5%		31.1
97.5%		31.1
90.0%		31.1
75.0%	quartile	31.1
50.0%	median	3.3
25.0%	quartile	2.2
10.0%		2.2
2.5%		2.2
0.5%		2.2
0.0%	minimum	2.2

Summary Statistics

Mean	12.2
Std Dev	16.4
Std Err Mean	9.5
Upper 95% Mean	52.9
Lower 95% Mean	-28.5
N	3.0

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

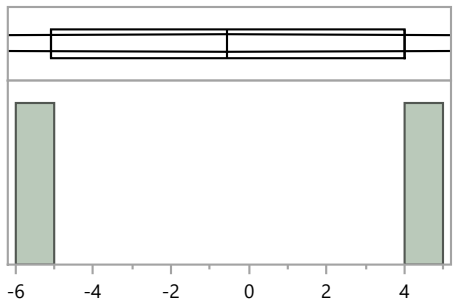
100.0%	maximum	9.9
99.5%		9.9
97.5%		9.9
90.0%		9.9
75.0%	quartile	8.4
50.0%	median	0.0
25.0%	quartile	-22.5
10.0%		-28.6
2.5%		-28.6
0.5%		-28.6
0.0%	minimum	-28.6

Summary Statistics

Mean	-4.7
Std Dev	16.9
Std Err Mean	8.5
Upper 95% Mean	22.3
Lower 95% Mean	-31.6
N	4.0

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	4.0
50.0%	median	-0.5
25.0%	quartile	-5.1
10.0%		-5.1
2.5%		-5.1
0.5%		-5.1
0.0%	minimum	-5.1

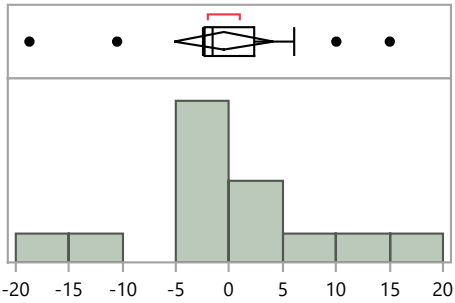
Summary Statistics

Mean	-0.5
Std Dev	6.4
Std Err Mean	4.6
Upper 95% Mean	57.3
Lower 95% Mean	-58.4
N	2.0

RdF Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Acid dissolution with hydrofluoric acid

Bias



Quantiles

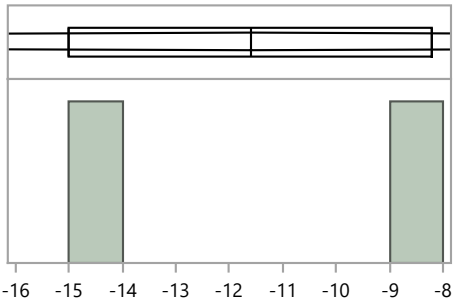
100.0%	maximum	15.0
99.5%		15.0
97.5%		15.0
90.0%		12.5
75.0%	quartile	2.3
50.0%	median	-1.5
25.0%	quartile	-2.3
10.0%		-14.6
2.5%		-18.7
0.5%		-18.7
0.0%	minimum	-18.7

Summary Statistics

Mean	-0.5
Std Dev	8.1
Std Err Mean	2.2
Upper 95% Mean	4.2
Lower 95% Mean	-5.1
N	14.0

Distributions Analyte_Method=Uranium-234 Acid leaching without hydrofluoric acid

Bias



Quantiles

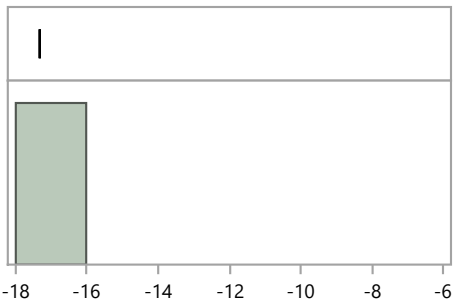
100.0%	maximum	-8.2
99.5%		-8.2
97.5%		-8.2
90.0%		-8.2
75.0%	quartile	-8.2
50.0%	median	-11.6
25.0%	quartile	-15.0
10.0%		-15.0
2.5%		-15.0
0.5%		-15.0
0.0%	minimum	-15.0

Summary Statistics

Mean	-11.6
Std Dev	4.8
Std Err Mean	3.4
Upper 95% Mean	31.6
Lower 95% Mean	-54.8
N	2.0

Distributions Analyte_Method=Uranium-234 Coprecipitation, acidified

Bias



Quantiles

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

Summary Statistics

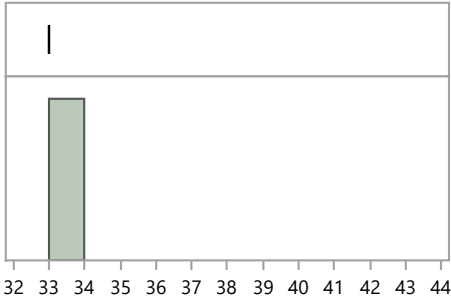
Mean	-17.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

