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.

MaW51 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
AMEC99	Jacobs Clean Energy Limited - Analytical Services	MaW
ANLB01	Argonne National Laboratory	MaW
AREV01	Framatome - CMC	MaW
ARPL01	Analytical Support Operations - Radiochemical Processing Lab	MaW
ARSL01	ARS	MaW
ASUK99	AWE (Aldermaston)	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
DEHS01	Department of Environmental Health & Safety	MaW
EFGS01	Eurofins Frontier Global Sciences, LLC.	MaW
ELIW01	Energy Laboratories, Inc.	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
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	UKHSA, RCE Glasgow	MaW
IAEA20	IAEA Marine Environment Laboratories, Radiometrics Laboratory	MaW
IAEA99	International Atomic Energy Agency	MaW
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	MaW
ISUE01	ISU Environmental Monitoring Laboratory	MaW
JLNN01	Jefferson Laboratory	MaW
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	MaW
LZCA01	ACZ Laboratories, Inc	MaW
MART01	Fluor-BWXT Portsmouth LLC, Analytical Laboratory	MaW
MART03	Radioactive Material Analysis Laboratory	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

MaW51 Participating Laboratories

NRLL99	Environmental Radioactivity - National Centre for Radiation Science	MaW
ODHL01	Ohio Department of Health Laboratory	MaW
OTLI01	Pace Analytical National Center for Testing & Innovation	MaW
QUAN01	Eurofins St. Louis	MaW
RJLG01	RJ Lee Group - Columbia Basin Analytical Laboratories (CBAL)	MaW
RPSC01	Radiation Protection Service	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
STRL01	South Texas Project Radiological Laboratory	MaW
TDHL01	Texas Department of State Health Services Laboratory	MaW
TELE01	Teledyne Brown Engineering - Environmental Services	MaW
TELE02	Microbac Laboratories Inc. - Northbrook	MaW
TMAO01	EBERLINE Analytical Corporation	MaW
TNUT01	St. Louis USACE FUSRAP Laboratory	MaW
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	MaW
WIPH01	WI, DPH, Radiation Protection Section	MaW
WIPP01	WIPP Laboratories	MaW
WSHL01	Wisconsin State Laboratory of Hygiene	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
ARGO01	Idaho National Laboratory	MaW
DLEA01	DLE Associates	MaW
ERAD01	Lawrence Livermore National Laboratory	MaW
FERM01	Fernald Project	MaW
ISUP01	ISU - Department of Physics/Health Physics/EAL	MaW
MDPH01	MDPH-Radiation Control Program	MaW
SANC99	RadioAnalysis, South Africa Nuclear Energy Corp.	MaW
UNTE01	UniTech-235	MaW

Study Reference Values

MAPEP-24-MaW51: Radiological and inorganic combined water standard
Radiological Reference Date: 08/01/2024

Inorganic		Units: (mg/L)
Analyte	Reference Value	Reference Uncertainty
Arsenic	2.13	0.04
Barium	2.82	0.06
Beryllium	4.91	0.10
Cobalt	10.2	0.2
Copper	2.50	0.05
Lead	1.54E-4	4E-06
Mercury	0.087	0.002
Nickel	6.19	0.12
Selenium	0.624	0.013
Technetium-99	1.79E-5	3E-07
Thallium	2.290	0.013
Uranium-235	2.18E-4	6E-06
Uranium-238	0.0310	0.0010
Uranium-Total	0.0312	0.0010
Zinc	2.28	0.05

Radiological		Units: (Bq/L)
Analyte	Reference Value	Reference Uncertainty
Americium-241	0.363	0.006
Cesium-134	22.3	0.4
Cobalt-57	26.4	0.5
Cobalt-60	15.0	0.2
Hydrogen-3	374	9
Iron-55	48.1	1.0
Iron-59	57.5	0.9
Plutonium-238	0.439	0.007
Plutonium-239/240	0.437	0.007
Radium-226	0.360	0.008
Strontium-90	11.2	0.2
Technetium-99	11.2	0.2
Uranium-234	0.380	0.012
Uranium-238	0.385	0.012
Zinc-65	22.8	0.5

Sample Statistical Summary

MAPEP-24-MaW51: Radiological and inorganic combined water standard
Radiological Reference Date: 08/01/2024

Inorganic							Units: (mg/L)
Analyte	T(1)	A(2)	Grand(3) Mean	Standard Deviation	Reference Value	Reference Uncertainty	Acceptance Range
Antimony	11	9					False Positive Test
Arsenic	13	13	2.09	0.16	2.13	0.04	1.49 - 2.77
Barium	13	13	2.87	0.15	2.82	0.06	1.97 - 3.67
Beryllium	12	12	4.78	0.29	4.91	0.10	3.44 - 6.38
Cadmium	12	10					False Positive Test
Chromium	12	9					False Positive Test
Cobalt	13	13	10.2	0.6	10.2	0.2	7.1 - 13.3
Copper	13	13	2.46	0.18	2.50	0.05	1.75 - 3.25
Lead	12	10	1.63E-2	3.90E-2	1.54E-4	4E-06	Sensitivity Evaluation
Mercury	12	11	0.086	0.007	0.087	0.002	0.061 - 0.113
Nickel	13	13	6.22	0.38	6.19	0.12	4.33 - 8.05
Selenium	13	12	0.593	0.058	0.624	0.013	0.437 - 0.811
Technetium-99	2	2			1.79E-5	3E-07	1.25E-5 - 2.33E-5
Thallium	12	12	2.313	0.082	2.290	0.013	1.603 - 2.977
Uranium-235	12	12	2.17E-4	1.40E-5	2.18E-4	6E-06	1.53E-4 - 2.83E-4
Uranium-238	12	12	0.0306	0.0019	0.0310	0.0010	0.0217 - 0.0403
Uranium-Total	15	14	0.0312	0.0019	0.0312	0.0010	0.0218 - 0.0406
Vanadium	12	10					False Positive Test
Zinc	13	13	2.17	0.25	2.28	0.05	1.60 - 2.96

Radiological							Units: (Bq/L)
Analyte	T(1)	A(2)	Grand(3) Mean	Standard Deviation	Reference Value	Reference Uncertainty	Acceptance Range
Americium-241	32	27	0.339	0.031	0.363	0.006	0.254 - 0.472
Cesium-134	51	48	20.9	1.3	22.3	0.4	15.6 - 29.0
Cesium-137	47	44					False Positive Test
Cobalt-57	51	50	25.7	1.3	26.4	0.5	18.5 - 34.3
Cobalt-60	51	50	14.8	0.7	15.0	0.2	10.5 - 19.5
Hydrogen-3	39	37	381	34	374	9	262 - 486
Iron-55	7	6	46.4	7.2	48.1	1.0	33.7 - 62.5
Iron-59	15	14	58.5	4.1	57.5	0.9	40.3 - 74.8
Manganese-54	47	46					False Positive Test
Nickel-63	11	8					False Positive Test
Plutonium-238	29	26	0.438	0.033	0.439	0.007	0.307 - 0.571
Plutonium-239/240	29	27	0.436	0.031	0.437	0.007	0.306 - 0.568
Potassium-40	45	37					False Positive Test
Radium-226	20	16	0.340	0.043	0.360	0.008	0.252 - 0.468
Strontium-90	30	26	10.7	1.1	11.2	0.2	7.8 - 14.6
Technetium-99	17	13	10.6	0.8	11.2	0.2	7.8 - 14.6
Uranium-234	31	29	0.388	0.038	0.380	0.012	0.266 - 0.494
Uranium-238	32	30	0.378	0.036	0.385	0.012	0.270 - 0.501
Zinc-65	51	50	23.4	1.7	22.8	0.5	16.0 - 29.6

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-24-MaW51: Radiological and inorganic combined water standard

Radiological Reference Date: 08/01/2024

Inorganic

Analyte	A	W	RW	N
Antimony	9			2
Arsenic	12	1		
Barium	13			
Beryllium	12			
Cadmium	10			2
Chromium	9			3
Cobalt	13			
Copper	13			
Lead	10			2
Mercury	11			1
Nickel	13			
Selenium	11	1		1
Thallium	12			
Uranium-Total	14			1
Uranium-235	12			
Uranium-238	12			
Vanadium	10			2
Zinc	11	2		
Technetium-99	2			

Radiological

Analyte	A	W	RW	N
Americium-241	25	2		4
Cesium-134	48			1
Cesium-137	44			7
Cobalt-57	50			1
Cobalt-60	50			1
Hydrogen-3	35	2		2
Iron-55	5	1		1
Manganese-54	46			5
Nickel-63	8			3
Plutonium-238	25	1		3
Plutonium-239/240	26	1		2
Potassium-40	37			13
Radium-226	14	2		4
Strontium-90	24	2		4
Technetium-99	13			4
Uranium-234	27	2		2
Uranium-238	29	1		2
Zinc-65	50			1
Iron-59	14			1

MAPEP Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.1	0.363	N		-72.5	0.254 - 0.472	0.05	N
Cesium-134	19.700	22.3	A		-11.7	15.6 - 29.0	0.770	A
Cesium-137	0.1		A			False Positive Test	0.05	
Cobalt-57	25.600	26.4	A		-3.0	18.5 - 34.3	0.833	A
Cobalt-60	15.100	15.0	A		0.7	10.5 - 19.5	0.482	A
Hydrogen-3	0.1	374	N		-100.0	262 - 486	0.05	N
Iron-55	0.1	48.1	N		-99.8	33.7 - 62.5	0.05	N
Iron-59	0.1	57.5	N		-99.8	40.3 - 74.8	0.05	N
Manganese-54	0.1		A			False Positive Test	0.05	
Nickel-63	0.1		A			False Positive Test	0.05	
Plutonium-238	0.1	0.439	N		-77.2	0.307 - 0.571	0.05	N
Plutonium-239/240	0.1	0.437	N		-77.1	0.306 - 0.568	0.05	N
Potassium-40	0.1		A			False Positive Test	0.05	
Radium-226	0.1	0.360	N		-72.2	0.252 - 0.468	0.05	N
Strontium-90	0.1	11.2	N		-99.1	7.8 - 14.6	0.05	N
Technetium-99	0.1	11.2	N		-99.1	7.8 - 14.6	0.05	N
Uranium-234	0.1	0.380	N		-73.7	0.266 - 0.494	0.05	N
Uranium-238	0.1	0.385	N		-74.0	0.270 - 0.501	0.05	N
Zinc-65	24.100	22.8	A		5.7	16.0 - 29.6	1.290	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(ADFC99) Abu Dhabi Quality and Conformity Council-Central Testing Lab
Radiation Lab
Abu Dhabi, Abu Dhabi 853

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	18.84	22.3	A		-15.5	15.6 - 29.0	0.91	A
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	24.88	26.4	A		-5.8	18.5 - 34.3	1.41	A
Cobalt-60	14.12	15.0	A		-5.9	10.5 - 19.5	0.64	A
Hydrogen-3	391	374	A		4.5	262 - 486	32	A
Iron-55	48.8	48.1	A		1.5	33.7 - 62.5	3.0	A
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR		N	(11)		False Positive Test		
Nickel-63	1.19		N	(1)		False Positive Test	0.16	
Plutonium-238	0.446	0.439	A		1.6	0.307 - 0.571	0.05	A
Plutonium-239/240	0.436	0.437	A		-0.2	0.306 - 0.568	0.054	A
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.92	11.2	A		-2.5	7.8 - 14.6	0.87	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.417	0.380	A		9.7	0.266 - 0.494	0.034	A
Uranium-238	0.423	0.385	A		9.9	0.270 - 0.501	0.034	A
Zinc-65	23.14	22.8	A		1.5	16.0 - 29.6	1.69	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.000217	2.18E-04	A		-0.5	1.53E-4 - 2.83E-4	0.000003	N
Uranium-238	0.0297	0.0310	A		-4.2	0.0217 - 0.0403	0.0003	N
Uranium-Total	0.0299	0.0312	A		-4.2	0.0218 - 0.0406	0.0003	N
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.315	0.363	A		-13.2	0.254 - 0.472	0.014	A
Cesium-134	20.57	22.3	A		-7.8	15.6 - 29.0	0.72	A
Cesium-137	0.05		A			False Positive Test	0.11	
Cobalt-57	23.87	26.4	A		-9.6	18.5 - 34.3	0.82	A
Cobalt-60	14.08	15.0	A		-6.1	10.5 - 19.5	0.45	A
Hydrogen-3	340	374	A		-9.1	262 - 486	30	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	52.1	57.5	A		-9.4	40.3 - 74.8	1.7	A
Manganese-54	0.08		A			False Positive Test	0.13	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.441	0.439	A		0.5	0.307 - 0.571	0.021	A
Plutonium-239/240	0.417	0.437	A		-4.6	0.306 - 0.568	0.020	A
Potassium-40	-0.4		A			False Positive Test	0.6	
Radium-226	0.324	0.360	A		-10.0	0.252 - 0.468	0.033	A
Strontium-90	10.2	11.2	A		-8.9	7.8 - 14.6	0.3	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.373	0.380	A		-1.8	0.266 - 0.494	0.018	A
Uranium-238	0.374	0.385	A		-2.9	0.270 - 0.501	0.018	A
Zinc-65	21.43	22.8	A		-6.0	16.0 - 29.6	0.90	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.303	0.360	A		-15.8	0.252 - 0.468	0.0315	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(AMEC99) Jacobs Clean Energy Limited - Analytical Services
612 Faraday Street
Birchwood Park, Warrington WA3 6GN

Inorganic								Units: (mg/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	0.03371	0.0312	A		8.0	0.0218 - 0.0406	0.00015	N
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.308	0.363	A		-15.2	0.254 - 0.472	0.043	A
Cesium-134	19.95	22.3	A		-10.5	15.6 - 29.0	0.77	A
Cesium-137	0.12		A			False Positive Test	0.085	
Cobalt-57	24.55	26.4	A		-7.0	18.5 - 34.3	0.90	A
Cobalt-60	14.00	15.0	A		-6.7	10.5 - 19.5	0.53	A
Hydrogen-3	402	374	A		7.5	262 - 486	39	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	59.3	57.5	A		3.1	40.3 - 74.8	2.3	A
Manganese-54	0.19		A			False Positive Test	0.11	
Nickel-63	0.28		A			False Positive Test	0.13	
Plutonium-238	0.412	0.439	A		-6.2	0.307 - 0.571	0.020	A
Plutonium-239/240	0.424	0.437	A		-3.0	0.306 - 0.568	0.020	A
Potassium-40	3.1		A			False Positive Test	1.3	
Radium-226	0.388	0.360	A		7.8	0.252 - 0.468	0.049	A
Strontium-90	9.90	11.2	A		-11.6	7.8 - 14.6	0.61	A
Technetium-99	9.6	11.2	A		-14.3	7.8 - 14.6	1.2	A
Uranium-234	0.404	0.380	A		6.3	0.266 - 0.494	0.021	A
Uranium-238	0.373	0.385	A		-3.1	0.270 - 0.501	0.020	A
Zinc-65	23.69	22.8	A		3.9	16.0 - 29.6	0.99	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.347	0.363	A		-4.4	0.254 - 0.472	0.22	N
Cesium-134	22.31	22.3	A		0.0	15.6 - 29.0	2.78	A
Cesium-137	0.23		A			False Positive Test	0.414	
Cobalt-57	24.33	26.4	A		-7.8	18.5 - 34.3	1.07	A
Cobalt-60	15.17	15.0	A		1.1	10.5 - 19.5	0.57	A
Hydrogen-3	395.44	374	A		5.7	262 - 486	5.17	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.38		A			False Positive Test	0.344	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.389	0.439	A		-11.4	0.307 - 0.571	0.026	A
Plutonium-239/240	0.381	0.437	A		-12.8	0.306 - 0.568	0.025	A
Potassium-40	NR			(6)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.62	11.2	A		-5.2	7.8 - 14.6	0.312	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.337	0.380	A		-11.3	0.266 - 0.494	0.023	A
Uranium-238	0.329	0.385	A		-14.5	0.270 - 0.501	0.023	A
Zinc-65	23.77	22.8	A		4.3	16.0 - 29.6	1.75	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.025		A			False Positive Test	0.025	
Arsenic	2.26	2.13	A		6.1	1.49 - 2.77	0.23	A
Barium	2.97	2.82	A		5.3	1.97 - 3.67	0.30	A
Beryllium	4.77	4.91	A		-2.9	3.44 - 6.38	0.48	A
Cadmium	0.025		A			False Positive Test	0.025	
Chromium	0.025		A			False Positive Test	0.025	
Cobalt	9.91	10.2	A		-2.8	7.1 - 13.3	0.99	A
Copper	2.58	2.50	A		3.2	1.75 - 3.25	0.26	A
Lead	0.025	1.54E-04	A	(17)		Sensitivity Evaluation	0.025	
Mercury	0.09	0.087	A		3.4	0.061 - 0.113	0.009	A
Nickel	7.00	6.19	A		13.1	4.33 - 8.05	0.70	A
Selenium	0.57	0.624	A		-8.7	0.437 - 0.811	0.06	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.35	2.290	A		2.6	1.603 - 2.977	0.24	A
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	0.025		A			False Positive Test	0.025	
Zinc	1.88	2.28	A		-17.5	1.60 - 2.96	0.19	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	20.1	22.3	A		-9.9	15.6 - 29.0	0.3	N
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	24.4	26.4	A		-7.6	18.5 - 34.3	0.6	A
Cobalt-60	14.2	15.0	A		-5.3	10.5 - 19.5	0.4	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	54.3	57.5	A		-5.6	40.3 - 74.8	1.3	A
Manganese-54	NR		N	(11)		False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	21.2	22.8	A		-7.0	16.0 - 29.6	0.9	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.38	0.363	A		4.7	0.254 - 0.472	0.04	A
Cesium-134	20.80	22.3	A		-6.7	15.6 - 29.0	0.65	A
Cesium-137	0.40		A			False Positive Test	0.37	
Cobalt-57	25.2	26.4	A		-4.5	18.5 - 34.3	0.60	A
Cobalt-60	14.8	15.0	A		-1.3	10.5 - 19.5	0.29	N
Hydrogen-3	409	374	A		9.4	262 - 486	38	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.40		A			False Positive Test	0.68	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.34	0.439	W		-22.6	0.307 - 0.571	0.02	A
Plutonium-239/240	0.43	0.437	A		-1.6	0.306 - 0.568	0.12	W
Potassium-40	-2.49		A			False Positive Test	2.75	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.53	11.2	A		-6.0	7.8 - 14.6	0.17	N
Technetium-99	10.80	11.2	A		-3.6	7.8 - 14.6	0.46	A
Uranium-234	0.44	0.380	A		15.8	0.266 - 0.494	0.09	W
Uranium-238	0.41	0.385	A		6.5	0.270 - 0.501	0.02	A
Zinc-65	23.53	22.8	A		3.2	16.0 - 29.6	1.51	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

MAPEP Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(ARSL01) ARS
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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.312	0.363	A		-14.1	0.254 - 0.472	0.027	A
Cesium-134	19.238	22.3	A		-13.7	15.6 - 29.0	.627	A
Cesium-137	-0.023		A			False Positive Test	.096	
Cobalt-57	25.652	26.4	A		-2.8	18.5 - 34.3	.986	A
Cobalt-60	14.581	15.0	A		-2.8	10.5 - 19.5	.295	A
Hydrogen-3	391.851	374	A		4.8	262 - 486	22.556	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	.174		A			False Positive Test	.829	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.45	0.439	A		2.5	0.307 - 0.571	0.035	A
Plutonium-239/240	.461	0.437	A		5.5	0.306 - 0.568	.036	A
Potassium-40	-0.4516		A			False Positive Test	.82883	
Radium-226	.395	0.360	A		9.7	0.252 - 0.468	.038	A
Strontium-90	10.619	11.2	A		-5.2	7.8 - 14.6	0.816	A
Technetium-99	4.511	11.2	N		-59.7	7.8 - 14.6	.549	A
Uranium-234	.32	0.380	A		-15.8	0.266 - 0.494	.028	A
Uranium-238	.366	0.385	A		-4.9	0.270 - 0.501	.031	A
Zinc-65	23.255	22.8	A		2.0	16.0 - 29.6	.819	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(ASUK99) AWE (Aldermaston)
A38.1 AWE
Reading, Berkshire RG7 4PR

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374	N	(28)		262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	0.4707	0.439	A		7.2	0.307 - 0.571	0.0387	A
Plutonium-239/240	0.4615	0.437	A		5.6	0.306 - 0.568	0.038	A
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.3989	0.380	A		5.0	0.266 - 0.494	0.0365	A
Uranium-238	0.3834	0.385	A		-0.4	0.270 - 0.501	0.0352	A
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	NR					False Positive Test		
Arsenic	2.13	2.13	A		0.0	1.49 - 2.77	0.0562	A
Barium	3.00	2.82	A		6.4	1.97 - 3.67	0.0407	N
Beryllium	4.69	4.91	A		-4.5	3.44 - 6.38	0.0623	N
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	10.2	10.2	A		0.0	7.1 - 13.3	0.05	N
Copper	2.56	2.50	A		2.4	1.75 - 3.25	0.0412	N
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	0.0933	0.087	A		7.2	0.061 - 0.113	0.0071	A
Nickel	6.03	6.19	A		-2.6	4.33 - 8.05	0.0494	N
Selenium	0.624	0.624	A		0.0	0.437 - 0.811	0.051	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.29	2.290	A		0.0	1.603 - 2.977	0.0683	A
Uranium-235	0.0002113	2.18E-04	A		-3.1	1.53E-4 - 2.83E-4	0.00002	A
Uranium-238	0.03	0.0310	A		-3.2	0.0217 - 0.0403	0.003	A
Uranium-Total	0.03	0.0312	A		-3.8	0.0218 - 0.0406	0.003	A
Vanadium	NR					False Positive Test		
Zinc	2.35	2.28	A		3.1	1.60 - 2.96	0.0626	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.34	0.363	A		-6.3	0.254 - 0.472	0.018	A
Cesium-134	NR	22.3		(6)		15.6 - 29.0		
Cesium-137	-0.131		A			False Positive Test	0.076	
Cobalt-57	30.9	26.4	A		17.0	18.5 - 34.3	0.55	N
Cobalt-60	17.3	15.0	A		15.3	10.5 - 19.5	0.71	A
Hydrogen-3	346	374	A		-7.5	262 - 486	10	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-0.0736		A			False Positive Test	0.10	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.43	0.439	A		-2.1	0.307 - 0.571	0.032	A
Plutonium-239/240	0.41	0.437	A		-6.2	0.306 - 0.568	0.031	A
Potassium-40	4.89		N	(1)		False Positive Test	0.69	
Radium-226	0.238	0.360	N		-33.9	0.252 - 0.468	0.052	W
Strontium-90	9.62	11.2	A		-14.1	7.8 - 14.6	0.23	A
Technetium-99	11.1	11.2	A		-0.9	7.8 - 14.6	0.41	A
Uranium-234	0.34	0.380	A		-10.5	0.266 - 0.494	0.021	A
Uranium-238	0.33	0.385	A		-14.3	0.270 - 0.501	0.021	A
Zinc-65	26.7	22.8	A		17.1	16.0 - 29.6	1.6	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

MAPEP Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.31	0.363	A		-14.6	0.254 - 0.472	0.029	A
Cesium-134	NR	22.3		(6)		15.6 - 29.0		
Cesium-137	0.037		A			False Positive Test	0.066	
Cobalt-57	29.467	26.4	A		11.6	18.5 - 34.3	0.244	N
Cobalt-60	16.533	15.0	A		10.2	10.5 - 19.5	0.249	N
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.023		A			False Positive Test	0.084	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.47	0.439	A		7.1	0.307 - 0.571	0.040	A
Plutonium-239/240	0.47	0.437	A		7.6	0.306 - 0.568	0.041	A
Potassium-40	4.257		N	(1)		False Positive Test	0.461	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.55	11.2	A		-5.8	7.8 - 14.6	0.43	A
Technetium-99	10.92	11.2	A		-2.5	7.8 - 14.6	0.12	N
Uranium-234	0.395	0.380	A		3.9	0.266 - 0.494	0.035	A
Uranium-238	0.350	0.385	A		-9.1	0.270 - 0.501	0.031	A
Zinc-65	25.5	22.8	A		11.8	16.0 - 29.6	0.577	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	2.15E+01	22.3	A		-3.6	15.6 - 29.0	1.15E+00	A
Cesium-137	3.37E-01		A			False Positive Test	8.15E-01	
Cobalt-57	2.52E+01	26.4	A		-4.5	18.5 - 34.3	1.25E+00	A
Cobalt-60	1.44E+01	15.0	A		-4.0	10.5 - 19.5	1.27E+00	A
Hydrogen-3	3.86E+02	374	A		3.2	262 - 486	1.11E+01	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	2.16E-01		A			False Positive Test	9.50E-01	
Nickel-63	NR					False Positive Test		
Plutonium-238	4.55E-01	0.439	A		3.6	0.307 - 0.571	3.17E-02	A
Plutonium-239/240	4.54E-01	0.437	A		3.9	0.306 - 0.568	3.16E-02	A
Potassium-40	1.12E+01		A			False Positive Test	8.38E+00	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	2.37E+01	22.8	A		3.9	16.0 - 29.6	3.65E+00	W

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

MAPEP Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	9.35E-04	0.363	N		-99.7	0.254 - 0.472	1.64E-04	W
Cesium-134	NR	22.3	N	(25)		15.6 - 29.0		
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	NR	26.4	N	(25)		18.5 - 34.3		
Cobalt-60	3.92E+02	15.0	N		2513.3	10.5 - 19.5	9.72E+00	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR		N	(11)		False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	6.83E-04	0.439	N		-99.8	0.307 - 0.571	5.20E-04	N
Plutonium-239/240	5.34E-04	0.437	N		-99.9	0.306 - 0.568	5.06E-04	N
Potassium-40	4.39E-01		A			False Positive Test	1.82E-01	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	1.32E+01	11.2	A		17.9	7.8 - 14.6	1.23E-01	N
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	4.64E-01	0.380	W		22.1	0.266 - 0.494	6.32E-02	A
Uranium-238	4.68E-01	0.385	W		21.6	0.270 - 0.501	6.37E-02	A
Zinc-65	NR	22.8	N	(25)		16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(COPS99) Health Canada Radiation Protection Bureau
775 Brookfield Road
Ottawa, Ontario K1A 1C1

Inorganic								Units: (mg/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	20.5	22.3	A		-8.1	15.6 - 29.0	0.884	A
Cesium-137	0.242		A			False Positive Test	0.35	
Cobalt-57	25.1	26.4	A		-4.9	18.5 - 34.3	2.22	A
Cobalt-60	13.8	15.0	A		-8.0	10.5 - 19.5	0.519	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.319		A			False Positive Test	0.320	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	2.68		A			False Positive Test	2.95	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	20.6	22.8	A		-9.6	16.0 - 29.6	1.39	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(DEHS01) Department of Environmental Health & Safety
North Carolina State Univ.
Raleigh, NC 27695-8007

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	20.46	22.3	A		-8.3	15.6 - 29.0	1.24	A
Cesium-137	-0.22		A			False Positive Test	0.22	
Cobalt-57	25.99	26.4	A		-1.6	18.5 - 34.3	1.61	A
Cobalt-60	15.27	15.0	A		1.8	10.5 - 19.5	1.01	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	63.46	57.5	A		10.4	40.3 - 74.8	3.85	A
Manganese-54	-0.69		A			False Positive Test	0.69	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	24.29	22.8	A		6.5	16.0 - 29.6	1.64	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	0.082	0.087	A		-5.7	0.061 - 0.113	0.004084477	A
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.3441	0.360	A		-4.4	0.252 - 0.468	0.0352	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.3774	0.380	A		-0.7	0.266 - 0.494	0.0370	A
Uranium-238	0.3404	0.385	A		-11.6	0.270 - 0.501	0.0333	A
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.000217	2.18E-04	A		-0.5	1.53E-4 - 2.83E-4	0.000024	A
Uranium-238	0.0311	0.0310	A		0.3	0.0217 - 0.0403	0.0033	A
Uranium-Total	0.0314	0.0312	A		0.6	0.0218 - 0.0406	0.0033	A
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.303	0.363	A		-16.5	0.254 - 0.472	0.023	A
Cesium-134	21.5	22.3	A		-3.6	15.6 - 29.0	0.5	A
Cesium-137	0.02		A			False Positive Test	0.17	
Cobalt-57	26.0	26.4	A		-1.5	18.5 - 34.3	0.5	N
Cobalt-60	15.4	15.0	A		2.7	10.5 - 19.5	0.4	A
Hydrogen-3	381	374	A		1.9	262 - 486	11	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	59.6	57.5	A		3.7	40.3 - 74.8	2.1	A
Manganese-54	0.07		A			False Positive Test	0.21	
Nickel-63	0.78		A			False Positive Test	0.34	
Plutonium-238	0.459	0.439	A		4.6	0.307 - 0.571	0.023	A
Plutonium-239/240	0.389	0.437	A		-11.0	0.306 - 0.568	0.021	A
Potassium-40	1.8		A			False Positive Test	2.3	
Radium-226	0.285	0.360	W		-20.8	0.252 - 0.468	0.043	W
Strontium-90	10.0	11.2	A		-10.7	7.8 - 14.6	0.6	A
Technetium-99	10.7	11.2	A		-4.5	7.8 - 14.6	1.6	A
Uranium-234	0.366	0.380	A		-3.7	0.266 - 0.494	0.023	A
Uranium-238	0.374	0.385	A		-2.9	0.270 - 0.501	0.023	A
Zinc-65	22.9	22.8	A		0.4	16.0 - 29.6	1.0	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	0.003		A			False Positive Test	0.002	
Arsenic	1.93	2.13	A		-9.4	1.49 - 2.77	0.08	A
Barium	2.84	2.82	A		0.7	1.97 - 3.67	0.02	N
Beryllium	4.96	4.91	A		1.0	3.44 - 6.38	.07	N
Cadmium	-0.001		A			False Positive Test	0.007	
Chromium	0.005		N	(1)		False Positive Test	0.001	
Cobalt	10.16	10.2	A		-0.4	7.1 - 13.3	.14	N
Copper	2.09	2.50	A		-16.4	1.75 - 3.25	.025	N
Lead	-0.001	1.54E-04	N	(29)		Sensitivity Evaluation	0.0001	
Mercury	NR	0.087				0.061 - 0.113		
Nickel	5.93	6.19	A		-4.2	4.33 - 8.05	0.012	N
Selenium	0.61	0.624	A		-2.2	0.437 - 0.811	0.002	N
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.38	2.290	A		3.9	1.603 - 2.977	0.01	N
Uranium-235	0.0002	2.18E-04	A		-8.3	1.53E-4 - 2.83E-4	0.00005	W
Uranium-238	0.0308	0.0310	A		-0.6	0.0217 - 0.0403	0.006	W
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	0.003		A			False Positive Test	0.001	
Zinc	2.18	2.28	A		-4.4	1.60 - 2.96	.042	N

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.367	0.363	A		1.1	0.254 - 0.472	0.015	A
Cesium-134	19.36	22.3	A		-13.2	15.6 - 29.0	.97	A
Cesium-137	0.30		A			False Positive Test	0.60	
Cobalt-57	26.29	26.4	A		-0.4	18.5 - 34.3	1.31	A
Cobalt-60	13.71	15.0	A		-8.6	10.5 - 19.5	0.69	A
Hydrogen-3	363	374	A		-2.9	262 - 486	6	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	53.49	57.5	A		-7.0	40.3 - 74.8	2.67	A
Manganese-54	0.67		A			False Positive Test	1.33	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.453	0.439	A		3.2	0.307 - 0.571	0.016	A
Plutonium-239/240	0.463	0.437	A		6.0	0.306 - 0.568	0.017	A
Potassium-40	0.24		A			False Positive Test	0.48	
Radium-226	0.315	0.360	A		-12.5	0.252 - 0.468	0.020	A
Strontium-90	12.1	11.2	A		8.0	7.8 - 14.6	0.24	N
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.353	0.380	A		-7.1	0.266 - 0.494	0.017	A
Uranium-238	0.345	0.385	A		-10.4	0.270 - 0.501	0.016	A
Zinc-65	22.75	22.8	A		-0.2	16.0 - 29.6	1.68	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	394.05	374	A		5.4	262 - 486	10.76	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

MAPEP Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	0.125		A			False Positive Test	0.625	
Arsenic	2.1	2.13	A		-1.4	1.49 - 2.77	0.11	A
Barium	2.8	2.82	A		-0.7	1.97 - 3.67	0.074	A
Beryllium	4.9	4.91	A		-0.2	3.44 - 6.38	0.35	A
Cadmium	0.01		A			False Positive Test	0.05	
Chromium	0.025		A			False Positive Test	0.125	
Cobalt	10.4	10.2	A		2.0	7.1 - 13.3	0.86	A
Copper	2.54	2.50	A		1.6	1.75 - 3.25	0.20	A
Lead	0.125	1.54E-04	A	(17)		Sensitivity Evaluation	0.625	
Mercury	0.075	0.087	A		-13.8	0.061 - 0.113	0.001	N
Nickel	6.3	6.19	A		1.8	4.33 - 8.05	0.126	A
Selenium	0.63	0.624	A		1.0	0.437 - 0.811	0.081	A
Technetium-99	0.0000175	1.79E-05	A		-2.2	1.25E-5 - 2.33E-5	0.00000175	A
Thallium	2.27	2.290	A		-0.9	1.603 - 2.977	0.259	A
Uranium-235	0.000249	2.18E-04	A		14.2	1.53E-4 - 2.83E-4	0.0000249	A
Uranium-238	0.035	0.0310	A		12.9	0.0217 - 0.0403	0.0035	A
Uranium-Total	0.035	0.0312	A		12.2	0.0218 - 0.0406	0.0035	A
Vanadium	0.05		A			False Positive Test	0.25	
Zinc	2.3	2.28	A		0.9	1.60 - 2.96	0.113	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2	N	(28)		7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

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

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.389	0.363	A		7.2	0.254 - 0.472	0.087	W
Cesium-134	22.99	22.3	A		3.1	15.6 - 29.0	0.605	A
Cesium-137	0.03		A			False Positive Test	0.24	
Cobalt-57	24.2	26.4	A		-8.3	18.5 - 34.3	0.427	N
Cobalt-60	14.9	15.0	A		-0.7	10.5 - 19.5	0.333	A
Hydrogen-3	377.1	374	A		0.8	262 - 486	3.8	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.061		A			False Positive Test	0.235	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.454	0.439	A		3.4	0.307 - 0.571	0.16	N
Plutonium-239/240	0.429	0.437	A		-1.8	0.306 - 0.568	0.15	N
Potassium-40	0.332		A			False Positive Test	0.734	
Radium-226	0.384	0.360	A		6.7	0.252 - 0.468	0.1	W
Strontium-90	10.64	11.2	A		-5.0	7.8 - 14.6	0.45	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.483	0.380	W		27.1	0.266 - 0.494	0.17	N
Uranium-238	0.432	0.385	A		12.2	0.270 - 0.501	0.16	N
Zinc-65	22.1	22.8	A		-3.1	16.0 - 29.6	0.596	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

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

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.374	0.363	A		3.0	0.254 - 0.472	0.123	N
Cesium-134	23.938	22.3	A		7.3	15.6 - 29.0	0.339	N
Cesium-137	0.104		A			False Positive Test	0.104	
Cobalt-57	25.182	26.4	A		-4.6	18.5 - 34.3	0.439	N
Cobalt-60	14.98	15.0	A		-0.1	10.5 - 19.5	0.226	N
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.058		A			False Positive Test	0.154	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	0.964		A			False Positive Test	0.964	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	0.446	0.385	A		15.8	0.270 - 0.501	0.446	N
Zinc-65	23.992	22.8	A		5.2	16.0 - 29.6	0.696	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	19.6	22.3	A		-12.1	15.6 - 29.0	1.0	A
Cesium-137	0.069		A			False Positive Test	0.075	
Cobalt-57	25.9	26.4	A		-1.9	18.5 - 34.3	1.1	A
Cobalt-60	15.24	15.0	A		1.6	10.5 - 19.5	0.78	A
Hydrogen-3	389	374	A		4.0	262 - 486	20	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.017		A			False Positive Test	0.096	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-0.50		A			False Positive Test	0.64	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	25.5	22.8	A		11.8	16.0 - 29.6	1.3	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	0.000217		A			False Positive Test	0.000336	
Arsenic	2.22	2.13	A		4.2	1.49 - 2.77	0.444	W
Barium	3.10	2.82	A		9.9	1.97 - 3.67	0.619	W
Beryllium	5.13	4.91	A		4.5	3.44 - 6.38	1.03	W
Cadmium	-0.00396		N	(29)		False Positive Test	0.000860	
Chromium	0.00192		A			False Positive Test	0.00107	
Cobalt	11.4	10.2	A		11.8	7.1 - 13.3	2.29	W
Copper	2.79	2.50	A		11.6	1.75 - 3.25	0.558	W
Lead	0.000199	1.54E-04	A	(17)		Sensitivity Evaluation	0.000171	
Mercury	0.0766	0.087	A		-12.0	0.061 - 0.113	0.0153	W
Nickel	6.58	6.19	A		6.3	4.33 - 8.05	1.32	W
Selenium	0.595	0.624	A		-4.6	0.437 - 0.811	0.119	W
Technetium-99	1.68E-5	1.79E-05	A		-6.1	1.25E-5 - 2.33E-5	2.03E-6	A
Thallium	2.3	2.290	A		0.4	1.603 - 2.977	0.460	W
Uranium-235	0.000206	2.18E-04	A		-5.5	1.53E-4 - 2.83E-4	0.0000413	W
Uranium-238	0.0283	0.0310	A		-8.7	0.0217 - 0.0403	0.00566	W
Uranium-Total	0.0285	0.0312	A		-8.7	0.0218 - 0.0406	0.00566	W
Vanadium	-0.000688		A			False Positive Test	0.00111	
Zinc	2.31	2.28	A		1.3	1.60 - 2.96	0.461	W

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.352	0.363	A		-3.0	0.254 - 0.472	0.0257	A
Cesium-134	19.5	22.3	A		-12.6	15.6 - 29.0	0.916	A
Cesium-137	-0.0164		A			False Positive Test	0.0672	
Cobalt-57	25.1	26.4	A		-4.9	18.5 - 34.3	1.04	A
Cobalt-60	15.1	15.0	A		0.7	10.5 - 19.5	0.778	A
Hydrogen-3	350	374	A		-6.4	262 - 486	36	A
Iron-55	46.1	48.1	A		-4.2	33.7 - 62.5	4.46	A
Iron-59	62.4	57.5	A		8.5	40.3 - 74.8	3.52	A
Manganese-54	0.0424		A			False Positive Test	0.078	
Nickel-63	-1.31		A			False Positive Test	1.54	
Plutonium-238	0.377	0.439	A		-14.1	0.307 - 0.571	0.0276	A
Plutonium-239/240	0.405	0.437	A		-7.3	0.306 - 0.568	0.0289	A
Potassium-40	-0.241		A			False Positive Test	0.881	
Radium-226	0.475	0.360	N		31.9	0.252 - 0.468	0.0803	W
Strontium-90	11.1	11.2	A		-0.9	7.8 - 14.6	0.89	A
Technetium-99	10.6	11.2	A		-5.4	7.8 - 14.6	1.04	A
Uranium-234	0.333	0.380	A		-12.4	0.266 - 0.494	0.0264	A
Uranium-238	0.339	0.385	A		-11.9	0.270 - 0.501	0.0265	A
Zinc-65	24.5	22.8	A		7.5	16.0 - 29.6	1.17	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	21.95	22.3	A		-1.6	15.6 - 29.0	1.44	A
Cesium-137	0.01		A			False Positive Test	0.35	
Cobalt-57	26.15	26.4	A		-0.9	18.5 - 34.3	2.08	A
Cobalt-60	14.89	15.0	A		-0.7	10.5 - 19.5	1.05	A
Hydrogen-3	375.55	374	A		0.4	262 - 486	15.6	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-.001		A			False Positive Test	0.39	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-0.55		A			False Positive Test	3.64	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2	N	(28)		7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	24.11	22.8	A		5.7	16.0 - 29.6	2.02	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	480	374	W		28.3	262 - 486	26	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	21.09	22.3	A		-5.4	15.6 - 29.0	0.9866	A
Cesium-137	0.06567		A			False Positive Test	0.2010	
Cobalt-57	25.84	26.4	A		-2.1	18.5 - 34.3	1.493	A
Cobalt-60	14.88	15.0	A		-0.8	10.5 - 19.5	0.9806	A
Hydrogen-3	384	374	A		2.7	262 - 486	10.2	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.08459		A			False Positive Test	0.2528	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	6.182		N	(1)		False Positive Test	1.237	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.14	22.8	A		-2.9	16.0 - 29.6	1.865	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(HPAC99) UKHSA, RCE 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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.289	0.363	W		-20.4	0.254 - 0.472	0.016	A
Cesium-134	21.91	22.3	A		-1.7	15.6 - 29.0	1.35	A
Cesium-137	0.7		A			False Positive Test	0.7	
Cobalt-57	25.33	26.4	A		-4.1	18.5 - 34.3	1.58	A
Cobalt-60	15.23	15.0	A		1.5	10.5 - 19.5	0.98	A
Hydrogen-3	360	374	A		-3.7	262 - 486	30	A
Iron-55	56.79	48.1	A		18.1	33.7 - 62.5	3.74	A
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.9		A			False Positive Test	0.9	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.425	0.439	A		-3.2	0.307 - 0.571	0.034	A
Plutonium-239/240	0.430	0.437	A		-1.6	0.306 - 0.568	0.035	A
Potassium-40	9		A			False Positive Test	9	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2	N	(28)		7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.394	0.380	A		3.7	0.266 - 0.494	0.023	A
Uranium-238	0.385	0.385	A		0.0	0.270 - 0.501	0.022	A
Zinc-65	21.77	22.8	A		-4.5	16.0 - 29.6	1.59	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(IAEA20) IAEA Marine Environment Laboratories, Radiometrics Laboratory
4a, Quai Antoine 1er
Monaco, Monaco 98000

