

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.

RdF49 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	RdF
AFOH01	USAFSAM/OEA	RdF
AGQL99	Labs & Technological Services AGQ	RdF
ANLB01	Argonne National Laboratory	RdF
ARPL01	Analytical Support Operations - Radiochemical Processing Lab	RdF
ARSL01	ARS	RdF
ASUK99	AWE (Aldermaston)	RdF
CDHS01	California Department of Public Health	RdF
CESL01	Lawrence Livermore National Laboratory - EMRL	RdF
CMRC01	Carlsbad Environmental Monitoring and Research Center	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
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	UKHSA, RCE Glasgow	RdF
HPAL01	Los Alamos National Laboratory	RdF
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	RdF
ISUE01	ISU Environmental Monitoring Laboratory	RdF
ISUP01	ISU - Department of Physics/Health Physics/EAL	RdF
JAEC99	Research Laboratories and Information Directorate	RdF
JLNN01	Jefferson Laboratory	RdF
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	RdF
MART01	Fluor-BWXT Portsmouth LLC, Analytical Laboratory	RdF
MART03	Radioactive Material Analysis Laboratory	RdF
MNDH01	Minnesota Department of Health, Public Health Lab. Division	RdF
MSDH01	Mississippi State Dept of Health	RdF
NARL01	National Analytical Radiation Environmental Laboratory	RdF
NESI01	BWXT-Radioisotope & Analytical Chemistry Laboratory	RdF
NJDH01	New Jersey Dept. of Health, ECLS	RdF
NOCS99	National Oceanography Centre, Southampton	RdF
ODHL01	Ohio Department of Health Laboratory	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

STRL01	South Texas Project Radiological Laboratory	RdF
TDHL01	Texas Department of State Health Services Laboratory	RdF
TELE02	Microbac Laboratories Inc. - Northbrook	RdF
TMAO01	EBERLINE Analytical Corporation	RdF
WIPH01	WI, DPH, Radiation Protection Section	RdF
WIPP01	WIPP Laboratories	RdF
WSHL01	Wisconsin State Laboratory of Hygiene	RdF
WSTP99	Cavendish Nuclear Limited	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
AMEC99	Jacobs Clean Energy Limited - Analytical Services	RdF
IAEA99	International Atomic Energy Agency	RdF
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	RdF
MDPH01	MDPH-Radiation Control Program	RdF
NNRL99	National Nuclear Regulator	RdF

Study Reference Values

MAPEP-23-RdF49

Radiological Reference Date: 08/01/2023

Analyte	Ref Value	Ref Unc
Inorganic	Units: (ug/sample)	
Uranium-235	0.0503	0.0013
Uranium-238	7.3	0.2
Uranium-Total	7.4	0.2

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/sample)	
Americium-241	0.0942	0.0018
Cesium-134	1.60	0.04
Cobalt-57	1.63	0.04
Manganese-54	1.57	0.04
Plutonium-238	0.00037	0.00011
Plutonium-239/240	0.0505	0.0013
Strontium-90	0.614	0.014
Uranium-234	0.090	0.003
Uranium-238	0.091	0.003
Zinc-65	1.89	0.04

Sample Statistical Summary

MAPEP-23-RdF49

Radiological Reference Date: 08/01/2023

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (ug/sample)
Inorganic							
Uranium-235	4	4			0.0503	0.0013	0.0352 - 0.0654
Uranium-238	4	4			7.3	0.2	5.1 - 9.5
Uranium-Total	4	4			7.4	0.2	5.2 - 9.6

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (Bq/sample)
Radiological							
Americium-241	32	26	0.0857	0.0098	0.0942	0.0018	0.0659 - 0.1225
Cesium-134	49	47	1.49	0.15	1.60	0.04	1.12 - 2.08
Cesium-137	43	40					False Positive Test
Cobalt-57	49	47	1.57	0.13	1.63	0.04	1.14 - 2.12
Cobalt-60	44	40					False Positive Test
Manganese-54	49	47	1.60	0.17	1.57	0.04	1.10 - 2.04
Plutonium-238	26	22	0.00336	0.01205	0.00037	0.00011	Sensitivity Evaluation
Plutonium-239/240	26	23	0.0493	0.0063	0.0505	0.0013	0.0354 - 0.0657
Strontium-90	25	24	0.575	0.074	0.614	0.014	0.430 - 0.798
Uranium-234	27	25	0.087	0.008	0.090	0.003	0.063 - 0.117
Uranium-238	28	26	0.089	0.009	0.091	0.003	0.064 - 0.118
Zinc-65	49	43	1.92	0.23	1.89	0.04	1.32 - 2.46

- 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-23-RdF49

Inorganic

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

Radiological

Analyte	A	W	RW	N
Americium-241	24	2		6
Cesium-134	42	5		2
Cesium-137	40			7
Cobalt-57	45	2		2
Cobalt-60	40			8
Manganese-54	45	2		2
Plutonium-238	22			4
Plutonium-239/240	20	3		3
Strontium-90	19	5		1
Uranium-234	24	1		2
Uranium-238	24	2		2
Zinc-65	39	4		6



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.64	1.60	A		2.5	1.12 - 2.08	0.0538	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	2.13	1.63	N		30.7	1.14 - 2.12	0.0533	A
Cobalt-60	NR		N	(11)		False Positive Test		
Manganese-54	2.39	1.57	N		52.2	1.10 - 2.04	0.0828	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.6	1.89	N		37.6	1.32 - 2.46	0.128	A

Radiological Reference Date: August 1, 2023

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:

(11) = False Positive Test, Result Not Reported



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0834	0.0942	A		-11.5	0.0659 - 0.1225	0.0044	A
Cesium-134	1.480	1.60	A		-7.5	1.12 - 2.08	0.068	A
Cesium-137	-0.018		A			False Positive Test	0.021	
Cobalt-57	1.430	1.63	A		-12.3	1.14 - 2.12	0.042	A
Cobalt-60	0.006		A			False Positive Test	0.019	
Manganese-54	1.470	1.57	A		-6.4	1.10 - 2.04	0.061	A
Plutonium-238	0.0004	0.00037	A	(17)		Sensitivity Evaluation	0.0003	
Plutonium-239/240	0.0544	0.0505	A		7.7	0.0354 - 0.0657	0.0047	A
Strontium-90	0.611	0.614	A		-0.5	0.430 - 0.798	0.043	A
Uranium-234	0.0860	0.090	A		-4.4	0.063 - 0.117	0.0053	A
Uranium-238	0.0923	0.091	A		1.4	0.064 - 0.118	0.0055	A
Zinc-65	1.740	1.89	A		-7.9	1.32 - 2.46	0.073	A

Radiological Reference Date: August 1, 2023

Results Flags:

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

Uncertainty Flags:

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

Notes:

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



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

Laboratory Results For MAPEP-23-RdF49
 (AGQL99) Labs & Technological Services AGQ
 Crtra A-8013 Km 20.8
 Burguillos, Sevilla 41220

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	NR	1.60				1.12 - 2.08		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	1.63				1.14 - 2.12		
Cobalt-60	NR					False Positive Test		
Manganese-54	NR	1.57				1.10 - 2.04		
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	0.0887	0.090	A		-1.4	0.063 - 0.117	0.0130	A
Uranium-238	0.0859	0.091	A		-5.6	0.064 - 0.118	0.0125	A
Zinc-65	NR	1.89				1.32 - 2.46		

Radiological Reference Date: August 1, 2023

Results Flags:

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

Uncertainty Flags:

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

Notes:



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0768	0.0942	A		-18.5	0.0659 - 0.1225	0.006	A
Cesium-134	1.438	1.60	A		-10.1	1.12 - 2.08	0.127	A
Cesium-137	0.018		A			False Positive Test	0.021	
Cobalt-57	1.544	1.63	A		-5.3	1.14 - 2.12	0.051	A
Cobalt-60	0.013		A			False Positive Test	0.011	
Manganese-54	1.720	1.57	A		9.6	1.10 - 2.04	0.076	A
Plutonium-238	0.001	0.00037	A	(17)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.060	0.0505	A		18.8	0.0354 - 0.0657	0.006	A
Strontium-90	0.585	0.614	A		-4.7	0.430 - 0.798	0.014	A
Uranium-234	0.078	0.090	A		-13.3	0.063 - 0.117	0.007	A
Uranium-238	0.081	0.091	A		-11.0	0.064 - 0.118	0.006	A
Zinc-65	2.202	1.89	A		16.5	1.32 - 2.46	0.088	A

Radiological Reference Date: August 1, 2023

Results Flags:

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

Uncertainty Flags:

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

Notes:

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.084	0.0942	A		-10.8	0.0659 - 0.1225	0.004	A
Cesium-134	1.54	1.60	A		-3.8	1.12 - 2.08	0.05	A
Cesium-137	0.01		A			False Positive Test	0.03	
Cobalt-57	1.55	1.63	A		-4.9	1.14 - 2.12	0.05	A
Cobalt-60	0.06		N	(1)		False Positive Test	0.01	
Manganese-54	1.56	1.57	A		-0.6	1.10 - 2.04	0.04	A
Plutonium-238	0.00284	0.00037	N	(4)		Sensitivity Evaluation	0.000565	
Plutonium-239/240	0.0414	0.0505	A		-18.0	0.0354 - 0.0657	0.00112	A
Strontium-90	0.576	0.614	A		-6.2	0.430 - 0.798	0.037	A
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.86	1.89	A		-1.6	1.32 - 2.46	0.07	A

Radiological Reference Date: August 1, 2023

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

Uncertainty Flags:

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

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation



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

Laboratory Results For MAPEP-23-RdF49

(ARSL01) ARS
2609 North River Road
Port Allen, LA 70767

Inorganic							Units: (ug/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	7.23	7.4	A		-2.3	5.2 - 9.6	0.052	N

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.081	0.0942	A		-14.0	0.0659 - 0.1225	0.009	A
Cesium-134	1.405	1.60	A		-12.2	1.12 - 2.08	0.063	A
Cesium-137	0.003		A			False Positive Test	0.020	
Cobalt-57	1.533	1.63	A		-6.0	1.14 - 2.12	0.058	A
Cobalt-60	0.019		A			False Positive Test	0.022	
Manganese-54	1.644	1.57	A		4.7	1.10 - 2.04	0.076	A
Plutonium-238	0.001	0.00037	A	(17)		Sensitivity Evaluation	0.002	
Plutonium-239/240	0.044	0.0505	A		-12.9	0.0354 - 0.0657	0.006	A
Strontium-90	0.748	0.614	W		21.8	0.430 - 0.798	0.071	A
Uranium-234	0.074	0.090	A		-17.8	0.063 - 0.117	0.008	A
Uranium-238	0.066	0.091	W		-27.5	0.064 - 0.118	0.008	A
Zinc-65	2.151	1.89	A		13.8	1.32 - 2.46	0.107	A

Radiological Reference Date: August 1, 2023

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

Uncertainty Flags:

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

Notes:

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	NR	1.60				1.12 - 2.08		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	1.63				1.14 - 2.12		
Cobalt-60	NR					False Positive Test		
Manganese-54	NR	1.57				1.10 - 2.04		
Plutonium-238	0.000225	0.00037	A	(17)		Sensitivity Evaluation	0.000111	
Plutonium-239/240	0.043	0.0505	A		-14.9	0.0354 - 0.0657	0.006	A
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	0.079	0.090	A		-12.2	0.063 - 0.117	0.012	W
Uranium-238	0.082	0.091	A		-9.9	0.064 - 0.118	0.012	A
Zinc-65	NR	1.89				1.32 - 2.46		

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0932	0.0942	A		-1.1	0.0659 - 0.1225	0.00477	A
Cesium-134	1.62	1.60	A		1.3	1.12 - 2.08	0.0455	A
Cesium-137	0.00330		A			False Positive Test	0.00916	
Cobalt-57	1.57	1.63	A		-3.7	1.14 - 2.12	0.0302	N
Cobalt-60	-0.00500		A			False Positive Test	0.00960	
Manganese-54	1.65	1.57	A		5.1	1.10 - 2.04	0.0439	A
Plutonium-238	0.000152	0.00037	A	(17)		Sensitivity Evaluation	0.000567	
Plutonium-239/240	0.0531	0.0505	A		5.1	0.0354 - 0.0657	0.00363	A
Strontium-90	0.644	0.614	A		4.9	0.430 - 0.798	0.0342	A
Uranium-234	0.0826	0.090	A		-8.2	0.063 - 0.117	0.00470	A
Uranium-238	0.0865	0.091	A		-4.9	0.064 - 0.118	0.00465	A
Zinc-65	1.80	1.89	A		-4.8	1.32 - 2.46	0.0586	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.67E+00	1.60	A		4.4	1.12 - 2.08	4.24E-02	A
Cesium-137	1.52E-02			A		False Positive Test	6.65E-03	
Cobalt-57	1.61E+00	1.63	A		-1.2	1.14 - 2.12	7.05E-02	A
Cobalt-60	1.54E+00		N	(1)		False Positive Test	4.33E-02	
Manganese-54	1.83E+00	1.57	A		16.6	1.10 - 2.04	1.07E-01	A
Plutonium-238	5.29E-03	0.00037	N	(4)		Sensitivity Evaluation	1.17E-04	
Plutonium-239/240	5.07E-02	0.0505	A		0.4	0.0354 - 0.0657	1.28E-03	A
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	-2.29E-02	1.89	N		-101.2	1.32 - 2.46	1.65E-02	N

Radiological Reference Date: August 1, 2023

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



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

Laboratory Results For MAPEP-23-RdF49
 (CMRC01) Carlsbad Environmental Monitoring and Research Center
 1400 University Dr.
 Carlsbad, NM 88220

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	1.46E-01	0.0942	N		55.0	0.0659 - 0.1225	1.71E-02	A
Cesium-134	NR	1.60				1.12 - 2.08		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	1.63				1.14 - 2.12		
Cobalt-60	9.20E-03		A			False Positive Test	1.42E-02	
Manganese-54	NR	1.57				1.10 - 2.04		
Plutonium-238	1.16E-04	0.00037	A	(17)		Sensitivity Evaluation	6.90E-05	
Plutonium-239/240	2.18E-02	0.0505	N		-56.8	0.0354 - 0.0657	2.34E-03	A
Strontium-90	7.65E-01	0.614	W		24.6	0.430 - 0.798	5.42E-04	N
Uranium-234	4.55E-02	0.090	N		-49.4	0.063 - 0.117	4.88E-03	A
Uranium-238	4.53E-02	0.091	N		-50.2	0.064 - 0.118	4.86E-03	A
Zinc-65	NR	1.89				1.32 - 2.46		

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.264	1.60	W		-21.0	1.12 - 2.08	0.075	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	1.507	1.63	A		-7.5	1.14 - 2.12	0.093	A
Cobalt-60	NR		N	(11)		False Positive Test		
Manganese-54	1.471	1.57	A		-6.3	1.10 - 2.04	0.121	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.166	1.89	A		14.6	1.32 - 2.46	0.144	A

Radiological Reference Date: August 1, 2023

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:

(11) = False Positive Test, Result Not Reported



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	8.071E-2	0.0942	A		-14.3	0.0659 - 0.1225	4.950E-3	A
Cesium-134	1.480E+0	1.60	A		-7.5	1.12 - 2.08	8.020E-2	A
Cesium-137	3.253E-2		A			False Positive Test	3.253E-2	
Cobalt-57	1.502E+0	1.63	A		-7.9	1.14 - 2.12	7.930E-2	A
Cobalt-60	3.314E-2		A			False Positive Test	3.314E-2	
Manganese-54	1.500E+0	1.57	A		-4.5	1.10 - 2.04	8.110E-2	A
Plutonium-238	3.544E-3	0.00037	N	(4)		Sensitivity Evaluation	8.173E-4	
Plutonium-239/240	3.881E-2	0.0505	W		-23.1	0.0354 - 0.0657	3.076E-3	A
Strontium-90	6.092E-01	0.614	A		-0.8	0.430 - 0.798	2.944E-02	A
Uranium-234	8.635E-2	0.090	A		-4.1	0.063 - 0.117	6.080E-3	A
Uranium-238	8.665E-2	0.091	A		-4.8	0.064 - 0.118	6.078E-3	A
Zinc-65	1.845E+0	1.89	A		-2.4	1.32 - 2.46	1.041E-1	A

Radiological Reference Date: August 1, 2023

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:

(4) = Sensitivity Evaluation



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

Laboratory Results For MAPEP-23-RdF49
 (ERCL01) Washington State Public Health Laboratories
 1610 N.E. 150th Street
 Shoreline, WA 98155-9701

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.0574	0.0503	A		14.1	0.0352 - 0.0654	0.0021	A
Uranium-238	8.32	7.3	A		14.0	5.1 - 9.5	0.32	A
Uranium-Total	8.38	7.4	A		13.2	5.2 - 9.6	0.32	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0840	0.0942	A		-10.8	0.0659 - 0.1225	0.0040	A
Cesium-134	1.59	1.60	A		-0.6	1.12 - 2.08	0.05	A
Cesium-137	-0.007		A			False Positive Test	0.013	
Cobalt-57	1.61	1.63	A		-1.2	1.14 - 2.12	0.04	A
Cobalt-60	0.005		A			False Positive Test	0.012	
Manganese-54	1.65	1.57	A		5.1	1.10 - 2.04	0.09	A
Plutonium-238	0.00070	0.00037	A	(17)		Sensitivity Evaluation	0.00051	
Plutonium-239/240	0.0470	0.0505	A		-6.9	0.0354 - 0.0657	0.0026	A
Strontium-90	0.570	0.614	A		-7.2	0.430 - 0.798	0.034	A
Uranium-234	0.0936	0.090	A		4.0	0.063 - 0.117	0.0047	A
Uranium-238	0.0851	0.091	A		-6.5	0.064 - 0.118	0.0043	A
Zinc-65	2.00	1.89	A		5.8	1.32 - 2.46	0.23	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

