

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.

MaW46 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	MaW
ADFC99	Abu Dhabi Quality and Conformity Council-Central Testing Lab	MaW
AFOH01	USAFSAM/OEA	MaW
ALIN01	Anatek Labs Inc.	MaW
ANLB01	Argonne National Laboratory	MaW
ANTE01	ALS Environmental - Fort Collins, CO	MaW
AREV01	Framatome - CMC	MaW
ARGO01	Idaho National Laboratory	MaW
ARPL01	Analytical Support Operations - Radiochemical Processing Lab	MaW
ARSL01	ARS Aleut Analytical, LLC	MaW
AY1201	Consolidated Nuclear Security, LLC, ACO Laboratory	MaW
BY1201	Consolidated Nuclear Security, LLC, ACO, Production Laboratory	MaW
CESL01	Lawrence Livermore National Laboratory - EMRL	MaW
CMRC01	Carlsbad Environmental Monitoring and Research Center	MaW
COPS99	Health Canada Radiation Protection Bureau	MaW
DLEA01	DLE Associates	MaW
EFGS01	Eurofins Frontier Global Sciences, LLC.	MaW
ELIW01	Energy Laboratories, Inc.	MaW
ERAD01	Lawrence Livermore National Laboratory	MaW
ERCL01	Washington State Public Health Laboratories	MaW
ERHD99	National Monitoring Section, Radiation Protection Bureau, Health Canada	MaW
ESDE01	Region 5 EQC Tritium Lab	MaW
ETTP01	MCLinc	MaW
FDHE01	Florida Dept of Health Environmental Laboratory	MaW
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	MaW
FERM01	Fernald Project	MaW
FNAL01	Fermi National Accelerator Laboratory (FermiLab)	MaW
GENE01	GEL Laboratories, LLC	MaW
GPCL01	Georgia Power Company Environmental Laboratory	MaW
HCAL01	Lawrence Livermore National Laboratory	MaW
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory	MaW
HPAC99	PHE, CRCE Glasgow	MaW
IAEA99	International Atomic Energy Agency	MaW
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	MaW
ISUE01	ISU Environmental Monitoring Laboratory	MaW
ISUP01	ISU - Department of Physics/Health Physics/EAL	MaW
JLNN01	Jefferson Laboratory	MaW
LANL01	Los Alamos National Laboratory	MaW
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY	MaW
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	MaW
LZCA01	ACZ Laboratories, Inc	MaW
MART03	Radioactive Material Analysis Laboratory	MaW
MDPH01	MDPH-Radiation Control Program	MaW
MNDH01	Minnesota Department of Health, Public Health Lab. Division	MaW

NARL01	National Analytical Radiation Environmental Laboratory	MaW
NESI01	BWXT-Radioisotope & Analytical Chemistry Laboratory	MaW
NJDH01	New Jersey Dept. of Health, ECLS	MaW
ODHL01	Ohio Department of Health Laboratory	MaW
ORIS01	ORISE/IEAV	MaW
OTLI01	Pace Analytical National Center for Testing & Innovation	MaW
QUAN02	Eurofins TestAmerica Knoxville	MaW
RJLG01	RJ Lee Group - Columbia Basin Analytical Laboratories (CBAL)	MaW
RPSC01	Radiation Protection Service	MaW
SANC99	RadioAnalysis, South Africa Nuclear Energy Corp.	MaW
SAVA01	Battelle Savannah River Alliance	MaW
SEML01	SRS Environmental Monitoring Laboratory	MaW
SLAC01	SLAC DOE National Accelerator Laboratory	MaW
SOUT01	Southwest Research Institute	MaW
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics	MaW
TDHL01	Texas Department of State Health Services Laboratory	MaW
TELE01	Teledyne Brown Engineering - Environmental Services	MaW
TELE02	ATI Environmental, Inc., Midwest Lab	MaW
TMAO01	EBERLINE Analytical Corporation	MaW
TNUT01	St. Louis USACE FUSRAP Laboratory	MaW
UNTE01	UniTech-235	MaW
WIPP01	WIPP Laboratories	MaW
WSHL01	Wisconsin State Laboratory of Hygiene	MaW
WSTP99	Cavendish Nuclear Limited	MaW
WVDP01	WVDP Environmental Laboratory	MaW
YPGA01	US Army Yuma Proving Ground / Material Analysis Lab	MaW

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
ASUK99	AWE (Aldermaston)	MaW
DEHS01	Department of Environmental Health & Safety	MaW
EMAX01	EMAX Laboratories, Inc	MaW
EULC01	EnergySolutions, LLC	MaW
MSDH01	Mississippi State Dept of Health	MaW
UNEV01	University of Nevada, Reno	MaW
WIPH01	WI, DPH, Radiation Protection Section	MaW

Study Reference Values

MAPEP-22-MaW46

Radiological Reference Date: 02/01/2022

Analyte	Ref Value	Ref Unc
Inorganic	Units: (mg/L)	
Antimony	10.22	0.10
Arsenic	3.37	0.07
Barium	0.041	0.002
Beryllium	1.95	0.04
Chromium	3.29	0.07
Cobalt	12.5	0.3
Copper	15.3	0.3
Lead	1.57	0.03
Mercury	0.152	0.003
Nickel	8.22	0.16
Selenium	0.81	0.02
Technetium-99	1.26E-5	3E-7
Thallium	1.04	0.02
Uranium-235	9.1E-4	2E-5
Uranium-238	0.124	0.004
Uranium-Total	0.125	0.004
Vanadium	4.9	0.10
Zinc	10.2	0.2

Analyte	Ref Value	Ref Unc
Radiological	Units: (Bq/L)	
Americium-241	0.355	0.007
Cesium-137	7.64	0.19
Cobalt-57	36.0	0.9
Cobalt-60	9.3	0.2
Hydrogen-3	300	8
Iron-55	15.2	0.4
Manganese-54	18.9	0.5
Nickel-63	34.0	0.8
Plutonium-238	1.07	0.02
Plutonium-239/240	1.19	0.03
Radium-226	0.8	0.02
Strontium-90	12.9	0.3
Technetium-99	7.9	0.2
Uranium-234	1.5	0.05
Uranium-238	1.54	0.05
Zinc-65	26.2	0.6

Sample Statistical Summary

MAPEP-22-MaW46

Radiological Reference Date: 02/01/2022

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (mg/L)
Inorganic							
Antimony	15	15	10.21	0.46	10.22	0.10	7.15 - 13.29
Arsenic	17	17	3.27	0.12	3.37	0.07	2.36 - 4.38
Barium	17	16	0.044	0.004	0.041	0.002	Sensitivity Evaluation
Beryllium	15	15	1.95	0.08	1.95	0.04	1.37 - 2.54
Cadmium	15	11					False Positive Test
Chromium	16	16	3.29	0.11	3.29	0.07	2.30 - 4.28
Cobalt	17	17	12.5	0.5	12.5	0.3	8.8 - 16.3
Copper	17	17	15.4	0.7	15.3	0.3	10.7 - 19.9
Lead	17	17	1.57	0.07	1.57	0.03	1.10 - 2.04
Mercury	15	15	0.149	0.009	0.152	0.003	0.106 - 0.198
Nickel	17	17	8.21	0.37	8.22	0.16	5.75 - 10.69
Selenium	15	15	0.81	0.04	0.81	0.02	0.57 - 1.05
Technetium-99	3	3			1.26E-5	3E-7	8.80E-6 - 1.64E-5
Thallium	16	16	1.04	0.06	1.04	0.02	0.73 - 1.35
Uranium-235	13	13	9.46E-4	7.80E-5	9.1E-4	2E-5	6.37E-4 - 1.18E-3
Uranium-238	13	13	0.125	0.005	0.124	0.004	0.087 - 0.161
Uranium-Total	17	17	0.128	0.006	0.125	0.004	0.088 - 0.163
Vanadium	16	16	4.9	0.2	4.9	0.10	3.4 - 6.4
Zinc	17	17	10.0	0.5	10.2	0.2	7.1 - 13.3

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (Bq/L)
Radiological							
Americium-241	32	29	0.333	0.039	0.355	0.007	0.249 - 0.462
Cesium-134	51	48					False Positive Test
Cesium-137	55	54	7.77	0.48	7.64	0.19	5.35 - 9.93
Cobalt-57	55	52	35.2	2.3	36.0	0.9	25.2 - 46.8
Cobalt-60	55	54	9.2	0.6	9.3	0.2	6.5 - 12.1
Hydrogen-3	42	40	297	18	300	8	210 - 390
Iron-55	5	5			15.2	0.4	10.6 - 19.8
Manganese-54	55	53	18.7	1.2	18.9	0.5	13.2 - 24.6
Nickel-63	10	10	33.2	3.1	34.0	0.8	23.8 - 44.2
Plutonium-238	29	25	1.03	0.05	1.07	0.02	0.75 - 1.39
Plutonium-239/240	29	26	1.12	0.07	1.19	0.03	0.83 - 1.55
Potassium-40	48	41					False Positive Test
Radium-226	22	18	0.8	0.1	0.8	0.02	0.6 - 1.0
Strontium-90	29	28	12.3	1.3	12.9	0.3	9.0 - 16.8
Technetium-99	16	15	7.9	0.8	7.9	0.2	5.5 - 10.3
Uranium-234	32	30	1.5	0.1	1.5	0.05	1.1 - 2.0
Uranium-238	33	31	1.51	0.13	1.54	0.05	1.08 - 2.00
Zinc-65	55	54	26.9	2.3	26.2	0.6	18.3 - 34.1

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-22-MaW46

Inorganic

Analyte	A	W	RW	N
Antimony	15			
Arsenic	17			
Barium	16			1
Beryllium	15			
Cadmium	11			4
Chromium	16			
Cobalt	17			
Copper	17			
Lead	17			
Mercury	15			
Nickel	17			
Selenium	15			
Thallium	16			
Uranium-Total	17			
Uranium-235	12	1		
Uranium-238	13			
Vanadium	16			
Zinc	17			
Technetium-99	3			

Radiological

Analyte	A	W	RW	N
Americium-241	26	3		3
Cesium-134	48			5
Cesium-137	54			1
Cobalt-57	50	2		3
Cobalt-60	53	1		1
Hydrogen-3	40			2
Iron-55	3	2		
Manganese-54	52	1		2
Nickel-63	10			
Plutonium-238	25			4
Plutonium-239/240	26			3
Potassium-40	41			13
Radium-226	17	1		4
Strontium-90	26	2		1
Technetium-99	14	1		1
Uranium-234	29	1		2
Uranium-238	29	2		2
Zinc-65	52	2		1



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

Laboratory Results For MAPEP-22-MaW46

(ADEM01) Alabama Department of Environmental Management
1350 Coliseum Blvd.
Montgomery, AL 36110

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR		N	(11)		False Positive Test		
Cesium-137	7.73	7.64	A		1.2	5.35 - 9.93	0.340	A
Cobalt-57	NR	36.0	N	(28)		25.2 - 46.8		
Cobalt-60	9.67	9.3	A		4.0	6.5 - 12.1	0.228	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.3	18.9	A		-8.5	13.2 - 24.6	0.587	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	23.9	26.2	A		-8.8	18.3 - 34.1	0.777	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

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

Radiation Lab

Abu Dhabi, - -

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.01		A			False Positive Test	0.01	
Cesium-137	6.89	7.64	A		-9.8	5.35 - 9.93	0.18	A
Cobalt-57	30.74	36.0	A		-14.6	25.2 - 46.8	0.78	A
Cobalt-60	8.64	9.3	A		-7.1	6.5 - 12.1	0.26	A
Hydrogen-3	296.10	300	A		-1.3	210 - 390	23.78	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	16.86	18.9	A		-10.8	13.2 - 24.6	0.63	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.670	1.07	N		56.1	0.75 - 1.39	0.184	A
Plutonium-239/240	1.102	1.19	A		-7.4	0.83 - 1.55	0.140	A
Potassium-40	0.1		A			False Positive Test	0.1	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.03	12.9	A		-6.7	9.0 - 16.8	0.28	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.47	1.5	A		-2.0	1.1 - 2.0	0.18	A
Uranium-238	1.57	1.54	A		1.9	1.08 - 2.00	0.2	A
Zinc-65	23.79	26.2	A		-9.2	18.3 - 34.1	0.49	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(AFOH01) USAFSAM/OEA

2510 Fifth Street, Area B

Wright-Patterson AFB, OH 45433-7913

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.337	0.355	A		-5.1	0.249 - 0.462	0.014	A
Cesium-134	0.12			A		False Positive Test	0.13	
Cesium-137	7.15	7.64	A		-6.4	5.35 - 9.93	0.44	A
Cobalt-57	33.2	36.0	A		-7.8	25.2 - 46.8	2.2	A
Cobalt-60	8.58	9.3	A		-7.7	6.5 - 12.1	0.37	A
Hydrogen-3	313	300	A		4.3	210 - 390	24	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	16.99	18.9	A		-10.1	13.2 - 24.6	0.88	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.016	1.07	A		-5.0	0.75 - 1.39	0.046	A
Plutonium-239/240	1.139	1.19	A		-4.3	0.83 - 1.55	0.052	A
Potassium-40	-0.62			A		False Positive Test	0.42	
Radium-226	0.785	0.8	A		-1.9	0.6 - 1.0	0.039	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.85	12.9	A		-0.4	9.0 - 16.8	0.55	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.514	1.5	A		0.9	1.1 - 2.0	0.051	A
Uranium-238	1.539	1.54	A		-0.1	1.08 - 2.00	0.051	A
Zinc-65	23.53	26.2	A		-10.2	18.3 - 34.1	0.97	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ALIN01) Anatek Labs Inc.
504 E. Sprague Ave Ste D
Spokane, WA 99202

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	0.6586	0.8	A		-17.7	0.6 - 1.0	0.044	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ANLB01) Argonne National Laboratory

9700 S. Cass Ave

Argonne, IL 60439

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.322	0.355	A		-9.3	0.249 - 0.462	0.025	A
Cesium-134	0.04			A		False Positive Test	0.188	
Cesium-137	8.14	7.64	A		6.5	5.35 - 9.93	0.397	A
Cobalt-57	35.73	36.0	A		-0.8	25.2 - 46.8	0.79	A
Cobalt-60	9.31	9.3	A		0.1	6.5 - 12.1	0.289	A
Hydrogen-3	316.70	300	A		5.6	210 - 390	4.59	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.72	18.9	A		-1.0	13.2 - 24.6	0.547	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.037	1.07	A		-3.1	0.75 - 1.39	0.087	A
Plutonium-239/240	1.177	1.19	A		-1.1	0.83 - 1.55	0.099	A
Potassium-40	NR			(6)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.34	12.9	A		-4.3	9.0 - 16.8	0.351	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.429	1.5	A		-4.7	1.1 - 2.0	0.088	A
Uranium-238	1.470	1.54	A		-4.5	1.08 - 2.00	0.09	A
Zinc-65	28.22	26.2	A		7.7	18.3 - 34.1	1.26	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ANTE01) ALS Environmental - Fort Collins, CO
 225 Commerce Drive
 Fort Collins, CO 80524-1416

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.3	10.22	A		0.8	7.15 - 13.29	0.59225	A
Arsenic	3.24	3.37	A		-3.9	2.36 - 4.38	0.092016	A
Barium	0.1	0.041	N	(4)		Sensitivity Evaluation	0.005	
Beryllium	1.92	1.95	A		-1.5	1.37 - 2.54	0.044928	A
Cadmium	0.005		N	(1)		False Positive Test	0.000341	
Chromium	3.35	3.29	A		1.8	2.30 - 4.28	0.18961	A
Cobalt	13	12.5	A		4.0	8.8 - 16.3	0.7813	A
Copper	14.6	15.3	A		-4.6	10.7 - 19.9	0.5329	A
Lead	1.49	1.57	A		-5.1	1.10 - 2.04	0.029651	N
Mercury	0.152	0.152	A		0.0	0.106 - 0.198	0.006596	A
Nickel	8.62	8.22	A		4.9	5.75 - 10.69	0.49996	A
Selenium	0.755	0.81	A		-6.8	0.57 - 1.05	0.011023	N
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.09	1.04	A		4.8	0.73 - 1.35	0.02398	A
Uranium-235	0.0011	9.1E-4	W		20.9	6.37E-4 - 1.18E-3	2.20000	N
Uranium-238	0.121	0.124	A		-2.4	0.087 - 0.161	0.002178	N
Uranium-Total	0.122	0.125	A		-2.4	0.088 - 0.163	0.002196	N
Vanadium	4.97	4.9	A		1.4	3.4 - 6.4	0.162519	A
Zinc	10.4	10.2	A		2.0	7.1 - 13.3	0.5304	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.317	0.355	A		-10.7	0.249 - 0.462	0.029	A
Cesium-134	0.280		A			False Positive Test	0.280	
Cesium-137	7.69	7.64	A		0.7	5.35 - 9.93	0.48	A
Cobalt-57	35.0	36.0	A		-2.8	25.2 - 46.8	2.1	A
Cobalt-60	9.04	9.3	A		-2.8	6.5 - 12.1	0.55	A
Hydrogen-3	321	300	A		7.0	210 - 390	25	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.3	18.9	A		-3.2	13.2 - 24.6	1.1	A
Nickel-63	38.4	34.0	A		12.9	23.8 - 44.2	4.8	A
Plutonium-238	0.996	1.07	A		-6.9	0.75 - 1.39	0.086	A
Plutonium-239/240	1.05	1.19	A		-11.8	0.83 - 1.55	0.09	A
Potassium-40	6.4		A			False Positive Test	6.4	
Radium-226	0.739	0.8	A		-7.6	0.6 - 1.0	0.107	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	11.4	12.9	A		-11.6	9.0 - 16.8	1.3	A
Technetium-99	7.56	7.9	A		-4.3	5.5 - 10.3	0.63	A
Uranium-234	1.53	1.5	A		2.0	1.1 - 2.0	0.13	A
Uranium-238	1.56	1.54	A		1.3	1.08 - 2.00	0.13	A
Zinc-65	26.9	26.2	A		2.7	18.3 - 34.1	1.7	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(AREV01) Framatome - CMC

1724 Mount Athos Road

Lynchburg, VA 24504

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	9.91	10.22	A		-3.0	7.15 - 13.29	0.99	A
Arsenic	3.28	3.37	A		-2.7	2.36 - 4.38	0.33	A
Barium	0.05	0.041	A	(17)		Sensitivity Evaluation	0.05	
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	0.05		A			False Positive Test	0.05	
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	12.16	12.5	A		-2.7	8.8 - 16.3	1.2	A
Copper	15.80	15.3	A		3.3	10.7 - 19.9	1.6	A
Lead	1.53	1.57	A		-2.5	1.10 - 2.04	.15	A
Mercury	NR	0.152				0.106 - 0.198		
Nickel	8.56	8.22	A		4.1	5.75 - 10.69	0.86	A
Selenium	0.81	0.81	A		0.0	0.57 - 1.05	0.08	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.02	1.04	A		-1.9	0.73 - 1.35	0.1	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	10.74	10.2	A		5.3	7.1 - 13.3	1.1	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ARGO01) Idaho National Laboratory

INL, Materials and Fuels Complex

Idaho Falls, ID 83415

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.2	10.22	A		-0.2	7.15 - 13.29	0.5	A
Arsenic	3.37	3.37	A		0.0	2.36 - 4.38	0.17	A
Barium	0.0441	0.041	A			Sensitivity Evaluation	0.0022	
Beryllium	1.94	1.95	A		-0.5	1.37 - 2.54	0.10	A
Cadmium	0.0000213		N	(1)		False Positive Test	0.000003	
Chromium	3.21	3.29	A		-2.4	2.30 - 4.28	0.16	A
Cobalt	12.5	12.5	A		0.0	8.8 - 16.3	0.6	A
Copper	15.2	15.3	A		-0.7	10.7 - 19.9	0.8	A
Lead	1.60	1.57	A		1.9	1.10 - 2.04	0.08	A
Mercury	0.149	0.152	A		-2.0	0.106 - 0.198	0.0075	A
Nickel	8.05	8.22	A		-2.1	5.75 - 10.69	0.40	A
Selenium	0.873	0.81	A		7.8	0.57 - 1.05	0.044	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.06	1.04	A		1.9	0.73 - 1.35	0.05	A
Uranium-235	0.00109	9.1E-4	A		19.8	6.37E-4 - 1.18E-3	0.00005	A
Uranium-238	0.132	0.124	A		6.5	0.087 - 0.161	0.007	A
Uranium-Total	0.133	0.125	A		6.4	0.088 - 0.163	0.007	A
Vanadium	4.75	4.9	A		-3.1	3.4 - 6.4	0.24	A
Zinc	9.96	10.2	A		-2.4	7.1 - 13.3	1.00	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.38	0.355	A		7.0	0.249 - 0.462	0.03	A
Cesium-134	0.74		A			False Positive Test	0.74	
Cesium-137	7.96	7.64	A		4.2	5.35 - 9.93	0.73	A
Cobalt-57	33.0	36.0	A		-8.3	25.2 - 46.8	1.2	A
Cobalt-60	8.79	9.3	A		-5.5	6.5 - 12.1	0.51	A
Hydrogen-3	272	300	A		-9.3	210 - 390	12	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.8	18.9	A		-0.5	13.2 - 24.6	0.9	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.91	1.07	N		78.5	0.75 - 1.39	0.13	A
Plutonium-239/240	1.90	1.19	N		59.7	0.83 - 1.55	0.13	A
Potassium-40	4.93		A			False Positive Test	4.93	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9	N	(28)		9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	25.3	26.2	A		-3.4	18.3 - 34.1	1.3	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ARPL01) Analytical Support Operations - Radiochemical Processing Lab

PO Box 999

Richland, WA 99354

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.10		A			False Positive Test	0.22	
Cesium-137	8.01	7.64	A		4.8	5.35 - 9.93	0.24	A
Cobalt-57	35.7	36.0	A		-0.8	25.2 - 46.8	1.04	A
Cobalt-60	9.4	9.3	A		1.1	6.5 - 12.1	0.3	A
Hydrogen-3	297	300	A		-1.0	210 - 390	20	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.1	18.9	A		1.1	13.2 - 24.6	.46	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.06	1.07	A		-0.9	0.75 - 1.39	.032	A
Plutonium-239/240	1.129	1.19	A		-5.1	0.83 - 1.55	.034	A
Potassium-40	-1.36		A			False Positive Test	1.8	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.2	12.9	A		-5.4	9.0 - 16.8	.24	N
Technetium-99	NR	7.9	N	(28)		5.5 - 10.3		
Uranium-234	1.587	1.5	A		5.8	1.1 - 2.0	.043	A
Uranium-238	1.63	1.54	A		5.8	1.08 - 2.00	.044	A
Zinc-65	27.8	26.2	A		6.1	18.3 - 34.1	.76	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ARSL01) ARS Aleut Analytical, LLC

2609 North River Road

Port Allen, LA 70767

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	0.1697	0.152	A		11.6	0.106 - 0.198	0.0706	N
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.310	0.355	A		-12.7	0.249 - 0.462	0.027	A
Cesium-134	-0.034		A			False Positive Test	0.107	
Cesium-137	7.992	7.64	A		4.6	5.35 - 9.93	0.224	A
Cobalt-57	34.125	36.0	A		-5.2	25.2 - 46.8	1.181	A
Cobalt-60	9.385	9.3	A		0.9	6.5 - 12.1	0.200	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.310	18.9	A		2.2	13.2 - 24.6	0.647	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.027	1.07	A		-4.0	0.75 - 1.39	0.084	A
Plutonium-239/240	1.127	1.19	A		-5.3	0.83 - 1.55	0.090	A
Potassium-40	-1.841		A			False Positive Test	0.805	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	11.847	12.9	A		-8.2	9.0 - 16.8	0.910	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.645	1.5	A		9.7	1.1 - 2.0	0.111	A
Uranium-238	1.605	1.54	A		4.2	1.08 - 2.00	0.109	A
Zinc-65	27.523	26.2	A		5.1	18.3 - 34.1	0.931	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(AY1201) Consolidated Nuclear Security, LLC, ACO Laboratory

Y12, NSC, Bldg. 9995, Rm 142

Oak Ridge, TN 37831-8189

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	9.96	10.22	A		-2.5	7.15 - 13.29	.526	A
Arsenic	3.27	3.37	A		-3.0	2.36 - 4.38	.184	A
Barium	0.0430	0.041	A			Sensitivity Evaluation	.002	
Beryllium	1.94	1.95	A		-0.5	1.37 - 2.54	.121	A
Cadmium	NR					False Positive Test		
Chromium	3.32	3.29	A		0.9	2.30 - 4.28	.105	A
Cobalt	12.4	12.5	A		-0.8	8.8 - 16.3	.620	A
Copper	15.6	15.3	A		2.0	10.7 - 19.9	.643	A
Lead	1.46	1.57	A		-7.0	1.10 - 2.04	.095	A
Mercury	0.144	0.152	A		-5.3	0.106 - 0.198	0.011	A
Nickel	8.25	8.22	A		0.4	5.75 - 10.69	.408	A
Selenium	0.813	0.81	A		0.4	0.57 - 1.05	.041	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.04	1.04	A		0.0	0.73 - 1.35	.071	A
Uranium-235	0.0009	9.1E-4	A		-1.1	6.37E-4 - 1.18E-3	0.00009	A
Uranium-238	.126	0.124	A		1.6	0.087 - 0.161	0.0126	A
Uranium-Total	0.127	0.125	A		1.6	0.088 - 0.163	0.013	A
Vanadium	4.99	4.9	A		1.8	3.4 - 6.4	.190	A
Zinc	10.1	10.2	A		-1.0	7.1 - 13.3	.632	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.313	0.355	A		-11.8	0.249 - 0.462	0.0278	A
Cesium-134	NR			(6)		False Positive Test		
Cesium-137	7.77	7.64	A		1.7	5.35 - 9.93	0.67	A
Cobalt-57	37.7	36.0	A		4.7	25.2 - 46.8	1.7	A
Cobalt-60	9.77	9.3	A		5.1	6.5 - 12.1	56	N
Hydrogen-3	292	300	A		-2.7	210 - 390	10	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.3	18.9	A		2.1	13.2 - 24.6	1.3	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	0.999	1.07	A		-6.6	0.75 - 1.39	0.0615	A
Plutonium-239/240	1.10	1.19	A		-7.6	0.83 - 1.55	0.0670	A
Potassium-40	2.76		A			False Positive Test	2.2	
Radium-226	0.525	0.8	N		-34.4	0.6 - 1.0	0.15	W

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.14	12.9	A		-5.9	9.0 - 16.8	0.295	A
Technetium-99	8.88	7.9	A		12.4	5.5 - 10.3	0.295	A
Uranium-234	1.50	1.5	A		0.0	1.1 - 2.0	0.085	A
Uranium-238	1.54	1.54	A		0.0	1.08 - 2.00	0.090	A
Zinc-65	26.9	26.2	A		2.7	18.3 - 34.1	2.2	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(BY1201) Consolidated Nuclear Security, LLC, ACO, Production Laboratory
Y12, NSC, Bldg. 9995, Rm 142
Oak Ridge, TN 37831-8189

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.281	0.355	W		-20.8	0.249 - 0.462	0.025	A
Cesium-134	NR			(6)		False Positive Test		
Cesium-137	7.69	7.64	A		0.7	5.35 - 9.93	0.218	A
Cobalt-57	36.30	36.0	A		0.8	25.2 - 46.8	0.467	N
Cobalt-60	8.85	9.3	A		-4.8	6.5 - 12.1	0.175	N
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.50	18.9	A		-2.1	13.2 - 24.6	0.356	N
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.06	1.07	A		-0.9	0.75 - 1.39	0.066	A
Plutonium-239/240	1.26	1.19	A		5.9	0.83 - 1.55	0.076	A
Potassium-40	-1.00			A		False Positive Test	0.92	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	9.51	12.9	W		-26.3	9.0 - 16.8	0.31	A
Technetium-99	7.48	7.9	A		-5.3	5.5 - 10.3	0.26	A
Uranium-234	1.55	1.5	A		3.3	1.1 - 2.0	0.08	A
Uranium-238	1.53	1.54	A		-0.6	1.08 - 2.00	0.077	A
Zinc-65	25.45	26.2	A		-2.9	18.3 - 34.1	0.701	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(CESL01) Lawrence Livermore National Laboratory - EMRL

7000 East Avenue

Livermore, CA 94551

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-3.40E-01		A			False Positive Test	2.88	
Cesium-137	7.66E+00	7.64	A		0.3	5.35 - 9.93	1.95	W
Cobalt-57	3.72E+01	36.0	A		3.3	25.2 - 46.8	2.11	A
Cobalt-60	8.87E+00	9.3	A		-4.6	6.5 - 12.1	1.59	W
Hydrogen-3	2.55E+02	300	A		-15.0	210 - 390	4.08	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	1.69E+01	18.9	A		-10.6	13.2 - 24.6	2.63	W
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.02E+00	1.07	A		-4.7	0.75 - 1.39	1.95E-02	N
Plutonium-239/240	1.13E+00	1.19	A		-5.0	0.83 - 1.55	2.08E-02	N
Potassium-40	2.80E+00		A			False Positive Test	3.43	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	2.66E+01	26.2	A		1.5	18.3 - 34.1	5.21	W

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(CMRC01) Carlsbad Environmental Monitoring and Research Center

1400 University Dr.

Carlsbad, NM 88220

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.32	0.355	A		-9.9	0.249 - 0.462	0.02	A
Cesium-134	0.01			A		False Positive Test	0.18	
Cesium-137	7.90	7.64	A		3.4	5.35 - 9.93	0.60	A
Cobalt-57	35.38	36.0	A		-1.7	25.2 - 46.8	0.88	A
Cobalt-60	8.83	9.3	A		-5.1	6.5 - 12.1	0.49	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.48	18.9	A		-2.2	13.2 - 24.6	0.85	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	0.98	1.07	A		-8.4	0.75 - 1.39	0.06	A
Plutonium-239/240	1.09	1.19	A		-8.4	0.83 - 1.55	0.07	A
Potassium-40	4.67			A		False Positive Test	2.76	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.51	1.5	A		0.7	1.1 - 2.0	0.11	A
Uranium-238	1.52	1.54	A		-1.3	1.08 - 2.00	0.11	A
Zinc-65	28.33	26.2	A		8.1	18.3 - 34.1	1.73	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (COPS99) Health Canada Radiation Protection Bureau
 2720 Riverside drive
 Ottawa, Ontario K1A0K9

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.0943		A			False Positive Test	0.142	
Cesium-137	7.652	7.64	A		0.2	5.35 - 9.93	0.5	A
Cobalt-57	35.59	36.0	A		-1.1	25.2 - 46.8	2.581	A
Cobalt-60	8.979	9.3	A		-3.5	6.5 - 12.1	0.304	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.85	18.9	A		-5.6	13.2 - 24.6	1.107	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-20.48		N	(29)		False Positive Test	2.458	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	26.12	26.2	A		-0.3	18.3 - 34.1	1.252	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

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

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	296.92	300	A		-1.0	210 - 390	12.35	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	0.59	0.8	W		-26.3	0.6 - 1.0	0.08	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.6	12.9	A		-2.3	9.0 - 16.8	0.67	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	2.52	1.5	N		68.0	1.1 - 2.0	0.32	A
Uranium-238	2.41	1.54	N		56.5	1.08 - 2.00	0.14	A
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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

(6) = Not Evaluated

(11) = False Positive Test, Result Not Reported

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

(28) = Not Reporting Previously Reported Analyte

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



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

Laboratory Results For MAPEP-22-MaW46
 (EFGS01) Eurofins Frontier Global Sciences, LLC.
 5755 8th St. E
 Tacoma, WA 98424

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	0.14	0.152	A		-7.9	0.106 - 0.198	0.005	A
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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

(6) = Not Evaluated

(11) = False Positive Test, Result Not Reported

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

(28) = Not Reporting Previously Reported Analyte

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



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

Laboratory Results For MAPEP-22-MaW46

(ELIW01) Energy Laboratories, Inc.

2393 Salt Creek HWY

Casper, Wy 82601

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	0.2	0.8	N		-75.0	0.6 - 1.0	0.025	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.4	1.5	A		-6.7	1.1 - 2.0	0.15	A
Uranium-238	1.1	1.54	W		-28.6	1.08 - 2.00	0.1	A
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ERAD01) Lawrence Livermore National Laboratory
 7000 East Ave., L-231
 Livermore, CA 94551

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	0.0008892	9.1E-4	A		-2.3	6.37E-4 - 1.18E-3	0.000007	N
Uranium-238	0.12292	0.124	A		-0.9	0.087 - 0.161	0.00067	N
Uranium-Total	0.12381	0.125	A		-1.0	0.088 - 0.163	0.00087	N
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ERCL01) Washington State Public Health Laboratories
 1610 N.E. 150th Street
 Shoreline, WA 98155-9701

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	9.71	10.22	A		-5.0	7.15 - 13.29	0.50	A
Arsenic	3.28	3.37	A		-2.7	2.36 - 4.38	0.17	A
Barium	0.0406	0.041	A			Sensitivity Evaluation	0.0015	
Beryllium	2.10	1.95	A		7.7	1.37 - 2.54	0.11	A
Cadmium	0.00046		A			False Positive Test	0.00042	
Chromium	3.47	3.29	A		5.5	2.30 - 4.28	0.18	A
Cobalt	12.7	12.5	A		1.6	8.8 - 16.3	0.7	A
Copper	15.1	15.3	A		-1.3	10.7 - 19.9	0.8	A
Lead	1.53	1.57	A		-2.5	1.10 - 2.04	0.08	A
Mercury	NR	0.152				0.106 - 0.198		
Nickel	8.16	8.22	A		-0.7	5.75 - 10.69	0.42	A
Selenium	0.818	0.81	A		1.0	0.57 - 1.05	0.042	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.03	1.04	A		-1.0	0.73 - 1.35	0.05	A
Uranium-235	0.00097	9.1E-4	A		6.6	6.37E-4 - 1.18E-3	0.00011	A
Uranium-238	0.134	0.124	A		8.1	0.087 - 0.161	0.007	A
Uranium-Total	0.135	0.125	A		8.0	0.088 - 0.163	0.007	A
Vanadium	5.15	4.9	A		5.1	3.4 - 6.4	0.26	A
Zinc	10.3	10.2	A		1.0	7.1 - 13.3	0.5	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.322	0.355	A		-9.3	0.249 - 0.462	0.038	A
Cesium-134	-0.174		A			False Positive Test	0.094	
Cesium-137	7.55	7.64	A		-1.2	5.35 - 9.93	0.21	A
Cobalt-57	35.0	36.0	A		-2.8	25.2 - 46.8	0.4	N
Cobalt-60	9.51	9.3	A		2.3	6.5 - 12.1	0.17	N
Hydrogen-3	300	300	A		0.0	210 - 390	9	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.6	18.9	A		-1.6	13.2 - 24.6	0.3	N
Nickel-63	29.6	34.0	A		-12.9	23.8 - 44.2	4.3	A
Plutonium-238	1.05	1.07	A		-1.9	0.75 - 1.39	0.11	A
Plutonium-239/240	1.09	1.19	A		-8.4	0.83 - 1.55	0.12	A
Potassium-40	5.1		N	(1)		False Positive Test	1.3	
Radium-226	0.903	0.8	A		12.9	0.6 - 1.0	0.074	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	13.3	12.9	A		3.1	9.0 - 16.8	0.8	A
Technetium-99	7.7	7.9	A		-2.5	5.5 - 10.3	1.1	A
Uranium-234	1.53	1.5	A		2.0	1.1 - 2.0	0.17	A
Uranium-238	1.56	1.54	A		1.3	1.08 - 2.00	0.17	A
Zinc-65	26.5	26.2	A		1.1	18.3 - 34.1	0.6	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ERHD99) National Monitoring Section, Radiation Protection Bureau, Health Canada

775 Brookfield Road AL6302D1

Ottawa, Ontario K1A 1C1

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10	10.22	A		-2.2	7.15 - 13.29	0.1	N
Arsenic	3.448	3.37	A		2.3	2.36 - 4.38	.026	N
Barium	0.0417	0.041	A			Sensitivity Evaluation	0.0005	
Beryllium	2	1.95	A		2.6	1.37 - 2.54	0.027	N
Cadmium	0.0003		N	(1)		False Positive Test	0.00001	
Chromium	3.284	3.29	A		-0.2	2.30 - 4.28	0.029	N
Cobalt	12.56	12.5	A		0.5	8.8 - 16.3	.12	N
Copper	14.83	15.3	A		-3.1	10.7 - 19.9	0.12	N
Lead	1.711	1.57	A		9.0	1.10 - 2.04	0.01	N
Mercury	NR	0.152				0.106 - 0.198		
Nickel	7.89	8.22	A		-4.0	5.75 - 10.69	0.076	N
Selenium	.854	0.81	A		5.4	0.57 - 1.05	.015	N
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.124	1.04	A		8.1	0.73 - 1.35	0.008	N
Uranium-235	0.0009	9.1E-4	A		-1.1	6.37E-4 - 1.18E-3	0.00006	A
Uranium-238	0.127	0.124	A		2.4	0.087 - 0.161	0.00063	N
Uranium-Total	0.128	0.125	A		2.4	0.088 - 0.163	0.00063	N
Vanadium	5.08	4.9	A		3.7	3.4 - 6.4	0.025	N
Zinc	10.35	10.2	A		1.5	7.1 - 13.3	0.1	N

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.338	0.355	A		-4.8	0.249 - 0.462	0.014	A
Cesium-134	0.53		A			False Positive Test	0.58	
Cesium-137	6.35	7.64	A		-16.9	5.35 - 9.93	0.25	A
Cobalt-57	28.4	36.0	W		-21.1	25.2 - 46.8	1.0	A
Cobalt-60	7.62	9.3	A		-18.1	6.5 - 12.1	0.31	A
Hydrogen-3	302.9	300	A		1.0	210 - 390	4.7	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	14.45	18.9	W		-23.5	13.2 - 24.6	0.52	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.064	1.07	A		-0.6	0.75 - 1.39	0.025	A
Plutonium-239/240	1.157	1.19	A		-2.8	0.83 - 1.55	0.026	A
Potassium-40	-0.14		A			False Positive Test	0.24	
Radium-226	0.880	0.8	A		10.0	0.6 - 1.0	0.023	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	13.05	12.9	A		1.2	9.0 - 16.8	0.14	N
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.439	1.5	A		-4.1	1.1 - 2.0	0.031	A
Uranium-238	1.491	1.54	A		-3.2	1.08 - 2.00	0.032	A
Zinc-65	20.72	26.2	W		-20.9	18.3 - 34.1	0.76	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ESDE01) Region 5 EQC Tritium Lab
 206 Beaufort NE
 Aiken, SC 29801

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	303.5	300	A		1.2	210 - 390	9.1	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ETTP01) MCLinc
161 Mitchell Road
Oak Ridge, Tennessee 37830

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	11.37	10.22	A		11.3	7.15 - 13.29	0.51	A
Arsenic	3.428	3.37	A		1.7	2.36 - 4.38	0.17	A
Barium	0.043	0.041	A			Sensitivity Evaluation	0.001	
Beryllium	1.948	1.95	A		-0.1	1.37 - 2.54	0.138	A
Cadmium	0.005		A			False Positive Test	0.003	
Chromium	3.438	3.29	A		4.5	2.30 - 4.28	0.339	A
Cobalt	13.11	12.5	A		4.9	8.8 - 16.3	1.05	A
Copper	15.51	15.3	A		1.4	10.7 - 19.9	1.09	A
Lead	1.731	1.57	A		10.3	1.10 - 2.04	0.12	A
Mercury	0.1500	0.152	A		-1.3	0.106 - 0.198	0.003	A
Nickel	8.465	8.22	A		3.0	5.75 - 10.69	0.167	N
Selenium	0.841	0.81	A		3.8	0.57 - 1.05	0.11	A
Technetium-99	0.0000144	1.26E-5	A		14.3	8.80E-6 - 1.64E-5	0.000000	A
Thallium	1.184	1.04	A		13.8	0.73 - 1.35	0.12	A
Uranium-235	0.000998	9.1E-4	A		9.7	6.37E-4 - 1.18E-3	0.000049	A
Uranium-238	0.114	0.124	A		-8.1	0.087 - 0.161	0.0057	A
Uranium-Total	0.115	0.125	A		-8.0	0.088 - 0.163	0.00575	A
Vanadium	4.93	4.9	A		0.6	3.4 - 6.4	0.28	A
Zinc	10.69	10.2	A		4.8	7.1 - 13.3	0.52	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	8.04	7.9	A		1.8	5.5 - 10.3	0.40	A
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(FDHE01) Florida Dept of Health Environmental Laboratory

PO Box 680069

Orlando, FL 32868-0069

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.415	0.355	A		16.9	0.249 - 0.462	0.724	N
Cesium-134	0.047			A		False Positive Test	0.307	
Cesium-137	7.469	7.64	A		-2.2	5.35 - 9.93	0.246	A
Cobalt-57	34.068	36.0	A		-5.4	25.2 - 46.8	0.633	N
Cobalt-60	8.778	9.3	A		-5.6	6.5 - 12.1	0.222	A
Hydrogen-3	322.92	300	A		7.6	210 - 390	4.63	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.347	18.9	A		-2.9	13.2 - 24.6	0.411	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.07856	1.07	A		0.8	0.75 - 1.39	0.10745	A
Plutonium-239/240	1.2606	1.19	A		5.9	0.83 - 1.55	0.1169	A
Potassium-40	-0.256			A		False Positive Test	1.445	
Radium-226	0.724	0.8	A		-9.5	0.6 - 1.0	0.048	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	13.6676	12.9	A		6.0	9.0 - 16.8	0.6806	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.5107	1.5	A		0.7	1.1 - 2.0	0.08136	A
Uranium-238	1.4986	1.54	A		-2.7	1.08 - 2.00	0.0810	A
Zinc-65	26.704	26.2	A		1.9	18.3 - 34.1	0.727	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(FDOH01) Florida Dept. of Health, Mobile Environmental Radiological Lab