Inorganic							Units: (mg/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological							Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	21.41	22.3	A		-4.0	15.6 - 29.0	0.84	A
Cesium-137	-0.01		A			False Positive Test	0.50	
Cobalt-57	24.4	26.4	A		-7.6	18.5 - 34.3	1.0	A
Cobalt-60	14.13	15.0	A		-5.8	10.5 - 19.5	0.56	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-0.01		A			False Positive Test	0.50	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-0.01		A			False Positive Test	0.50	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.97	22.8	A		0.7	16.0 - 29.6	0.95	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	2.24	2.13	A		5.2	1.49 - 2.77	0.08	A
Barium	2.89	2.82	A		2.5	1.97 - 3.67	0.08	A
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	-0.00003		A			False Positive Test	0.00018	
Chromium	-0.010		A			False Positive Test	0.010	
Cobalt	10.49	10.2	A		2.8	7.1 - 13.3	0.29	A
Copper	2.51	2.50	A		0.4	1.75 - 3.25	0.08	A
Lead	-0.0009	1.54E-04	A	(17)		Sensitivity Evaluation	0.0014	
Mercury	NR	0.087				0.061 - 0.113		
Nickel	6.43	6.19	A		3.9	4.33 - 8.05	0.21	A
Selenium	0.69	0.624	A		10.6	0.437 - 0.811	0.09	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.000222	2.18E-04	A		1.8	1.53E-4 - 2.83E-4	0.000007	A
Uranium-238	0.0319	0.0310	A		2.9	0.0217 - 0.0403	0.0007	A
Uranium-Total	0.0321	0.0312	A		2.9	0.0218 - 0.0406	0.0007	A
Vanadium	-0.0002		A			False Positive Test	0.0011	
Zinc	2.47	2.28	A		8.3	1.60 - 2.96	0.13	A

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.369	0.363	A		1.7	0.254 - 0.472	0.028	A
Cesium-134	22.2	22.3	A		-0.4	15.6 - 29.0	0.7	A
Cesium-137	0.072		A			False Positive Test	0.048	
Cobalt-57	26.1	26.4	A		-1.1	18.5 - 34.3	0.7	A
Cobalt-60	15.3	15.0	A		2.0	10.5 - 19.5	0.5	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	59.3	57.5	A		3.1	40.3 - 74.8	1.7	A
Manganese-54	0.037		A			False Positive Test	0.700	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.438	0.439	A		-0.2	0.307 - 0.571	0.015	A
Plutonium-239/240	0.453	0.437	A		3.7	0.306 - 0.568	0.011	A
Potassium-40	0.776		A			False Positive Test	0.547	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.395	0.380	A		3.9	0.266 - 0.494	0.011	A
Uranium-238	0.394	0.385	A		2.3	0.270 - 0.501	0.013	A
Zinc-65	23.4	22.8	A		2.6	16.0 - 29.6	0.6	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.3169	0.363	A		-12.7	0.254 - 0.472	0.0231	A
Cesium-134	22.3	22.3	A		0.0	15.6 - 29.0	0.213	N
Cesium-137	-0.0399		A			False Positive Test	0.068	
Cobalt-57	25.7	26.4	A		-2.7	18.5 - 34.3	0.403	N
Cobalt-60	15.0	15.0	A		0.0	10.5 - 19.5	0.182	N
Hydrogen-3	399	374	A		6.7	262 - 486	4.55	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	57.2	57.5	A		-0.5	40.3 - 74.8	0.760	N
Manganese-54	0.0101		A			False Positive Test	0.092	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.4677	0.439	A		6.5	0.307 - 0.571	0.03016	A
Plutonium-239/240	0.4329	0.437	A		-0.9	0.306 - 0.568	0.02842	A
Potassium-40	1.85		N	(1)		False Positive Test	0.367	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	11.06	11.2	A		-1.3	7.8 - 14.6	0.25	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.3889	0.380	A		2.3	0.266 - 0.494	0.0264	A
Uranium-238	0.3534	0.385	A		-8.2	0.270 - 0.501	0.0249	A
Zinc-65	22.2	22.8	A		-2.6	16.0 - 29.6	0.446	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	21.26	22.3	A		-4.7	15.6 - 29.0	0.33	N
Cesium-137	0.01		A			False Positive Test	0.09	
Cobalt-57	27.39	26.4	A		3.8	18.5 - 34.3	0.66	A
Cobalt-60	15.35	15.0	A		2.3	10.5 - 19.5	0.30	N
Hydrogen-3	382	374	A		2.1	262 - 486	3	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.03		A			False Positive Test	0.07	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	25.6	22.8	A		12.3	16.0 - 29.6	0.80	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.397	0.363	A		9.4	0.254 - 0.472	.09188	W
Cesium-134	20.25	22.3	A		-9.2	15.6 - 29.0	3.846	W
Cesium-137	0.0117		A			False Positive Test	0.09029	
Cobalt-57	26.25	26.4	A		-0.6	18.5 - 34.3	.55842	A
Cobalt-60	14.65	15.0	A		-2.3	10.5 - 19.5	0.31524	A
Hydrogen-3	344.0117	374	A		-8.0	262 - 486	25.6544	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.1645		A			False Positive Test	0.07328	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-1.1055		A			False Positive Test	0.93897	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.5	22.8	A		-1.3	16.0 - 29.6	0.55613	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.002		A			False Positive Test	0.001	
Arsenic	1.70	2.13	W		-20.2	1.49 - 2.77	0.09	A
Barium	2.53	2.82	A		-10.3	1.97 - 3.67	0.10	A
Beryllium	4.25	4.91	A		-13.4	3.44 - 6.38	0.24	A
Cadmium	0.0001		A			False Positive Test	0.0001	
Chromium	1.73		N	(1)		False Positive Test	0.01	
Cobalt	9.07	10.2	A		-11.1	7.1 - 13.3	0.70	A
Copper	2.32	2.50	A		-7.2	1.75 - 3.25	0.21	A
Lead	0.001	1.54E-04	A	(17)		Sensitivity Evaluation	0.001	
Mercury	0.002	0.087	N		-97.7	0.061 - 0.113	0.001	N
Nickel	6.06	6.19	A		-2.1	4.33 - 8.05	0.84	A
Selenium	0.489	0.624	W		-21.6	0.437 - 0.811	0.029	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.27	2.290	A		-0.9	1.603 - 2.977	0.15	A
Uranium-235	0.00023	2.18E-04	A		5.5	1.53E-4 - 2.83E-4	0.00002	A
Uranium-238	0.0296	0.0310	A		-4.5	0.0217 - 0.0403	0.0026	A
Uranium-Total	0.0298	0.0312	A		-4.5	0.0218 - 0.0406	0.0026	A
Vanadium	0.0001		A			False Positive Test	0.0001	
Zinc	1.76	2.28	W		-22.8	1.60 - 2.96	0.50	W

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	19.25	22.3	A		-13.7	15.6 - 29.0	0.32	N
Cesium-137	0.07		A			False Positive Test	0.05	
Cobalt-57	26.30	26.4	A		-0.4	18.5 - 34.3	0.43	N
Cobalt-60	15.20	15.0	A		1.3	10.5 - 19.5	0.30	N
Hydrogen-3	353	374	A		-5.6	262 - 486	19	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.08		A			False Positive Test	0.06	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	0.65		A			False Positive Test	0.85	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.78	22.8	A		-0.1	16.0 - 29.6	0.61	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(LZCA01) ACZ Laboratories, Inc
2773 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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.410	0.360	A		13.9	0.252 - 0.468	0.043	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(MART01) Fluor-BWXT Portsmouth LLC, Analytical Laboratory
COC, Bldg. X-705, Rm 106
Piketon, OH 45661

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.0002	2.18E-04	A		-8.3	1.53E-4 - 2.83E-4	0.0000206	A
Uranium-238	0.0280	0.0310	A		-9.7	0.0217 - 0.0403	0.00288	A
Uranium-Total	0.0282	0.0312	A		-9.6	0.0218 - 0.0406	0.0029	A
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.374	0.363	A		3.0	0.254 - 0.472	0.0205	A
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	0.445	0.439	A		1.4	0.307 - 0.571	0.02791	A
Plutonium-239/240	0.443	0.437	A		1.4	0.306 - 0.568	0.02783	A
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	10.7	11.2	A		-4.5	7.8 - 14.6	0.323	A
Uranium-234	0.368	0.380	A		-3.2	0.266 - 0.494	0.02382	A
Uranium-238	0.341	0.385	A		-11.4	0.270 - 0.501	0.02227	A
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.00014		N	(1)		False Positive Test	0.00001	
Arsenic	2.11	2.13	A		-0.9	1.49 - 2.77	0.21	A
Barium	2.71	2.82	A		-3.9	1.97 - 3.67	0.27	A
Beryllium	4.89	4.91	A		-0.4	3.44 - 6.38	0.49	A
Cadmium	0.00003		A			False Positive Test	0.00003	
Chromium	0.003		A			False Positive Test	0.001	
Cobalt	10.1	10.2	A		-1.0	7.1 - 13.3	1.0	A
Copper	2.55	2.50	A		2.0	1.75 - 3.25	0.51	W
Lead	0.00019	1.54E-04	A			Sensitivity Evaluation	0.00004	
Mercury	0.086	0.087	A		-1.1	0.061 - 0.113	0.009	A
Nickel	6.020	6.19	A		-2.7	4.33 - 8.05	0.070	N
Selenium	0.591	0.624	A		-5.3	0.437 - 0.811	0.059	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.14	2.290	A		-6.6	1.603 - 2.977	0.21	A
Uranium-235	0.00021	2.18E-04	A		-3.7	1.53E-4 - 2.83E-4	0.00002	A
Uranium-238	0.029	0.0310	A		-6.5	0.0217 - 0.0403	0.003	A
Uranium-Total	0.030	0.0312	A		-3.8	0.0218 - 0.0406	0.003	A
Vanadium	0.0025		A			False Positive Test	0.0025	
Zinc	2.26	2.28	A		-0.9	1.60 - 2.96	0.23	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.328	0.363	A		-9.6	0.254 - 0.472	0.024	A
Cesium-134	22.64	22.3	A		1.5	15.6 - 29.0	0.30	N
Cesium-137	0.45		A			False Positive Test	0.45	
Cobalt-57	25.27	26.4	A		-4.3	18.5 - 34.3	0.51	A
Cobalt-60	14.62	15.0	A		-2.5	10.5 - 19.5	0.26	N
Hydrogen-3	378	374	A		1.1	262 - 486	13	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.54		A			False Positive Test	0.54	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.465	0.439	A		5.9	0.307 - 0.571	0.026	A
Plutonium-239/240	0.459	0.437	A		5.0	0.306 - 0.568	0.026	A
Potassium-40	3.2		A			False Positive Test	3.2	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	11.23	11.2	A		0.3	7.8 - 14.6	0.34	A
Technetium-99	10.81	11.2	A		-3.5	7.8 - 14.6	0.35	A
Uranium-234	0.382	0.380	A		0.5	0.266 - 0.494	0.025	A
Uranium-238	0.388	0.385	A		0.8	0.270 - 0.501	0.025	A
Zinc-65	23.05	22.8	A		1.1	16.0 - 29.6	0.64	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.492	0.363		(6)	35.5	0.254 - 0.472	0.786	N
Cesium-134	22.4	22.3	A		0.4	15.6 - 29.0	0.168	N
Cesium-137	-0.0744		A			False Positive Test	0.156	
Cobalt-57	26.10	26.4	A		-1.1	18.5 - 34.3	0.715	A
Cobalt-60	15.80	15.0	A		5.3	10.5 - 19.5	0.166	N
Hydrogen-3	269.38	374	W		-28.0	262 - 486	11.7	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.0493		A			False Positive Test	0.149	
Nickel-63	1.39		N	(1)		False Positive Test	0.451	
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	1.41		A			False Positive Test	1.04	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	27.20	22.8	A		19.3	16.0 - 29.6	0.432	N

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.325	0.363	A		-10.5	0.254 - 0.472	0.0202	A
Cesium-134	21.7	22.3	A		-2.7	15.6 - 29.0	1.19	A
Cesium-137	-0.0969		A			False Positive Test	0.0865	
Cobalt-57	27.2	26.4	A		3.0	18.5 - 34.3	1.52	A
Cobalt-60	14.4	15.0	A		-4.0	10.5 - 19.5	0.788	A
Hydrogen-3	386	374	A		3.2	262 - 486	9.79	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	62.8	57.5	A		9.2	40.3 - 74.8	3.5	A
Manganese-54	0.0523		A			False Positive Test	0.106	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.467	0.439	A		6.4	0.307 - 0.571	0.024	A
Plutonium-239/240	0.455	0.437	A		4.1	0.306 - 0.568	0.0235	A
Potassium-40	-0.652		A			False Positive Test	0.559	
Radium-226	0.371	0.360	A		3.1	0.252 - 0.468	0.0253	A
Strontium-90	11.0	11.2	A		-1.8	7.8 - 14.6	0.237	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.36	0.380	A		-5.3	0.266 - 0.494	0.0193	A
Uranium-238	0.359	0.385	A		-6.8	0.270 - 0.501	0.0192	A
Zinc-65	24.8	22.8	A		8.8	16.0 - 29.6	1.4	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.0002		A			False Positive Test	0.0009	
Arsenic	2.02	2.13	A		-5.2	1.49 - 2.77	0.039	N
Barium	3.00	2.82	A		6.4	1.97 - 3.67	0.145	A
Beryllium	4.34	4.91	A		-11.6	3.44 - 6.38	0.210	A
Cadmium	0.001		A			False Positive Test	0.001	
Chromium	0.002		A			False Positive Test	0.001	
Cobalt	9.41	10.2	A		-7.7	7.1 - 13.3	0.454	A
Copper	2.21	2.50	A		-11.6	1.75 - 3.25	0.107	A
Lead	0.0007	1.54E-04	A	(17)		Sensitivity Evaluation	0.0003	
Mercury	0.0843	0.087	A		-3.1	0.061 - 0.113	0.006	A
Nickel	5.47	6.19	A		-11.6	4.33 - 8.05	0.264	A
Selenium	0.501	0.624	A		-19.7	0.437 - 0.811	0.017	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.44	2.290	A		6.6	1.603 - 2.977	0.118	A
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	0.022		N	(1)		False Positive Test	0.001	
Zinc	1.67	2.28	W		-26.8	1.60 - 2.96	0.081	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.352	0.363	A		-3.0	0.254 - 0.472	0.025	A
Cesium-134	20.2	22.3	A		-9.4	15.6 - 29.0	0.840	A
Cesium-137	0.063		A			False Positive Test	0.196	
Cobalt-57	25.8	26.4	A		-2.3	18.5 - 34.3	0.709	A
Cobalt-60	15.2	15.0	A		1.3	10.5 - 19.5	0.447	A
Hydrogen-3	366	374	A		-2.1	262 - 486	16.2	A
Iron-55	36.4	48.1	W		-24.3	33.7 - 62.5	2.73	A
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.092		A			False Positive Test	0.252	
Nickel-63	1.36		N	(1)		False Positive Test	0.213	
Plutonium-238	0.430	0.439	A		-2.1	0.307 - 0.571	0.023	A
Plutonium-239/240	0.406	0.437	A		-7.1	0.306 - 0.568	0.022	A
Potassium-40	10.6		N	(1)		False Positive Test	1.23	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	14.4	11.2	W		28.6	7.8 - 14.6	1.03	A
Technetium-99	12.0	11.2	A		7.1	7.8 - 14.6	0.303	A
Uranium-234	0.367	0.380	A		-3.4	0.266 - 0.494	0.020	A
Uranium-238	0.351	0.385	A		-8.8	0.270 - 0.501	0.020	A
Zinc-65	24.4	22.8	A		7.0	16.0 - 29.6	0.872	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	20.2	22.3	A		-9.4	15.6 - 29.0	0.685	A
Cesium-137	0.379		A			False Positive Test	0.29	
Cobalt-57	27.0	26.4	A		2.3	18.5 - 34.3	0.937	A
Cobalt-60	15.9	15.0	A		6.0	10.5 - 19.5	0.695	A
Hydrogen-3	432	374	A		15.5	262 - 486	23	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-0.011		A			False Positive Test	0.295	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-4.69		A			False Positive Test	4.45	
Radium-226	0.346	0.360	A		-3.9	0.252 - 0.468	0.081	W
Strontium-90	10.32	11.2	A		-7.9	7.8 - 14.6	0.51	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	24.3	22.8	A		6.6	16.0 - 29.6	1.53	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(NRLL99) Environmental Radioactivity - National Centre for Radiation Science
PO Box 29181
Christchurch, Christchurch 8540

Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.327	0.363	A		-9.9	0.254 - 0.472	0.049	A
Cesium-134	20.98	22.3	A		-5.9	15.6 - 29.0	0.87	A
Cesium-137	0.38		A			False Positive Test	0.18	
Cobalt-57	26.0	26.4	A		-1.5	18.5 - 34.3	1.2	A
Cobalt-60	14.31	15.0	A		-4.6	10.5 - 19.5	0.66	A
Hydrogen-3	422	374	A		12.8	262 - 486	22	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.52		A			False Positive Test	0.25	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	3.6		A			False Positive Test	1.7	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.0	22.8	A		-3.5	16.0 - 29.6	1.0	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	22.4	22.3	A		0.4	15.6 - 29.0	0.693	A
Cesium-137	-0.0450		A			False Positive Test	0.107	
Cobalt-57	24.7	26.4	A		-6.4	18.5 - 34.3	1.72	A
Cobalt-60	15.1	15.0	A		0.7	10.5 - 19.5	0.452	A
Hydrogen-3	331.61	374	A		-11.3	262 - 486	7.53	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.195		A			False Positive Test	0.127	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	-0.0105		A			False Positive Test	0.608	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.4	22.8	A		-1.8	16.0 - 29.6	1.07	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	.005		A			False Positive Test	.005	
Arsenic	1.99	2.13	A		-6.6	1.49 - 2.77	.001	N
Barium	2.78	2.82	A		-1.4	1.97 - 3.67	.025	N
Beryllium	4.64	4.91	A		-5.5	3.44 - 6.38	.001	N
Cadmium	0.001		A			False Positive Test	.001	
Chromium	.02		A			False Positive Test	.02	
Cobalt	11	10.2	A		7.8	7.1 - 13.3	.01	N
Copper	2.51	2.50	A		0.4	1.75 - 3.25	.01	N
Lead	.002	1.54E-04	A	(17)		Sensitivity Evaluation	.002	
Mercury	0.0839	0.087	A		-3.6	0.061 - 0.113	.02	W
Nickel	6.47	6.19	A		4.5	4.33 - 8.05	.002	N
Selenium	0.6	0.624	A		-3.8	0.437 - 0.811	0.002	N
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.25	2.290	A		-1.7	1.603 - 2.977	.001	N
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	0.296	0.0312	N		848.7	0.0218 - 0.0406	0.003	N
Vanadium	.005		A			False Positive Test	.005	
Zinc	2.12	2.28	A		-7.0	1.60 - 2.96	.02	N

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.317	0.363	A		-12.7	0.254 - 0.472	0.054	W
Cesium-134	19.4	22.3	A		-13.0	15.6 - 29.0	1.35	A
Cesium-137	18.1		N	(1)		False Positive Test	0.26	
Cobalt-57	24.1	26.4	A		-8.7	18.5 - 34.3	1.81	A
Cobalt-60	14.3	15.0	A		-4.7	10.5 - 19.5	0.37	A
Hydrogen-3	382	374	A		2.1	262 - 486	14.6	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-.010		A			False Positive Test	0.30	
Nickel-63	1.54		A			False Positive Test	1.2	
Plutonium-238	0.475	0.439	A		8.2	0.307 - 0.571	0.053	A
Plutonium-239/240	0.417	0.437	A		-4.6	0.306 - 0.568	0.050	A
Potassium-40	-0.479		A			False Positive Test	1.80	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.3	11.2	A		-8.0	7.8 - 14.6	0.311	A
Technetium-99	9.66	11.2	A		-13.8	7.8 - 14.6	0.480	A
Uranium-234	0.643	0.380	N		69.2	0.266 - 0.494	0.060	A
Uranium-238	0.601	0.385	N		56.1	0.270 - 0.501	0.058	A
Zinc-65	23.4	22.8	A		2.6	16.0 - 29.6	1.92	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Laboratory Results For MAPEP Series 51
(QUAN01) Eurofins St. Louis
13715 Rider Trail North
Earth City, MO 63045-1205

Inorganic								Units: (mg/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.340	0.360	A		-5.6	0.252 - 0.468	0.0208	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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	0.0002		A			False Positive Test	0.0002	
Arsenic	2.32	2.13	A		8.9	1.49 - 2.77	0.170	A
Barium	3.04	2.82	A		7.8	1.97 - 3.67	0.361	A
Beryllium	5.28	4.91	A		7.5	3.44 - 6.38	0.672	A
Cadmium	0.00003		N	(1)		False Positive Test	0.000002	
Chromium	0.001		N	(1)		False Positive Test	0.0001	
Cobalt	10.3	10.2	A		1.0	7.1 - 13.3	1.13	A
Copper	2.54	2.50	A		1.6	1.75 - 3.25	0.239	A
Lead	0.001	1.54E-04	N	(4)		Sensitivity Evaluation	0.0001	
Mercury	0.090	0.087	A		3.4	0.061 - 0.113	0.005	A
Nickel	6.08	6.19	A		-1.8	4.33 - 8.05	0.543	A
Selenium	0.657	0.624	A		5.3	0.437 - 0.811	0.051	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.43	2.290	A		6.1	1.603 - 2.977	0.146	A
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	0.032	0.0312	A		2.6	0.0218 - 0.0406	0.002	A
Vanadium	0.001		N	(1)		False Positive Test	0.0001	
Zinc	2.48	2.28	A		8.8	1.60 - 2.96	0.279	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(RPSC01) Radiation Protection Service
O. Ministry of Labour, Immigration, Training & Skills Developmen
Mississauga, Ontario L4V 1W8

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	22.0	22.3	A		-1.3	15.6 - 29.0	0.45	A
Cesium-137	-2.18		N	(29)		False Positive Test	0.26	
Cobalt-57	25.8	26.4	A		-2.3	18.5 - 34.3	0.84	A
Cobalt-60	15.0	15.0	A		0.0	10.5 - 19.5	0.38	A
Hydrogen-3	422.1	374	A		12.9	262 - 486	68.6	W
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-1.58		N	(29)		False Positive Test	0.31	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	0.184		A			False Positive Test	0.66	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	22.7	22.8	A		-0.4	16.0 - 29.6	0.94	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.000162		N	(1)		False Positive Test	0.0000162	
Arsenic	2.04	2.13	A		-4.2	1.49 - 2.77	0.204	A
Barium	2.83	2.82	A		0.4	1.97 - 3.67	0.283	A
Beryllium	4.82	4.91	A		-1.8	3.44 - 6.38	0.24	A
Cadmium	0.00000883		A			False Positive Test	0.00000309	
Chromium	0.00445		A			False Positive Test	0.002	
Cobalt	9.83	10.2	A		-3.6	7.1 - 13.3	0.49	A
Copper	2.35	2.50	A		-6.0	1.75 - 3.25	0.12	A
Lead	0.000121	1.54E-04	A			Sensitivity Evaluation	0.0000121	
Mercury	0.0964	0.087	A		10.8	0.061 - 0.113	0.00964	A
Nickel	6.46	6.19	A		4.4	4.33 - 8.05	0.32	A
Selenium	0.230	0.624	N		-63.1	0.437 - 0.811	0.0230	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.32	2.290	A		1.3	1.603 - 2.977	0.232	A
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	0.0324	0.0312	A		3.8	0.0218 - 0.0406	0.00324	A
Vanadium	0.0386		A			False Positive Test	0.014	
Zinc	2.27	2.28	A		-0.4	1.60 - 2.96	0.11	A

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	22.2	22.3	A		-0.4	15.6 - 29.0	0.560	A
Cesium-137	2.25		A			False Positive Test	0.968	
Cobalt-57	25.8	26.4	A		-2.3	18.5 - 34.3	0.871	A
Cobalt-60	15.0	15.0	A		0.0	10.5 - 19.5	0.554	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	1.83		A			False Positive Test	0.694	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	36.1		A			False Positive Test	14.4	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	21.4	22.8	A		-6.1	16.0 - 29.6	1.40	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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	0.010		A			False Positive Test	0.010	
Arsenic	2.05	2.13	A		-3.8	1.49 - 2.77	0.21	A
Barium	2.80	2.82	A		-0.7	1.97 - 3.67	0.25	A
Beryllium	4.69	4.91	A		-4.5	3.44 - 6.38	0.38	A
Cadmium	0.005		A			False Positive Test	0.005	
Chromium	0.003		A			False Positive Test	0.003	
Cobalt	9.98	10.2	A		-2.2	7.1 - 13.3	0.90	A
Copper	2.46	2.50	A		-1.6	1.75 - 3.25	0.25	A
Lead	0.010	1.54E-04	A	(17)		Sensitivity Evaluation	0.010	
Mercury	0.0913	0.087	A		4.9	0.061 - 0.113	0.0091	A
Nickel	6.07	6.19	A		-1.9	4.33 - 8.05	0.61	A
Selenium	0.558	0.624	A		-10.6	0.437 - 0.811	0.073	A
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	2.31	2.290	A		0.9	1.603 - 2.977	0.23	A
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	0.002		A			False Positive Test	0.002	
Zinc	2.18	2.28	A		-4.4	1.60 - 2.96	0.22	A

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.338	0.363	A		-6.9	0.254 - 0.472	0.025	A
Cesium-134	22.6	22.3	A		1.3	15.6 - 29.0	3.12	A
Cesium-137	-0.30		A			False Positive Test	0.52	
Cobalt-57	26.1	26.4	A		-1.1	18.5 - 34.3	3.6	A
Cobalt-60	15.1	15.0	A		0.7	10.5 - 19.5	2.1	A
Hydrogen-3	376	374	A		0.5	262 - 486	35	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	-0.02		A			False Positive Test	0.61	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.456	0.439	A		3.9	0.307 - 0.571	0.028	A
Plutonium-239/240	0.435	0.437	A		-0.5	0.306 - 0.568	0.028	A
Potassium-40	0.01		A			False Positive Test	2.7	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.87	11.2	A		-2.9	7.8 - 14.6	0.70	A
Technetium-99	9.72	11.2	A		-13.2	7.8 - 14.6	0.37	A
Uranium-234	0.385	0.380	A		1.3	0.266 - 0.494	0.027	A
Uranium-238	0.398	0.385	A		3.4	0.270 - 0.501	0.027	A
Zinc-65	24.6	22.8	A		7.9	16.0 - 29.6	3.8	W

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	18.82	22.3	A		-15.6	15.6 - 29.0	1.88	A
Cesium-137	0.33		A			False Positive Test	0.33	
Cobalt-57	23.65	26.4	A		-10.4	18.5 - 34.3	2.36	A
Cobalt-60	13.53	15.0	A		-9.8	10.5 - 19.5	1.35	A
Hydrogen-3	357	374	A		-4.5	262 - 486	35.7	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.41		A			False Positive Test	0.41	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	0.1		A			False Positive Test	0.1	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	21.79	22.8	A		-4.4	16.0 - 29.6	2.18	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(SOUT01) Southwest Research Institute
6220 Culebra Rd.
San Antonio, TX 78238-5166

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.000216	2.18E-04	A		-0.9	1.53E-4 - 2.83E-4	0.0000671	N
Uranium-238	0.0317	0.0310	A		2.3	0.0217 - 0.0403	0.00509	W
Uranium-Total	0.0320	0.0312	A		2.6	0.0218 - 0.0406	0.00514	W
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	40.5	48.1	A		-15.8	33.7 - 62.5	3.30	A
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	-0.00448		A			False Positive Test	0.121	
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.314	0.360	A		-12.8	0.252 - 0.468	0.0280	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	9.93	11.2	A		-11.3	7.8 - 14.6	0.619	A
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	1.97E+01	22.3	A		-11.7	15.6 - 29.0	1.29E+00	A
Cesium-137	1.01E-01		A			False Positive Test	3.23E-01	
Cobalt-57	2.26E+01	26.4	A		-14.4	18.5 - 34.3	2.30E+00	A
Cobalt-60	1.37E+01	15.0	A		-8.7	10.5 - 19.5	7.10E-01	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	5.14E+01	57.5	A		-10.6	40.3 - 74.8	2.78E+00	A
Manganese-54	-1.58E-01		A			False Positive Test	3.49E-01	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	9.33E+00		N	(1)		False Positive Test	2.03E+00	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	1.85E+01	22.8	A		-18.9	16.0 - 29.6	1.16E+00	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(STRL01) South Texas Project Radiological Laboratory
12090 FM 521
Wadsworth, Texas 77483

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	22.27	22.3	A		-0.1	15.6 - 29.0	0.37	N
Cesium-137	NR		N	(11)		False Positive Test		
Cobalt-57	26.51	26.4	A		0.4	18.5 - 34.3	0.56	A
Cobalt-60	15.61	15.0	A		4.1	10.5 - 19.5	0.31	N
Hydrogen-3	398.7	374	A		6.6	262 - 486	7.2	N
Iron-55	50.09	48.1	A		4.1	33.7 - 62.5	0.35	N
Iron-59	62.25	57.5	A		8.3	40.3 - 74.8	1.9	A
Manganese-54	NR		N	(11)		False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2	N	(28)		7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	26.9	22.8	A		18.0	16.0 - 29.6	0.77	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.331	0.363	A		-8.8	0.254 - 0.472	0.036	A
Cesium-134	20.39	22.3	A		-8.6	15.6 - 29.0	0.35	N
Cesium-137	0.34		A			False Positive Test	0.12	
Cobalt-57	26.7	26.4	A		1.1	18.5 - 34.3	0.55	A
Cobalt-60	15.00	15.0	A		0.0	10.5 - 19.5	0.29	N
Hydrogen-3	397	374	A		6.2	262 - 486	15	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.18		A			False Positive Test	0.13	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.400	0.439	A		-8.9	0.307 - 0.571	0.048	A
Plutonium-239/240	0.444	0.437	A		1.6	0.306 - 0.568	0.052	A
Potassium-40	-0.50		A			False Positive Test	0.70	
Radium-226	0.341	0.360	A		-5.3	0.252 - 0.468	0.018	A
Strontium-90	10.19	11.2	A		-9.0	7.8 - 14.6	0.22	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.440	0.380	A		15.8	0.266 - 0.494	0.047	A
Uranium-238	0.411	0.385	A		6.8	0.270 - 0.501	0.045	A
Zinc-65	24.32	22.8	A		6.7	16.0 - 29.6	0.68	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	0.60		A			False Positive Test	3.19	
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	11.9	11.2	A		6.3	7.8 - 14.6	1.83	W
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(TELE02) Microbac Laboratories Inc. - Northbrook
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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	19.9	22.3	A		-10.8	15.6 - 29.0	0.3	N
Cesium-137	0.99		N	(1)		False Positive Test	0.29	
Cobalt-57	25.3	26.4	A		-4.2	18.5 - 34.3	0.4	N
Cobalt-60	14.7	15.0	A		-2.0	10.5 - 19.5	0.4	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	60.3	57.5	A		4.9	40.3 - 74.8	1.8	A
Manganese-54	0.12		A			False Positive Test	0.16	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	8.92		N	(1)		False Positive Test	1.23	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.39	0.380	A		2.6	0.266 - 0.494	0.01	A
Uranium-238	0.39	0.385	A		1.3	0.270 - 0.501	0.01	A
Zinc-65	20.6	22.8	A		-9.6	16.0 - 29.6	1.0	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological							Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	.331	0.363	A		-8.8	0.254 - 0.472	.0961	W
Cesium-134	20.72	22.3	A		-7.1	15.6 - 29.0	2.23	A
Cesium-137	.052		A			False Positive Test	.896	
Cobalt-57	25.31	26.4	A		-4.1	18.5 - 34.3	2.06	A
Cobalt-60	14.77	15.0	A		-1.5	10.5 - 19.5	1.45	A
Hydrogen-3	403.49	374	A		7.9	262 - 486	12.25	A
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	.0565		A			False Positive Test	1.331	
Nickel-63	.521		A			False Positive Test	.298	
Plutonium-238	.452	0.439	A		3.0	0.307 - 0.571	.128	W
Plutonium-239/240	.396	0.437	A		-9.4	0.306 - 0.568	.119	N
Potassium-40	3.03		A			False Positive Test	5.83	
Radium-226	.505	0.360	N		40.3	0.252 - 0.468	.173	N
Strontium-90	8.54	11.2	W		-23.8	7.8 - 14.6	.34	A
Technetium-99	6.96	11.2	N		-37.9	7.8 - 14.6	.28	A
Uranium-234	.389	0.380	A		2.4	0.266 - 0.494	.097	W
Uranium-238	.343	0.385	A		-10.9	0.270 - 0.501	.090	W
Zinc-65	25.31	22.8	A		11.0	16.0 - 29.6	4.77	W

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.250	0.363	N		-31.1	0.254 - 0.472	0.105	N
Cesium-134	18.913	22.3	A		-15.2	15.6 - 29.0	0.373	N
Cesium-137	-0.043		A			False Positive Test	0.064	
Cobalt-57	25.326	26.4	A		-4.1	18.5 - 34.3	0.547	A
Cobalt-60	14.682	15.0	A		-2.1	10.5 - 19.5	0.285	N
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.013		A			False Positive Test	0.083	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR		N	(11)		False Positive Test		
Radium-226	0.320	0.360	A		-11.1	0.252 - 0.468	0.041	A
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.399	0.380	A		5.0	0.266 - 0.494	0.050	A
Uranium-238	0.379	0.385	A		-1.6	0.270 - 0.501	0.048	A
Zinc-65	23.945	22.8	A		5.0	16.0 - 29.6	0.667	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(WEST04) PACE ANALYTICAL SERVICES, PITTSBURGH
1638 Roseytown Road
Greensburg, PA 15601

Inorganic								Units: (mg/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	0.2520	0.360	W		-30.0	0.252 - 0.468	0.0533	W
Strontium-90	9.9382	11.2	A		-11.3	7.8 - 14.6	1.6650	W
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(WIPH01) WI, DPH, Radiation Protection Section
1 West Wilson Street
Madison, WI 53703

Inorganic

Units: (mg/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Antimony	NR					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	-0.251	0.363	N		-169.1	0.254 - 0.472	.598	N
Cesium-134	21.033	22.3	A		-5.7	15.6 - 29.0	.597	A
Cesium-137	.0231		A			False Positive Test	.075	
Cobalt-57	25.336	26.4	A		-4.0	18.5 - 34.3	1.865	A
Cobalt-60	14.276	15.0	A		-4.8	10.5 - 19.5	.441	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	.110		A			False Positive Test	.130	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	1.088		A			False Positive Test	.574	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	21.021	22.8	A		-7.8	16.0 - 29.6	1.041	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	2.79E-001	0.363	W		-23.1	0.254 - 0.472	2.59E-002	A
Cesium-134	2.13E+001	22.3	A		-4.5	15.6 - 29.0	4.85E-001	A
Cesium-137	-2.87E-002		A			False Positive Test	1.39E-001	
Cobalt-57	2.67E+001	26.4	A		1.1	18.5 - 34.3	6.48E-001	A
Cobalt-60	1.45E+001	15.0	A		-3.3	10.5 - 19.5	4.74E-001	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	3.17E-001		A			False Positive Test	1.88E-001	
Nickel-63	NR					False Positive Test		
Plutonium-238	4.18E-001	0.439	A		-4.8	0.307 - 0.571	4.10E-002	A
Plutonium-239/240	4.23E-001	0.437	A		-3.2	0.306 - 0.568	4.14E-002	A
Potassium-40	1.14E+000		A			False Positive Test	2.43E+000	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	1.08E+001	11.2	A		-3.6	7.8 - 14.6	4.83E-001	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	4.28E-001	0.380	A		12.6	0.266 - 0.494	5.76E-002	A
Uranium-238	4.14E-001	0.385	A		7.5	0.270 - 0.501	5.58E-002	A
Zinc-65	2.28E+001	22.8	A		0.0	16.0 - 29.6	9.59E-001	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51

(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.3761	0.363	A		3.6	0.254 - 0.472	0.03566	A
Cesium-134	20.5	22.3	A		-8.1	15.6 - 29.0	0.438	A
Cesium-137	-0.0495		A			False Positive Test	0.0494	
Cobalt-57	25.8	26.4	A		-2.3	18.5 - 34.3	0.599	A
Cobalt-60	14.7	15.0	A		-2.0	10.5 - 19.5	0.906	A
Hydrogen-3	373.7	374	A		-0.1	262 - 486	4.91	N
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	60.9	57.5	A		5.9	40.3 - 74.8	3.26	A
Manganese-54	0.0917		A			False Positive Test	0.0784	
Nickel-63	NR					False Positive Test		
Plutonium-238	0.6295	0.439	N		43.4	0.307 - 0.571	0.07659	A
Plutonium-239/240	0.5362	0.437	W		22.7	0.306 - 0.568	0.06746	A
Potassium-40	-0.476		A			False Positive Test	0.564	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.097	11.2	A		-9.8	7.8 - 14.6	0.0604	N
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	0.3555	0.380	A		-6.4	0.266 - 0.494	0.03692	A
Uranium-238	0.3514	0.385	A		-8.7	0.270 - 0.501	0.03471	A
Zinc-65	24.3	22.8	A		6.6	16.0 - 29.6	1.97	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	NR	2.18E-04				1.53E-4 - 2.83E-4		
Uranium-238	NR	0.0310				0.0217 - 0.0403		
Uranium-Total	NR	0.0312				0.0218 - 0.0406		
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological								Units: (Bq/L)
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	19.7	22.3	A		-11.7	15.6 - 29.0	0.354	N
Cesium-137	0.127		A			False Positive Test	0.0946	
Cobalt-57	24.7	26.4	A		-6.4	18.5 - 34.3	0.622	A
Cobalt-60	14.5	15.0	A		-3.3	10.5 - 19.5	0.354	A
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	0.0690		A			False Positive Test	0.116	
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	1.04		A			False Positive Test	1.07	
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	10.3	11.2	A		-8.0	7.8 - 14.6	0.397	A
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	23.8	22.8	A		4.4	16.0 - 29.6	0.739	A

Radiological Reference Date: August 1, 2024

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
(25) = Result not reported with other gamma results
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Mixed Analyte Performance Evaluation Program

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

Laboratory Results For MAPEP Series 51
(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					False Positive Test		
Arsenic	NR	2.13				1.49 - 2.77		
Barium	NR	2.82				1.97 - 3.67		
Beryllium	NR	4.91				3.44 - 6.38		
Cadmium	NR					False Positive Test		
Chromium	NR					False Positive Test		
Cobalt	NR	10.2				7.1 - 13.3		
Copper	NR	2.50				1.75 - 3.25		
Lead	NR	1.54E-04				Sensitivity Evaluation		
Mercury	NR	0.087				0.061 - 0.113		
Nickel	NR	6.19				4.33 - 8.05		
Selenium	NR	0.624				0.437 - 0.811		
Technetium-99	NR	1.79E-05				1.25E-5 - 2.33E-5		
Thallium	NR	2.290				1.603 - 2.977		
Uranium-235	0.00023	2.18E-04	A		5.5	1.53E-4 - 2.83E-4	0.00002	A
Uranium-238	0.0320	0.0310	A		3.2	0.0217 - 0.0403	0.0013	A
Uranium-Total	0.0322	0.0312	A		3.2	0.0218 - 0.0406	0.0013	A
Vanadium	NR					False Positive Test		
Zinc	NR	2.28				1.60 - 2.96		

Radiological

Units: (Bq/L)

Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.363				0.254 - 0.472		
Cesium-134	NR	22.3				15.6 - 29.0		
Cesium-137	NR					False Positive Test		
Cobalt-57	NR	26.4				18.5 - 34.3		
Cobalt-60	NR	15.0				10.5 - 19.5		
Hydrogen-3	NR	374				262 - 486		
Iron-55	NR	48.1				33.7 - 62.5		
Iron-59	NR	57.5				40.3 - 74.8		
Manganese-54	NR					False Positive Test		
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.439				0.307 - 0.571		
Plutonium-239/240	NR	0.437				0.306 - 0.568		
Potassium-40	NR					False Positive Test		
Radium-226	NR	0.360				0.252 - 0.468		
Strontium-90	NR	11.2				7.8 - 14.6		
Technetium-99	NR	11.2				7.8 - 14.6		
Uranium-234	NR	0.380				0.266 - 0.494		
Uranium-238	NR	0.385				0.270 - 0.501		
Zinc-65	NR	22.8				16.0 - 29.6		

Radiological Reference Date: August 1, 2024

Results Flags:

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

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

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

RW = Report Warning

NR = Not Reported

Uncertainty Flags:

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

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

NOT ACCEPTABLE.....RP > 30%

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Notes:

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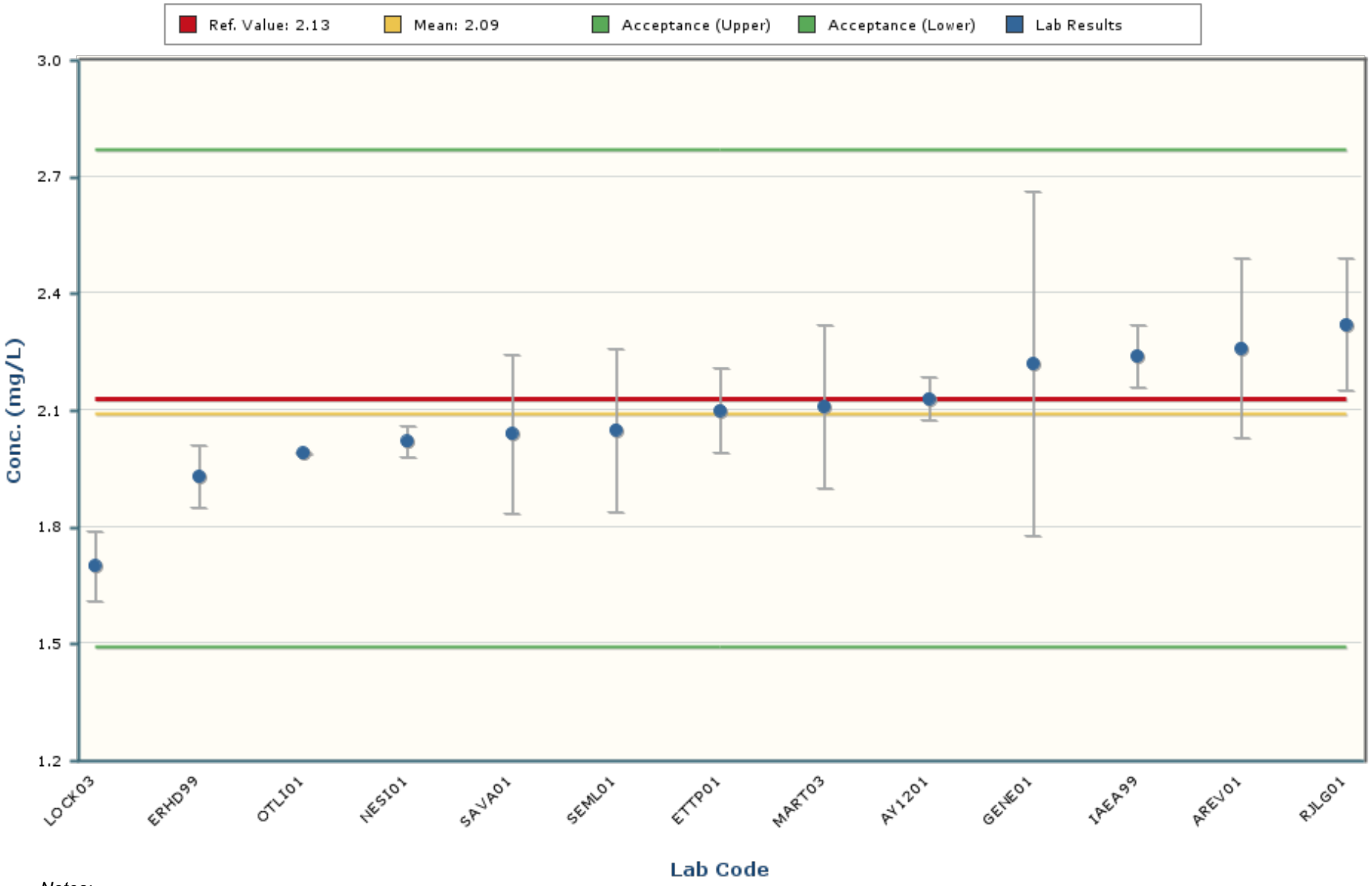
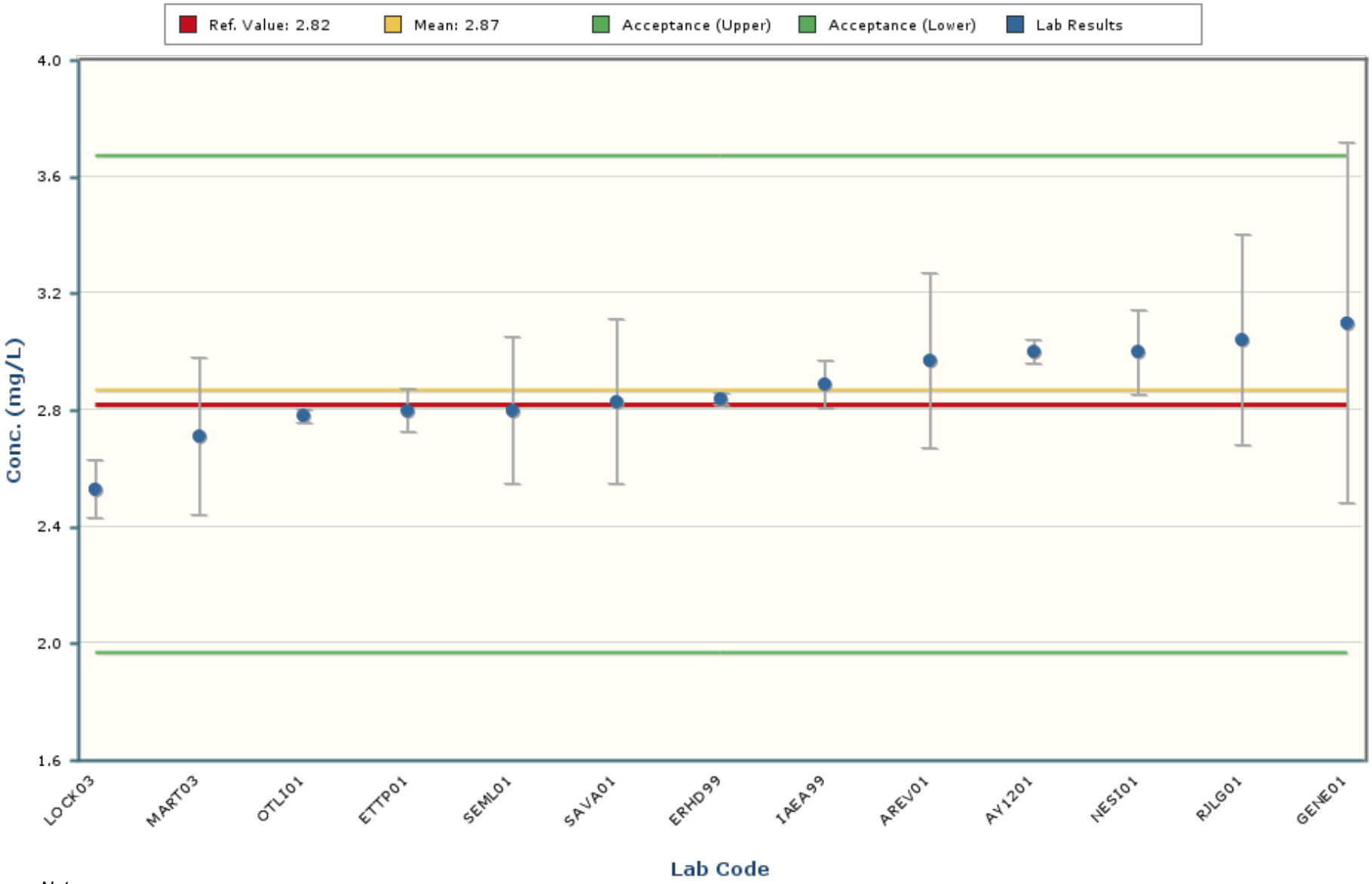
(28) = Not Reporting Previously Reported Analyte
(29) = Statistically significant negative value at 3 standard deviations

Arsenic
MAPEP-24-MaW51



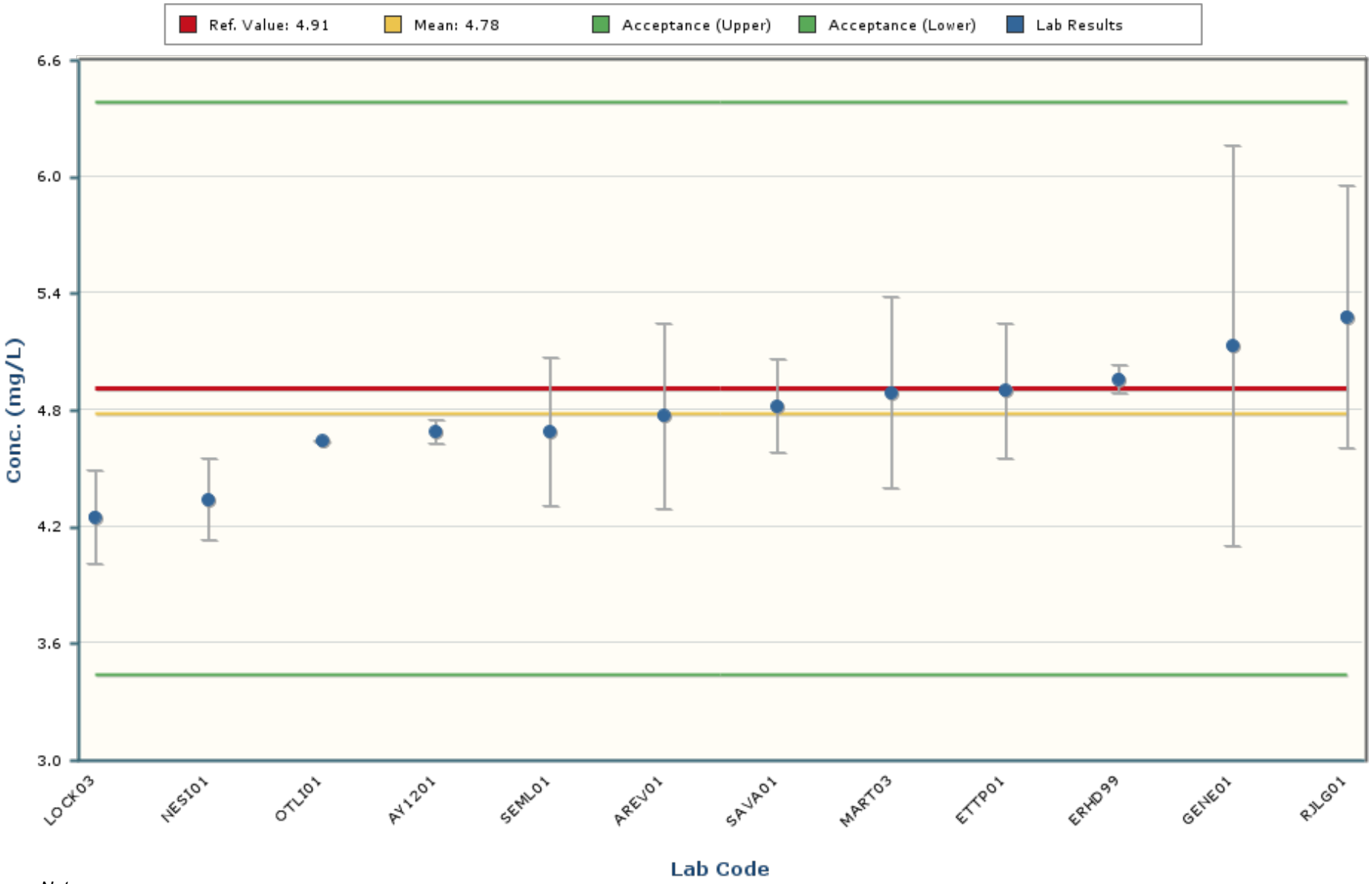
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 1.27 and 2.90 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Barium
MAPEP-24-MaW51



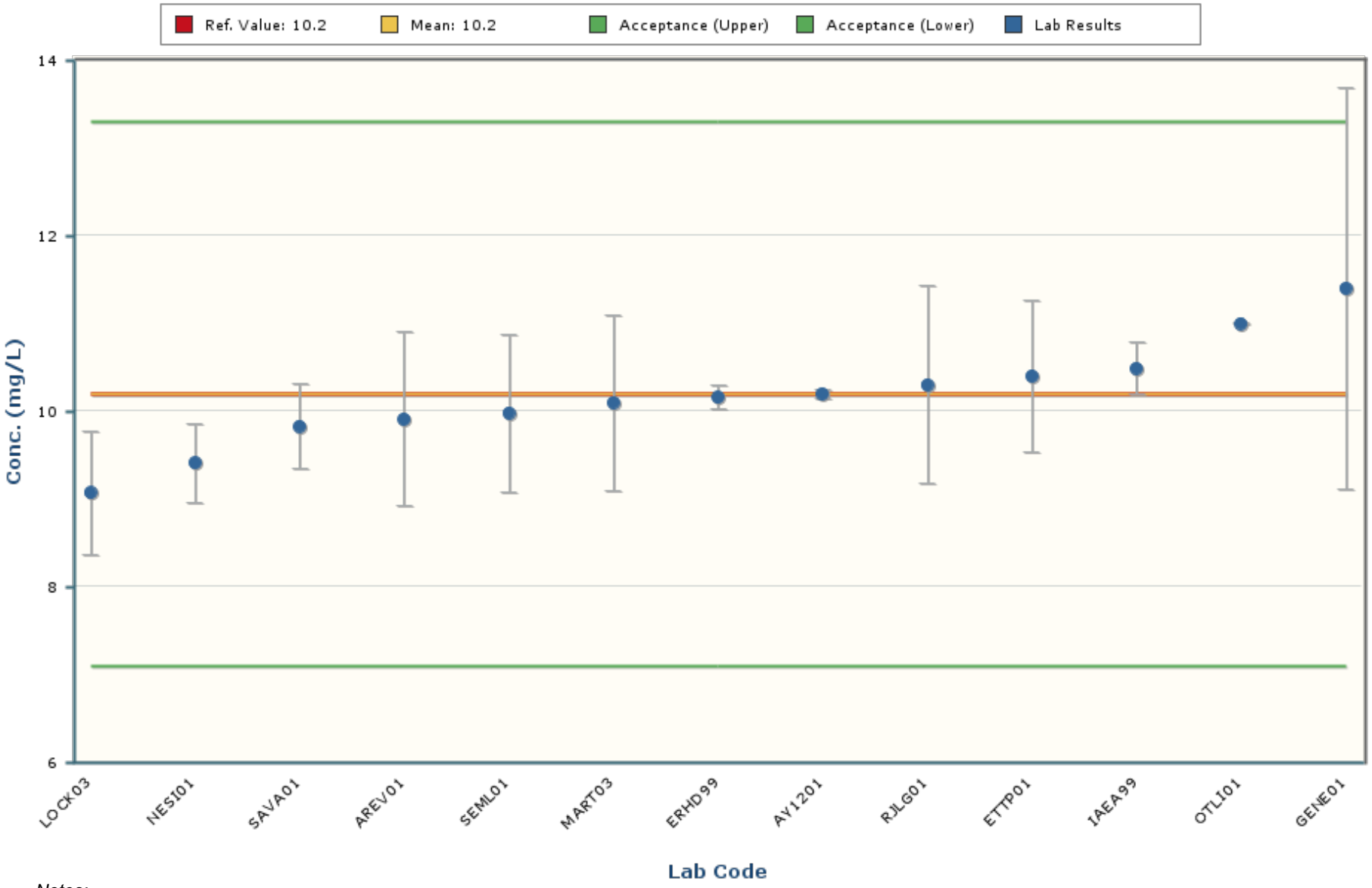
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 2.09 and 3.64 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Beryllium
MAPEP-24-MaW51



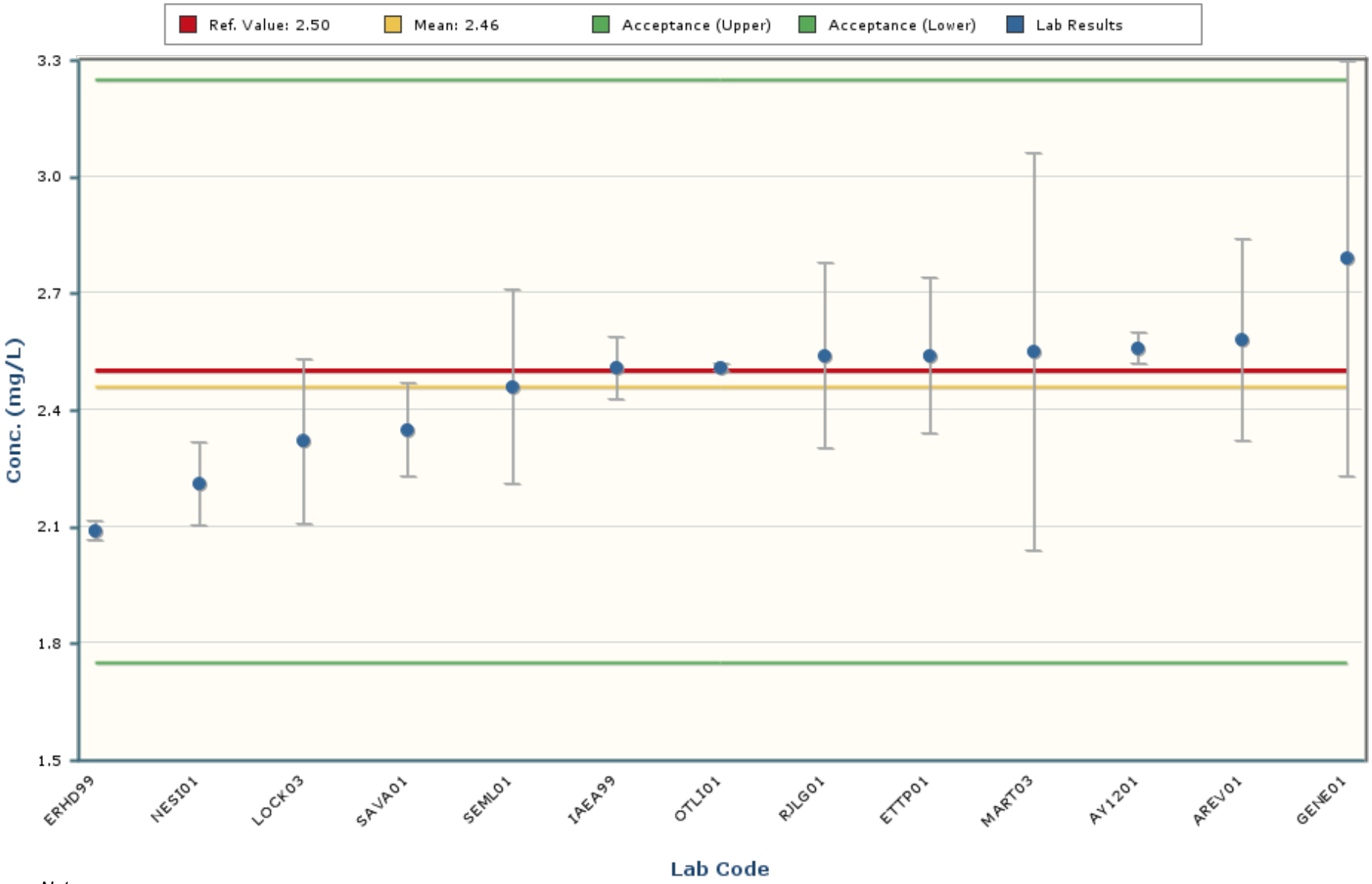
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 3.32 and 6.24 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Cobalt
MAPEP-24-MaW51



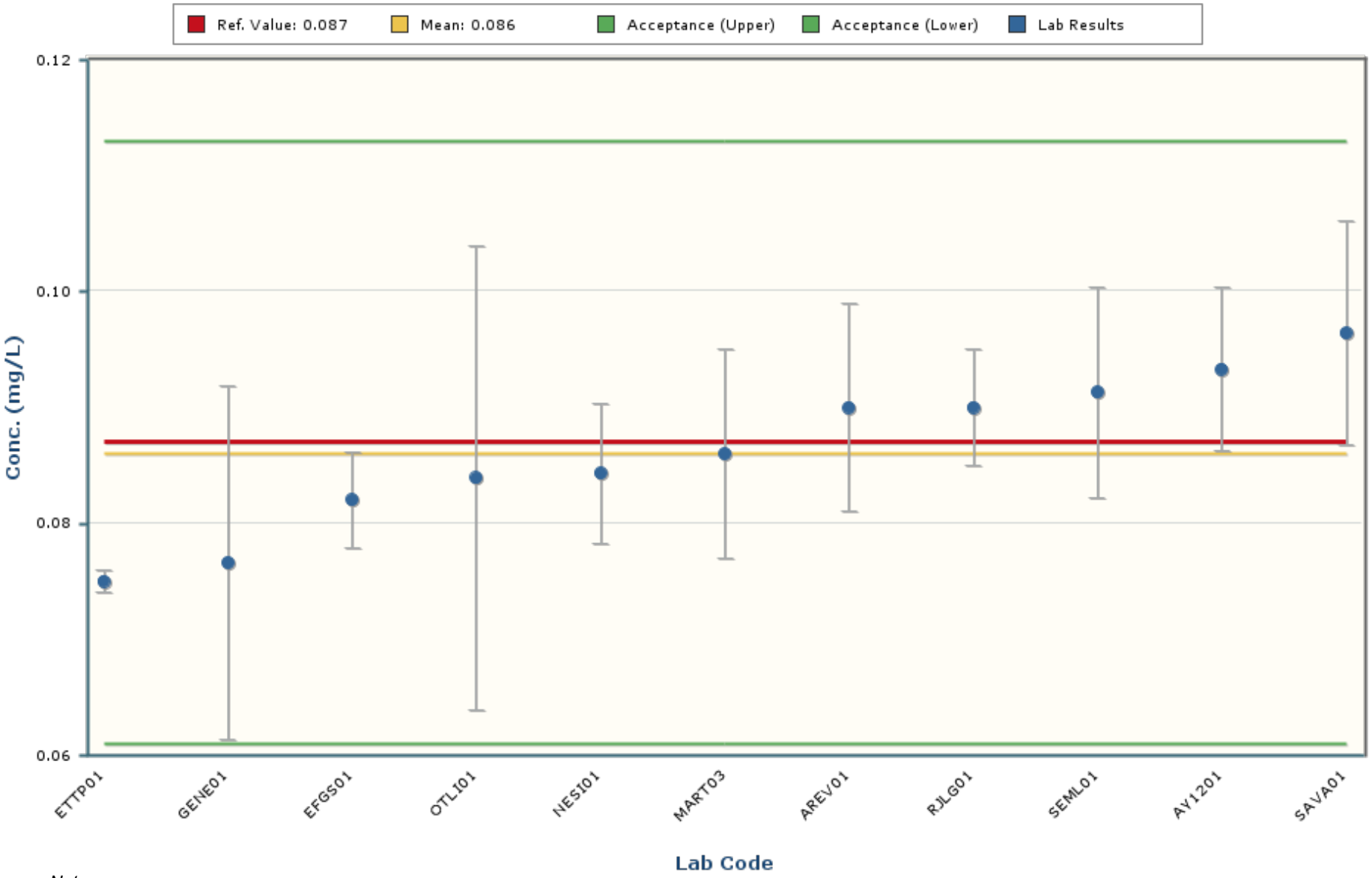
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 7.2 and 13.2 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Copper
MAPEP-24-MaW51



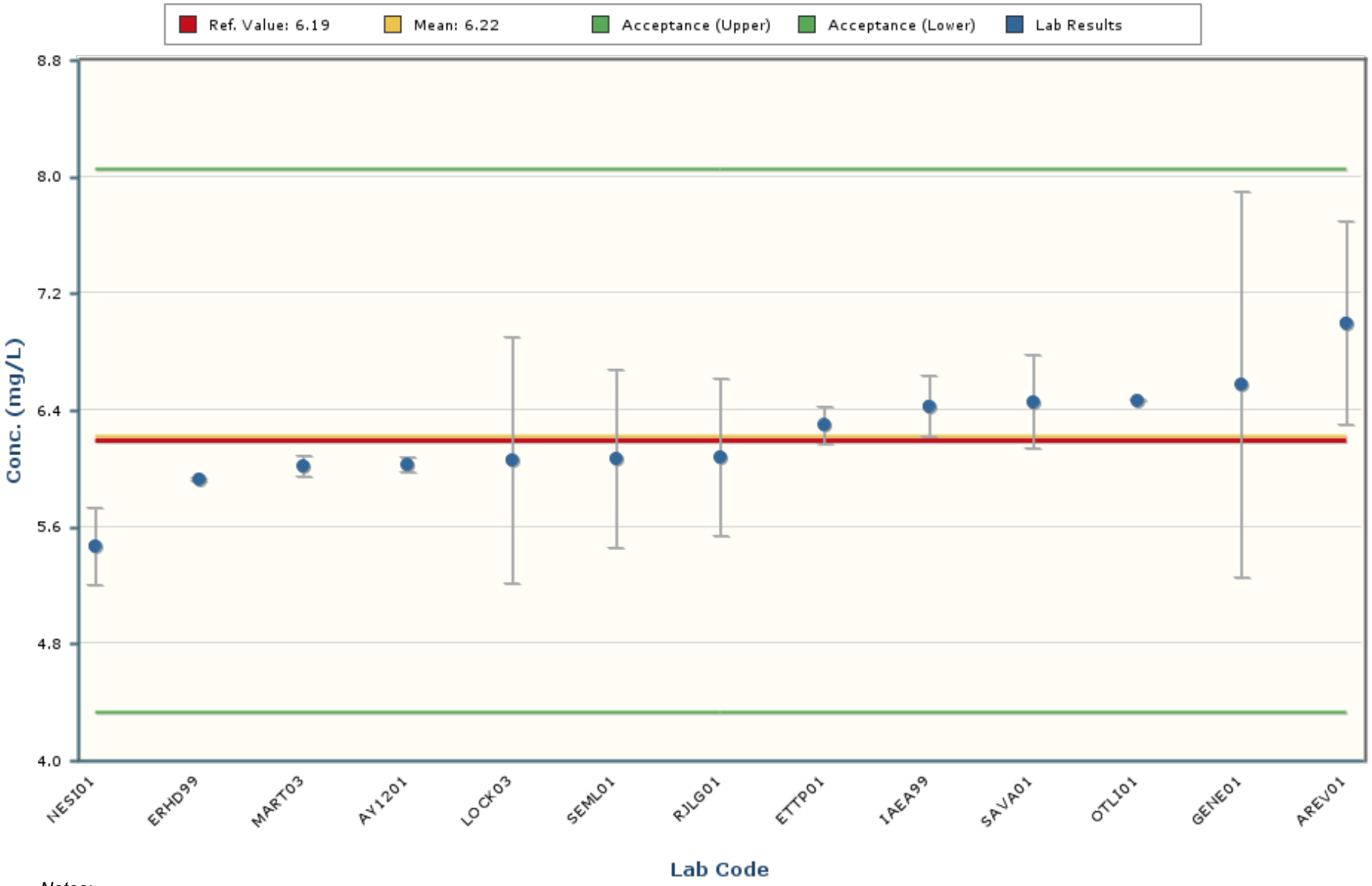
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 1.56 and 3.36 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Mercury
MAPEP-24-MaW51



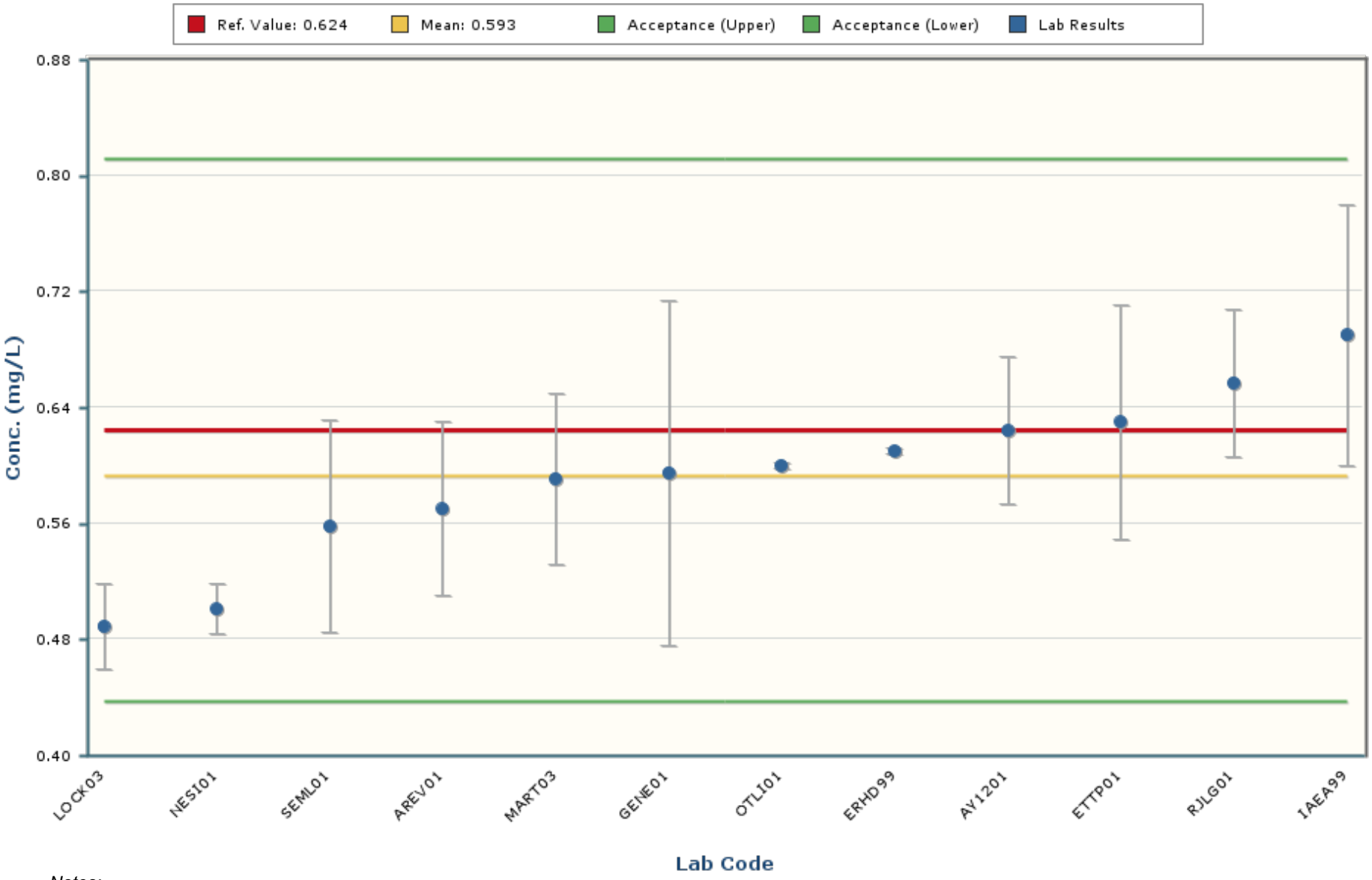
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.053 and 0.120 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Nickel
MAPEP-24-MaW51



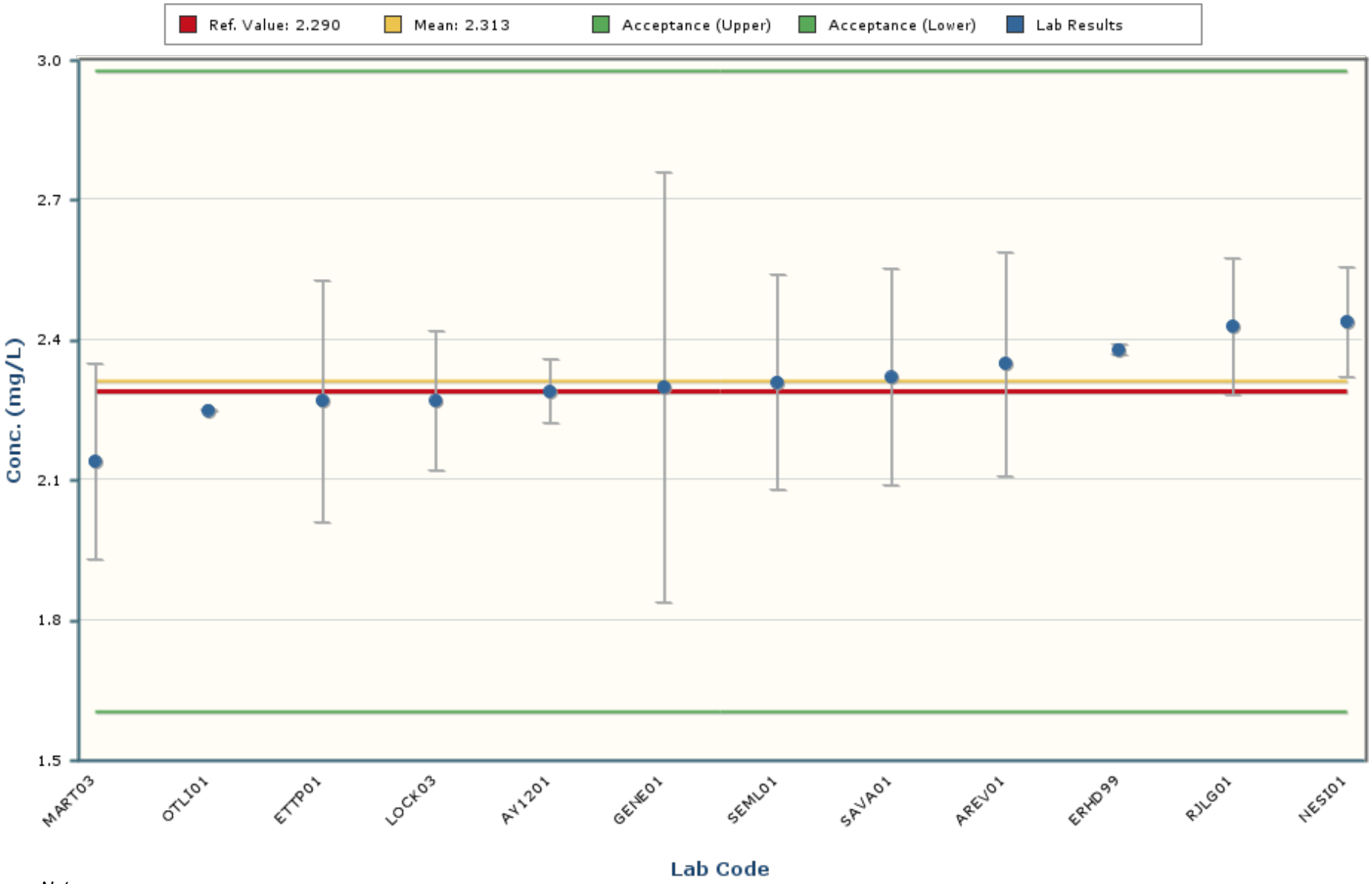
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 4.34 and 8.10 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Selenium
MAPEP-24-MaW51



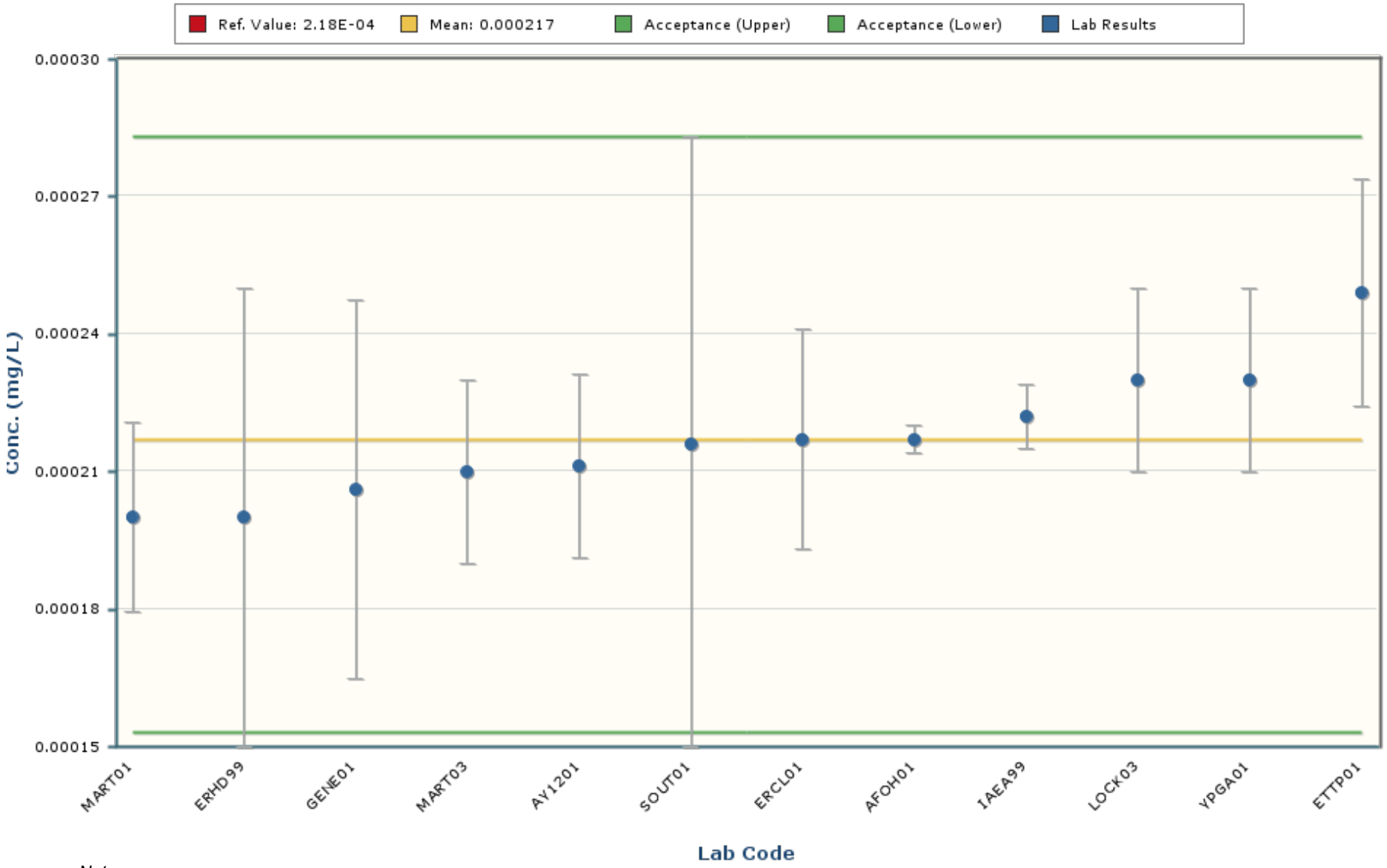
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.302 and 0.884 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Thallium
MAPEP-24-MaW51



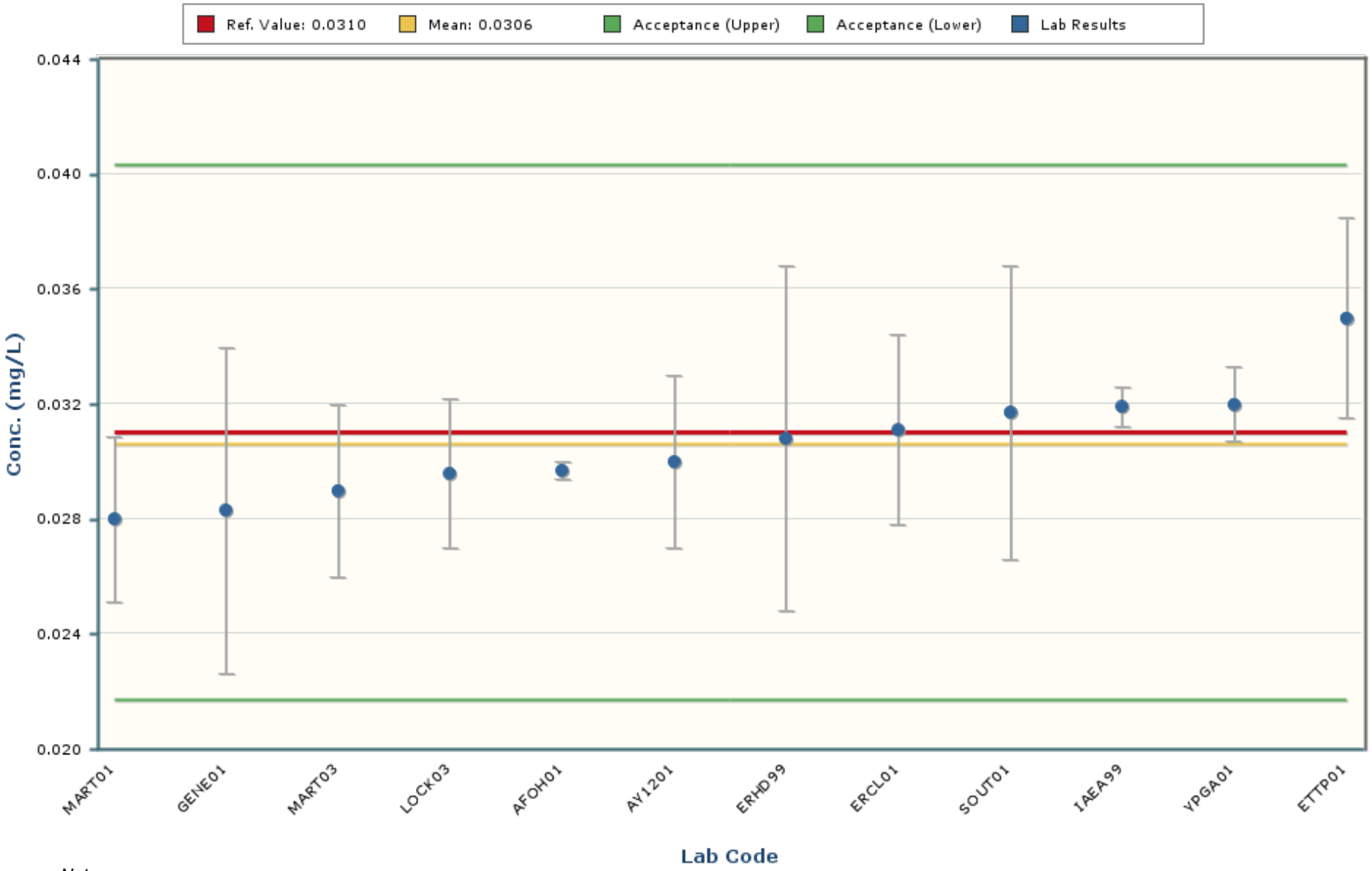
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 1.902 and 2.723 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Uranium-235
MAPEP-24-MaW51