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

Bias



Quantiles

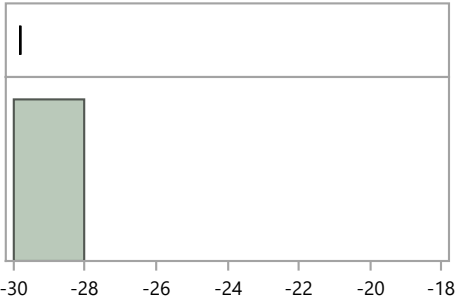
100.0%	maximum	33.0
99.5%		33.0
97.5%		33.0
90.0%		33.0
75.0%	quartile	33.0
50.0%	median	33.0
25.0%	quartile	33.0
10.0%		33.0
2.5%		33.0
0.5%		33.0
0.0%	minimum	33.0

Summary Statistics

Mean	33.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

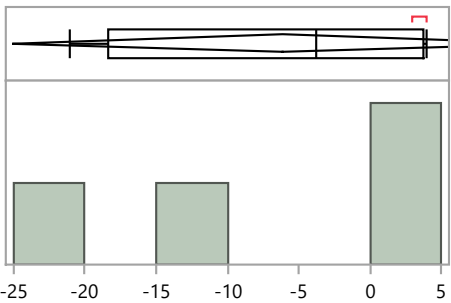
100.0%	maximum	-29.8
99.5%		-29.8
97.5%		-29.8
90.0%		-29.8
75.0%	quartile	-29.8
50.0%	median	-29.8
25.0%	quartile	-29.8
10.0%		-29.8
2.5%		-29.8
0.5%		-29.8
0.0%	minimum	-29.8

Summary Statistics

Mean	-29.8
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	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	3.8
50.0%	median	-3.8
25.0%	quartile	-18.4
10.0%		-21.0
2.5%		-21.0
0.5%		-21.0
0.0%	minimum	-21.0

Summary Statistics

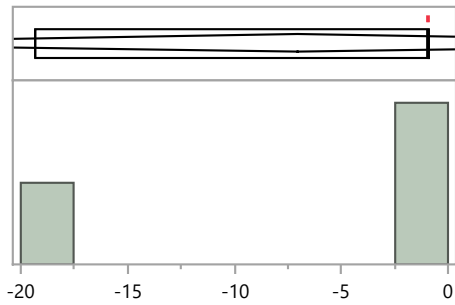
Mean	-6.1
Std Dev	11.9
Std Err Mean	6.0
Upper 95% Mean	12.8
Lower 95% Mean	-25.1
N	4.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

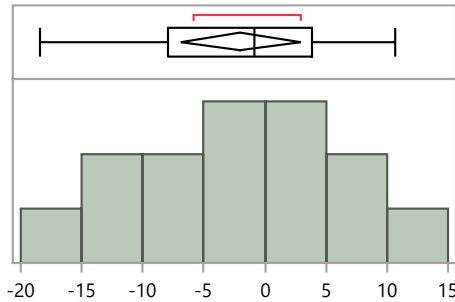
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-1.0
25.0%	quartile	-19.3
10.0%		-19.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

Summary Statistics

Mean	-7.1
Std Dev	10.6
Std Err Mean	6.1
Upper 95% Mean	19.3
Lower 95% Mean	-33.4
N	3.0

Distributions Analyte_Method=Uranium-238 Acid dissolution with hydrofluoric acid

Bias



Quantiles

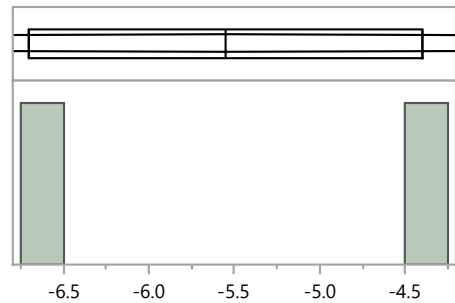
100.0%	maximum	10.6
99.5%		10.6
97.5%		10.6
90.0%		10.1
75.0%	quartile	3.9
50.0%	median	-0.8
25.0%	quartile	-7.9
10.0%		-16.1
2.5%		-18.4
0.5%		-18.4
0.0%	minimum	-18.4

Summary Statistics

Mean	-2.0
Std Dev	8.5
Std Err Mean	2.3
Upper 95% Mean	2.9
Lower 95% Mean	-6.9
N	14.0

Distributions Analyte_Method=Uranium-238 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	-4.4
99.5%		-4.4
97.5%		-4.4
90.0%		-4.4
75.0%	quartile	-4.4
50.0%	median	-5.6
25.0%	quartile	-6.7
10.0%		-6.7
2.5%		-6.7
0.5%		-6.7
0.0%	minimum	-6.7