PO Box 680069

Orlando, FL 32868-0069

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.395	0.355	A		11.3	0.249 - 0.462	0.518	N
Cesium-134	0.022			A		False Positive Test	0.325	
Cesium-137	7.402	7.64	A		-3.1	5.35 - 9.93	0.158	A
Cobalt-57	32.705	36.0	A		-9.2	25.2 - 46.8	0.485	N
Cobalt-60	8.828	9.3	A		-5.1	6.5 - 12.1	0.142	N
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.314	18.9	A		-3.1	13.2 - 24.6	0.328	N
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	0.846			A		False Positive Test	0.999	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	1.275	1.54	A		-17.2	1.08 - 2.00	0.623	N
Zinc-65	26.909	26.2	A		2.7	18.3 - 34.1	0.569	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(FERM01) Fernald Project
10995 Hamilton-Cleves Highway
Harrison, OH 45030-9728

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	0.14080	0.125	A		12.6	0.088 - 0.163	0.01	A
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(FNAL01) Fermi National Accelerator Laboratory (FermiLab)

PO Box 500, MS325

Batavia, IL 60510

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.07		A			False Positive Test	0.16	
Cesium-137	7.61	7.64	A		-0.4	5.35 - 9.93	0.46	A
Cobalt-57	34.4	36.0	A		-4.4	25.2 - 46.8	1.6	A
Cobalt-60	9.02	9.3	A		-3.0	6.5 - 12.1	0.55	A
Hydrogen-3	305	300	A		1.7	210 - 390	15	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.3	18.9	A		-3.2	13.2 - 24.6	1.0	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	27.4	26.2	A		4.6	18.3 - 34.1	1.6	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(GENE01) GEL Laboratories, LLC

2040 Savage Road

Charleston, SC 29407

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	9.76	10.22	A		-4.5	7.15 - 13.29	1.95	W
Arsenic	2.98	3.37	A		-11.6	2.36 - 4.38	0.597	W
Barium	0.0389	0.041	A			Sensitivity Evaluation	0.00779	
Beryllium	1.91	1.95	A		-2.1	1.37 - 2.54	0.382	W
Cadmium	-0.00503		A			False Positive Test	0.00348	
Chromium	3.19	3.29	A		-3.0	2.30 - 4.28	0.638	W
Cobalt	12.7	12.5	A		1.6	8.8 - 16.3	2.55	W
Copper	15.0	15.3	A		-2.0	10.7 - 19.9	3.00	W
Lead	1.51	1.57	A		-3.8	1.10 - 2.04	0.301	W
Mercury	0.133	0.152	A		-12.5	0.106 - 0.198	0.0265	W
Nickel	7.95	8.22	A		-3.3	5.75 - 10.69	1.59	W
Selenium	0.789	0.81	A		-2.6	0.57 - 1.05	0.158	W
Technetium-99	1.30E-05	1.26E-5	A		3.2	8.80E-6 - 1.64E-5	2.37E-06	W
Thallium	0.953	1.04	A		-8.4	0.73 - 1.35	0.191	W
Uranium-235	0.000927	9.1E-4	A		1.9	6.37E-4 - 1.18E-3	0.000185	W
Uranium-238	0.128	0.124	A		3.2	0.087 - 0.161	0.0257	W
Uranium-Total	0.129	0.125	A		3.2	0.088 - 0.163	0.0259	W
Vanadium	4.9	4.9	A		0.0	3.4 - 6.4	0.981	W
Zinc	9.09	10.2	A		-10.9	7.1 - 13.3	1.82	W

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.271	0.355	W		-23.7	0.249 - 0.462	0.022	A
Cesium-134	-0.0355		A			False Positive Test	0.0593	
Cesium-137	7.9	7.64	A		3.4	5.35 - 9.93	0.416	A
Cobalt-57	37.0	36.0	A		2.8	25.2 - 46.8	1.88	A
Cobalt-60	9.64	9.3	A		3.7	6.5 - 12.1	0.496	A
Hydrogen-3	303	300	A		1.0	210 - 390	30.6	A
Iron-55	12.8	15.2	A		-15.8	10.6 - 19.8	1.71	A
Manganese-54	19.8	18.9	A		4.8	13.2 - 24.6	0.966	A
Nickel-63	31.7	34.0	A		-6.8	23.8 - 44.2	2.73	A
Plutonium-238	0.992	1.07	A		-7.3	0.75 - 1.39	0.0541	A
Plutonium-239/240	1.07	1.19	A		-10.1	0.83 - 1.55	0.0575	A
Potassium-40	-0.875		A			False Positive Test	0.897	
Radium-226	0.871	0.8	A		8.9	0.6 - 1.0	0.0992	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	14.9	12.9	A		15.5	9.0 - 16.8	1.22	A
Technetium-99	7.83	7.9	A		-0.9	5.5 - 10.3	0.711	A
Uranium-234	1.52	1.5	A		1.3	1.1 - 2.0	0.0824	A
Uranium-238	1.55	1.54	A		0.6	1.08 - 2.00	0.0835	A
Zinc-65	29.3	26.2	A		11.8	18.3 - 34.1	1.40	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(GPCL01) Georgia Power Company Environmental Laboratory
2480 Maner Road
Atlanta, GA 30339

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.01		A			False Positive Test	0.37	
Cesium-137	8.43	7.64	A		10.3	5.35 - 9.93	0.79	A
Cobalt-57	36.93	36.0	A		2.6	25.2 - 46.8	3.33	A
Cobalt-60	9.50	9.3	A		2.2	6.5 - 12.1	0.77	A
Hydrogen-3	302.17	300	A		0.7	210 - 390	7.82	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	20.18	18.9	A		6.8	13.2 - 24.6	1.65	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	0.19		A			False Positive Test	2.33	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.17	12.9	A		-5.7	9.0 - 16.8	0.26	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	28.45	26.2	A		8.6	18.3 - 34.1	2.46	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (HCAL01) Lawrence Livermore National Laboratory
 Analytical Services and Instrumentation Analytical Lab
 Livermore, CA 94550

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	303	300	A		1.0	210 - 390	17	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(HECR01) SC Dept. Health and Environmental Control Radiological Laboratory
8231 Parklane Road
Columbia, SC 29223

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.01617		A			False Positive Test	0.1310	
Cesium-137	8.263	7.64	A		8.2	5.35 - 9.93	0.4207	A
Cobalt-57	36.43	36.0	A		1.2	25.2 - 46.8	2.359	A
Cobalt-60	9.305	9.3	A		0.1	6.5 - 12.1	0.5897	A
Hydrogen-3	321	300	A		7.0	210 - 390	9.58	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	20.35	18.9	A		7.7	13.2 - 24.6	1.296	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-1.491		A			False Positive Test	1.134	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	25.95	26.2	A		-1.0	18.3 - 34.1	1.706	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(HPAC99) PHE, CRCE Glasgow

155 Hardgate Road

Glasgow, Scotland G51 4LS

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	3.35	3.37	A		-0.6	2.36 - 4.38	0.13	A
Barium	0.0424	0.041	A			Sensitivity Evaluation	0.0042	
Beryllium	1.96	1.95	A		0.5	1.37 - 2.54	0.17	A
Cadmium	NR					False Positive Test		
Chromium	3.28	3.29	A		-0.3	2.30 - 4.28	0.21	A
Cobalt	12.56	12.5	A		0.5	8.8 - 16.3	0.82	A
Copper	15.34	15.3	A		0.3	10.7 - 19.9	0.92	A
Lead	1.563	1.57	A		-0.4	1.10 - 2.04	0.086	A
Mercury	0.1494	0.152	A		-1.7	0.106 - 0.198	0.0097	A
Nickel	8.23	8.22	A		0.1	5.75 - 10.69	0.45	A
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	0.0000131	1.26E-5	A		4.0	8.80E-6 - 1.64E-5	0.000001	A
Thallium	1.067	1.04	A		2.6	0.73 - 1.35	0.069	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	0.126	0.125	A		0.8	0.088 - 0.163	0.012	A
Vanadium	4.86	4.9	A		-0.8	3.4 - 6.4	0.24	A
Zinc	10.14	10.2	A		-0.6	7.1 - 13.3	0.66	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355	N	(28)		0.249 - 0.462		
Cesium-134	NR		N	(11)		False Positive Test		
Cesium-137	7.672	7.64	A		0.4	5.35 - 9.93	0.411	A
Cobalt-57	35.75	36.0	A		-0.7	25.2 - 46.8	1.734	A
Cobalt-60	9.336	9.3	A		0.4	6.5 - 12.1	0.459	A
Hydrogen-3	327.5	300	A		9.2	210 - 390	14.0	A
Iron-55	15.5	15.2	A		2.0	10.6 - 19.8	1.575	A
Manganese-54	18.573	18.9	A		-1.7	13.2 - 24.6	0.899	A
Nickel-63	32.1	34.0	A		-5.6	23.8 - 44.2	1.825	A
Plutonium-238	NR	1.07	N	(28)		0.75 - 1.39		
Plutonium-239/240	NR	1.19	N	(28)		0.83 - 1.55		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	8.477	7.9	A		7.3	5.5 - 10.3	0.679	A
Uranium-234	1.602	1.5	A		6.8	1.1 - 2.0	0.111	A
Uranium-238	1.502	1.54	A		-2.5	1.08 - 2.00	0.106	A
Zinc-65	26.703	26.2	A		1.9	18.3 - 34.1	1.314	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (IAEA99) International Atomic Energy Agency
 Agency's Laboratories Seibersdorf
 Seibersdorf, Austria A-2444

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	3.43	3.37	A		1.8	2.36 - 4.38	0.14	A
Barium	0.040	0.041	A			Sensitivity Evaluation	0.004	
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	-0.0002		A			False Positive Test	0.0006	
Chromium	3.40	3.29	A		3.3	2.30 - 4.28	0.11	A
Cobalt	13.0	12.5	A		4.0	8.8 - 16.3	0.4	A
Copper	15.8	15.3	A		3.3	10.7 - 19.9	0.5	A
Lead	1.58	1.57	A		0.6	1.10 - 2.04	0.05	A
Mercury	NR	0.152				0.106 - 0.198		
Nickel	8.5	8.22	A		3.4	5.75 - 10.69	0.3	A
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	5.13	4.9	A		4.7	3.4 - 6.4	0.17	A
Zinc	10.6	10.2	A		3.9	7.1 - 13.3	0.4	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.35	0.355	A		-1.4	0.249 - 0.462	0.03	A
Cesium-134	0.01		A			False Positive Test	0.35	
Cesium-137	7.7	7.64	A		0.8	5.35 - 9.93	0.2	A
Cobalt-57	35.4	36.0	A		-1.7	25.2 - 46.8	0.9	A
Cobalt-60	9.35	9.3	A		0.5	6.5 - 12.1	0.30	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.6	18.9	A		-1.6	13.2 - 24.6	0.6	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	2.3		N	(1)		False Positive Test	0.6	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	26.6	26.2	A		1.5	18.3 - 34.1	0.7	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(IEMA01) Illinois Emergency Management Agency Radiochemistry Laboratory

1301 Knotts St.

Springfield, IL 62703

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.313	0.355	A		-11.8	0.249 - 0.462	0.019	A
Cesium-134	-0.0226			A		False Positive Test	0.126	
Cesium-137	7.63	7.64	A		-0.1	5.35 - 9.93	0.35	A
Cobalt-57	35.6	36.0	A		-1.1	25.2 - 46.8	0.64	N
Cobalt-60	9.45	9.3	A		1.6	6.5 - 12.1	0.29	A
Hydrogen-3	290.4	300	A		-3.2	210 - 390	3.6	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.60	18.9	A		-1.6	13.2 - 24.6	0.56	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.058	1.07	A		-1.1	0.75 - 1.39	0.042	A
Plutonium-239/240	1.117	1.19	A		-6.1	0.83 - 1.55	0.044	A
Potassium-40	1.52			A		False Positive Test	0.98	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	11.0	12.9	A		-14.7	9.0 - 16.8	0.3	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.552	1.5	A		3.5	1.1 - 2.0	0.086	A
Uranium-238	1.529	1.54	A		-0.7	1.08 - 2.00	0.084	A
Zinc-65	26.9	26.2	A		2.7	18.3 - 34.1	1.0	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ISUE01) ISU Environmental Monitoring Laboratory
 785 5th 8th Ave Rm B107
 Pocatello, Idaho 83209

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	7.2		N	(1)		False Positive Test	0.2	
Cesium-137	1.6	7.64	N		-79.1	5.35 - 9.93	0.1	A
Cobalt-57	4.9	36.0	N		-86.4	25.2 - 46.8	0.4	A
Cobalt-60	0.03	9.3	N		-99.7	6.5 - 12.1	0.02	N
Hydrogen-3	308	300	A		2.7	210 - 390	6	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	2.6	18.9	N		-86.2	13.2 - 24.6	0.2	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	2.4		N	(1)		False Positive Test	0.5	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	1.3	26.2	N		-95.0	18.3 - 34.1	0.1	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

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

785 S. 8th Ave, Rm 120

Pocatello, ID 83209-8106

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.35		A			False Positive Test	0.87	
Cesium-137	7.54	7.64	A		-1.3	5.35 - 9.93	0.52	A
Cobalt-57	94.93	36.0	N		163.7	25.2 - 46.8	2.67	A
Cobalt-60	11.00	9.3	A		18.3	6.5 - 12.1	0.58	A
Hydrogen-3	NR	300	N	(28)		210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	43.85	18.9	N		132.0	13.2 - 24.6	1.07	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	2.90		N	(1)		False Positive Test	0.84	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	33.73	26.2	W		28.7	18.3 - 34.1	0.72	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(JLNN01) Jefferson Laboratory

111 Hadron Drive

Newport News, VA 23606

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	1.097E-01	0.355	N		-69.1	0.249 - 0.462	1.282E-	N
Cesium-134	1.447E-02		A			False Positive Test	5.462E-	
Cesium-137	7.990E00	7.64	A		4.6	5.35 - 9.93	2.951E-	A
Cobalt-57	3.750E01	36.0	A		4.2	25.2 - 46.8	8.050E-	A
Cobalt-60	9.562E00	9.3	A		2.8	6.5 - 12.1	2.250E-	A
Hydrogen-3	265.316	300	A		-11.6	210 - 390	24.3732	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	1.933E01	18.9	A		2.3	13.2 - 24.6	5.642E-	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-1.594E00		A			False Positive Test	9.534E-	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	2.763E01	26.2	A		5.5	18.3 - 34.1	8.879E-	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(LANL01) Los Alamos National Laboratory

P. O. Box 1663

Los Alamos, NM 87545

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR		N	(11)		False Positive Test		
Cesium-137	7.98	7.64	A		4.5	5.35 - 9.93	0.55	A
Cobalt-57	35.8	36.0	A		-0.6	25.2 - 46.8	2.2	A
Cobalt-60	9.25	9.3	A		-0.5	6.5 - 12.1	0.69	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.3	18.9	A		2.1	13.2 - 24.6	1.2	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	29.9	26.2	A		14.1	18.3 - 34.1	1.9	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(LAWR01) LAWRENCE BERKELEY NATIONAL LABORATORY
1 CYCLOTRON RD.
BERKELEY, CA 94720

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.1572		A			False Positive Test	1.572	
Cesium-137	7.590	7.64	A		-0.7	5.35 - 9.93	0.5066	A
Cobalt-57	35.14	36.0	A		-2.4	25.2 - 46.8	1.913	A
Cobalt-60	9.174	9.3	A		-1.4	6.5 - 12.1	0.5959	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.57	18.9	A		-1.7	13.2 - 24.6	1.076	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-0.5263		A			False Positive Test	3.774	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	26.49	26.2	A		1.1	18.3 - 34.1	1.641	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(LOCK03) Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory

INL/Battelle Energy Alliance, LLC

Idaho Falls, ID 83415-7111

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.07		A			False Positive Test	0.09	
Cesium-137	7.16	7.64	A		-6.3	5.35 - 9.93	0.47	A
Cobalt-57	32.93	36.0	A		-8.5	25.2 - 46.8	1.73	A
Cobalt-60	8.29	9.3	A		-10.9	6.5 - 12.1	0.53	A
Hydrogen-3	292.57	300	A		-2.5	210 - 390	17.49	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.2	18.9	A		-9.0	13.2 - 24.6	1	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-0.34		A			False Positive Test	0.87	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	24.6	26.2	A		-6.1	18.3 - 34.1	1.5	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(LZCA01) ACZ Laboratories, Inc
2273 Downhill Drive
Steamboat Springs, CO 80487

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	0.846	0.8	A		5.8	0.6 - 1.0	0.0599	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (MART03) Radioactive Material Analysis Laboratory
 ORNL
 Oak Ridge, TN 37830

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	9.76	10.22	A		-4.5	7.15 - 13.29	0.98	A
Arsenic	3.21	3.37	A		-4.7	2.36 - 4.38	0.32	A
Barium	0.049	0.041	A			Sensitivity Evaluation	0.005	
Beryllium	1.85	1.95	A		-5.1	1.37 - 2.54	0.19	A
Cadmium	0.00002		A			False Positive Test	0.00002	
Chromium	3.12	3.29	A		-5.2	2.30 - 4.28	0.31	A
Cobalt	11.9	12.5	A		-4.8	8.8 - 16.3	1.2	A
Copper	15.0	15.3	A		-2.0	10.7 - 19.9	1.5	A
Lead	1.55	1.57	A		-1.3	1.10 - 2.04	0.16	A
Mercury	0.142	0.152	A		-6.6	0.106 - 0.198	0.0142	A
Nickel	8.31	8.22	A		1.1	5.75 - 10.69	0.83	A
Selenium	0.791	0.81	A		-2.3	0.57 - 1.05	0.079	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.01	1.04	A		-2.9	0.73 - 1.35	0.10	A
Uranium-235	0.00099	9.1E-4	A		8.8	6.37E-4 - 1.18E-3	0.00010	A
Uranium-238	0.129	0.124	A		4.0	0.087 - 0.161	0.013	A
Uranium-Total	0.130	0.125	A		4.0	0.088 - 0.163	0.013	A
Vanadium	4.64	4.9	A		-5.3	3.4 - 6.4	0.46	A
Zinc	9.63	10.2	A		-5.6	7.1 - 13.3	0.96	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.310	0.355	A		-12.7	0.249 - 0.462	0.032	A
Cesium-134	-0.38		A			False Positive Test	0.19	
Cesium-137	7.72	7.64	A		1.0	5.35 - 9.93	0.24	A
Cobalt-57	35.15	36.0	A		-2.4	25.2 - 46.8	0.64	N
Cobalt-60	9.10	9.3	A		-2.2	6.5 - 12.1	0.19	A
Hydrogen-3	290.0	300	A		-3.3	210 - 390	9.7	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.82	18.9	A		-0.4	13.2 - 24.6	0.43	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.067	1.07	A		-0.3	0.75 - 1.39	0.056	A
Plutonium-239/240	1.040	1.19	A		-12.6	0.83 - 1.55	0.054	A
Potassium-40	2.7		A			False Positive Test	1.4	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.24	12.9	A		-5.1	9.0 - 16.8	0.30	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.517	1.5	A		1.1	1.1 - 2.0	0.093	A
Uranium-238	1.651	1.54	A		7.2	1.08 - 2.00	0.099	A
Zinc-65	26.87	26.2	A		2.6	18.3 - 34.1	0.78	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (MDPH01) MDPH-Radiation Control Program
 MERL-Room 362
 Jamaica Plain, MA 02130-3597

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR		N	(11)		False Positive Test		
Cesium-137	7.96	7.64	A		4.2	5.35 - 9.93	0.25	A
Cobalt-57	36.11	36.0	A		0.3	25.2 - 46.8	1.38	A
Cobalt-60	9.23	9.3	A		-0.8	6.5 - 12.1	0.31	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.18	18.9	A		1.5	13.2 - 24.6	0.55	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	28.15	26.2	A		7.4	18.3 - 34.1	0.76	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

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

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.2618	0.355	W		-26.3	0.249 - 0.462	0.3175	N
Cesium-134	0.0492		A			False Positive Test	0.226	
Cesium-137	8.3287	7.64	A		9.0	5.35 - 9.93	0.2817	A
Cobalt-57	38.50	36.0	A		6.9	25.2 - 46.8	1.24	A
Cobalt-60	9.8301	9.3	A		5.7	6.5 - 12.1	0.2264	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	20.4870	18.9	A		8.4	13.2 - 24.6	0.4259	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	1.1015		A			False Positive Test	1.7660	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	30.2580	26.2	A		15.5	18.3 - 34.1	0.8552	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(NARL01) National Analytical Radiation Environmental Laboratory

540 S. Morris Ave.

Montgomery, AL 36115-2601

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.344	0.355	A		-3.1	0.249 - 0.462	0.0209	A
Cesium-134	0.0753			A		False Positive Test	0.106	
Cesium-137	8.27	7.64	A		8.2	5.35 - 9.93	0.478	A
Cobalt-57	36.3	36.0	A		0.8	25.2 - 46.8	2.04	A
Cobalt-60	9.47	9.3	A		1.8	6.5 - 12.1	0.533	A
Hydrogen-3	310	300	A		3.3	210 - 390	8.50	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.7	18.9	A		4.2	13.2 - 24.6	1.10	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.05	1.07	A		-1.9	0.75 - 1.39	0.0478	A
Plutonium-239/240	1.15	1.19	A		-3.4	0.83 - 1.55	0.0518	A
Potassium-40	-1.67			A		False Positive Test	0.819	
Radium-226	0.844	0.8	A		5.5	0.6 - 1.0	0.0411	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.1	12.9	A		-6.2	9.0 - 16.8	0.275	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.58	1.5	A		5.3	1.1 - 2.0	0.0744	A
Uranium-238	1.54	1.54	A		0.0	1.08 - 2.00	0.0727	A
Zinc-65	27.3	26.2	A		4.2	18.3 - 34.1	1.55	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(NESI01) BWXT-Radioisotope & Analytical Chemistry Laboratory

Lynchburg Technology Center

Lynchburg, VA 24504-5447

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.8	10.22	A		5.7	7.15 - 13.29	0.18	N
Arsenic	3.10	3.37	A		-8.0	2.36 - 4.38	0.053	N
Barium	0.048	0.041	A	(17)		Sensitivity Evaluation	0.093	
Beryllium	1.85	1.95	A		-5.1	1.37 - 2.54	0.08	A
Cadmium	0.006		A			False Positive Test	0.095	
Chromium	3.07	3.29	A		-6.7	2.30 - 4.28	0.10	A
Cobalt	11.8	12.5	A		-5.6	8.8 - 16.3	0.19	N
Copper	17.8	15.3	A		16.3	10.7 - 19.9	0.27	N
Lead	1.53	1.57	A		-2.5	1.10 - 2.04	0.11	A
Mercury	0.154	0.152	A		1.3	0.106 - 0.198	0.011	A
Nickel	7.11	8.22	A		-13.5	5.75 - 10.69	0.13	N
Selenium	0.755	0.81	A		-6.8	0.57 - 1.05	0.026	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	0.928	1.04	A		-10.8	0.73 - 1.35	0.109	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	4.53	4.9	A		-7.6	3.4 - 6.4	0.11	A
Zinc	9.59	10.2	A		-6.0	7.1 - 13.3	0.16	N

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.314	0.355	A		-11.5	0.249 - 0.462	0.022	A
Cesium-134	0.211		A			False Positive Test	0.200	
Cesium-137	7.90	7.64	A		3.4	5.35 - 9.93	0.342	A
Cobalt-57	37.2	36.0	A		3.3	25.2 - 46.8	0.71	N
Cobalt-60	9.28	9.3	A		-0.2	6.5 - 12.1	0.320	A
Hydrogen-3	306	300	A		2.0	210 - 390	9.74	A
Iron-55	11.9	15.2	W		-21.7	10.6 - 19.8	0.923	A
Manganese-54	18.8	18.9	A		-0.5	13.2 - 24.6	0.750	A
Nickel-63	34.5	34.0	A		1.5	23.8 - 44.2	2.79	A
Plutonium-238	1.06	1.07	A		-0.9	0.75 - 1.39	0.040	A
Plutonium-239/240	1.10	1.19	A		-7.6	0.83 - 1.55	0.042	A
Potassium-40	6.55		A			False Positive Test	4.26	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	13.9	12.9	A		7.8	9.0 - 16.8	0.994	A
Technetium-99	6.43	7.9	A		-18.6	5.5 - 10.3	0.194	A
Uranium-234	1.54	1.5	A		2.7	1.1 - 2.0	0.061	A
Uranium-238	1.59	1.54	A		3.2	1.08 - 2.00	0.063	A
Zinc-65	28.0	26.2	A		6.9	18.3 - 34.1	0.994	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (NJDH01) New Jersey Dept. of Health, ECLS
 3 Schwarzkopf Drive
 Ewing, NJ 08628

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.04		A			False Positive Test	0.09	
Cesium-137	8.04	7.64	A		5.2	5.35 - 9.93	0.27	A
Cobalt-57	37.9	36.0	A		5.3	25.2 - 46.8	0.971	A
Cobalt-60	9.64	9.3	A		3.7	6.5 - 12.1	0.262	A
Hydrogen-3	303.5	300	A		1.2	210 - 390	9.4	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.9	18.9	A		5.3	13.2 - 24.6	0.582	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-2.1		A			False Positive Test	2.4	
Radium-226	0.78	0.8	A		-2.5	0.6 - 1.0	0.16	W

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	11.38	12.9	A		-11.8	9.0 - 16.8	0.31	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	28.6	26.2	A		9.2	18.3 - 34.1	0.771	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (ODHL01) Ohio Department of Health Laboratory
 8995 E Main Street
 Reynoldsburg, OH 43068

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.0648		A			False Positive Test	0.0374	
Cesium-137	7.72	7.64	A		1.0	5.35 - 9.93	0.489	A
Cobalt-57	33.4	36.0	A		-7.2	25.2 - 46.8	2.30	A
Cobalt-60	9.03	9.3	A		-2.9	6.5 - 12.1	0.285	A
Hydrogen-3	273.32	300	A		-8.9	210 - 390	7.07	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.1	18.9	A		-4.2	13.2 - 24.6	1.11	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	0.421		A			False Positive Test	0.564	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	25.4	26.2	A		-3.1	18.3 - 34.1	1.18	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(ORIS01) ORISE/IEAV
1299 Bethel Valley Road SC-10
Oak Ridge, TN 37830

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.325	0.355	A		-8.5	0.249 - 0.462	0.027	A
Cesium-134	0.012			A		False Positive Test	0.088	
Cesium-137	8.14	7.64	A		6.5	5.35 - 9.93	0.34	A
Cobalt-57	37.05	36.0	A		2.9	25.2 - 46.8	0.74	N
Cobalt-60	9.45	9.3	A		1.6	6.5 - 12.1	0.29	A
Hydrogen-3	297	300	A		-1.0	210 - 390	13	A
Iron-55	14.41	15.2	A		-5.2	10.6 - 19.8	0.98	A
Manganese-54	19.45	18.9	A		2.9	13.2 - 24.6	0.66	A
Nickel-63	36.5	34.0	A		7.4	23.8 - 44.2	1.0	A
Plutonium-238	1.005	1.07	A		-6.1	0.75 - 1.39	0.064	A
Plutonium-239/240	1.115	1.19	A		-6.3	0.83 - 1.55	0.069	A
Potassium-40	0.44			A		False Positive Test	0.84	
Radium-226	0.694	0.8	A		-13.3	0.6 - 1.0	0.045	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.03	12.9	A		-6.7	9.0 - 16.8	0.34	A
Technetium-99	8.68	7.9	A		9.9	5.5 - 10.3	0.50	A
Uranium-234	1.617	1.5	A		7.8	1.1 - 2.0	0.089	A
Uranium-238	1.665	1.54	A		8.1	1.08 - 2.00	0.091	A
Zinc-65	27.02	26.2	A		3.1	18.3 - 34.1	0.84	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(OTLI01) Pace Analytical National Center for Testing & Innovation

12065 Lebanon Road

Mt. Juliet, TN 37122

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	0.0009	9.1E-4	A		-1.1	6.37E-4 - 1.18E-3	0.0001	A
Uranium-238	0.127	0.124	A		2.4	0.087 - 0.161	0.001	N
Uranium-Total	0.127	0.125	A		1.6	0.088 - 0.163	.001	N
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.239	0.355	N		-32.7	0.249 - 0.462	0.062	W
Cesium-134	0.045		A			False Positive Test	0.185	
Cesium-137	8.94	7.64	A		17.0	5.35 - 9.93	1.24	A
Cobalt-57	38.2	36.0	A		6.1	25.2 - 46.8	4.55	A
Cobalt-60	10.4	9.3	A		11.8	6.5 - 12.1	1.03	A
Hydrogen-3	278	300	A		-7.3	210 - 390	12.3	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	20.2	18.9	A		6.9	13.2 - 24.6	2.44	A
Nickel-63	32.6	34.0	A		-4.1	23.8 - 44.2	1.5	A
Plutonium-238	0.96	1.07	A		-10.3	0.75 - 1.39	0.095	A
Plutonium-239/240	0.953	1.19	A		-19.9	0.83 - 1.55	0.094	A
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	14.0	12.9	A		8.5	9.0 - 16.8	0.25	N
Technetium-99	8.09	7.9	A		2.4	5.5 - 10.3	0.278	A
Uranium-234	1.36	1.5	A		-9.3	1.1 - 2.0	0.095	A
Uranium-238	1.38	1.54	A		-10.4	1.08 - 2.00	.093	A
Zinc-65	29.7	26.2	A		13.4	18.3 - 34.1	3.25	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (QUAN02) Eurofins TestAmerica Knoxville
 5815 Middlebrook Pike
 Knoxville, TN 37921-

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.8	10.22	A		5.7	7.15 - 13.29	0.36000	A
Arsenic	3.21	3.37	A		-4.7	2.36 - 4.38	0.11235	A
Barium	0.04160	0.041	A			Sensitivity Evaluation	0.00139	
Beryllium	2.01	1.95	A		3.1	1.37 - 2.54	0.06700	A
Cadmium	-0.00021		A			False Positive Test	0.00008	
Chromium	3.31	3.29	A		0.6	2.30 - 4.28	0.11033	A
Cobalt	12.70	12.5	A		1.6	8.8 - 16.3	0.42333	A
Copper	15.10	15.3	A		-1.3	10.7 - 19.9	0.50333	A
Lead	1.62	1.57	A		3.2	1.10 - 2.04	0.054000	A
Mercury	0.15100	0.152	A		-0.7	0.106 - 0.198	0.00503	A
Nickel	8.27	8.22	A		0.6	5.75 - 10.69	0.27567	A
Selenium	0.82000	0.81	A		1.2	0.57 - 1.05	0.02733	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.08	1.04	A		3.8	0.73 - 1.35	0.03600	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	4.91	4.9	A		0.2	3.4 - 6.4	0.16367	A
Zinc	9.57	10.2	A		-6.2	7.1 - 13.3	0.41470	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(RJLG01) RJ Lee Group - Columbia Basin Analytical Laboratories (CBAL)

2710 North 20th Avenue

Pasco, WA 99301

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.1	10.22	A		-1.2	7.15 - 13.29	.959	A
Arsenic	3.25	3.37	A		-3.6	2.36 - 4.38	0.262	A
Barium	0.050	0.041	A			Sensitivity Evaluation	0.006	
Beryllium	2.12	1.95	A		8.7	1.37 - 2.54	0.283	A
Cadmium	0.00002		N	(1)		False Positive Test	0.000002	
Chromium	3.26	3.29	A		-0.9	2.30 - 4.28	0.292	A
Cobalt	13.6	12.5	A		8.8	8.8 - 16.3	1.54	A
Copper	16.0	15.3	A		4.6	10.7 - 19.9	1.58	A
Lead	1.59	1.57	A		1.3	1.10 - 2.04	0.134	A
Mercury	0.152	0.152	A		0.0	0.106 - 0.198	0.007	A
Nickel	8.76	8.22	A		6.6	5.75 - 10.69	0.841	A
Selenium	0.803	0.81	A		-0.9	0.57 - 1.05	0.067	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.05	1.04	A		1.0	0.73 - 1.35	0.066	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	0.133	0.125	A		6.4	0.088 - 0.163	0.009	A
Vanadium	4.94	4.9	A		0.8	3.4 - 6.4	0.58	A
Zinc	9.98	10.2	A		-2.2	7.1 - 13.3	1.04	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(RPSC01) Radiation Protection Service

Ontario Ministry of Labour, Training And Skills Development

Toronto, Ontario M9P 3T1

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.233		A			False Positive Test	0.418	
Cesium-137	8.86	7.64	A		16.0	5.35 - 9.93	1.12	A
Cobalt-57	40.4	36.0	A		12.2	25.2 - 46.8	5.64	A
Cobalt-60	10.3	9.3	A		10.8	6.5 - 12.1	0.641	A
Hydrogen-3	321.0	300	A		7.0	210 - 390	42.5	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	21.1	18.9	A		11.6	13.2 - 24.6	2.57	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	3.34		A			False Positive Test	1.2	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	29.3	26.2	A		11.8	18.3 - 34.1	2.70	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(SANC99) RadioAnalysis, South Africa Nuclear Energy Corp.

Sample Receipt Gate 1

Pretoria, Gauteng 0001

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.286	0.355	A		-19.4	0.249 - 0.462	0.024	A
Cesium-134	0.82			A		False Positive Test	0.82	
Cesium-137	8.11	7.64	A		6.2	5.35 - 9.93	0.49	A
Cobalt-57	37.65	36.0	A		4.6	25.2 - 46.8	2.22	A
Cobalt-60	10.44	9.3	A		12.3	6.5 - 12.1	0.56	A
Hydrogen-3	268.467	300	A		-10.5	210 - 390	13.423	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.33	18.9	A		2.3	13.2 - 24.6	0.69	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	0.743	1.07	N		-30.6	0.75 - 1.39	0.037	A
Plutonium-239/240	0.818	1.19	N		-31.3	0.83 - 1.55	0.038	A
Potassium-40	9.00			A		False Positive Test	9.00	
Radium-226	0.676	0.8	A		-15.5	0.6 - 1.0	0.048	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	9.309	12.9	W		-27.8	9.0 - 16.8	1.220	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.138	1.5	W		-24.1	1.1 - 2.0	0.037	A
Uranium-238	1.212	1.54	W		-21.3	1.08 - 2.00	0.038	A
Zinc-65	28.97	26.2	A		10.6	18.3 - 34.1	1.07	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (SAVA01) Battelle Savannah River Alliance
 SRNL (non-purchased material receipt)
 AIKEN, SC 29808-0000

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.2	10.22	A		-0.2	7.15 - 13.29	1.02	A
Arsenic	3.24	3.37	A		-3.9	2.36 - 4.38	0.324	A
Barium	0.0442	0.041	A			Sensitivity Evaluation	0.00442	
Beryllium	1.87	1.95	A		-4.1	1.37 - 2.54	0.19	A
Cadmium	0.0000185		A			False Positive Test	0.000006	
Chromium	3.27	3.29	A		-0.6	2.30 - 4.28	0.33	A
Cobalt	11.9	12.5	A		-4.8	8.8 - 16.3	1.2	A
Copper	14.8	15.3	A		-3.3	10.7 - 19.9	1.5	A
Lead	1.64	1.57	A		4.5	1.10 - 2.04	0.164	A
Mercury	0.143	0.152	A		-5.9	0.106 - 0.198	0.014	A
Nickel	8.21	8.22	A		-0.1	5.75 - 10.69	0.82	A
Selenium	0.781	0.81	A		-3.6	0.57 - 1.05	0.0781	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.08	1.04	A		3.8	0.73 - 1.35	0.108	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	0.135	0.125	A		8.0	0.088 - 0.163	0.0135	A
Vanadium	4.84	4.9	A		-1.2	3.4 - 6.4	0.48	A
Zinc	9.84	10.2	A		-3.5	7.1 - 13.3	0.98	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	2.11		A			False Positive Test	3.40	
Cesium-137	7.23	7.64	A		-5.4	5.35 - 9.93	0.829	A
Cobalt-57	35.1	36.0	A		-2.5	25.2 - 46.8	1.43	A
Cobalt-60	8.94	9.3	A		-3.9	6.5 - 12.1	0.498	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.2	18.9	A		-3.7	13.2 - 24.6	1.02	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	12.3		A			False Positive Test	9.10	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	25.1	26.2	A		-4.2	18.3 - 34.1	1.93	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (SEML01) SRS Environmental Monitoring Laboratory
 Bldg 735-B
 Aiken, SC 29808

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.2	10.22	A		-0.2	7.15 - 13.29	1.22	A
Arsenic	3.16	3.37	A		-6.2	2.36 - 4.38	0.32	A
Barium	0.05	0.041	A	(17)		Sensitivity Evaluation	0.05	
Beryllium	1.86	1.95	A		-4.6	1.37 - 2.54	0.15	A
Cadmium	0.01		A			False Positive Test	0.01	
Chromium	3.33	3.29	A		1.2	2.30 - 4.28	0.33	A
Cobalt	12.4	12.5	A		-0.8	8.8 - 16.3	1.12	A
Copper	15	15.3	A		-2.0	10.7 - 19.9	1.5	A
Lead	1.58	1.57	A		0.6	1.10 - 2.04	0.16	A
Mercury	0.16	0.152	A		5.3	0.106 - 0.198	0.016	A
Nickel	8.17	8.22	A		-0.6	5.75 - 10.69	0.82	A
Selenium	0.881	0.81	A		8.8	0.57 - 1.05	0.11	A
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	1.03	1.04	A		-1.0	0.73 - 1.35	0.1	A
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	4.89	4.9	A		-0.2	3.4 - 6.4	0.44	A
Zinc	10	10.2	A		-2.0	7.1 - 13.3	1	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.364	0.355	A		2.5	0.249 - 0.462	0.054	A
Cesium-134	-0.03		A			False Positive Test	0.09	
Cesium-137	7.99	7.64	A		4.6	5.35 - 9.93	0.58	A
Cobalt-57	35.4	36.0	A		-1.7	25.2 - 46.8	2.1	A
Cobalt-60	9.09	9.3	A		-2.3	6.5 - 12.1	0.55	A
Hydrogen-3	289	300	A		-3.7	210 - 390	20	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.0	18.9	A		0.5	13.2 - 24.6	1.3	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.029	1.07	A		-3.8	0.75 - 1.39	0.077	A
Plutonium-239/240	1.099	1.19	A		-7.6	0.83 - 1.55	0.082	A
Potassium-40	0.08		A			False Positive Test	0.95	
Radium-226	0.722	0.8	A		-9.8	0.6 - 1.0	0.093	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	11.37	12.9	A		-11.9	9.0 - 16.8	0.83	A
Technetium-99	7.29	7.9	A		-7.7	5.5 - 10.3	0.18	A
Uranium-234	1.44	1.5	A		-4.0	1.1 - 2.0	0.10	A
Uranium-238	1.52	1.54	A		-1.3	1.08 - 2.00	0.10	A
Zinc-65	27.4	26.2	A		4.6	18.3 - 34.1	1.9	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (SLAC01) SLAC DOE National Accelerator Laboratory
 2575 Sand Hill Road
 Menlo Park, CA 94025

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.39		A			False Positive Test	0.39	
Cesium-137	7.24	7.64	A		-5.2	5.35 - 9.93	0.72	A
Cobalt-57	32.9	36.0	A		-8.6	25.2 - 46.8	3.29	A
Cobalt-60	8.68	9.3	A		-6.7	6.5 - 12.1	0.87	A
Hydrogen-3	285	300	A		-5.0	210 - 390	28.5	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.56	18.9	A		-7.1	13.2 - 24.6	1.76	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	1		A			False Positive Test	1	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	24.1	26.2	A		-8.0	18.3 - 34.1	2.41	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(SOUT01) Southwest Research Institute

6220 Culebra Rd.

San Antonio, TX 78228-0510

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	10.1	10.22	A		-1.2	7.15 - 13.29	1.62	W
Arsenic	3.29	3.37	A		-2.4	2.36 - 4.38	0.530	W
Barium	0.0437	0.041	A			Sensitivity Evaluation	0.0135	
Beryllium	1.99	1.95	A		2.1	1.37 - 2.54	0.324	W
Cadmium	-0.0012		A			False Positive Test	0.0115	
Chromium	3.27	3.29	A		-0.6	2.30 - 4.28	0.523	W
Cobalt	11.9	12.5	A		-4.8	8.8 - 16.3	1.90	W
Copper	15.6	15.3	A		2.0	10.7 - 19.9	2.50	W
Lead	1.51	1.57	A		-3.8	1.10 - 2.04	0.242	W
Mercury	0.140	0.152	A		-7.9	0.106 - 0.198	0.0252	W
Nickel	8.04	8.22	A		-2.2	5.75 - 10.69	1.29	W
Selenium	0.735	0.81	A		-9.3	0.57 - 1.05	0.131	W
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	0.968	1.04	A		-6.9	0.73 - 1.35	0.232	W
Uranium-235	0.000875	9.1E-4	A		-3.8	6.37E-4 - 1.18E-3	0.000151	W
Uranium-238	0.118	0.124	A		-4.8	0.087 - 0.161	0.0189	W
Uranium-Total	0.119	0.125	A		-4.8	0.088 - 0.163	0.0190	W
Vanadium	4.89	4.9	A		-0.2	3.4 - 6.4	0.782	W
Zinc	9.55	10.2	A		-6.4	7.1 - 13.3	1.53	W

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.400	0.355	A		12.7	0.249 - 0.462	0.0366	A
Cesium-134	-0.308		A			False Positive Test	0.209	
Cesium-137	7.30	7.64	A		-4.5	5.35 - 9.93	0.393	A
Cobalt-57	34.7	36.0	A		-3.6	25.2 - 46.8	1.21	A
Cobalt-60	9.04	9.3	A		-2.8	6.5 - 12.1	0.489	A
Hydrogen-3	278	300	A		-7.3	210 - 390	17.6	A
Iron-55	12.0	15.2	W		-21.1	10.6 - 19.8	1.18	A
Manganese-54	19.6	18.9	A		3.7	13.2 - 24.6	0.915	A
Nickel-63	36.0	34.0	A		5.9	23.8 - 44.2	2.12	A
Plutonium-238	1.14	1.07	A		6.5	0.75 - 1.39	0.0796	A
Plutonium-239/240	1.21	1.19	A		1.7	0.83 - 1.55	0.0841	A
Potassium-40	2.28		A			False Positive Test	1.52	
Radium-226	0.0537	0.8	N		-93.3	0.6 - 1.0	0.0389	N