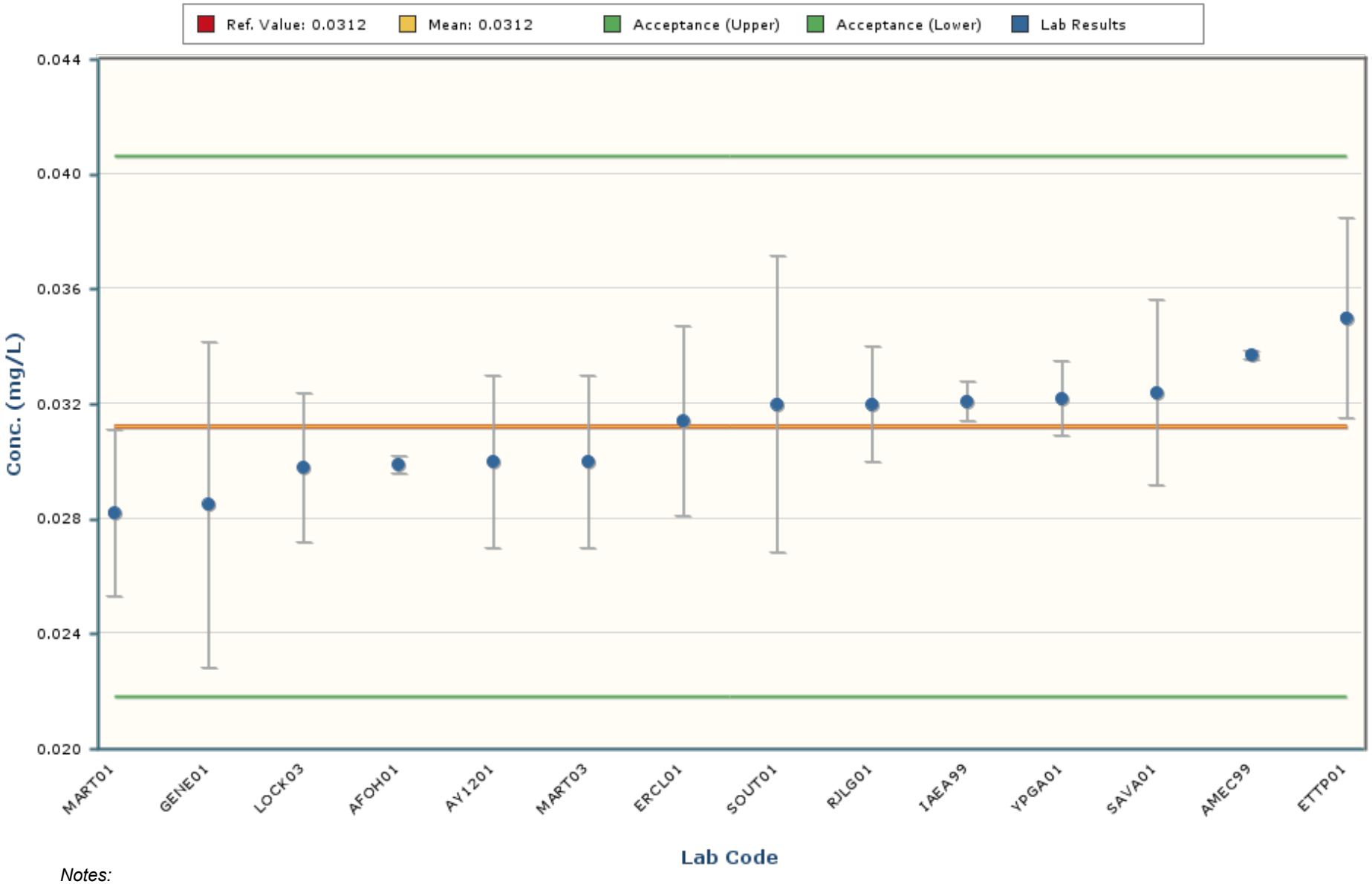
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.000147 and 0.000288 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Uranium-238
MAPEP-24-MaW51



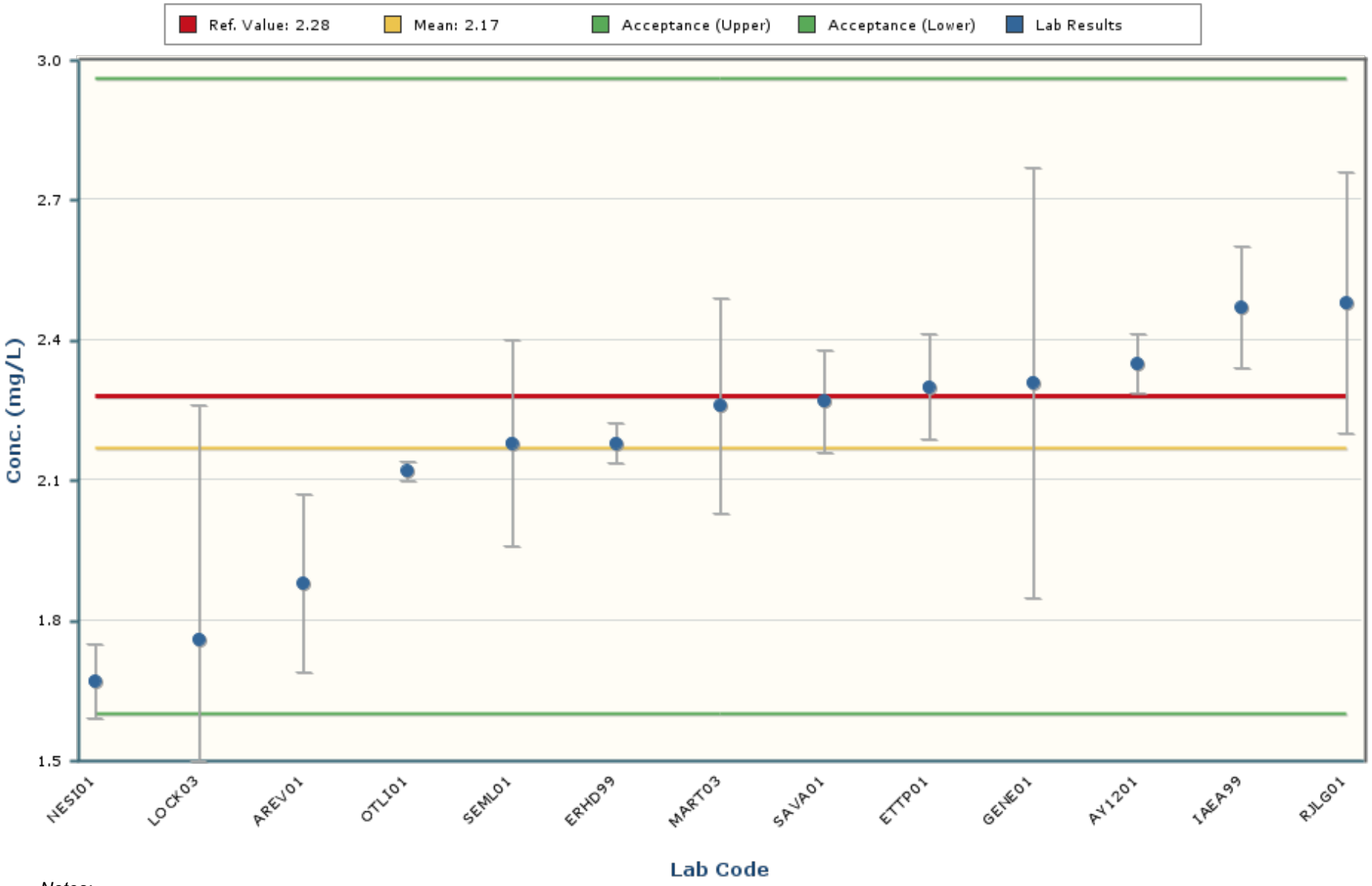
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.0209 and 0.0403 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Uranium-Total
MAPEP-24-MaW51



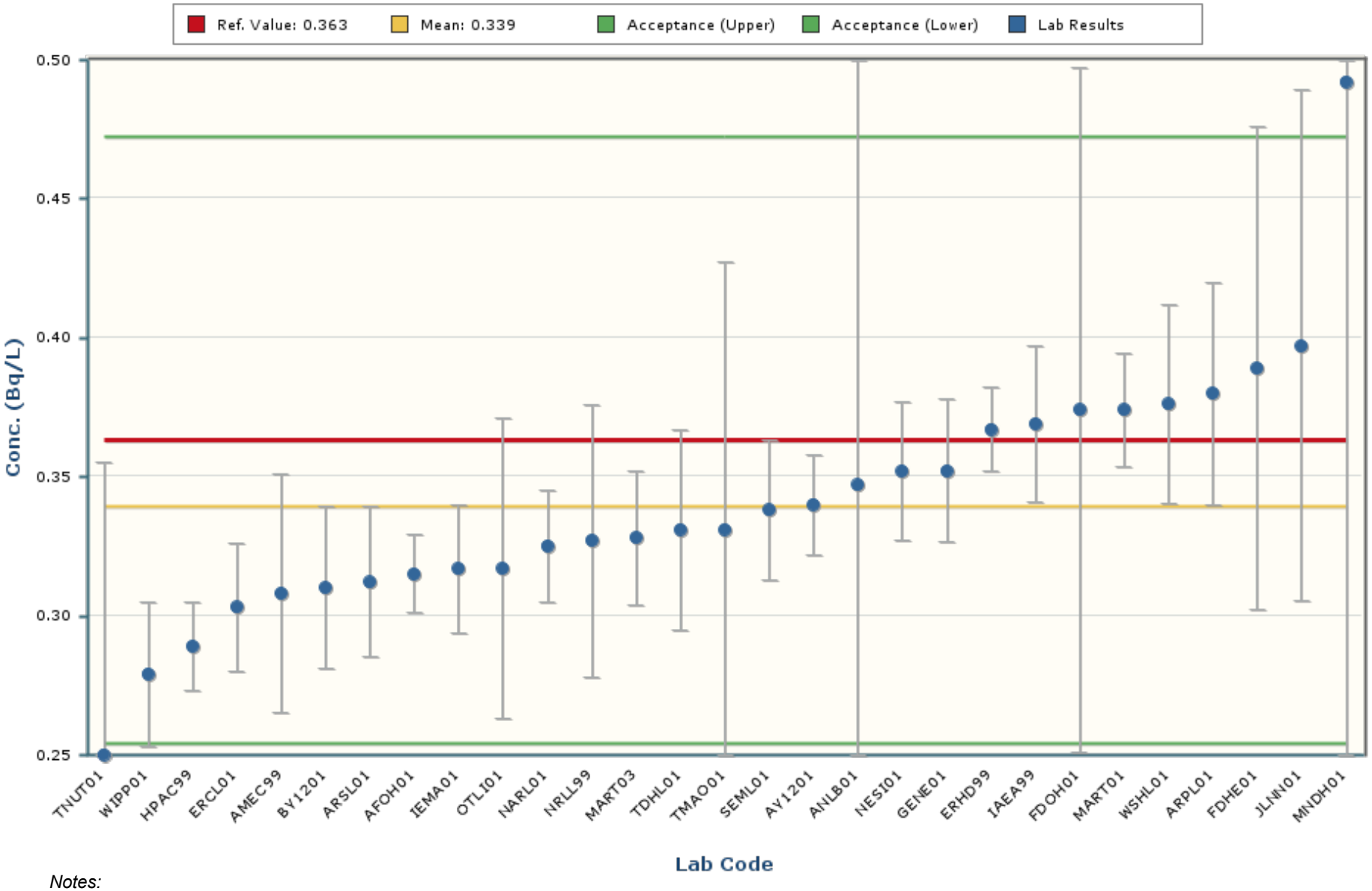
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.0216 and 0.0408 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Zinc
MAPEP-24-MaW51



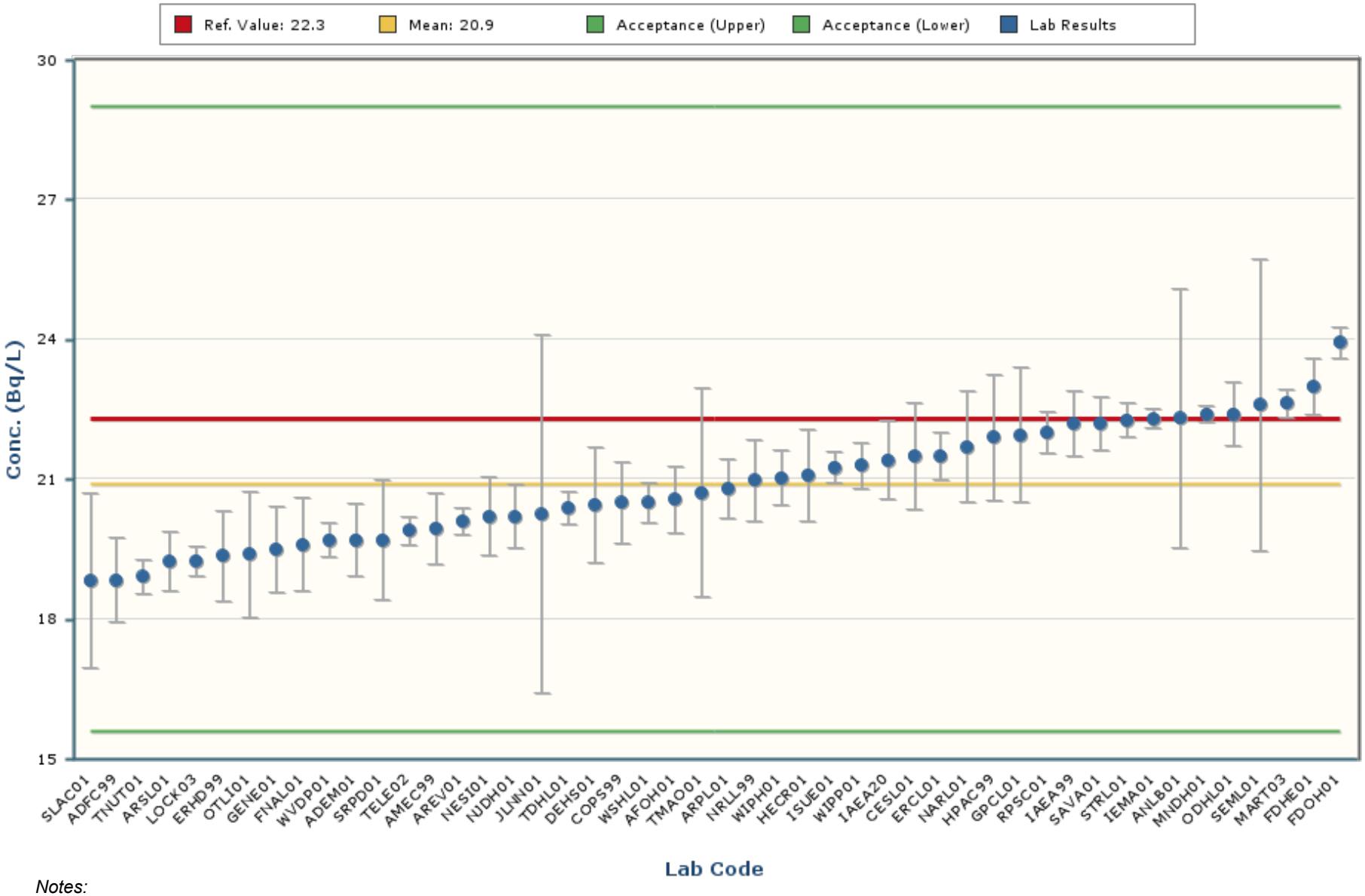
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.90 and 3.44 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Americium-241
MAPEP-24-MaW51



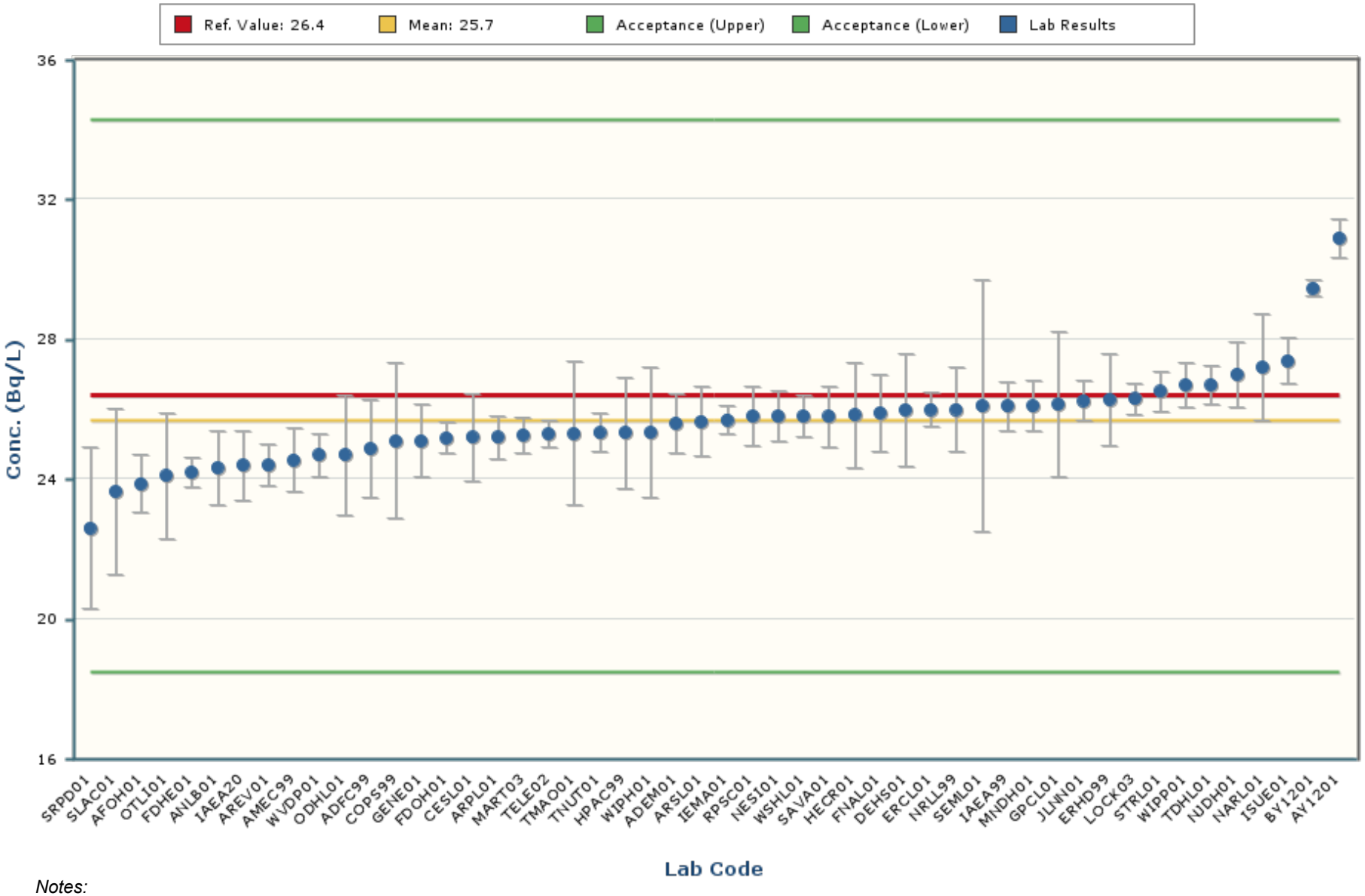
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.182 and 0.495 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Cesium-134
MAPEP-24-MaW51



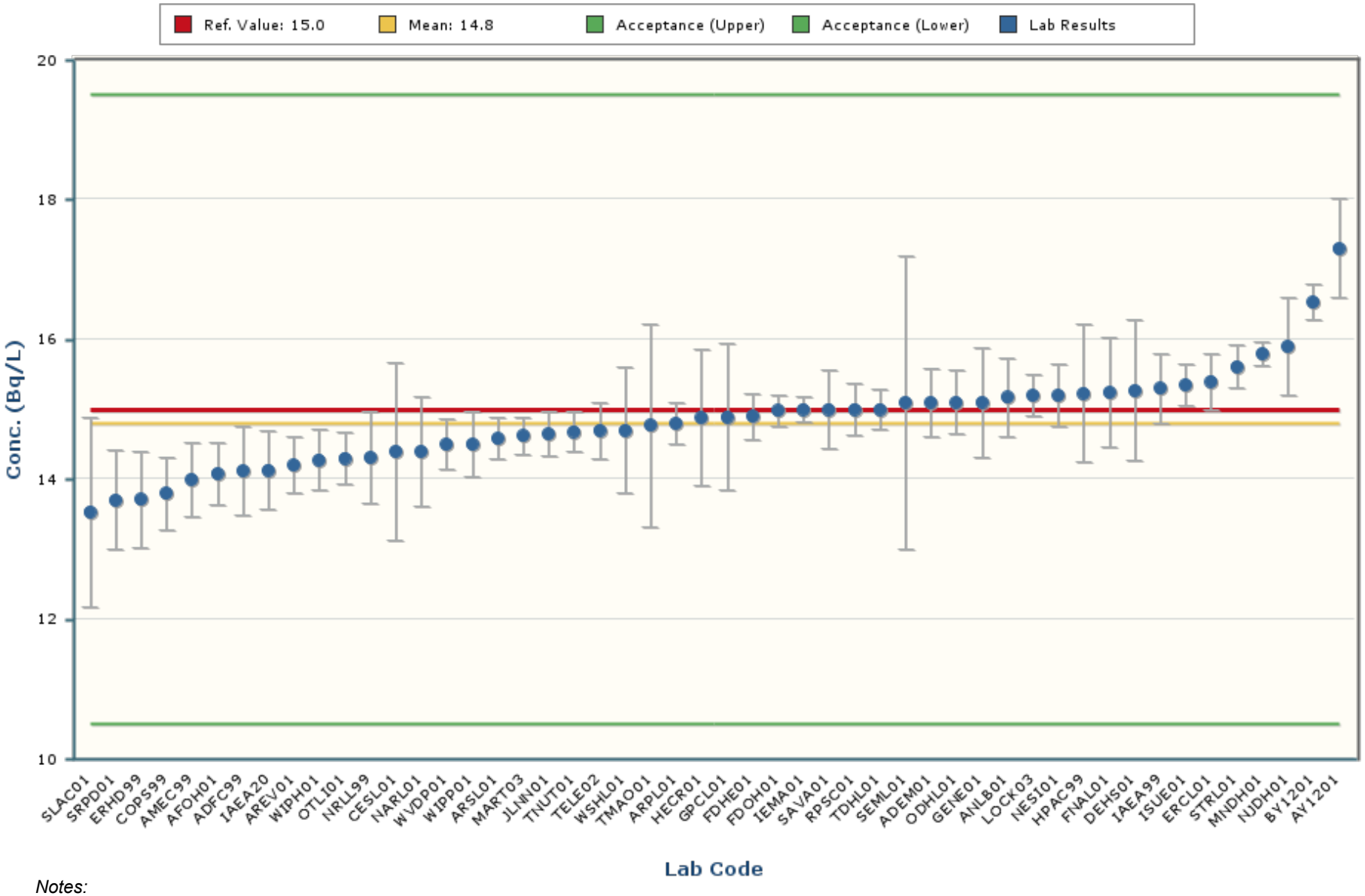
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 14.6 and 27.2 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Cobalt-57
MAPEP-24-MaW51



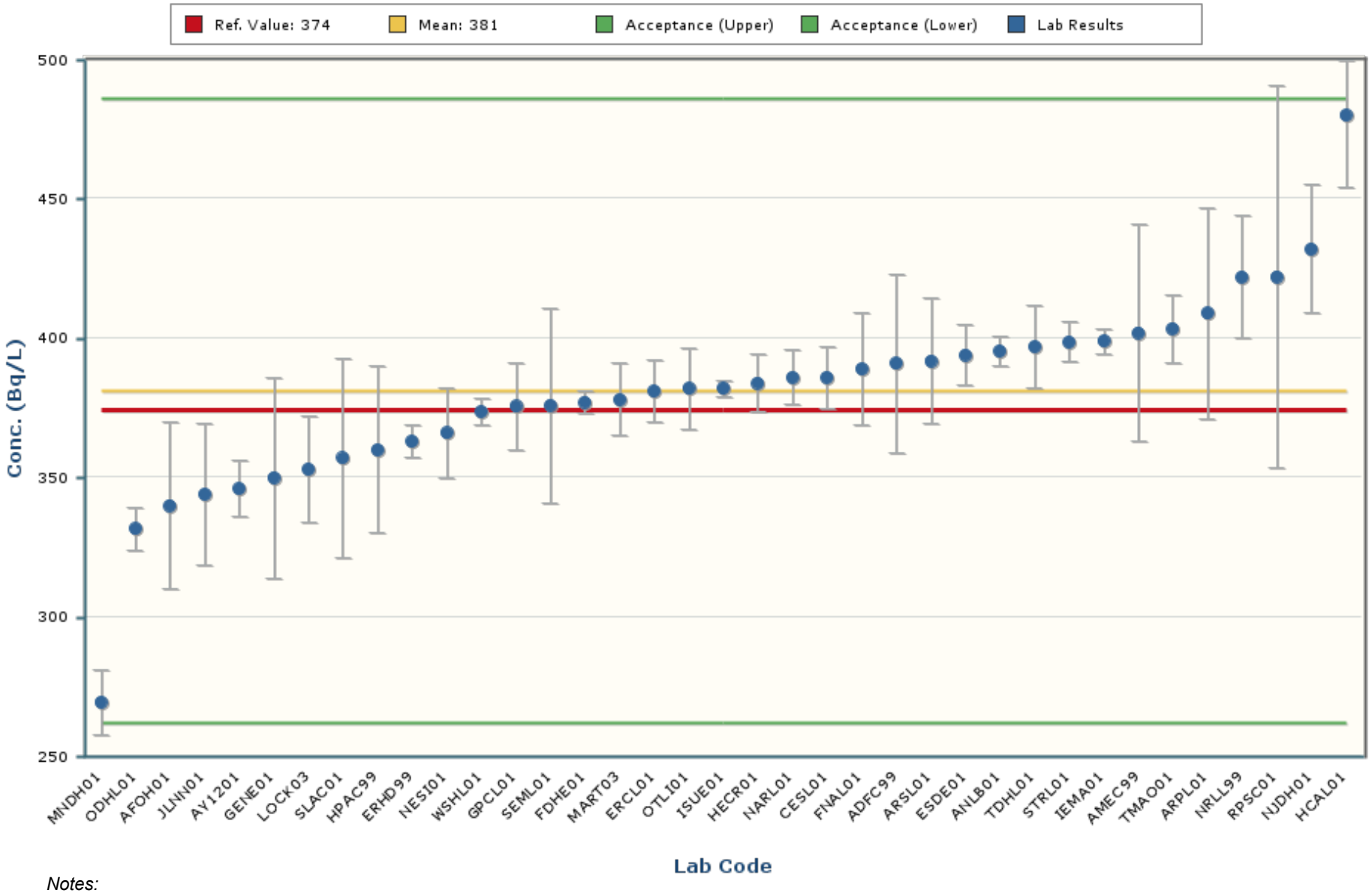
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 19.0 and 32.3 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Cobalt-60
MAPEP-24-MaW51



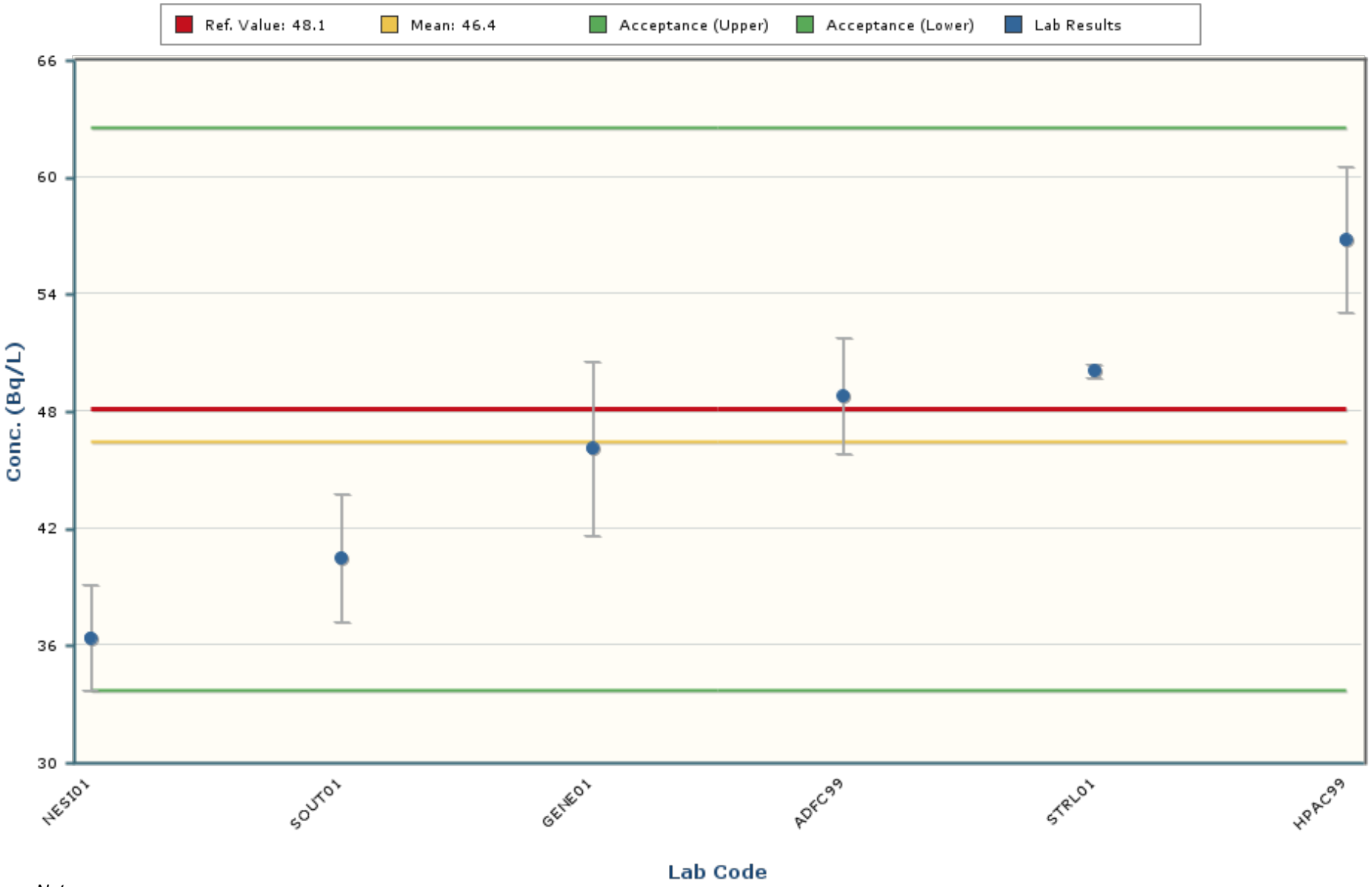
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 11.4 and 18.3 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Hydrogen-3
MAPEP-24-MaW51



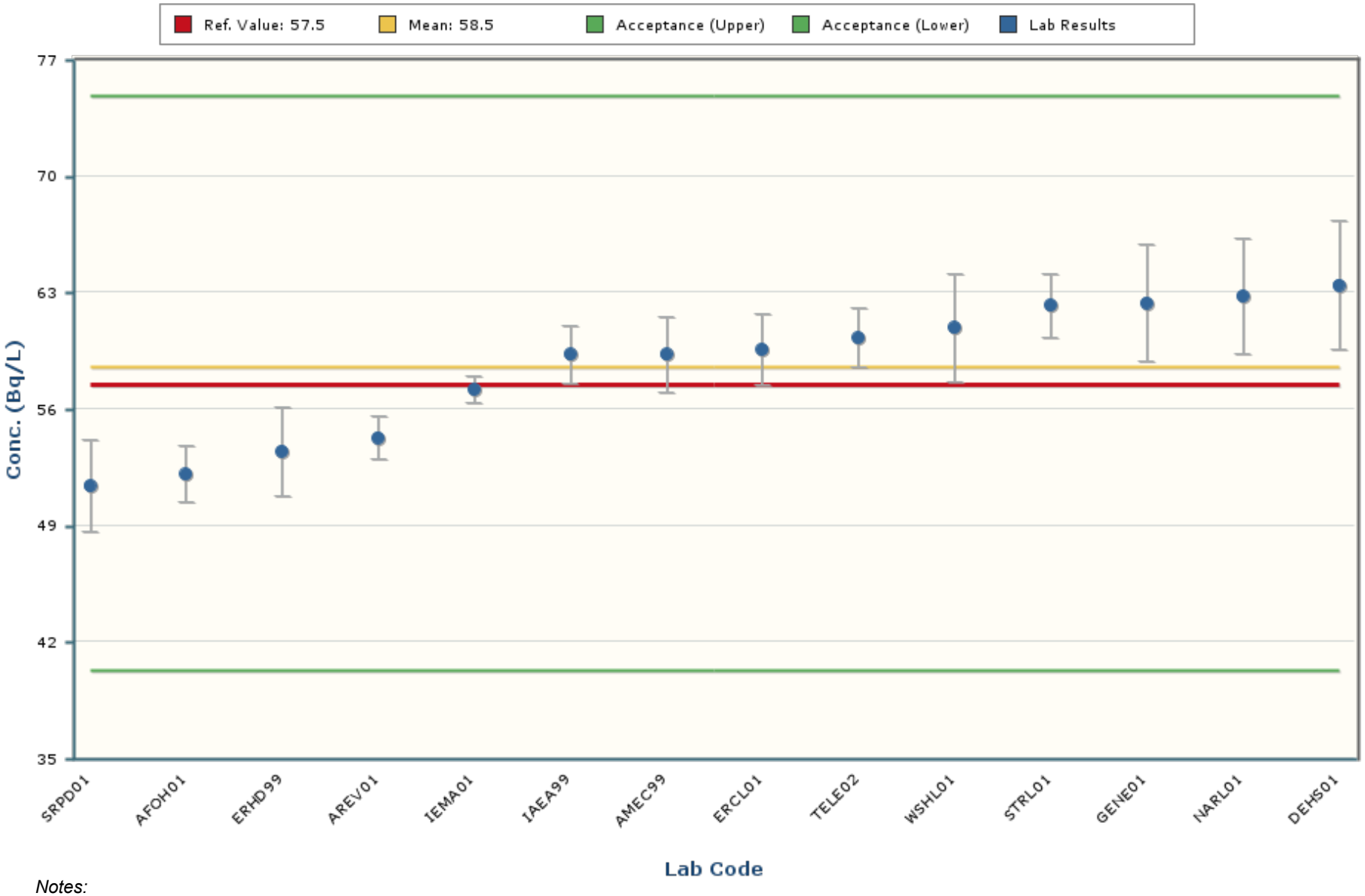
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 211 and 551 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Iron-55
MAPEP-24-MaW51



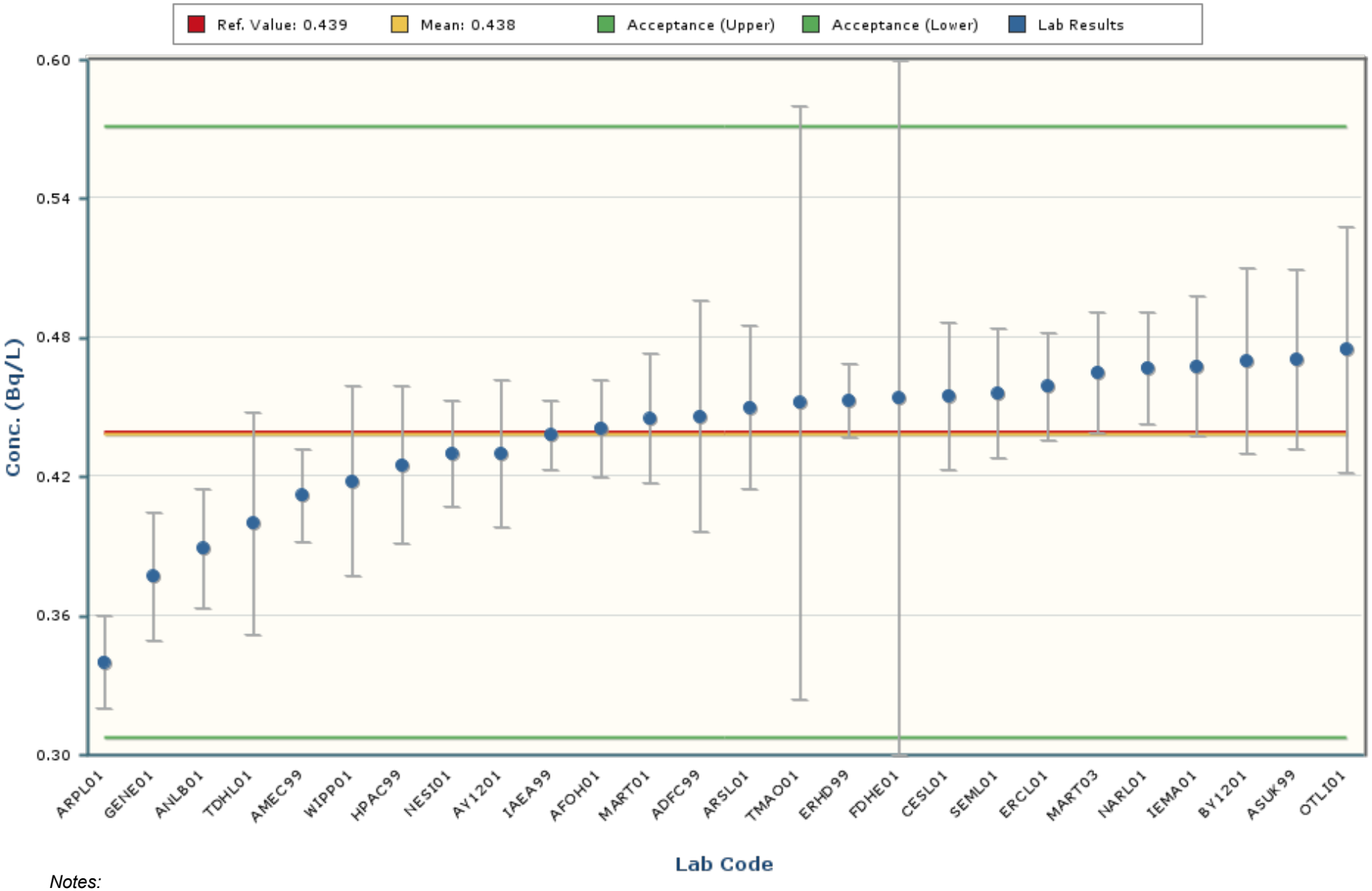
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 10.2 and 82.7 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Iron-59
MAPEP-24-MaW51



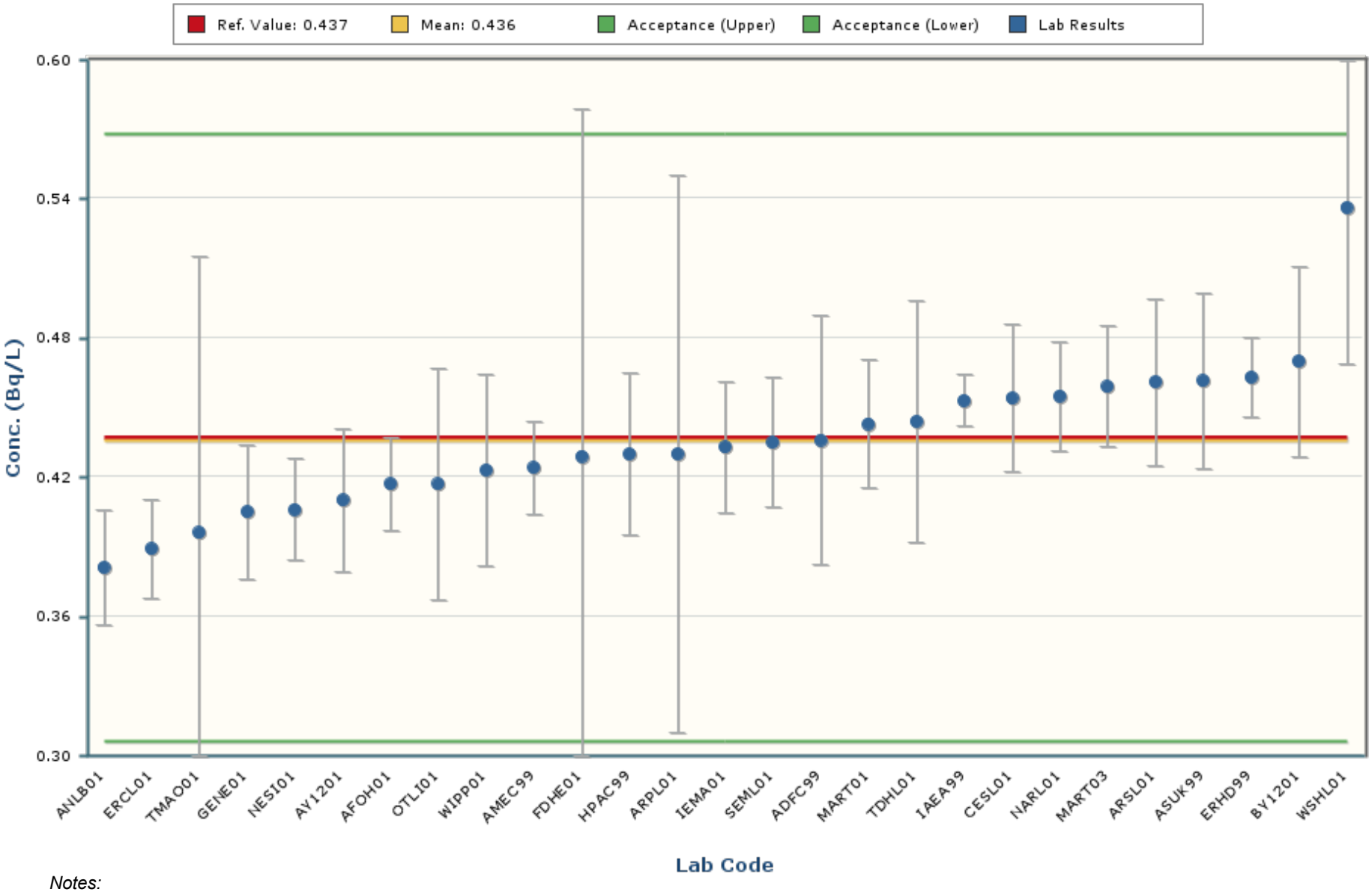
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 37.9 and 79.0 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Plutonium-238
MAPEP-24-MaW51