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

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.049	0.0503	A		-2.6	0.0352 - 0.0654	0.001	A
Uranium-238	6.99	7.3	A		-4.2	5.1 - 9.5	0.16	A
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.088	0.0942	A		-6.6	0.0659 - 0.1225	0.005	A
Cesium-134	1.79	1.60	A		11.9	1.12 - 2.08	0.089	A
Cesium-137	0.034		A			False Positive Test	0.064	
Cobalt-57	1.79	1.63	A		9.8	1.14 - 2.12	0.089	A
Cobalt-60	0.0305		A			False Positive Test	0.060	
Manganese-54	1.86	1.57	A		18.5	1.10 - 2.04	0.098	A
Plutonium-238	0.0001	0.00037	A	(17)		Sensitivity Evaluation	0.0001	
Plutonium-239/240	0.050	0.0505	A		-1.0	0.0354 - 0.0657	0.005	A
Strontium-90	0.583	0.614	A		-5.0	0.430 - 0.798	0.04	A
Uranium-234	0.086	0.090	A		-4.4	0.063 - 0.117	0.006	A
Uranium-238	0.086	0.091	A		-5.5	0.064 - 0.118	0.006	A
Zinc-65	1.10	1.89	N		-41.8	1.32 - 2.46	0.055	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

(FDHE01) Florida Dept of Health Environmental Laboratory
 2100 All Childrens Way
 Orlando, FL 32818-5271

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.09	0.0942	A		-4.5	0.0659 - 0.1225	0.01	A
Cesium-134	1.549	1.60	A		-3.2	1.12 - 2.08	0.032	A
Cesium-137	0.046		A			False Positive Test	0.042	
Cobalt-57	1.582	1.63	A		-2.9	1.14 - 2.12	0.049	A
Cobalt-60	0.025		A			False Positive Test	0.025	
Manganese-54	1.577	1.57	A		0.4	1.10 - 2.04	0.045	A
Plutonium-238	0.057	0.00037	A	(17)		Sensitivity Evaluation	0.02	
Plutonium-239/240	0.043	0.0505	A		-14.9	0.0354 - 0.0657	0.02	N
Strontium-90	0.56	0.614	A		-8.8	0.430 - 0.798	0.04	A
Uranium-234	0.087	0.090	A		-3.3	0.063 - 0.117	0.04	N
Uranium-238	0.085	0.091	A		-6.6	0.064 - 0.118	0.04	N
Zinc-65	2.027	1.89	A		7.2	1.32 - 2.46	0.069	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

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

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.09	0.0942	A		-4.5	0.0659 - 0.1225	0.01	A
Cesium-134	1.666	1.60	A		4.1	1.12 - 2.08	0.022	N
Cesium-137	0.022		A			False Positive Test	0.013	
Cobalt-57	1.618	1.63	A		-0.7	1.14 - 2.12	0.024	N
Cobalt-60	0.021		A			False Positive Test	0.021	
Manganese-54	1.59	1.57	A		1.3	1.10 - 2.04	0.031	N
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	0.097	0.091	A		6.6	0.064 - 0.118	0.116	N
Zinc-65	2.056	1.89	A		8.8	1.32 - 2.46	0.084	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.54	1.60	A		-3.8	1.12 - 2.08	0.12	A
Cesium-137	-0.0002			A		False Positive Test	0.0492	
Cobalt-57	1.65	1.63	A		1.2	1.14 - 2.12	0.14	A
Cobalt-60	0.023			A		False Positive Test	0.034	
Manganese-54	1.69	1.57	A		7.6	1.10 - 2.04	0.19	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.06	1.89	A		9.0	1.32 - 2.46	0.26	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0562	0.0503	A		11.7	0.0352 - 0.0654	0.00392	A
Uranium-238	7.91	7.3	A		8.4	5.1 - 9.5	0.523	A
Uranium-Total	7.9662	7.4	A		7.7	5.2 - 9.6	0.523	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0991	0.0942	A		5.2	0.0659 - 0.1225	0.00582	A
Cesium-134	1.54	1.60	A		-3.8	1.12 - 2.08	0.1	A
Cesium-137	0.0177		A			False Positive Test	0.0271	
Cobalt-57	1.7	1.63	A		4.3	1.14 - 2.12	0.0839	A
Cobalt-60	0.0136		A			False Positive Test	0.0272	
Manganese-54	1.83	1.57	A		16.6	1.10 - 2.04	0.118	A
Plutonium-238	0.000523	0.00037	A	(17)		Sensitivity Evaluation	0.000254	
Plutonium-239/240	0.0516	0.0505	A		2.2	0.0354 - 0.0657	0.00269	A
Strontium-90	0.518	0.614	A		-15.6	0.430 - 0.798	0.0739	A
Uranium-234	0.0926	0.090	A		2.9	0.063 - 0.117	0.00503	A
Uranium-238	0.0909	0.091	A		-0.1	0.064 - 0.118	0.00495	A
Zinc-65	2.34	1.89	W		23.8	1.32 - 2.46	0.170	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.6021	1.60	A		0.1	1.12 - 2.08	0.1421	A
Cesium-137	0.0038			A		False Positive Test	0.1052	
Cobalt-57	1.4993	1.63	A		-8.0	1.14 - 2.12	0.1621	A
Cobalt-60	-0.0031			A		False Positive Test	0.0871	
Manganese-54	1.5717	1.57	A		0.1	1.10 - 2.04	0.1915	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.9598	1.89	A		3.7	1.32 - 2.46	0.3156	W

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.472	1.60	A		-8.0	1.12 - 2.08	0.2490	W
Cesium-137	0.05693		A			False Positive Test	0.2584	
Cobalt-57	1.563	1.63	A		-4.1	1.14 - 2.12	0.2334	A
Cobalt-60	0.2893		A			False Positive Test	0.1839	
Manganese-54	1.313	1.57	A		-16.4	1.10 - 2.04	0.3090	W
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.108	1.89	N		-41.4	1.32 - 2.46	0.4892	N

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(HPAC99) UKHSA, RCE Glasgow

155 Hardgate Road

Glasgow, Scotland G51 4LS

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.103	0.0942	A		9.3	0.0659 - 0.1225	0.009	A
Cesium-134	1.486	1.60	A		-7.1	1.12 - 2.08	0.091	A
Cesium-137	0.03		A			False Positive Test	0.03	
Cobalt-57	1.563	1.63	A		-4.1	1.14 - 2.12	0.096	A
Cobalt-60	0.04		A			False Positive Test	0.04	
Manganese-54	1.508	1.57	A		-3.9	1.10 - 2.04	0.095	A
Plutonium-238	NR	0.00037	N	(18)		Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505	N	(28)		0.0354 - 0.0657		
Strontium-90	0.441	0.614	W		-28.2	0.430 - 0.798	0.017	A
Uranium-234	0.091	0.090	A		1.1	0.063 - 0.117	0.005	A
Uranium-238	0.092	0.091	A		1.1	0.064 - 0.118	0.005	A
Zinc-65	1.654	1.89	A		-12.5	1.32 - 2.46	0.11	A

Radiological Reference Date: August 1, 2023

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:

- (18) = Sensitivity Evaluation, Value Not Reported
- (28) = Not Reporting Previously Reported Analyte



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

Laboratory Results For MAPEP-23-RdF49
 (HPAL01) Los Alamos National Laboratory
 Josh Chandler, z338219 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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.15	0.0942	N		59.2	0.0659 - 0.1225	0.04	W
Cesium-134	1.53	1.60	A		-4.4	1.12 - 2.08	0.09	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	1.60	1.63	A		-1.8	1.14 - 2.12	0.08	A
Cobalt-60	NR		N	(11)		False Positive Test		
Manganese-54	1.85	1.57	A		17.8	1.10 - 2.04	0.16	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090	N	(28)		0.063 - 0.117		
Uranium-238	NR	0.091	N	(28)		0.064 - 0.118		
Zinc-65	2.39	1.89	W		26.5	1.32 - 2.46	0.27	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0821	0.0942	A		-12.8	0.0659 - 0.1225	0.0034	A
Cesium-134	1.30	1.60	A		-18.8	1.12 - 2.08	0.042	A
Cesium-137	0.022		A			False Positive Test	0.034	
Cobalt-57	1.44	1.63	A		-11.7	1.14 - 2.12	0.036	A
Cobalt-60	0.026		A			False Positive Test	0.035	
Manganese-54	1.52	1.57	A		-3.2	1.10 - 2.04	0.069	A
Plutonium-238	0.00074	0.00037	A			Sensitivity Evaluation	0.00024	
Plutonium-239/240	0.0498	0.0505	A		-1.4	0.0354 - 0.0657	0.0024	A
Strontium-90	0.577	0.614	A		-6.0	0.430 - 0.798	0.034	A
Uranium-234	0.0829	0.090	A		-7.9	0.063 - 0.117	0.0034	A
Uranium-238	0.0912	0.091	A		0.2	0.064 - 0.118	0.0037	A
Zinc-65	1.59	1.89	A		-15.9	1.32 - 2.46	0.128	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (ISUE01) ISU Environmental Monitoring Laboratory
 785 5th 8th Ave Rm B107
 Pocatello, Idaho 83209

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.51	1.60	A		-5.6	1.12 - 2.08	0.03	N
Cesium-137	-0.005		A			False Positive Test	0.009	
Cobalt-57	1.79	1.63	A		9.8	1.14 - 2.12	0.05	A
Cobalt-60	0.001		A			False Positive Test	0.010	
Manganese-54	1.98	1.57	W		26.1	1.10 - 2.04	0.06	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.29	1.89	W		21.2	1.32 - 2.46	0.09	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.7	1.60	A		6.3	1.12 - 2.08	0.1	A
Cesium-137	0.01		A			False Positive Test	0.1	
Cobalt-57	1.8	1.63	A		10.4	1.14 - 2.12	0.1	A
Cobalt-60	0.04		A			False Positive Test	0.1	
Manganese-54	1.82	1.57	A		15.9	1.10 - 2.04	0.5	W
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.85	1.89	A		-2.1	1.32 - 2.46	0.2	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.76	1.60	A		10.0	1.12 - 2.08	0.04	A
Cesium-137	NR					False Positive Test		
Cobalt-57	1.64	1.63	A		0.6	1.14 - 2.12	0.07	A
Cobalt-60	NR					False Positive Test		
Manganese-54	1.74	1.57	A		10.8	1.10 - 2.04	0.05	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	0.1091	0.090	W		21.2	0.063 - 0.117	0.0065	A
Uranium-238	0.1131	0.091	W		24.3	0.064 - 0.118	0.0067	A
Zinc-65	1.94	1.89	A		2.6	1.32 - 2.46	0.1	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0785	0.0942	A		-16.7	0.0659 - 0.1225	0.0119	W
Cesium-134	1.35	1.60	A		-15.6	1.12 - 2.08	0.0444	A
Cesium-137	0.0124		N	(1)		False Positive Test	0.001	
Cobalt-57	1.515	1.63	A		-7.1	1.14 - 2.12	.0381	A
Cobalt-60	.0141		A			False Positive Test	0.0157	
Manganese-54	1.565	1.57	A		-0.3	1.10 - 2.04	.0516	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.85	1.89	A		-2.1	1.32 - 2.46	0.0934	A

Radiological Reference Date: August 1, 2023

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.37	1.60	A		-14.4	1.12 - 2.08	0.03	A
Cesium-137	0.02		A			False Positive Test	0.01	
Cobalt-57	1.45	1.63	A		-11.0	1.14 - 2.12	0.03	A
Cobalt-60	0.01		A			False Positive Test	0.01	
Manganese-54	1.62	1.57	A		3.2	1.10 - 2.04	0.05	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.05	1.89	A		8.5	1.32 - 2.46	0.08	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (MART01) Fluor-BWXT Portsmouth LLC, Analytical Laboratory
 COC, Bldg. X-705, Rm 106
 Piketon, OH 45661

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.098	0.0942	A		4.0	0.0659 - 0.1225	0.006	A
Cesium-134	NR	1.60				1.12 - 2.08		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	1.63				1.14 - 2.12		
Cobalt-60	NR					False Positive Test		
Manganese-54	NR	1.57				1.10 - 2.04		
Plutonium-238	0.0004	0.00037	A	(17)		Sensitivity Evaluation	0.0006	
Plutonium-239/240	0.0618	0.0505	W		22.4	0.0354 - 0.0657	0.0056	A
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	0.0930	0.090	A		3.3	0.063 - 0.117	0.0067	A
Uranium-238	0.0920	0.091	A		1.1	0.064 - 0.118	0.0066	A
Zinc-65	NR	1.89				1.32 - 2.46		

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.080	0.0942	A		-15.1	0.0659 - 0.1225	0.005	A
Cesium-134	1.507	1.60	A		-5.8	1.12 - 2.08	0.029	N
Cesium-137	0.064		A			False Positive Test	0.033	
Cobalt-57	1.556	1.63	A		-4.5	1.14 - 2.12	0.032	A
Cobalt-60	0.060		A			False Positive Test	0.031	
Manganese-54	1.473	1.57	A		-6.2	1.10 - 2.04	0.043	A
Plutonium-238	0.003	0.00037	A	(17)		Sensitivity Evaluation	0.001	
Plutonium-239/240	0.047	0.0505	A		-6.9	0.0354 - 0.0657	0.003	A
Strontium-90	0.598	0.614	A		-2.6	0.430 - 0.798	0.030	A
Uranium-234	0.087	0.090	A		-3.3	0.063 - 0.117	0.006	A
Uranium-238	0.087	0.091	A		-4.4	0.064 - 0.118	0.006	A
Zinc-65	1.826	1.89	A		-3.4	1.32 - 2.46	0.074	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.14781	0.0942	N		56.9	0.0659 - 0.1225	0.03047	W
Cesium-134	1.2551	1.60	W		-21.6	1.12 - 2.08	0.01851	N
Cesium-137	-0.014091		A			False Positive Test	0.01417	
Cobalt-57	1.5885	1.63	A		-2.5	1.14 - 2.12	0.05091	A
Cobalt-60	0.013064		A			False Positive Test	0.005610	
Manganese-54	1.4449	1.57	A		-8.0	1.10 - 2.04	0.02100	N
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.7172	1.89	A		-9.1	1.32 - 2.46	0.04092	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (MSDH01) Mississippi State Dept of Health
 Radiological Environmental Laboratory
 Jackson, MS 39216

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-2.2532e+5	0.0942	N		-239193305	0.0659 - 0.1225	3.491e+2	N
Cesium-134	1.5308e+6	1.60	N		95674900	1.12 - 2.08	1.249e+1	N
Cesium-137	1.4938e+4		N	(1)		False Positive Test	1.538e+3	
Cobalt-57	1.6077e+6	1.63	N		98631801	1.14 - 2.12	1.296e+1	N
Cobalt-60	-3.5120e+4		N	(29)		False Positive Test	1.069e+3	
Manganese-54	1.8595e+6	1.57	N		118439390	1.10 - 2.04	1.745e+1	N
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	-8.9960e+4	0.614	N		-14651565	0.430 - 0.798	4.972e+2	N
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.9304e+6	1.89	N		102137466	1.32 - 2.46	2.561e+1	N

Radiological Reference Date: August 1, 2023

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0951	0.0942	A		1.0	0.0659 - 0.1225	0.00885	A
Cesium-134	1.38	1.60	A		-13.8	1.12 - 2.08	0.0612	A
Cesium-137	0.0124		A			False Positive Test	0.0131	
Cobalt-57	1.42	1.63	A		-12.9	1.14 - 2.12	0.0793	A
Cobalt-60	0.00685		A			False Positive Test	0.0123	
Manganese-54	1.48	1.57	A		-5.7	1.10 - 2.04	0.0856	A
Plutonium-238	0.00106	0.00037	A	(17)		Sensitivity Evaluation	0.00112	
Plutonium-239/240	0.0498	0.0505	A		-1.4	0.0354 - 0.0657	0.00551	A
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	0.0875	0.090	A		-2.8	0.063 - 0.117	0.00833	A
Uranium-238	0.0925	0.091	A		1.6	0.064 - 0.118	0.00862	A
Zinc-65	1.78	1.89	A		-5.8	1.32 - 2.46	0.107	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.083	0.0942	A		-11.9	0.0659 - 0.1225	0.006	A
Cesium-134	1.48	1.60	A		-7.5	1.12 - 2.08	0.155	A
Cesium-137	0.047		A			False Positive Test	0.079	
Cobalt-57	1.82	1.63	A		11.7	1.14 - 2.12	0.082	A
Cobalt-60	-0.032		A			False Positive Test	0.094	
Manganese-54	1.62	1.57	A		3.2	1.10 - 2.04	0.097	A
Plutonium-238	0.005	0.00037	A	(17)		Sensitivity Evaluation	0.003	
Plutonium-239/240	0.051	0.0505	A		1.0	0.0354 - 0.0657	0.004	A
Strontium-90	0.568	0.614	A		-7.5	0.430 - 0.798	0.045	A
Uranium-234	0.083	0.090	A		-7.8	0.063 - 0.117	0.006	A
Uranium-238	0.085	0.091	A		-6.6	0.064 - 0.118	0.006	A
Zinc-65	1.83	1.89	A		-3.2	1.32 - 2.46	0.176	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (NJDH01) New Jersey Dept. of Health, ECLS
 3 Schwarzkopf Drive
 Ewing, NJ 08628