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	13.4	12.9	A		3.9	9.0 - 16.8	0.807	A
Technetium-99	6.19	7.9	W		-21.6	5.5 - 10.3	0.374	A
Uranium-234	1.72	1.5	A		14.7	1.1 - 2.0	0.119	A
Uranium-238	1.67	1.54	A		8.4	1.08 - 2.00	0.116	A
Zinc-65	26.6	26.2	A		1.5	18.3 - 34.1	1.35	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(SRPD01) Sandia National Laboratories, Radiation Protection Sample Diagnostics

PO Box 5800, MS1103

Albuquerque, NM 87185-1103

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-5.24E-02		A			False Positive Test	2.09E-01	
Cesium-137	7.46E+00	7.64	A		-2.4	5.35 - 9.93	5.20E-01	A
Cobalt-57	3.39E+01	36.0	A		-5.8	25.2 - 46.8	3.40	A
Cobalt-60	8.66E+00	9.3	A		-6.9	6.5 - 12.1	4.69E-01	A
Hydrogen-3	NR	300	N	(28)		210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	1.82E+01	18.9	A		-3.7	13.2 - 24.6	1.16	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	1.91E+01		N	(1)		False Positive Test	1.85	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	2.64E+01	26.2	A		0.8	18.3 - 34.1	1.86	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(TDHL01) Texas Department of State Health Services Laboratory
1100 W 49th Street
Austin, TX 78756

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.318	0.355	A		-10.4	0.249 - 0.462	0.038	A
Cesium-134	-0.09			A		False Positive Test	0.30	
Cesium-137	8.14	7.64	A		6.5	5.35 - 9.93	0.27	A
Cobalt-57	36.03	36.0	A		0.1	25.2 - 46.8	0.70	N
Cobalt-60	9.26	9.3	A		-0.4	6.5 - 12.1	0.20	A
Hydrogen-3	291	300	A		-3.0	210 - 390	11	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.82	18.9	A		4.9	13.2 - 24.6	0.51	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	0.880	1.07	A		-17.8	0.75 - 1.39	0.086	A
Plutonium-239/240	1.07	1.19	A		-10.1	0.83 - 1.55	0.10	A
Potassium-40	0.08			A		False Positive Test	0.55	
Radium-226	0.826	0.8	A		3.3	0.6 - 1.0	0.026	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	10.79	12.9	A		-16.4	9.0 - 16.8	0.23	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.41	1.5	A		-6.0	1.1 - 2.0	0.12	A
Uranium-238	1.42	1.54	A		-7.8	1.08 - 2.00	0.12	A
Zinc-65	28.75	26.2	A		9.7	18.3 - 34.1	0.79	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(TELE01) Teledyne Brown Engineering - Environmental Services

2508 Quality Lane

Knoxville, TN 37931-6819

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	28.6	34.0	A		-15.9	23.8 - 44.2	.481	N
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	8.59	7.9	A		8.7	5.5 - 10.3	1.52	W
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (TELE02) ATI Environmental, Inc., Midwest Lab
 700 Landwehr Road
 Northbrook, IL 60062-

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.06		A			False Positive Test	0.11	
Cesium-137	8.09	7.64	A		5.9	5.35 - 9.93	0.33	A
Cobalt-57	37.04	36.0	A		2.9	25.2 - 46.8	0.55	N
Cobalt-60	8.91	9.3	A		-4.2	6.5 - 12.1	0.27	A
Hydrogen-3	309	300	A		3.0	210 - 390	10	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	20.4	18.9	A		7.9	13.2 - 24.6	0.6	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	4.80		A			False Positive Test	2.57	
Radium-226	0.83	0.8	A		3.8	0.6 - 1.0	0.10	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	0.13	1.5	N		-91.3	1.1 - 2.0	0.01	A
Uranium-238	0.12	1.54	N		-92.2	1.08 - 2.00	0.01	A
Zinc-65	28.65	26.2	A		9.4	18.3 - 34.1	0.94	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (TMAO01) EBERLINE Analytical Corporation
 601 A SCARBORO RD
 OAK RIDGE, TN 37830-

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.331	0.355	A		-6.8	0.249 - 0.462	0.074	W
Cesium-134	-0.127			A		False Positive Test	.720	
Cesium-137	7.835	7.64	A		2.6	5.35 - 9.93	1.443	W
Cobalt-57	29.945	36.0	A		-16.8	25.2 - 46.8	3.304	A
Cobalt-60	8.907	9.3	A		-4.2	6.5 - 12.1	1.085	A
Hydrogen-3	270.481	300	A		-9.8	210 - 390	9.707	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.688	18.9	A		-6.4	13.2 - 24.6	2.630	A
Nickel-63	31.682	34.0	A		-6.8	23.8 - 44.2	0.829	A
Plutonium-238	1.001	1.07	A		-6.4	0.75 - 1.39	0.120	A
Plutonium-239/240	1.157	1.19	A		-2.8	0.83 - 1.55	0.130	A
Potassium-40	2.300			A		False Positive Test	4.966	
Radium-226	0.842	0.8	A		5.3	0.6 - 1.0	0.126	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.951	12.9	A		0.4	9.0 - 16.8	0.387	A
Technetium-99	9.112	7.9	A		15.3	5.5 - 10.3	0.323	A
Uranium-234	1.651	1.5	A		10.1	1.1 - 2.0	0.175	A
Uranium-238	1.701	1.54	A		10.5	1.08 - 2.00	0.178	A
Zinc-65	22.260	26.2	A		-15.0	18.3 - 34.1	4.120	W

Radiological Reference Date: February 1, 2022

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

(6) = Not Evaluated

(11) = False Positive Test, Result Not Reported

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

(28) = Not Reporting Previously Reported Analyte

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



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

Laboratory Results For MAPEP-22-MaW46
 (TNUT01) St. Louis USACE FUSRAP Laboratory
 112 James S McDonnell Blvd
 HAZELWOOD, MO 63042

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.381	0.355	A		7.3	0.249 - 0.462	0.074	W
Cesium-134	-0.139			A		False Positive Test	0.059	
Cesium-137	7.760	7.64	A		1.6	5.35 - 9.93	0.253	A
Cobalt-57	35.995	36.0	A		0.0	25.2 - 46.8	0.689	N
Cobalt-60	8.901	9.3	A		-4.3	6.5 - 12.1	0.194	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.056	18.9	A		0.8	13.2 - 24.6	0.493	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	3.606			A		False Positive Test	1.425	
Radium-226	0.784	0.8	A		-2.0	0.6 - 1.0	0.048	A

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.590	1.5	A		6.0	1.1 - 2.0	0.110	A
Uranium-238	1.590	1.54	A		3.2	1.08 - 2.00	0.109	A
Zinc-65	28.241	26.2	A		7.8	18.3 - 34.1	0.826	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(UNTE01) UniTech-235

178 Aldo Drive

Barnwell, SC 29812

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	0.01		A			False Positive Test	0.01	
Cesium-137	8.0	7.64	A		4.7	5.35 - 9.93	1.1	A
Cobalt-57	35.8	36.0	A		-0.6	25.2 - 46.8	2.2	A
Cobalt-60	9.6	9.3	A		3.2	6.5 - 12.1	0.9	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.6	18.9	A		3.7	13.2 - 24.6	1.8	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	15.5		A			False Positive Test	7.0	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	30.4	26.2	A		16.0	18.3 - 34.1	3.5	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(WIPP01) WIPP Laboratories

1400 University Drive

Carlsbad, NM 88220

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	3.11E-01	0.355	A		-12.4	0.249 - 0.462	5.72E-02	W
Cesium-134	-7.98E-04			A		False Positive Test	5.01E-02	
Cesium-137	6.18E+00	7.64	A		-19.1	5.35 - 9.93	1.86E-01	A
Cobalt-57	2.84E+01	36.0	W		-21.1	25.2 - 46.8	6.12E-01	A
Cobalt-60	7.24E+00	9.3	W		-22.2	6.5 - 12.1	1.94E-01	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	1.52E+01	18.9	A		-19.6	13.2 - 24.6	2.83E-01	N
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	9.91E-01	1.07	A		-7.4	0.75 - 1.39	3.02E-01	N
Plutonium-239/240	1.19E+00	1.19	A		0.0	0.83 - 1.55	3.33E-01	W
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	1.33E+01	12.9	A		3.1	9.0 - 16.8	6.40E-01	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.63E+00	1.5	A		8.7	1.1 - 2.0	3.39E-01	W
Uranium-238	1.58E+00	1.54	A		2.6	1.08 - 2.00	3.31E-01	W
Zinc-65	2.13E+01	26.2	A		-18.7	18.3 - 34.1	4.64E-01	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (WSHL01) Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive
 Madison, WI 53718

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.3879	0.355	A		9.3	0.249 - 0.462	0.05394	A
Cesium-134	0.00774			A		False Positive Test	0.077	
Cesium-137	8.07	7.64	A		5.6	5.35 - 9.93	0.274	A
Cobalt-57	36.6	36.0	A		1.7	25.2 - 46.8	0.855	A
Cobalt-60	9.32	9.3	A		0.2	6.5 - 12.1	0.522	A
Hydrogen-3	311.54	300	A		3.8	210 - 390	4.719	N
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	19.3	18.9	A		2.1	13.2 - 24.6	0.849	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-0.161			A		False Positive Test	1.05	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	1.4388	1.5	A		-4.1	1.1 - 2.0	0.108	A
Uranium-238	1.352	1.54	A		-12.2	1.08 - 2.00	0.102	A
Zinc-65	27.4	26.2	A		4.6	18.3 - 34.1	2.06	A

Radiological Reference Date: February 1, 2022

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

(6) = Not Evaluated

(11) = False Positive Test, Result Not Reported

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

(28) = Not Reporting Previously Reported Analyte

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



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

Laboratory Results For MAPEP-22-MaW46

(WSTP99) Cavendish Nuclear Limited

Greson Court

Cumbria, UK CA24 3HZ

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	0.000884	9.1E-4	A		-2.9	6.37E-4 - 1.18E-3	0.000041	A
Uranium-238	0.1244	0.124	A		0.3	0.087 - 0.161	0.0058	A
Uranium-Total	0.1327	0.125	A		6.2	0.088 - 0.163	0.0060	A
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.344	0.355	A		-3.1	0.249 - 0.462	0.034	A
Cesium-134	-0.21			A		False Positive Test	0.24	
Cesium-137	7.86	7.64	A		2.9	5.35 - 9.93	0.52	A
Cobalt-57	34.40	36.0	A		-4.4	25.2 - 46.8	0.94	A
Cobalt-60	8.42	9.3	A		-9.5	6.5 - 12.1	0.34	A
Hydrogen-3	277.3	300	A		-7.6	210 - 390	7.2	A
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	17.51	18.9	A		-7.4	13.2 - 24.6	0.59	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	1.040	1.07	A		-2.8	0.75 - 1.39	0.075	A
Plutonium-239/240	1.160	1.19	A		-2.5	0.83 - 1.55	0.084	A
Potassium-40	0.3			A		False Positive Test	3.4	
Radium-226	4.9	0.8	N		512.5	0.6 - 1.0	2.8	N

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	8.14	7.9	A		3.0	5.5 - 10.3	0.24	A
Uranium-234	1.524	1.5	A		1.6	1.1 - 2.0	0.079	A
Uranium-238	1.547	1.54	A		0.5	1.08 - 2.00	0.072	A
Zinc-65	24.00	26.2	A		-8.4	18.3 - 34.1	0.78	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46
 (WVDP01) WVDP Environmental Laboratory
 10282 Rock Springs Road
 West Valley, NY 14171

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	NR	9.1E-4				6.37E-4 - 1.18E-3		
Uranium-238	NR	0.124				0.087 - 0.161		
Uranium-Total	NR	0.125				0.088 - 0.163		
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	-0.0518		A			False Positive Test	0.0793	
Cesium-137	7.79	7.64	A		2.0	5.35 - 9.93	0.283	A
Cobalt-57	35.0	36.0	A		-2.8	25.2 - 46.8	0.943	A
Cobalt-60	9.05	9.3	A		-2.7	6.5 - 12.1	0.242	A
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	18.4	18.9	A		-2.6	13.2 - 24.6	0.519	A
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	-0.00185		A			False Positive Test	1.03	
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	12.5	12.9	A		-3.1	9.0 - 16.8	0.376	A
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	26.3	26.2	A		0.4	18.3 - 34.1	0.915	A

Radiological Reference Date: February 1, 2022

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
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-22-MaW46

(YPGA01) US Army Yuma Proving Ground / Material Analysis Lab

301 C. Street

Yuma, AZ 85365

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	10.22				7.15 - 13.29		
Arsenic	NR	3.37				2.36 - 4.38		
Barium	NR	0.041				Sensitivity Evaluation		
Beryllium	NR	1.95				1.37 - 2.54		
Cadmium	NR					False Positive Test		
Chromium	NR	3.29				2.30 - 4.28		
Cobalt	NR	12.5				8.8 - 16.3		
Copper	NR	15.3				10.7 - 19.9		
Lead	NR	1.57				1.10 - 2.04		
Mercury	NR	0.152				0.106 - 0.198		
Nickel	NR	8.22				5.75 - 10.69		
Selenium	NR	0.81				0.57 - 1.05		
Technetium-99	NR	1.26E-5				8.80E-6 - 1.64E-5		
Thallium	NR	1.04				0.73 - 1.35		
Uranium-235	0.00088	9.1E-4	A		-3.3	6.37E-4 - 1.18E-3	0.0001	A
Uranium-238	0.123	0.124	A		-0.8	0.087 - 0.161	0.01	A
Uranium-Total	0.124	0.125	A		-0.8	0.088 - 0.163	0.01	A
Vanadium	NR	4.9				3.4 - 6.4		
Zinc	NR	10.2				7.1 - 13.3		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.355				0.249 - 0.462		
Cesium-134	NR					False Positive Test		
Cesium-137	NR	7.64				5.35 - 9.93		
Cobalt-57	NR	36.0				25.2 - 46.8		
Cobalt-60	NR	9.3				6.5 - 12.1		
Hydrogen-3	NR	300				210 - 390		
Iron-55	NR	15.2				10.6 - 19.8		
Manganese-54	NR	18.9				13.2 - 24.6		
Nickel-63	NR	34.0				23.8 - 44.2		
Plutonium-238	NR	1.07				0.75 - 1.39		
Plutonium-239/240	NR	1.19				0.83 - 1.55		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.8				0.6 - 1.0		

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Strontium-90	NR	12.9				9.0 - 16.8		
Technetium-99	NR	7.9				5.5 - 10.3		
Uranium-234	NR	1.5				1.1 - 2.0		
Uranium-238	NR	1.54				1.08 - 2.00		
Zinc-65	NR	26.2				18.3 - 34.1		

Radiological Reference Date: February 1, 2022

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:

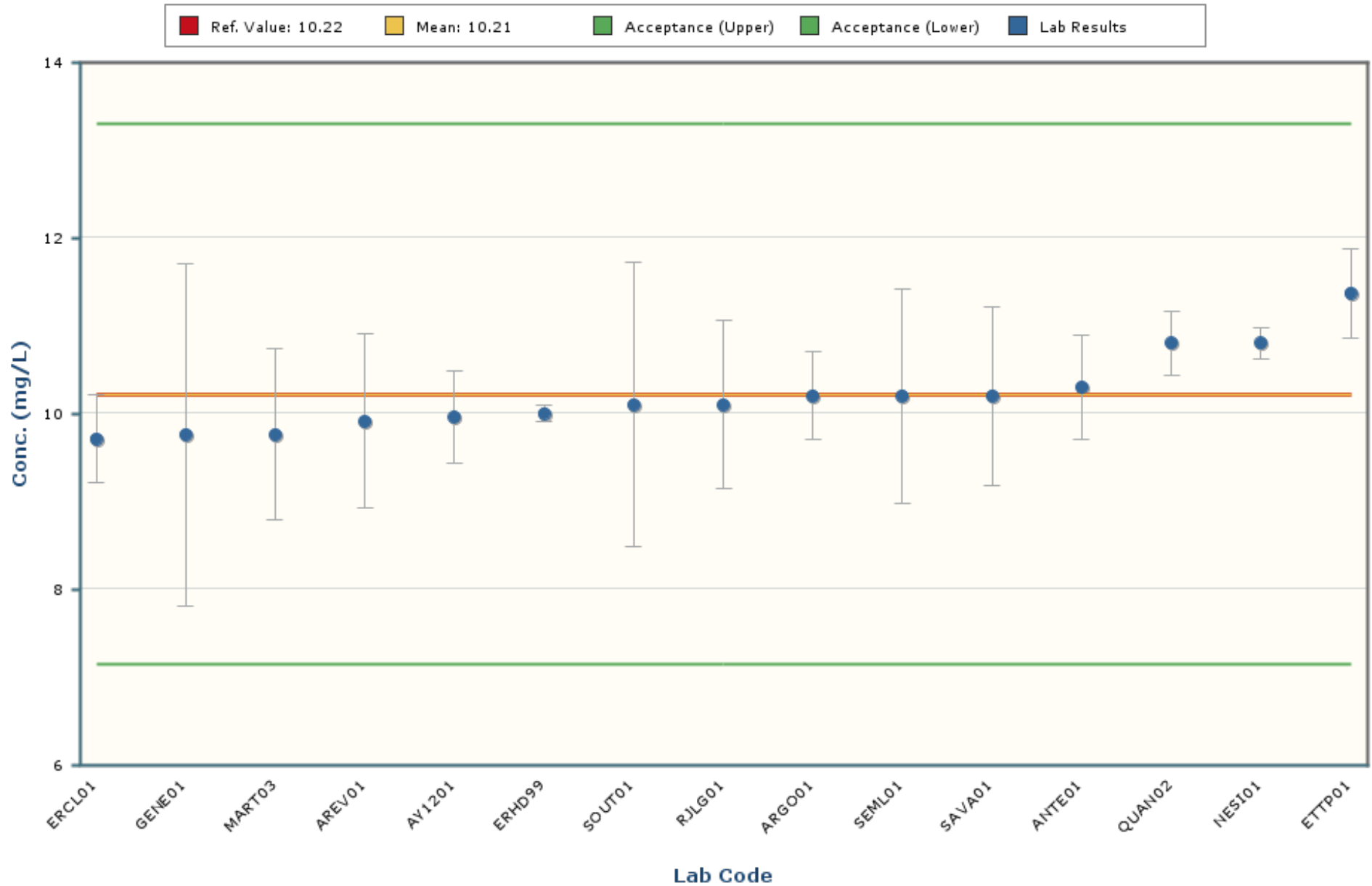
- NOT ACCEPTABLE.....RP < 2%
 - ACCEPTABLE.....2% <= RP <= 15%
 - ACCEPTABLE WITH WARNING.....15% < RP <= 30%
 - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (6) = Not Evaluated
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (28) = Not Reporting Previously Reported Analyte
- (29) = Statistically significant negative value at 3 standard deviations

Antimony

MAPEP-22-MaW46



Notes:

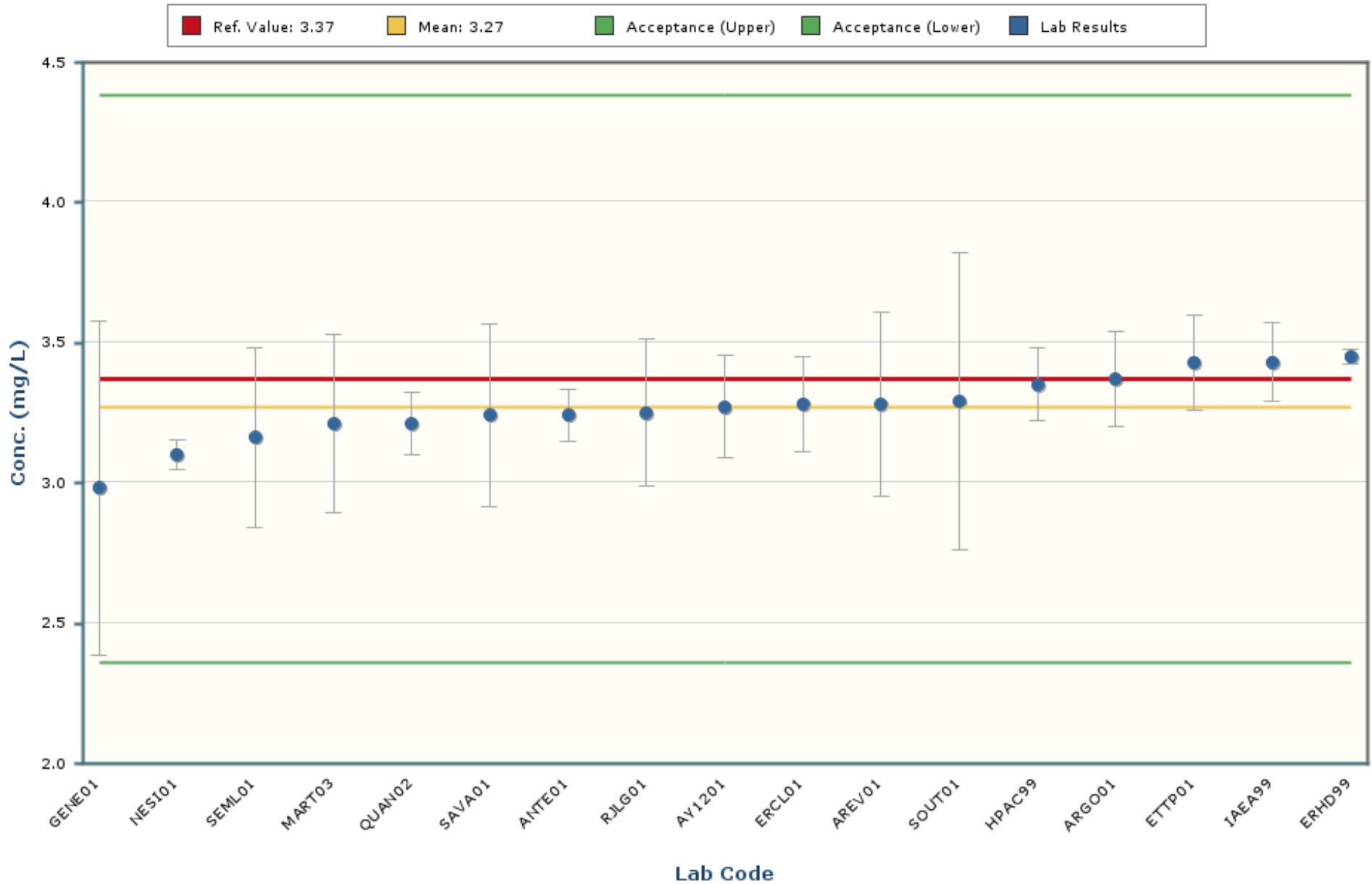
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 7.93 and 12.50 (± 5 Standard Deviations).

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

Arsenic

MAPEP-22-MaW46



Notes:

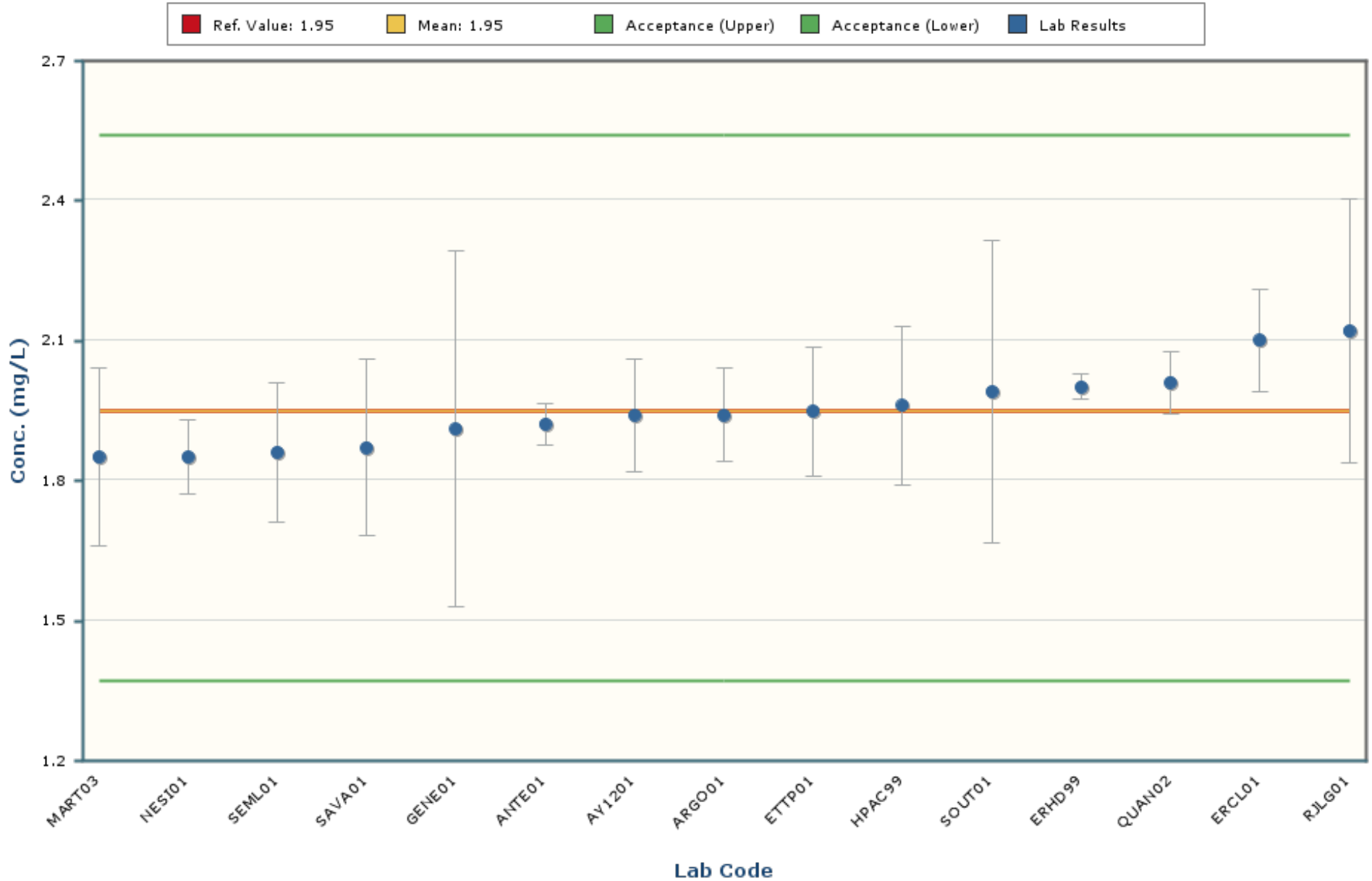
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.66 and 3.87 (± 5 Standard Deviations).

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

Beryllium

MAPEP-22-MaW46



Notes:

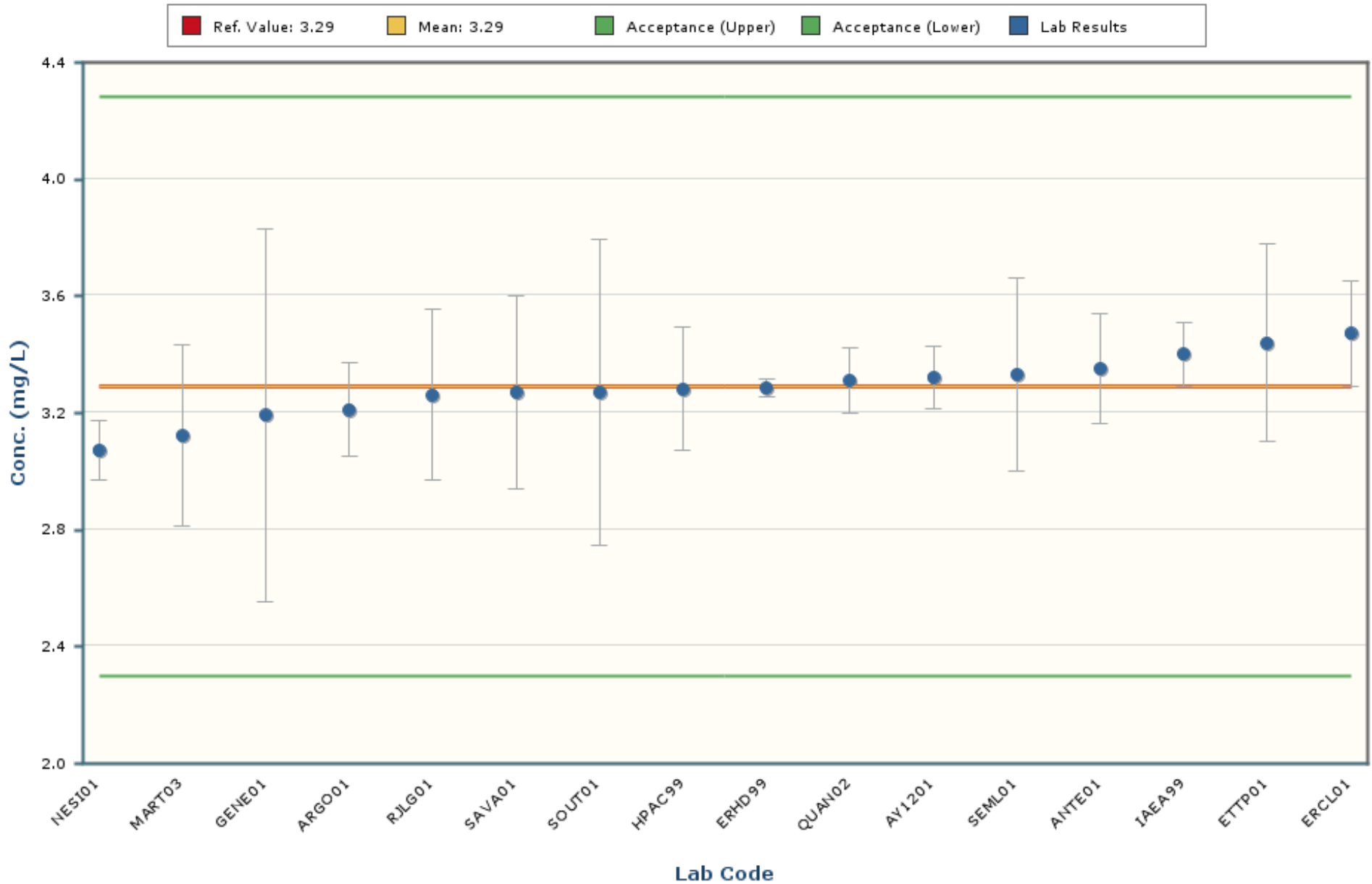
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.54 and 2.37 (± 5 Standard Deviations).

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

Chromium

MAPEP-22-MaW46



Notes:

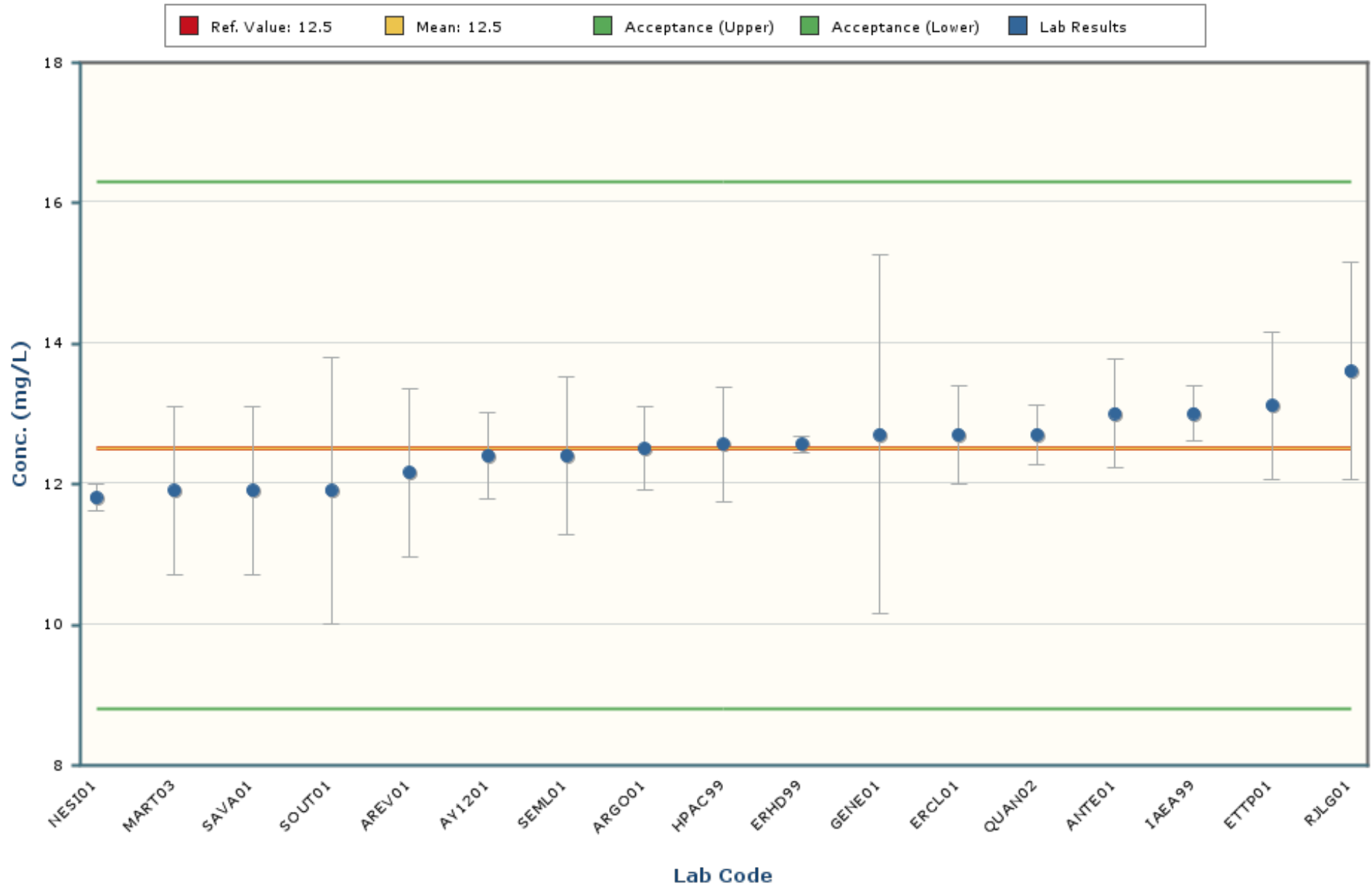
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 2.76 and 3.82 (± 5 Standard Deviations).

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

Cobalt

MAPEP-22-MaW46



Notes:

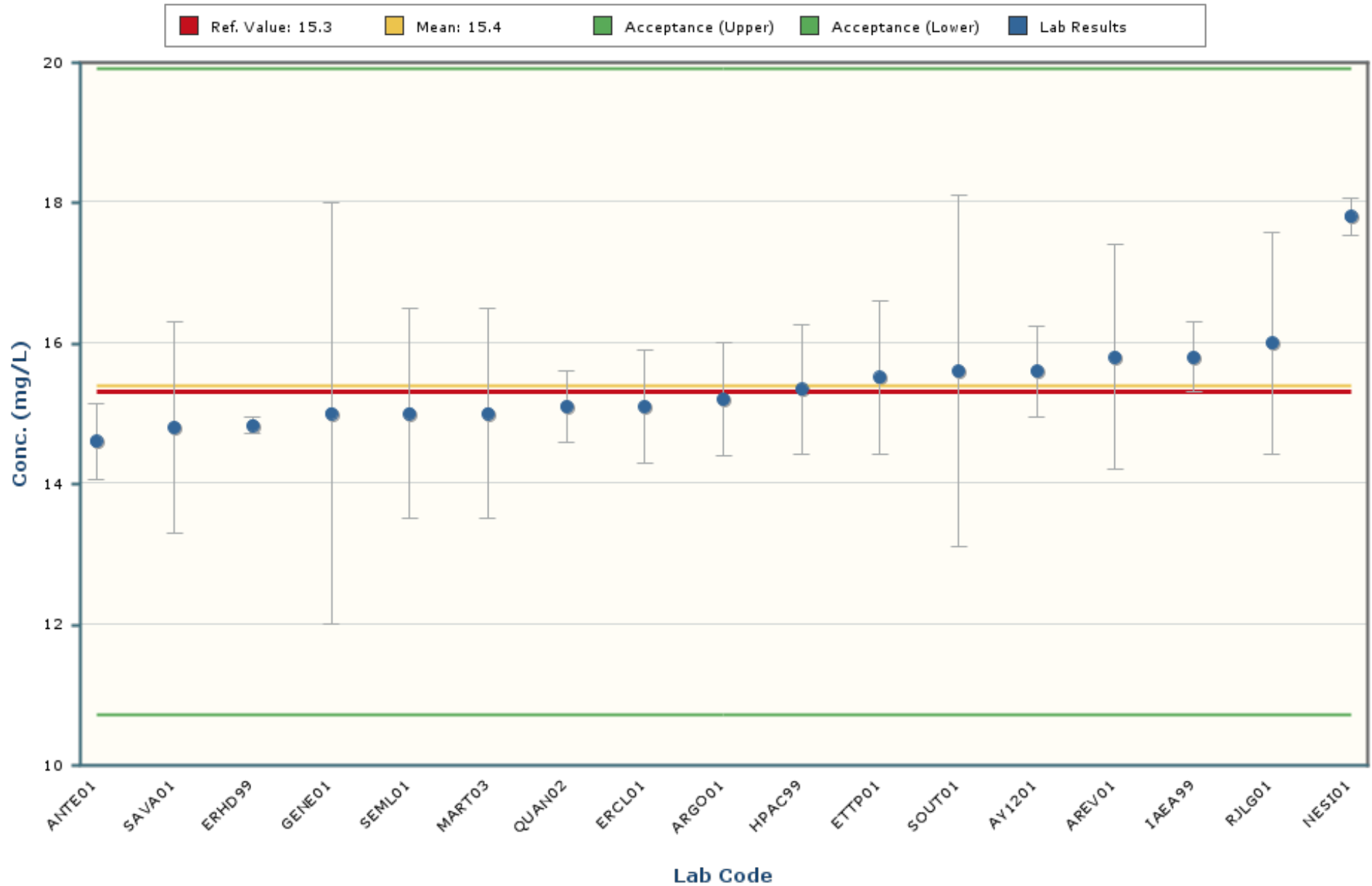
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 10.1 and 15.0 (± 5 Standard Deviations).

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

Copper

MAPEP-22-MaW46



Notes:

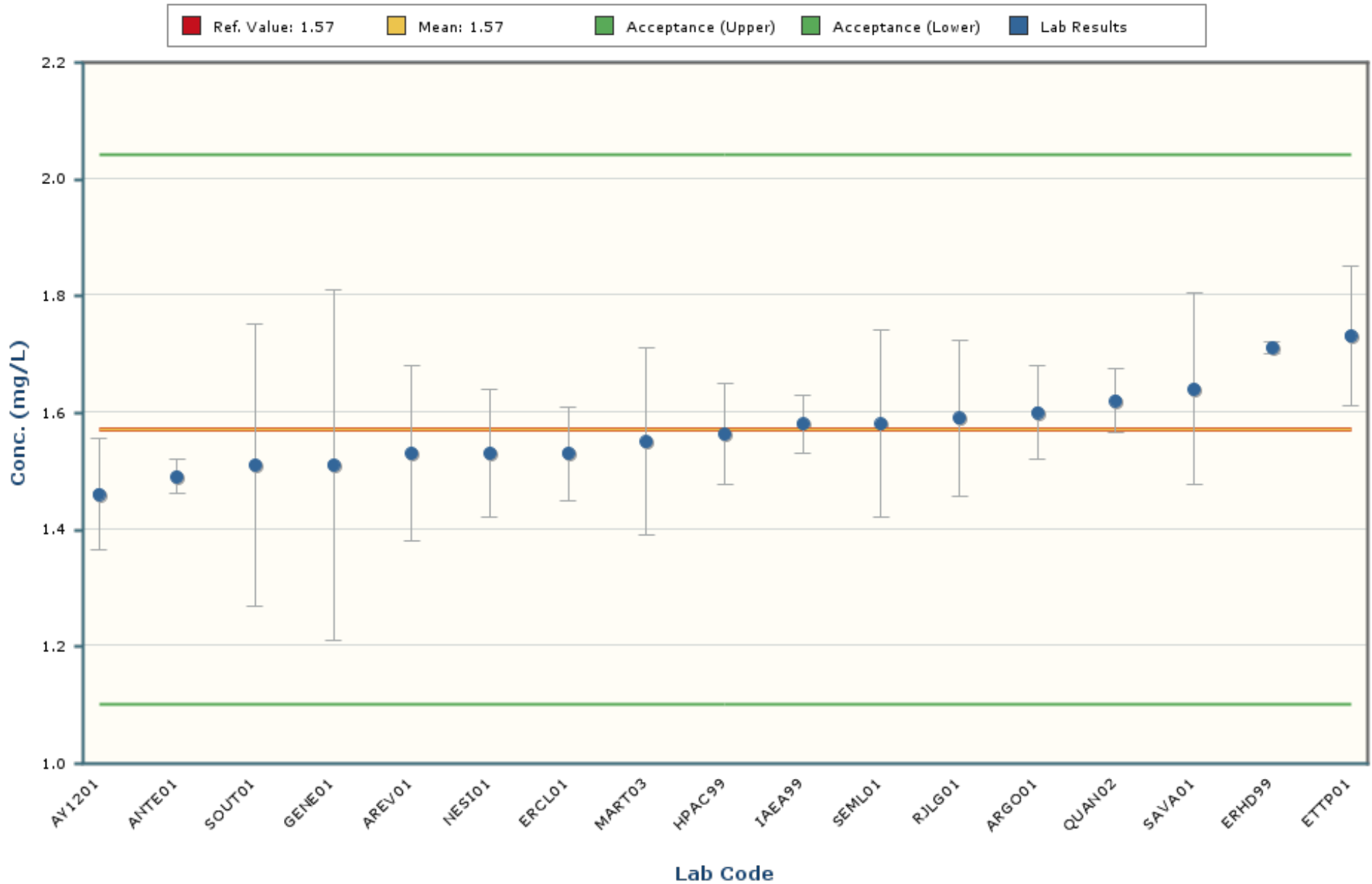
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 11.8 and 19.1 (± 5 Standard Deviations).