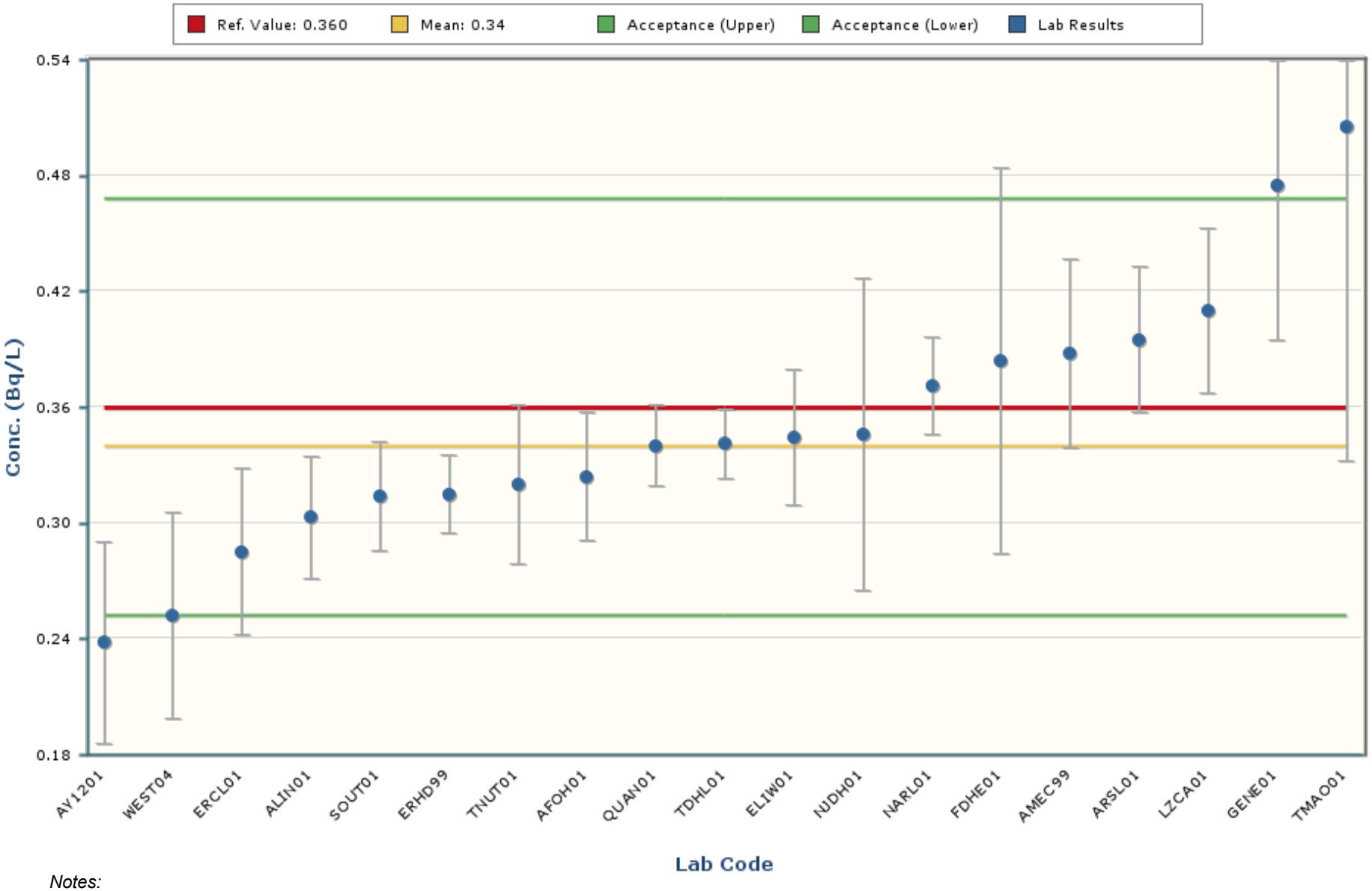
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.275 and 0.601 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Plutonium-239/240
MAPEP-24-MaW51



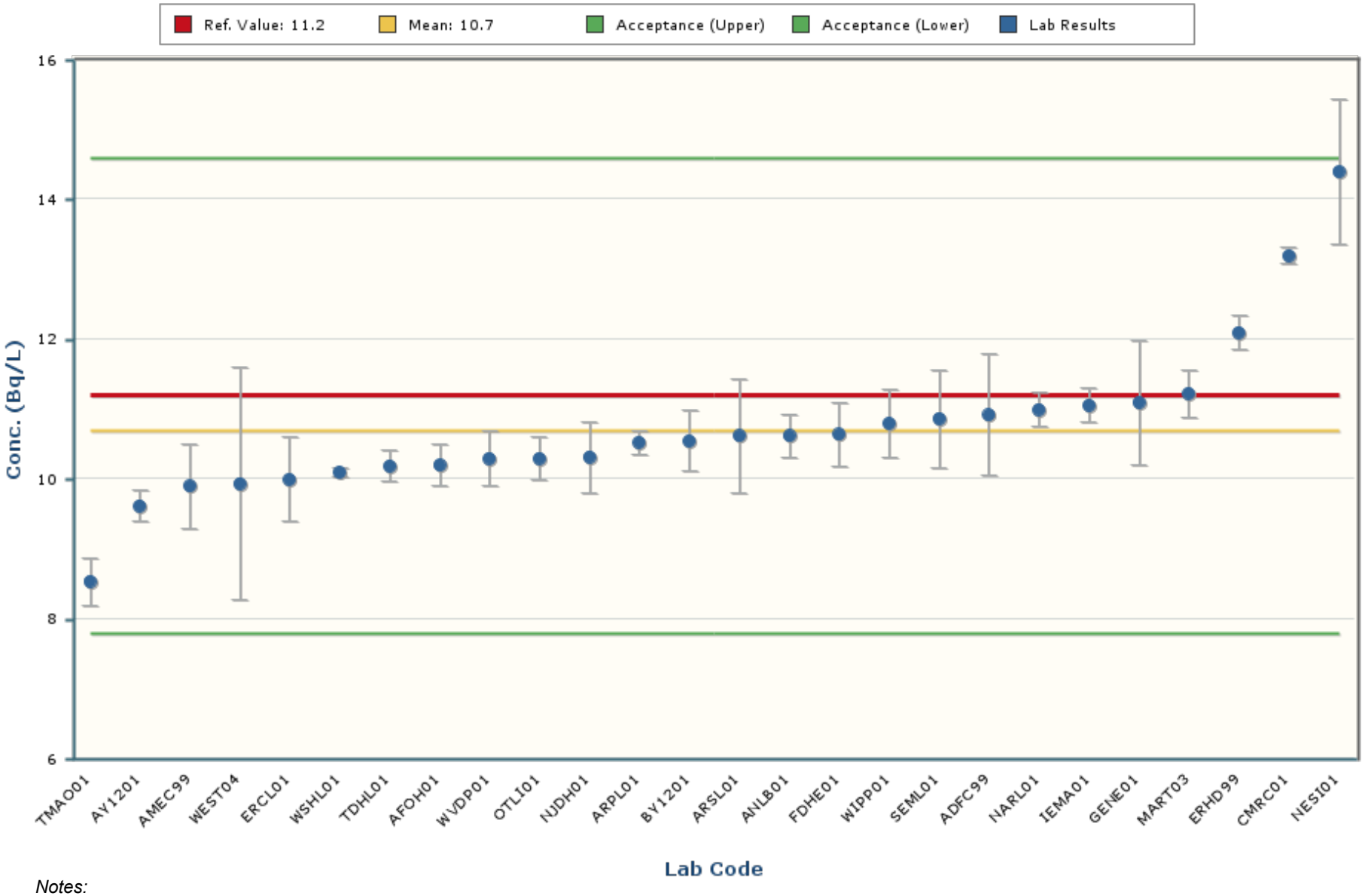
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.279 and 0.592 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Radium-226
MAPEP-24-MaW51



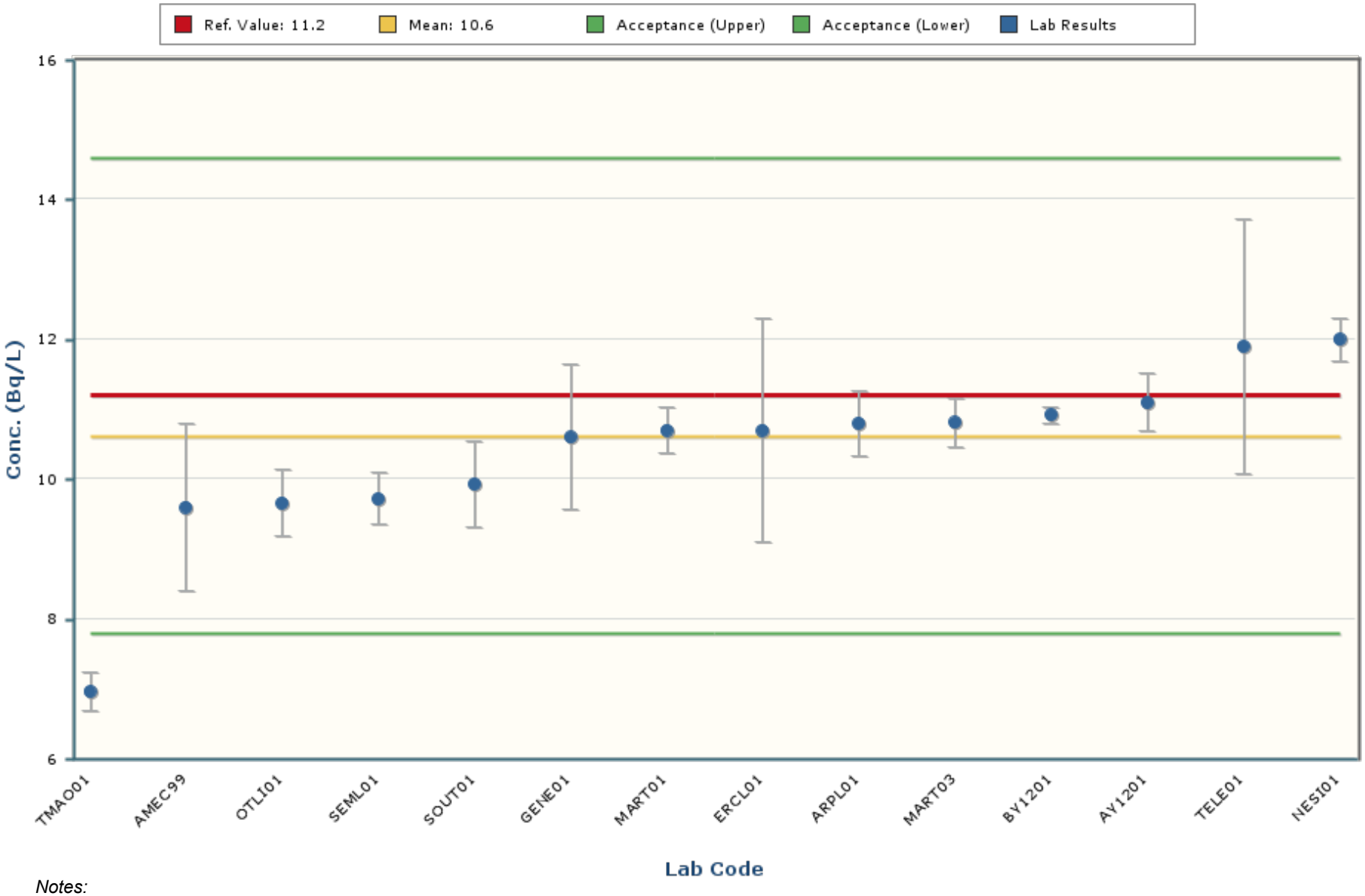
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.126 and 0.553 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Strontium-90
MAPEP-24-MaW51



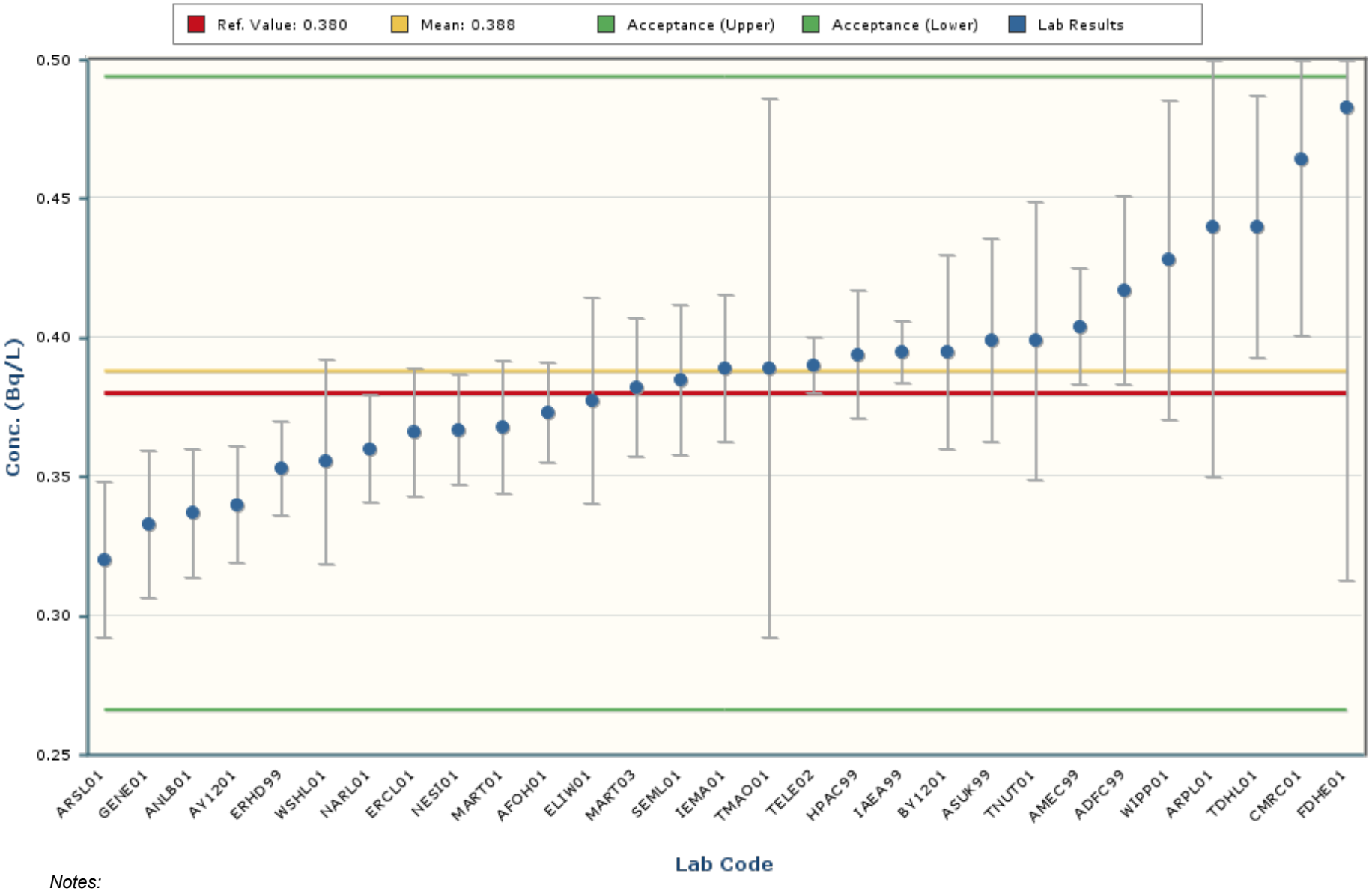
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 5.1 and 16.4 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Technetium-99
MAPEP-24-MaW51



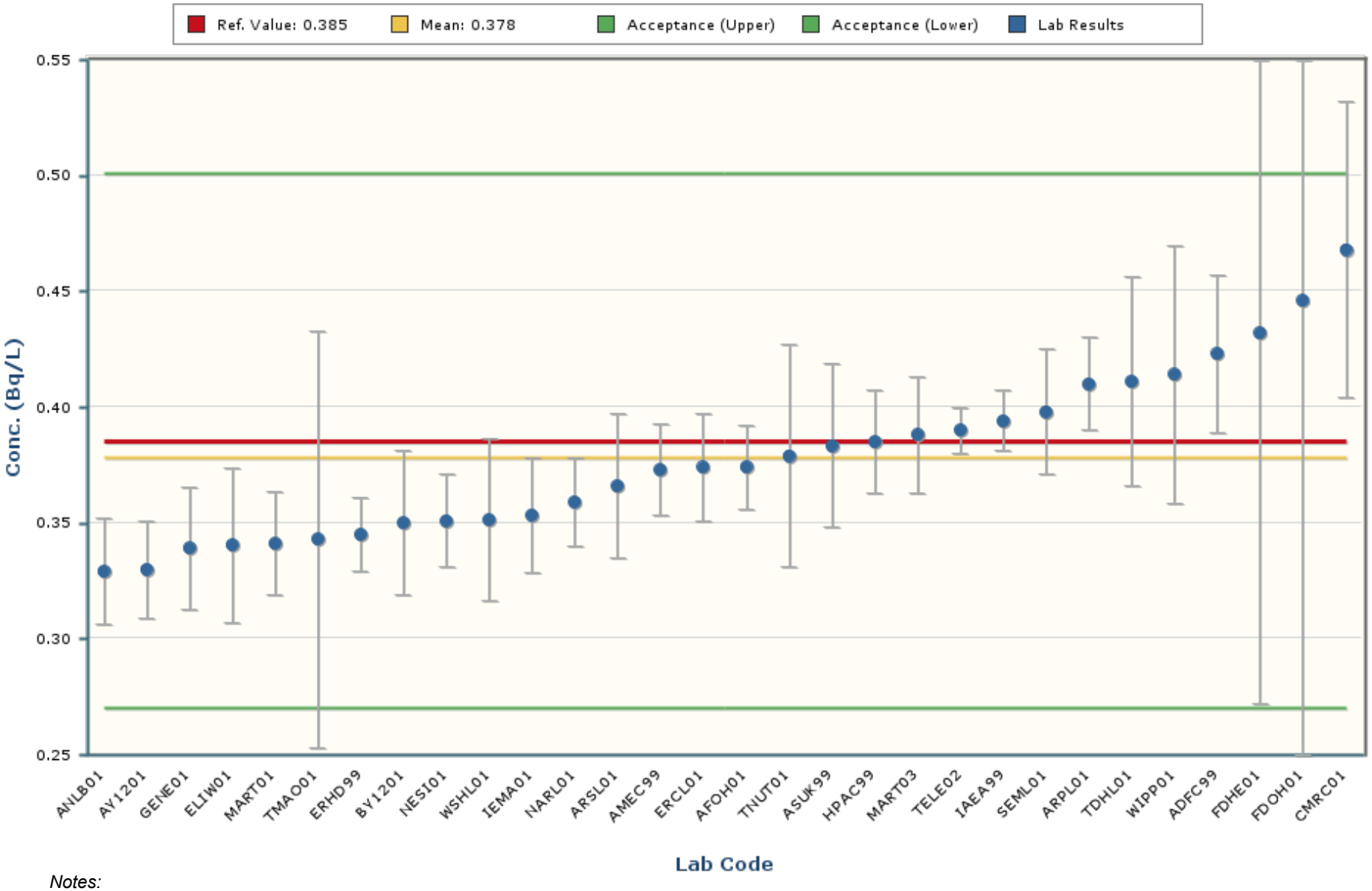
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 6.8 and 14.5 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Uranium-234
MAPEP-24-MaW51



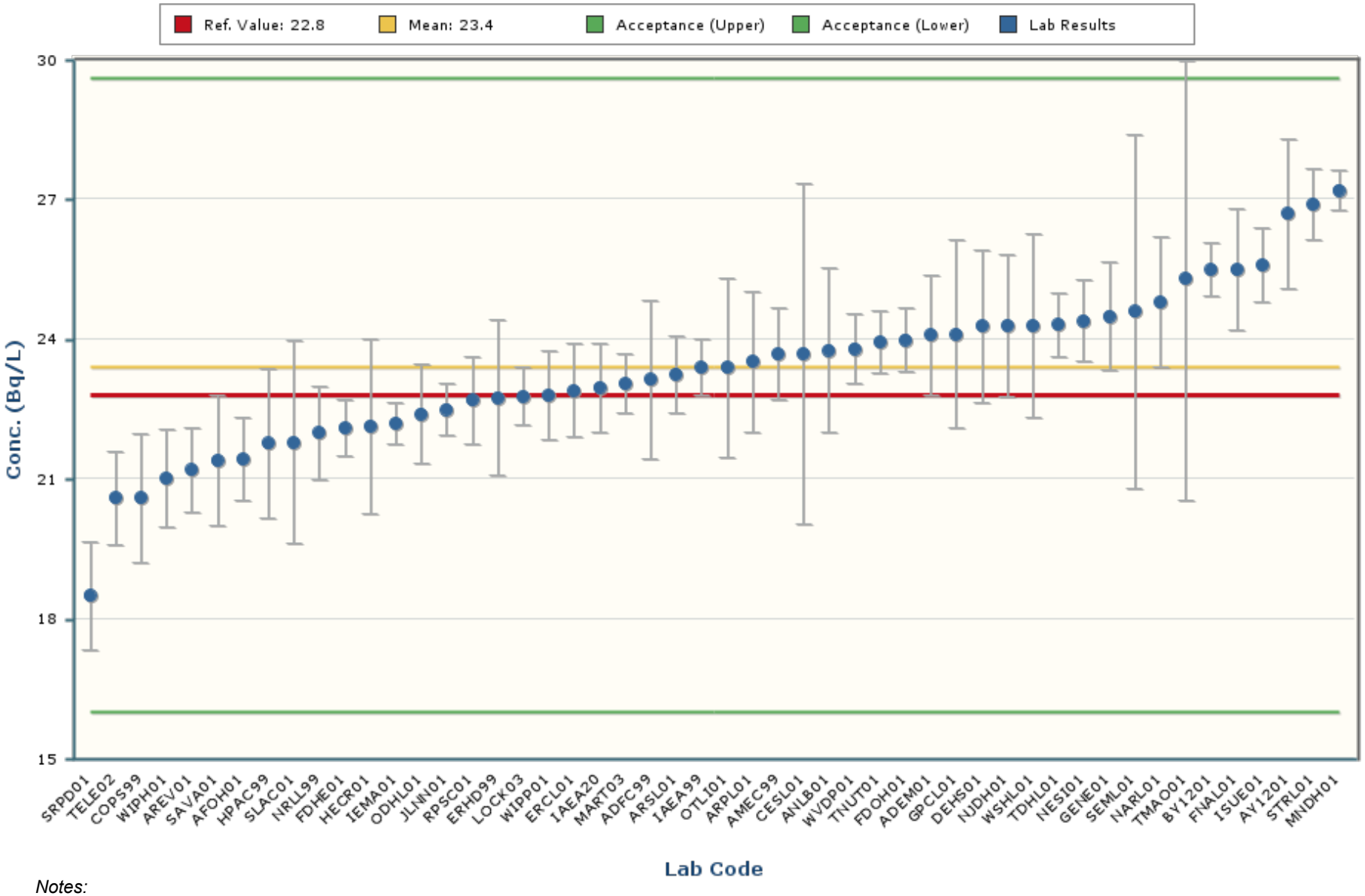
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.197 and 0.578 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Uranium-238
MAPEP-24-MaW51



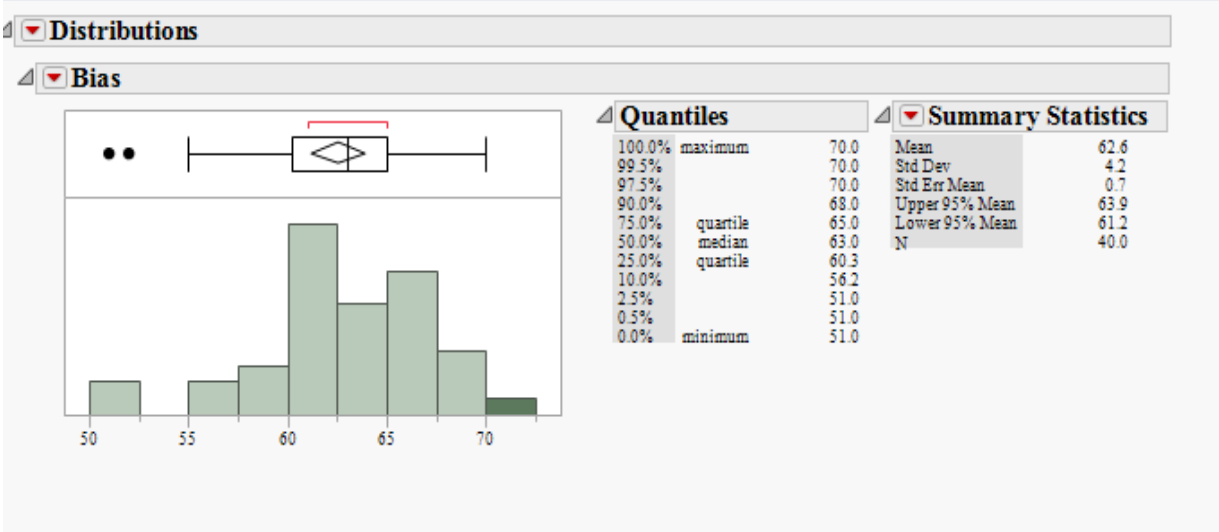
Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 0.200 and 0.556 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± one standard deviation.

Zinc-65
MAPEP-24-MaW51



Notes:
The chart mean excludes values outside of a bias range of ± 30%.
The chart shows only data points with values between 14.9 and 31.8 (± 5 Standard Deviations).
The error bars encompassing each result are plotted at ± 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.

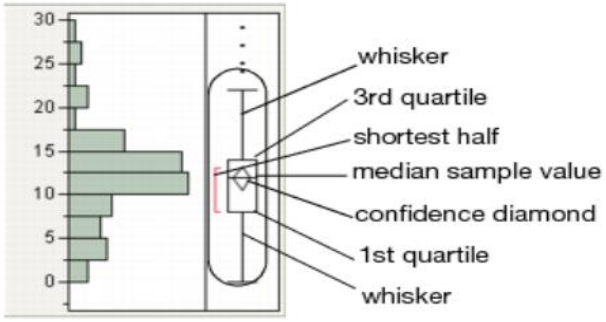


Outlier Box Plot

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)



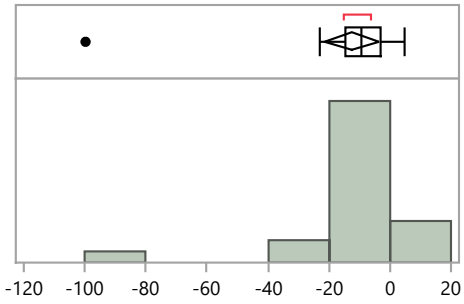
If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

Ref. "SAS Institute Inc. 2016. JMP® 13 Basic Analysis. Cary, NC: SAS Institute Inc."

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

Bias

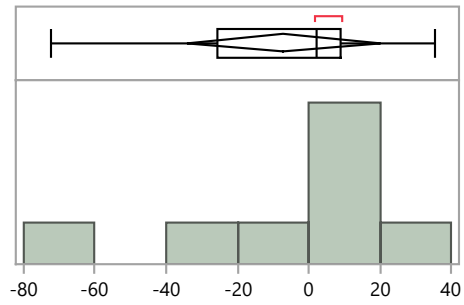


Quantiles		
100.0%	maximum	4.7
99.5%		4.7
97.5%		4.7
90.0%		3.4
75.0%	quartile	-3.0
50.0%	median	-9.6
25.0%	quartile	-14.6
10.0%		-22.0
2.5%		-99.7
0.5%		-99.7
0.0%	minimum	-99.7

Summary Statistics	
Mean	-12.7
Std Dev	20.4
Std Err Mean	4.3
Upper 95% Mean	-3.8
Lower 95% Mean	-21.5
N	23.0

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

Bias

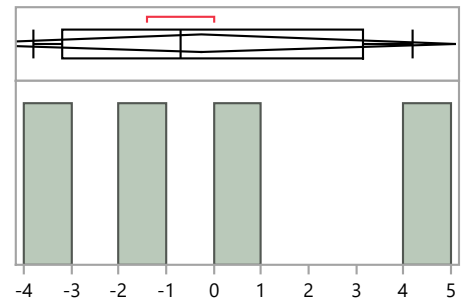


Quantiles		
100.0%	maximum	35.5
99.5%		35.5
97.5%		35.5
90.0%		35.5
75.0%	quartile	8.9
50.0%	median	2.4
25.0%	quartile	-25.8
10.0%		-72.5
2.5%		-72.5
0.5%		-72.5
0.0%	minimum	-72.5

Summary Statistics	
Mean	-7.1
Std Dev	32.4
Std Err Mean	11.4
Upper 95% Mean	20.0
Lower 95% Mean	-34.1
N	8.0

Distributions Analyte_Detection=Arsenic Inductively Coupled Plasma Emission Spectrometry

Bias



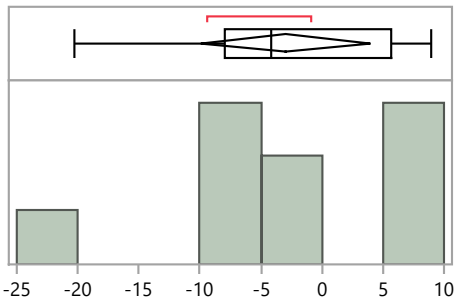
Quantiles		
100.0%	maximum	4.2
99.5%		4.2
97.5%		4.2
90.0%		4.2
75.0%	quartile	3.2
50.0%	median	-0.7
25.0%	quartile	-3.2
10.0%		-3.8
2.5%		-3.8
0.5%		-3.8
0.0%	minimum	-3.8

Summary Statistics	
Mean	-0.2
Std Dev	3.4
Std Err Mean	1.7
Upper 95% Mean	5.1
Lower 95% Mean	-5.6
N	4.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Arsenic Inductively Coupled Plasma Mass Spectrometry

Bias

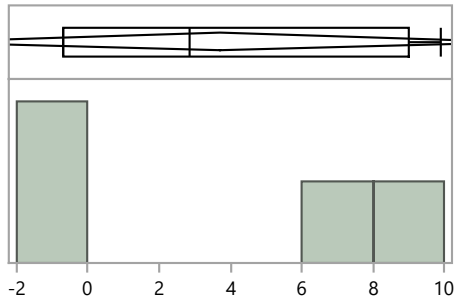


Quantiles		
100.0%	maximum	8.9
99.5%		8.9
97.5%		8.9
90.0%		8.9
75.0%	quartile	5.7
50.0%	median	-4.2
25.0%	quartile	-8.0
10.0%		-20.2
2.5%		-20.2
0.5%		-20.2
0.0%	minimum	-20.2

Summary Statistics	
Mean	-2.9
Std Dev	9.0
Std Err Mean	3.0
Upper 95% Mean	4.0
Lower 95% Mean	-9.9
N	9.0

Distributions Analyte_Detection=Barium Inductively Coupled Plasma Emission Spectrometry

Bias

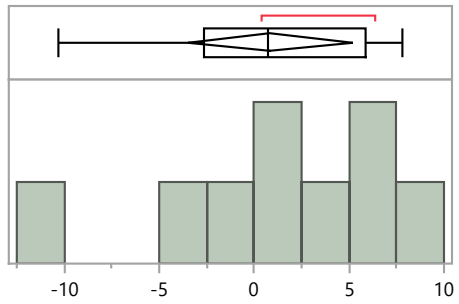


Quantiles		
100.0%	maximum	9.9
99.5%		9.9
97.5%		9.9
90.0%		9.9
75.0%	quartile	9.0
50.0%	median	2.9
25.0%	quartile	-0.7
10.0%		-0.7
2.5%		-0.7
0.5%		-0.7
0.0%	minimum	-0.7

Summary Statistics	
Mean	3.7
Std Dev	5.3
Std Err Mean	2.7
Upper 95% Mean	12.2
Lower 95% Mean	-4.7
N	4.0

Distributions Analyte_Detection=Barium Inductively Coupled Plasma Mass Spectrometry

Bias



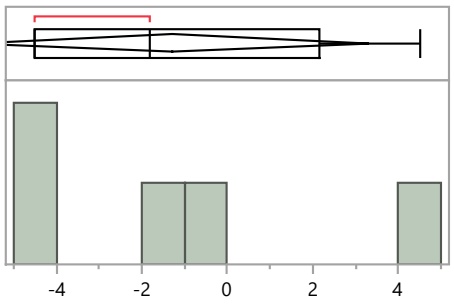
Quantiles		
100.0%	maximum	7.8
99.5%		7.8
97.5%		7.8
90.0%		7.8
75.0%	quartile	5.9
50.0%	median	0.7
25.0%	quartile	-2.7
10.0%		-10.3
2.5%		-10.3
0.5%		-10.3
0.0%	minimum	-10.3

Summary Statistics	
Mean	0.8
Std Dev	5.6
Std Err Mean	1.9
Upper 95% Mean	5.2
Lower 95% Mean	-3.5
N	9.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Beryllium Inductively Coupled Plasma Emission Spectrometry

Bias

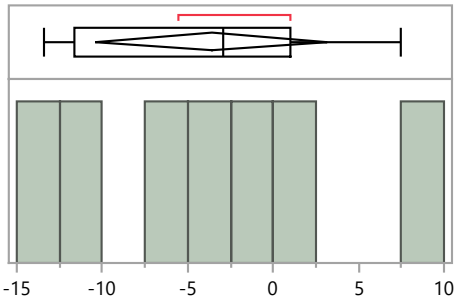


Quantiles		
100.0%	maximum	4.5
99.5%		4.5
97.5%		4.5
90.0%		4.5
75.0%	quartile	2.2
50.0%	median	-1.8
25.0%	quartile	-4.5
10.0%		-4.5
2.5%		-4.5
0.5%		-4.5
0.0%	minimum	-4.5

Summary Statistics	
Mean	-1.3
Std Dev	3.7
Std Err Mean	1.7
Upper 95% Mean	3.3
Lower 95% Mean	-5.9
N	5.0

Distributions Analyte_Detection=Beryllium Inductively Coupled Plasma Mass Spectrometry

Bias

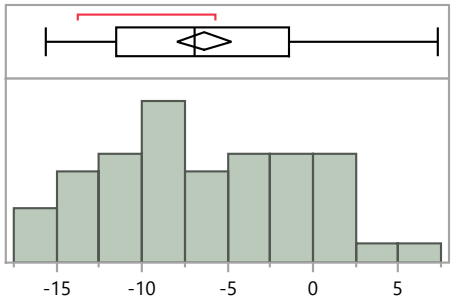


Quantiles		
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	1.0
50.0%	median	-2.9
25.0%	quartile	-11.6
10.0%		-13.4
2.5%		-13.4
0.5%		-13.4
0.0%	minimum	-13.4

Summary Statistics	
Mean	-3.6
Std Dev	7.3
Std Err Mean	2.8
Upper 95% Mean	3.1
Lower 95% Mean	-10.4
N	7.0

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias



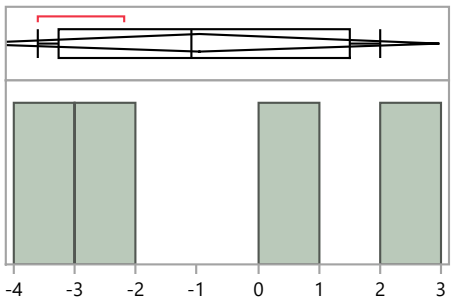
Quantiles		
100.0%	maximum	7.3
99.5%		7.3
97.5%		6.4
90.0%		0.5
75.0%	quartile	-1.4
50.0%	median	-6.9
25.0%	quartile	-11.5
10.0%		-13.7
2.5%		-15.6
0.5%		-15.6
0.0%	minimum	-15.6

Summary Statistics	
Mean	-6.4
Std Dev	5.6
Std Err Mean	0.8
Upper 95% Mean	-4.7
Lower 95% Mean	-8.0
N	48.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Cobalt Inductively Coupled Plasma Emission Spectrometry

Bias

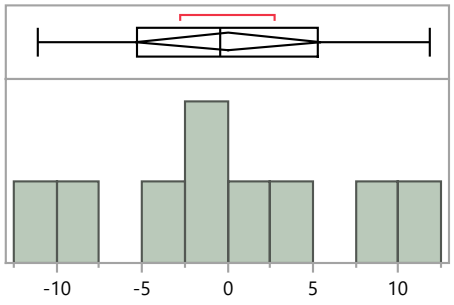


Quantiles		
100.0%	maximum	2.0
99.5%		2.0
97.5%		2.0
90.0%		2.0
75.0%	quartile	1.5
50.0%	median	-1.1
25.0%	quartile	-3.3
10.0%		-3.6
2.5%		-3.6
0.5%		-3.6
0.0%	minimum	-3.6

Summary Statistics	
Mean	-1.0
Std Dev	2.5
Std Err Mean	1.2
Upper 95% Mean	3.0
Lower 95% Mean	-4.9
N	4.0

Distributions Analyte_Detection=Cobalt Inductively Coupled Plasma Mass Spectrometry

Bias

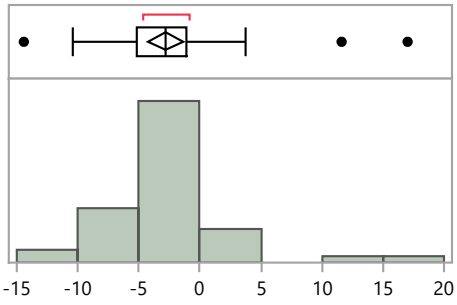


Quantiles		
100.0%	maximum	11.8
99.5%		11.8
97.5%		11.8
90.0%		11.8
75.0%	quartile	5.3
50.0%	median	-0.4
25.0%	quartile	-5.3
10.0%		-11.1
2.5%		-11.1
0.5%		-11.1
0.0%	minimum	-11.1

Summary Statistics	
Mean	0.0
Std Dev	7.1
Std Err Mean	2.4
Upper 95% Mean	5.5
Lower 95% Mean	-5.4
N	9.0

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



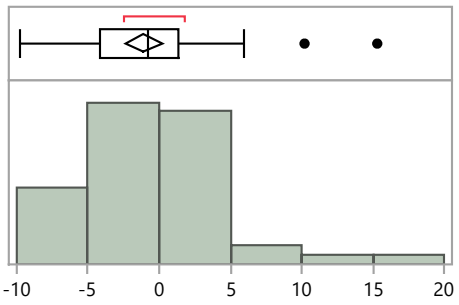
Quantiles		
100.0%	maximum	17.0
99.5%		17.0
97.5%		15.5
90.0%		2.2
75.0%	quartile	-1.1
50.0%	median	-2.8
25.0%	quartile	-5.1
10.0%		-8.3
2.5%		-13.3
0.5%		-14.4
0.0%	minimum	-14.4

Summary Statistics	
Mean	-2.8
Std Dev	5.0
Std Err Mean	0.7
Upper 95% Mean	-1.4
Lower 95% Mean	-4.2
N	50.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias

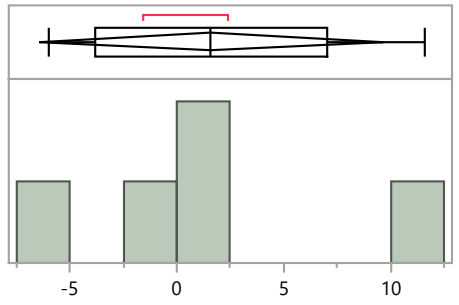


Quantiles		
100.0%	maximum	15.3
99.5%		15.3
97.5%		13.9
90.0%		4.0
75.0%	quartile	1.3
50.0%	median	-0.8
25.0%	quartile	-4.2
10.0%		-6.6
2.5%		-9.5
0.5%		-9.8
0.0%	minimum	-9.8

Summary Statistics	
Mean	-1.1
Std Dev	4.6
Std Err Mean	0.7
Upper 95% Mean	0.2
Lower 95% Mean	-2.4
N	50.0

Distributions Analyte_Detection=Copper Inductively Coupled Plasma Emission Spectrometry

Bias

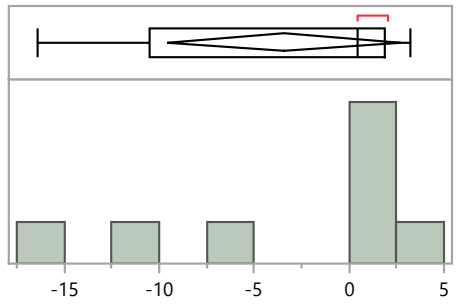


Quantiles		
100.0%	maximum	11.6
99.5%		11.6
97.5%		11.6
90.0%		11.6
75.0%	quartile	7.0
50.0%	median	1.6
25.0%	quartile	-3.8
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

Summary Statistics	
Mean	1.6
Std Dev	6.5
Std Err Mean	2.9
Upper 95% Mean	9.7
Lower 95% Mean	-6.5
N	5.0

Distributions Analyte_Detection=Copper Inductively Coupled Plasma Mass Spectrometry

Bias



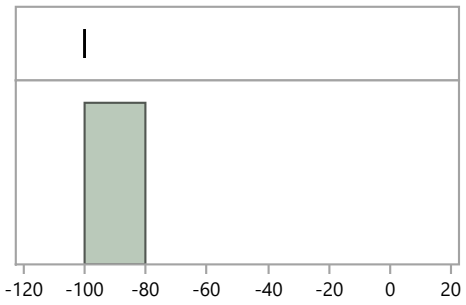
Quantiles		
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	1.9
50.0%	median	0.4
25.0%	quartile	-10.5
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics	
Mean	-3.5
Std Dev	7.3
Std Err Mean	2.6
Upper 95% Mean	2.7
Lower 95% Mean	-9.6
N	8.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Hydrogen-3 Gamma Spectrometry