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.55	1.60	A		-3.1	1.12 - 2.08	0.12	A
Cesium-137	0.01		A			False Positive Test	0.04	
Cobalt-57	1.57	1.63	A		-3.7	1.14 - 2.12	0.17	A
Cobalt-60	-0.03		A			False Positive Test	0.04	
Manganese-54	1.48	1.57	A		-5.7	1.10 - 2.04	0.12	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.78	1.89	A		-5.8	1.32 - 2.46	0.16	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.092	0.0942	A		-2.3	0.0659 - 0.1225	0.006	A
Cesium-134	1.25	1.60	W		-21.9	1.12 - 2.08	0.05	A
Cesium-137	0.1		A			False Positive Test	1	
Cobalt-57	1.59	1.63	A		-2.5	1.14 - 2.12	0.07	A
Cobalt-60	0.13		A			False Positive Test	0.7	
Manganese-54	1.56	1.57	A		-0.6	1.10 - 2.04	0.08	A
Plutonium-238	0.0009	0.00037	A	(17)		Sensitivity Evaluation	0.005	
Plutonium-239/240	0.047	0.0505	A		-6.9	0.0354 - 0.0657	0.003	A
Strontium-90	0.489	0.614	W		-20.4	0.430 - 0.798	0.066	A
Uranium-234	0.083	0.090	A		-7.8	0.063 - 0.117	0.004	A
Uranium-238	0.088	0.091	A		-3.3	0.064 - 0.118	0.005	A
Zinc-65	2.13	1.89	A		12.7	1.32 - 2.46	0.14	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.43	1.60	A		-10.6	1.12 - 2.08	0.0503	A
Cesium-137	-0.000851		A			False Positive Test	0.00980	
Cobalt-57	1.50	1.63	A		-8.0	1.14 - 2.12	0.106	A
Cobalt-60	0.00976		A			False Positive Test	0.00385	
Manganese-54	1.40	1.57	A		-10.8	1.10 - 2.04	0.0884	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.63	1.89	A		-13.8	1.32 - 2.46	0.0862	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0646	0.0942	N		-31.4	0.0659 - 0.1225	0.0034	A
Cesium-134	1.40	1.60	A		-12.5	1.12 - 2.08	0.14	A
Cesium-137	0.058		A			False Positive Test	1.0	
Cobalt-57	1.345	1.63	A		-17.5	1.14 - 2.12	0.082	A
Cobalt-60	0.052		A			False Positive Test	1.0	
Manganese-54	1.360	1.57	A		-13.4	1.10 - 2.04	0.096	A
Plutonium-238	-0.0019	0.00037	A	(17)		Sensitivity Evaluation	0.0019	
Plutonium-239/240	0.0472	0.0505	A		-6.5	0.0354 - 0.0657	0.0045	A
Strontium-90	0.62	0.614	A		1.0	0.430 - 0.798	0.02	A
Uranium-234	0.0755	0.090	A		-16.1	0.063 - 0.117	0.0048	A
Uranium-238	0.0767	0.091	A		-15.7	0.064 - 0.118	0.0054	A
Zinc-65	1.59	1.89	A		-15.9	1.32 - 2.46	0.16	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (RPSC01) Radiation Protection Service
 O. Ministry of Labour, Immigration, Training & 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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.63	1.60	A		1.9	1.12 - 2.08	0.0493	A
Cesium-137	-0.00703			A		False Positive Test	0.0401	
Cobalt-57	1.69	1.63	A		3.7	1.14 - 2.12	0.0671	A
Cobalt-60	-0.00178			A		False Positive Test	0.0418	
Manganese-54	1.52	1.57	A		-3.2	1.10 - 2.04	0.0737	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.73	1.89	A		-8.5	1.32 - 2.46	0.117	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.101	0.0942	A		7.2	0.0659 - 0.1225	0.013	A
Cesium-134	1.656	1.60	A		3.5	1.12 - 2.08	0.126	A
Cesium-137	0.027		A			False Positive Test	0.027	
Cobalt-57	1.933	1.63	A		18.6	1.14 - 2.12	0.139	A
Cobalt-60	0.031		A			False Positive Test	0.031	
Manganese-54	1.975	1.57	W		25.8	1.10 - 2.04	0.121	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.395	1.89	W		26.7	1.32 - 2.46	0.128	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological							Units: (Bq/sample)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0760	0.0942	A		-19.3	0.0659 - 0.1225	0.0045	A
Cesium-134	1.58	1.60	A		-1.3	1.12 - 2.08	0.15	A
Cesium-137	-0.02		A			False Positive Test	0.11	
Cobalt-57	1.44	1.63	A		-11.7	1.14 - 2.12	0.15	A
Cobalt-60	0.04		A			False Positive Test	0.10	
Manganese-54	1.49	1.57	A		-5.1	1.10 - 2.04	0.20	A
Plutonium-238	0.0002	0.00037	A	(17)		Sensitivity Evaluation	0.0002	
Plutonium-239/240	0.0488	0.0505	A		-3.4	0.0354 - 0.0657	0.0029	A
Strontium-90	0.561	0.614	A		-8.6	0.430 - 0.798	0.034	A
Uranium-234	0.0834	0.090	A		-7.3	0.063 - 0.117	0.0045	A
Uranium-238	0.0879	0.091	A		-3.4	0.064 - 0.118	0.0047	A
Zinc-65	1.66	1.89	A		-12.2	1.32 - 2.46	0.28	W

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.066	0.0942	W		-29.9	0.0659 - 0.1225	0.020	N
Cesium-134	1.15	1.60	W		-28.1	1.12 - 2.08	0.10	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	1.30	1.63	W		-20.2	1.14 - 2.12	0.13	A
Cobalt-60	NR		N	(11)		False Positive Test		
Manganese-54	1.26	1.57	A		-19.7	1.10 - 2.04	0.11	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.55	1.89	A		-18.0	1.32 - 2.46	0.15	A

Radiological Reference Date: August 1, 2023

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:

(11) = False Positive Test, Result Not Reported



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

Laboratory Results For MAPEP-23-RdF49
 (SOUT01) Southwest Research Institute
 6220 Culebra Rd.
 San Antonio, TX 78238-5166

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0822	0.0942	A		-12.7	0.0659 - 0.1225	0.00885	A
Cesium-134	1.48	1.60	A		-7.5	1.12 - 2.08	0.110	A
Cesium-137	-0.0280		A			False Positive Test	0.0378	
Cobalt-57	1.66	1.63	A		1.8	1.14 - 2.12	0.0807	A
Cobalt-60	0.0109		A			False Positive Test	0.0317	
Manganese-54	1.88	1.57	A		19.7	1.10 - 2.04	0.122	A
Plutonium-238	0.000515	0.00037	A	(17)		Sensitivity Evaluation	0.000730	
Plutonium-239/240	0.0641	0.0505	W		26.9	0.0354 - 0.0657	0.00707	A
Strontium-90	0.463	0.614	W		-24.6	0.430 - 0.798	0.0556	A
Uranium-234	0.0889	0.090	A		-1.2	0.063 - 0.117	0.00859	A
Uranium-238	0.101	0.091	A		11.0	0.064 - 0.118	0.00941	A
Zinc-65	2.47	1.89	N		30.7	1.32 - 2.46	0.177	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.37E+00	1.60	A		-14.4	1.12 - 2.08	1.29E-01	A
Cesium-137	6.57E-02		N	(1)		False Positive Test	2.17E-02	
Cobalt-57	1.45E+00	1.63	A		-11.0	1.14 - 2.12	1.47E-01	A
Cobalt-60	1.88E-02		A			False Positive Test	2.16E-02	
Manganese-54	1.37E+00	1.57	A		-12.7	1.10 - 2.04	9.26E-02	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.73E+00	1.89	A		-8.5	1.32 - 2.46	1.04E-01	A

Radiological Reference Date: August 1, 2023

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



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

Laboratory Results For MAPEP-23-RdF49
 (STRLO1) South Texas Project Radiological Laboratory
 12090 FM 521
 Wadsworth, Texas 77483

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.537	1.60	A		-3.9	1.12 - 2.08	0.029	N
Cesium-137	NR					False Positive Test		
Cobalt-57	1.605	1.63	A		-1.5	1.14 - 2.12	0.039	A
Cobalt-60	NR					False Positive Test		
Manganese-54	1.729	1.57	A		10.1	1.10 - 2.04	0.057	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.232	1.89	A		18.1	1.32 - 2.46	0.099	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.076	0.0942	A		-19.3	0.0659 - 0.1225	0.023	N
Cesium-134	1.203	1.60	W		-24.8	1.12 - 2.08	0.024	N
Cesium-137	-0.027		A			False Positive Test	0.014	
Cobalt-57	1.479	1.63	A		-9.3	1.14 - 2.12	0.035	A
Cobalt-60	0.023		A			False Positive Test	0.014	
Manganese-54	1.699	1.57	A		8.2	1.10 - 2.04	0.048	A
Plutonium-238	0.00127	0.00037	A	(17)		Sensitivity Evaluation	0.00094	
Plutonium-239/240	0.0446	0.0505	A		-11.7	0.0354 - 0.0657	0.0064	A
Strontium-90	0.518	0.614	A		-15.6	0.430 - 0.798	0.023	A
Uranium-234	0.090	0.090	A		0.0	0.063 - 0.117	0.010	A
Uranium-238	0.095	0.091	A		4.4	0.064 - 0.118	0.010	A
Zinc-65	2.156	1.89	A		14.1	1.32 - 2.46	0.073	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (TELE02) Microbac Laboratories Inc. - Northbrook
 700 Landwehr Road
 Northbrook, IL 60062-

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.30	1.60	A		-18.8	1.12 - 2.08	0.10	A
Cesium-137	0.04		A			False Positive Test	0.03	
Cobalt-57	1.47	1.63	A		-9.8	1.14 - 2.12	0.05	A
Cobalt-60	0.04		A			False Positive Test	0.09	
Manganese-54	1.59	1.57	A		1.3	1.10 - 2.04	0.09	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	0.533	0.614	A		-13.2	0.430 - 0.798	0.040	A
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.71	1.89	A		-9.5	1.32 - 2.46	0.14	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.030	1.60	N		-35.6	1.12 - 2.08	0.159	W
Cesium-137	.007		A			False Positive Test	.105	
Cobalt-57	1.238	1.63	W		-24.0	1.14 - 2.12	0.159	A
Cobalt-60	.006		A			False Positive Test	.130	
Manganese-54	1.344	1.57	A		-14.4	1.10 - 2.04	0.355	W
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	0.523	0.614	A		-14.8	0.430 - 0.798	.047	A
Uranium-234	0.104	0.090	A		15.6	0.063 - 0.117	.020	W
Uranium-238	0.109	0.091	A		19.8	0.064 - 0.118	.020	W
Zinc-65	1.931	1.89	A		2.2	1.32 - 2.46	0.549	W

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.15	0.0942	N		59.2	0.0659 - 0.1225	0.08	N
Cesium-134	1.41	1.60	A		-11.9	1.12 - 2.08	0.05	A
Cesium-137	-0.006		A			False Positive Test	0.016	
Cobalt-57	1.54	1.63	A		-5.5	1.14 - 2.12	0.12	A
Cobalt-60	0.025		N	(1)		False Positive Test	0.008	
Manganese-54	1.44	1.57	A		-8.3	1.10 - 2.04	0.09	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.64	1.89	A		-13.2	1.32 - 2.46	0.10	A

Radiological Reference Date: August 1, 2023

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



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

Laboratory Results For MAPEP-23-RdF49

(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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	6.73E-002	0.0942	W		-28.6	0.0659 - 0.1225	7.42E-003	A
Cesium-134	1.42E+000	1.60	A		-11.3	1.12 - 2.08	3.30E-002	A
Cesium-137	8.41E-003		A			False Positive Test	6.99E-003	
Cobalt-57	1.59E+000	1.63	A		-2.5	1.14 - 2.12	3.78E-002	A
Cobalt-60	-5.62E-003		A			False Positive Test	6.28E-003	
Manganese-54	1.55E+000	1.57	A		-1.3	1.10 - 2.04	3.14E-002	A
Plutonium-238	6.10E-005	0.00037	A	(17)		Sensitivity Evaluation	9.97E-005	
Plutonium-239/240	1.34E-004	0.0505	N		-99.7	0.0354 - 0.0657	1.37E-004	N
Strontium-90	5.85E-001	0.614	A		-4.7	0.430 - 0.798	3.62E-002	A
Uranium-234	7.39E-002	0.090	A		-17.9	0.063 - 0.117	1.77E-002	W
Uranium-238	8.07E-002	0.091	A		-11.3	0.064 - 0.118	1.93E-002	W
Zinc-65	1.78E+000	1.89	A		-5.8	1.32 - 2.46	5.10E-002	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.73	1.60	A		8.1	1.12 - 2.08	0.0453	A
Cesium-137	0.00827			A		False Positive Test	0.009	
Cobalt-57	1.78	1.63	A		9.2	1.14 - 2.12	0.0470	A
Cobalt-60	0.0124			A		False Positive Test	0.00512	
Manganese-54	1.63	1.57	A		3.8	1.10 - 2.04	0.0764	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.87	1.89	A		-1.1	1.32 - 2.46	0.149	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49

(WSTP99) Cavendish Nuclear Limited

Greson Court

Cumbria, UK CA24 3HZ

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0981	0.0942	A		4.1	0.0659 - 0.1225	0.0077	A
Cesium-134	1.649	1.60	A		3.1	1.12 - 2.08	0.070	A
Cesium-137	0.0003		A			False Positive Test	0.014	
Cobalt-57	1.567	1.63	A		-3.9	1.14 - 2.12	0.060	A
Cobalt-60	0.005		A			False Positive Test	0.013	
Manganese-54	1.724	1.57	A		9.8	1.10 - 2.04	0.070	A
Plutonium-238	0.00143	0.00037	A	(17)		Sensitivity Evaluation	0.00083	
Plutonium-239/240	0.0466	0.0505	A		-7.7	0.0354 - 0.0657	0.0054	A
Strontium-90	0.566	0.614	A		-7.8	0.430 - 0.798	0.093	W
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	2.238	1.89	A		18.4	1.32 - 2.46	0.097	A

Radiological Reference Date: August 1, 2023

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:

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



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.0503				0.0352 - 0.0654		
Uranium-238	NR	7.3				5.1 - 9.5		
Uranium-Total	NR	7.4				5.2 - 9.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	1.45	1.60	A		-9.4	1.12 - 2.08	0.0653	A
Cesium-137	-0.000851			A		False Positive Test	0.0133	
Cobalt-57	1.51	1.63	A		-7.4	1.14 - 2.12	0.0547	A
Cobalt-60	-0.00333			A		False Positive Test	0.0112	
Manganese-54	1.59	1.57	A		1.3	1.10 - 2.04	0.0760	A
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	1.94	1.89	A		2.6	1.32 - 2.46	0.114	A

Radiological Reference Date: August 1, 2023

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:



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

Laboratory Results For MAPEP-23-RdF49
 (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	0.053	0.0503	A		5.4	0.0352 - 0.0654	0.005	A
Uranium-238	7.36	7.3	A		0.8	5.1 - 9.5	0.5	A
Uranium-Total	7.42	7.4	A		0.3	5.2 - 9.6	0.5	A

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.0942				0.0659 - 0.1225		
Cesium-134	NR	1.60				1.12 - 2.08		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	1.63				1.14 - 2.12		
Cobalt-60	NR					False Positive Test		
Manganese-54	NR	1.57				1.10 - 2.04		
Plutonium-238	NR	0.00037				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0505				0.0354 - 0.0657		
Strontium-90	NR	0.614				0.430 - 0.798		
Uranium-234	NR	0.090				0.063 - 0.117		
Uranium-238	NR	0.091				0.064 - 0.118		
Zinc-65	NR	1.89				1.32 - 2.46		

Radiological Reference Date: August 1, 2023

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

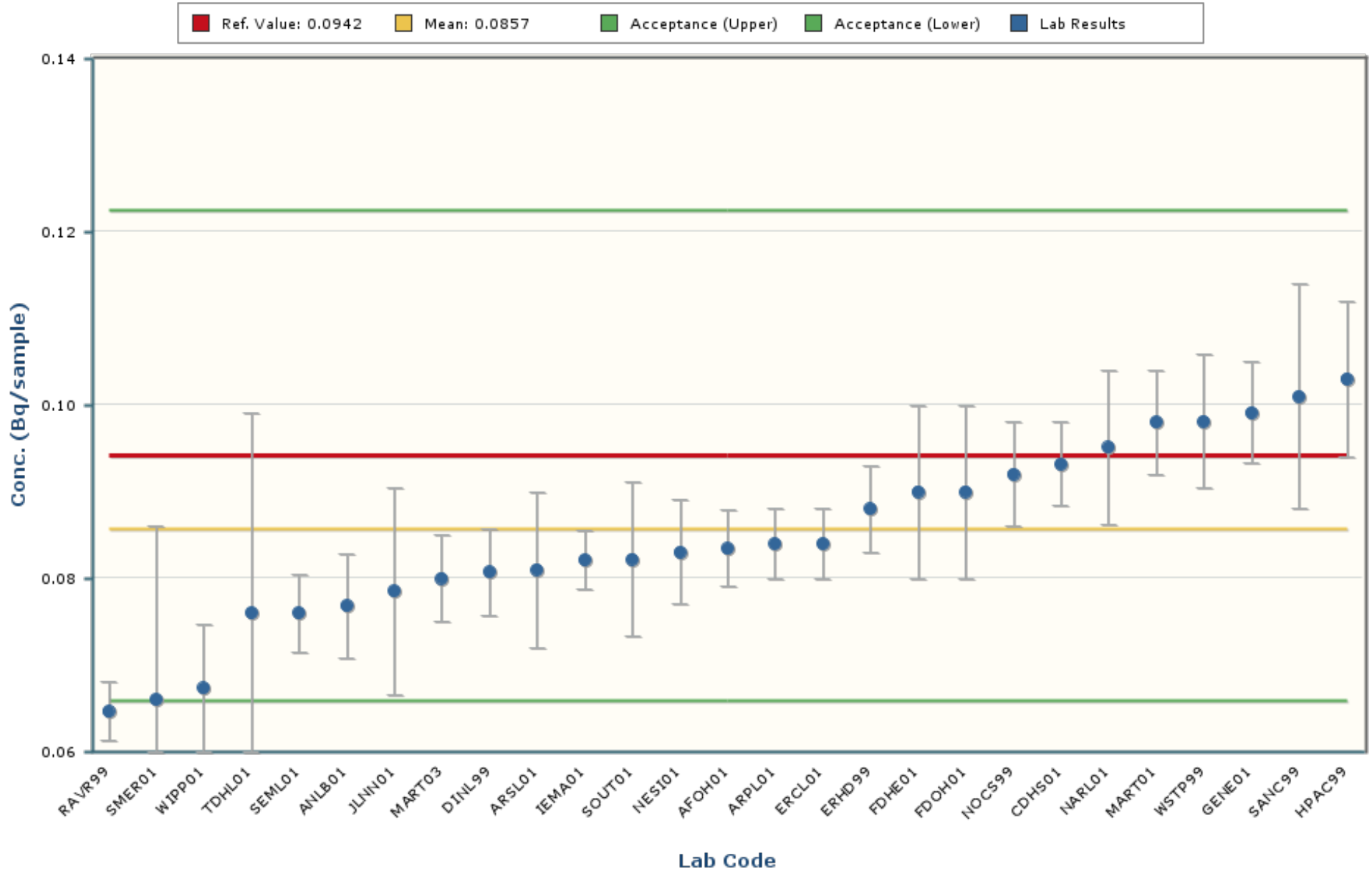
Uncertainty Flags:

- 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:

Americium-241

MAPEP-23-RdF49



Notes:

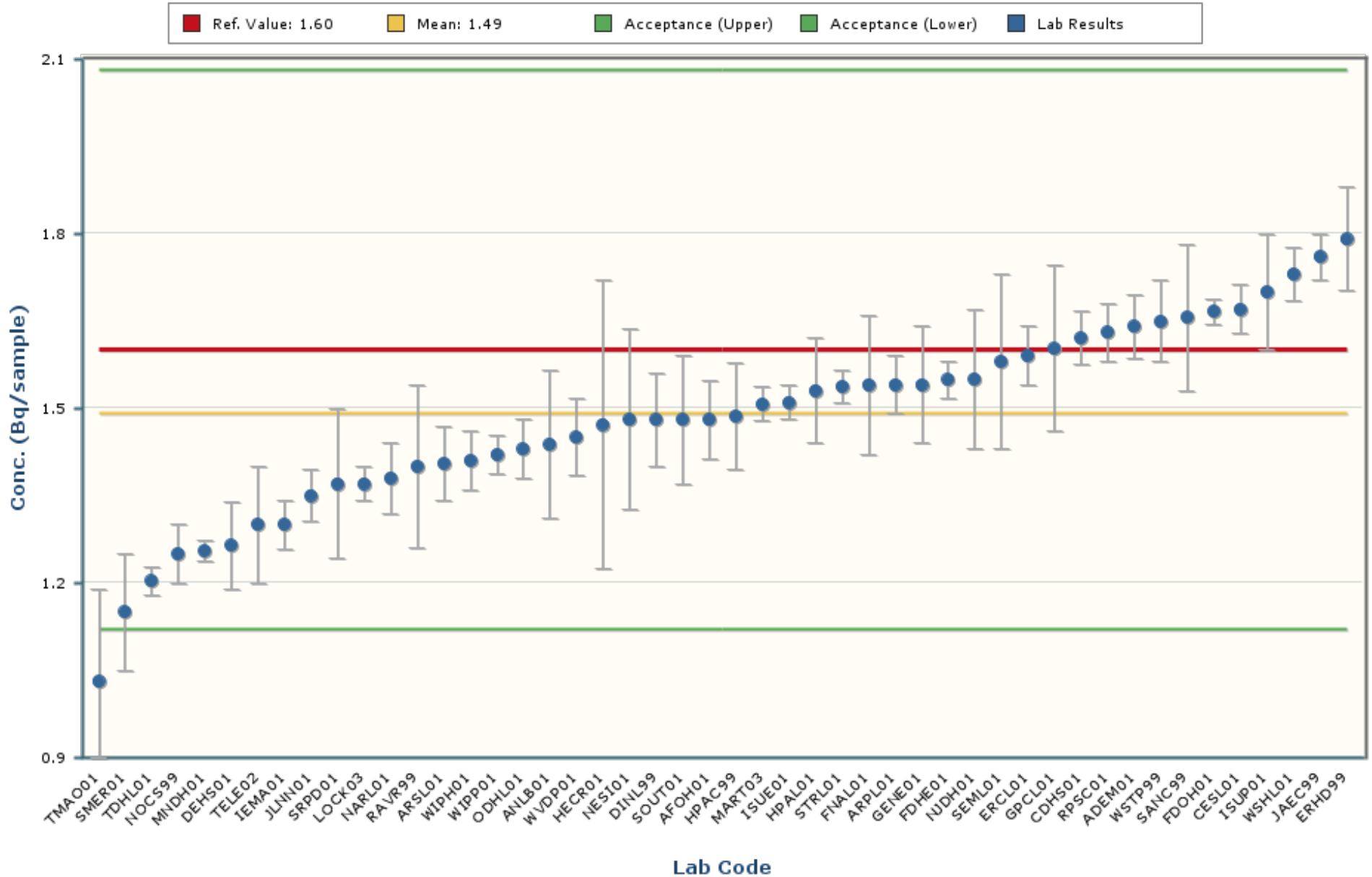
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0366 and 0.1348 (± 5 Standard Deviations).

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

Cesium-134

MAPEP-23-RdF49



Notes:

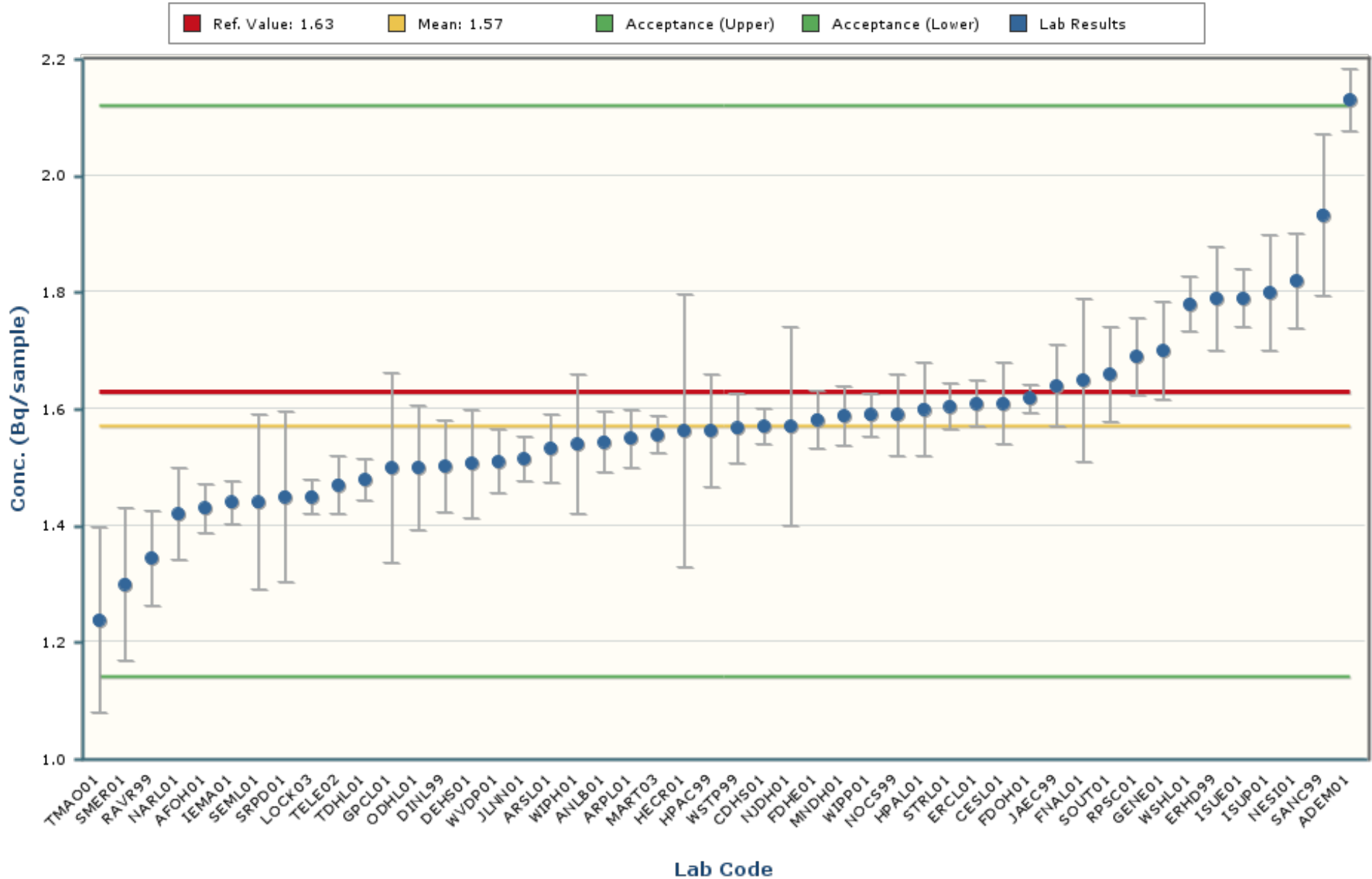
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.75 and 2.24 (± 5 Standard Deviations).

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

Cobalt-57

MAPEP-23-RdF49



Notes:

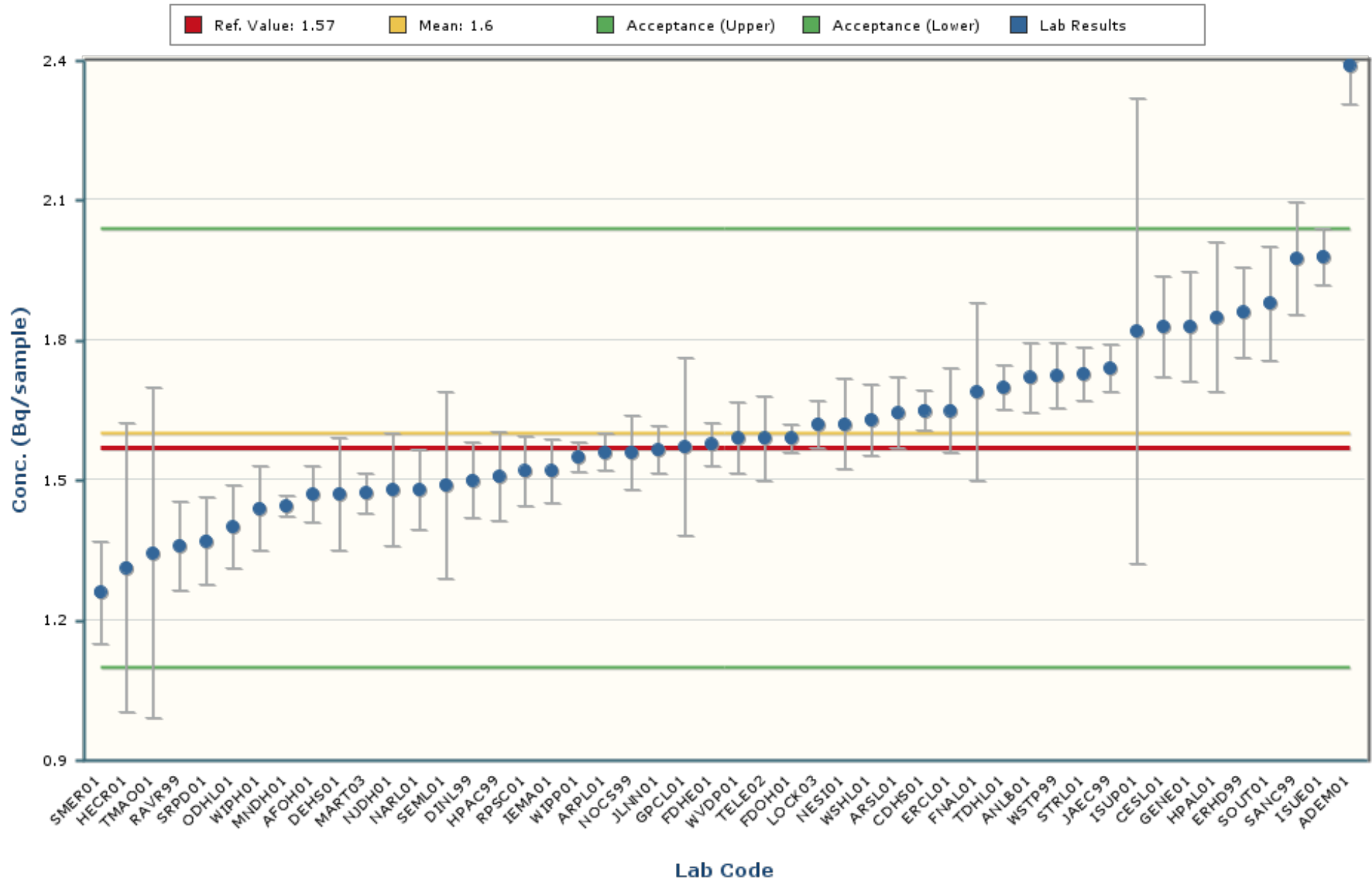
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.90 and 2.24 (± 5 Standard Deviations).

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

Manganese-54

MAPEP-23-RdF49



Notes:

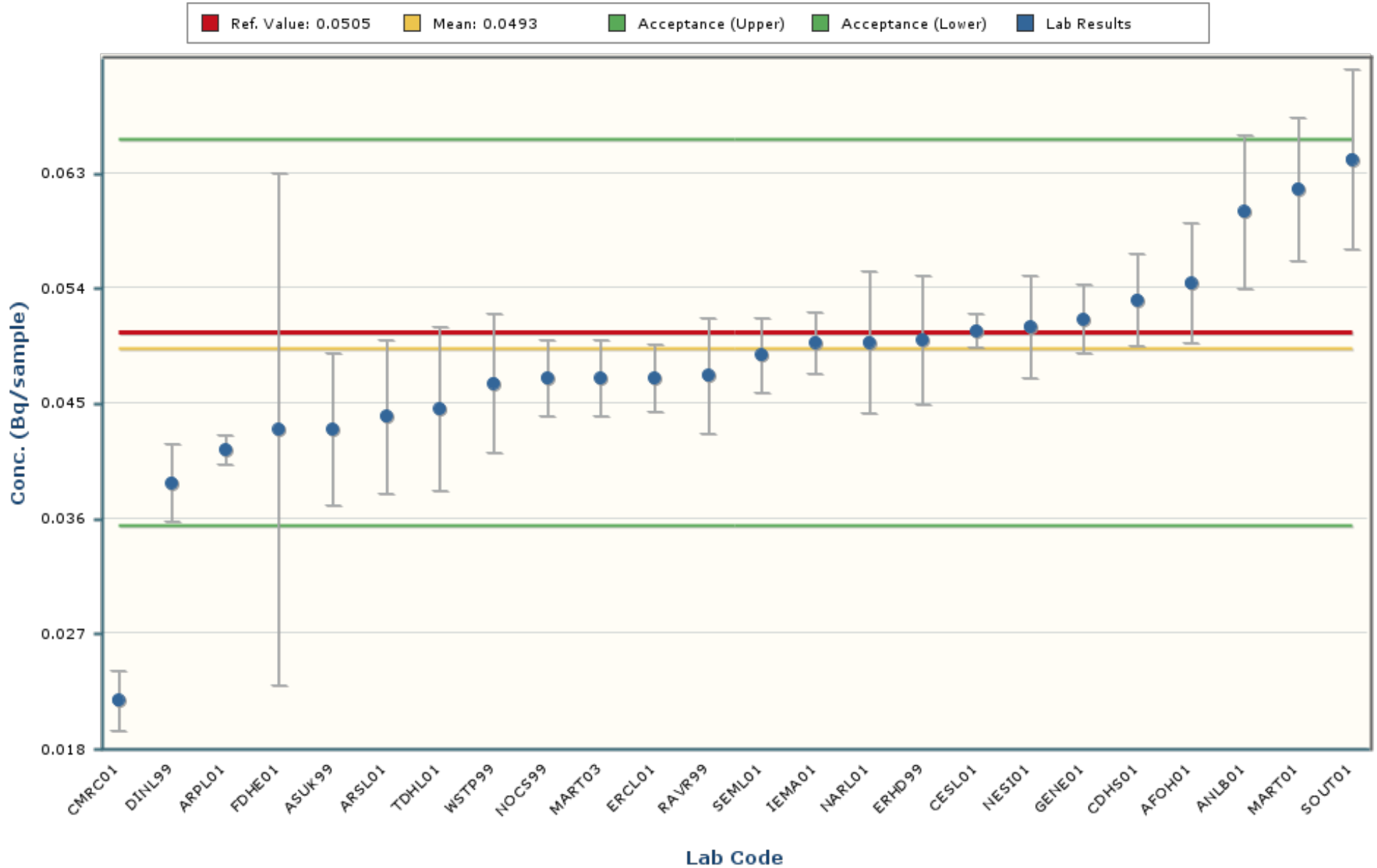
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.75 and 2.45 (± 5 Standard Deviations).