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

Lead

MAPEP-22-MaW46



Notes:

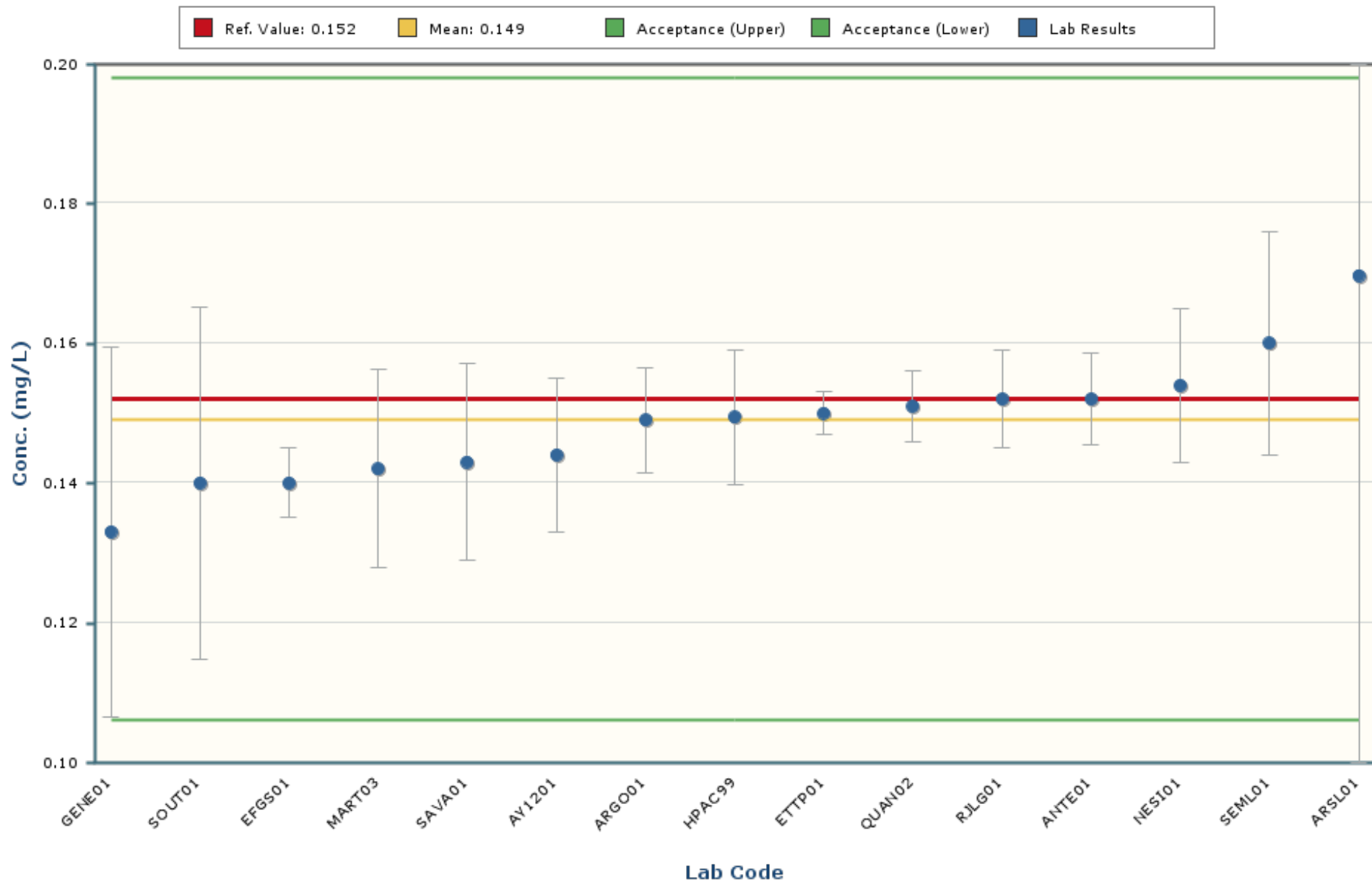
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.21 and 1.94 (± 5 Standard Deviations).

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

Mercury

MAPEP-22-MaW46



Notes:

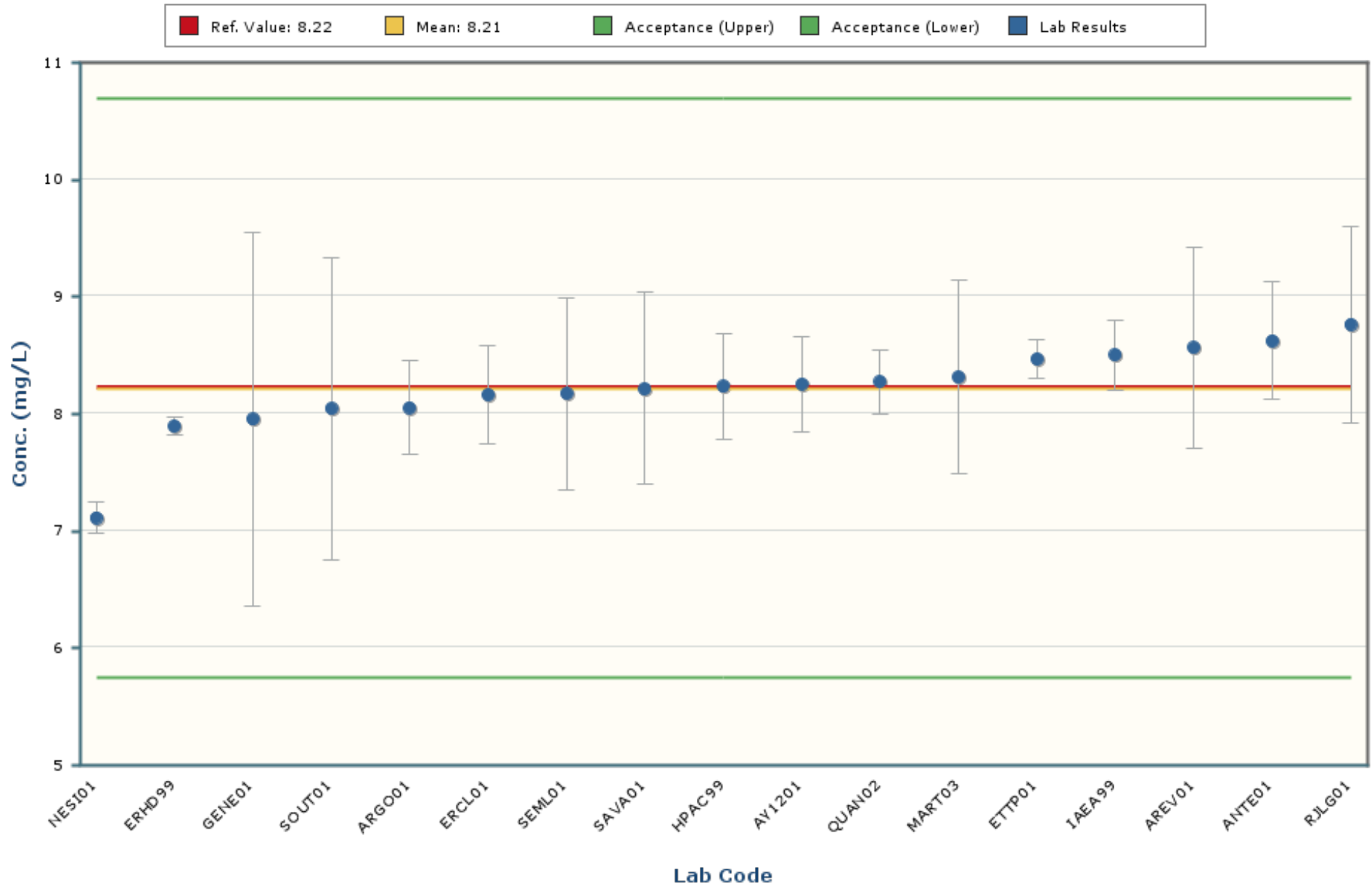
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.104 and 0.193 (± 5 Standard Deviations).

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

Nickel

MAPEP-22-MaW46



Notes:

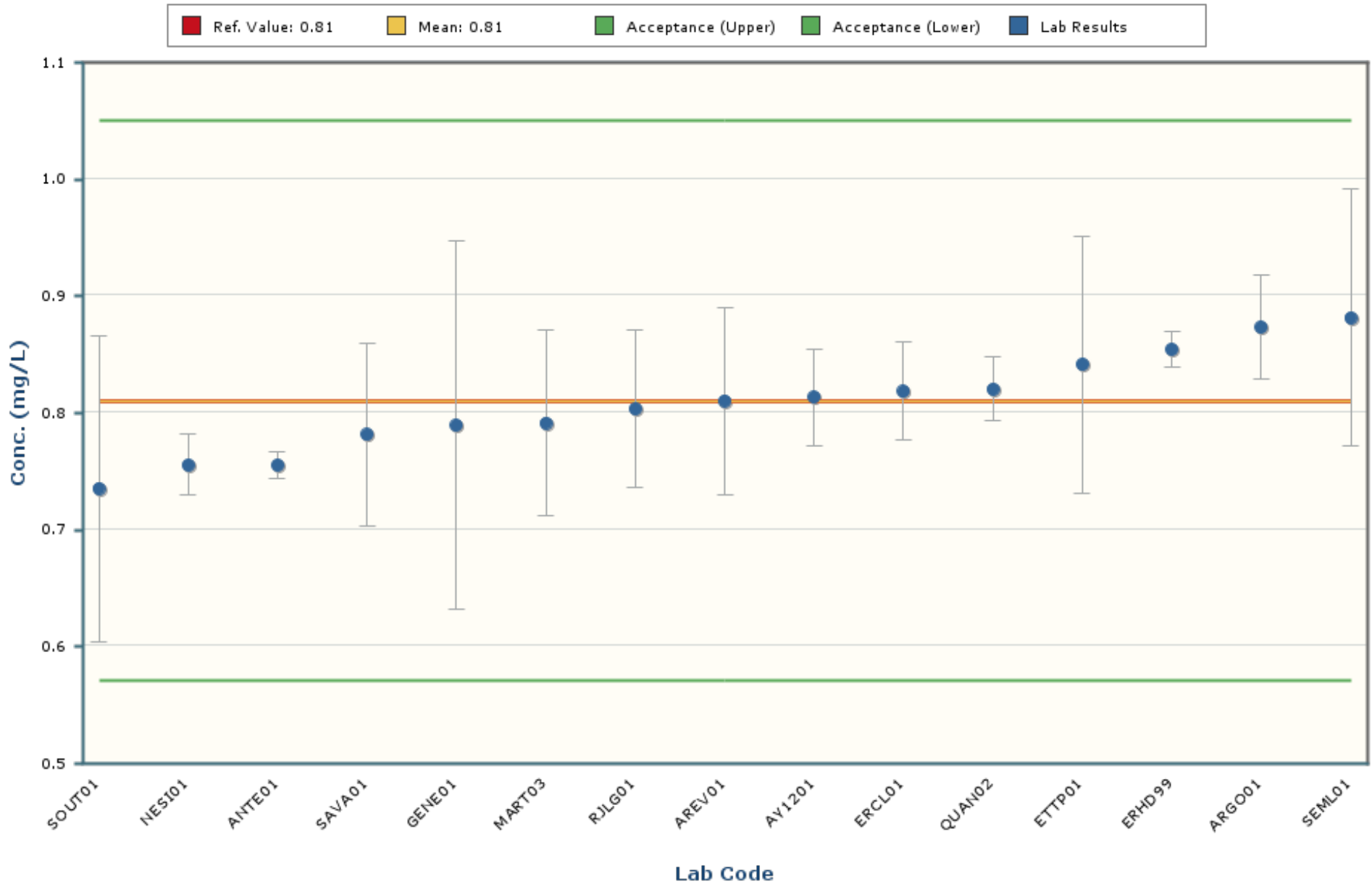
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 6.36 and 10.06 (± 5 Standard Deviations).

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

Selenium

MAPEP-22-MaW46



Notes:

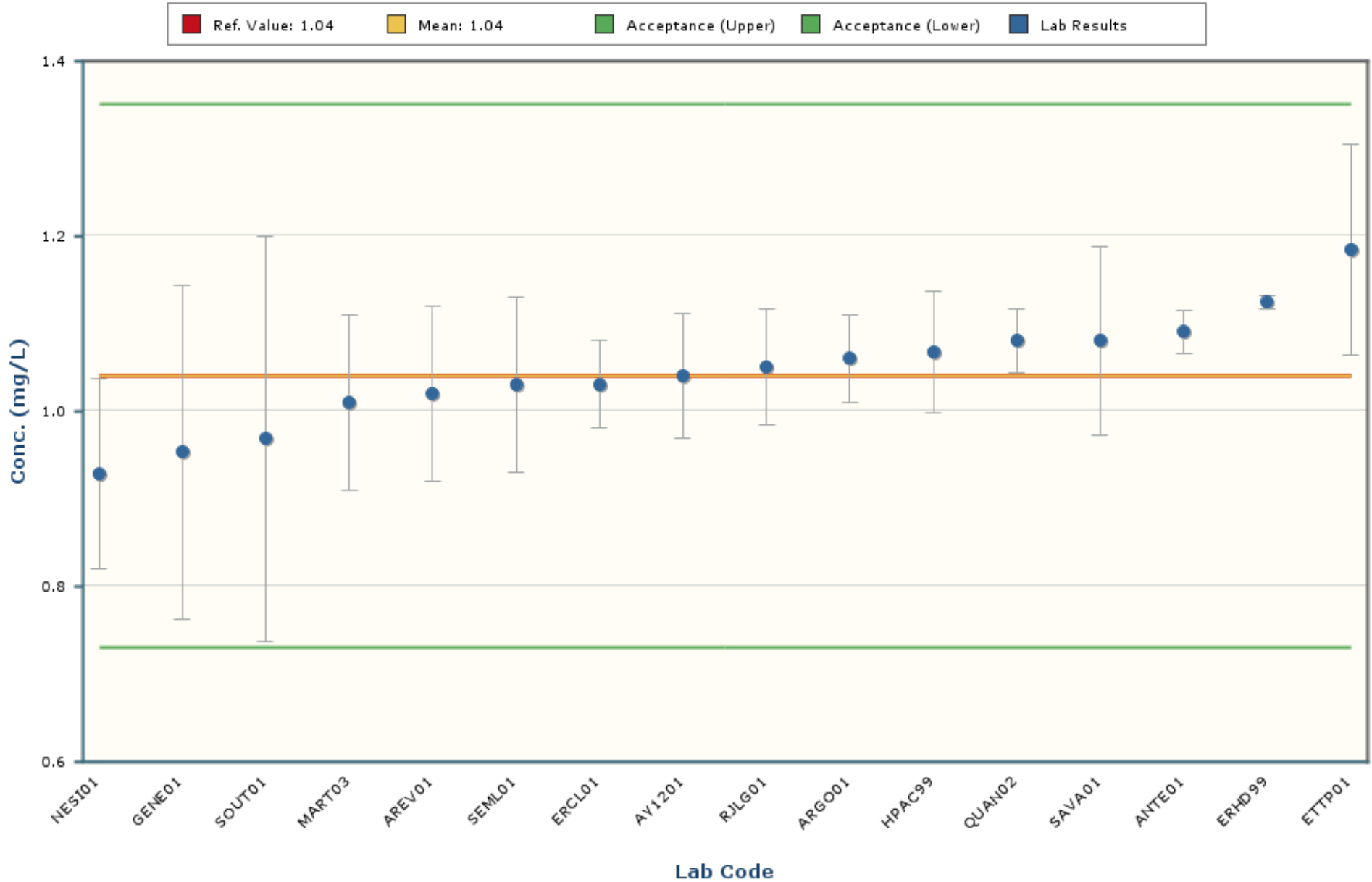
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.60 and 1.02 (± 5 Standard Deviations).

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

Thallium

MAPEP-22-MaW46



Notes:

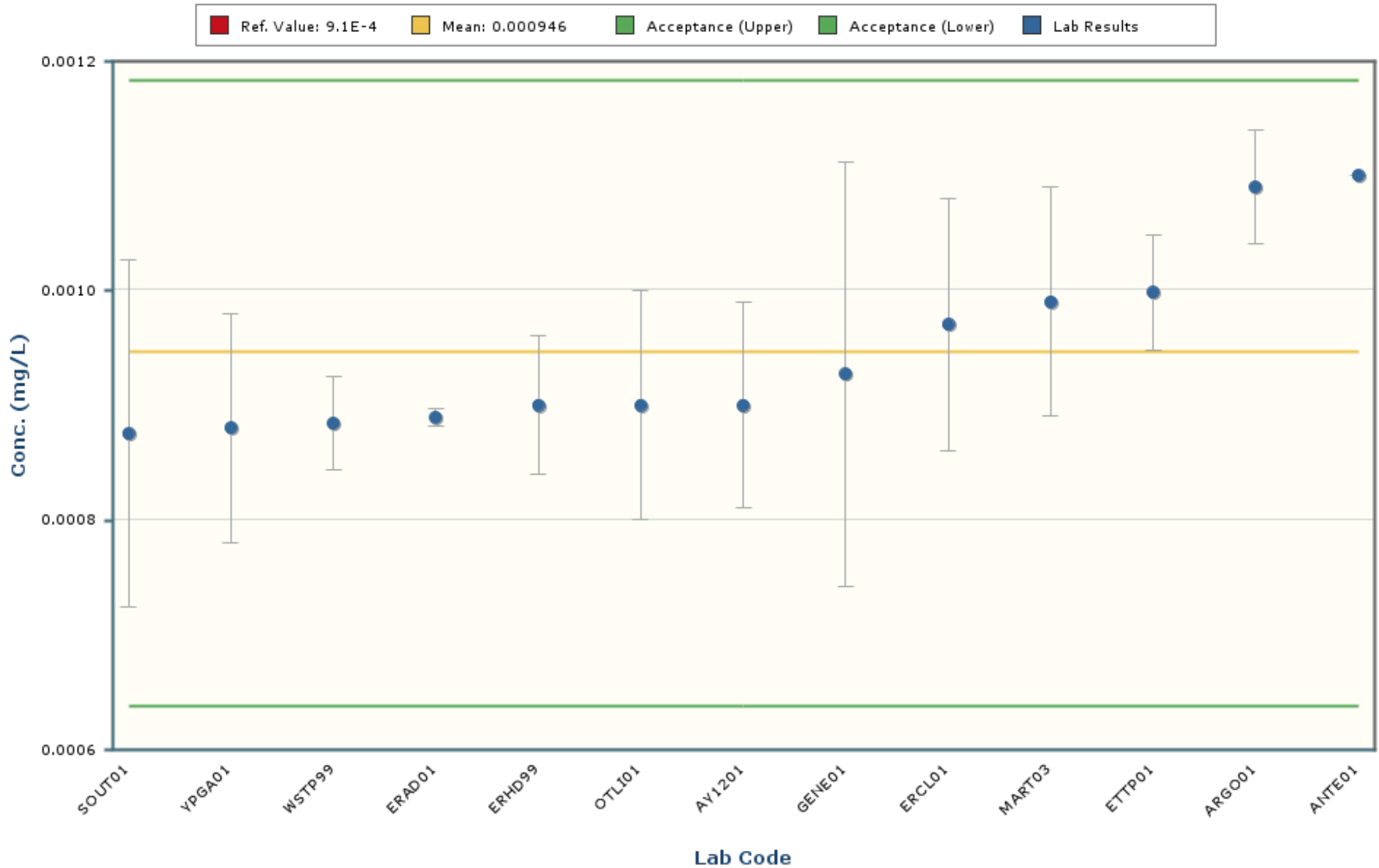
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.73 and 1.36 (± 5 Standard Deviations).

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

Uranium-235

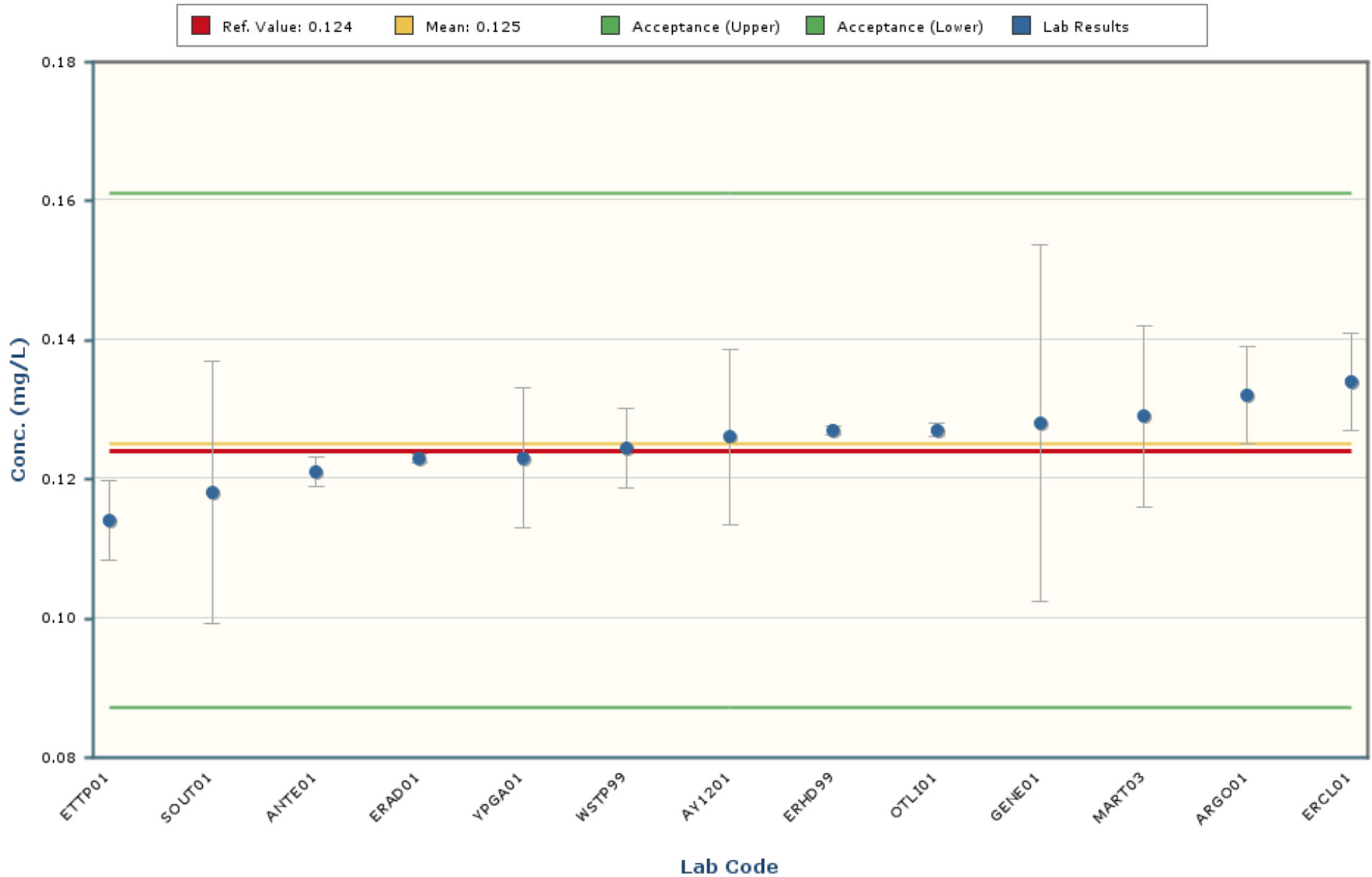
MAPEP-22-MaW46



Notes:
The chart mean excludes values outside of a bias range of $\pm 30\%$.
The chart shows only data points with values between 0.000557 and 0.001336 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at \pm one standard deviation.

Uranium-238

MAPEP-22-MaW46



Notes:

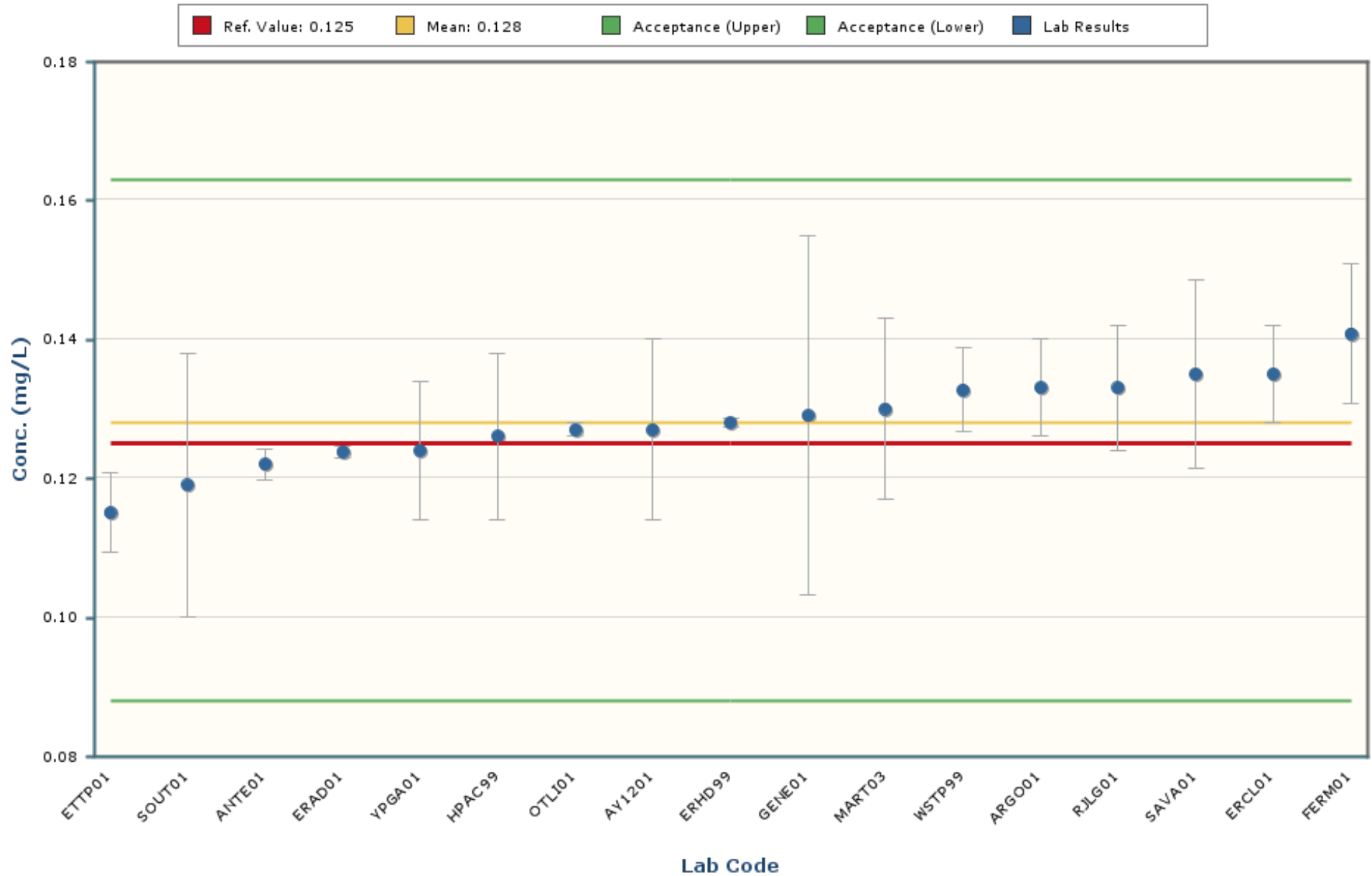
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.098 and 0.152 (± 5 Standard Deviations).

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

Uranium-Total

MAPEP-22-MaW46



Notes:

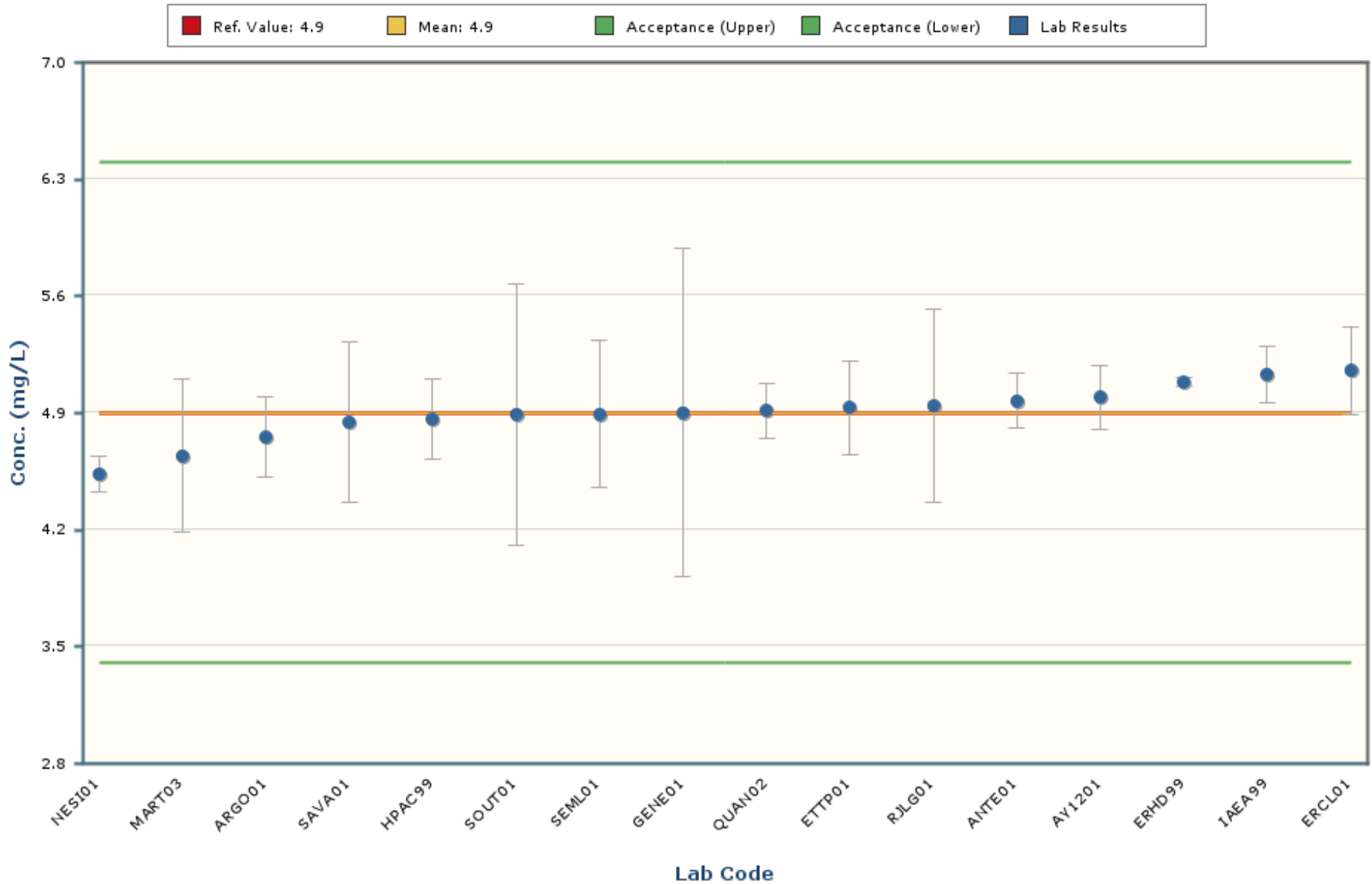
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.096 and 0.160 (± 5 Standard Deviations).

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

Vanadium

MAPEP-22-MaW46



Notes:

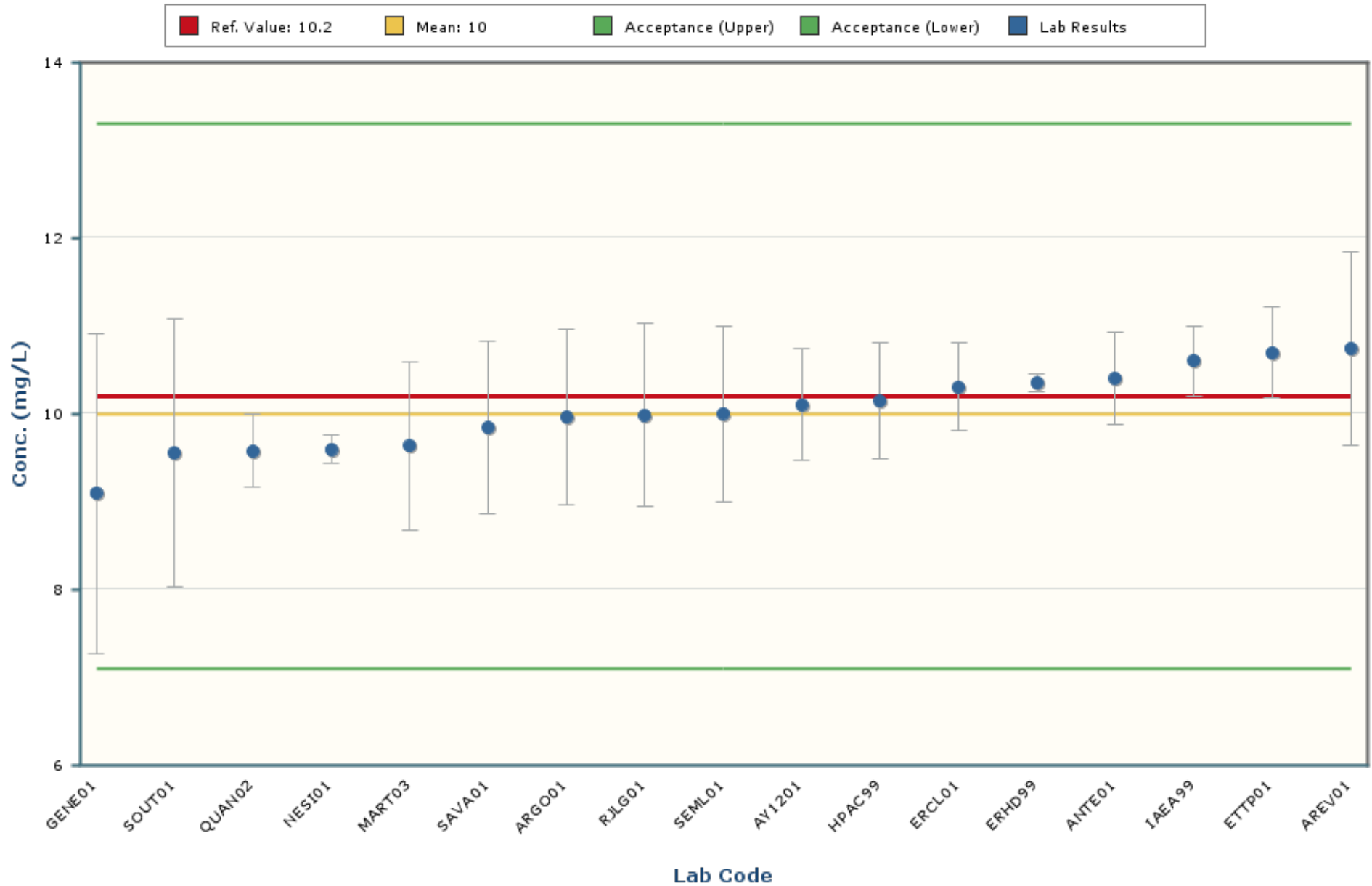
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 4.1 and 5.7 (± 5 Standard Deviations).

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

Zinc

MAPEP-22-MaW46



Notes:

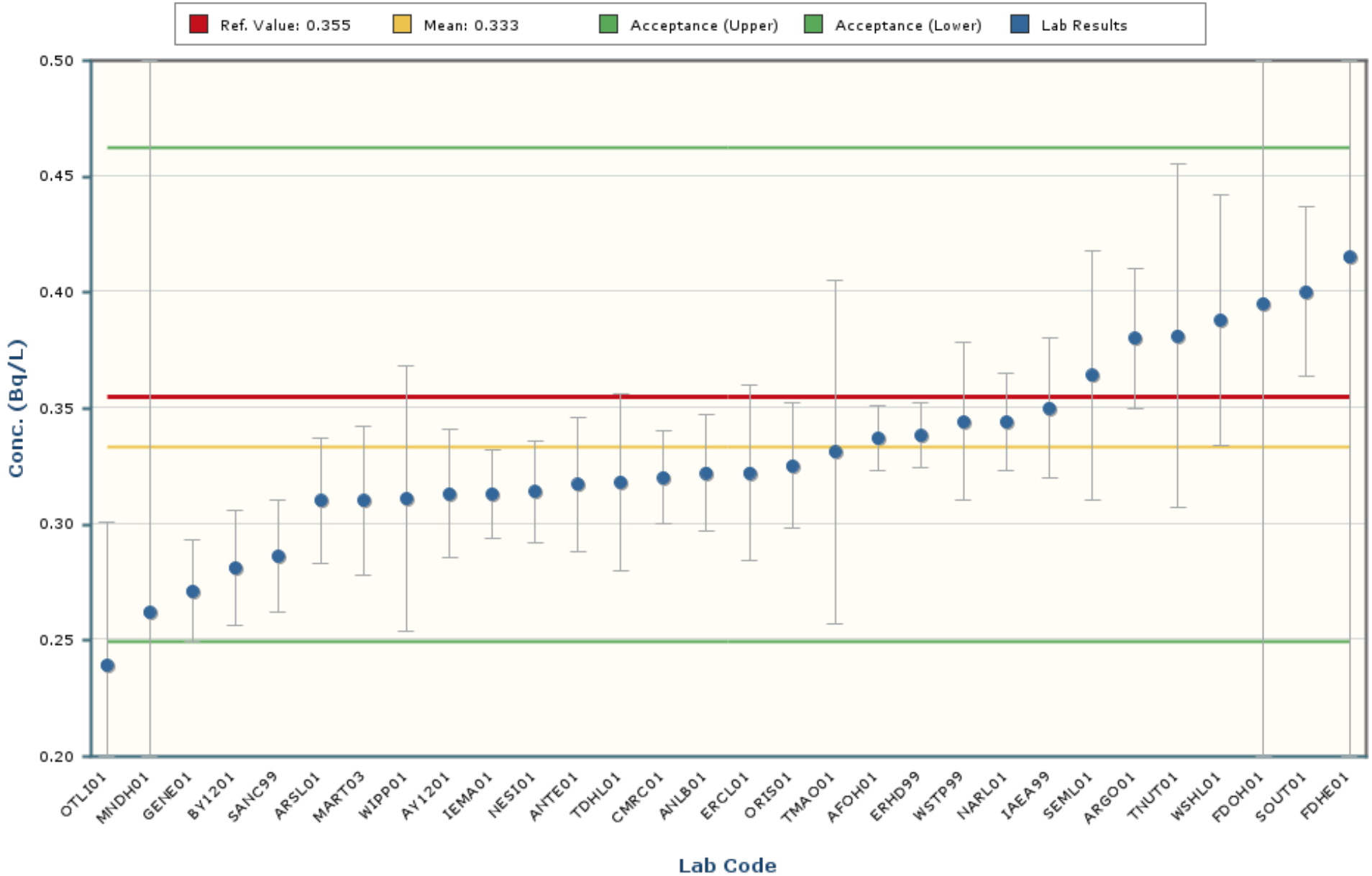
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 7.8 and 12.3 (± 5 Standard Deviations).

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

Americium-241

MAPEP-22-MaW46



Notes:

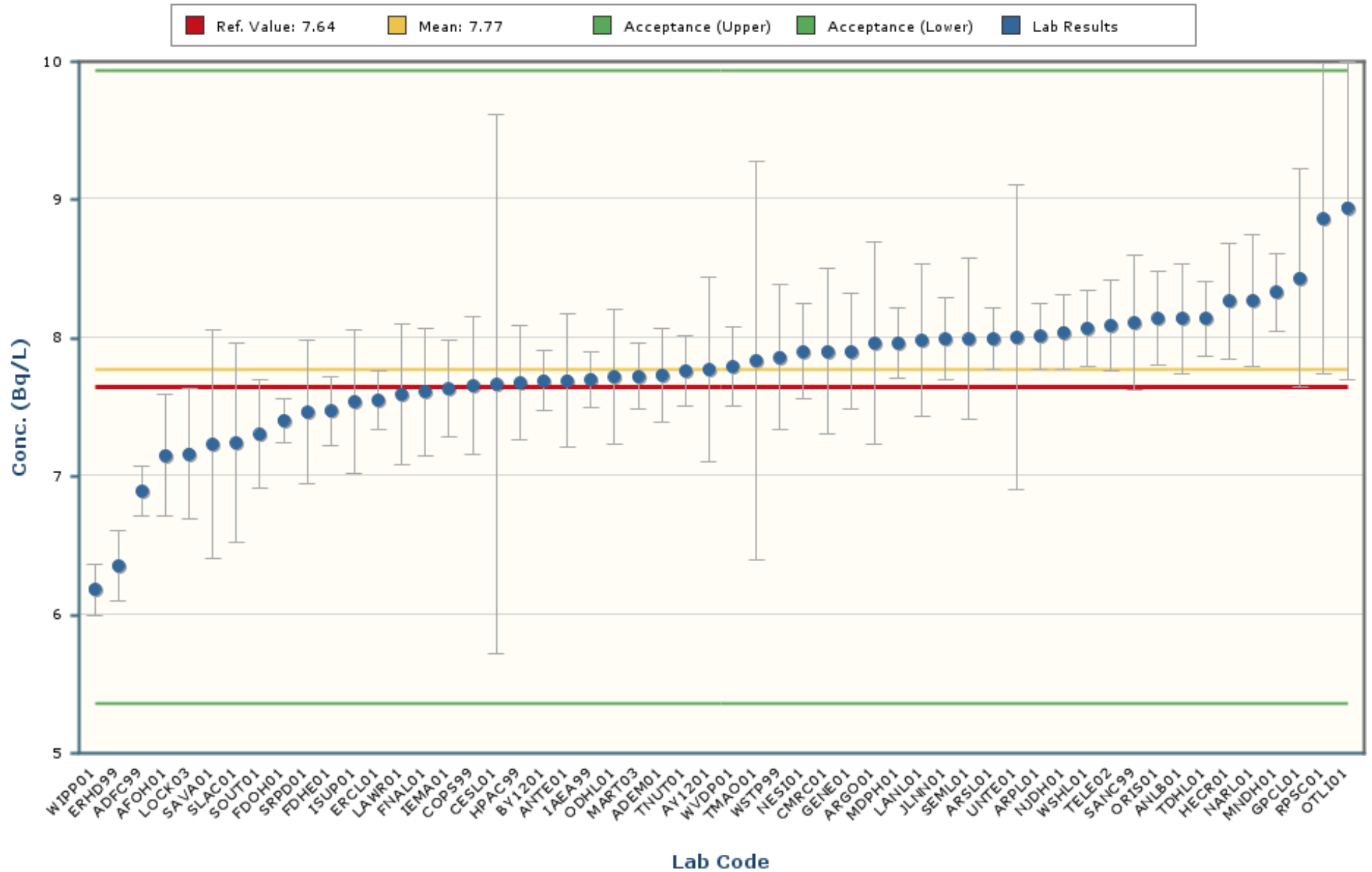
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.140 and 0.526 (± 5 Standard Deviations).