Bias

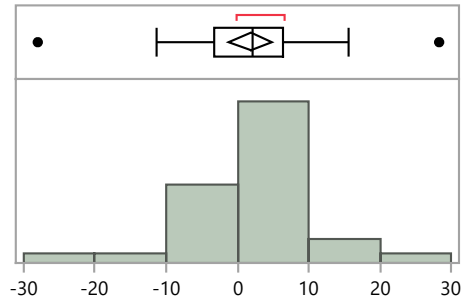


Quantiles		
100.0%	maximum	-100.0
99.5%		-100.0
97.5%		-100.0
90.0%		-100.0
75.0%	quartile	-100.0
50.0%	median	-100.0
25.0%	quartile	-100.0
10.0%		-100.0
2.5%		-100.0
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics	
Mean	-100.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Hydrogen-3 Liquid Scintillation Counter

Bias

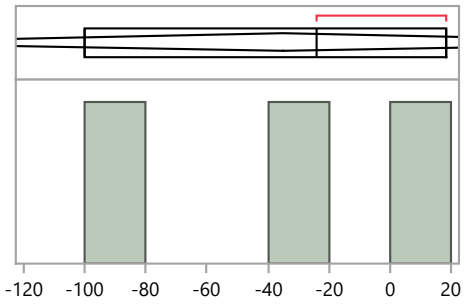


Quantiles		
100.0%	maximum	28.3
99.5%		28.3
97.5%		28.3
90.0%		12.8
75.0%	quartile	6.4
50.0%	median	2.1
25.0%	quartile	-3.3
10.0%		-8.2
2.5%		-28.0
0.5%		-28.0
0.0%	minimum	-28.0

Summary Statistics	
Mean	1.8
Std Dev	9.1
Std Err Mean	1.5
Upper 95% Mean	4.8
Lower 95% Mean	-1.2
N	37.0

Distributions Analyte_Detection=Iron-55 Gamma Spectrometry

Bias



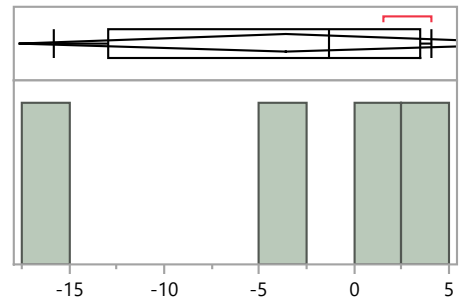
Quantiles		
100.0%	maximum	18.1
99.5%		18.1
97.5%		18.1
90.0%		18.1
75.0%	quartile	18.1
50.0%	median	-24.3
25.0%	quartile	-99.8
10.0%		-99.8
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-35.3
Std Dev	59.7
Std Err Mean	34.5
Upper 95% Mean	113.0
Lower 95% Mean	-183.7
N	3.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Iron-55 Liquid Scintillation Counter

Bias

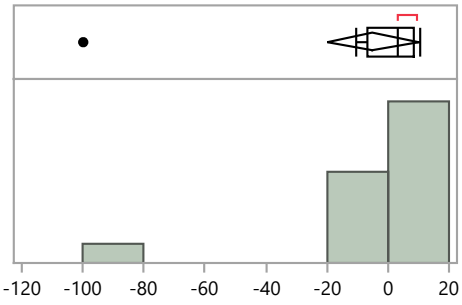


Quantiles		
100.0%	maximum	4.1
99.5%		4.1
97.5%		4.1
90.0%		4.1
75.0%	quartile	3.5
50.0%	median	-1.4
25.0%	quartile	-12.9
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

Summary Statistics	
Mean	-3.6
Std Dev	8.8
Std Err Mean	4.4
Upper 95% Mean	10.5
Lower 95% Mean	-17.7
N	4.0

Distributions Analyte_Detection=Iron-59 Gamma Spectrometry

Bias

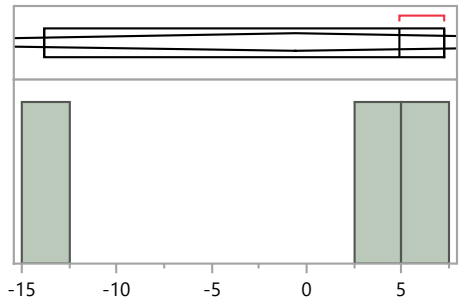


Quantiles		
100.0%	maximum	10.4
99.5%		10.4
97.5%		10.4
90.0%		9.7
75.0%	quartile	8.3
50.0%	median	3.1
25.0%	quartile	-7.0
10.0%		-46.3
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-5.1
Std Dev	27.1
Std Err Mean	7.0
Upper 95% Mean	10.0
Lower 95% Mean	-20.1
N	15.0

Distributions Analyte_Detection=Mercury Atomic Absorption Spectrometry

Bias



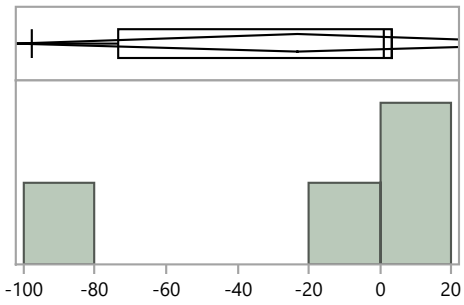
Quantiles		
100.0%	maximum	7.2
99.5%		7.2
97.5%		7.2
90.0%		7.2
75.0%	quartile	7.2
50.0%	median	4.9
25.0%	quartile	-13.8
10.0%		-13.8
2.5%		-13.8
0.5%		-13.8
0.0%	minimum	-13.8

Summary Statistics	
Mean	-0.6
Std Dev	11.5
Std Err Mean	6.6
Upper 95% Mean	28.0
Lower 95% Mean	-29.2
N	3.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Mercury Inductively Coupled Plasma Mass Spectrometry

Bias

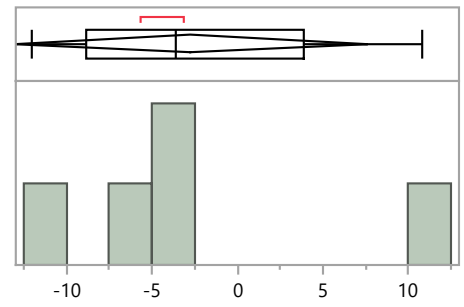


Quantiles		
100.0%	maximum	3.4
99.5%		3.4
97.5%		3.4
90.0%		3.4
75.0%	quartile	3.4
50.0%	median	1.2
25.0%	quartile	-73.6
10.0%		-97.7
2.5%		-97.7
0.5%		-97.7
0.0%	minimum	-97.7

Summary Statistics	
Mean	-23.0
Std Dev	49.8
Std Err Mean	24.9
Upper 95% Mean	56.3
Lower 95% Mean	-102.3
N	4.0

Distributions Analyte_Detection=Mercury Other

Bias

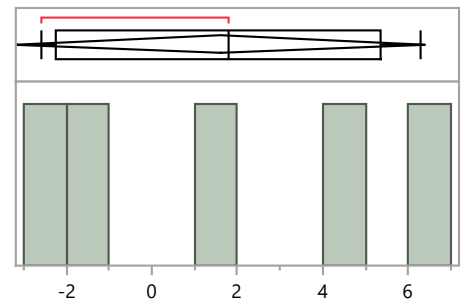


Quantiles		
100.0%	maximum	10.8
99.5%		10.8
97.5%		10.8
90.0%		10.8
75.0%	quartile	3.9
50.0%	median	-3.6
25.0%	quartile	-8.9
10.0%		-12.0
2.5%		-12.0
0.5%		-12.0
0.0%	minimum	-12.0

Summary Statistics	
Mean	-2.7
Std Dev	8.3
Std Err Mean	3.7
Upper 95% Mean	7.6
Lower 95% Mean	-13.1
N	5.0

Distributions Analyte_Detection=Nickel Inductively Coupled Plasma Emission Spectrometry

Bias



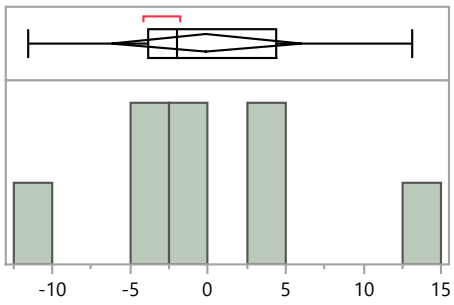
Quantiles		
100.0%	maximum	6.3
99.5%		6.3
97.5%		6.3
90.0%		6.3
75.0%	quartile	5.4
50.0%	median	1.8
25.0%	quartile	-2.3
10.0%		-2.6
2.5%		-2.6
0.5%		-2.6
0.0%	minimum	-2.6

Summary Statistics	
Mean	1.6
Std Dev	3.9
Std Err Mean	1.7
Upper 95% Mean	6.4
Lower 95% Mean	-3.2
N	5.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Nickel Inductively Coupled Plasma Mass Spectrometry

Bias

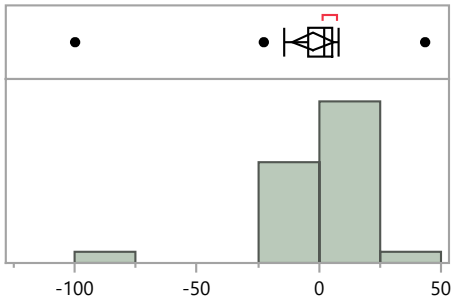


Quantiles		
100.0%	maximum	13.1
99.5%		13.1
97.5%		13.1
90.0%		13.1
75.0%	quartile	4.4
50.0%	median	-2.0
25.0%	quartile	-3.8
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-0.1
Std Dev	7.3
Std Err Mean	2.6
Upper 95% Mean	6.0
Lower 95% Mean	-6.2
N	8.0

Distributions Analyte_Detection=Plutonium-238 Alpha Spectrometry

Bias

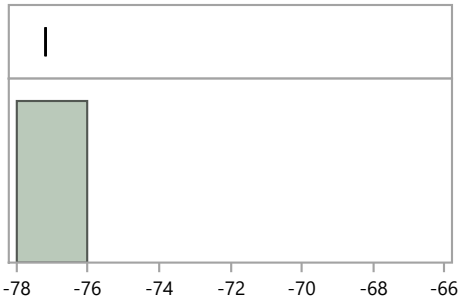


Quantiles		
100.0%	maximum	43.4
99.5%		43.4
97.5%		43.4
90.0%		7.3
75.0%	quartile	5.6
50.0%	median	2.1
25.0%	quartile	-4.4
10.0%		-15.0
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-2.2
Std Dev	22.0
Std Err Mean	4.2
Upper 95% Mean	6.3
Lower 95% Mean	-10.8
N	28.0

Distributions Analyte_Detection=Plutonium-238 Gamma Spectrometry

Bias



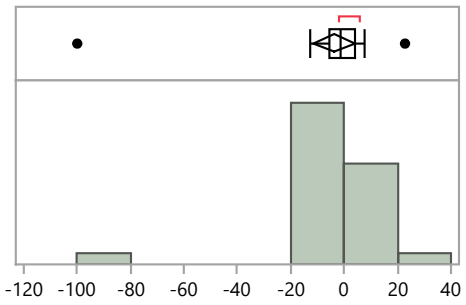
Quantiles		
100.0%	maximum	-77.2
99.5%		-77.2
97.5%		-77.2
90.0%		-77.2
75.0%	quartile	-77.2
50.0%	median	-77.2
25.0%	quartile	-77.2
10.0%		-77.2
2.5%		-77.2
0.5%		-77.2
0.0%	minimum	-77.2

Summary Statistics	
Mean	-77.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Plutonium-239/240 Alpha Spectrometry

Bias

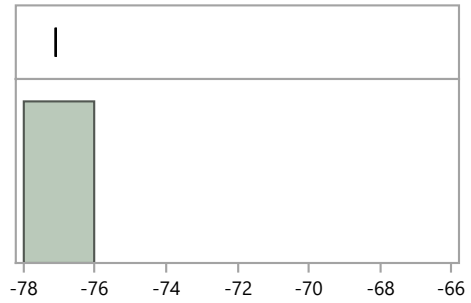


Quantiles		
100.0%	maximum	22.7
99.5%		22.7
97.5%		22.7
90.0%		6.2
75.0%	quartile	4.1
50.0%	median	-1.3
25.0%	quartile	-5.8
10.0%		-11.2
2.5%		-99.9
0.5%		-99.9
0.0%	minimum	-99.9

Summary Statistics	
Mean	-3.9
Std Dev	20.1
Std Err Mean	3.8
Upper 95% Mean	3.9
Lower 95% Mean	-11.7
N	28.0

Distributions Analyte_Detection=Plutonium-239/240 Gamma Spectrometry

Bias

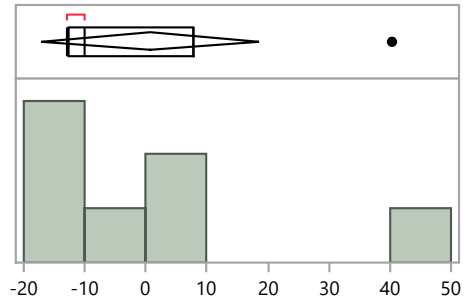


Quantiles		
100.0%	maximum	-77.1
99.5%		-77.1
97.5%		-77.1
90.0%		-77.1
75.0%	quartile	-77.1
50.0%	median	-77.1
25.0%	quartile	-77.1
10.0%		-77.1
2.5%		-77.1
0.5%		-77.1
0.0%	minimum	-77.1

Summary Statistics	
Mean	-77.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Radium-226 Alpha Spectrometry

Bias



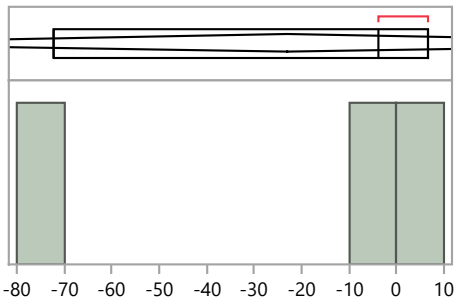
Quantiles		
100.0%	maximum	40.3
99.5%		40.3
97.5%		40.3
90.0%		40.3
75.0%	quartile	7.8
50.0%	median	-10.0
25.0%	quartile	-12.5
10.0%		-12.8
2.5%		-12.8
0.5%		-12.8
0.0%	minimum	-12.8

Summary Statistics	
Mean	0.7
Std Dev	19.3
Std Err Mean	7.3
Upper 95% Mean	18.5
Lower 95% Mean	-17.2
N	7.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Radium-226 Gamma Spectrometry

Bias

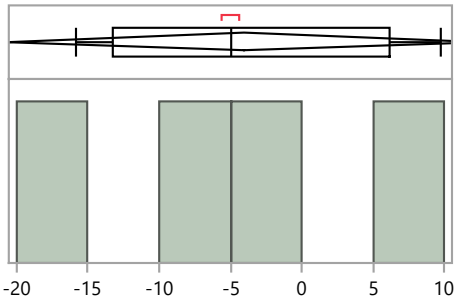


Quantiles		
100.0%	maximum	6.7
99.5%		6.7
97.5%		6.7
90.0%		6.7
75.0%	quartile	6.7
50.0%	median	-3.9
25.0%	quartile	-72.2
10.0%		-72.2
2.5%		-72.2
0.5%		-72.2
0.0%	minimum	-72.2

Summary Statistics	
Mean	-23.1
Std Dev	42.8
Std Err Mean	24.7
Upper 95% Mean	83.2
Lower 95% Mean	-129.5
N	3.0

Distributions Analyte_Detection=Radium-226 Gas Flow Proportional Counter

Bias

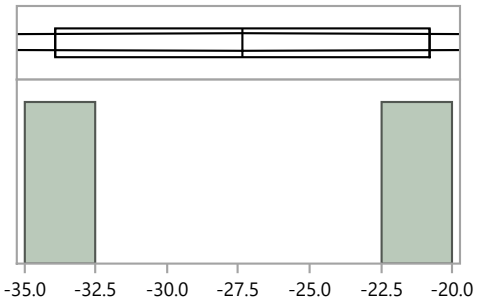


Quantiles		
100.0%	maximum	9.7
99.5%		9.7
97.5%		9.7
90.0%		9.7
75.0%	quartile	6.2
50.0%	median	-5.0
25.0%	quartile	-13.3
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

Summary Statistics	
Mean	-4.0
Std Dev	10.5
Std Err Mean	5.2
Upper 95% Mean	12.7
Lower 95% Mean	-20.7
N	4.0

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

Bias



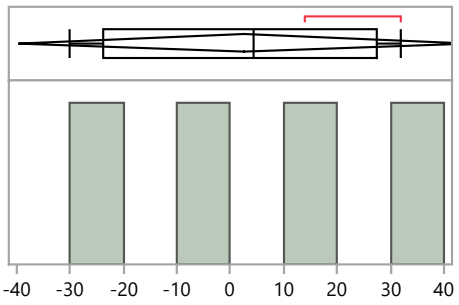
Quantiles		
100.0%	maximum	-20.8
99.5%		-20.8
97.5%		-20.8
90.0%		-20.8
75.0%	quartile	-20.8
50.0%	median	-27.4
25.0%	quartile	-33.9
10.0%		-33.9
2.5%		-33.9
0.5%		-33.9
0.0%	minimum	-33.9

Summary Statistics	
Mean	-27.4
Std Dev	9.3
Std Err Mean	6.6
Upper 95% Mean	55.9
Lower 95% Mean	-110.6
N	2.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Radium-226 Other

Bias

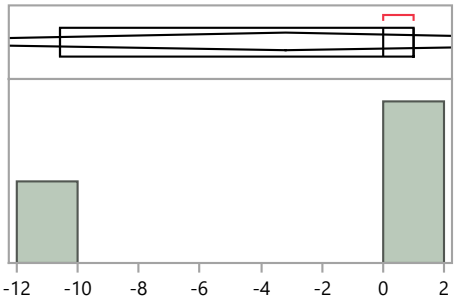


Quantiles		
100.0%	maximum	31.9
99.5%		31.9
97.5%		31.9
90.0%		31.9
75.0%	quartile	27.4
50.0%	median	4.3
25.0%	quartile	-23.8
10.0%		-30.0
2.5%		-30.0
0.5%		-30.0
0.0%	minimum	-30.0

Summary Statistics	
Mean	2.6
Std Dev	26.5
Std Err Mean	13.3
Upper 95% Mean	44.8
Lower 95% Mean	-39.6
N	4.0

Distributions Analyte_Detection=Selenium Inductively Coupled Plasma Emission Spectrometry

Bias

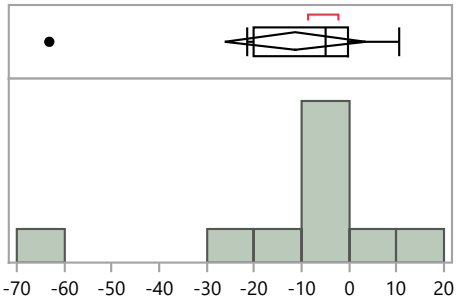


Quantiles		
100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	1.0
50.0%	median	0.0
25.0%	quartile	-10.6
10.0%		-10.6
2.5%		-10.6
0.5%		-10.6
0.0%	minimum	-10.6

Summary Statistics	
Mean	-3.2
Std Dev	6.4
Std Err Mean	3.7
Upper 95% Mean	12.8
Lower 95% Mean	-19.2
N	3.0

Distributions Analyte_Detection=Selenium Inductively Coupled Plasma Mass Spectrometry

Bias



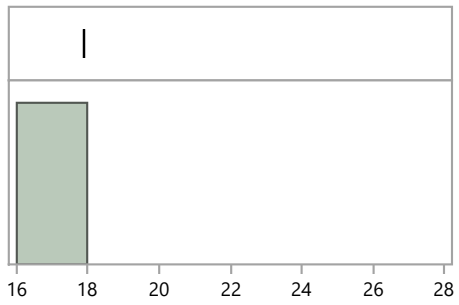
Quantiles		
100.0%	maximum	10.6
99.5%		10.6
97.5%		10.6
90.0%		10.1
75.0%	quartile	-0.3
50.0%	median	-5.0
25.0%	quartile	-20.2
10.0%		-59.0
2.5%		-63.1
0.5%		-63.1
0.0%	minimum	-63.1

Summary Statistics	
Mean	-11.3
Std Dev	20.7
Std Err Mean	6.5
Upper 95% Mean	3.5
Lower 95% Mean	-26.1
N	10.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Strontium-90 Alpha Spectrometry

Bias

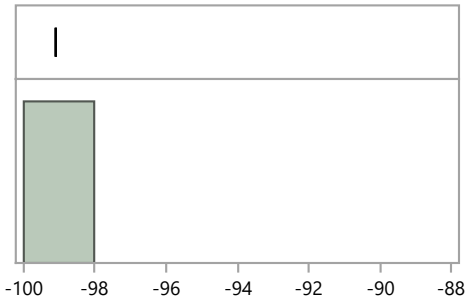


Quantiles		
100.0%	maximum	17.9
99.5%		17.9
97.5%		17.9
90.0%		17.9
75.0%	quartile	17.9
50.0%	median	17.9
25.0%	quartile	17.9
10.0%		17.9
2.5%		17.9
0.5%		17.9
0.0%	minimum	17.9

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

Distributions Analyte_Detection=Strontium-90 Gamma Spectrometry

Bias

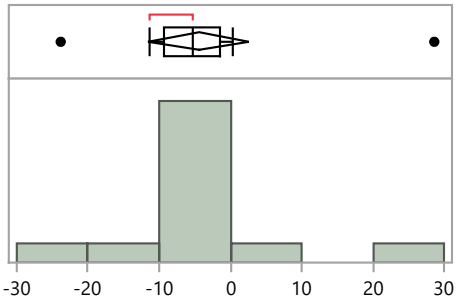


Quantiles		
100.0%	maximum	-99.1
99.5%		-99.1
97.5%		-99.1
90.0%		-99.1
75.0%	quartile	-99.1
50.0%	median	-99.1
25.0%	quartile	-99.1
10.0%		-99.1
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics	
Mean	-99.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

Bias



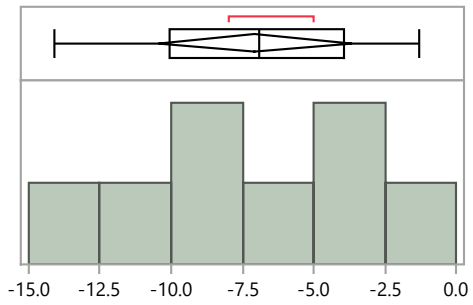
Quantiles		
100.0%	maximum	28.6
99.5%		28.6
97.5%		28.6
90.0%		17.3
75.0%	quartile	-1.4
50.0%	median	-5.2
25.0%	quartile	-9.4
10.0%		-18.8
2.5%		-23.8
0.5%		-23.8
0.0%	minimum	-23.8

Summary Statistics	
Mean	-4.4
Std Dev	11.7
Std Err Mean	3.2
Upper 95% Mean	2.6
Lower 95% Mean	-11.5
N	13.0

MaW51 Distribution by Detection Method

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

Bias

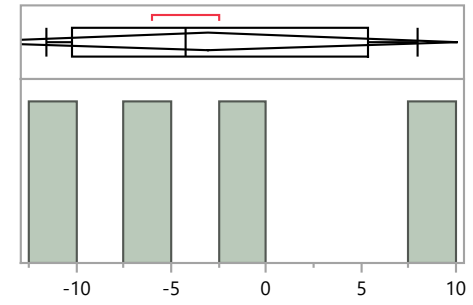


Quantiles		
100.0%	maximum	-1.3
99.5%		-1.3
97.5%		-1.3
90.0%		-1.3
75.0%	quartile	-4.0
50.0%	median	-6.9
25.0%	quartile	-10.0
10.0%		-14.1
2.5%		-14.1
0.5%		-14.1
0.0%	minimum	-14.1

Summary Statistics	
Mean	-7.1
Std Dev	4.1
Std Err Mean	1.4
Upper 95% Mean	-3.7
Lower 95% Mean	-10.5
N	8.0

Distributions Analyte_Detection=Strontium-90 Liquid Scintillation Counter

Bias

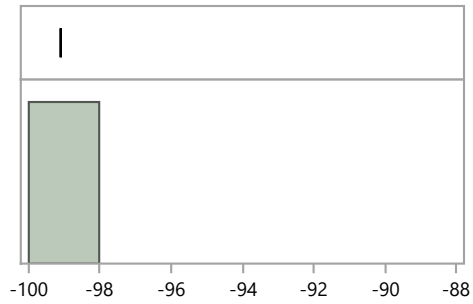


Quantiles		
100.0%	maximum	8.0
99.5%		8.0
97.5%		8.0
90.0%		8.0
75.0%	quartile	5.4
50.0%	median	-4.3
25.0%	quartile	-10.2
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-3.0
Std Dev	8.3
Std Err Mean	4.1
Upper 95% Mean	10.1
Lower 95% Mean	-16.2
N	4.0

Distributions Analyte_Detection=Technetium-99 Gamma Spectrometry

Bias



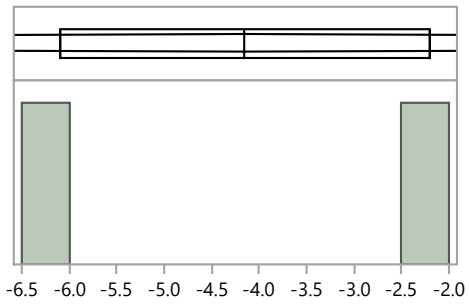
Quantiles		
100.0%	maximum	-99.1
99.5%		-99.1
97.5%		-99.1
90.0%		-99.1
75.0%	quartile	-99.1
50.0%	median	-99.1
25.0%	quartile	-99.1
10.0%		-99.1
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics	
Mean	-99.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Technetium-99 Inductively Coupled Plasma Mass Spectrometry

Bias

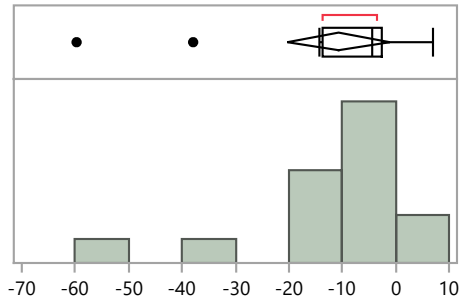


Quantiles		
100.0%	maximum	-2.2
99.5%		-2.2
97.5%		-2.2
90.0%		-2.2
75.0%	quartile	-2.2
50.0%	median	-4.2
25.0%	quartile	-6.1
10.0%		-6.1
2.5%		-6.1
0.5%		-6.1
0.0%	minimum	-6.1

Summary Statistics	
Mean	-4.2
Std Dev	2.8
Std Err Mean	2.0
Upper 95% Mean	20.6
Lower 95% Mean	-28.9
N	2.0

Distributions Analyte_Detection=Technetium-99 Liquid Scintillation Counter

Bias

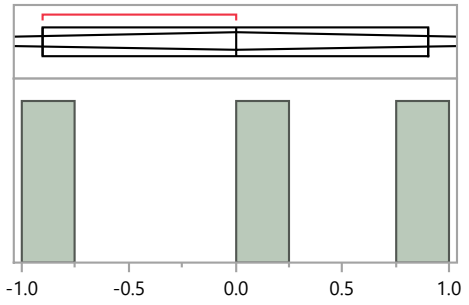


Quantiles		
100.0%	maximum	7.1
99.5%		7.1
97.5%		7.1
90.0%		6.6
75.0%	quartile	-2.5
50.0%	median	-4.5
25.0%	quartile	-13.8
10.0%		-46.6
2.5%		-59.7
0.5%		-59.7
0.0%	minimum	-59.7

Summary Statistics	
Mean	-10.8
Std Dev	17.2
Std Err Mean	4.4
Upper 95% Mean	-1.2
Lower 95% Mean	-20.3
N	15.0

Distributions Analyte_Detection=Thallium Inductively Coupled Plasma Emission Spectrometry

Bias



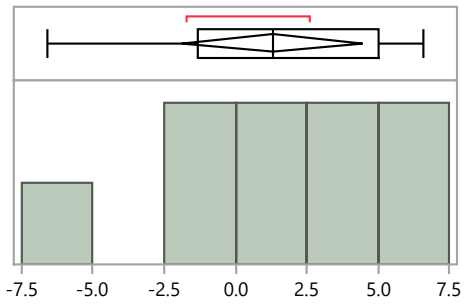
Quantiles		
100.0%	maximum	0.9
99.5%		0.9
97.5%		0.9
90.0%		0.9
75.0%	quartile	0.9
50.0%	median	0.0
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

Summary Statistics	
Mean	0.0
Std Dev	0.9
Std Err Mean	0.5
Upper 95% Mean	2.2
Lower 95% Mean	-2.2
N	3.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Thallium Inductively Coupled Plasma Mass Spectrometry

Bias

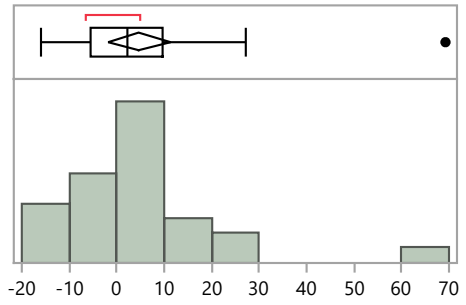


Quantiles		
100.0%	maximum	6.6
99.5%		6.6
97.5%		6.6
90.0%		6.6
75.0%	quartile	5.0
50.0%	median	1.3
25.0%	quartile	-1.3
10.0%		-6.6
2.5%		-6.6
0.5%		-6.6
0.0%	minimum	-6.6

Summary Statistics	
Mean	1.3
Std Dev	4.1
Std Err Mean	1.4
Upper 95% Mean	4.5
Lower 95% Mean	-1.9
N	9.0

Distributions Analyte_Detection=Uranium-234 Alpha Spectrometry

Bias

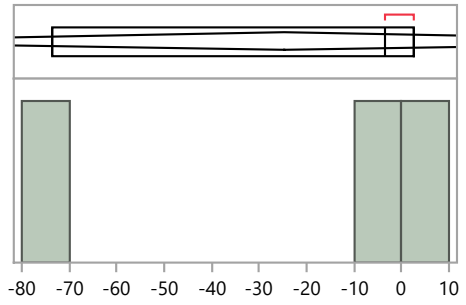


Quantiles		
100.0%	maximum	69.2
99.5%		69.2
97.5%		69.2
90.0%		23.1
75.0%	quartile	9.7
50.0%	median	2.4
25.0%	quartile	-5.3
10.0%		-11.5
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

Summary Statistics	
Mean	4.8
Std Dev	16.5
Std Err Mean	3.2
Upper 95% Mean	11.3
Lower 95% Mean	-1.7
N	27.0

Distributions Analyte_Detection=Uranium-234 Gamma Spectrometry

Bias



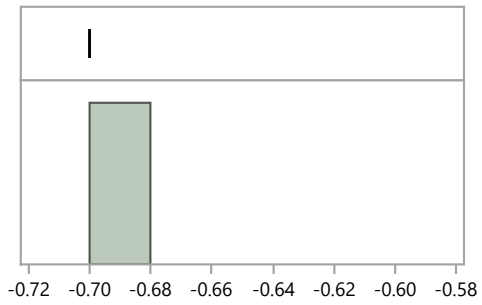
Quantiles		
100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	2.6
50.0%	median	-3.4
25.0%	quartile	-73.7
10.0%		-73.7
2.5%		-73.7
0.5%		-73.7
0.0%	minimum	-73.7

Summary Statistics	
Mean	-24.8
Std Dev	42.4
Std Err Mean	24.5
Upper 95% Mean	80.6
Lower 95% Mean	-130.2
N	3.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Uranium-234 Gas Flow Proportional Counter

Bias

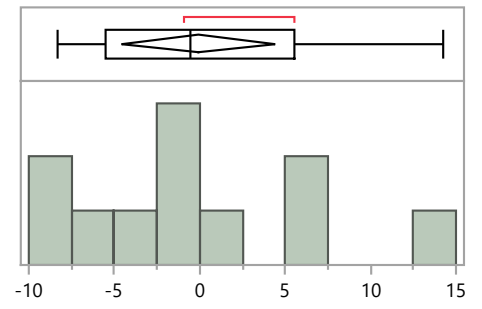


Quantiles		
100.0%	maximum	-0.7
99.5%		-0.7
97.5%		-0.7
90.0%		-0.7
75.0%	quartile	-0.7
50.0%	median	-0.7
25.0%	quartile	-0.7
10.0%		-0.7
2.5%		-0.7
0.5%		-0.7
0.0%	minimum	-0.7

Summary Statistics	
Mean	-0.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Uranium-235 Inductively Coupled Plasma Mass Spectrometry

Bias

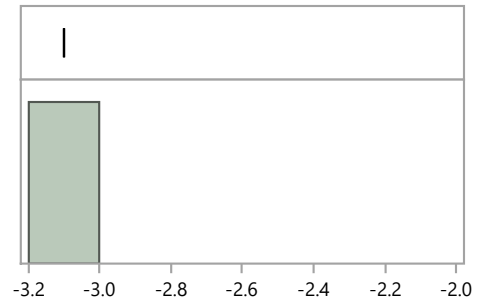


Quantiles		
100.0%	maximum	14.2
99.5%		14.2
97.5%		14.2
90.0%		12.5
75.0%	quartile	5.5
50.0%	median	-0.5
25.0%	quartile	-5.5
10.0%		-8.3
2.5%		-8.3
0.5%		-8.3
0.0%	minimum	-8.3

Summary Statistics	
Mean	-0.1
Std Dev	6.7
Std Err Mean	2.0
Upper 95% Mean	4.4
Lower 95% Mean	-4.6
N	11.0

Distributions Analyte_Detection=Uranium-235 Thermal Ionization Mass Spectrometry

Bias



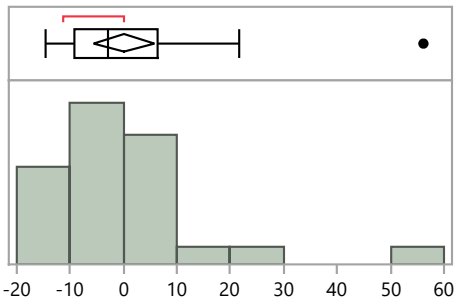
Quantiles		
100.0%	maximum	-3.1
99.5%		-3.1
97.5%		-3.1
90.0%		-3.1
75.0%	quartile	-3.1
50.0%	median	-3.1
25.0%	quartile	-3.1
10.0%		-3.1
2.5%		-3.1
0.5%		-3.1
0.0%	minimum	-3.1

Summary Statistics	
Mean	-3.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Alpha Spectrometry

Bias

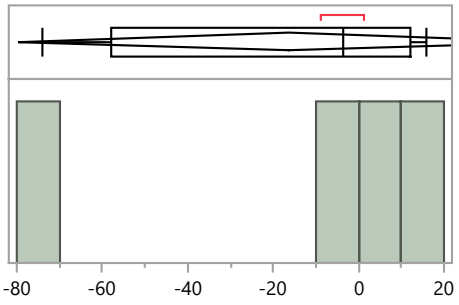


Quantiles		
100.0%	maximum	56.1
99.5%		56.1
97.5%		56.1
90.0%		14.1
75.0%	quartile	6.5
50.0%	median	-2.9
25.0%	quartile	-9.1
10.0%		-12.4
2.5%		-14.5
0.5%		-14.5
0.0%	minimum	-14.5

Summary Statistics	
Mean	0.2
Std Dev	14.2
Std Err Mean	2.7
Upper 95% Mean	5.8
Lower 95% Mean	-5.4
N	27.0

Distributions Analyte_Detection=Uranium-238 Gamma Spectrometry

Bias

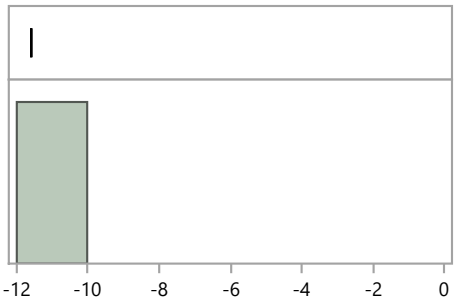


Quantiles		
100.0%	maximum	15.8
99.5%		15.8
97.5%		15.8
90.0%		15.8
75.0%	quartile	12.2
50.0%	median	-3.8
25.0%	quartile	-57.7
10.0%		-74.0
2.5%		-74.0
0.5%		-74.0
0.0%	minimum	-74.0

Summary Statistics	
Mean	-16.4
Std Dev	39.7
Std Err Mean	19.8
Upper 95% Mean	46.7
Lower 95% Mean	-79.6
N	4.0

Distributions Analyte_Detection=Uranium-238 Gas Flow Proportional Counter

Bias



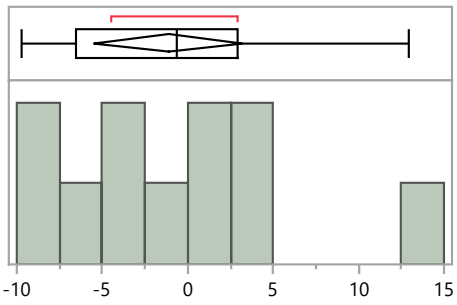
Quantiles		
100.0%	maximum	-11.6
99.5%		-11.6
97.5%		-11.6
90.0%		-11.6
75.0%	quartile	-11.6
50.0%	median	-11.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-11.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Uranium-238 Inductively Coupled Plasma Mass Spectrometry

Bias

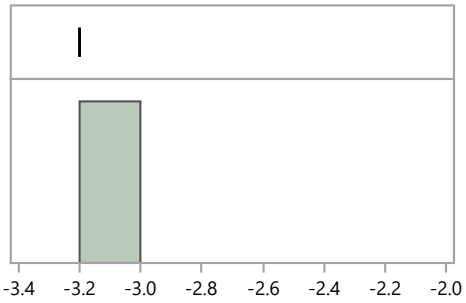


Quantiles		
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		11.0
75.0%	quartile	2.9
50.0%	median	-0.6
25.0%	quartile	-6.5
10.0%		-9.5
2.5%		-9.7
0.5%		-9.7
0.0%	minimum	-9.7

Summary Statistics	
Mean	-1.1
Std Dev	6.5
Std Err Mean	2.0
Upper 95% Mean	3.2
Lower 95% Mean	-5.5
N	11.0

Distributions Analyte_Detection=Uranium-238 Thermal Ionization Mass Spectrometry

Bias

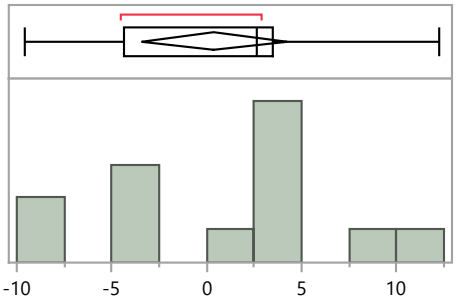


Quantiles		
100.0%	maximum	-3.2
99.5%		-3.2
97.5%		-3.2
90.0%		-3.2
75.0%	quartile	-3.2
50.0%	median	-3.2
25.0%	quartile	-3.2
10.0%		-3.2
2.5%		-3.2
0.5%		-3.2
0.0%	minimum	-3.2

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

Distributions Analyte_Detection=Uranium-Total Inductively Coupled Plasma Mass Spectrometry

Bias



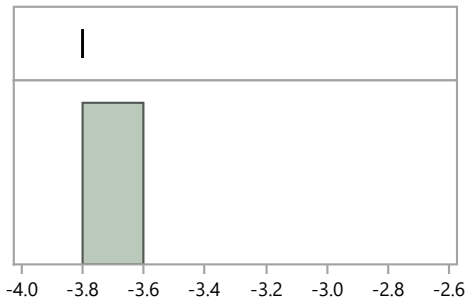
Quantiles		
100.0%	maximum	12.2
99.5%		12.2
97.5%		12.2
90.0%		10.5
75.0%	quartile	3.5
50.0%	median	2.6
25.0%	quartile	-4.4
10.0%		-9.2
2.5%		-9.6
0.5%		-9.6
0.0%	minimum	-9.6

Summary Statistics	
Mean	0.4
Std Dev	6.3
Std Err Mean	1.8
Upper 95% Mean	4.2
Lower 95% Mean	-3.4
N	13.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Uranium-Total Thermal Ionization Mass Spectrometry

Bias

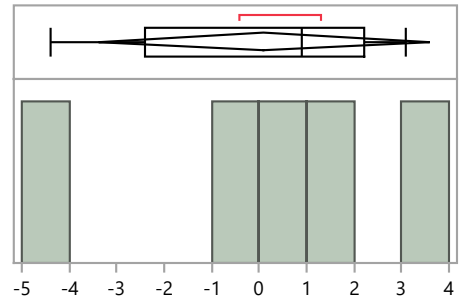


Quantiles		
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-3.8
25.0%	quartile	-3.8
10.0%		-3.8
2.5%		-3.8
0.5%		-3.8
0.0%	minimum	-3.8

Summary Statistics	
Mean	-3.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Detection=Zinc Inductively Coupled Plasma Emission Spectrometry

Bias

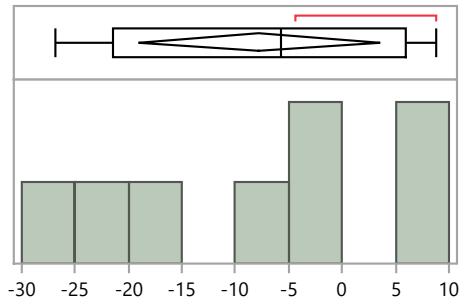


Quantiles		
100.0%	maximum	3.1
99.5%		3.1
97.5%		3.1
90.0%		3.1
75.0%	quartile	2.2
50.0%	median	0.9
25.0%	quartile	-2.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

Summary Statistics	
Mean	0.1
Std Dev	2.8
Std Err Mean	1.3
Upper 95% Mean	3.6
Lower 95% Mean	-3.4
N	5.0

Distributions Analyte_Detection=Zinc Inductively Coupled Plasma Mass Spectrometry