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

Plutonium-239/240

MAPEP-23-RdF49



Notes:

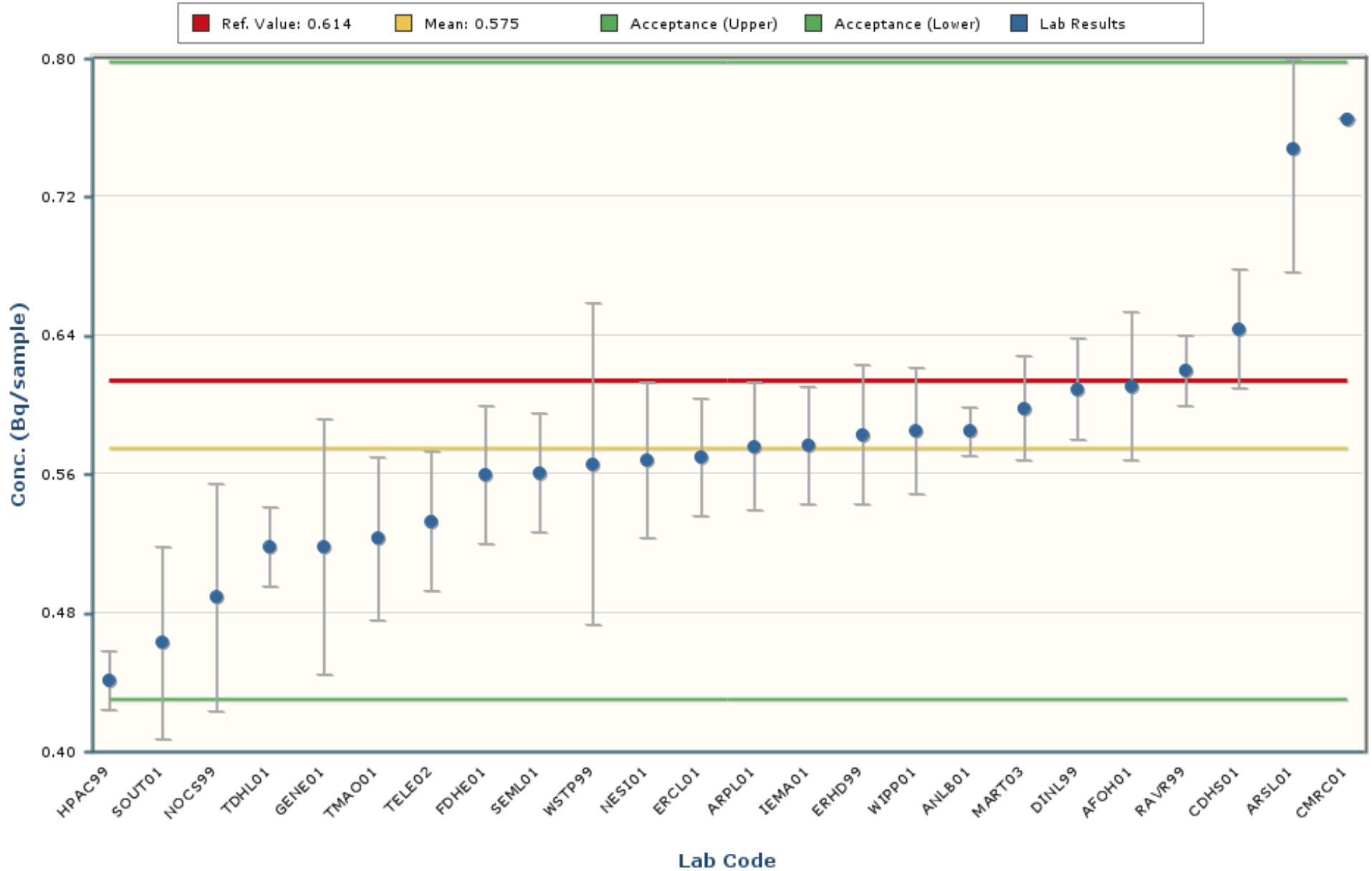
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.0179 and 0.0808 (± 5 Standard Deviations).

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

Strontium-90

MAPEP-23-RdF49



Notes:

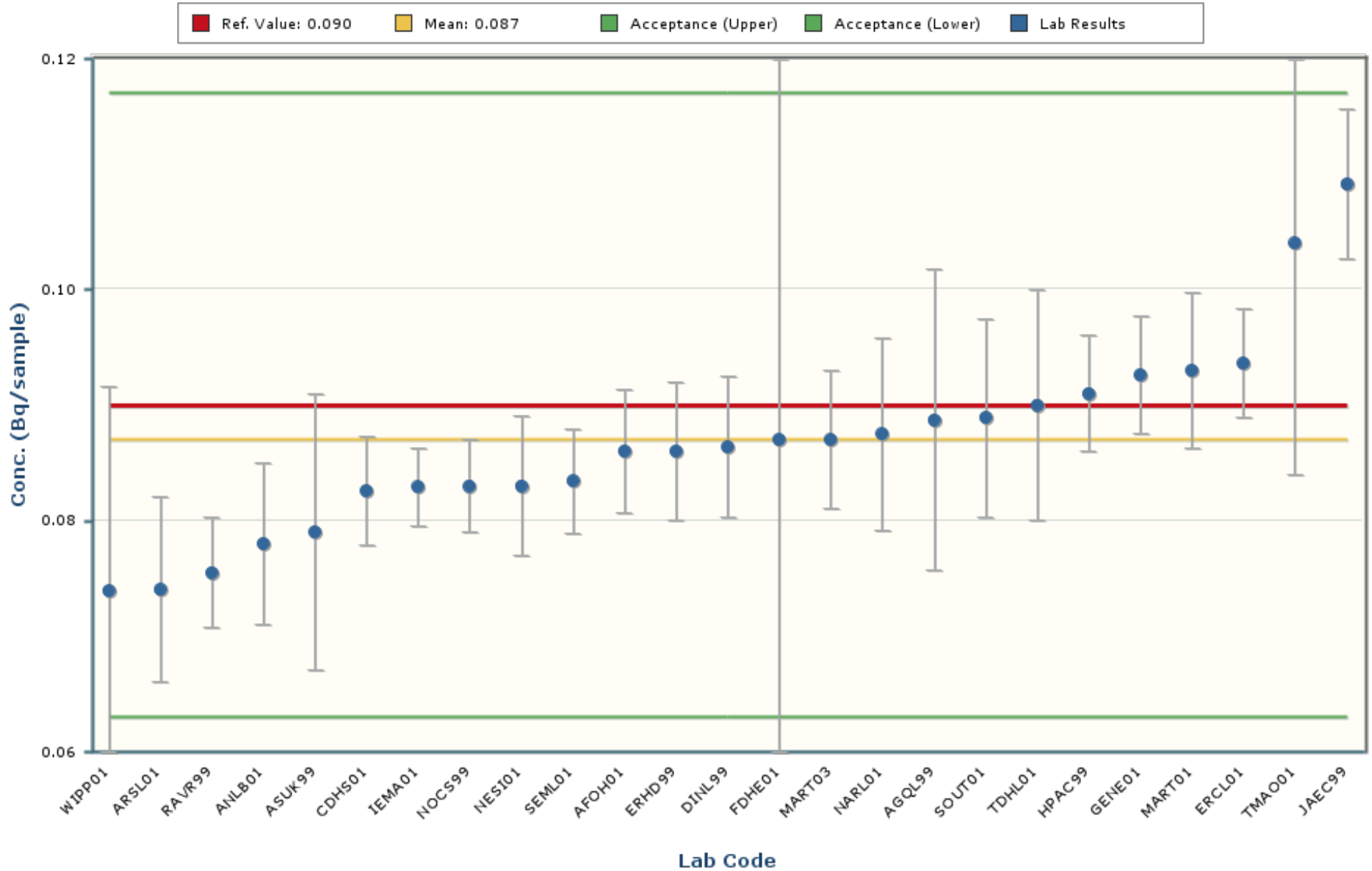
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.206 and 0.945 (± 5 Standard Deviations).

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

Uranium-234

MAPEP-23-RdF49



Notes:

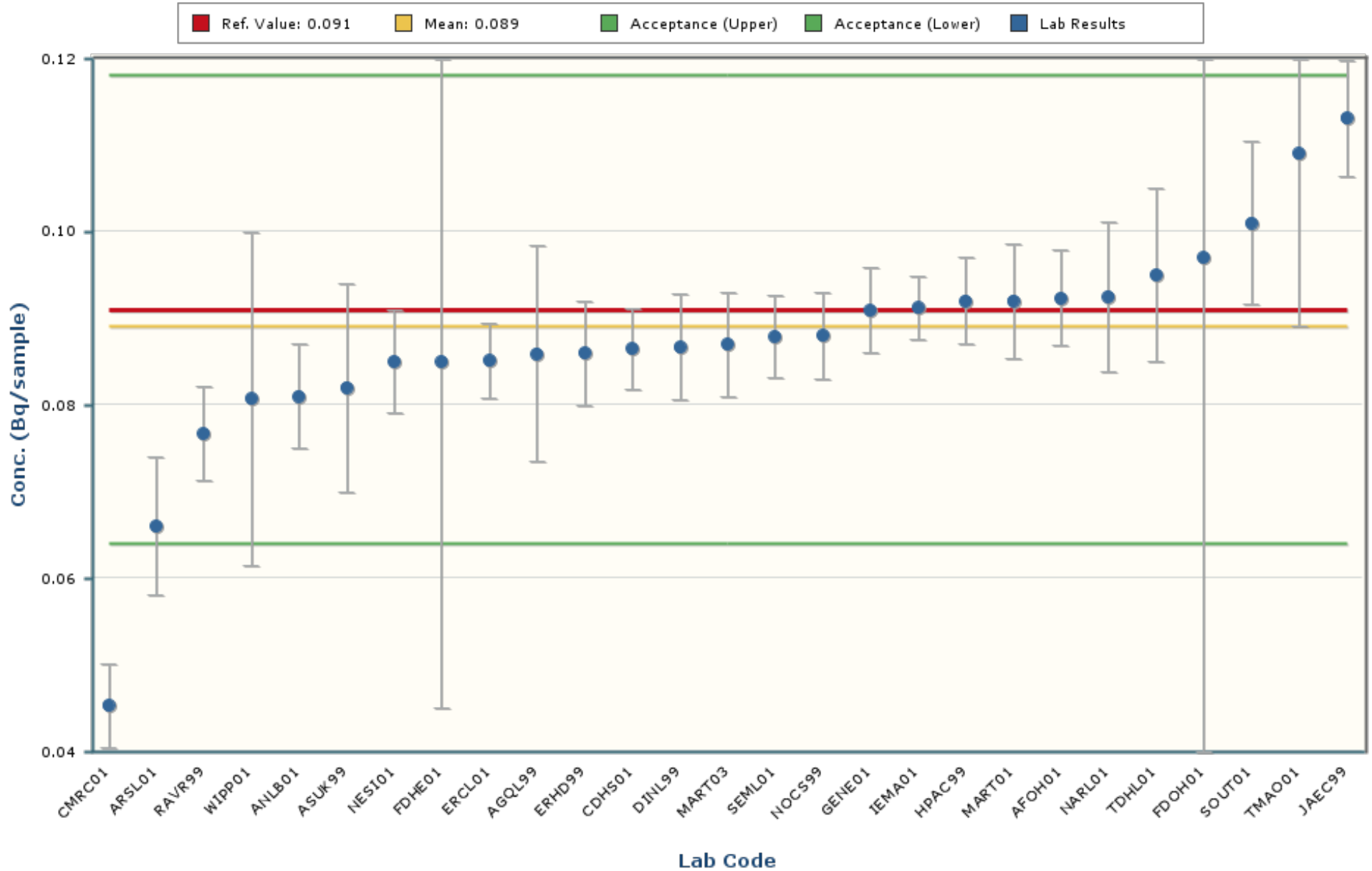
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.046 and 0.128 (± 5 Standard Deviations).

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

Uranium-238

MAPEP-23-RdF49



Notes:

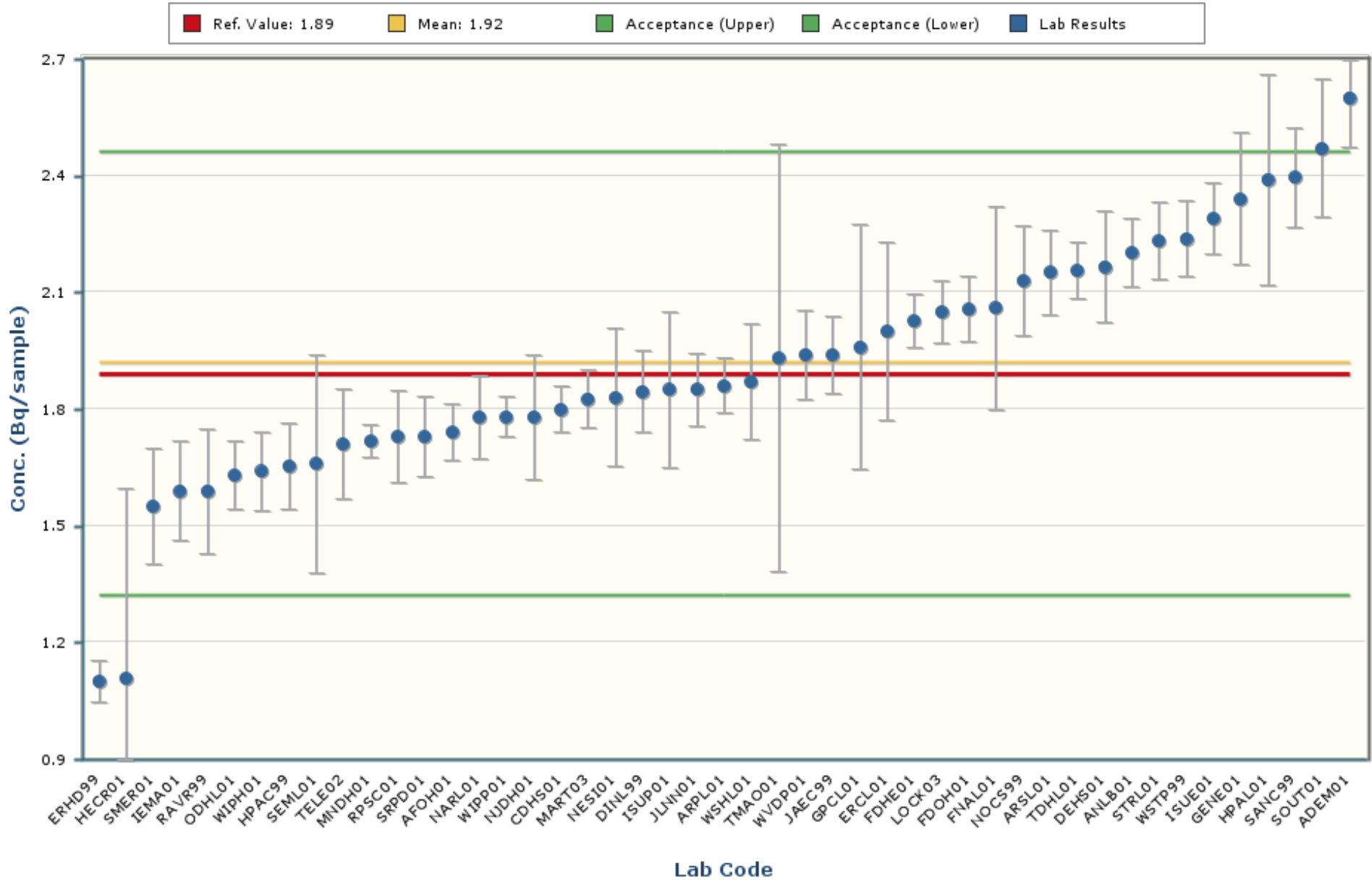
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.042 and 0.136 (± 5 Standard Deviations).

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

Zinc-65

MAPEP-23-RdF49



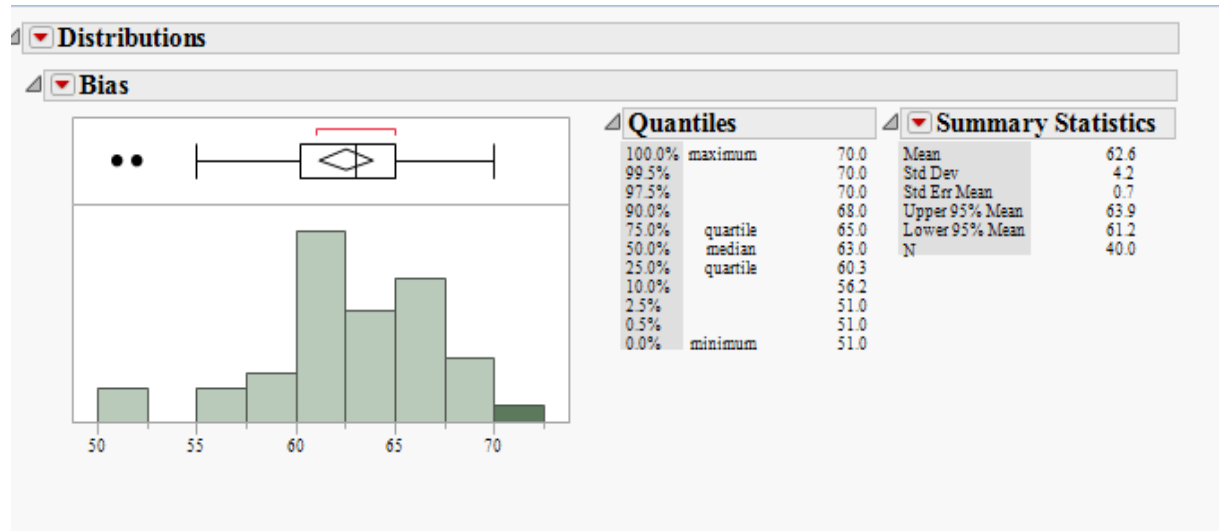
Notes:

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

The chart shows only data points with values between 0.76 and 3.09 (± 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.