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

Cesium-137

MAPEP-22-MaW46



Notes:

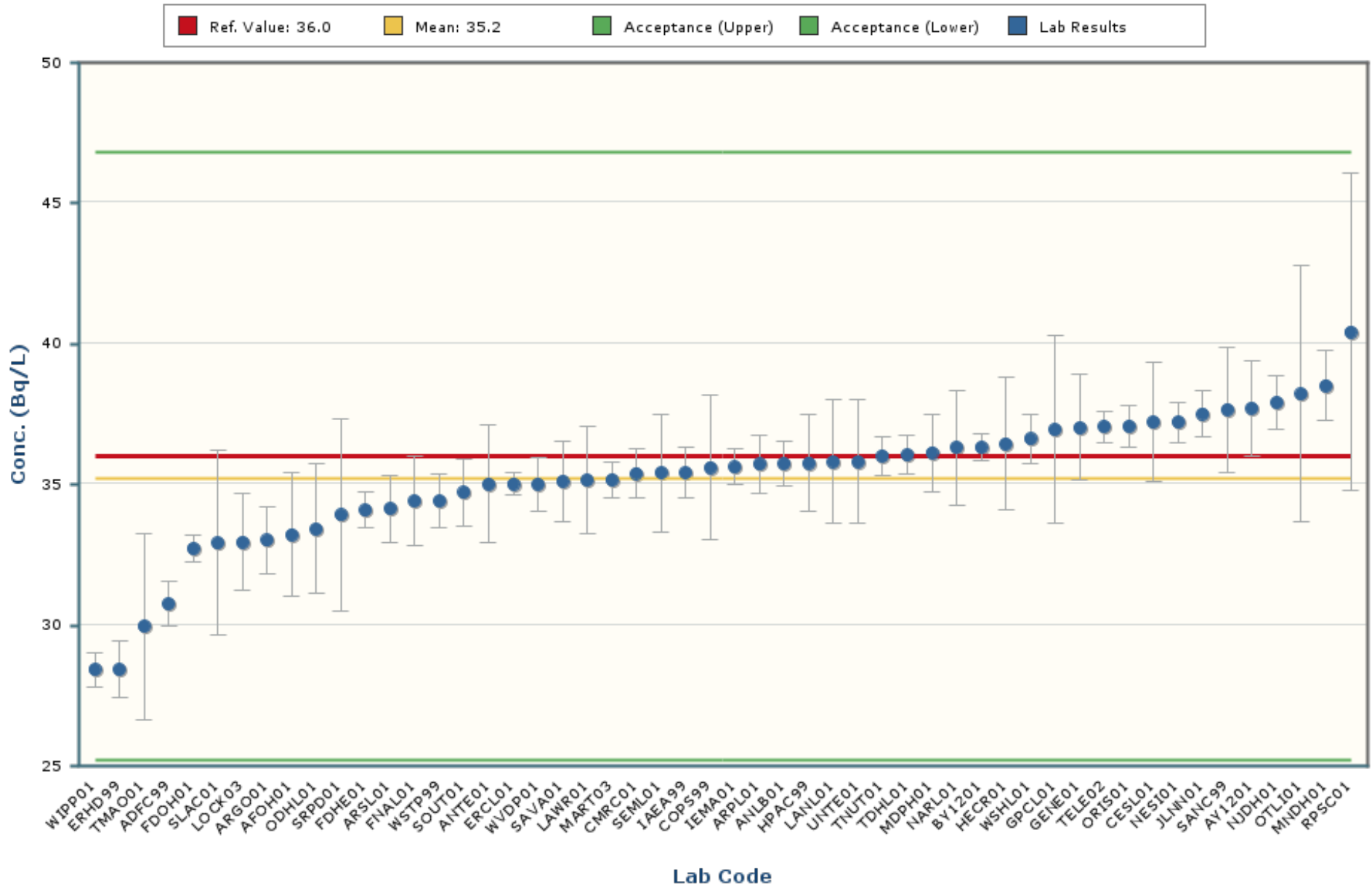
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 5.34 and 10.19 (± 5 Standard Deviations).

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

Cobalt-57

MAPEP-22-MaW46



Notes:

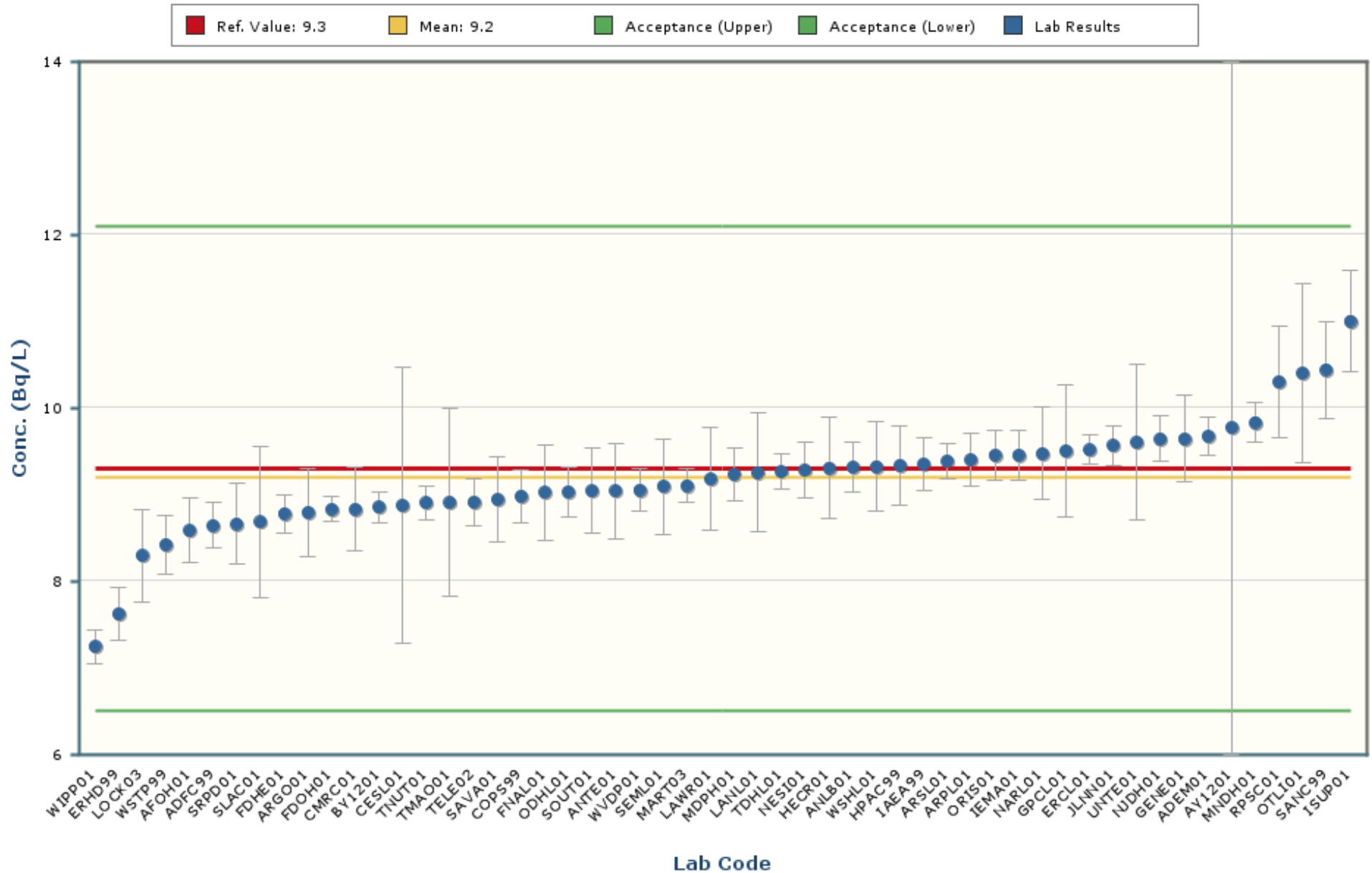
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 23.6 and 46.9 (± 5 Standard Deviations).

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

Cobalt-60

MAPEP-22-MaW46



Notes:

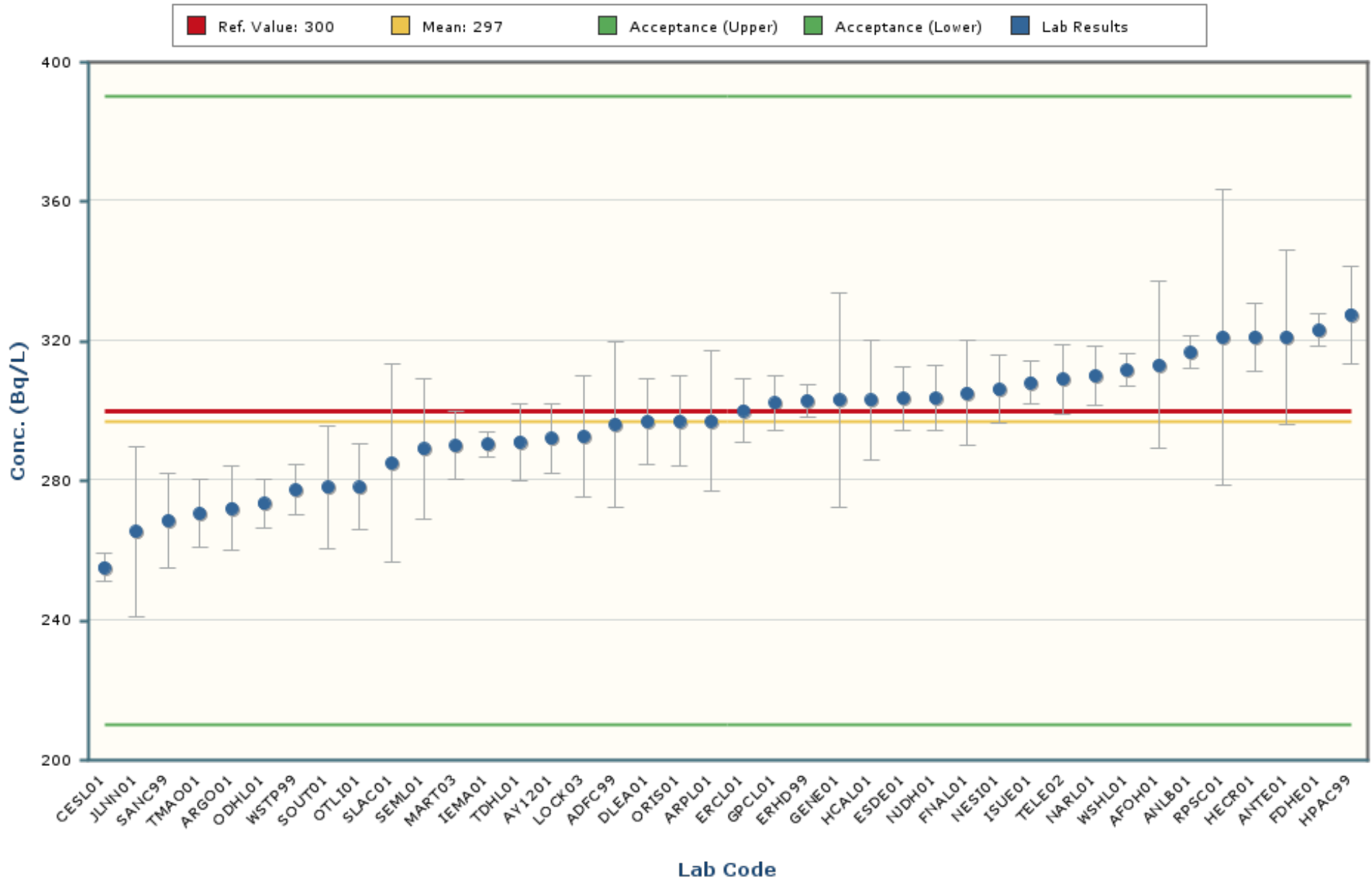
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 6.1 and 12.3 (± 5 Standard Deviations).

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

Hydrogen-3

MAPEP-22-MaW46



Notes:

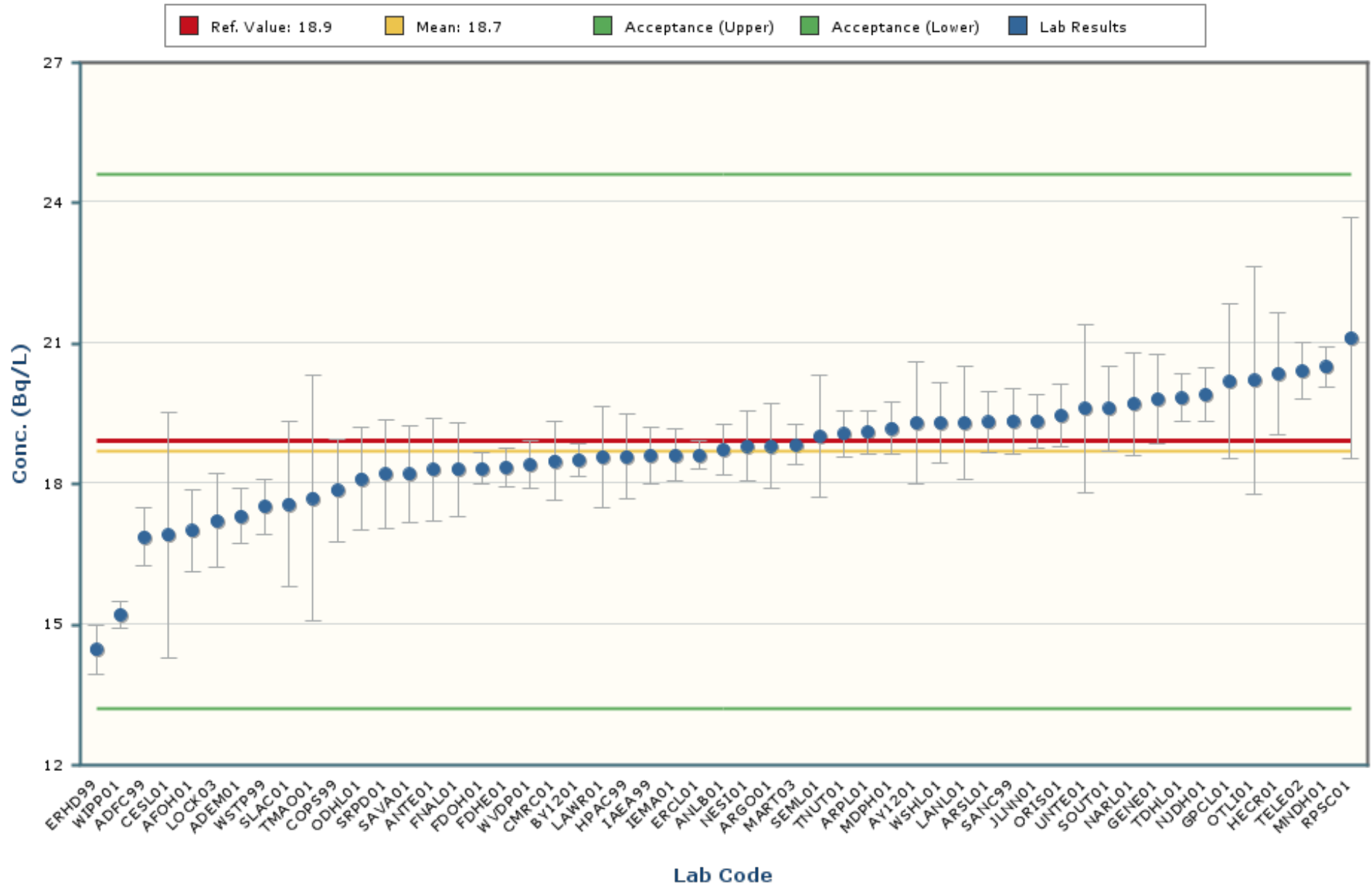
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 209 and 384 (± 5 Standard Deviations).

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

Manganese-54

MAPEP-22-MaW46



Notes:

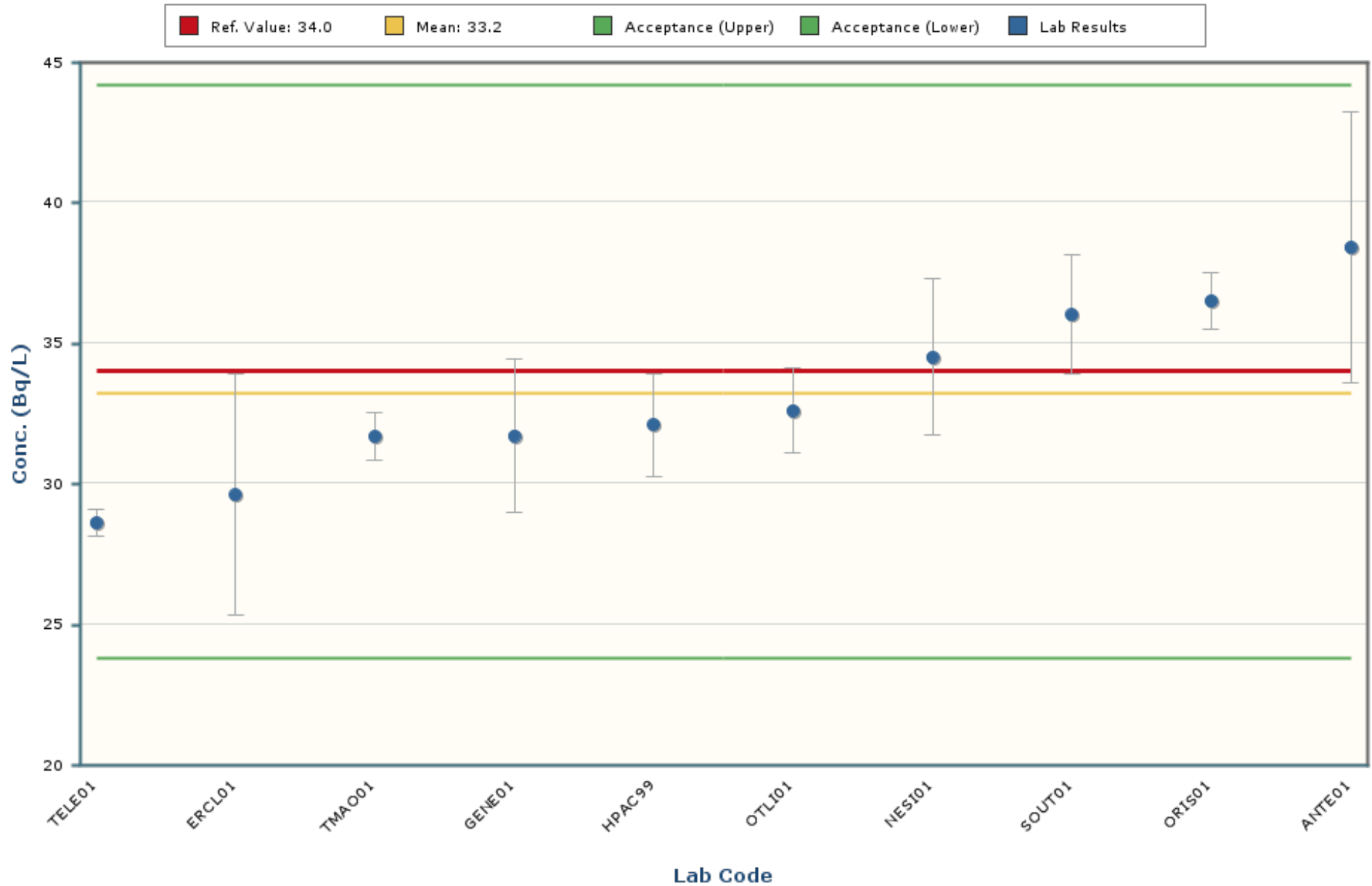
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 12.5 and 24.8 (± 5 Standard Deviations).

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

Nickel-63

MAPEP-22-MaW46



Notes:

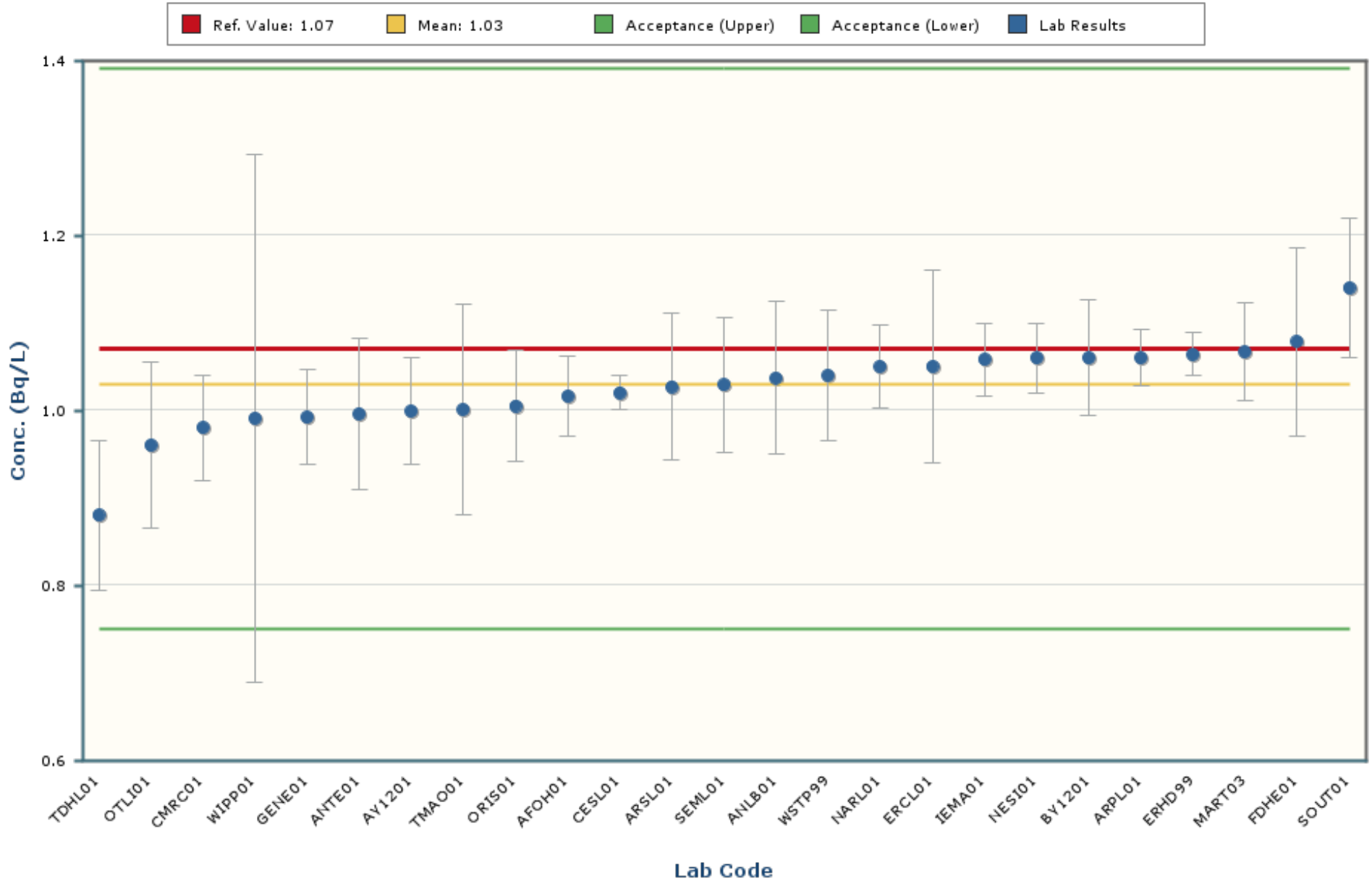
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 17.6 and 48.8 (± 5 Standard Deviations).

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

Plutonium-238

MAPEP-22-MaW46



Notes:

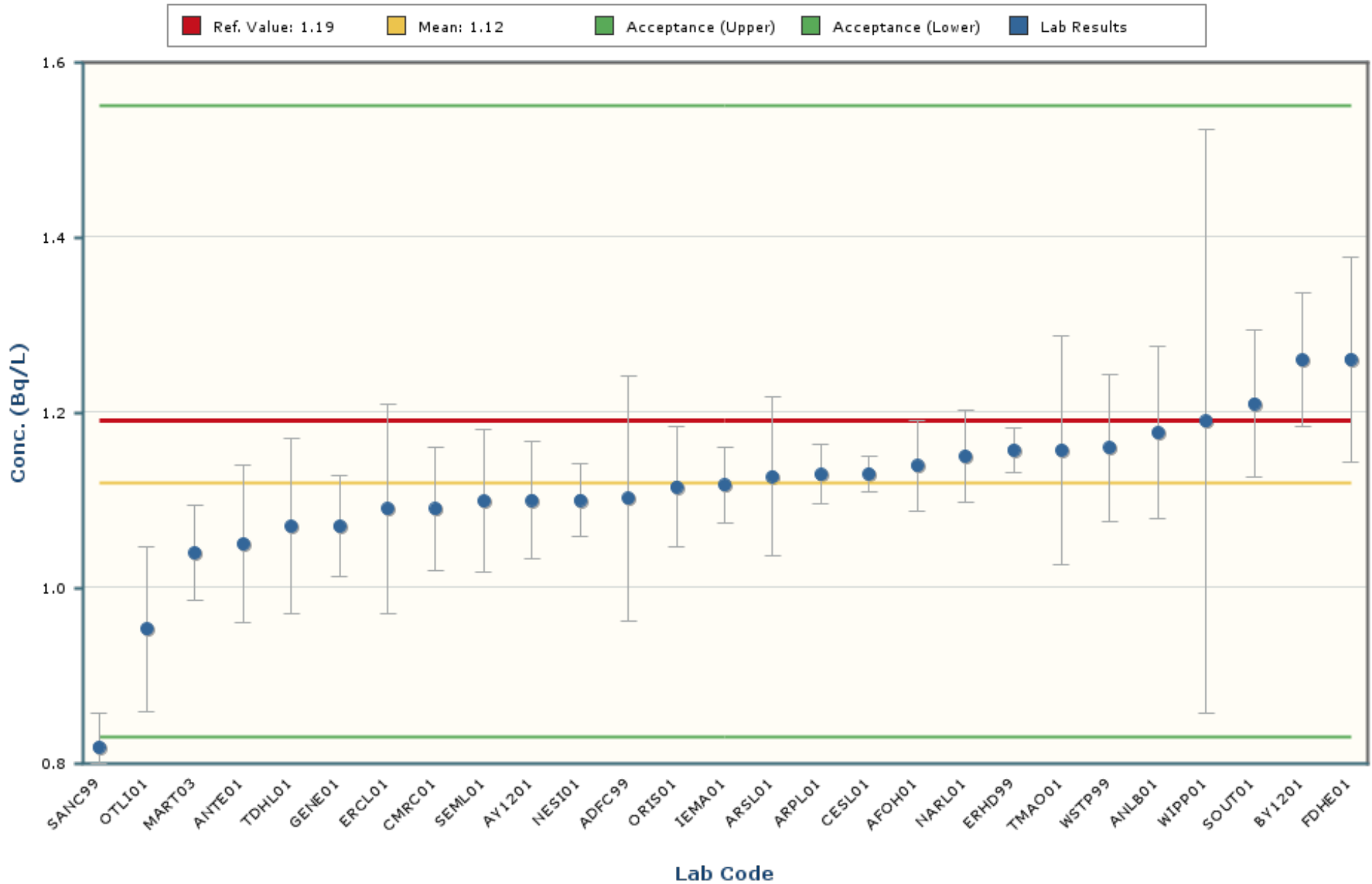
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.78 and 1.27 (± 5 Standard Deviations).

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

Plutonium-239/240

MAPEP-22-MaW46



Notes:

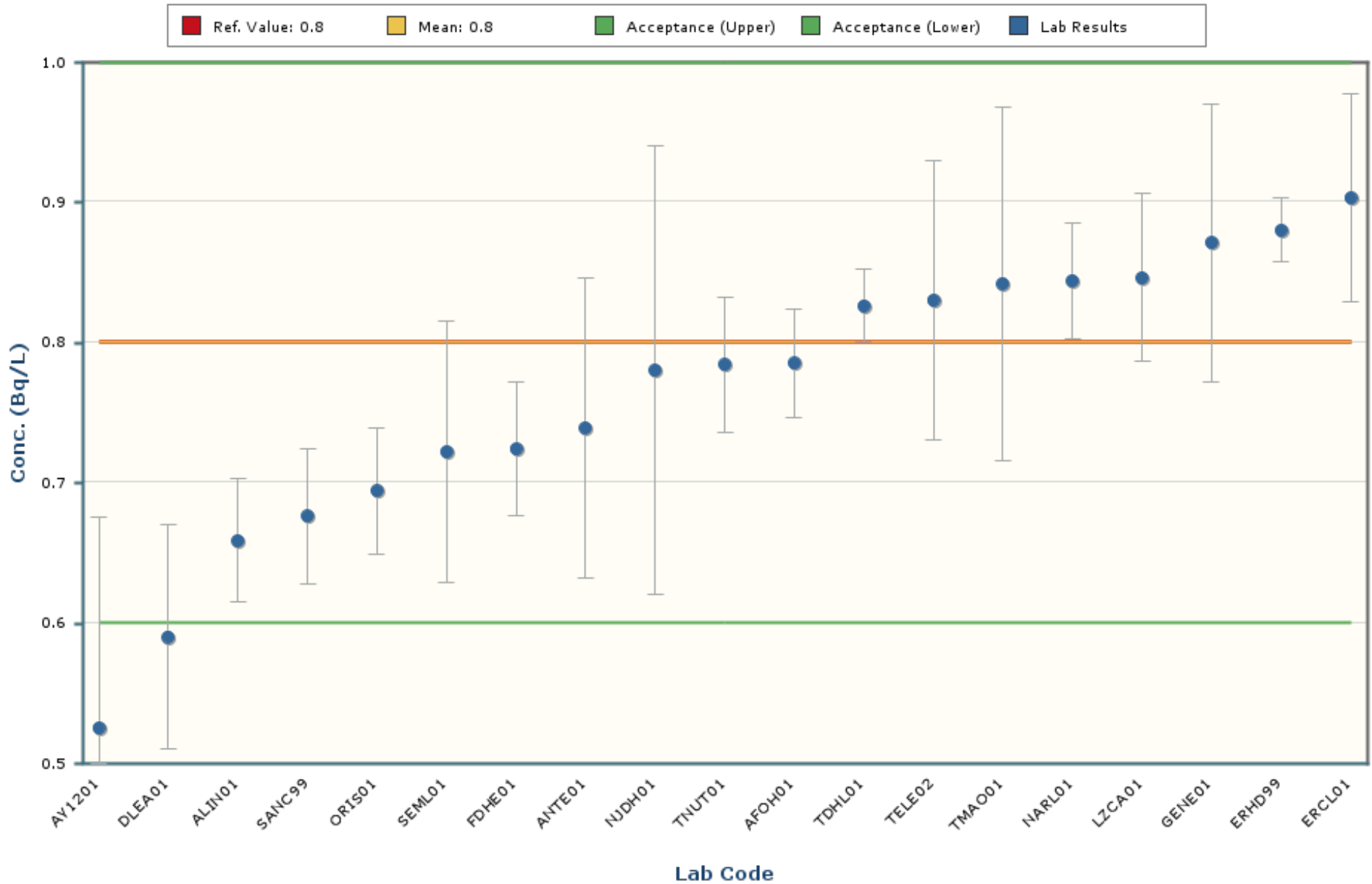
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.80 and 1.45 (± 5 Standard Deviations).

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

Radium-226

MAPEP-22-MaW46



Notes:

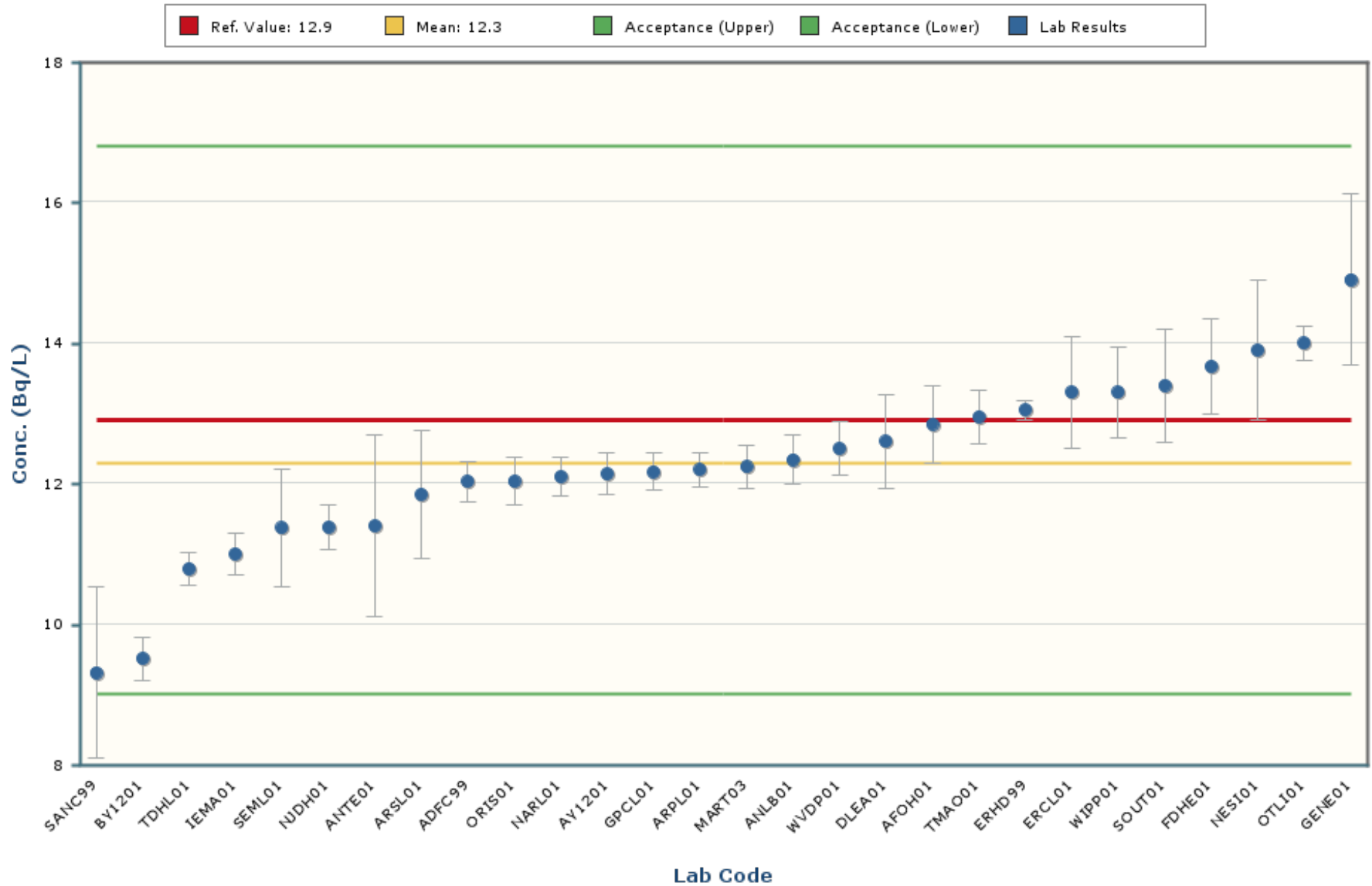
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.3 and 1.2 (± 5 Standard Deviations).

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

Strontium-90

MAPEP-22-MaW46



Notes:

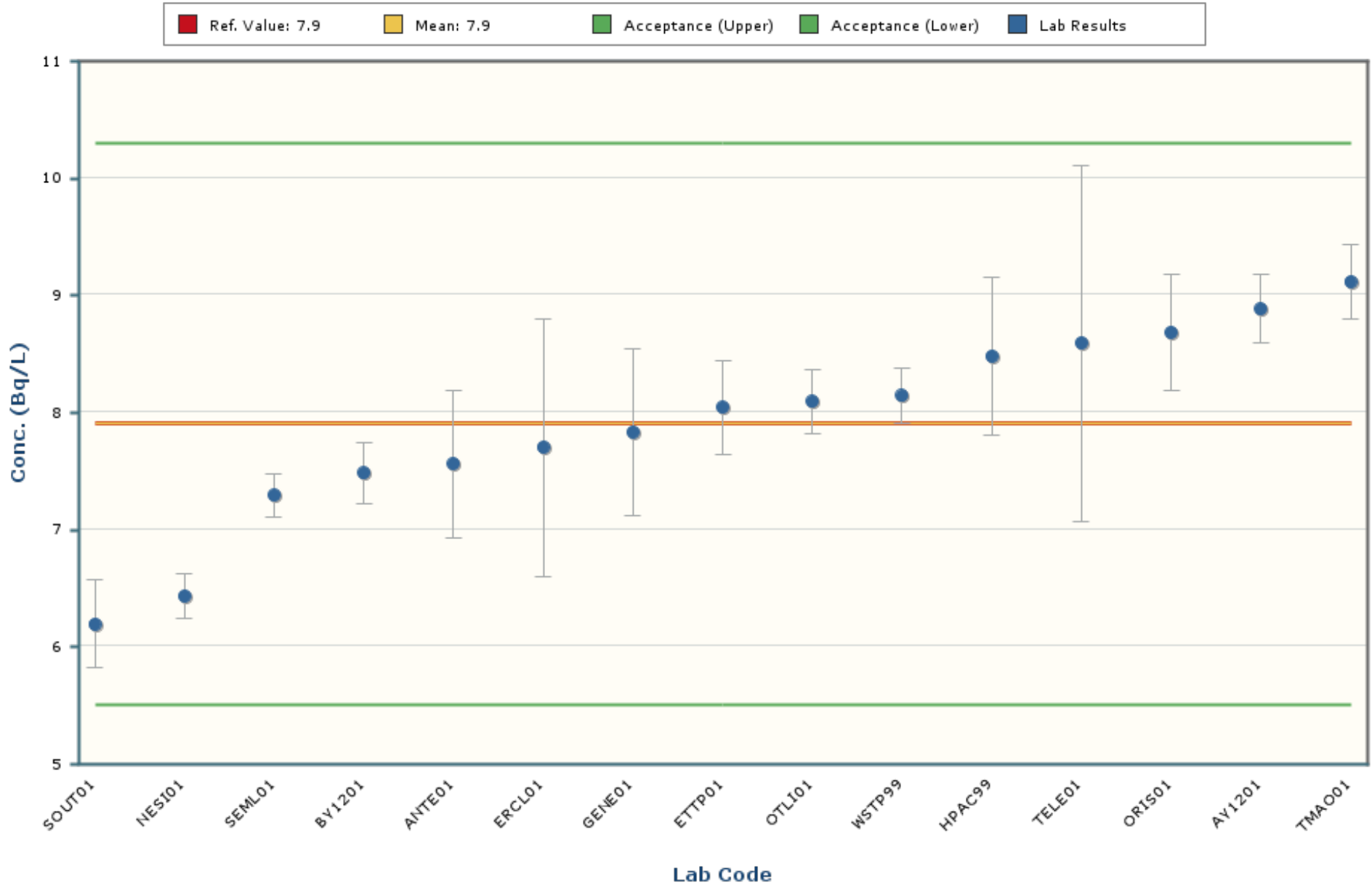
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 6.0 and 18.6 (± 5 Standard Deviations).