Bias



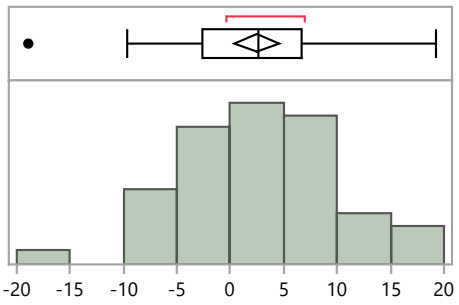
Quantiles		
100.0%	maximum	8.8
99.5%		8.8
97.5%		8.8
90.0%		8.8
75.0%	quartile	6.0
50.0%	median	-5.7
25.0%	quartile	-21.5
10.0%		-26.8
2.5%		-26.8
0.5%		-26.8
0.0%	minimum	-26.8

Summary Statistics	
Mean	-7.8
Std Dev	13.5
Std Err Mean	4.8
Upper 95% Mean	3.5
Lower 95% Mean	-19.1
N	8.0

MaW51 Distribution by Detection Method

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	19.3
99.5%		19.3
97.5%		18.9
90.0%		11.8
75.0%	quartile	6.6
50.0%	median	2.6
25.0%	quartile	-2.7
10.0%		-6.9
2.5%		-16.3
0.5%		-18.9
0.0%	minimum	-18.9

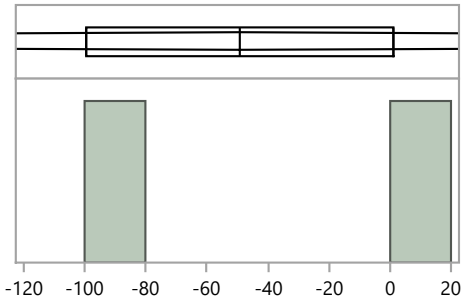
Summary Statistics

Mean	2.4
Std Dev	7.4
Std Err Mean	1.0
Upper 95% Mean	4.5
Lower 95% Mean	0.3
N	50.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Americium-241 Coprecipitation, acidified

Bias

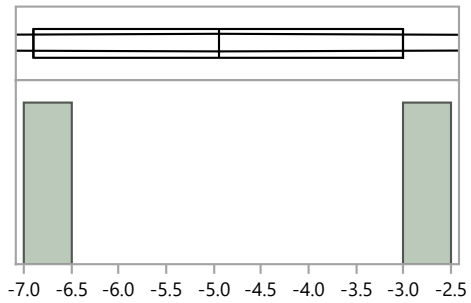


Quantiles		
100.0%	maximum	1.1
99.5%		1.1
97.5%		1.1
90.0%		1.1
75.0%	quartile	1.1
50.0%	median	-49.3
25.0%	quartile	-99.7
10.0%		-99.7
2.5%		-99.7
0.5%		-99.7
0.0%	minimum	-99.7

Summary Statistics	
Mean	-49.3
Std Dev	71.3
Std Err Mean	50.4
Upper 95% Mean	591.1
Lower 95% Mean	-689.7
N	2.0

Distributions Analyte_Method=Americium-241 Coprecipitation, straight

Bias

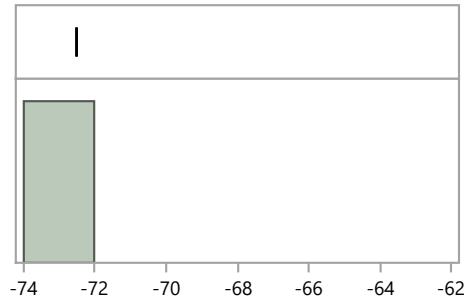


Quantiles		
100.0%	maximum	-3.0
99.5%		-3.0
97.5%		-3.0
90.0%		-3.0
75.0%	quartile	-3.0
50.0%	median	-5.0
25.0%	quartile	-6.9
10.0%		-6.9
2.5%		-6.9
0.5%		-6.9
0.0%	minimum	-6.9

Summary Statistics	
Mean	-5.0
Std Dev	2.8
Std Err Mean	2.0
Upper 95% Mean	19.8
Lower 95% Mean	-29.7
N	2.0

Distributions Analyte_Method=Americium-241 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



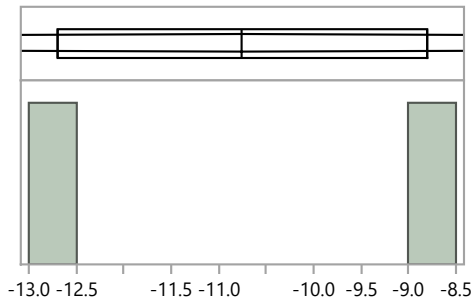
Quantiles		
100.0%	maximum	-72.5
99.5%		-72.5
97.5%		-72.5
90.0%		-72.5
75.0%	quartile	-72.5
50.0%	median	-72.5
25.0%	quartile	-72.5
10.0%		-72.5
2.5%		-72.5
0.5%		-72.5
0.0%	minimum	-72.5

Summary Statistics	
Mean	-72.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

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

Bias

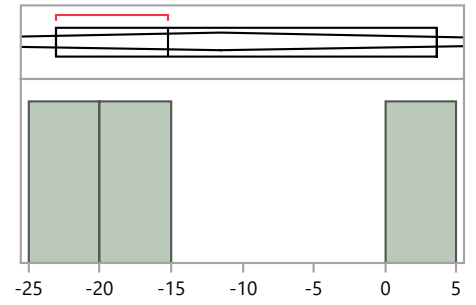


Quantiles		
100.0%	maximum	-8.8
99.5%		-8.8
97.5%		-8.8
90.0%		-8.8
75.0%	quartile	-8.8
50.0%	median	-10.8
25.0%	quartile	-12.7
10.0%		-12.7
2.5%		-12.7
0.5%		-12.7
0.0%	minimum	-12.7

Summary Statistics	
Mean	-10.8
Std Dev	2.8
Std Err Mean	1.9
Upper 95% Mean	14.0
Lower 95% Mean	-35.5
N	2.0

Distributions Analyte_Method=Americium-241 Evaporation, acidified

Bias

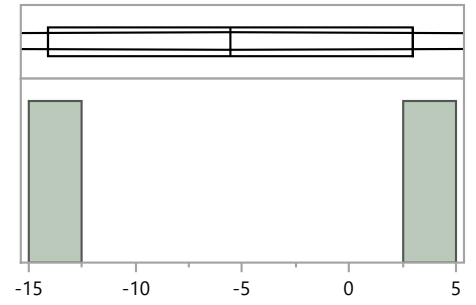


Quantiles		
100.0%	maximum	3.6
99.5%		3.6
97.5%		3.6
90.0%		3.6
75.0%	quartile	3.6
50.0%	median	-15.2
25.0%	quartile	-23.1
10.0%		-23.1
2.5%		-23.1
0.5%		-23.1
0.0%	minimum	-23.1

Summary Statistics	
Mean	-11.6
Std Dev	13.7
Std Err Mean	7.9
Upper 95% Mean	22.5
Lower 95% Mean	-45.6
N	3.0

Distributions Analyte_Method=Americium-241 Evaporation, straight

Bias



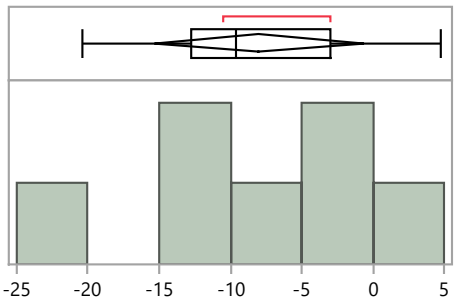
Quantiles		
100.0%	maximum	3.0
99.5%		3.0
97.5%		3.0
90.0%		3.0
75.0%	quartile	3.0
50.0%	median	-5.6
25.0%	quartile	-14.1
10.0%		-14.1
2.5%		-14.1
0.5%		-14.1
0.0%	minimum	-14.1

Summary Statistics	
Mean	-5.6
Std Dev	12.1
Std Err Mean	8.6
Upper 95% Mean	103.1
Lower 95% Mean	-114.2
N	2.0

MaW51 Distribution by Preparation Method

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

Bias

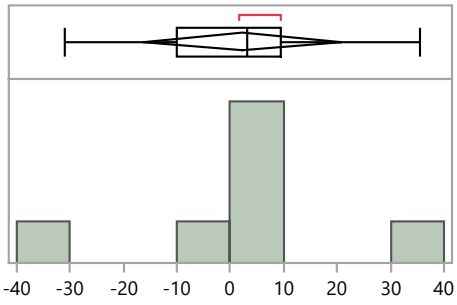


Quantiles		
100.0%	maximum	4.7
99.5%		4.7
97.5%		4.7
90.0%		4.7
75.0%	quartile	-3.0
50.0%	median	-9.6
25.0%	quartile	-12.7
10.0%		-20.4
2.5%		-20.4
0.5%		-20.4
0.0%	minimum	-20.4

Summary Statistics	
Mean	-8.0
Std Dev	8.0
Std Err Mean	3.0
Upper 95% Mean	-0.6
Lower 95% Mean	-15.4
N	7.0

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

Bias

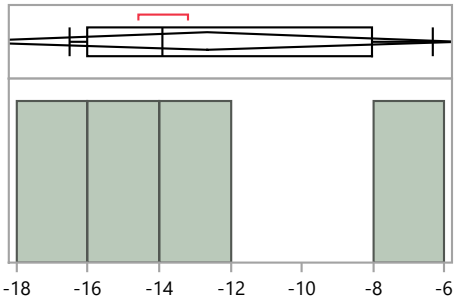


Quantiles		
100.0%	maximum	35.5
99.5%		35.5
97.5%		35.5
90.0%		35.5
75.0%	quartile	9.4
50.0%	median	3.0
25.0%	quartile	-9.9
10.0%		-31.1
2.5%		-31.1
0.5%		-31.1
0.0%	minimum	-31.1

Summary Statistics	
Mean	2.3
Std Dev	20.2
Std Err Mean	7.6
Upper 95% Mean	20.9
Lower 95% Mean	-16.4
N	7.0

Distributions Analyte_Method=Americium-241 Other

Bias



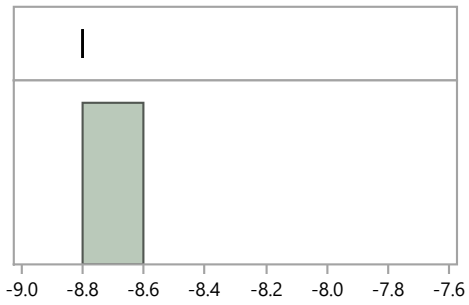
Quantiles		
100.0%	maximum	-6.3
99.5%		-6.3
97.5%		-6.3
90.0%		-6.3
75.0%	quartile	-8.0
50.0%	median	-13.9
25.0%	quartile	-16.0
10.0%		-16.5
2.5%		-16.5
0.5%		-16.5
0.0%	minimum	-16.5

Summary Statistics	
Mean	-12.7
Std Dev	4.4
Std Err Mean	2.2
Upper 95% Mean	-5.6
Lower 95% Mean	-19.7
N	4.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Americium-241 Total dissolution by fusion

Bias

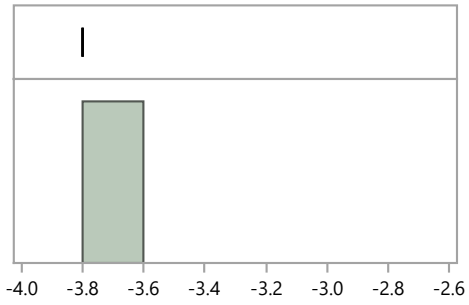


Quantiles		
100.0%	maximum	-8.8
99.5%		-8.8
97.5%		-8.8
90.0%		-8.8
75.0%	quartile	-8.8
50.0%	median	-8.8
25.0%	quartile	-8.8
10.0%		-8.8
2.5%		-8.8
0.5%		-8.8
0.0%	minimum	-8.8

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

Distributions Analyte_Method=Arsenic EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

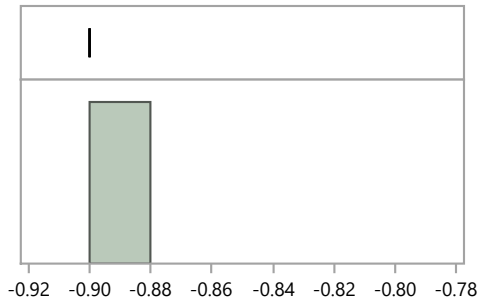


Quantiles		
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-3.8
25.0%	quartile	-3.8
10.0%		-3.8
2.5%		-3.8
0.5%		-3.8
0.0%	minimum	-3.8

Summary Statistics	
Mean	-3.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Arsenic EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



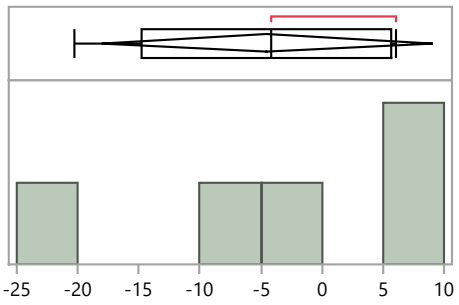
Quantiles		
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-0.9
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Arsenic No preparation - analyzed as received

Bias

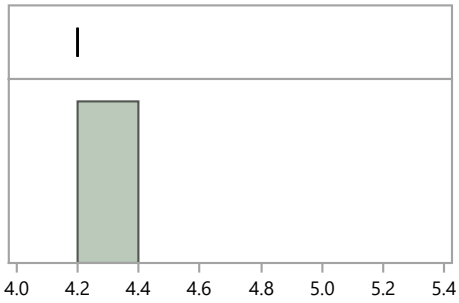


Quantiles		
100.0%	maximum	6.1
99.5%		6.1
97.5%		6.1
90.0%		6.1
75.0%	quartile	5.7
50.0%	median	-4.2
25.0%	quartile	-14.8
10.0%		-20.2
2.5%		-20.2
0.5%		-20.2
0.0%	minimum	-20.2

Summary Statistics	
Mean	-4.5
Std Dev	10.9
Std Err Mean	4.9
Upper 95% Mean	9.1
Lower 95% Mean	-18.1
N	5.0

Distributions Analyte_Method=Arsenic SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

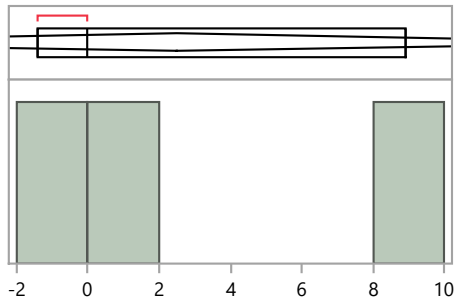


Quantiles		
100.0%	maximum	4.2
99.5%		4.2
97.5%		4.2
90.0%		4.2
75.0%	quartile	4.2
50.0%	median	4.2
25.0%	quartile	4.2
10.0%		4.2
2.5%		4.2
0.5%		4.2
0.0%	minimum	4.2

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

Distributions Analyte_Method=Arsenic SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias



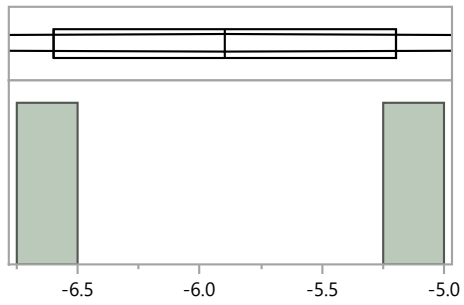
Quantiles		
100.0%	maximum	8.9
99.5%		8.9
97.5%		8.9
90.0%		8.9
75.0%	quartile	8.9
50.0%	median	0.0
25.0%	quartile	-1.4
10.0%		-1.4
2.5%		-1.4
0.5%		-1.4
0.0%	minimum	-1.4

Summary Statistics	
Mean	2.5
Std Dev	5.6
Std Err Mean	3.2
Upper 95% Mean	16.4
Lower 95% Mean	-11.4
N	3.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Arsenic SW846 Methods 3015, 3051 (Microwave assisted)

Bias

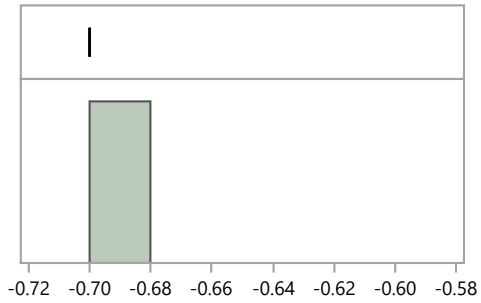


Quantiles		
100.0%	maximum	-5.2
99.5%		-5.2
97.5%		-5.2
90.0%		-5.2
75.0%	quartile	-5.2
50.0%	median	-5.9
25.0%	quartile	-6.6
10.0%		-6.6
2.5%		-6.6
0.5%		-6.6
0.0%	minimum	-6.6

Summary Statistics	
Mean	-5.9
Std Dev	1.0
Std Err Mean	0.7
Upper 95% Mean	3.0
Lower 95% Mean	-14.8
N	2.0

Distributions Analyte_Method=Barium EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

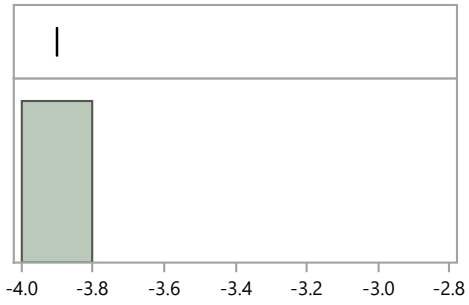


Quantiles		
100.0%	maximum	-0.7
99.5%		-0.7
97.5%		-0.7
90.0%		-0.7
75.0%	quartile	-0.7
50.0%	median	-0.7
25.0%	quartile	-0.7
10.0%		-0.7
2.5%		-0.7
0.5%		-0.7
0.0%	minimum	-0.7

Summary Statistics	
Mean	-0.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Barium EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



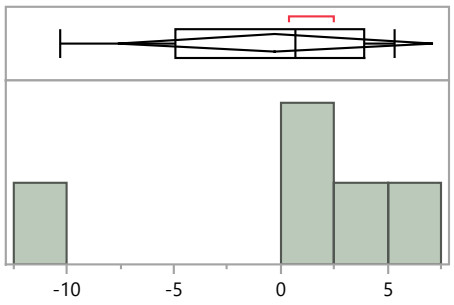
Quantiles		
100.0%	maximum	-3.9
99.5%		-3.9
97.5%		-3.9
90.0%		-3.9
75.0%	quartile	-3.9
50.0%	median	-3.9
25.0%	quartile	-3.9
10.0%		-3.9
2.5%		-3.9
0.5%		-3.9
0.0%	minimum	-3.9

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Barium No preparation - analyzed as received

Bias

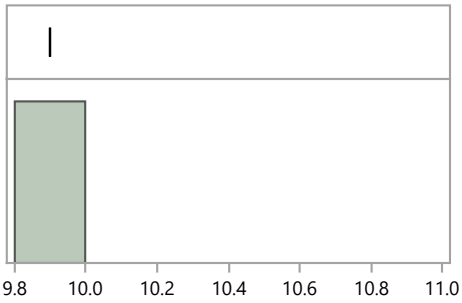


Quantiles		
100.0%	maximum	5.3
99.5%		5.3
97.5%		5.3
90.0%		5.3
75.0%	quartile	3.9
50.0%	median	0.7
25.0%	quartile	-5.0
10.0%		-10.3
2.5%		-10.3
0.5%		-10.3
0.0%	minimum	-10.3

Summary Statistics	
Mean	-0.3
Std Dev	5.9
Std Err Mean	2.7
Upper 95% Mean	7.1
Lower 95% Mean	-7.6
N	5.0

Distributions Analyte_Method=Barium SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

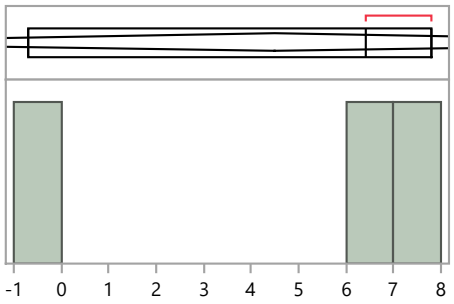


Quantiles		
100.0%	maximum	9.9
99.5%		9.9
97.5%		9.9
90.0%		9.9
75.0%	quartile	9.9
50.0%	median	9.9
25.0%	quartile	9.9
10.0%		9.9
2.5%		9.9
0.5%		9.9
0.0%	minimum	9.9

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

Distributions Analyte_Method=Barium SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias



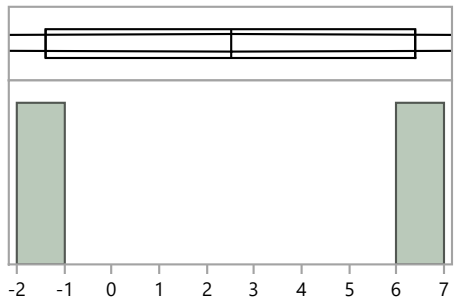
Quantiles		
100.0%	maximum	7.8
99.5%		7.8
97.5%		7.8
90.0%		7.8
75.0%	quartile	7.8
50.0%	median	6.4
25.0%	quartile	-0.7
10.0%		-0.7
2.5%		-0.7
0.5%		-0.7
0.0%	minimum	-0.7

Summary Statistics	
Mean	4.5
Std Dev	4.6
Std Err Mean	2.6
Upper 95% Mean	15.8
Lower 95% Mean	-6.8
N	3.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Barium SW846 Methods 3015, 3051 (Microwave assisted)

Bias

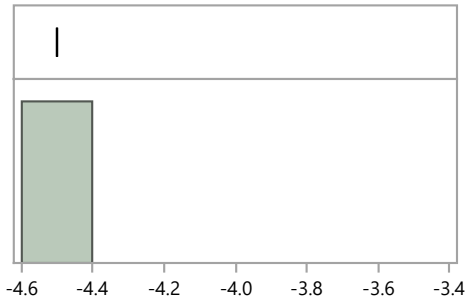


Quantiles		
100.0%	maximum	6.4
99.5%		6.4
97.5%		6.4
90.0%		6.4
75.0%	quartile	6.4
50.0%	median	2.5
25.0%	quartile	-1.4
10.0%		-1.4
2.5%		-1.4
0.5%		-1.4
0.0%	minimum	-1.4

Summary Statistics	
Mean	2.5
Std Dev	5.5
Std Err Mean	3.9
Upper 95% Mean	52.1
Lower 95% Mean	-47.1
N	2.0

Distributions Analyte_Method=Beryllium EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

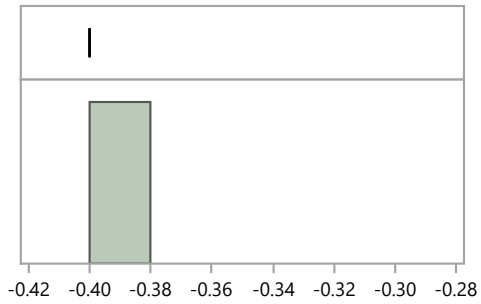


Quantiles		
100.0%	maximum	-4.5
99.5%		-4.5
97.5%		-4.5
90.0%		-4.5
75.0%	quartile	-4.5
50.0%	median	-4.5
25.0%	quartile	-4.5
10.0%		-4.5
2.5%		-4.5
0.5%		-4.5
0.0%	minimum	-4.5

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

Distributions Analyte_Method=Beryllium EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



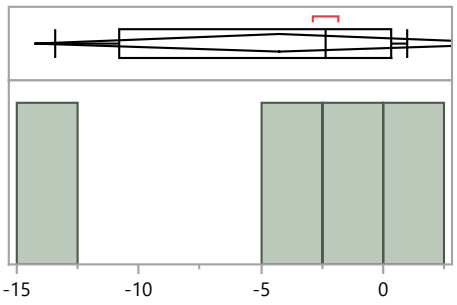
Quantiles		
100.0%	maximum	-0.4
99.5%		-0.4
97.5%		-0.4
90.0%		-0.4
75.0%	quartile	-0.4
50.0%	median	-0.4
25.0%	quartile	-0.4
10.0%		-0.4
2.5%		-0.4
0.5%		-0.4
0.0%	minimum	-0.4

Summary Statistics	
Mean	-0.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Beryllium No preparation - analyzed as received

Bias

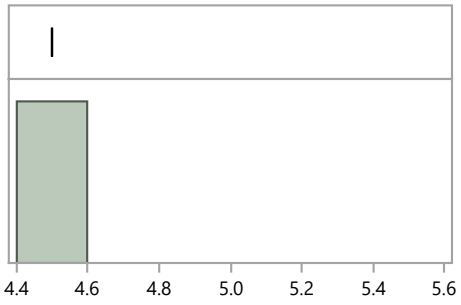


Quantiles		
100.0%	maximum	1.0
99.5%		1.0
97.5%		1.0
90.0%		1.0
75.0%	quartile	0.3
50.0%	median	-2.4
25.0%	quartile	-10.8
10.0%		-13.4
2.5%		-13.4
0.5%		-13.4
0.0%	minimum	-13.4

Summary Statistics	
Mean	-4.3
Std Dev	6.3
Std Err Mean	3.2
Upper 95% Mean	5.8
Lower 95% Mean	-14.3
N	4.0

Distributions Analyte_Method=Beryllium SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

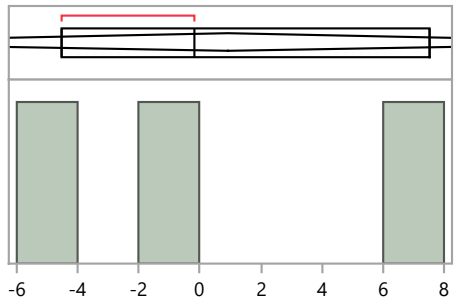


Quantiles		
100.0%	maximum	4.5
99.5%		4.5
97.5%		4.5
90.0%		4.5
75.0%	quartile	4.5
50.0%	median	4.5
25.0%	quartile	4.5
10.0%		4.5
2.5%		4.5
0.5%		4.5
0.0%	minimum	4.5

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

Distributions Analyte_Method=Beryllium SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias



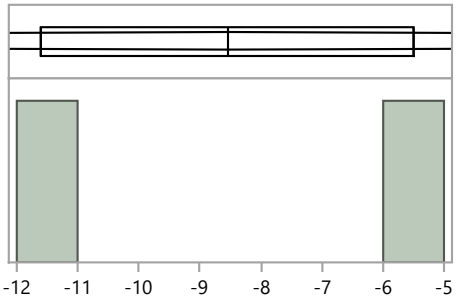
Quantiles		
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	7.5
50.0%	median	-0.2
25.0%	quartile	-4.5
10.0%		-4.5
2.5%		-4.5
0.5%		-4.5
0.0%	minimum	-4.5

Summary Statistics	
Mean	0.9
Std Dev	6.1
Std Err Mean	3.5
Upper 95% Mean	16.0
Lower 95% Mean	-14.2
N	3.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Beryllium SW846 Methods 3015, 3051 (Microwave assisted)

Bias

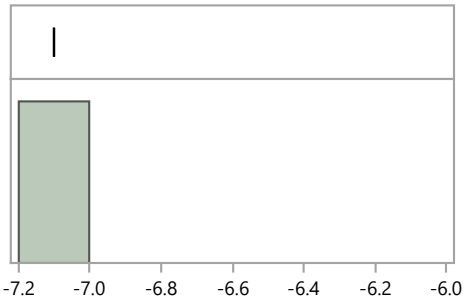


Quantiles		
100.0%	maximum	-5.5
99.5%		-5.5
97.5%		-5.5
90.0%		-5.5
75.0%	quartile	-5.5
50.0%	median	-8.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-8.6
Std Dev	4.3
Std Err Mean	3.0
Upper 95% Mean	30.2
Lower 95% Mean	-47.3
N	2.0

Distributions Analyte_Method=Cesium-134 EPA 901, Radioactive Cesium, 600/4-80-032

Bias

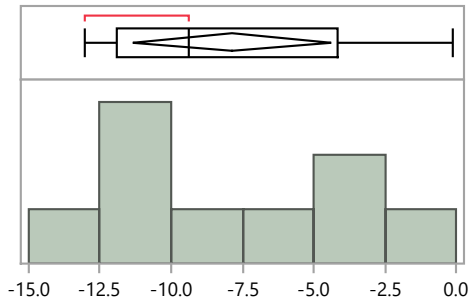


Quantiles		
100.0%	maximum	-7.1
99.5%		-7.1
97.5%		-7.1
90.0%		-7.1
75.0%	quartile	-7.1
50.0%	median	-7.1
25.0%	quartile	-7.1
10.0%		-7.1
2.5%		-7.1
0.5%		-7.1
0.0%	minimum	-7.1

Summary Statistics	
Mean	-7.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



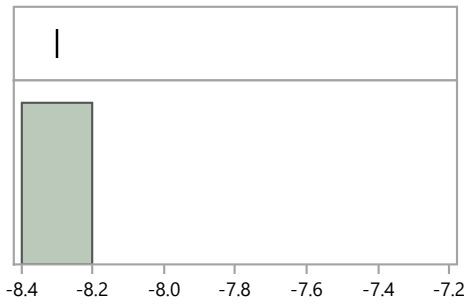
Quantiles		
100.0%	maximum	-0.1
99.5%		-0.1
97.5%		-0.1
90.0%		-0.1
75.0%	quartile	-4.2
50.0%	median	-9.4
25.0%	quartile	-11.9
10.0%		-13.0
2.5%		-13.0
0.5%		-13.0
0.0%	minimum	-13.0

Summary Statistics	
Mean	-7.9
Std Dev	4.5
Std Err Mean	1.5
Upper 95% Mean	-4.4
Lower 95% Mean	-11.4
N	9.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 Evaporation, acidified

Bias

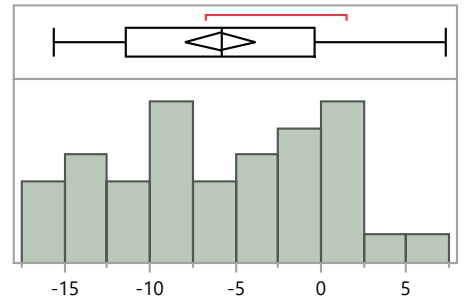


Quantiles		
100.0%	maximum	-8.3
99.5%		-8.3
97.5%		-8.3
90.0%		-8.3
75.0%	quartile	-8.3
50.0%	median	-8.3
25.0%	quartile	-8.3
10.0%		-8.3
2.5%		-8.3
0.5%		-8.3
0.0%	minimum	-8.3

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

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

Bias

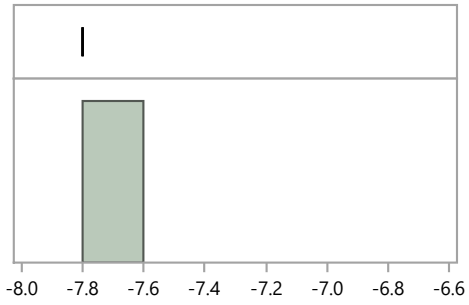


Quantiles		
100.0%	maximum	7.3
99.5%		7.3
97.5%		7.3
90.0%		1.4
75.0%	quartile	-0.4
50.0%	median	-5.8
25.0%	quartile	-11.4
10.0%		-14.2
2.5%		-15.6
0.5%		-15.6
0.0%	minimum	-15.6

Summary Statistics	
Mean	-5.9
Std Dev	6.1
Std Err Mean	1.0
Upper 95% Mean	-3.8
Lower 95% Mean	-7.9
N	36.0

Distributions Analyte_Method=Cesium-134 Other

Bias



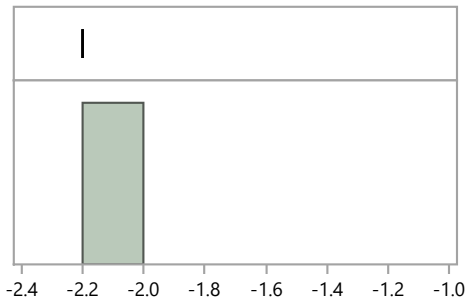
Quantiles		
100.0%	maximum	-7.8
99.5%		-7.8
97.5%		-7.8
90.0%		-7.8
75.0%	quartile	-7.8
50.0%	median	-7.8
25.0%	quartile	-7.8
10.0%		-7.8
2.5%		-7.8
0.5%		-7.8
0.0%	minimum	-7.8

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

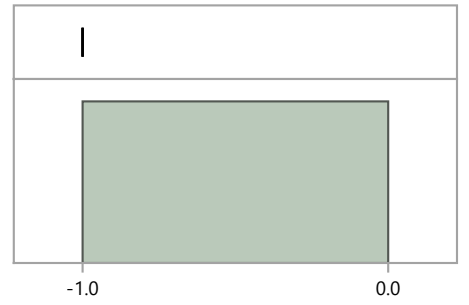


Quantiles		
100.0%	maximum	-2.2
99.5%		-2.2
97.5%		-2.2
90.0%		-2.2
75.0%	quartile	-2.2
50.0%	median	-2.2
25.0%	quartile	-2.2
10.0%		-2.2
2.5%		-2.2
0.5%		-2.2
0.0%	minimum	-2.2

Summary Statistics	
Mean	-2.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cobalt EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

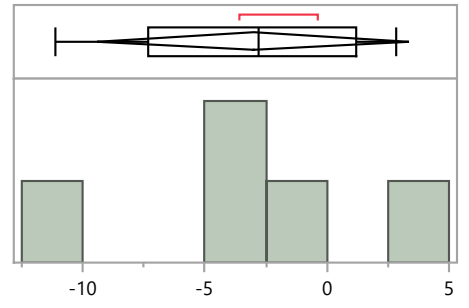


Quantiles		
100.0%	maximum	-1.0
99.5%		-1.0
97.5%		-1.0
90.0%		-1.0
75.0%	quartile	-1.0
50.0%	median	-1.0
25.0%	quartile	-1.0
10.0%		-1.0
2.5%		-1.0
0.5%		-1.0
0.0%	minimum	-1.0

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

Distributions Analyte_Method=Cobalt No preparation - analyzed as received

Bias



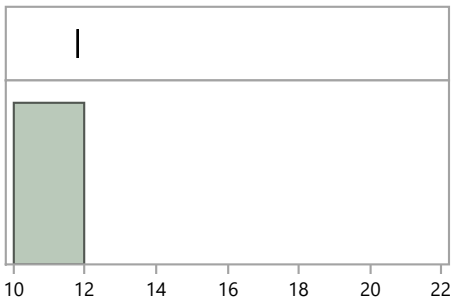
Quantiles		
100.0%	maximum	2.8
99.5%		2.8
97.5%		2.8
90.0%		2.8
75.0%	quartile	1.2
50.0%	median	-2.8
25.0%	quartile	-7.4
10.0%		-11.1
2.5%		-11.1
0.5%		-11.1
0.0%	minimum	-11.1

Summary Statistics	
Mean	-3.0
Std Dev	5.2
Std Err Mean	2.3
Upper 95% Mean	3.4
Lower 95% Mean	-9.4
N	5.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

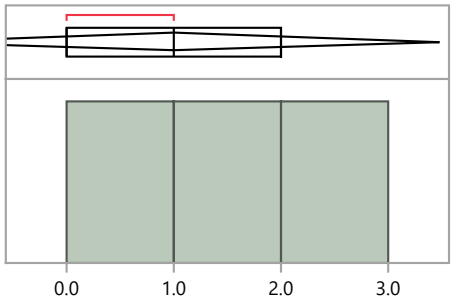


Quantiles		
100.0%	maximum	11.8
99.5%		11.8
97.5%		11.8
90.0%		11.8
75.0%	quartile	11.8
50.0%	median	11.8
25.0%	quartile	11.8
10.0%		11.8
2.5%		11.8
0.5%		11.8
0.0%	minimum	11.8

Summary Statistics	
Mean	11.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Cobalt SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

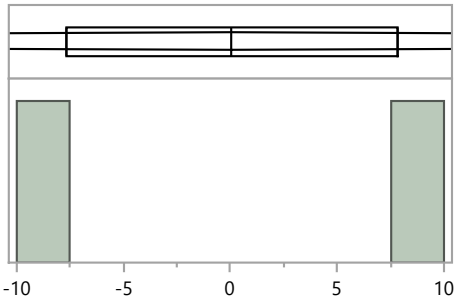


Quantiles		
100.0%	maximum	2.0
99.5%		2.0
97.5%		2.0
90.0%		2.0
75.0%	quartile	2.0
50.0%	median	1.0
25.0%	quartile	0.0
10.0%		0.0
2.5%		0.0
0.5%		0.0
0.0%	minimum	0.0

Summary Statistics	
Mean	1.0
Std Dev	1.0
Std Err Mean	0.6
Upper 95% Mean	3.5
Lower 95% Mean	-1.5
N	3.0

Distributions Analyte_Method=Cobalt SW846 Methods 3015, 3051 (Microwave assisted)

Bias



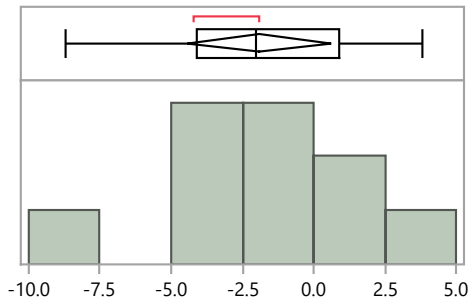
Quantiles		
100.0%	maximum	7.8
99.5%		7.8
97.5%		7.8
90.0%		7.8
75.0%	quartile	7.8
50.0%	median	0.0
25.0%	quartile	-7.7
10.0%		-7.7
2.5%		-7.7
0.5%		-7.7
0.0%	minimum	-7.7

Summary Statistics	
Mean	0.0
Std Dev	11.0
Std Err Mean	7.8
Upper 95% Mean	98.5
Lower 95% Mean	-98.4
N	2.0

MaW51 Distribution by Preparation Method

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

Bias

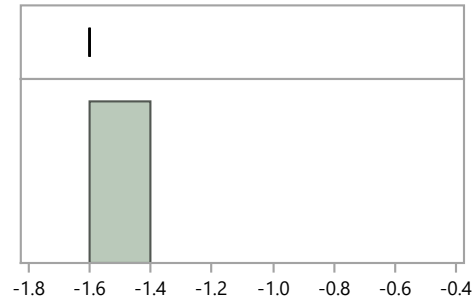


Quantiles		
100.0%	maximum	3.8
99.5%		3.8
97.5%		3.8
90.0%		3.7
75.0%	quartile	0.9
50.0%	median	-2.0
25.0%	quartile	-4.1
10.0%		-8.3
2.5%		-8.7
0.5%		-8.7
0.0%	minimum	-8.7

Summary Statistics	
Mean	-1.9
Std Dev	3.5
Std Err Mean	1.1
Upper 95% Mean	0.6
Lower 95% Mean	-4.4
N	10.0

Distributions Analyte_Method=Cobalt-57 Evaporation, acidified

Bias

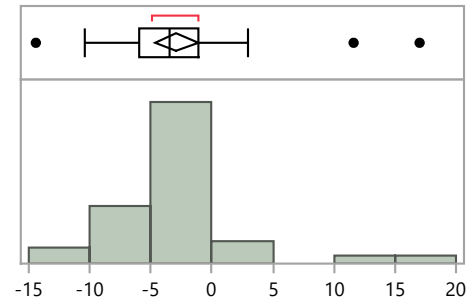


Quantiles		
100.0%	maximum	-1.6
99.5%		-1.6
97.5%		-1.6
90.0%		-1.6
75.0%	quartile	-1.6
50.0%	median	-1.6
25.0%	quartile	-1.6
10.0%		-1.6
2.5%		-1.6
0.5%		-1.6
0.0%	minimum	-1.6

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

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

Bias



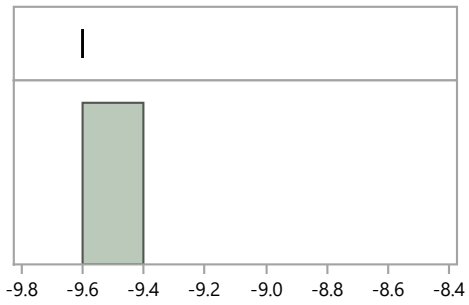
Quantiles		
100.0%	maximum	17.0
99.5%		17.0
97.5%		17.0
90.0%		1.3
75.0%	quartile	-1.1
50.0%	median	-3.4
25.0%	quartile	-6.0
10.0%		-7.9
2.5%		-14.4
0.5%		-14.4
0.0%	minimum	-14.4

Summary Statistics	
Mean	-2.9
Std Dev	5.4
Std Err Mean	0.9
Upper 95% Mean	-1.1
Lower 95% Mean	-4.6
N	38.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt-57 Other

Bias

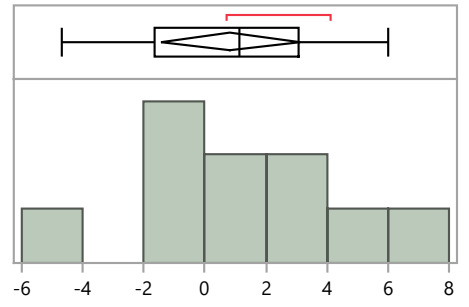


Quantiles		
100.0%	maximum	-9.6
99.5%		-9.6
97.5%		-9.6
90.0%		-9.6
75.0%	quartile	-9.6
50.0%	median	-9.6
25.0%	quartile	-9.6
10.0%		-9.6
2.5%		-9.6
0.5%		-9.6
0.0%	minimum	-9.6

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

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

Bias

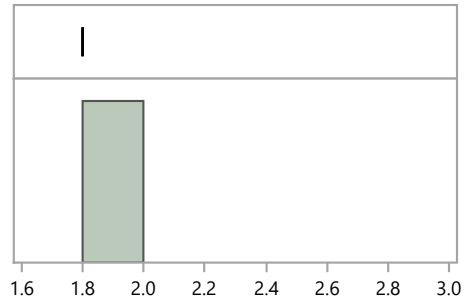


Quantiles		
100.0%	maximum	6.0
99.5%		6.0
97.5%		6.0
90.0%		5.8
75.0%	quartile	3.1
50.0%	median	1.2
25.0%	quartile	-1.6
10.0%		-4.4
2.5%		-4.7
0.5%		-4.7
0.0%	minimum	-4.7