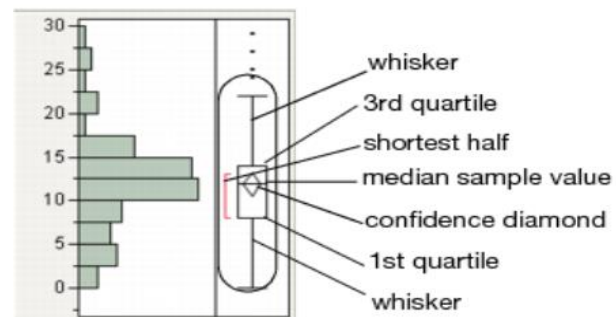


Outlier Box Plot

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)

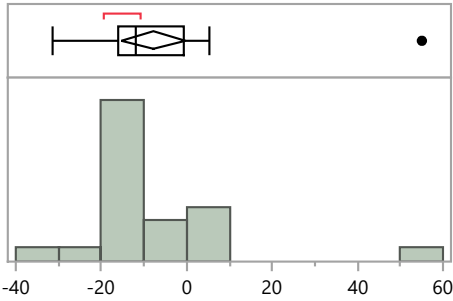


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

RdF Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

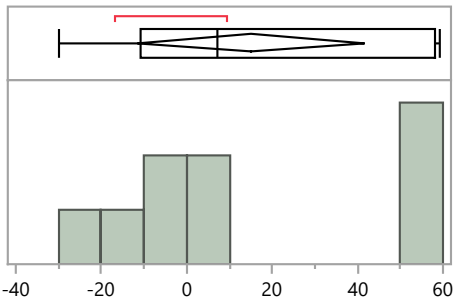
Bias



Quantiles			Summary Statistics	
100.0%	maximum	55.0	Mean	-7.8
99.5%		55.0	Std Dev	17.1
97.5%		55.0	Std Err Mean	3.6
90.0%		4.9	Upper 95% Mean	-0.2
75.0%	quartile	-0.6	Lower 95% Mean	-15.4
50.0%	median	-11.7	N	22.0
25.0%	quartile	-16.0		
10.0%		-25.8		
2.5%		-31.4		
0.5%		-31.4		
0.0%	minimum	-31.4		

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

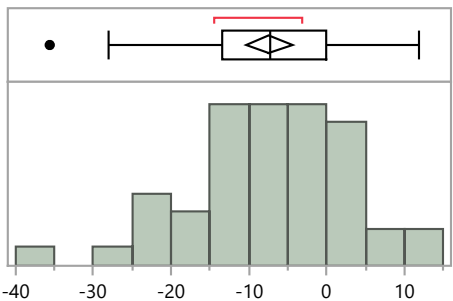
Bias



Quantiles			Summary Statistics	
100.0%	maximum	59.2	Mean	15.1
99.5%		59.2	Std Dev	34.5
97.5%		59.2	Std Err Mean	11.5
90.0%		59.2	Upper 95% Mean	41.7
75.0%	quartile	58.1	Lower 95% Mean	-11.4
50.0%	median	7.2	N	9.0
25.0%	quartile	-10.6		
10.0%		-29.9		
2.5%		-29.9		
0.5%		-29.9		
0.0%	minimum	-29.9		

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias

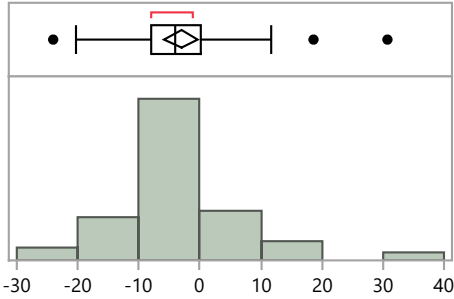


Quantiles			Summary Statistics	
100.0%	maximum	11.9	Mean	-7.4
99.5%		11.9	Std Dev	10.1
97.5%		11.5	Std Err Mean	1.5
90.0%		4.6	Upper 95% Mean	-4.4
75.0%	quartile	-0.1	Lower 95% Mean	-10.3
50.0%	median	-7.3	N	48.0
25.0%	quartile	-13.5		
10.0%		-21.6		
2.5%		-33.9		
0.5%		-35.6		
0.0%	minimum	-35.6		

RdF Distribution by Detection Method

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

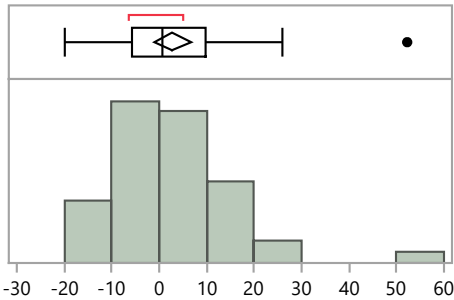
100.0%	maximum	30.7
99.5%		30.7
97.5%		28.0
90.0%		9.9
75.0%	quartile	0.3
50.0%	median	-4.0
25.0%	quartile	-8.0
10.0%		-12.4
2.5%		-23.1
0.5%		-24.0
0.0%	minimum	-24.0

Summary Statistics

Mean	-3.1
Std Dev	9.6
Std Err Mean	1.4
Upper 95% Mean	-0.3
Lower 95% Mean	-5.9
N	48.0

Distributions Analyte_Detection=Manganese-54 Gamma Spectrometry

Bias



Quantiles

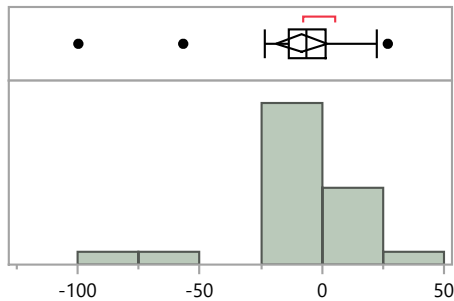
100.0%	maximum	52.2
99.5%		52.2
97.5%		46.3
90.0%		18.6
75.0%	quartile	9.8
50.0%	median	0.9
25.0%	quartile	-5.7
10.0%		-12.8
2.5%		-19.0
0.5%		-19.7
0.0%	minimum	-19.7

Summary Statistics

Mean	2.9
Std Dev	13.0
Std Err Mean	1.9
Upper 95% Mean	6.6
Lower 95% Mean	-0.9
N	48.0

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	26.9
99.5%		26.9
97.5%		26.9
90.0%		20.2
75.0%	quartile	1.6
50.0%	median	-6.5
25.0%	quartile	-13.9
10.0%		-36.6
2.5%		-99.7
0.5%		-99.7
0.0%	minimum	-99.7

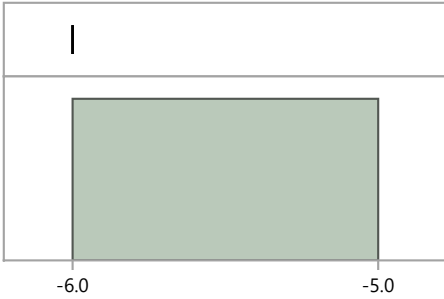
Summary Statistics

Mean	-8.4
Std Dev	25.0
Std Err Mean	5.0
Upper 95% Mean	1.9
Lower 95% Mean	-18.7
N	25.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Alpha Spectrometry

Bias



Quantiles

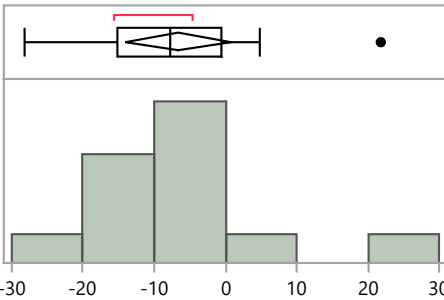
100.0%	maximum	-6.0
99.5%		-6.0
97.5%		-6.0
90.0%		-6.0
75.0%	quartile	-6.0
50.0%	median	-6.0
25.0%	quartile	-6.0
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

Summary Statistics

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

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias



Quantiles

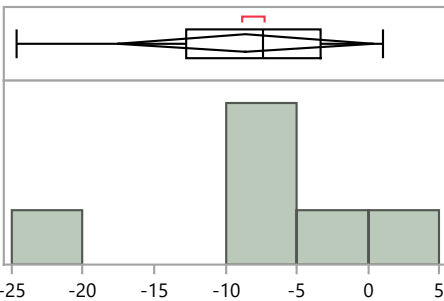
100.0%	maximum	21.8
99.5%		21.8
97.5%		21.8
90.0%		15.0
75.0%	quartile	-0.7
50.0%	median	-7.8
25.0%	quartile	-15.2
10.0%		-23.2
2.5%		-28.2
0.5%		-28.2
0.0%	minimum	-28.2

Summary Statistics

Mean	-6.6
Std Dev	12.2
Std Err Mean	3.4
Upper 95% Mean	0.8
Lower 95% Mean	-13.9
N	13.0

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

Bias



Quantiles

100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	-3.3
50.0%	median	-7.4
25.0%	quartile	-12.8
10.0%		-24.6
2.5%		-24.6
0.5%		-24.6
0.0%	minimum	-24.6

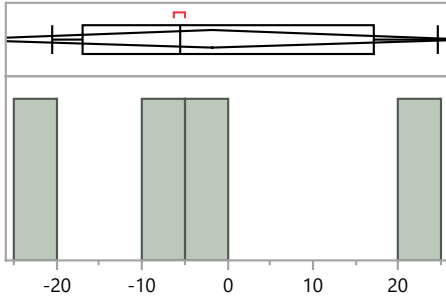
Summary Statistics

Mean	-8.6
Std Dev	8.6
Std Err Mean	3.5
Upper 95% Mean	0.4
Lower 95% Mean	-17.6
N	6.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias



Quantiles

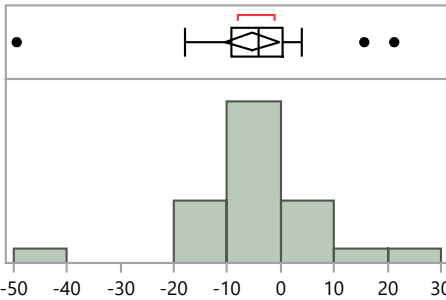
100.0%	maximum	24.6
99.5%		24.6
97.5%		24.6
90.0%		24.6
75.0%	quartile	17.2
50.0%	median	-5.6
25.0%	quartile	-16.9
10.0%		-20.4
2.5%		-20.4
0.5%		-20.4
0.0%	minimum	-20.4

Summary Statistics

Mean	-1.7
Std Dev	18.9
Std Err Mean	9.5
Upper 95% Mean	28.3
Lower 95% Mean	-31.8
N	4.0

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

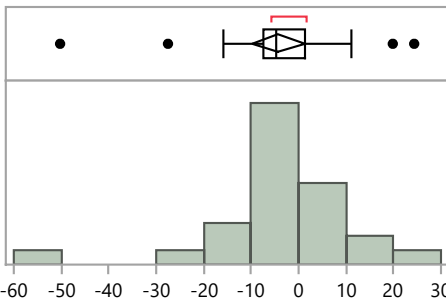
100.0%	maximum	21.2
99.5%		21.2
97.5%		21.2
90.0%		7.5
75.0%	quartile	0.3
50.0%	median	-4.3
25.0%	quartile	-9.2
10.0%		-17.8
2.5%		-49.4
0.5%		-49.4
0.0%	minimum	-49.4

Summary Statistics

Mean	-5.5
Std Dev	12.7
Std Err Mean	2.5
Upper 95% Mean	-0.4
Lower 95% Mean	-10.6
N	26.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	24.3
99.5%		24.3
97.5%		24.3
90.0%		13.6
75.0%	quartile	1.2
50.0%	median	-4.6
25.0%	quartile	-7.4
10.0%		-19.2
2.5%		-50.2
0.5%		-50.2
0.0%	minimum	-50.2

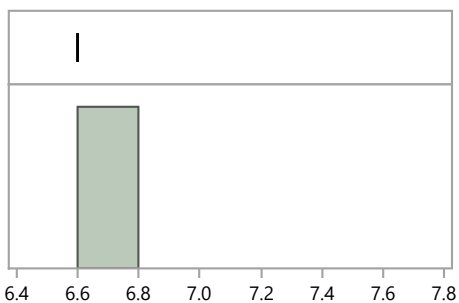
Summary Statistics

Mean	-4.3
Std Dev	13.8
Std Err Mean	2.7
Upper 95% Mean	1.3
Lower 95% Mean	-9.9
N	26.0

RdF Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

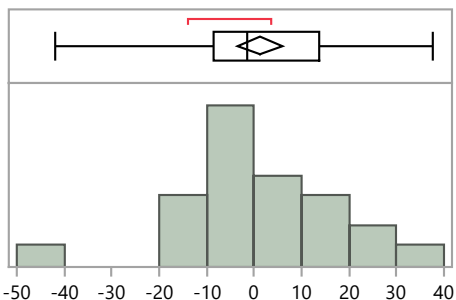
Bias



Quantiles			Summary Statistics	
100.0%	maximum	6.6	Mean	6.6
99.5%		6.6	Std Dev	.
97.5%		6.6	Std Err Mean	.
90.0%		6.6	Upper 95% Mean	.
75.0%	quartile	6.6	Lower 95% Mean	.
50.0%	median	6.6	N	1.0
25.0%	quartile	6.6		
10.0%		6.6		
2.5%		6.6		
0.5%		6.6		
0.0%	minimum	6.6		

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias

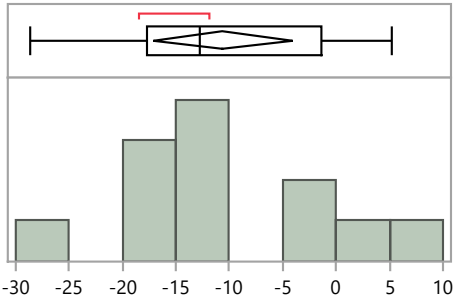


Quantiles			Summary Statistics	
100.0%	maximum	37.6	Mean	1.3
99.5%		37.6	Std Dev	16.3
97.5%		36.2	Std Err Mean	2.4
90.0%		24.3	Upper 95% Mean	6.0
75.0%	quartile	13.8	Lower 95% Mean	-3.5
50.0%	median	-1.6	N	47.0
25.0%	quartile	-8.5		
10.0%		-15.9		
2.5%		-41.7		
0.5%		-41.8		
0.0%	minimum	-41.8		

RdF Distribution by Preparation Method

Distributions Analyte_Method=Americium-241 Acid dissolution with hydrofluoric acid

Bias



Quantiles

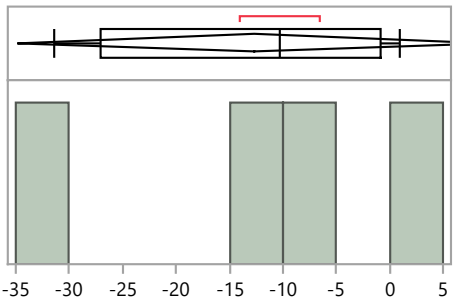
100.0%	maximum	5.2
99.5%		5.2
97.5%		5.2
90.0%		4.9
75.0%	quartile	-1.4
50.0%	median	-12.8
25.0%	quartile	-17.7
10.0%		-25.8
2.5%		-28.6
0.5%		-28.6
0.0%	minimum	-28.6

Summary Statistics

Mean	-10.6
Std Dev	10.1
Std Err Mean	2.9
Upper 95% Mean	-4.2
Lower 95% Mean	-17.1
N	12.0

Distributions Analyte_Method=Americium-241 Acid leaching without hydrofluoric acid

Bias



Quantiles

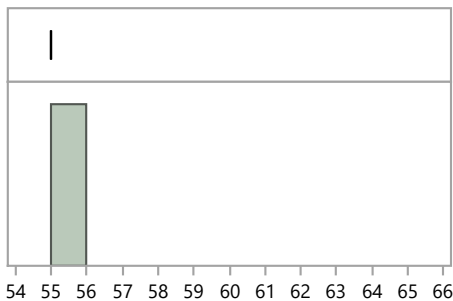
100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	-0.9
50.0%	median	-10.3
25.0%	quartile	-27.1
10.0%		-31.4
2.5%		-31.4
0.5%		-31.4
0.0%	minimum	-31.4

Summary Statistics

Mean	-12.8
Std Dev	13.9
Std Err Mean	6.9
Upper 95% Mean	9.3
Lower 95% Mean	-34.8
N	4.0

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

Bias



Quantiles

100.0%	maximum	55.0
99.5%		55.0
97.5%		55.0
90.0%		55.0
75.0%	quartile	55.0
50.0%	median	55.0
25.0%	quartile	55.0
10.0%		55.0
2.5%		55.0
0.5%		55.0
0.0%	minimum	55.0

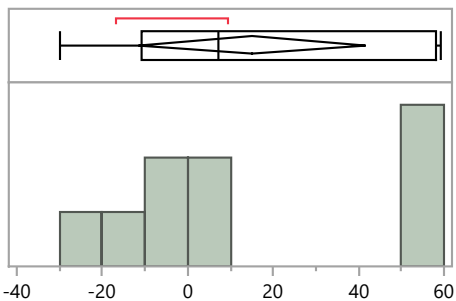
Summary Statistics

Mean	55.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF Distribution by Preparation Method

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

Bias



Quantiles

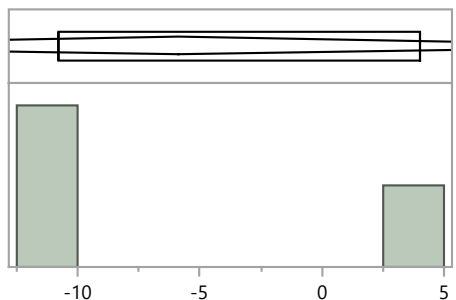
100.0%	maximum	59.2
99.5%		59.2
97.5%		59.2
90.0%		59.2
75.0%	quartile	58.1
50.0%	median	7.2
25.0%	quartile	-10.6
10.0%		-29.9
2.5%		-29.9
0.5%		-29.9
0.0%	minimum	-29.9

Summary Statistics

Mean	15.1
Std Dev	34.5
Std Err Mean	11.5
Upper 95% Mean	41.7
Lower 95% Mean	-11.4
N	9.0

Distributions Analyte_Method=Americium-241 Other

Bias



Quantiles

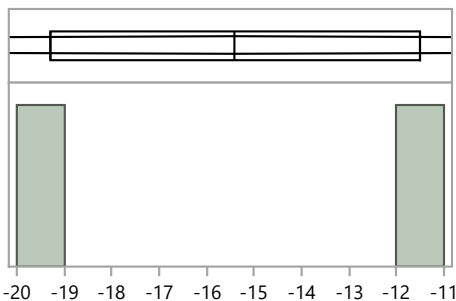
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	4.0
50.0%	median	-10.8
25.0%	quartile	-10.8
10.0%		-10.8
2.5%		-10.8
0.5%		-10.8
0.0%	minimum	-10.8

Summary Statistics

Mean	-5.9
Std Dev	8.5
Std Err Mean	4.9
Upper 95% Mean	15.4
Lower 95% Mean	-27.1
N	3.0

Distributions Analyte_Method=Americium-241 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	-11.5
99.5%		-11.5
97.5%		-11.5
90.0%		-11.5
75.0%	quartile	-11.5
50.0%	median	-15.4
25.0%	quartile	-19.3
10.0%		-19.3
2.5%		-19.3
0.5%		-19.3
0.0%	minimum	-19.3

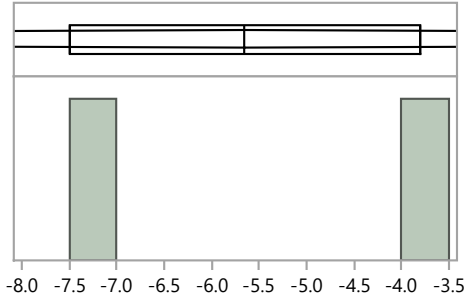
Summary Statistics

Mean	-15.4
Std Dev	5.5
Std Err Mean	3.9
Upper 95% Mean	34.2
Lower 95% Mean	-65.0
N	2.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 Acid dissolution with hydrofluoric acid