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

Technetium-99

MAPEP-22-MaW46



Notes:

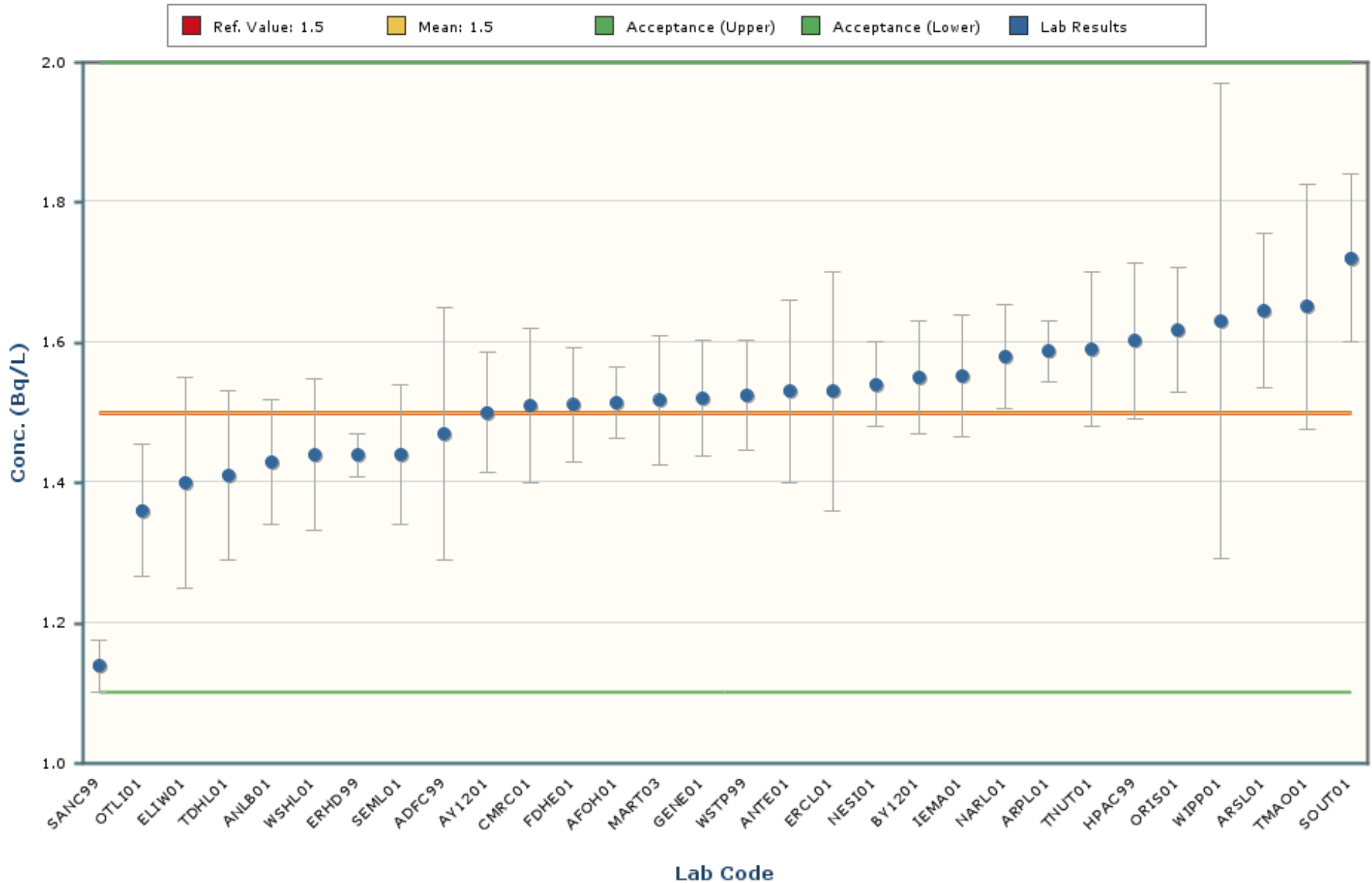
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 3.7 and 12.1 (± 5 Standard Deviations).

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

Uranium-234

MAPEP-22-MaW46



Notes:

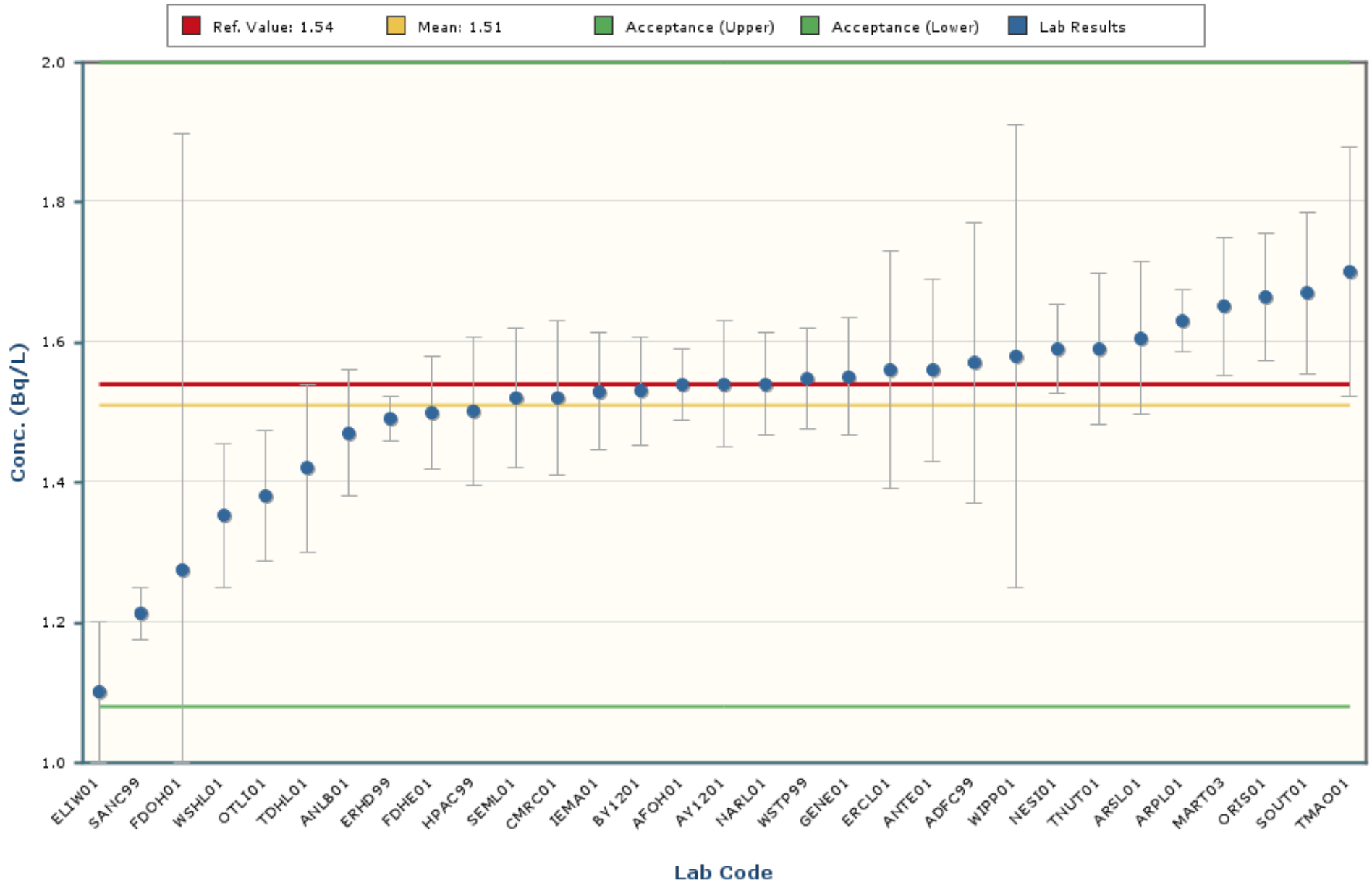
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.0 and 2.1 (± 5 Standard Deviations).

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

Uranium-238

MAPEP-22-MaW46



Notes:

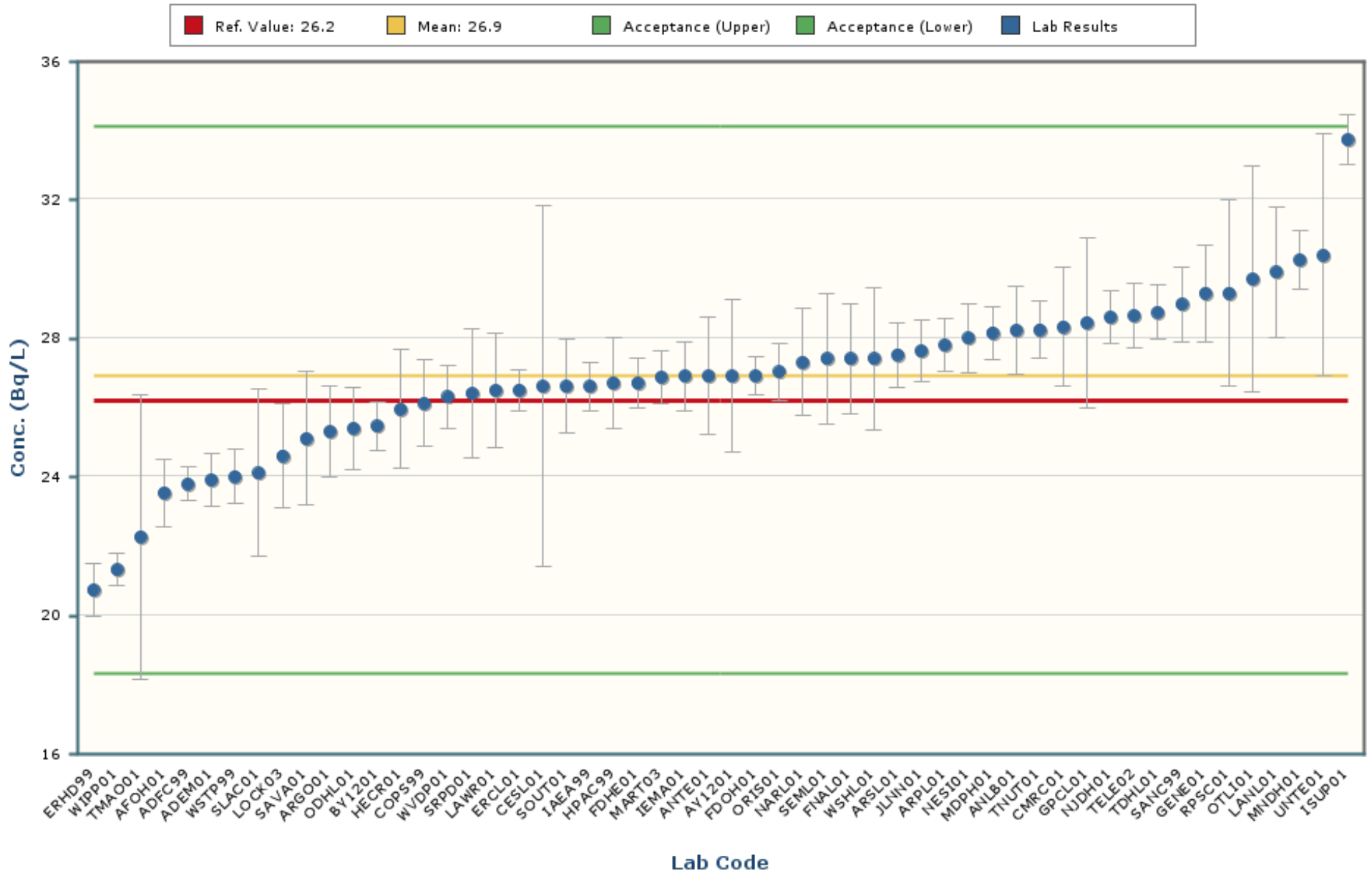
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.85 and 2.17 (± 5 Standard Deviations).

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

Zinc-65

MAPEP-22-MaW46



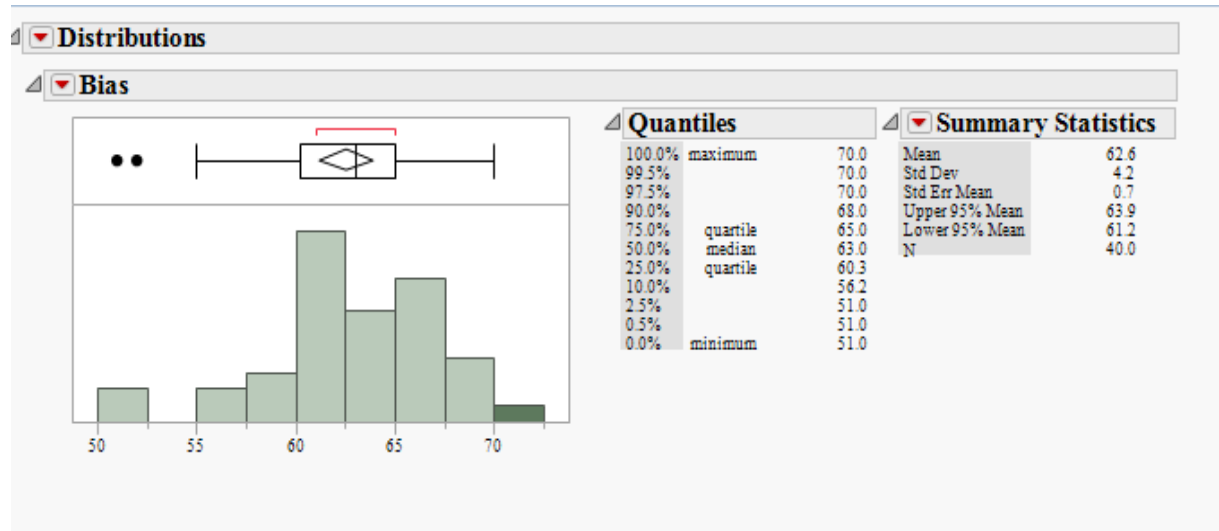
Notes:

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

The chart shows only data points with values between 15.4 and 38.4 (± 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.

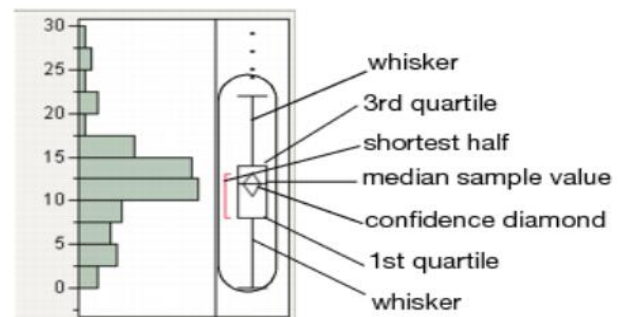


Outlier Box Plot

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)

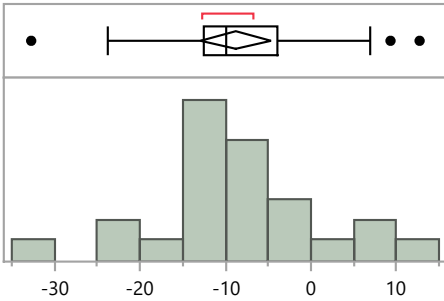


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

MaW Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

Bias



Quantiles

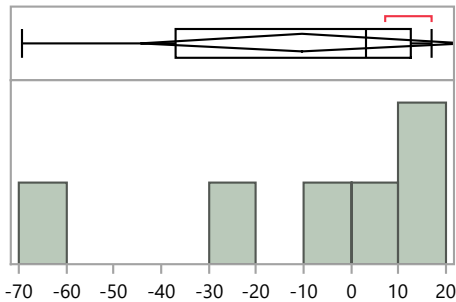
100.0%	maximum	12.7
99.5%		12.7
97.5%		12.7
90.0%		7.9
75.0%	quartile	-4.0
50.0%	median	-9.9
25.0%	quartile	-12.6
10.0%		-22.0
2.5%		-32.7
0.5%		-32.7
0.0%	minimum	-32.7

Summary Statistics

Mean	-8.8
Std Dev	10.0
Std Err Mean	2.0
Upper 95% Mean	-4.6
Lower 95% Mean	-12.9
N	25.0

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

Bias



Quantiles

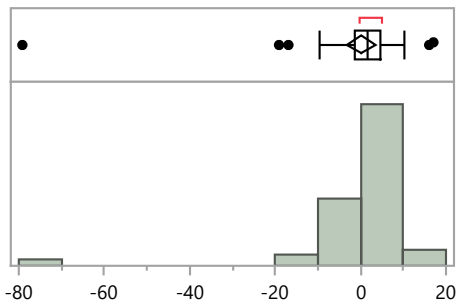
100.0%	maximum	16.9
99.5%		16.9
97.5%		16.9
90.0%		16.9
75.0%	quartile	12.7
50.0%	median	3.0
25.0%	quartile	-37.0
10.0%		-69.1
2.5%		-69.1
0.5%		-69.1
0.0%	minimum	-69.1

Summary Statistics

Mean	-10.2
Std Dev	32.6
Std Err Mean	13.3
Upper 95% Mean	24.0
Lower 95% Mean	-44.4
N	6.0

Distributions Analyte_Detection=Cesium-137 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	17.0
99.5%		17.0
97.5%		16.6
90.0%		8.2
75.0%	quartile	4.7
50.0%	median	1.7
25.0%	quartile	-1.2
10.0%		-6.4
2.5%		-56.6
0.5%		-79.1
0.0%	minimum	-79.1

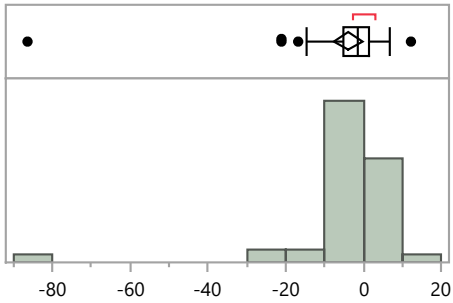
Summary Statistics

Mean	0.1
Std Dev	12.7
Std Err Mean	1.7
Upper 95% Mean	3.5
Lower 95% Mean	-3.4
N	54.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

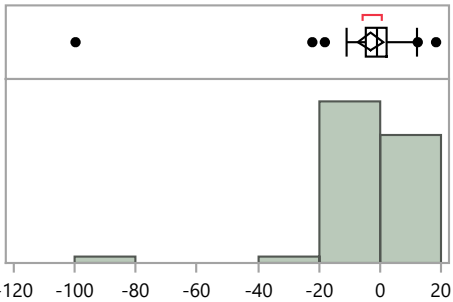
100.0%	maximum	12.2
99.5%		12.2
97.5%		10.5
90.0%		4.7
75.0%	quartile	1.6
50.0%	median	-1.4
25.0%	quartile	-5.4
10.0%		-13.0
2.5%		-65.2
0.5%		-86.4
0.0%	minimum	-86.4

Summary Statistics

Mean	-3.9
Std Dev	13.3
Std Err Mean	1.8
Upper 95% Mean	-0.2
Lower 95% Mean	-7.6
N	52.0

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

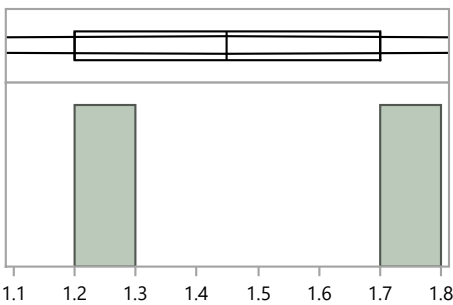
100.0%	maximum	18.3
99.5%		18.3
97.5%		16.1
90.0%		5.4
75.0%	quartile	1.9
50.0%	median	-1.1
25.0%	quartile	-4.9
10.0%		-8.6
2.5%		-70.6
0.5%		-99.7
0.0%	minimum	-99.7

Summary Statistics

Mean	-3.0
Std Dev	14.9
Std Err Mean	2.0
Upper 95% Mean	1.1
Lower 95% Mean	-7.1
N	54.0

Distributions Analyte_Detection=Hydrogen-3 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	1.7
99.5%		1.7
97.5%		1.7
90.0%		1.7
75.0%	quartile	1.7
50.0%	median	1.5
25.0%	quartile	1.2
10.0%		1.2
2.5%		1.2
0.5%		1.2
0.0%	minimum	1.2

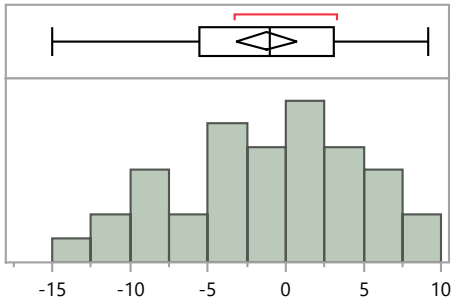
Summary Statistics

Mean	1.5
Std Dev	0.4
Std Err Mean	0.3
Upper 95% Mean	4.6
Lower 95% Mean	-1.7
N	2.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Hydrogen-3 Liquid Scintillation Counter

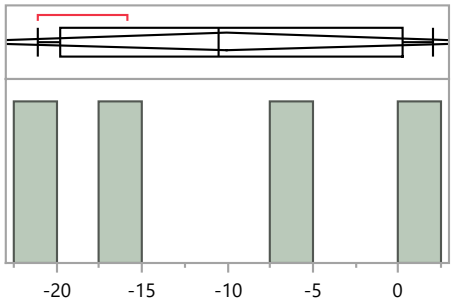
Bias



Quantiles		Summary Statistics		
100.0%	maximum	9.2	Mean	-1.3
99.5%		9.2	Std Dev	6.0
97.5%		9.2	Std Err Mean	1.0
90.0%		7.0	Upper 95% Mean	0.7
75.0%	quartile	3.1	Lower 95% Mean	-3.2
50.0%	median	-1.0	N	38.0
25.0%	quartile	-5.6		
10.0%		-9.9		
2.5%		-15.0		
0.5%		-15.0		
0.0%	minimum	-15.0		

Distributions Analyte_Detection=Iron-55 Liquid Scintillation Counter

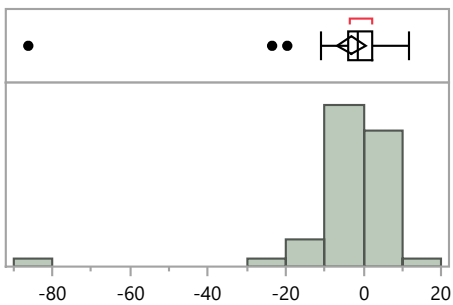
Bias



Quantiles		Summary Statistics		
100.0%	maximum	2.0	Mean	-10.0
99.5%		2.0	Std Dev	10.4
97.5%		2.0	Std Err Mean	5.2
90.0%		2.0	Upper 95% Mean	6.5
75.0%	quartile	0.2	Lower 95% Mean	-26.6
50.0%	median	-10.5	N	4.0
25.0%	quartile	-19.8		
10.0%		-21.1		
2.5%		-21.1		
0.5%		-21.1		
0.0%	minimum	-21.1		

Distributions Analyte_Detection=Manganese-54 Gamma Spectrometry

Bias

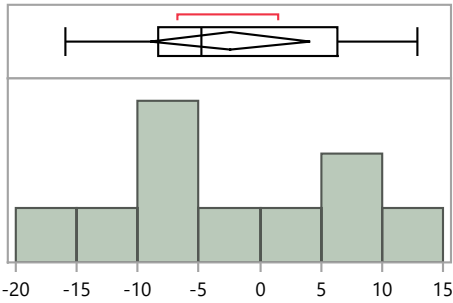


Quantiles		Summary Statistics		
100.0%	maximum	11.6	Mean	-3.0
99.5%		11.6	Std Dev	13.3
97.5%		10.5	Std Err Mean	1.8
90.0%		6.2	Upper 95% Mean	0.7
75.0%	quartile	2.3	Lower 95% Mean	-6.7
50.0%	median	-1.6	N	53.0
25.0%	quartile	-4.0		
10.0%		-10.4		
2.5%		-64.3		
0.5%		-86.2		
0.0%	minimum	-86.2		

MaW Distribution by Detection Method

Distributions Analyte_Detection=Nickel-63 Liquid Scintillation Counter

Bias



Quantiles

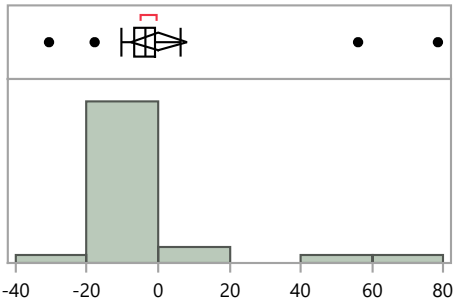
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.4
75.0%	quartile	6.3
50.0%	median	-4.9
25.0%	quartile	-8.3
10.0%		-15.6
2.5%		-15.9
0.5%		-15.9
0.0%	minimum	-15.9

Summary Statistics

Mean	-2.4
Std Dev	9.2
Std Err Mean	2.9
Upper 95% Mean	4.1
Lower 95% Mean	-9.0
N	10.0

Distributions Analyte_Detection=Plutonium-238 Alpha Spectrometry

Bias



Quantiles

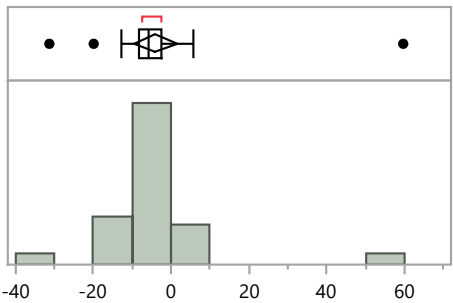
100.0%	maximum	78.5
99.5%		78.5
97.5%		78.5
90.0%		11.5
75.0%	quartile	-0.9
50.0%	median	-3.5
25.0%	quartile	-6.8
10.0%		-11.1
2.5%		-30.6
0.5%		-30.6
0.0%	minimum	-30.6

Summary Statistics

Mean	0.1
Std Dev	20.3
Std Err Mean	3.8
Upper 95% Mean	8.0
Lower 95% Mean	-7.8
N	28.0

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

Bias



Quantiles

100.0%	maximum	59.7
99.5%		59.7
97.5%		59.7
90.0%		5.9
75.0%	quartile	-2.6
50.0%	median	-5.7
25.0%	quartile	-8.4
10.0%		-13.3
2.5%		-31.3
0.5%		-31.3
0.0%	minimum	-31.3

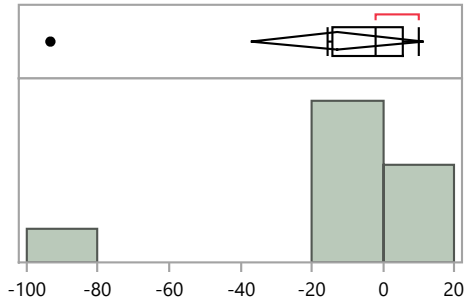
Summary Statistics

Mean	-4.1
Std Dev	14.4
Std Err Mean	2.7
Upper 95% Mean	1.5
Lower 95% Mean	-9.7
N	28.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Radium-226 Alpha Spectrometry

Bias



Quantiles

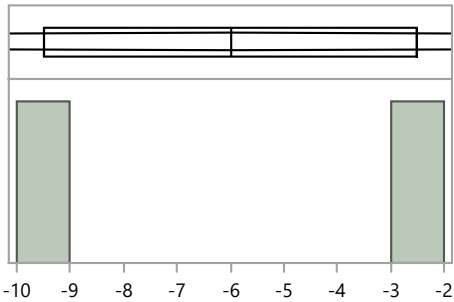
100.0%	maximum	10.0
99.5%		10.0
97.5%		10.0
90.0%		10.0
75.0%	quartile	5.4
50.0%	median	-2.0
25.0%	quartile	-14.4
10.0%		-93.3
2.5%		-93.3
0.5%		-93.3
0.0%	minimum	-93.3

Summary Statistics

Mean	-12.8
Std Dev	31.5
Std Err Mean	10.5
Upper 95% Mean	11.4
Lower 95% Mean	-37.0
N	9.0

Distributions Analyte_Detection=Radium-226 Gamma Spectrometry

Bias



Quantiles

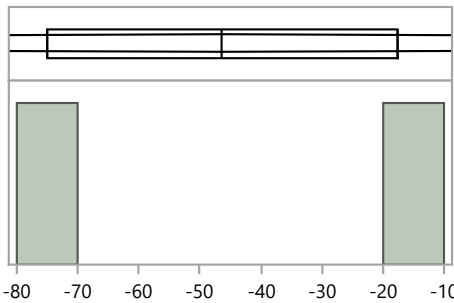
100.0%	maximum	-2.5
99.5%		-2.5
97.5%		-2.5
90.0%		-2.5
75.0%	quartile	-2.5
50.0%	median	-6.0
25.0%	quartile	-9.5
10.0%		-9.5
2.5%		-9.5
0.5%		-9.5
0.0%	minimum	-9.5

Summary Statistics

Mean	-6.0
Std Dev	4.9
Std Err Mean	3.5
Upper 95% Mean	38.5
Lower 95% Mean	-50.5
N	2.0

Distributions Analyte_Detection=Radium-226 Gas Flow Proportional Counter

Bias



Quantiles

100.0%	maximum	-17.7
99.5%		-17.7
97.5%		-17.7
90.0%		-17.7
75.0%	quartile	-17.7
50.0%	median	-46.4
25.0%	quartile	-75.0
10.0%		-75.0
2.5%		-75.0
0.5%		-75.0
0.0%	minimum	-75.0

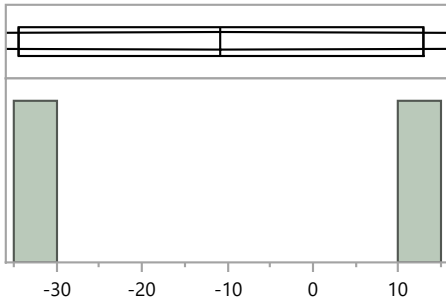
Summary Statistics

Mean	-46.4
Std Dev	40.5
Std Err Mean	28.7
Upper 95% Mean	317.7
Lower 95% Mean	-410.4
N	2.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Radium-226 Gross Alpha/Beta - 2 pi gas flow proportional counter

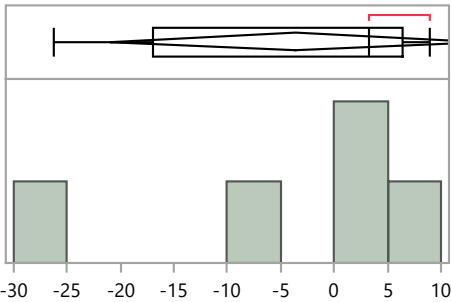
Bias



Quantiles		Summary Statistics		
100.0%	maximum	12.9	Mean	-10.8
99.5%		12.9	Std Dev	33.4
97.5%		12.9	Std Err Mean	23.6
90.0%		12.9	Upper 95% Mean	289.8
75.0%	quartile	12.9	Lower 95% Mean	-311.3
50.0%	median	-10.8	N	2.0
25.0%	quartile	-34.4		
10.0%		-34.4		
2.5%		-34.4		
0.5%		-34.4		
0.0%	minimum	-34.4		

Distributions Analyte_Detection=Radium-226 Other

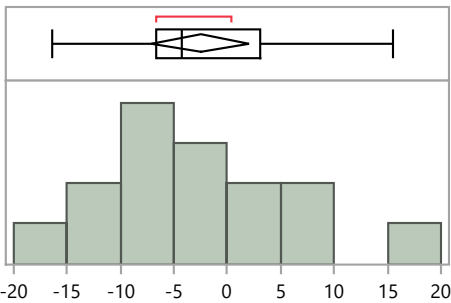
Bias



Quantiles		Summary Statistics		
100.0%	maximum	8.9	Mean	-3.6
99.5%		8.9	Std Dev	14.1
97.5%		8.9	Std Err Mean	6.3
90.0%		8.9	Upper 95% Mean	13.9
75.0%	quartile	6.4	Lower 95% Mean	-21.0
50.0%	median	3.3	N	5.0
25.0%	quartile	-17.0		
10.0%		-26.3		
2.5%		-26.3		
0.5%		-26.3		
0.0%	minimum	-26.3		

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias

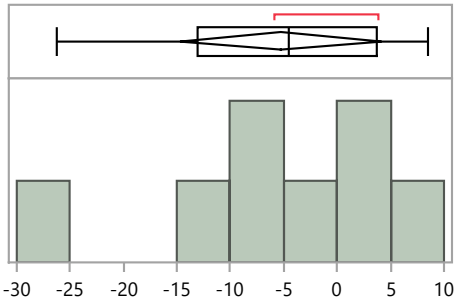


Quantiles		Summary Statistics		
100.0%	maximum	15.5	Mean	-2.5
99.5%		15.5	Std Dev	8.3
97.5%		15.5	Std Err Mean	2.1
90.0%		10.9	Upper 95% Mean	2.1
75.0%	quartile	3.1	Lower 95% Mean	-7.1
50.0%	median	-4.3	N	15.0
25.0%	quartile	-6.7		
10.0%		-13.6		
2.5%		-16.4		
0.5%		-16.4		
0.0%	minimum	-16.4		

MaW Distribution by Detection Method

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

Bias



Quantiles

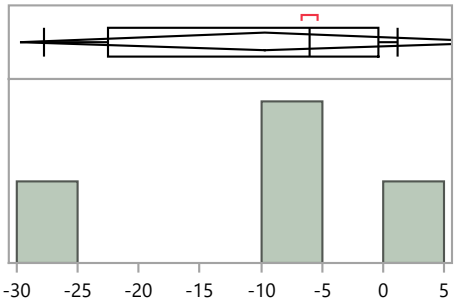
100.0%	maximum	8.5
99.5%		8.5
97.5%		8.5
90.0%		8.5
75.0%	quartile	3.7
50.0%	median	-4.5
25.0%	quartile	-13.1
10.0%		-26.3
2.5%		-26.3
0.5%		-26.3
0.0%	minimum	-26.3

Summary Statistics

Mean	-5.3
Std Dev	11.3
Std Err Mean	4.0
Upper 95% Mean	4.1
Lower 95% Mean	-14.8
N	8.0

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias



Quantiles

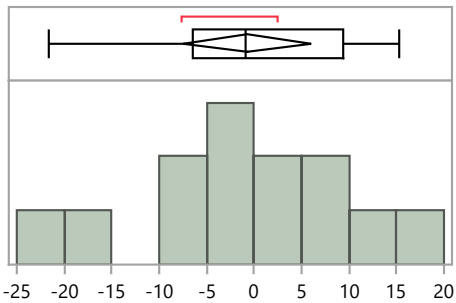
100.0%	maximum	1.2
99.5%		1.2
97.5%		1.2
90.0%		1.2
75.0%	quartile	-0.5
50.0%	median	-6.1
25.0%	quartile	-22.5
10.0%		-27.8
2.5%		-27.8
0.5%		-27.8
0.0%	minimum	-27.8

Summary Statistics

Mean	-9.7
Std Dev	12.6
Std Err Mean	6.3
Upper 95% Mean	10.3
Lower 95% Mean	-29.7
N	4.0

Distributions Analyte_Detection=Technetium-99 Liquid Scintillation Counter

Bias



Quantiles

100.0%	maximum	15.3
99.5%		15.3
97.5%		15.3
90.0%		14.1
75.0%	quartile	9.3
50.0%	median	-0.9
25.0%	quartile	-6.5
10.0%		-20.4
2.5%		-21.6
0.5%		-21.6
0.0%	minimum	-21.6

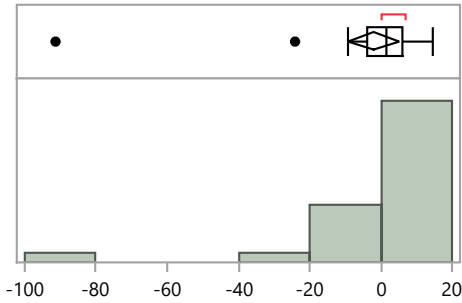
Summary Statistics

Mean	-0.8
Std Dev	11.1
Std Err Mean	3.1
Upper 95% Mean	5.9
Lower 95% Mean	-7.5
N	13.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias



Quantiles

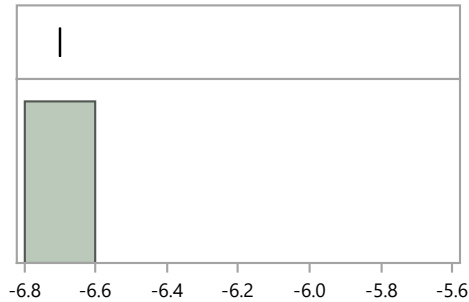
100.0%	maximum	14.7
99.5%		14.7
97.5%		14.7
90.0%		9.7
75.0%	quartile	5.9
50.0%	median	1.3
25.0%	quartile	-4.1
10.0%		-9.3
2.5%		-91.3
0.5%		-91.3
0.0%	minimum	-91.3

Summary Statistics

Mean	-1.9
Std Dev	18.7
Std Err Mean	3.5
Upper 95% Mean	5.1
Lower 95% Mean	-9.0
N	29.0

Distributions Analyte_Detection=Uranium-234 Gas Flow Proportional Counter

Bias



Quantiles

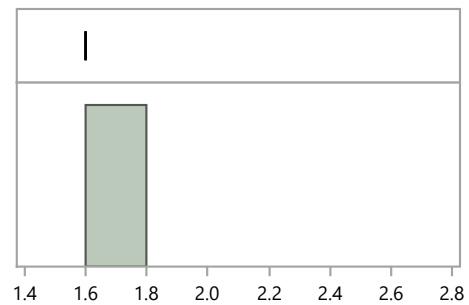
100.0%	maximum	-6.7
99.5%		-6.7
97.5%		-6.7
90.0%		-6.7
75.0%	quartile	-6.7
50.0%	median	-6.7
25.0%	quartile	-6.7
10.0%		-6.7
2.5%		-6.7
0.5%		-6.7
0.0%	minimum	-6.7

Summary Statistics

Mean	-6.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-234 Inductively Coupled Plasma Mass Spectrometry

Bias



Quantiles

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

Summary Statistics

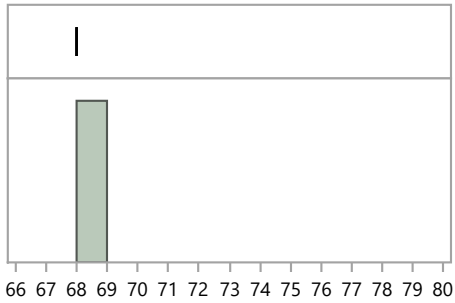
Mean	1.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW46 Distribution by Detection Method

MaW Distribution by Detection Method

Distributions Analyte_Detection=Uranium-234 Other

Bias



Quantiles

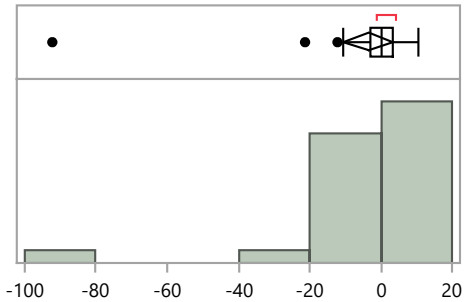
100.0%	maximum	68.0
99.5%		68.0
97.5%		68.0
90.0%		68.0
75.0%	quartile	68.0
50.0%	median	68.0
25.0%	quartile	68.0
10.0%		68.0
2.5%		68.0
0.5%		68.0
0.0%	minimum	68.0

Summary Statistics

Mean	68.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias



Quantiles

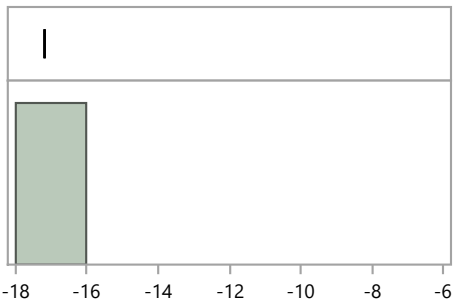
100.0%	maximum	10.5
99.5%		10.5
97.5%		10.5
90.0%		8.1
75.0%	quartile	3.2
50.0%	median	0.0
25.0%	quartile	-3.0
10.0%		-12.2
2.5%		-92.2
0.5%		-92.2
0.0%	minimum	-92.2

Summary Statistics

Mean	-3.5
Std Dev	18.3
Std Err Mean	3.4
Upper 95% Mean	3.4
Lower 95% Mean	-10.5
N	29.0

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

Bias



Quantiles

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

Summary Statistics

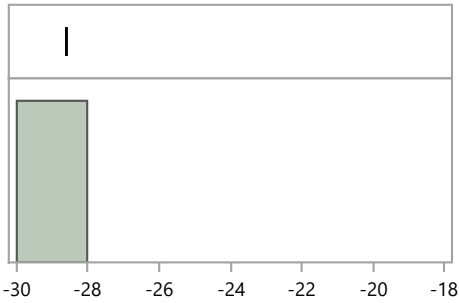
Mean	-17.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW46 Distribution by Detection Method

MaW Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Gas Flow Proportional Counter

Bias



Quantiles

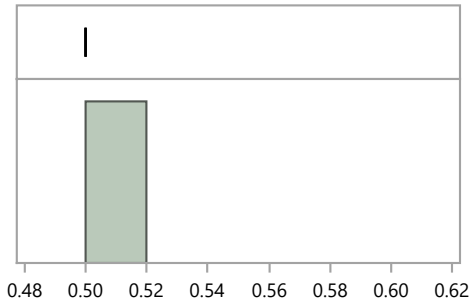
100.0%	maximum	-28.6
99.5%		-28.6
97.5%		-28.6
90.0%		-28.6
75.0%	quartile	-28.6
50.0%	median	-28.6
25.0%	quartile	-28.6
10.0%		-28.6
2.5%		-28.6
0.5%		-28.6
0.0%	minimum	-28.6

Summary Statistics

Mean	-28.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-238 Inductively Coupled Plasma Mass Spectrometry

Bias



Quantiles

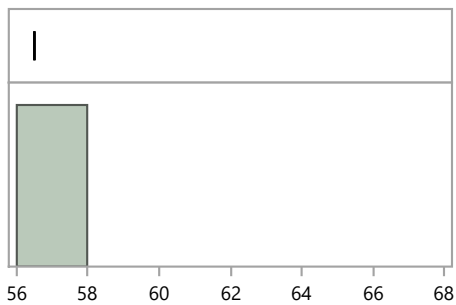
100.0%	maximum	0.5
99.5%		0.5
97.5%		0.5
90.0%		0.5
75.0%	quartile	0.5
50.0%	median	0.5
25.0%	quartile	0.5
10.0%		0.5
2.5%		0.5
0.5%		0.5
0.0%	minimum	0.5

Summary Statistics

Mean	0.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-238 Other

Bias



Quantiles

100.0%	maximum	56.5
99.5%		56.5
97.5%		56.5
90.0%		56.5
75.0%	quartile	56.5
50.0%	median	56.5
25.0%	quartile	56.5
10.0%		56.5
2.5%		56.5
0.5%		56.5
0.0%	minimum	56.5