Summary Statistics

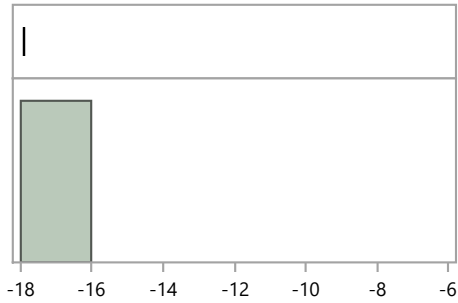
Mean	-5.6
Std Dev	1.6
Std Err Mean	1.2
Upper 95% Mean	9.1
Lower 95% Mean	-20.2
N	2.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Coprecipitation, acidified

Bias



Quantiles

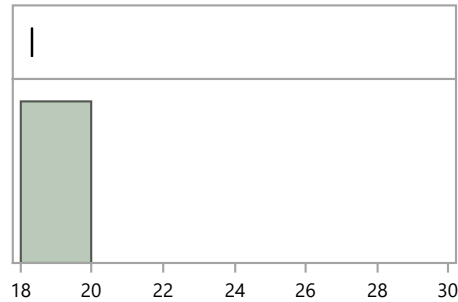
100.0%	maximum	-17.9
99.5%		-17.9
97.5%		-17.9
90.0%		-17.9
75.0%	quartile	-17.9
50.0%	median	-17.9
25.0%	quartile	-17.9
10.0%		-17.9
2.5%		-17.9
0.5%		-17.9
0.0%	minimum	-17.9

Summary Statistics

Mean	-17.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

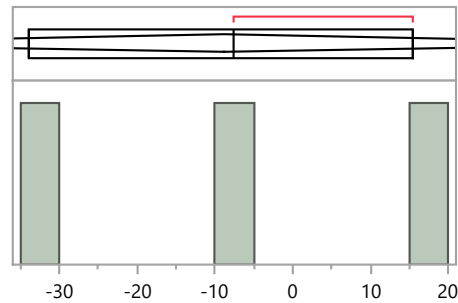
100.0%	maximum	18.3
99.5%		18.3
97.5%		18.3
90.0%		18.3
75.0%	quartile	18.3
50.0%	median	18.3
25.0%	quartile	18.3
10.0%		18.3
2.5%		18.3
0.5%		18.3
0.0%	minimum	18.3

Summary Statistics

Mean	18.3
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	15.4
99.5%		15.4
97.5%		15.4
90.0%		15.4
75.0%	quartile	15.4
50.0%	median	-7.7
25.0%	quartile	-34.0
10.0%		-34.0
2.5%		-34.0
0.5%		-34.0
0.0%	minimum	-34.0

Summary Statistics

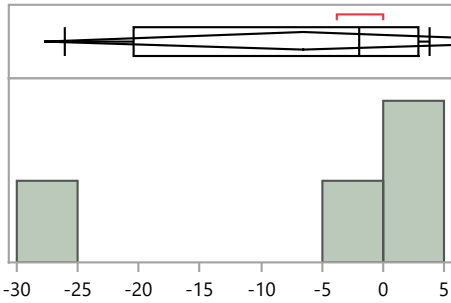
Mean	-8.8
Std Dev	24.7
Std Err Mean	14.3
Upper 95% Mean	52.6
Lower 95% Mean	-70.2
N	3.0

RdF45 Distribution by Preparation Method

RdF Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Other

Bias



Quantiles

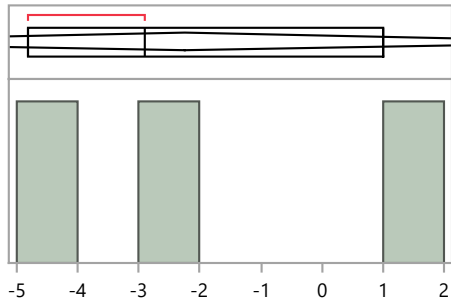
100.0%	maximum	3.8
99.5%		3.8
97.5%		3.8
90.0%		3.8
75.0%	quartile	2.9
50.0%	median	-1.9
25.0%	quartile	-20.5
10.0%		-26.0
2.5%		-26.0
0.5%		-26.0
0.0%	minimum	-26.0

Summary Statistics

Mean	-6.5
Std Dev	13.4
Std Err Mean	6.7
Upper 95% Mean	14.8
Lower 95% Mean	-27.8
N	4.0

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	1.0
50.0%	median	-2.9
25.0%	quartile	-4.8
10.0%		-4.8
2.5%		-4.8
0.5%		-4.8
0.0%	minimum	-4.8

Summary Statistics

Mean	-2.2
Std Dev	3.0
Std Err Mean	1.7
Upper 95% Mean	5.1
Lower 95% Mean	-9.6
N	3.0