Bias



Quantiles

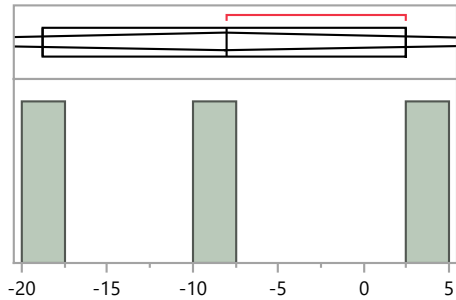
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-5.7
25.0%	quartile	-7.5
10.0%		-7.5
2.5%		-7.5
0.5%		-7.5
0.0%	minimum	-7.5

Summary Statistics

Mean	-5.7
Std Dev	2.6
Std Err Mean	1.9
Upper 95% Mean	17.9
Lower 95% Mean	-29.2
N	2.0

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

Bias



Quantiles

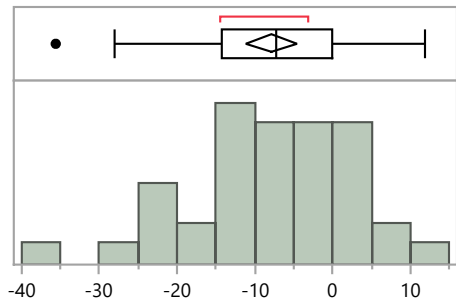
100.0%	maximum	2.5
99.5%		2.5
97.5%		2.5
90.0%		2.5
75.0%	quartile	2.5
50.0%	median	-8.0
25.0%	quartile	-18.8
10.0%		-18.8
2.5%		-18.8
0.5%		-18.8
0.0%	minimum	-18.8

Summary Statistics

Mean	-8.1
Std Dev	10.7
Std Err Mean	6.1
Upper 95% Mean	18.4
Lower 95% Mean	-34.6
N	3.0

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

Bias



Quantiles

100.0%	maximum	11.9
99.5%		11.9
97.5%		11.8
90.0%		4.4
75.0%	quartile	-0.1
50.0%	median	-7.3
25.0%	quartile	-14.3
10.0%		-21.9
2.5%		-35.4
0.5%		-35.6
0.0%	minimum	-35.6

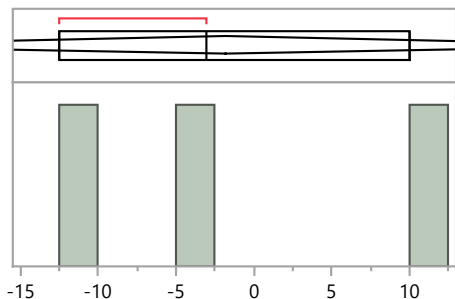
Summary Statistics

Mean	-7.8
Std Dev	10.4
Std Err Mean	1.6
Upper 95% Mean	-4.5
Lower 95% Mean	-11.1
N	40.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 Other

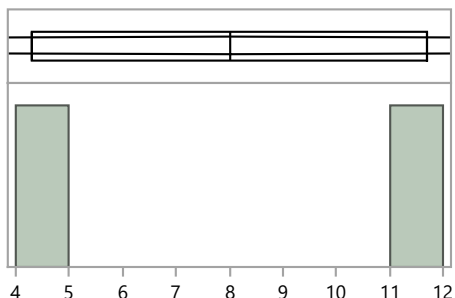
Bias



Quantiles		Summary Statistics		
100.0%	maximum	10.0	Mean	-1.9
99.5%		10.0	Std Dev	11.3
97.5%		10.0	Std Err Mean	6.5
90.0%		10.0	Upper 95% Mean	26.2
75.0%	quartile	10.0	Lower 95% Mean	-29.9
50.0%	median	-3.1	N	3.0
25.0%	quartile	-12.5		
10.0%		-12.5		
2.5%		-12.5		
0.5%		-12.5		
0.0%	minimum	-12.5		

Distributions Analyte_Method=Cobalt-57 Acid dissolution with hydrofluoric acid

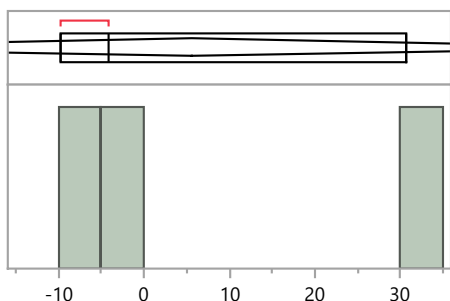
Bias



Quantiles		Summary Statistics		
100.0%	maximum	11.7	Mean	8.0
99.5%		11.7	Std Dev	5.2
97.5%		11.7	Std Err Mean	3.7
90.0%		11.7	Upper 95% Mean	55.0
75.0%	quartile	11.7	Lower 95% Mean	-39.0
50.0%	median	8.0	N	2.0
25.0%	quartile	4.3		
10.0%		4.3		
2.5%		4.3		
0.5%		4.3		
0.0%	minimum	4.3		

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

Bias

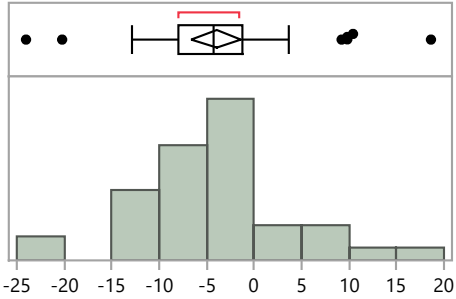


Quantiles		Summary Statistics		
100.0%	maximum	30.7	Mean	5.6
99.5%		30.7	Std Dev	21.9
97.5%		30.7	Std Err Mean	12.7
90.0%		30.7	Upper 95% Mean	60.1
75.0%	quartile	30.7	Lower 95% Mean	-48.9
50.0%	median	-4.1	N	3.0
25.0%	quartile	-9.8		
10.0%		-9.8		
2.5%		-9.8		
0.5%		-9.8		
0.0%	minimum	-9.8		

RdF Distribution by Preparation Method

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

Bias



Quantiles

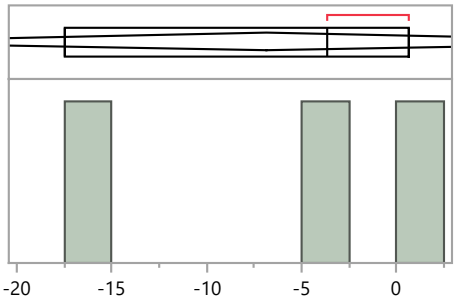
100.0%	maximum	18.6
99.5%		18.6
97.5%		18.4
90.0%		9.7
75.0%	quartile	-1.2
50.0%	median	-4.3
25.0%	quartile	-8.0
10.0%		-12.2
2.5%		-23.9
0.5%		-24.0
0.0%	minimum	-24.0

Summary Statistics

Mean	-4.0
Std Dev	8.1
Std Err Mean	1.3
Upper 95% Mean	-1.4
Lower 95% Mean	-6.6
N	40.0

Distributions Analyte_Method=Cobalt-57 Other

Bias



Quantiles

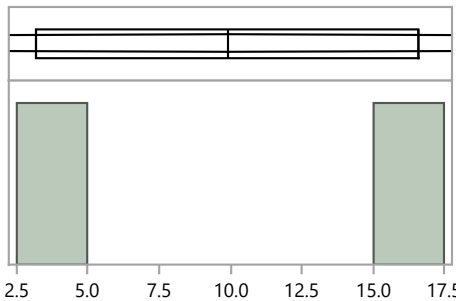
100.0%	maximum	0.6
99.5%		0.6
97.5%		0.6
90.0%		0.6
75.0%	quartile	0.6
50.0%	median	-3.7
25.0%	quartile	-17.5
10.0%		-17.5
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

Summary Statistics

Mean	-6.9
Std Dev	9.5
Std Err Mean	5.5
Upper 95% Mean	16.6
Lower 95% Mean	-30.4
N	3.0

Distributions Analyte_Method=Manganese-54 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	16.6
99.5%		16.6
97.5%		16.6
90.0%		16.6
75.0%	quartile	16.6
50.0%	median	9.9
25.0%	quartile	3.2
10.0%		3.2
2.5%		3.2
0.5%		3.2
0.0%	minimum	3.2

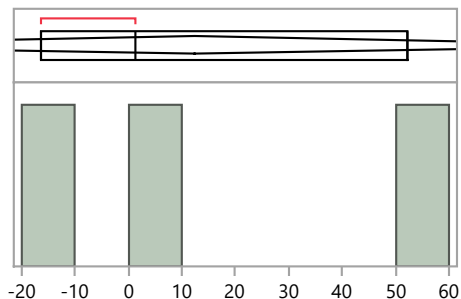
Summary Statistics

Mean	9.9
Std Dev	9.5
Std Err Mean	6.7
Upper 95% Mean	95.0
Lower 95% Mean	-75.2
N	2.0

RdF Distribution by Preparation Method

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

Bias



Quantiles

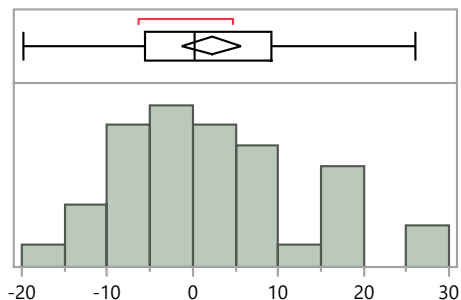
100.0%	maximum	52.2
99.5%		52.2
97.5%		52.2
90.0%		52.2
75.0%	quartile	52.2
50.0%	median	1.3
25.0%	quartile	-16.4
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics

Mean	12.4
Std Dev	35.6
Std Err Mean	20.6
Upper 95% Mean	100.8
Lower 95% Mean	-76.1
N	3.0

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

Bias



Quantiles

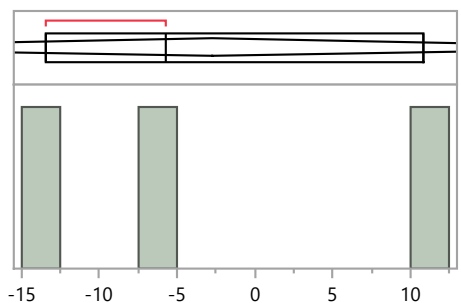
100.0%	maximum	26.1
99.5%		26.1
97.5%		26.1
90.0%		18.4
75.0%	quartile	9.3
50.0%	median	0.3
25.0%	quartile	-5.6
10.0%		-10.6
2.5%		-19.6
0.5%		-19.7
0.0%	minimum	-19.7

Summary Statistics

Mean	2.2
Std Dev	10.7
Std Err Mean	1.7
Upper 95% Mean	5.7
Lower 95% Mean	-1.2
N	40.0

Distributions Analyte_Method=Manganese-54 Other

Bias



Quantiles

100.0%	maximum	10.8
99.5%		10.8
97.5%		10.8
90.0%		10.8
75.0%	quartile	10.8
50.0%	median	-5.7
25.0%	quartile	-13.4
10.0%		-13.4
2.5%		-13.4
0.5%		-13.4
0.0%	minimum	-13.4

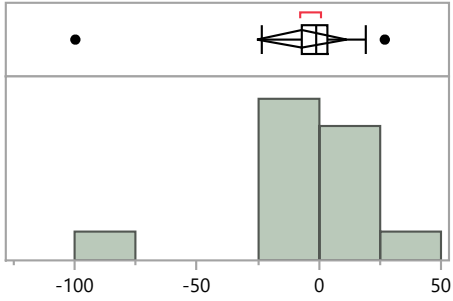
Summary Statistics

Mean	-2.8
Std Dev	12.4
Std Err Mean	7.1
Upper 95% Mean	27.9
Lower 95% Mean	-33.5
N	3.0

RdF Distribution by Preparation Method

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

Bias



Quantiles

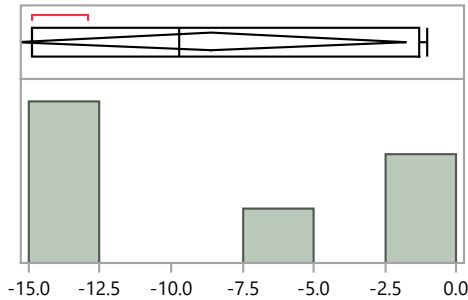
100.0%	maximum	26.9
99.5%		26.9
97.5%		26.9
90.0%		23.7
75.0%	quartile	3.7
50.0%	median	-1.4
25.0%	quartile	-7.3
10.0%		-69.1
2.5%		-99.7
0.5%		-99.7
0.0%	minimum	-99.7

Summary Statistics

Mean	-7.3
Std Dev	30.4
Std Err Mean	8.4
Upper 95% Mean	11.1
Lower 95% Mean	-25.6
N	13.0

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

Bias



Quantiles

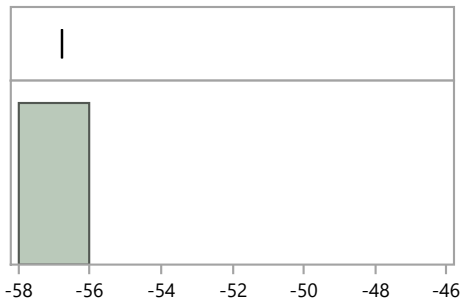
100.0%	maximum	-1.0
99.5%		-1.0
97.5%		-1.0
90.0%		-1.0
75.0%	quartile	-1.3
50.0%	median	-9.7
25.0%	quartile	-14.9
10.0%		-14.9
2.5%		-14.9
0.5%		-14.9
0.0%	minimum	-14.9

Summary Statistics

Mean	-8.6
Std Dev	6.5
Std Err Mean	2.7
Upper 95% Mean	-1.8
Lower 95% Mean	-15.4
N	6.0

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

Bias



Quantiles

100.0%	maximum	-56.8
99.5%		-56.8
97.5%		-56.8
90.0%		-56.8
75.0%	quartile	-56.8
50.0%	median	-56.8
25.0%	quartile	-56.8
10.0%		-56.8
2.5%		-56.8
0.5%		-56.8
0.0%	minimum	-56.8

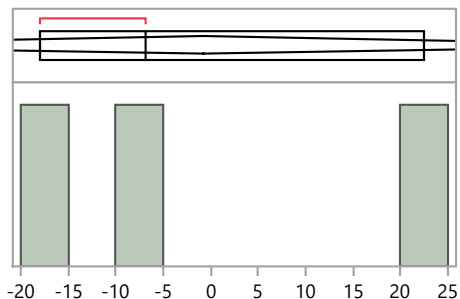
Summary Statistics

Mean	-56.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Other

Bias



Quantiles

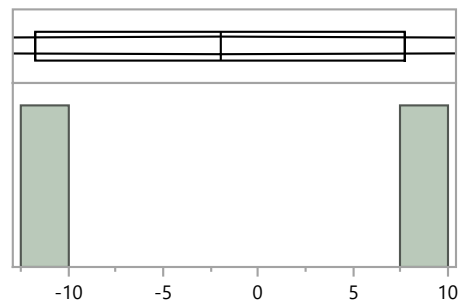
100.0%	maximum	22.4
99.5%		22.4
97.5%		22.4
90.0%		22.4
75.0%	quartile	22.4
50.0%	median	-6.9
25.0%	quartile	-18.0
10.0%		-18.0
2.5%		-18.0
0.5%		-18.0
0.0%	minimum	-18.0

Summary Statistics

Mean	-0.8
Std Dev	20.9
Std Err Mean	12.1
Upper 95% Mean	51.0
Lower 95% Mean	-52.7
N	3.0

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

Bias



Quantiles

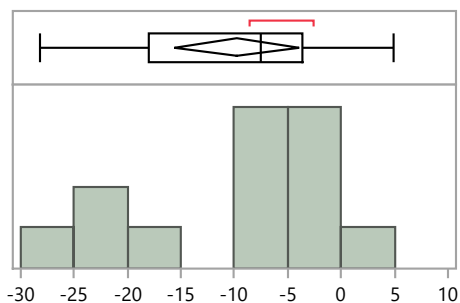
100.0%	maximum	7.7
99.5%		7.7
97.5%		7.7
90.0%		7.7
75.0%	quartile	7.7
50.0%	median	-2.0
25.0%	quartile	-11.7
10.0%		-11.7
2.5%		-11.7
0.5%		-11.7
0.0%	minimum	-11.7

Summary Statistics

Mean	-2.0
Std Dev	13.7
Std Err Mean	9.7
Upper 95% Mean	121.3
Lower 95% Mean	-125.3
N	2.0

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	4.9
99.5%		4.9
97.5%		4.9
90.0%		2.6
75.0%	quartile	-3.7
50.0%	median	-7.5
25.0%	quartile	-18.0
10.0%		-26.8
2.5%		-28.2
0.5%		-28.2
0.0%	minimum	-28.2

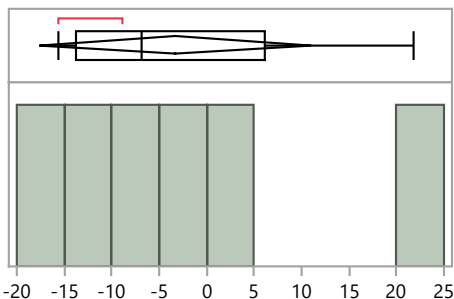
Summary Statistics

Mean	-9.7
Std Dev	9.7
Std Err Mean	2.7
Upper 95% Mean	-3.9
Lower 95% Mean	-15.6
N	13.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Acid leaching without hydrofluoric acid

Bias



Quantiles

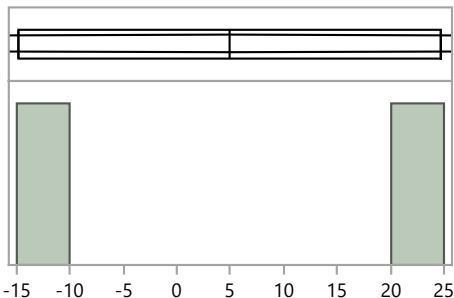
100.0%	maximum	21.8
99.5%		21.8
97.5%		21.8
90.0%		21.8
75.0%	quartile	6.2
50.0%	median	-6.9
25.0%	quartile	-13.8
10.0%		-15.6
2.5%		-15.6
0.5%		-15.6
0.0%	minimum	-15.6