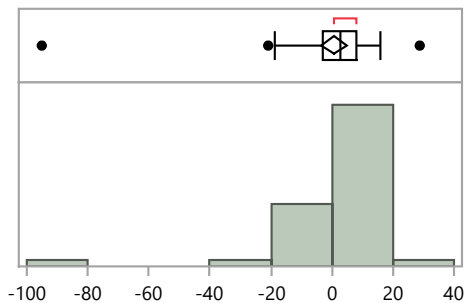
Summary Statistics

Mean	56.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Detection Method

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	28.7
99.5%		28.7
97.5%		23.9
90.0%		12.6
75.0%	quartile	7.7
50.0%	median	2.7
25.0%	quartile	-3.0
10.0%		-9.7
2.5%		-67.2
0.5%		-95.0
0.0%	minimum	-95.0

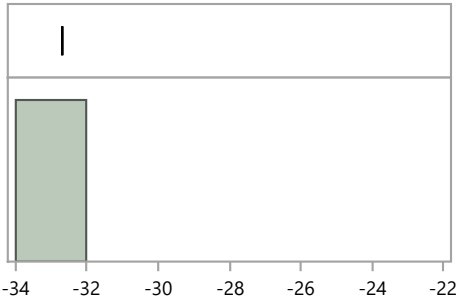
Summary Statistics

Mean	0.6
Std Dev	15.9
Std Err Mean	2.2
Upper 95% Mean	5.0
Lower 95% Mean	-3.7
N	54.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Acid dissolution with hydrofluoric acid

Bias



Quantiles

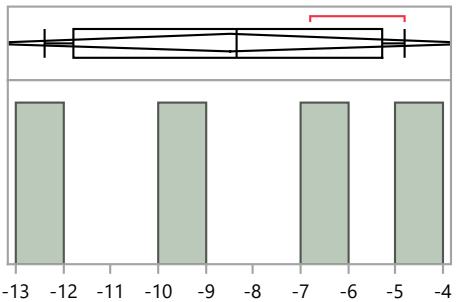
100.0%	maximum	-32.7
99.5%		-32.7
97.5%		-32.7
90.0%		-32.7
75.0%	quartile	-32.7
50.0%	median	-32.7
25.0%	quartile	-32.7
10.0%		-32.7
2.5%		-32.7
0.5%		-32.7
0.0%	minimum	-32.7

Summary Statistics

Mean	-32.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Americium-241 Coprecipitation, acidified

Bias



Quantiles

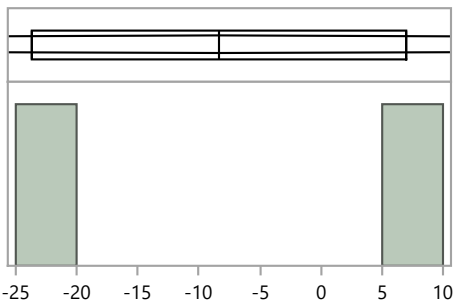
100.0%	maximum	-4.8
99.5%		-4.8
97.5%		-4.8
90.0%		-4.8
75.0%	quartile	-5.3
50.0%	median	-8.4
25.0%	quartile	-11.8
10.0%		-12.4
2.5%		-12.4
0.5%		-12.4
0.0%	minimum	-12.4

Summary Statistics

Mean	-8.5
Std Dev	3.4
Std Err Mean	1.7
Upper 95% Mean	-3.1
Lower 95% Mean	-13.8
N	4.0

Distributions Analyte_Method=Americium-241 Coprecipitation, straight

Bias



Quantiles

100.0%	maximum	7.0
99.5%		7.0
97.5%		7.0
90.0%		7.0
75.0%	quartile	7.0
50.0%	median	-8.4
25.0%	quartile	-23.7
10.0%		-23.7
2.5%		-23.7
0.5%		-23.7
0.0%	minimum	-23.7

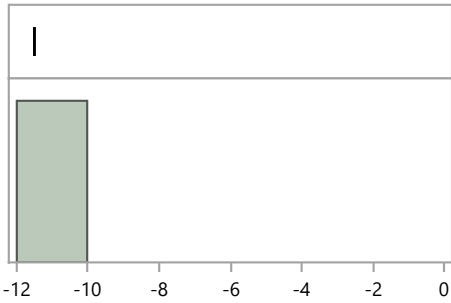
Summary Statistics

Mean	-8.4
Std Dev	21.7
Std Err Mean	15.4
Upper 95% Mean	186.7
Lower 95% Mean	-203.4
N	2.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Evaporation, acidified

Bias



Quantiles

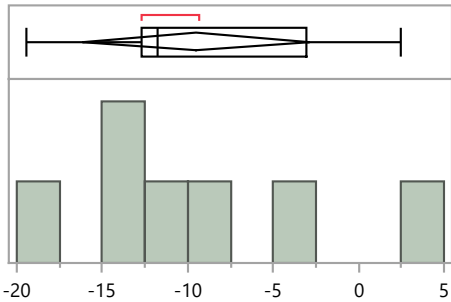
100.0%	maximum	-11.5
99.5%		-11.5
97.5%		-11.5
90.0%		-11.5
75.0%	quartile	-11.5
50.0%	median	-11.5
25.0%	quartile	-11.5
10.0%		-11.5
2.5%		-11.5
0.5%		-11.5
0.0%	minimum	-11.5

Summary Statistics

Mean	-11.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Americium-241 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

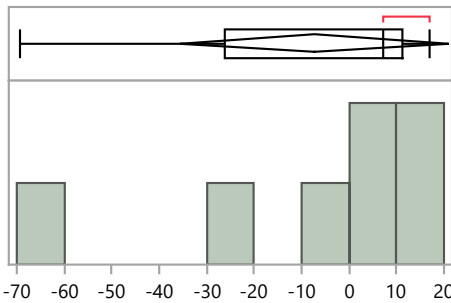
100.0%	maximum	2.5
99.5%		2.5
97.5%		2.5
90.0%		2.5
75.0%	quartile	-3.1
50.0%	median	-11.8
25.0%	quartile	-12.7
10.0%		-19.4
2.5%		-19.4
0.5%		-19.4
0.0%	minimum	-19.4

Summary Statistics

Mean	-9.5
Std Dev	7.2
Std Err Mean	2.7
Upper 95% Mean	-2.9
Lower 95% Mean	-16.1
N	7.0

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

Bias



Quantiles

100.0%	maximum	16.9
99.5%		16.9
97.5%		16.9
90.0%		16.9
75.0%	quartile	11.3
50.0%	median	7.3
25.0%	quartile	-26.3
10.0%		-69.1
2.5%		-69.1
0.5%		-69.1
0.0%	minimum	-69.1

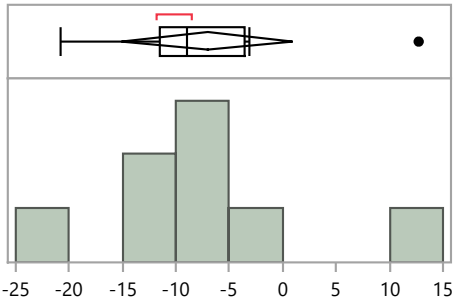
Summary Statistics

Mean	-7.4
Std Dev	30.6
Std Err Mean	11.6
Upper 95% Mean	20.9
Lower 95% Mean	-35.8
N	7.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Americium-241 Other

Bias



Quantiles

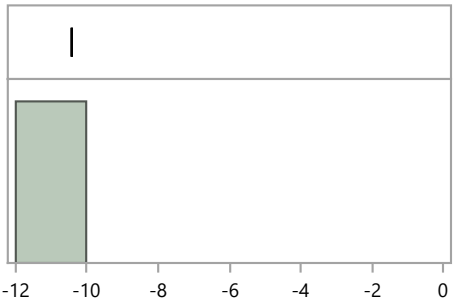
100.0%	maximum	12.7
99.5%		12.7
97.5%		12.7
90.0%		12.7
75.0%	quartile	-3.6
50.0%	median	-8.9
25.0%	quartile	-11.5
10.0%		-20.8
2.5%		-20.8
0.5%		-20.8
0.0%	minimum	-20.8

Summary Statistics

Mean	-7.1
Std Dev	9.6
Std Err Mean	3.4
Upper 95% Mean	0.9
Lower 95% Mean	-15.1
N	8.0

Distributions Analyte_Method=Americium-241 Total dissolution by fusion

Bias



Quantiles

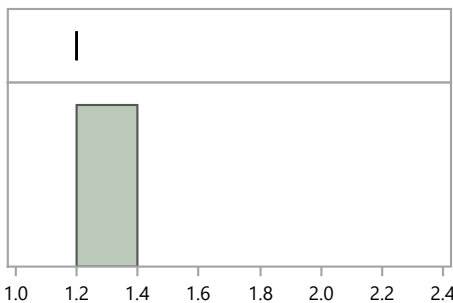
100.0%	maximum	-10.4
99.5%		-10.4
97.5%		-10.4
90.0%		-10.4
75.0%	quartile	-10.4
50.0%	median	-10.4
25.0%	quartile	-10.4
10.0%		-10.4
2.5%		-10.4
0.5%		-10.4
0.0%	minimum	-10.4

Summary Statistics

Mean	-10.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cesium-137 EPA 900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Quantiles

100.0%	maximum	1.2
99.5%		1.2
97.5%		1.2
90.0%		1.2
75.0%	quartile	1.2
50.0%	median	1.2
25.0%	quartile	1.2
10.0%		1.2
2.5%		1.2
0.5%		1.2
0.0%	minimum	1.2

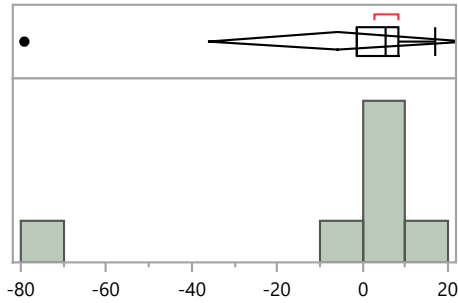
Summary Statistics

Mean	1.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

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

Bias



Quantiles

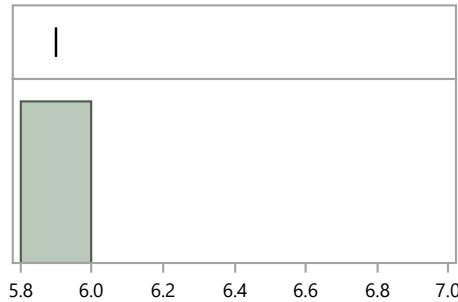
100.0%	maximum	17.0
99.5%		17.0
97.5%		17.0
90.0%		17.0
75.0%	quartile	8.2
50.0%	median	5.2
25.0%	quartile	-1.2
10.0%		-79.1
2.5%		-79.1
0.5%		-79.1
0.0%	minimum	-79.1

Summary Statistics

Mean	-6.0
Std Dev	32.7
Std Err Mean	12.4
Upper 95% Mean	24.3
Lower 95% Mean	-36.2
N	7.0

Distributions Analyte_Method=Cesium-137 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

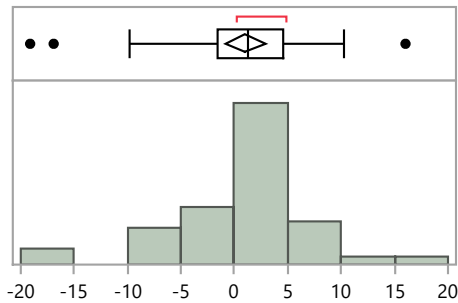
100.0%	maximum	5.9
99.5%		5.9
97.5%		5.9
90.0%		5.9
75.0%	quartile	5.9
50.0%	median	5.9
25.0%	quartile	5.9
10.0%		5.9
2.5%		5.9
0.5%		5.9
0.0%	minimum	5.9

Summary Statistics

Mean	5.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	16.0
99.5%		16.0
97.5%		15.0
90.0%		7.0
75.0%	quartile	4.6
50.0%	median	1.3
25.0%	quartile	-1.5
10.0%		-6.3
2.5%		-18.7
0.5%		-19.1
0.0%	minimum	-19.1

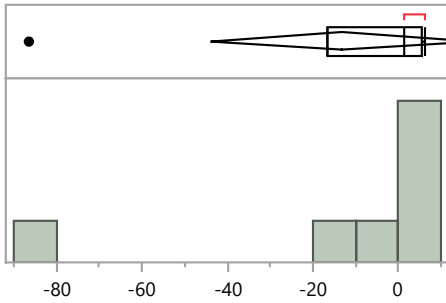
Summary Statistics

Mean	1.0
Std Dev	6.3
Std Err Mean	0.9
Upper 95% Mean	2.8
Lower 95% Mean	-0.9
N	46.0

MaW Distribution by Prep Method

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

Bias



Quantiles

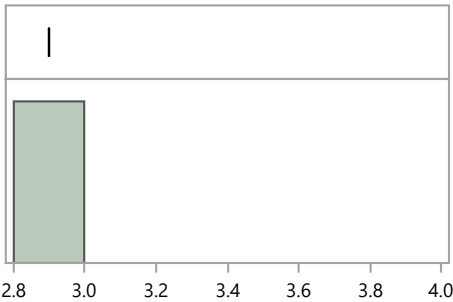
100.0%	maximum	6.1
99.5%		6.1
97.5%		6.1
90.0%		6.1
75.0%	quartile	5.3
50.0%	median	1.2
25.0%	quartile	-16.8
10.0%		-86.4
2.5%		-86.4
0.5%		-86.4
0.0%	minimum	-86.4

Summary Statistics

Mean	-13.1
Std Dev	33.2
Std Err Mean	12.6
Upper 95% Mean	17.6
Lower 95% Mean	-43.8
N	7.0

Distributions Analyte_Method=Cobalt-57 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

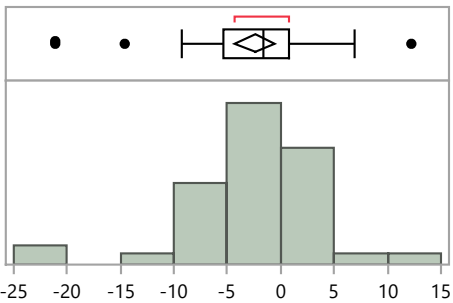
100.0%	maximum	2.9
99.5%		2.9
97.5%		2.9
90.0%		2.9
75.0%	quartile	2.9
50.0%	median	2.9
25.0%	quartile	2.9
10.0%		2.9
2.5%		2.9
0.5%		2.9
0.0%	minimum	2.9

Summary Statistics

Mean	2.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	12.2
99.5%		12.2
97.5%		11.4
90.0%		4.4
75.0%	quartile	0.8
50.0%	median	-1.7
25.0%	quartile	-5.3
10.0%		-8.8
2.5%		-21.1
0.5%		-21.1
0.0%	minimum	-21.1

Summary Statistics

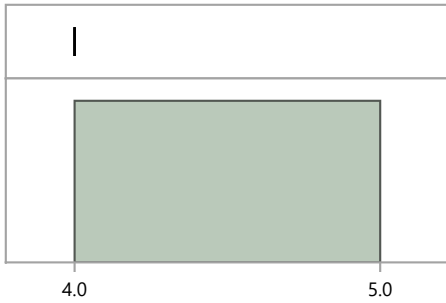
Mean	-2.4
Std Dev	6.3
Std Err Mean	0.9
Upper 95% Mean	-0.5
Lower 95% Mean	-4.3
N	45.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Cobalt-60 EPA 900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Quantiles

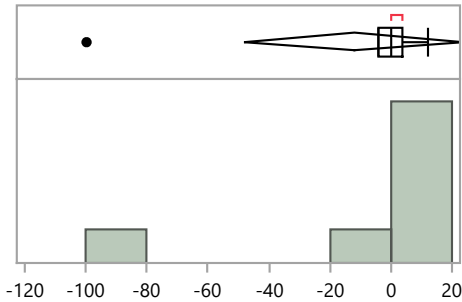
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	4.0
50.0%	median	4.0
25.0%	quartile	4.0
10.0%		4.0
2.5%		4.0
0.5%		4.0
0.0%	minimum	4.0

Summary Statistics

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

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

Bias



Quantiles

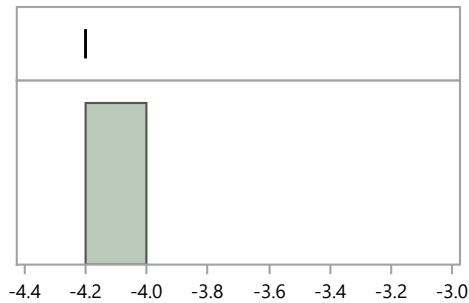
100.0%	maximum	11.8
99.5%		11.8
97.5%		11.8
90.0%		11.8
75.0%	quartile	3.7
50.0%	median	0.2
25.0%	quartile	-4.2
10.0%		-99.7
2.5%		-99.7
0.5%		-99.7
0.0%	minimum	-99.7

Summary Statistics

Mean	-12.3
Std Dev	38.9
Std Err Mean	14.7
Upper 95% Mean	23.7
Lower 95% Mean	-48.2
N	7.0

Distributions Analyte_Method=Cobalt-60 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

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

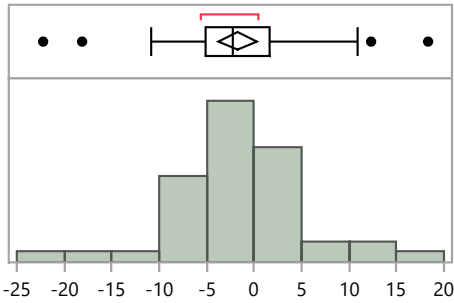
Summary Statistics

Mean	-4.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

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

Bias



Quantiles

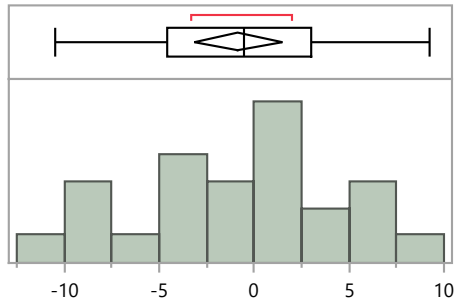
100.0%	maximum	18.3
99.5%		18.3
97.5%		17.2
90.0%		5.3
75.0%	quartile	1.6
50.0%	median	-2.3
25.0%	quartile	-5.1
10.0%		-8.2
2.5%		-21.5
0.5%		-22.2
0.0%	minimum	-22.2

Summary Statistics

Mean	-1.8
Std Dev	6.8
Std Err Mean	1.0
Upper 95% Mean	0.2
Lower 95% Mean	-3.8
N	46.0

Distributions Analyte_Method=Hydrogen-3 Distillation

Bias



Quantiles

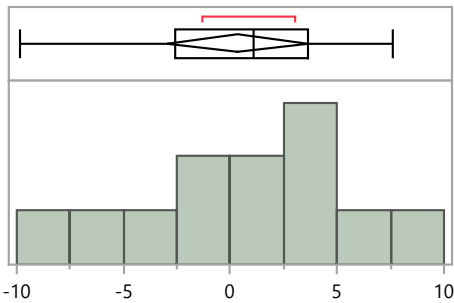
100.0%	maximum	9.2
99.5%		9.2
97.5%		9.2
90.0%		7.0
75.0%	quartile	3.0
50.0%	median	-0.5
25.0%	quartile	-4.6
10.0%		-9.1
2.5%		-10.5
0.5%		-10.5
0.0%	minimum	-10.5

Summary Statistics

Mean	-0.8
Std Dev	5.5
Std Err Mean	1.1
Upper 95% Mean	1.5
Lower 95% Mean	-3.1
N	24.0

Distributions Analyte_Method=Hydrogen-3 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

100.0%	maximum	7.6
99.5%		7.6
97.5%		7.6
90.0%		7.4
75.0%	quartile	3.6
50.0%	median	1.1
25.0%	quartile	-2.6
10.0%		-9.1
2.5%		-9.8
0.5%		-9.8
0.0%	minimum	-9.8

Summary Statistics

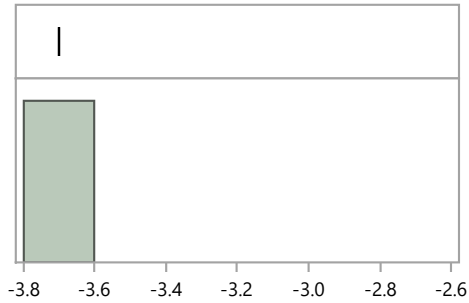
Mean	0.3
Std Dev	5.2
Std Err Mean	1.5
Upper 95% Mean	3.6
Lower 95% Mean	-3.0
N	12.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Hydrogen-3 Evaporation, acidified

Bias



Quantiles

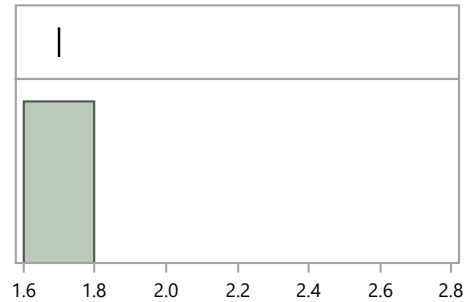
100.0%	maximum	-3.7
99.5%		-3.7
97.5%		-3.7
90.0%		-3.7
75.0%	quartile	-3.7
50.0%	median	-3.7
25.0%	quartile	-3.7
10.0%		-3.7
2.5%		-3.7
0.5%		-3.7
0.0%	minimum	-3.7

Summary Statistics

Mean	-3.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Hydrogen-3 No preparation - analyzed as received

Bias



Quantiles

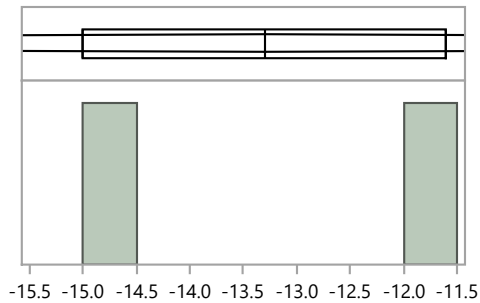
100.0%	maximum	1.7
99.5%		1.7
97.5%		1.7
90.0%		1.7
75.0%	quartile	1.7
50.0%	median	1.7
25.0%	quartile	1.7
10.0%		1.7
2.5%		1.7
0.5%		1.7
0.0%	minimum	1.7

Summary Statistics

Mean	1.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Hydrogen-3 Other

Bias



Quantiles

100.0%	maximum	-11.6
99.5%		-11.6
97.5%		-11.6
90.0%		-11.6
75.0%	quartile	-11.6
50.0%	median	-13.3
25.0%	quartile	-15.0
10.0%		-15.0
2.5%		-15.0
0.5%		-15.0
0.0%	minimum	-15.0

Summary Statistics

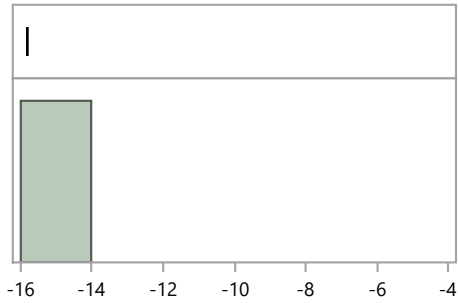
Mean	-13.3
Std Dev	2.4
Std Err Mean	1.7
Upper 95% Mean	8.3
Lower 95% Mean	-34.9
N	2.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Iron-55 Coprecipitation, straight

Bias



Quantiles

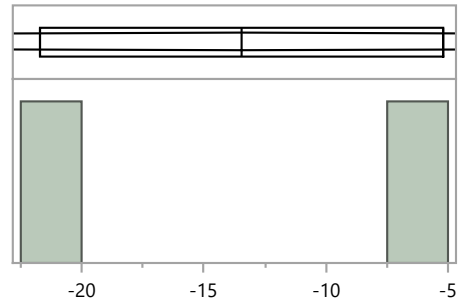
100.0%	maximum	-15.8
99.5%		-15.8
97.5%		-15.8
90.0%		-15.8
75.0%	quartile	-15.8
50.0%	median	-15.8
25.0%	quartile	-15.8
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

Summary Statistics

Mean	-15.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Iron-55 Evaporation, acidified

Bias



Quantiles

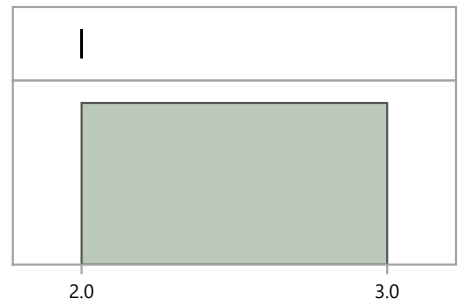
100.0%	maximum	-5.2
99.5%		-5.2
97.5%		-5.2
90.0%		-5.2
75.0%	quartile	-5.2
50.0%	median	-13.5
25.0%	quartile	-21.7
10.0%		-21.7
2.5%		-21.7
0.5%		-21.7
0.0%	minimum	-21.7

Summary Statistics

Mean	-13.5
Std Dev	11.7
Std Err Mean	8.3
Upper 95% Mean	91.4
Lower 95% Mean	-118.3
N	2.0

Distributions Analyte_Method=Iron-55 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

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

Summary Statistics

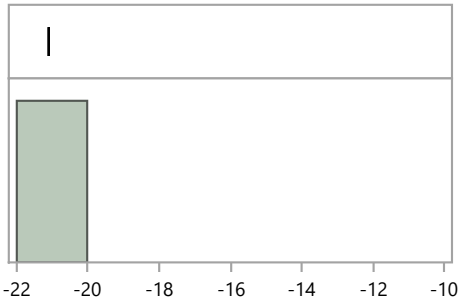
Mean	2.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Iron-55 Other

Bias



Quantiles

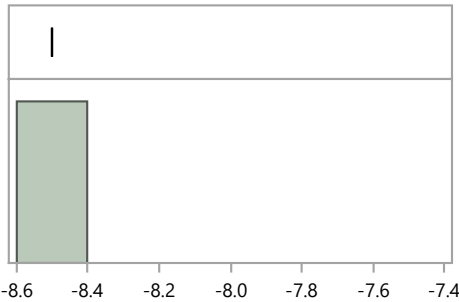
100.0%	maximum	-21.1
99.5%		-21.1
97.5%		-21.1
90.0%		-21.1
75.0%	quartile	-21.1
50.0%	median	-21.1
25.0%	quartile	-21.1
10.0%		-21.1
2.5%		-21.1
0.5%		-21.1
0.0%	minimum	-21.1

Summary Statistics

Mean	-21.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Manganese-54 EPA 900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Quantiles

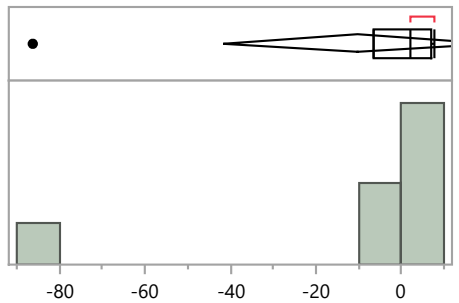
100.0%	maximum	-8.5
99.5%		-8.5
97.5%		-8.5
90.0%		-8.5
75.0%	quartile	-8.5
50.0%	median	-8.5
25.0%	quartile	-8.5
10.0%		-8.5
2.5%		-8.5
0.5%		-8.5
0.0%	minimum	-8.5

Summary Statistics

Mean	-8.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	7.7
99.5%		7.7
97.5%		7.7
90.0%		7.7
75.0%	quartile	6.9
50.0%	median	2.1
25.0%	quartile	-6.4
10.0%		-86.2
2.5%		-86.2
0.5%		-86.2
0.0%	minimum	-86.2

Summary Statistics

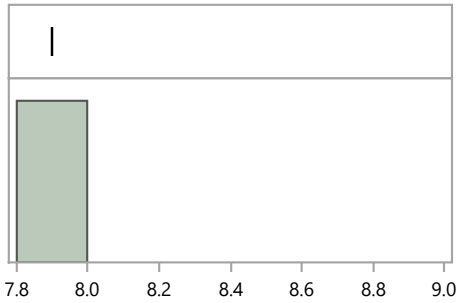
Mean	-10.3
Std Dev	33.8
Std Err Mean	12.8
Upper 95% Mean	21.0
Lower 95% Mean	-41.6
N	7.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Manganese-54 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

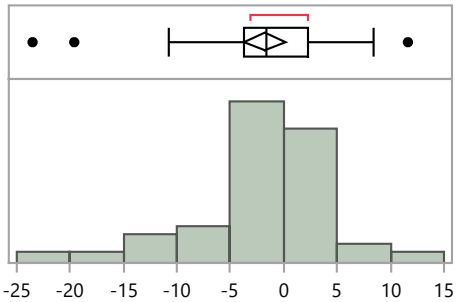
100.0%	maximum	7.9
99.5%		7.9
97.5%		7.9
90.0%		7.9
75.0%	quartile	7.9
50.0%	median	7.9
25.0%	quartile	7.9
10.0%		7.9
2.5%		7.9
0.5%		7.9
0.0%	minimum	7.9

Summary Statistics

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

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

Bias



Quantiles

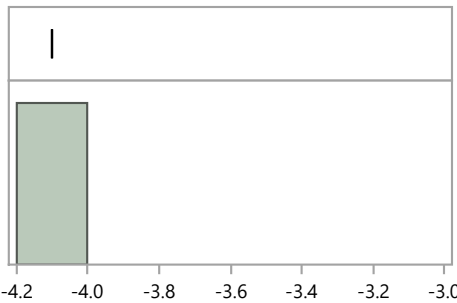
100.0%	maximum	11.6
99.5%		11.6
97.5%		11.1
90.0%		4.8
75.0%	quartile	2.3
50.0%	median	-1.6
25.0%	quartile	-3.7
10.0%		-10.3
2.5%		-22.9
0.5%		-23.5
0.0%	minimum	-23.5

Summary Statistics

Mean	-1.7
Std Dev	6.5
Std Err Mean	1.0
Upper 95% Mean	0.2
Lower 95% Mean	-3.7
N	45.0

Distributions Analyte_Method=Nickel-63 Coprecipitation, acidified

Bias



Quantiles

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

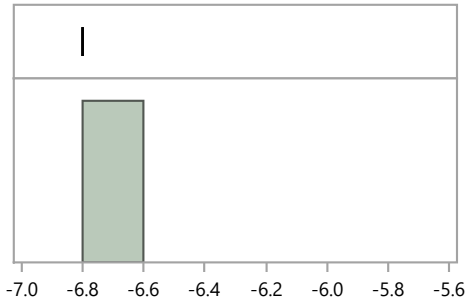
Summary Statistics

Mean	-4.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Nickel-63 Coprecipitation, straight

Bias



Quantiles

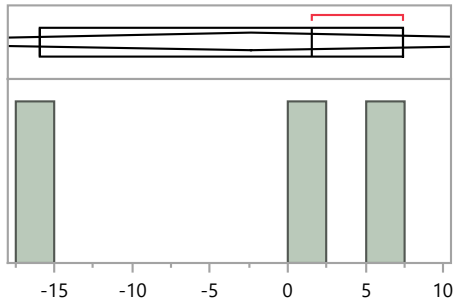
100.0%	maximum	-6.8
99.5%		-6.8
97.5%		-6.8
90.0%		-6.8
75.0%	quartile	-6.8
50.0%	median	-6.8
25.0%	quartile	-6.8
10.0%		-6.8
2.5%		-6.8
0.5%		-6.8
0.0%	minimum	-6.8

Summary Statistics

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

Distributions Analyte_Method=Nickel-63 Evaporation, acidified

Bias



Quantiles

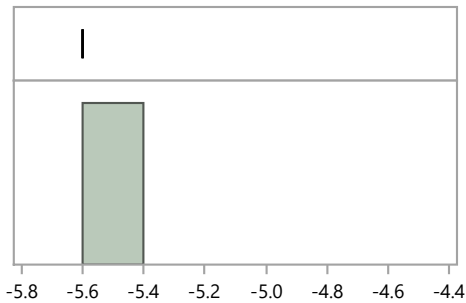
100.0%	maximum	7.4
99.5%		7.4
97.5%		7.4
90.0%		7.4
75.0%	quartile	7.4
50.0%	median	1.5
25.0%	quartile	-15.9
10.0%		-15.9
2.5%		-15.9
0.5%		-15.9
0.0%	minimum	-15.9

Summary Statistics

Mean	-2.3
Std Dev	12.1
Std Err Mean	7.0
Upper 95% Mean	27.8
Lower 95% Mean	-32.4
N	3.0

Distributions Analyte_Method=Nickel-63 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

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

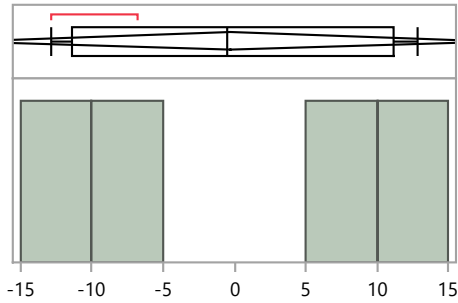
Summary Statistics

Mean	-5.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Nickel-63 Other

Bias



Quantiles

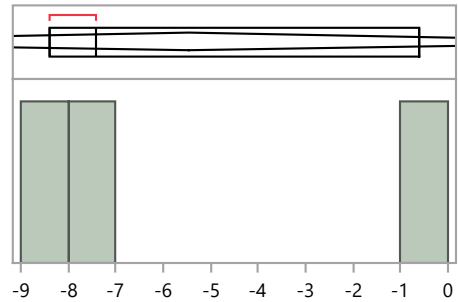
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.9
75.0%	quartile	11.2
50.0%	median	-0.4
25.0%	quartile	-11.4
10.0%		-12.9
2.5%		-12.9
0.5%		-12.9
0.0%	minimum	-12.9

Summary Statistics

Mean	-0.2
Std Dev	11.7
Std Err Mean	5.9
Upper 95% Mean	18.5
Lower 95% Mean	-18.9
N	4.0

Distributions Analyte_Method=Plutonium-238 Coprecipitation, acidified

Bias



Quantiles

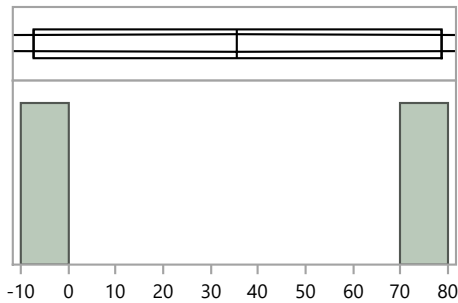
100.0%	maximum	-0.6
99.5%		-0.6
97.5%		-0.6
90.0%		-0.6
75.0%	quartile	-0.6
50.0%	median	-7.4
25.0%	quartile	-8.4
10.0%		-8.4
2.5%		-8.4
0.5%		-8.4
0.0%	minimum	-8.4

Summary Statistics

Mean	-5.5
Std Dev	4.2
Std Err Mean	2.5
Upper 95% Mean	5.1
Lower 95% Mean	-16.0
N	3.0

Distributions Analyte_Method=Plutonium-238 Coprecipitation, straight

Bias



Quantiles

100.0%	maximum	78.5
99.5%		78.5
97.5%		78.5
90.0%		78.5
75.0%	quartile	78.5
50.0%	median	35.6
25.0%	quartile	-7.3
10.0%		-7.3
2.5%		-7.3
0.5%		-7.3
0.0%	minimum	-7.3

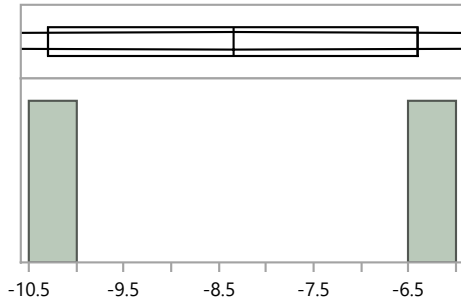
Summary Statistics

Mean	35.6
Std Dev	60.7
Std Err Mean	42.9
Upper 95% Mean	580.7
Lower 95% Mean	-509.5
N	2.0

MaW Distribution by Prep Method

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

Bias



Quantiles

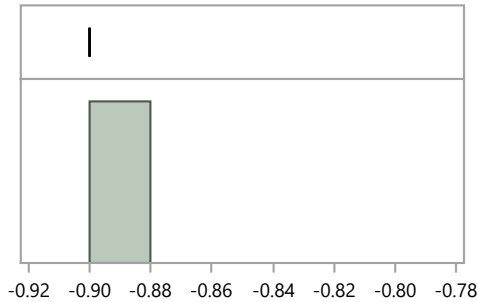
100.0%	maximum	-6.4
99.5%		-6.4
97.5%		-6.4
90.0%		-6.4
75.0%	quartile	-6.4
50.0%	median	-8.4
25.0%	quartile	-10.3
10.0%		-10.3
2.5%		-10.3
0.5%		-10.3
0.0%	minimum	-10.3

Summary Statistics

Mean	-8.4
Std Dev	2.8
Std Err Mean	2.0
Upper 95% Mean	16.4
Lower 95% Mean	-33.1
N	2.0

Distributions Analyte_Method=Plutonium-238 Evaporation, acidified

Bias



Quantiles

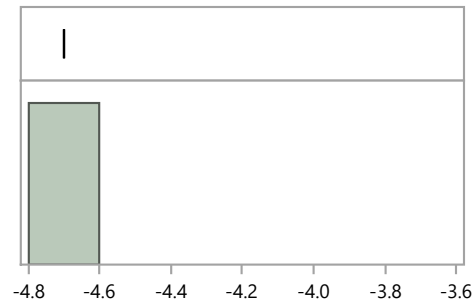
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-0.9
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

Summary Statistics

Mean	-0.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-238 Evaporation, straight

Bias



Quantiles

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

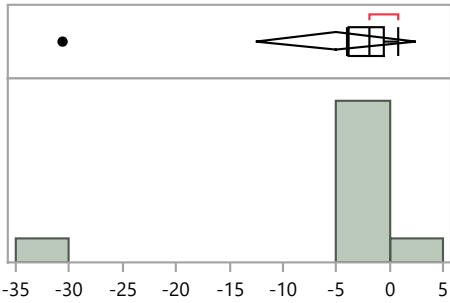
Summary Statistics

Mean	-4.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Plutonium-238 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

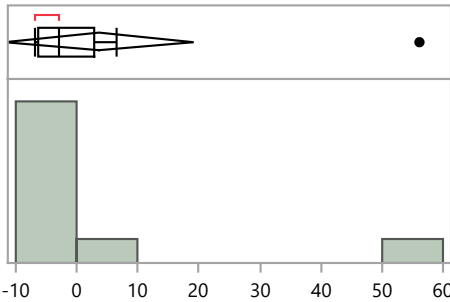
100.0%	maximum	0.8
99.5%		0.8
97.5%		0.8
90.0%		0.8
75.0%	quartile	-0.6
50.0%	median	-1.9
25.0%	quartile	-3.9
10.0%		-30.6
2.5%		-30.6
0.5%		-30.6
0.0%	minimum	-30.6

Summary Statistics

Mean	-5.0
Std Dev	9.7
Std Err Mean	3.2
Upper 95% Mean	2.5
Lower 95% Mean	-12.5
N	9.0

Distributions Analyte_Method=Plutonium-238 Other

Bias



Quantiles

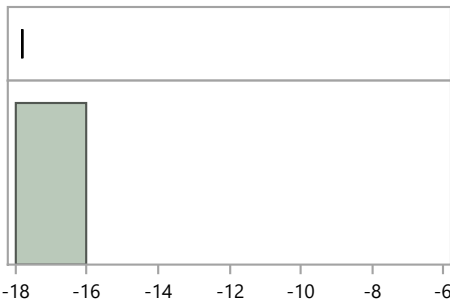
100.0%	maximum	56.1
99.5%		56.1
97.5%		56.1
90.0%		56.1
75.0%	quartile	2.8
50.0%	median	-2.8
25.0%	quartile	-6.4
10.0%		-6.9
2.5%		-6.9
0.5%		-6.9
0.0%	minimum	-6.9

Summary Statistics

Mean	3.6
Std Dev	20.1
Std Err Mean	6.7
Upper 95% Mean	19.1
Lower 95% Mean	-11.9
N	9.0

Distributions Analyte_Method=Plutonium-238 Total dissolution by fusion

Bias



Quantiles

100.0%	maximum	-17.8
99.5%		-17.8
97.5%		-17.8
90.0%		-17.8
75.0%	quartile	-17.8
50.0%	median	-17.8
25.0%	quartile	-17.8
10.0%		-17.8
2.5%		-17.8
0.5%		-17.8
0.0%	minimum	-17.8

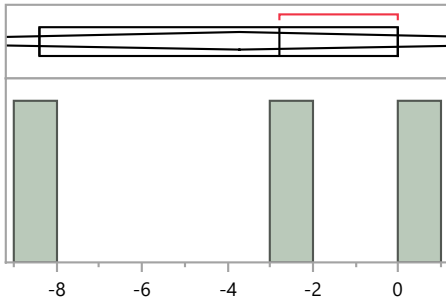
Summary Statistics

Mean	-17.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, acidified

Bias



Quantiles

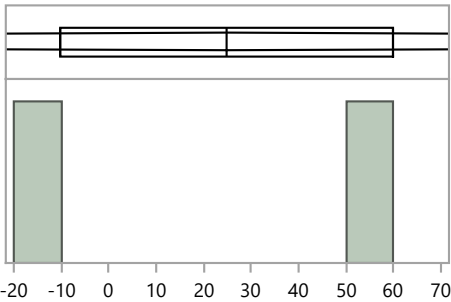
100.0%	maximum	0.0
99.5%		0.0
97.5%		0.0
90.0%		0.0
75.0%	quartile	0.0
50.0%	median	-2.8
25.0%	quartile	-8.4
10.0%		-8.4
2.5%		-8.4
0.5%		-8.4
0.0%	minimum	-8.4

Summary Statistics

Mean	-3.7
Std Dev	4.3
Std Err Mean	2.5
Upper 95% Mean	6.9
Lower 95% Mean	-14.4
N	3.0

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, straight

Bias



Quantiles

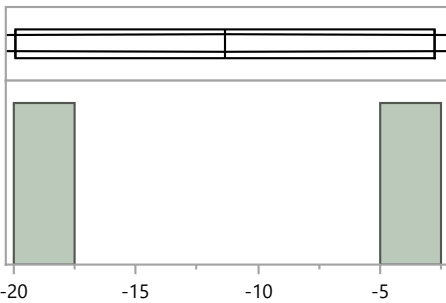
100.0%	maximum	59.7
99.5%		59.7
97.5%		59.7
90.0%		59.7
75.0%	quartile	59.7
50.0%	median	24.8
25.0%	quartile	-10.1
10.0%		-10.1
2.5%		-10.1
0.5%		-10.1
0.0%	minimum	-10.1

Summary Statistics

Mean	24.8
Std Dev	49.4
Std Err Mean	34.9
Upper 95% Mean	468.2
Lower 95% Mean	-418.6
N	2.0

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

Bias



Quantiles

100.0%	maximum	-2.8
99.5%		-2.8
97.5%		-2.8
90.0%		-2.8
75.0%	quartile	-2.8
50.0%	median	-11.4
25.0%	quartile	-19.9
10.0%		-19.9
2.5%		-19.9
0.5%		-19.9
0.0%	minimum	-19.9

Summary Statistics

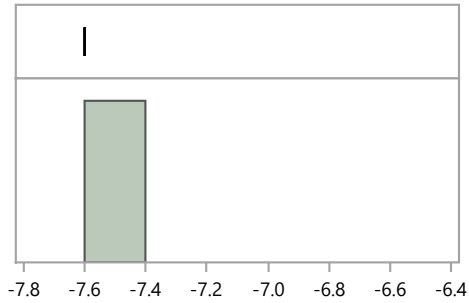
Mean	-11.4
Std Dev	12.1
Std Err Mean	8.6
Upper 95% Mean	97.3
Lower 95% Mean	-120.0
N	2.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Plutonium-239/240 Evaporation, acidified

Bias



Quantiles

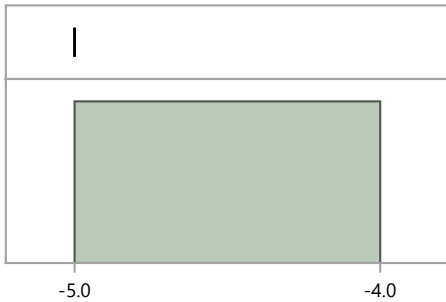
100.0%	maximum	-7.6
99.5%		-7.6
97.5%		-7.6
90.0%		-7.6
75.0%	quartile	-7.6
50.0%	median	-7.6
25.0%	quartile	-7.6
10.0%		-7.6
2.5%		-7.6
0.5%		-7.6
0.0%	minimum	-7.6

Summary Statistics

Mean	-7.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-239/240 Evaporation, straight

Bias



Quantiles

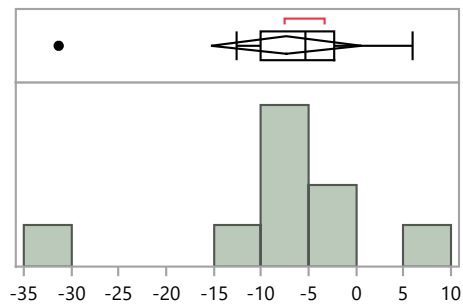
100.0%	maximum	-5.0
99.5%		-5.0
97.5%		-5.0
90.0%		-5.0
75.0%	quartile	-5.0
50.0%	median	-5.0
25.0%	quartile	-5.0
10.0%		-5.0
2.5%		-5.0
0.5%		-5.0
0.0%	minimum	-5.0

Summary Statistics

Mean	-5.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-239/240 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

100.0%	maximum	5.9
99.5%		5.9
97.5%		5.9
90.0%		5.9
75.0%	quartile	-2.3
50.0%	median	-5.3
25.0%	quartile	-10.1
10.0%		-31.3
2.5%		-31.3
0.5%		-31.3
0.0%	minimum	-31.3

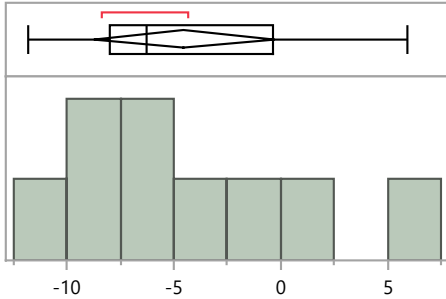
Summary Statistics

Mean	-7.4
Std Dev	10.3
Std Err Mean	3.4
Upper 95% Mean	0.5
Lower 95% Mean	-15.3
N	9.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Plutonium-239/240 Other

Bias



Quantiles

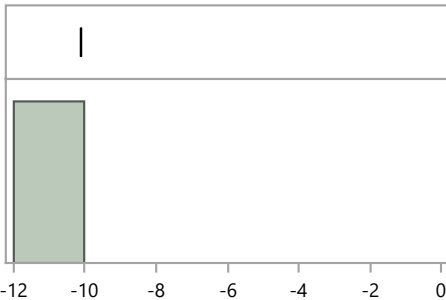
100.0%	maximum	5.9
99.5%		5.9
97.5%		5.9
90.0%		5.9
75.0%	quartile	-0.4
50.0%	median	-6.3
25.0%	quartile	-8.0
10.0%		-11.8
2.5%		-11.8
0.5%		-11.8
0.0%	minimum	-11.8

Summary Statistics

Mean	-4.5
Std Dev	5.5
Std Err Mean	1.8
Upper 95% Mean	-0.3
Lower 95% Mean	-8.7
N	9.0

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

Bias



Quantiles

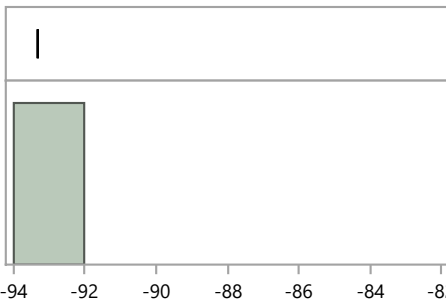
100.0%	maximum	-10.1
99.5%		-10.1
97.5%		-10.1
90.0%		-10.1
75.0%	quartile	-10.1
50.0%	median	-10.1
25.0%	quartile	-10.1
10.0%		-10.1
2.5%		-10.1
0.5%		-10.1
0.0%	minimum	-10.1

Summary Statistics

Mean	-10.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Radium-226 Acid leaching without hydrofluoric acid

Bias



Quantiles

100.0%	maximum	-93.3
99.5%		-93.3
97.5%		-93.3
90.0%		-93.3
75.0%	quartile	-93.3
50.0%	median	-93.3
25.0%	quartile	-93.3
10.0%		-93.3
2.5%		-93.3
0.5%		-93.3
0.0%	minimum	-93.3

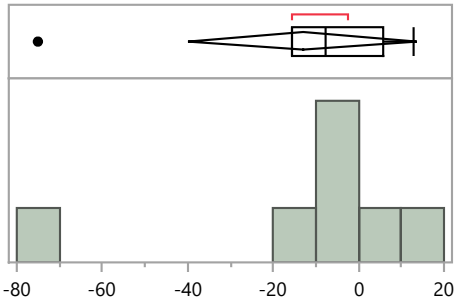
Summary Statistics

Mean	-93.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Radium-226 Coprecipitation, acidified

Bias



Quantiles

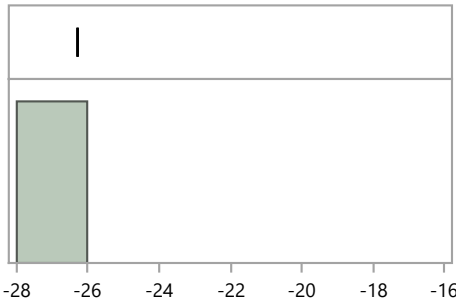
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.9
75.0%	quartile	5.8
50.0%	median	-7.6
25.0%	quartile	-15.5
10.0%		-75.0
2.5%		-75.0
0.5%		-75.0
0.0%	minimum	-75.0

Summary Statistics

Mean	-13.1
Std Dev	28.9
Std Err Mean	10.9
Upper 95% Mean	13.7
Lower 95% Mean	-39.8
N	7.0

Distributions Analyte_Method=Radium-226 EPA 00-07 - Radiochemistry Procedures Manual

Bias



Quantiles

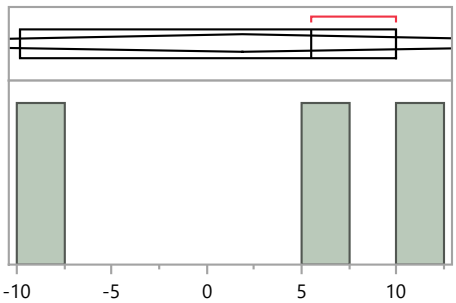
100.0%	maximum	-26.3
99.5%		-26.3
97.5%		-26.3
90.0%		-26.3
75.0%	quartile	-26.3
50.0%	median	-26.3
25.0%	quartile	-26.3
10.0%		-26.3
2.5%		-26.3
0.5%		-26.3
0.0%	minimum	-26.3

Summary Statistics

Mean	-26.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Radium-226 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

100.0%	maximum	10.0
99.5%		10.0
97.5%		10.0
90.0%		10.0
75.0%	quartile	10.0
50.0%	median	5.5
25.0%	quartile	-9.8
10.0%		-9.8
2.5%		-9.8
0.5%		-9.8
0.0%	minimum	-9.8

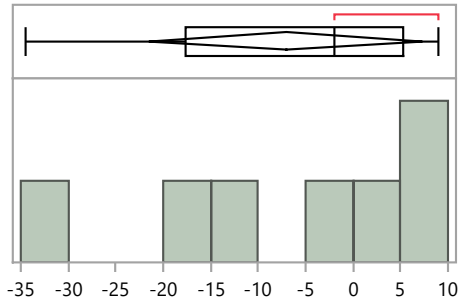
Summary Statistics

Mean	1.9
Std Dev	10.4
Std Err Mean	6.0
Upper 95% Mean	27.7
Lower 95% Mean	-23.9
N	3.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Radium-226 Other

Bias



Quantiles

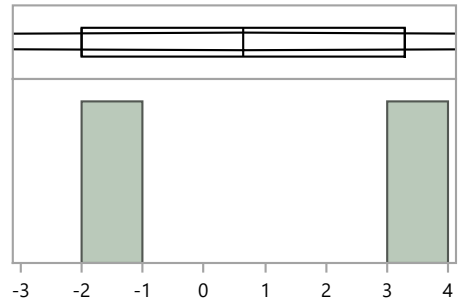
100.0%	maximum	8.9
99.5%		8.9
97.5%		8.9
90.0%		8.9
75.0%	quartile	5.3
50.0%	median	-1.9
25.0%	quartile	-17.7
10.0%		-34.4
2.5%		-34.4
0.5%		-34.4
0.0%	minimum	-34.4

Summary Statistics

Mean	-7.0
Std Dev	15.6
Std Err Mean	5.9
Upper 95% Mean	7.3
Lower 95% Mean	-21.4
N	7.0

Distributions Analyte_Method=Radium-226 Total dissolution by fusion

Bias



Quantiles

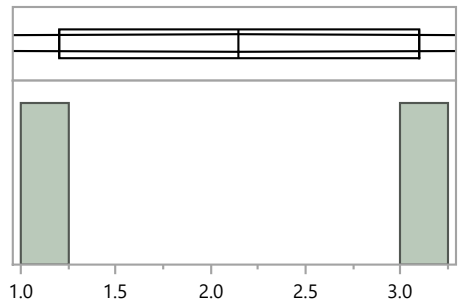
100.0%	maximum	3.3
99.5%		3.3
97.5%		3.3
90.0%		3.3
75.0%	quartile	3.3
50.0%	median	0.7
25.0%	quartile	-2.0
10.0%		-2.0
2.5%		-2.0
0.5%		-2.0
0.0%	minimum	-2.0

Summary Statistics

Mean	0.7
Std Dev	3.7
Std Err Mean	2.7
Upper 95% Mean	34.3
Lower 95% Mean	-33.0
N	2.0

Distributions Analyte_Method=Strontium-90 Coprecipitation, acidified

Bias



Quantiles

100.0%	maximum	3.1
99.5%		3.1
97.5%		3.1
90.0%		3.1
75.0%	quartile	3.1
50.0%	median	2.2
25.0%	quartile	1.2
10.0%		1.2
2.5%		1.2
0.5%		1.2
0.0%	minimum	1.2

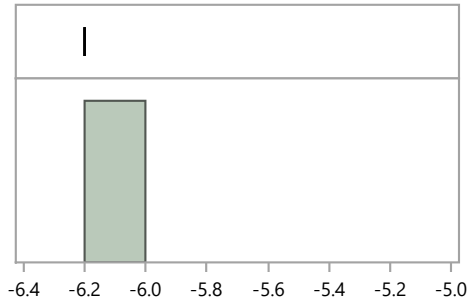
Summary Statistics

Mean	2.2
Std Dev	1.3
Std Err Mean	1.0
Upper 95% Mean	14.2
Lower 95% Mean	-9.9
N	2.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Coprecipitation, straight

Bias



Quantiles

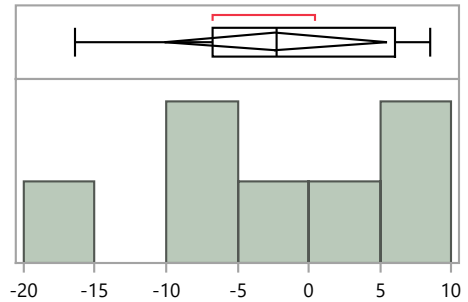
100.0%	maximum	-6.2
99.5%		-6.2
97.5%		-6.2
90.0%		-6.2
75.0%	quartile	-6.2
50.0%	median	-6.2
25.0%	quartile	-6.2
10.0%		-6.2
2.5%		-6.2
0.5%		-6.2
0.0%	minimum	-6.2

Summary Statistics

Mean	-6.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

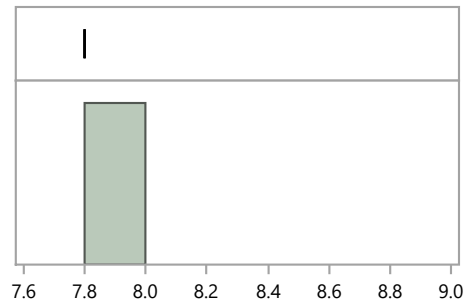
100.0%	maximum	8.5
99.5%		8.5
97.5%		8.5
90.0%		8.5
75.0%	quartile	6.0
50.0%	median	-2.3
25.0%	quartile	-6.7
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics

Mean	-2.3
Std Dev	8.4
Std Err Mean	3.2
Upper 95% Mean	5.4
Lower 95% Mean	-10.1
N	7.0

Distributions Analyte_Method=Strontium-90 Evaporation, acidified

Bias



Quantiles

100.0%	maximum	7.8
99.5%		7.8
97.5%		7.8
90.0%		7.8
75.0%	quartile	7.8
50.0%	median	7.8
25.0%	quartile	7.8
10.0%		7.8
2.5%		7.8
0.5%		7.8
0.0%	minimum	7.8

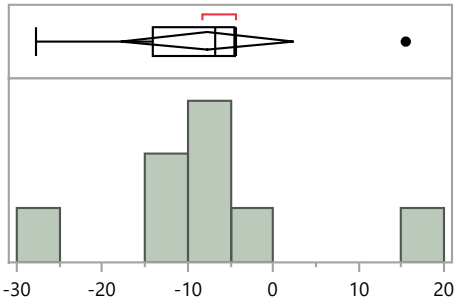
Summary Statistics

Mean	7.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Strontium-90 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

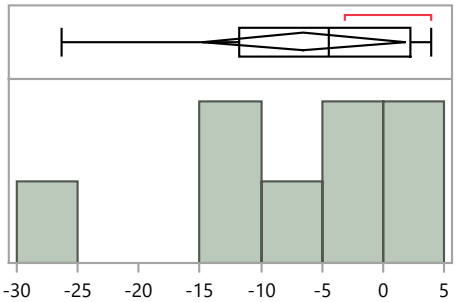
100.0%	maximum	15.5
99.5%		15.5
97.5%		15.5
90.0%		15.5
75.0%	quartile	-4.5
50.0%	median	-6.8
25.0%	quartile	-14.0
10.0%		-27.8
2.5%		-27.8
0.5%		-27.8
0.0%	minimum	-27.8

Summary Statistics

Mean	-7.7
Std Dev	12.1
Std Err Mean	4.3
Upper 95% Mean	2.4
Lower 95% Mean	-17.9
N	8.0

Distributions Analyte_Method=Strontium-90 Other

Bias



Quantiles

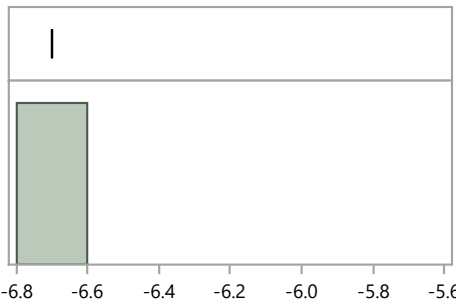
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	2.2
50.0%	median	-4.5
25.0%	quartile	-11.8
10.0%		-26.3
2.5%		-26.3
0.5%		-26.3
0.0%	minimum	-26.3

Summary Statistics

Mean	-6.5
Std Dev	10.0
Std Err Mean	3.5
Upper 95% Mean	1.8
Lower 95% Mean	-14.8
N	8.0

Distributions Analyte_Method=Strontium-90 Total dissolution by fusion

Bias



Quantiles

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

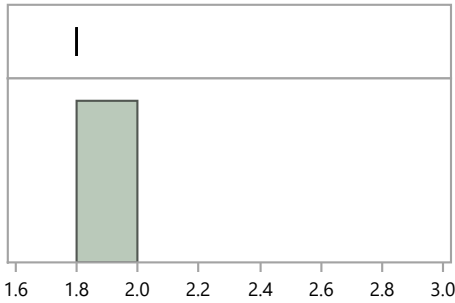
Summary Statistics

Mean	-6.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Technetium-99 Acid dissolution with hydrofluoric acid

Bias



Quantiles

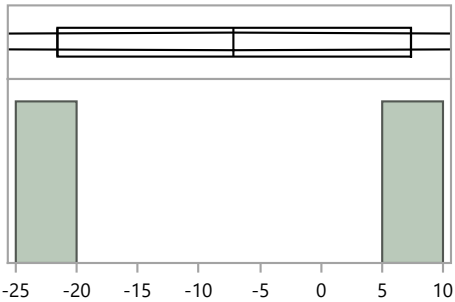
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	1.8
50.0%	median	1.8
25.0%	quartile	1.8
10.0%		1.8
2.5%		1.8
0.5%		1.8
0.0%	minimum	1.8

Summary Statistics

Mean	1.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Technetium-99 Acid leaching without hydrofluoric acid

Bias



Quantiles

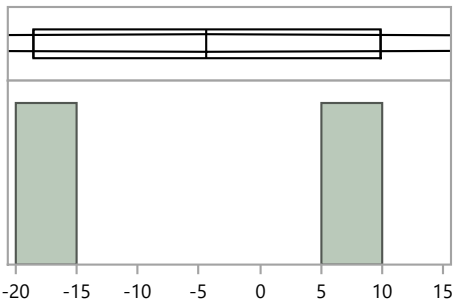
100.0%	maximum	7.3
99.5%		7.3
97.5%		7.3
90.0%		7.3
75.0%	quartile	7.3
50.0%	median	-7.2
25.0%	quartile	-21.6
10.0%		-21.6
2.5%		-21.6
0.5%		-21.6
0.0%	minimum	-21.6

Summary Statistics

Mean	-7.2
Std Dev	20.4
Std Err Mean	14.5
Upper 95% Mean	176.5
Lower 95% Mean	-190.8
N	2.0

Distributions Analyte_Method=Technetium-99 Evaporation, acidified

Bias



Quantiles

100.0%	maximum	9.9
99.5%		9.9
97.5%		9.9
90.0%		9.9
75.0%	quartile	9.9
50.0%	median	-4.4
25.0%	quartile	-18.6
10.0%		-18.6
2.5%		-18.6
0.5%		-18.6
0.0%	minimum	-18.6

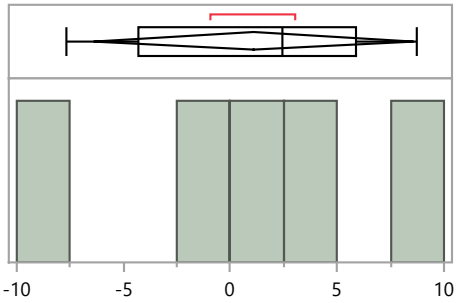
Summary Statistics

Mean	-4.4
Std Dev	20.2
Std Err Mean	14.3
Upper 95% Mean	176.7
Lower 95% Mean	-185.4
N	2.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Technetium-99 Ion Exchange Chromatography / Ion Chromatography

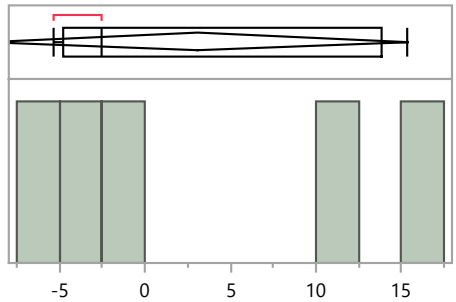
Bias



Quantiles			Summary Statistics	
100.0%	maximum	8.7	Mean	1.1
99.5%		8.7	Std Dev	6.0
97.5%		8.7	Std Err Mean	2.7
90.0%		8.7	Upper 95% Mean	8.6
75.0%	quartile	5.9	Lower 95% Mean	-6.4
50.0%	median	2.4	N	5.0
25.0%	quartile	-4.3		
10.0%		-7.7		
2.5%		-7.7		
0.5%		-7.7		
0.0%	minimum	-7.7		

Distributions Analyte_Method=Technetium-99 Other

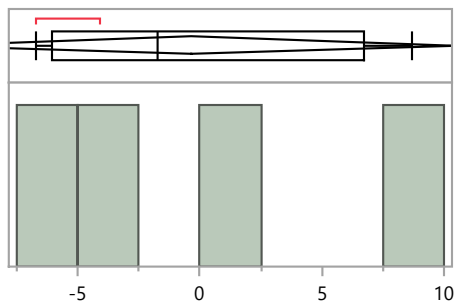
Bias



Quantiles			Summary Statistics	
100.0%	maximum	15.3	Mean	3.1
99.5%		15.3	Std Dev	9.9
97.5%		15.3	Std Err Mean	4.4
90.0%		15.3	Upper 95% Mean	15.4
75.0%	quartile	13.9	Lower 95% Mean	-9.2
50.0%	median	-2.5	N	5.0
25.0%	quartile	-4.8		
10.0%		-5.3		
2.5%		-5.3		
0.5%		-5.3		
0.0%	minimum	-5.3		

Distributions Analyte_Method=Uranium-234 Coprecipitation, acidified

Bias

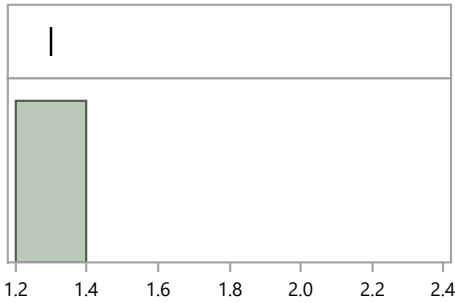


Quantiles			Summary Statistics	
100.0%	maximum	8.7	Mean	-0.4
99.5%		8.7	Std Dev	6.8
97.5%		8.7	Std Err Mean	3.4
90.0%		8.7	Upper 95% Mean	10.4
75.0%	quartile	6.7	Lower 95% Mean	-11.1
50.0%	median	-1.7	N	4.0
25.0%	quartile	-6.1		
10.0%		-6.7		
2.5%		-6.7		
0.5%		-6.7		
0.0%	minimum	-6.7		

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Coprecipitation, straight

Bias



Quantiles

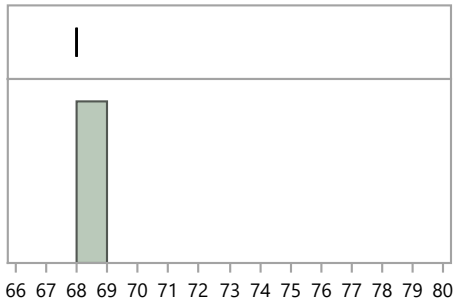
100.0%	maximum	1.3
99.5%		1.3
97.5%		1.3
90.0%		1.3
75.0%	quartile	1.3
50.0%	median	1.3
25.0%	quartile	1.3
10.0%		1.3
2.5%		1.3
0.5%		1.3
0.0%	minimum	1.3

Summary Statistics

Mean	1.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

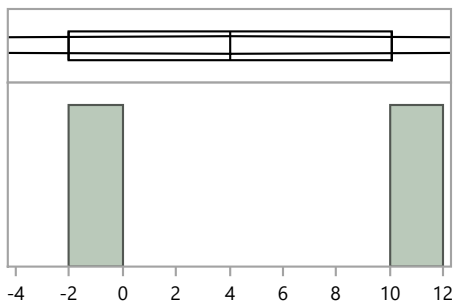
100.0%	maximum	68.0
99.5%		68.0
97.5%		68.0
90.0%		68.0
75.0%	quartile	68.0
50.0%	median	68.0
25.0%	quartile	68.0
10.0%		68.0
2.5%		68.0
0.5%		68.0
0.0%	minimum	68.0

Summary Statistics

Mean	68.0
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	10.1
99.5%		10.1
97.5%		10.1
90.0%		10.1
75.0%	quartile	10.1
50.0%	median	4.1
25.0%	quartile	-2.0
10.0%		-2.0
2.5%		-2.0
0.5%		-2.0
0.0%	minimum	-2.0

Summary Statistics

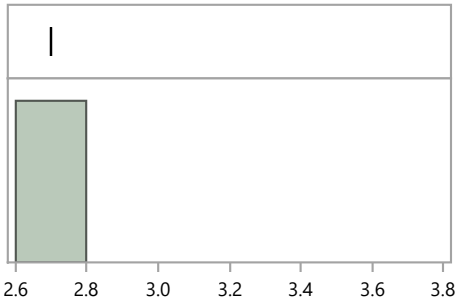
Mean	4.1
Std Dev	8.6
Std Err Mean	6.0
Upper 95% Mean	80.9
Lower 95% Mean	-72.8
N	2.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Evaporation, acidified

Bias



Quantiles

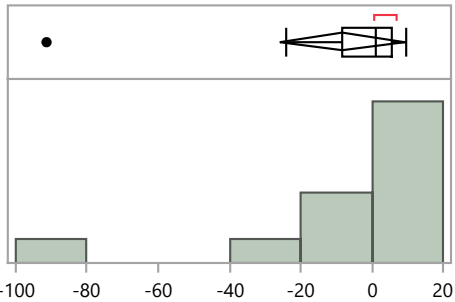
100.0%	maximum	2.7
99.5%		2.7
97.5%		2.7
90.0%		2.7
75.0%	quartile	2.7
50.0%	median	2.7
25.0%	quartile	2.7
10.0%		2.7
2.5%		2.7
0.5%		2.7
0.0%	minimum	2.7

Summary Statistics

Mean	2.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-234 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

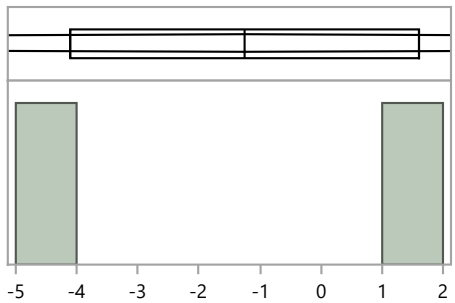
100.0%	maximum	9.7
99.5%		9.7
97.5%		9.7
90.0%		8.8
75.0%	quartile	5.7
50.0%	median	0.9
25.0%	quartile	-8.2
10.0%		-71.1
2.5%		-91.3
0.5%		-91.3
0.0%	minimum	-91.3

Summary Statistics

Mean	-8.4
Std Dev	27.7
Std Err Mean	8.0
Upper 95% Mean	9.2
Lower 95% Mean	-25.9
N	12.0

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

Bias



Quantiles

100.0%	maximum	1.6
99.5%		1.6
97.5%		1.6
90.0%		1.6
75.0%	quartile	1.6
50.0%	median	-1.3
25.0%	quartile	-4.1
10.0%		-4.1
2.5%		-4.1
0.5%		-4.1
0.0%	minimum	-4.1

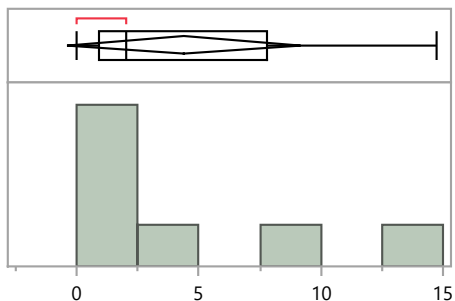
Summary Statistics

Mean	-1.3
Std Dev	4.0
Std Err Mean	2.9
Upper 95% Mean	35.0
Lower 95% Mean	-37.5
N	2.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-234 Other

Bias



Quantiles

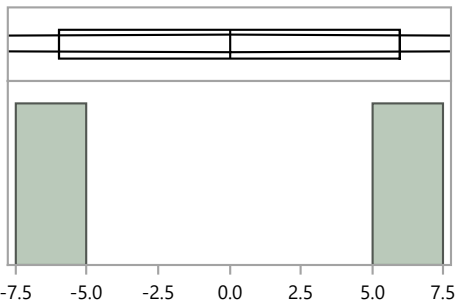
100.0%	maximum	14.7
99.5%		14.7
97.5%		14.7
90.0%		14.7
75.0%	quartile	7.8
50.0%	median	2.0
25.0%	quartile	0.9
10.0%		0.0
2.5%		0.0
0.5%		0.0
0.0%	minimum	0.0

Summary Statistics

Mean	4.4
Std Dev	5.2
Std Err Mean	2.0
Upper 95% Mean	9.2
Lower 95% Mean	-0.4
N	7.0

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias



Quantiles

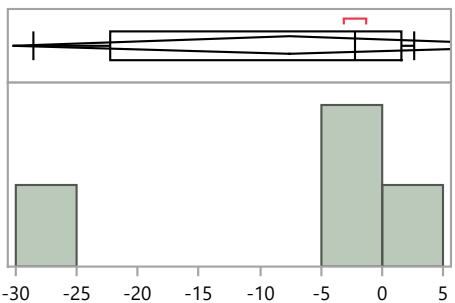
100.0%	maximum	6.0
99.5%		6.0
97.5%		6.0
90.0%		6.0
75.0%	quartile	6.0
50.0%	median	0.0
25.0%	quartile	-6.0
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

Summary Statistics

Mean	0.0
Std Dev	8.5
Std Err Mean	6.0
Upper 95% Mean	76.2
Lower 95% Mean	-76.2
N	2.0

Distributions Analyte_Method=Uranium-238 Coprecipitation, acidified

Bias



Quantiles

100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	1.6
50.0%	median	-2.3
25.0%	quartile	-22.3
10.0%		-28.6
2.5%		-28.6
0.5%		-28.6
0.0%	minimum	-28.6

Summary Statistics

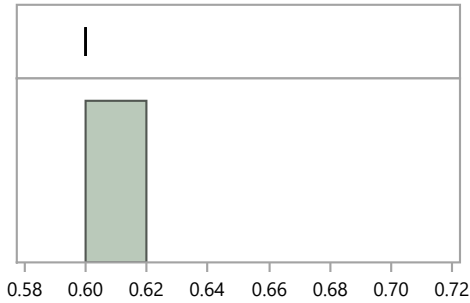
Mean	-7.6
Std Dev	14.2
Std Err Mean	7.1
Upper 95% Mean	15.0
Lower 95% Mean	-30.2
N	4.0

MaW46 Distribution by Preparation Method

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Coprecipitation, straight

Bias



Quantiles

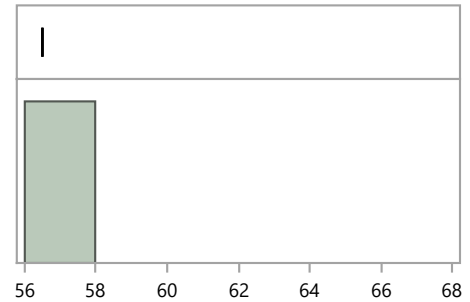
100.0%	maximum	0.6
99.5%		0.6
97.5%		0.6
90.0%		0.6
75.0%	quartile	0.6
50.0%	median	0.6
25.0%	quartile	0.6
10.0%		0.6
2.5%		0.6
0.5%		0.6
0.0%	minimum	0.6

Summary Statistics

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

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

Bias



Quantiles

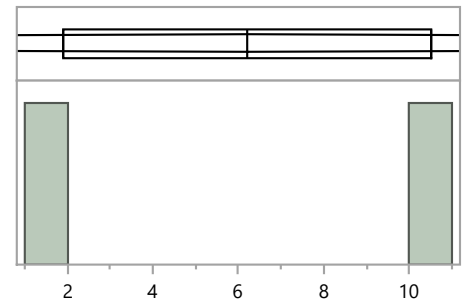
100.0%	maximum	56.5
99.5%		56.5
97.5%		56.5
90.0%		56.5
75.0%	quartile	56.5
50.0%	median	56.5
25.0%	quartile	56.5
10.0%		56.5
2.5%		56.5
0.5%		56.5
0.0%	minimum	56.5

Summary Statistics

Mean	56.5
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	10.5
99.5%		10.5
97.5%		10.5
90.0%		10.5
75.0%	quartile	10.5
50.0%	median	6.2
25.0%	quartile	1.9
10.0%		1.9
2.5%		1.9
0.5%		1.9
0.0%	minimum	1.9

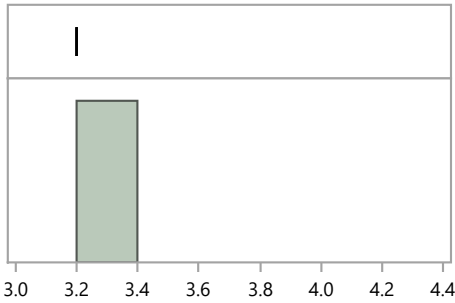
Summary Statistics

Mean	6.2
Std Dev	6.1
Std Err Mean	4.3
Upper 95% Mean	60.8
Lower 95% Mean	-48.4
N	2.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Evaporation, acidified

Bias



Quantiles

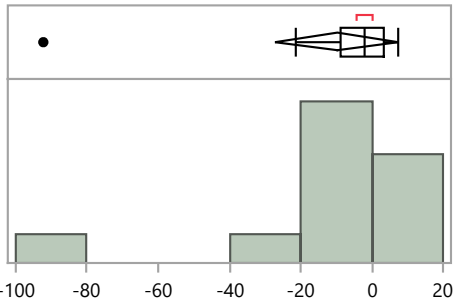
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	3.2
25.0%	quartile	3.2
10.0%		3.2
2.5%		3.2
0.5%		3.2
0.0%	minimum	3.2

Summary Statistics

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

Distributions Analyte_Method=Uranium-238 Ion Exchange Chromatography / Ion Chromatography

Bias



Quantiles

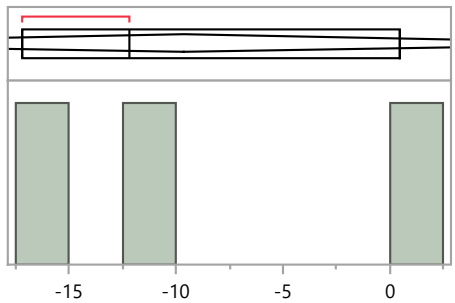
100.0%	maximum	7.2
99.5%		7.2
97.5%		7.2
90.0%		6.8
75.0%	quartile	3.2
50.0%	median	-1.9
25.0%	quartile	-8.9
10.0%		-70.9
2.5%		-92.2
0.5%		-92.2
0.0%	minimum	-92.2

Summary Statistics

Mean	-9.9
Std Dev	27.0
Std Err Mean	7.8
Upper 95% Mean	7.3
Lower 95% Mean	-27.0
N	12.0

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

Bias



Quantiles

100.0%	maximum	0.5
99.5%		0.5
97.5%		0.5
90.0%		0.5
75.0%	quartile	0.5
50.0%	median	-12.2
25.0%	quartile	-17.2
10.0%		-17.2
2.5%		-17.2
0.5%		-17.2
0.0%	minimum	-17.2

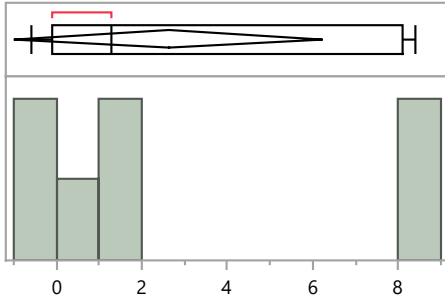
Summary Statistics

Mean	-9.6
Std Dev	9.1
Std Err Mean	5.3
Upper 95% Mean	13.0
Lower 95% Mean	-32.3
N	3.0

MaW Distribution by Prep Method

Distributions Analyte_Method=Uranium-238 Other

Bias



Quantiles

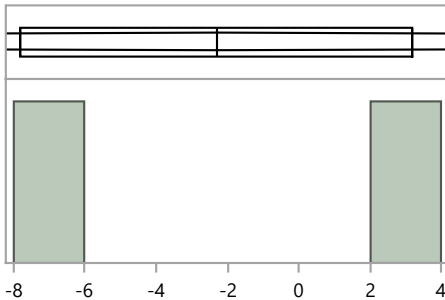
100.0%	maximum	8.4
99.5%		8.4
97.5%		8.4
90.0%		8.4
75.0%	quartile	8.1
50.0%	median	1.3
25.0%	quartile	-0.1
10.0%		-0.6
2.5%		-0.6
0.5%		-0.6
0.0%	minimum	-0.6

Summary Statistics

Mean	2.6
Std Dev	3.9
Std Err Mean	1.5
Upper 95% Mean	6.2
Lower 95% Mean	-1.0
N	7.0

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias



Quantiles

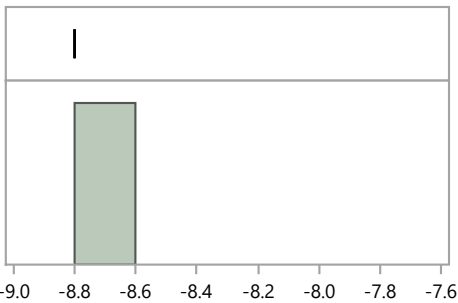
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	-2.3
25.0%	quartile	-7.8
10.0%		-7.8
2.5%		-7.8
0.5%		-7.8
0.0%	minimum	-7.8

Summary Statistics

Mean	-2.3
Std Dev	7.8
Std Err Mean	5.5
Upper 95% Mean	67.6
Lower 95% Mean	-72.2
N	2.0

Distributions Analyte_Method=Zinc-65 EPA 900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Quantiles

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

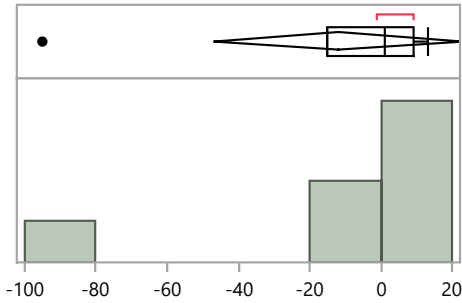
Summary Statistics

Mean	-8.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW Distribution by Prep Method

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

Bias



Quantiles

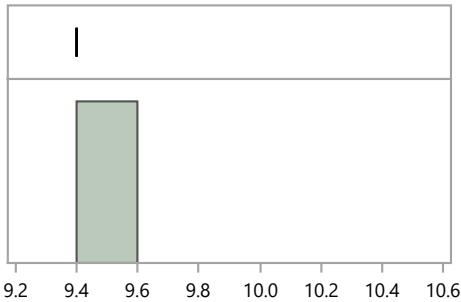
100.0%	maximum	13.4
99.5%		13.4
97.5%		13.4
90.0%		13.4
75.0%	quartile	9.2
50.0%	median	1.1
25.0%	quartile	-15.0
10.0%		-95.0
2.5%		-95.0
0.5%		-95.0
0.0%	minimum	-95.0

Summary Statistics

Mean	-11.8
Std Dev	37.8
Std Err Mean	14.3
Upper 95% Mean	23.1
Lower 95% Mean	-46.7
N	7.0

Distributions Analyte_Method=Zinc-65 EPA 906, Tritium, 600/4/80-032

Bias



Quantiles

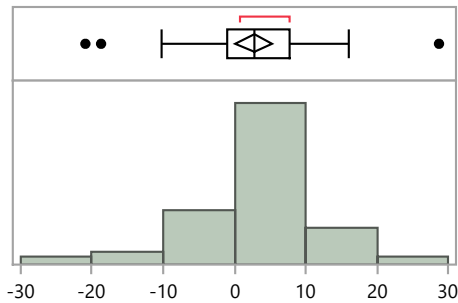
100.0%	maximum	9.4
99.5%		9.4
97.5%		9.4
90.0%		9.4
75.0%	quartile	9.4
50.0%	median	9.4
25.0%	quartile	9.4
10.0%		9.4
2.5%		9.4
0.5%		9.4
0.0%	minimum	9.4

Summary Statistics

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

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

Bias



Quantiles

100.0%	maximum	28.7
99.5%		28.7
97.5%		26.5
90.0%		12.5
75.0%	quartile	7.7
50.0%	median	2.7
25.0%	quartile	-1.0
10.0%		-8.6
2.5%		-20.5
0.5%		-20.9
0.0%	minimum	-20.9

Summary Statistics

Mean	2.8
Std Dev	8.7
Std Err Mean	1.3
Upper 95% Mean	5.3
Lower 95% Mean	0.2
N	46.0