Summary Statistics

Mean	-3.3
Std Dev	13.6
Std Err Mean	5.6
Upper 95% Mean	11.0
Lower 95% Mean	-17.6
N	6.0

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

Bias



Quantiles

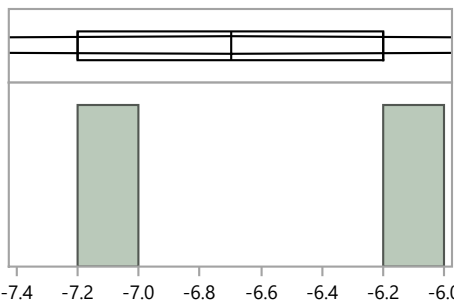
100.0%	maximum	24.6
99.5%		24.6
97.5%		24.6
90.0%		24.6
75.0%	quartile	24.6
50.0%	median	4.9
25.0%	quartile	-14.8
10.0%		-14.8
2.5%		-14.8
0.5%		-14.8
0.0%	minimum	-14.8

Summary Statistics

Mean	4.9
Std Dev	27.9
Std Err Mean	19.7
Upper 95% Mean	255.2
Lower 95% Mean	-245.4
N	2.0

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

100.0%	maximum	-6.2
99.5%		-6.2
97.5%		-6.2
90.0%		-6.2
75.0%	quartile	-6.2
50.0%	median	-6.7
25.0%	quartile	-7.2
10.0%		-7.2
2.5%		-7.2
0.5%		-7.2
0.0%	minimum	-7.2

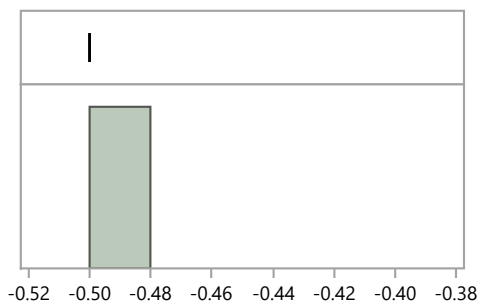
Summary Statistics

Mean	-6.7
Std Dev	0.7
Std Err Mean	0.5
Upper 95% Mean	-0.3
Lower 95% Mean	-13.1
N	2.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

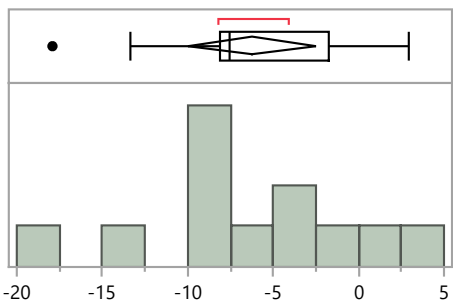
Bias



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

Distributions Analyte_Method=Uranium-234 Acid dissolution with hydrofluoric acid

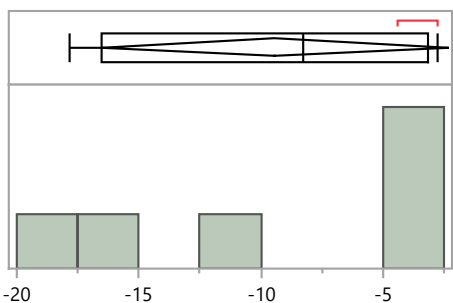
Bias



Quantiles		Summary Statistics		
100.0%	maximum	2.9	Mean	-6.2
99.5%		2.9	Std Dev	5.8
97.5%		2.9	Std Err Mean	1.7
90.0%		2.4	Upper 95% Mean	-2.5
75.0%	quartile	-1.7	Lower 95% Mean	-9.9
50.0%	median	-7.6	N	12.0
25.0%	quartile	-8.1		
10.0%		-16.5		
2.5%		-17.9		
0.5%		-17.9		
0.0%	minimum	-17.9		

Distributions Analyte_Method=Uranium-234 Acid leaching without hydrofluoric acid

Bias

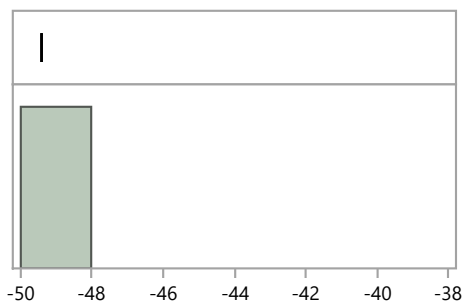


Quantiles		Summary Statistics		
100.0%	maximum	-2.8	Mean	-9.4
99.5%		-2.8	Std Dev	6.8
97.5%		-2.8	Std Err Mean	2.8
90.0%		-2.8	Upper 95% Mean	-2.3
75.0%	quartile	-3.2	Lower 95% Mean	-16.5
50.0%	median	-8.3	N	6.0
25.0%	quartile	-16.5		
10.0%		-17.8		
2.5%		-17.8		
0.5%		-17.8		
0.0%	minimum	-17.8		

RdF Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 EPA 907, Actinide Elements, 600/4/80-032

Bias



Quantiles

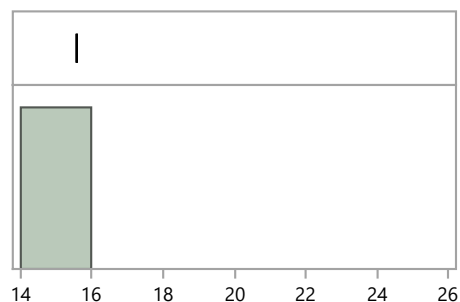
100.0%	maximum	-49.4
99.5%		-49.4
97.5%		-49.4
90.0%		-49.4
75.0%	quartile	-49.4
50.0%	median	-49.4
25.0%	quartile	-49.4
10.0%		-49.4
2.5%		-49.4
0.5%		-49.4
0.0%	minimum	-49.4

Summary Statistics

Mean	-49.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

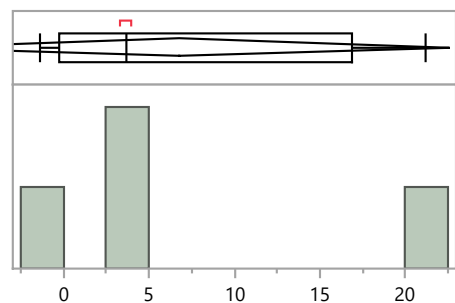
100.0%	maximum	15.6
99.5%		15.6
97.5%		15.6
90.0%		15.6
75.0%	quartile	15.6
50.0%	median	15.6
25.0%	quartile	15.6
10.0%		15.6
2.5%		15.6
0.5%		15.6
0.0%	minimum	15.6

Summary Statistics

Mean	15.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-234 Other

Bias



Quantiles

100.0%	maximum	21.2
99.5%		21.2
97.5%		21.2
90.0%		21.2
75.0%	quartile	16.9
50.0%	median	3.7
25.0%	quartile	-0.2
10.0%		-1.4
2.5%		-1.4
0.5%		-1.4
0.0%	minimum	-1.4

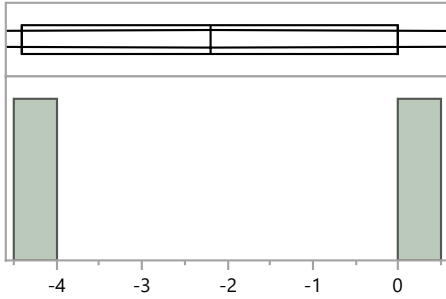
Summary Statistics

Mean	6.8
Std Dev	9.9
Std Err Mean	5.0
Upper 95% Mean	22.5
Lower 95% Mean	-9.0
N	4.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

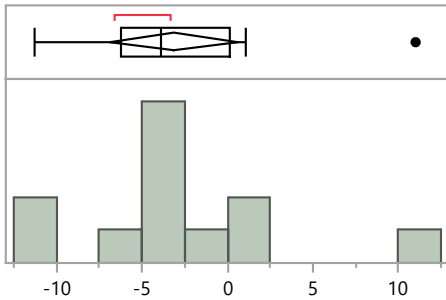
100.0%	maximum	0.0
99.5%		0.0
97.5%		0.0
90.0%		0.0
75.0%	quartile	0.0
50.0%	median	-2.2
25.0%	quartile	-4.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

Summary Statistics

Mean	-2.2
Std Dev	3.1
Std Err Mean	2.2
Upper 95% Mean	25.8
Lower 95% Mean	-30.2
N	2.0

Distributions Analyte_Method=Uranium-238 Acid dissolution with hydrofluoric acid

Bias



Quantiles

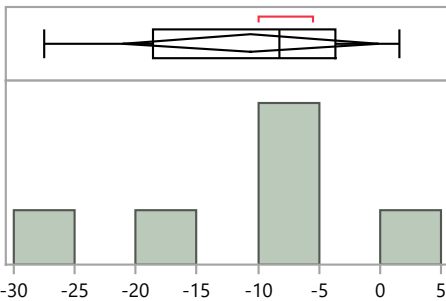
100.0%	maximum	11.0
99.5%		11.0
97.5%		11.0
90.0%		8.0
75.0%	quartile	0.1
50.0%	median	-3.9
25.0%	quartile	-6.2
10.0%		-11.2
2.5%		-11.3
0.5%		-11.3
0.0%	minimum	-11.3

Summary Statistics

Mean	-3.1
Std Dev	5.9
Std Err Mean	1.7
Upper 95% Mean	0.6
Lower 95% Mean	-6.9
N	12.0

Distributions Analyte_Method=Uranium-238 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	1.6
99.5%		1.6
97.5%		1.6
90.0%		1.6
75.0%	quartile	-3.7
50.0%	median	-8.3
25.0%	quartile	-18.7
10.0%		-27.5
2.5%		-27.5
0.5%		-27.5
0.0%	minimum	-27.5

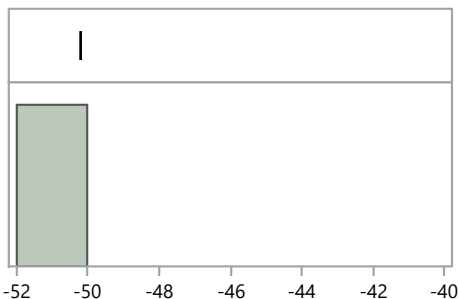
Summary Statistics

Mean	-10.6
Std Dev	10.0
Std Err Mean	4.1
Upper 95% Mean	-0.1
Lower 95% Mean	-21.1
N	6.0

RdF Distribution by Preparation Method

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

Bias



Quantiles

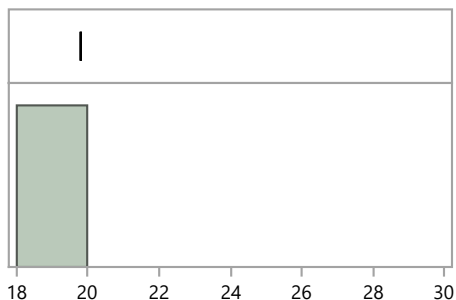
100.0%	maximum	-50.2
99.5%		-50.2
97.5%		-50.2
90.0%		-50.2
75.0%	quartile	-50.2
50.0%	median	-50.2
25.0%	quartile	-50.2
10.0%		-50.2
2.5%		-50.2
0.5%		-50.2
0.0%	minimum	-50.2

Summary Statistics

Mean	-50.2
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

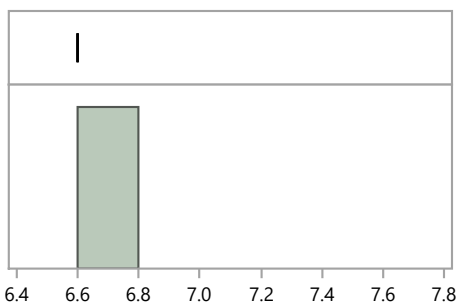
100.0%	maximum	19.8
99.5%		19.8
97.5%		19.8
90.0%		19.8
75.0%	quartile	19.8
50.0%	median	19.8
25.0%	quartile	19.8
10.0%		19.8
2.5%		19.8
0.5%		19.8
0.0%	minimum	19.8

Summary Statistics

Mean	19.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

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

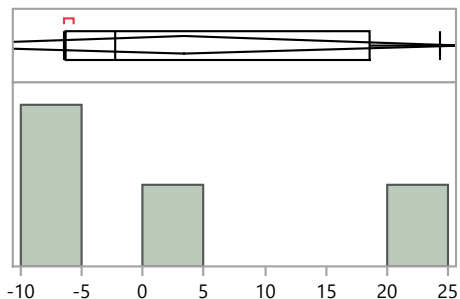
Summary Statistics

Mean	6.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

RdF Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 Other

Bias



Quantiles

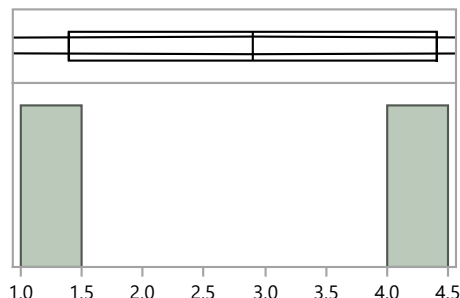
100.0%	maximum	24.3
99.5%		24.3
97.5%		24.3
90.0%		24.3
75.0%	quartile	18.5
50.0%	median	-2.3
25.0%	quartile	-6.3
10.0%		-6.5
2.5%		-6.5
0.5%		-6.5
0.0%	minimum	-6.5

Summary Statistics

Mean	3.3
Std Dev	14.4
Std Err Mean	7.2
Upper 95% Mean	26.2
Lower 95% Mean	-19.6
N	4.0

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias



Quantiles

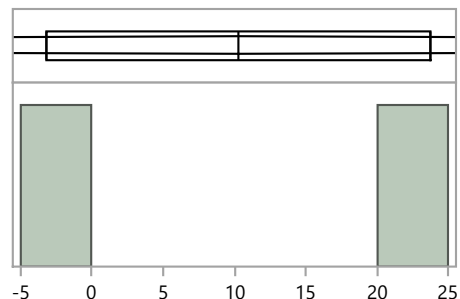
100.0%	maximum	4.4
99.5%		4.4
97.5%		4.4
90.0%		4.4
75.0%	quartile	4.4
50.0%	median	2.9
25.0%	quartile	1.4
10.0%		1.4
2.5%		1.4
0.5%		1.4
0.0%	minimum	1.4

Summary Statistics

Mean	2.9
Std Dev	2.1
Std Err Mean	1.5
Upper 95% Mean	22.0
Lower 95% Mean	-16.2
N	2.0

Distributions Analyte_Method=Zinc-65 Acid dissolution with hydrofluoric acid

Bias



Quantiles

100.0%	maximum	23.8
99.5%		23.8
97.5%		23.8
90.0%		23.8
75.0%	quartile	23.8
50.0%	median	10.3
25.0%	quartile	-3.2
10.0%		-3.2
2.5%		-3.2
0.5%		-3.2
0.0%	minimum	-3.2

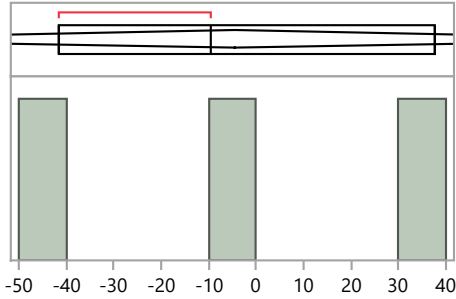
Summary Statistics

Mean	10.3
Std Dev	19.1
Std Err Mean	13.5
Upper 95% Mean	181.8
Lower 95% Mean	-161.2
N	2.0

RdF Distribution by Preparation Method

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

Bias



Quantiles

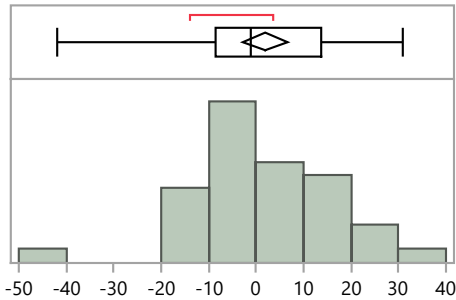
100.0%	maximum	37.6
99.5%		37.6
97.5%		37.6
90.0%		37.6
75.0%	quartile	37.6
50.0%	median	-9.5
25.0%	quartile	-41.4
10.0%		-41.4
2.5%		-41.4
0.5%		-41.4
0.0%	minimum	-41.4

Summary Statistics

Mean	-4.4
Std Dev	39.7
Std Err Mean	22.9
Upper 95% Mean	94.3
Lower 95% Mean	-103.2
N	3.0

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

Bias



Quantiles

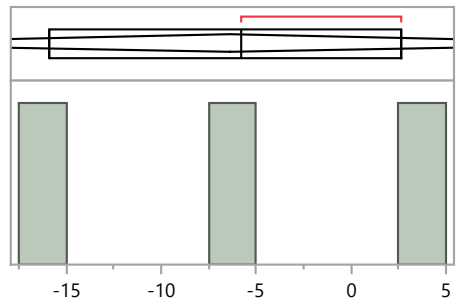
100.0%	maximum	30.7
99.5%		30.7
97.5%		30.7
90.0%		21.2
75.0%	quartile	13.8
50.0%	median	-1.1
25.0%	quartile	-8.5
10.0%		-13.8
2.5%		-41.8
0.5%		-41.8
0.0%	minimum	-41.8

Summary Statistics

Mean	1.8
Std Dev	14.6
Std Err Mean	2.3
Upper 95% Mean	6.6
Lower 95% Mean	-2.9
N	39.0

Distributions Analyte_Method=Zinc-65 Other

Bias



Quantiles

100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	2.6
50.0%	median	-5.8
25.0%	quartile	-15.9
10.0%		-15.9
2.5%		-15.9
0.5%		-15.9
0.0%	minimum	-15.9

Summary Statistics

Mean	-6.4
Std Dev	9.3
Std Err Mean	5.3
Upper 95% Mean	16.6
Lower 95% Mean	-29.4
N	3.0