Summary Statistics	
Mean	0.8
Std Dev	3.2
Std Err Mean	1.0
Upper 95% Mean	3.1
Lower 95% Mean	-1.4
N	10.0

Distributions Analyte_Method=Cobalt-60 Evaporation, acidified

Bias



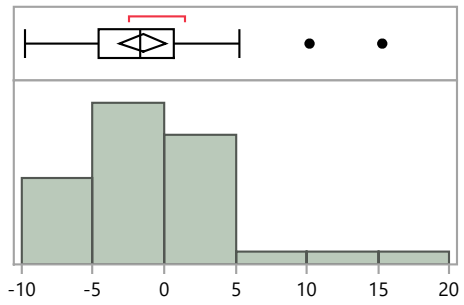
Quantiles		
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	1.8
50.0%	median	1.8
25.0%	quartile	1.8
10.0%		1.8
2.5%		1.8
0.5%		1.8
0.0%	minimum	1.8

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

MaW51 Distribution by Preparation Method

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

Bias

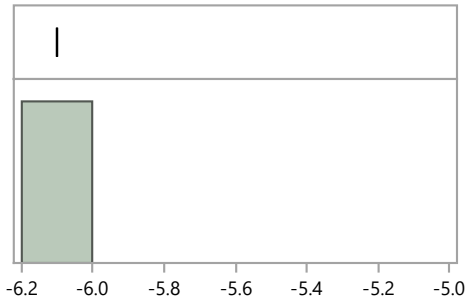


Quantiles		
100.0%	maximum	15.3
99.5%		15.3
97.5%		15.3
90.0%		2.3
75.0%	quartile	0.7
50.0%	median	-1.7
25.0%	quartile	-4.7
10.0%		-8.1
2.5%		-9.8
0.5%		-9.8
0.0%	minimum	-9.8

Summary Statistics	
Mean	-1.5
Std Dev	4.9
Std Err Mean	0.8
Upper 95% Mean	0.1
Lower 95% Mean	-3.1
N	38.0

Distributions Analyte_Method=Cobalt-60 Other

Bias

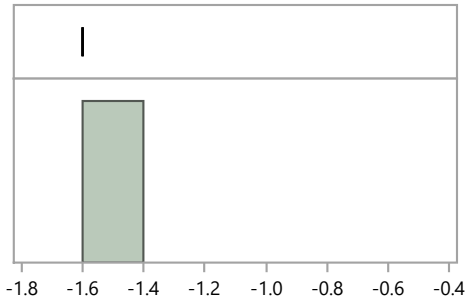


Quantiles		
100.0%	maximum	-6.1
99.5%		-6.1
97.5%		-6.1
90.0%		-6.1
75.0%	quartile	-6.1
50.0%	median	-6.1
25.0%	quartile	-6.1
10.0%		-6.1
2.5%		-6.1
0.5%		-6.1
0.0%	minimum	-6.1

Summary Statistics	
Mean	-6.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Copper EPA Method 200.7 Trace Metals in Waters & Wastes

Bias



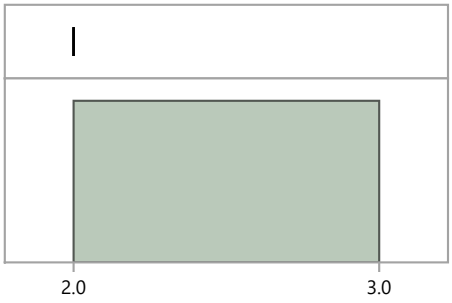
Quantiles		
100.0%	maximum	-1.6
99.5%		-1.6
97.5%		-1.6
90.0%		-1.6
75.0%	quartile	-1.6
50.0%	median	-1.6
25.0%	quartile	-1.6
10.0%		-1.6
2.5%		-1.6
0.5%		-1.6
0.0%	minimum	-1.6

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Copper EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

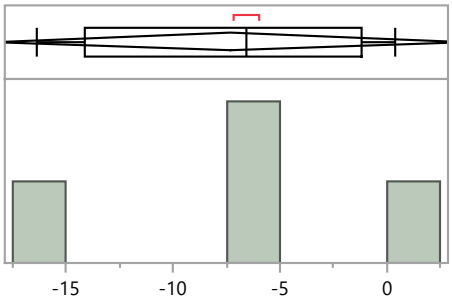


Quantiles		
100.0%	maximum	2.0
99.5%		2.0
97.5%		2.0
90.0%		2.0
75.0%	quartile	2.0
50.0%	median	2.0
25.0%	quartile	2.0
10.0%		2.0
2.5%		2.0
0.5%		2.0
0.0%	minimum	2.0

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

Distributions Analyte_Method=Copper No preparation - analyzed as received

Bias

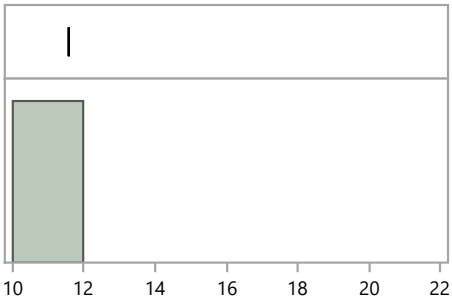


Quantiles		
100.0%	maximum	0.4
99.5%		0.4
97.5%		0.4
90.0%		0.4
75.0%	quartile	-1.2
50.0%	median	-6.6
25.0%	quartile	-14.1
10.0%		-16.4
2.5%		-16.4
0.5%		-16.4
0.0%	minimum	-16.4

Summary Statistics	
Mean	-7.3
Std Dev	6.9
Std Err Mean	3.5
Upper 95% Mean	3.7
Lower 95% Mean	-18.3
N	4.0

Distributions Analyte_Method=Copper SW846 Method 3050B, Section 7.5, Increased Solubility

Bias



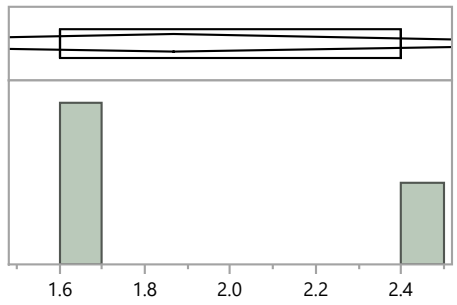
Quantiles		
100.0%	maximum	11.6
99.5%		11.6
97.5%		11.6
90.0%		11.6
75.0%	quartile	11.6
50.0%	median	11.6
25.0%	quartile	11.6
10.0%		11.6
2.5%		11.6
0.5%		11.6
0.0%	minimum	11.6

Summary Statistics	
Mean	11.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Copper SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

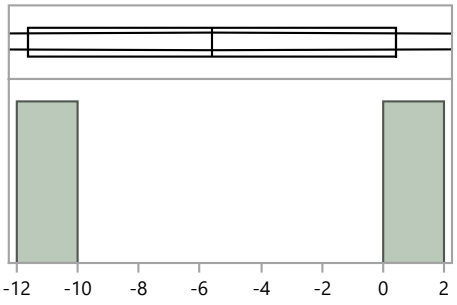


Quantiles		
100.0%	maximum	2.4
99.5%		2.4
97.5%		2.4
90.0%		2.4
75.0%	quartile	2.4
50.0%	median	1.6
25.0%	quartile	1.6
10.0%		1.6
2.5%		1.6
0.5%		1.6
0.0%	minimum	1.6

Summary Statistics	
Mean	1.9
Std Dev	0.5
Std Err Mean	0.3
Upper 95% Mean	3.0
Lower 95% Mean	0.7
N	3.0

Distributions Analyte_Method=Copper SW846 Methods 3015, 3051 (Microwave assisted)

Bias

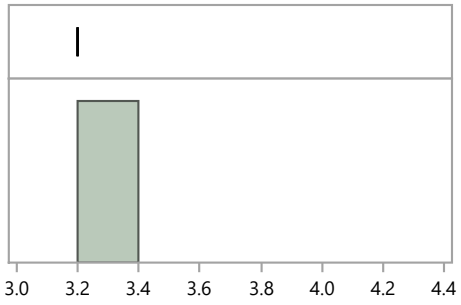


Quantiles		
100.0%	maximum	0.4
99.5%		0.4
97.5%		0.4
90.0%		0.4
75.0%	quartile	0.4
50.0%	median	-5.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-5.6
Std Dev	8.5
Std Err Mean	6.0
Upper 95% Mean	70.6
Lower 95% Mean	-81.8
N	2.0

Distributions Analyte_Method=Copper SW846 Methods 3052 (Microwave assisted Total Decomposition)

Bias



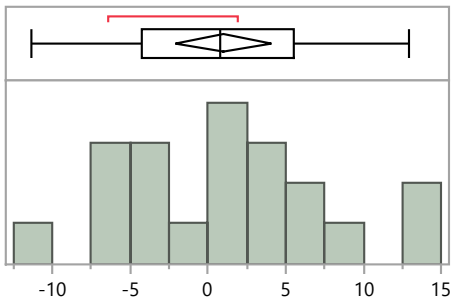
Quantiles		
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	3.2
25.0%	quartile	3.2
10.0%		3.2
2.5%		3.2
0.5%		3.2
0.0%	minimum	3.2

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Hydrogen-3 Distillation

Bias

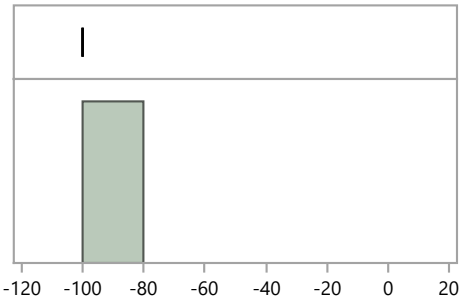


Quantiles		
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.5
75.0%	quartile	5.5
50.0%	median	0.8
25.0%	quartile	-4.3
10.0%		-7.4
2.5%		-11.3
0.5%		-11.3
0.0%	minimum	-11.3

Summary Statistics	
Mean	1.0
Std Dev	6.6
Std Err Mean	1.5
Upper 95% Mean	4.1
Lower 95% Mean	-2.1
N	20.0

Distributions Analyte_Method=Hydrogen-3 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

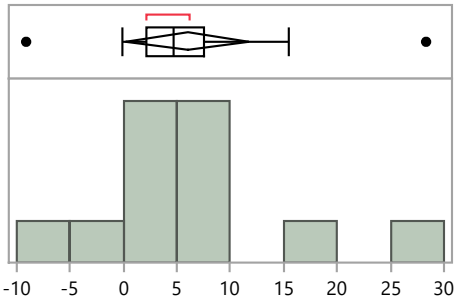


Quantiles		
100.0%	maximum	-100.0
99.5%		-100.0
97.5%		-100.0
90.0%		-100.0
75.0%	quartile	-100.0
50.0%	median	-100.0
25.0%	quartile	-100.0
10.0%		-100.0
2.5%		-100.0
0.5%		-100.0
0.0%	minimum	-100.0

Summary Statistics	
Mean	-100.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



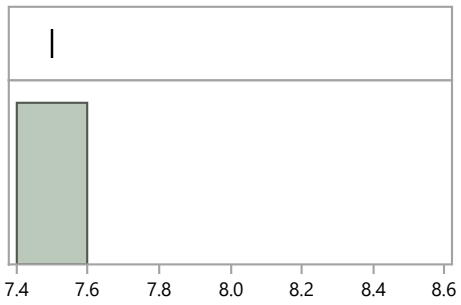
Quantiles		
100.0%	maximum	28.3
99.5%		28.3
97.5%		28.3
90.0%		24.5
75.0%	quartile	7.6
50.0%	median	4.7
25.0%	quartile	2.1
10.0%		-6.4
2.5%		-9.1
0.5%		-9.1
0.0%	minimum	-9.1

Summary Statistics	
Mean	6.0
Std Dev	9.1
Std Err Mean	2.6
Upper 95% Mean	11.7
Lower 95% Mean	0.2
N	12.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Hydrogen-3 Evaporation, acidified

Bias

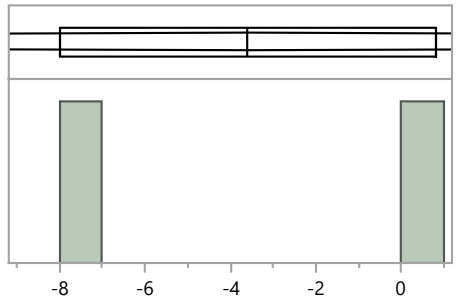


Quantiles		
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	7.5
50.0%	median	7.5
25.0%	quartile	7.5
10.0%		7.5
2.5%		7.5
0.5%		7.5
0.0%	minimum	7.5

Summary Statistics	
Mean	7.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Hydrogen-3 Evaporation, straight

Bias

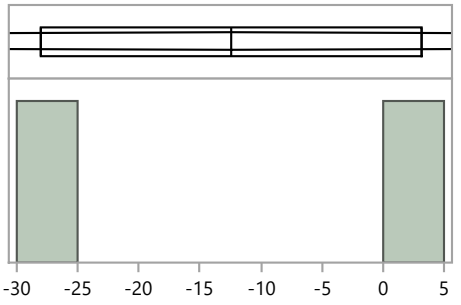


Quantiles		
100.0%	maximum	0.8
99.5%		0.8
97.5%		0.8
90.0%		0.8
75.0%	quartile	0.8
50.0%	median	-3.6
25.0%	quartile	-8.0
10.0%		-8.0
2.5%		-8.0
0.5%		-8.0
0.0%	minimum	-8.0

Summary Statistics	
Mean	-3.6
Std Dev	6.2
Std Err Mean	4.4
Upper 95% Mean	52.3
Lower 95% Mean	-59.5
N	2.0

Distributions Analyte_Method=Hydrogen-3 Other

Bias



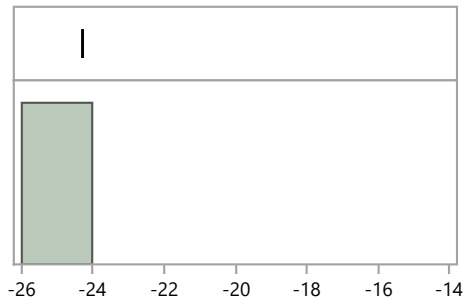
Quantiles		
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	-12.4
25.0%	quartile	-28.0
10.0%		-28.0
2.5%		-28.0
0.5%		-28.0
0.0%	minimum	-28.0

Summary Statistics	
Mean	-12.4
Std Dev	22.1
Std Err Mean	15.6
Upper 95% Mean	185.8
Lower 95% Mean	-210.6
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Iron-55 Acid dissolution with hydrofluoric acid

Bias

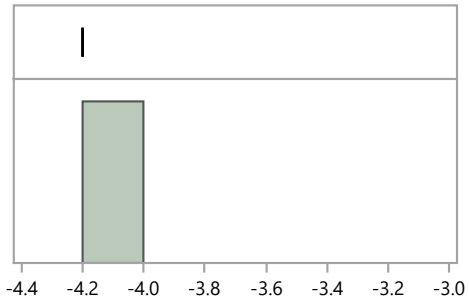


Quantiles		
100.0%	maximum	-24.3
99.5%		-24.3
97.5%		-24.3
90.0%		-24.3
75.0%	quartile	-24.3
50.0%	median	-24.3
25.0%	quartile	-24.3
10.0%		-24.3
2.5%		-24.3
0.5%		-24.3
0.0%	minimum	-24.3

Summary Statistics	
Mean	-24.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Iron-55 Coprecipitation, straight

Bias

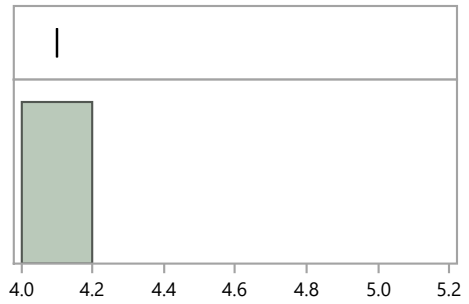


Quantiles		
100.0%	maximum	-4.2
99.5%		-4.2
97.5%		-4.2
90.0%		-4.2
75.0%	quartile	-4.2
50.0%	median	-4.2
25.0%	quartile	-4.2
10.0%		-4.2
2.5%		-4.2
0.5%		-4.2
0.0%	minimum	-4.2

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

Distributions Analyte_Method=Iron-55 EPA 00-07 - Radiochemistry Procedures Manual

Bias



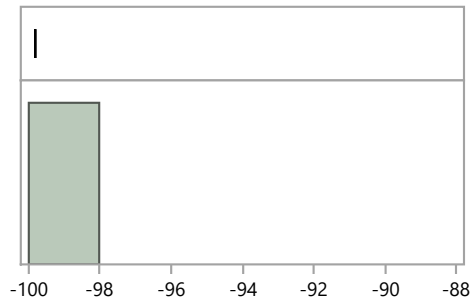
Quantiles		
100.0%	maximum	4.1
99.5%		4.1
97.5%		4.1
90.0%		4.1
75.0%	quartile	4.1
50.0%	median	4.1
25.0%	quartile	4.1
10.0%		4.1
2.5%		4.1
0.5%		4.1
0.0%	minimum	4.1

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Iron-55 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

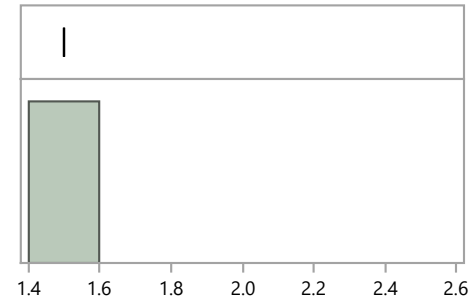


Quantiles		
100.0%	maximum	-99.8
99.5%		-99.8
97.5%		-99.8
90.0%		-99.8
75.0%	quartile	-99.8
50.0%	median	-99.8
25.0%	quartile	-99.8
10.0%		-99.8
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-99.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias

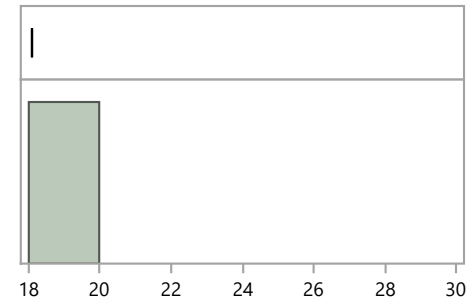


Quantiles		
100.0%	maximum	1.5
99.5%		1.5
97.5%		1.5
90.0%		1.5
75.0%	quartile	1.5
50.0%	median	1.5
25.0%	quartile	1.5
10.0%		1.5
2.5%		1.5
0.5%		1.5
0.0%	minimum	1.5

Summary Statistics	
Mean	1.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Iron-55 No preparation - analyzed as received

Bias



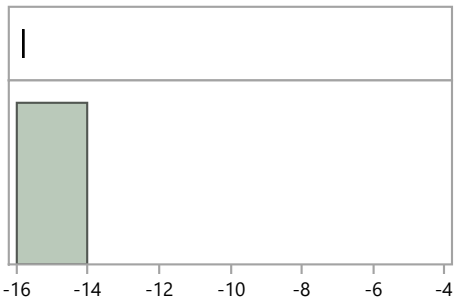
Quantiles		
100.0%	maximum	18.1
99.5%		18.1
97.5%		18.1
90.0%		18.1
75.0%	quartile	18.1
50.0%	median	18.1
25.0%	quartile	18.1
10.0%		18.1
2.5%		18.1
0.5%		18.1
0.0%	minimum	18.1

Summary Statistics	
Mean	18.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Iron-55 Other

Bias

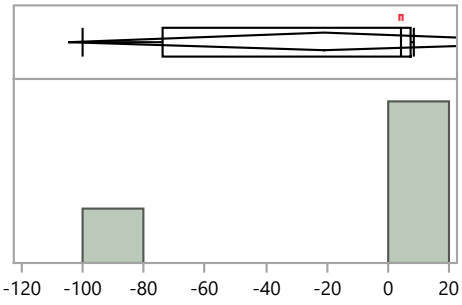


Quantiles		
100.0%	maximum	-15.8
99.5%		-15.8
97.5%		-15.8
90.0%		-15.8
75.0%	quartile	-15.8
50.0%	median	-15.8
25.0%	quartile	-15.8
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

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

Distributions Analyte_Method=Iron-59 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

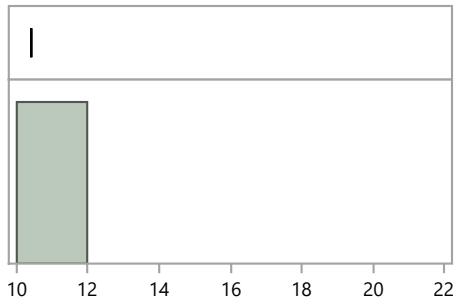


Quantiles		
100.0%	maximum	8.3
99.5%		8.3
97.5%		8.3
90.0%		8.3
75.0%	quartile	7.5
50.0%	median	4.3
25.0%	quartile	-73.9
10.0%		-99.8
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-20.7
Std Dev	52.8
Std Err Mean	26.4
Upper 95% Mean	63.2
Lower 95% Mean	-104.7
N	4.0

Distributions Analyte_Method=Iron-59 Evaporation, acidified

Bias



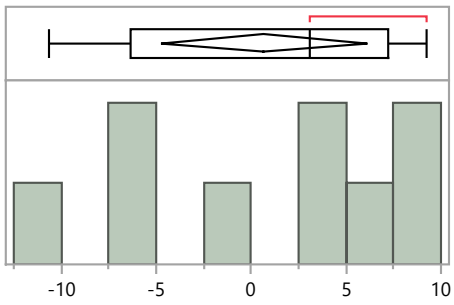
Quantiles		
100.0%	maximum	10.4
99.5%		10.4
97.5%		10.4
90.0%		10.4
75.0%	quartile	10.4
50.0%	median	10.4
25.0%	quartile	10.4
10.0%		10.4
2.5%		10.4
0.5%		10.4
0.0%	minimum	10.4

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Iron-59 No preparation - analyzed as received

Bias

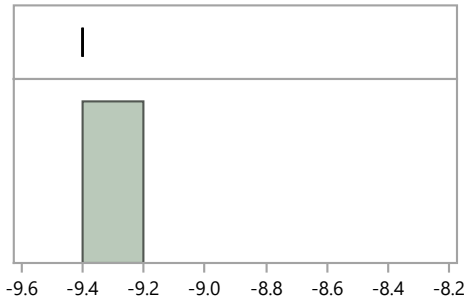


Quantiles		
100.0%	maximum	9.2
99.5%		9.2
97.5%		9.2
90.0%		9.2
75.0%	quartile	7.2
50.0%	median	3.1
25.0%	quartile	-6.3
10.0%		-10.6
2.5%		-10.6
0.5%		-10.6
0.0%	minimum	-10.6

Summary Statistics	
Mean	0.7
Std Dev	7.1
Std Err Mean	2.4
Upper 95% Mean	6.1
Lower 95% Mean	-4.8
N	9.0

Distributions Analyte_Method=Iron-59 Other

Bias

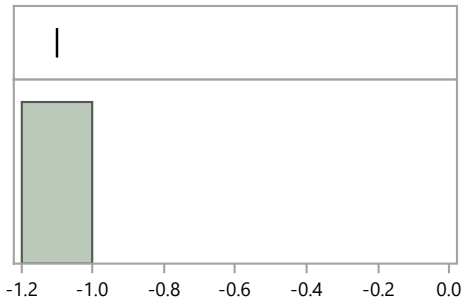


Quantiles		
100.0%	maximum	-9.4
99.5%		-9.4
97.5%		-9.4
90.0%		-9.4
75.0%	quartile	-9.4
50.0%	median	-9.4
25.0%	quartile	-9.4
10.0%		-9.4
2.5%		-9.4
0.5%		-9.4
0.0%	minimum	-9.4

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

Distributions Analyte_Method=Mercury EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



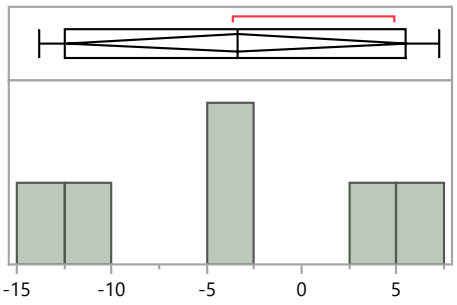
Quantiles		
100.0%	maximum	-1.1
99.5%		-1.1
97.5%		-1.1
90.0%		-1.1
75.0%	quartile	-1.1
50.0%	median	-1.1
25.0%	quartile	-1.1
10.0%		-1.1
2.5%		-1.1
0.5%		-1.1
0.0%	minimum	-1.1

Summary Statistics	
Mean	-1.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Mercury Mercury per SW846 Method 7470 or 7471

Bias

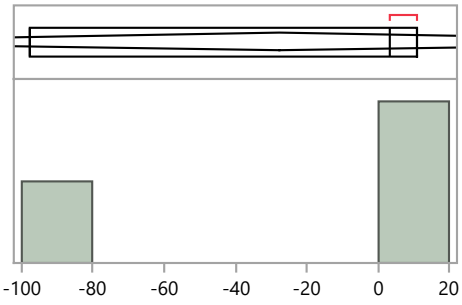


Quantiles		
100.0%	maximum	7.2
99.5%		7.2
97.5%		7.2
90.0%		7.2
75.0%	quartile	5.5
50.0%	median	-3.4
25.0%	quartile	-12.5
10.0%		-13.8
2.5%		-13.8
0.5%		-13.8
0.0%	minimum	-13.8

Summary Statistics	
Mean	-3.4
Std Dev	8.5
Std Err Mean	3.5
Upper 95% Mean	5.5
Lower 95% Mean	-12.3
N	6.0

Distributions Analyte_Method=Mercury No preparation - analyzed as received

Bias

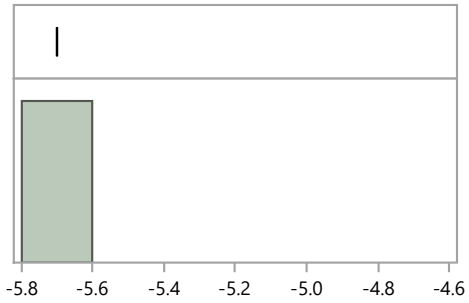


Quantiles		
100.0%	maximum	10.8
99.5%		10.8
97.5%		10.8
90.0%		10.8
75.0%	quartile	10.8
50.0%	median	3.4
25.0%	quartile	-97.7
10.0%		-97.7
2.5%		-97.7
0.5%		-97.7
0.0%	minimum	-97.7

Summary Statistics	
Mean	-27.8
Std Dev	60.6
Std Err Mean	35.0
Upper 95% Mean	122.8
Lower 95% Mean	-178.4
N	3.0

Distributions Analyte_Method=Mercury Other

Bias



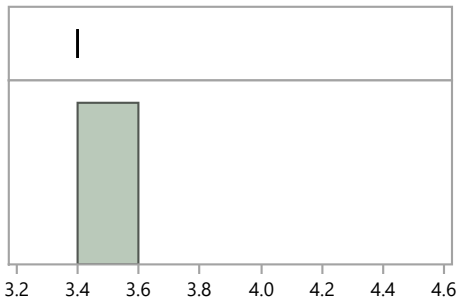
Quantiles		
100.0%	maximum	-5.7
99.5%		-5.7
97.5%		-5.7
90.0%		-5.7
75.0%	quartile	-5.7
50.0%	median	-5.7
25.0%	quartile	-5.7
10.0%		-5.7
2.5%		-5.7
0.5%		-5.7
0.0%	minimum	-5.7

Summary Statistics	
Mean	-5.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Mercury SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

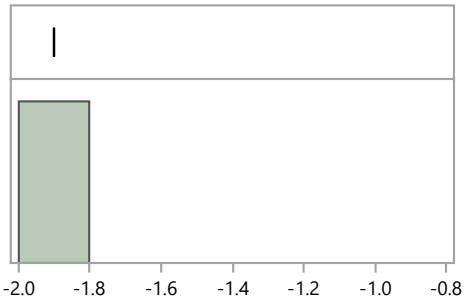


Quantiles		
100.0%	maximum	3.4
99.5%		3.4
97.5%		3.4
90.0%		3.4
75.0%	quartile	3.4
50.0%	median	3.4
25.0%	quartile	3.4
10.0%		3.4
2.5%		3.4
0.5%		3.4
0.0%	minimum	3.4

Summary Statistics	
Mean	3.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Nickel EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

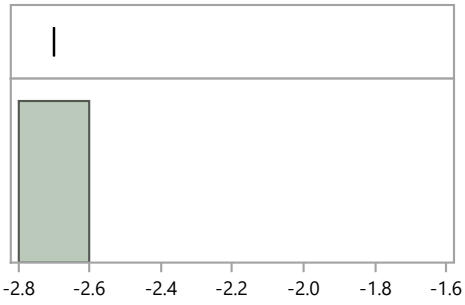


Quantiles		
100.0%	maximum	-1.9
99.5%		-1.9
97.5%		-1.9
90.0%		-1.9
75.0%	quartile	-1.9
50.0%	median	-1.9
25.0%	quartile	-1.9
10.0%		-1.9
2.5%		-1.9
0.5%		-1.9
0.0%	minimum	-1.9

Summary Statistics	
Mean	-1.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Nickel EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



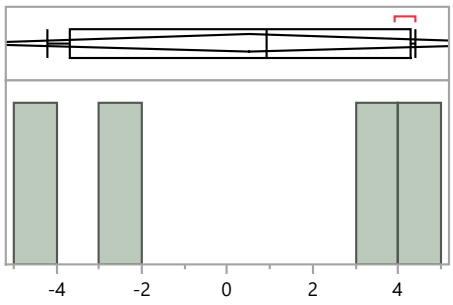
Quantiles		
100.0%	maximum	-2.7
99.5%		-2.7
97.5%		-2.7
90.0%		-2.7
75.0%	quartile	-2.7
50.0%	median	-2.7
25.0%	quartile	-2.7
10.0%		-2.7
2.5%		-2.7
0.5%		-2.7
0.0%	minimum	-2.7

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Nickel No preparation - analyzed as received

Bias

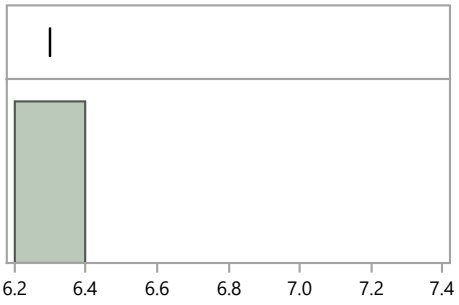


Quantiles		
100.0%	maximum	4.4
99.5%		4.4
97.5%		4.4
90.0%		4.4
75.0%	quartile	4.3
50.0%	median	0.9
25.0%	quartile	-3.7
10.0%		-4.2
2.5%		-4.2
0.5%		-4.2
0.0%	minimum	-4.2

Summary Statistics	
Mean	0.5
Std Dev	4.3
Std Err Mean	2.2
Upper 95% Mean	7.4
Lower 95% Mean	-6.4
N	4.0

Distributions Analyte_Method=Nickel SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

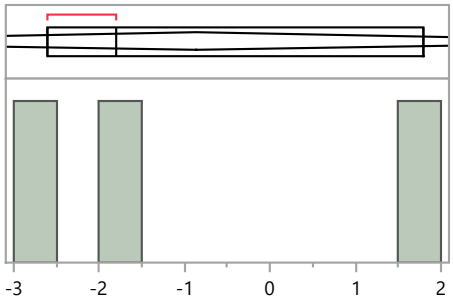


Quantiles		
100.0%	maximum	6.3
99.5%		6.3
97.5%		6.3
90.0%		6.3
75.0%	quartile	6.3
50.0%	median	6.3
25.0%	quartile	6.3
10.0%		6.3
2.5%		6.3
0.5%		6.3
0.0%	minimum	6.3

Summary Statistics	
Mean	6.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Nickel SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias



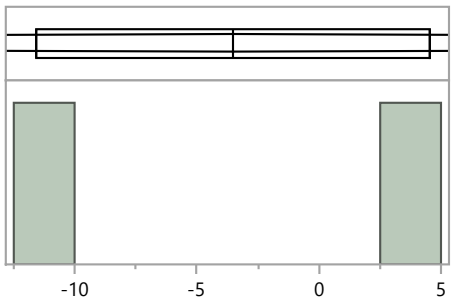
Quantiles		
100.0%	maximum	1.8
99.5%		1.8
97.5%		1.8
90.0%		1.8
75.0%	quartile	1.8
50.0%	median	-1.8
25.0%	quartile	-2.6
10.0%		-2.6
2.5%		-2.6
0.5%		-2.6
0.0%	minimum	-2.6

Summary Statistics	
Mean	-0.9
Std Dev	2.3
Std Err Mean	1.4
Upper 95% Mean	5.0
Lower 95% Mean	-6.7
N	3.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Nickel SW846 Methods 3015, 3051 (Microwave assisted)

Bias

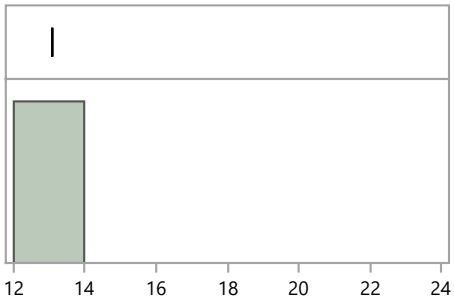


Quantiles		
100.0%	maximum	4.5
99.5%		4.5
97.5%		4.5
90.0%		4.5
75.0%	quartile	4.5
50.0%	median	-3.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-3.6
Std Dev	11.4
Std Err Mean	8.1
Upper 95% Mean	98.7
Lower 95% Mean	-105.8
N	2.0

Distributions Analyte_Method=Nickel SW846 Methods 3052 (Microwave assisted Total Decomposition)

Bias

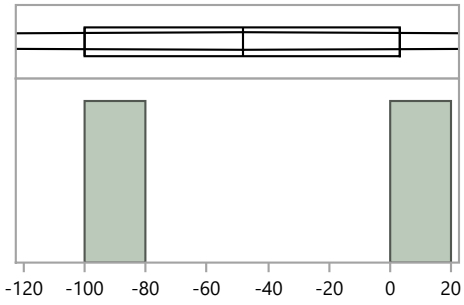


Quantiles		
100.0%	maximum	13.1
99.5%		13.1
97.5%		13.1
90.0%		13.1
75.0%	quartile	13.1
50.0%	median	13.1
25.0%	quartile	13.1
10.0%		13.1
2.5%		13.1
0.5%		13.1
0.0%	minimum	13.1

Summary Statistics	
Mean	13.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-238 Coprecipitation, acidified

Bias



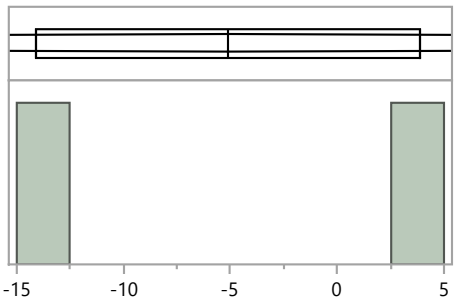
Quantiles		
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	-48.3
25.0%	quartile	-99.8
10.0%		-99.8
2.5%		-99.8
0.5%		-99.8
0.0%	minimum	-99.8

Summary Statistics	
Mean	-48.3
Std Dev	72.8
Std Err Mean	51.5
Upper 95% Mean	606.1
Lower 95% Mean	-702.7
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-238 Coprecipitation, straight

Bias

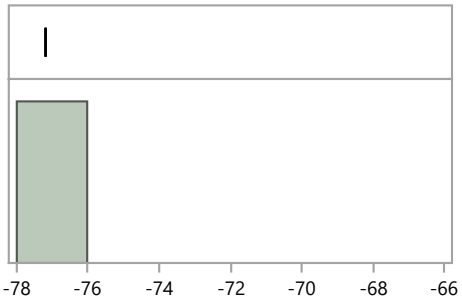


Quantiles		
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	3.9
50.0%	median	-5.1
25.0%	quartile	-14.1
10.0%		-14.1
2.5%		-14.1
0.5%		-14.1
0.0%	minimum	-14.1

Summary Statistics	
Mean	-5.1
Std Dev	12.7
Std Err Mean	9.0
Upper 95% Mean	109.3
Lower 95% Mean	-119.5
N	2.0

Distributions Analyte_Method=Plutonium-238 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

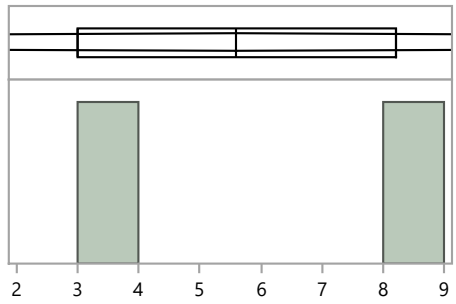


Quantiles		
100.0%	maximum	-77.2
99.5%		-77.2
97.5%		-77.2
90.0%		-77.2
75.0%	quartile	-77.2
50.0%	median	-77.2
25.0%	quartile	-77.2
10.0%		-77.2
2.5%		-77.2
0.5%		-77.2
0.0%	minimum	-77.2

Summary Statistics	
Mean	-77.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



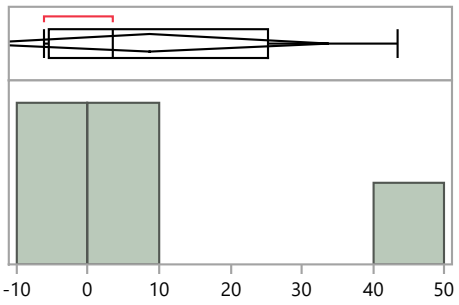
Quantiles		
100.0%	maximum	8.2
99.5%		8.2
97.5%		8.2
90.0%		8.2
75.0%	quartile	8.2
50.0%	median	5.6
25.0%	quartile	3.0
10.0%		3.0
2.5%		3.0
0.5%		3.0
0.0%	minimum	3.0

Summary Statistics	
Mean	5.6
Std Dev	3.7
Std Err Mean	2.6
Upper 95% Mean	38.6
Lower 95% Mean	-27.4
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-238 Evaporation, acidified

Bias

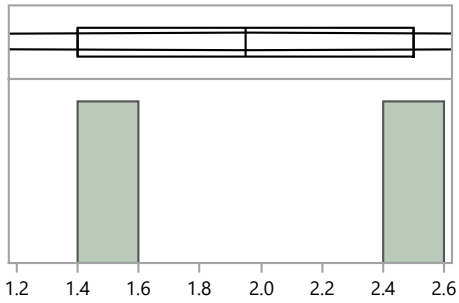


Quantiles		
100.0%	maximum	43.4
99.5%		43.4
97.5%		43.4
90.0%		43.4
75.0%	quartile	25.3
50.0%	median	3.6
25.0%	quartile	-5.5
10.0%		-6.2
2.5%		-6.2
0.5%		-6.2
0.0%	minimum	-6.2

Summary Statistics	
Mean	8.6
Std Dev	20.2
Std Err Mean	9.0
Upper 95% Mean	33.8
Lower 95% Mean	-16.5
N	5.0

Distributions Analyte_Method=Plutonium-238 Evaporation, straight

Bias

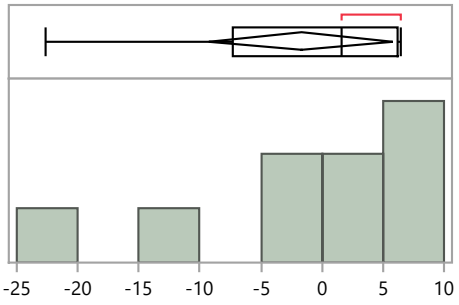


Quantiles		
100.0%	maximum	2.5
99.5%		2.5
97.5%		2.5
90.0%		2.5
75.0%	quartile	2.5
50.0%	median	2.0
25.0%	quartile	1.4
10.0%		1.4
2.5%		1.4
0.5%		1.4
0.0%	minimum	1.4

Summary Statistics	
Mean	2.0
Std Dev	0.8
Std Err Mean	0.6
Upper 95% Mean	8.9
Lower 95% Mean	-5.0
N	2.0

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

Bias



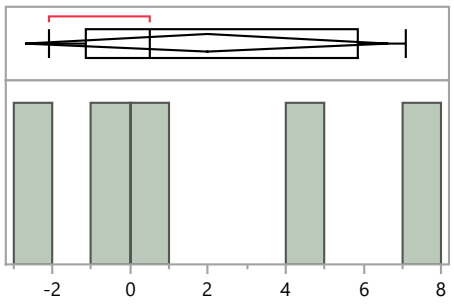
Quantiles		
100.0%	maximum	6.5
99.5%		6.5
97.5%		6.5
90.0%		6.5
75.0%	quartile	6.2
50.0%	median	1.6
25.0%	quartile	-7.3
10.0%		-22.6
2.5%		-22.6
0.5%		-22.6
0.0%	minimum	-22.6

Summary Statistics	
Mean	-1.7
Std Dev	9.8
Std Err Mean	3.3
Upper 95% Mean	5.8
Lower 95% Mean	-9.2
N	9.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-238 Other

Bias

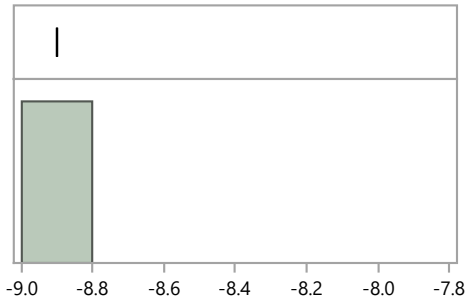


Quantiles		
100.0%	maximum	7.1
99.5%		7.1
97.5%		7.1
90.0%		7.1
75.0%	quartile	5.9
50.0%	median	0.5
25.0%	quartile	-1.2
10.0%		-2.1
2.5%		-2.1
0.5%		-2.1
0.0%	minimum	-2.1

Summary Statistics	
Mean	2.0
Std Dev	3.8
Std Err Mean	1.7
Upper 95% Mean	6.7
Lower 95% Mean	-2.7
N	5.0

Distributions Analyte_Method=Plutonium-238 Total dissolution by fusion

Bias

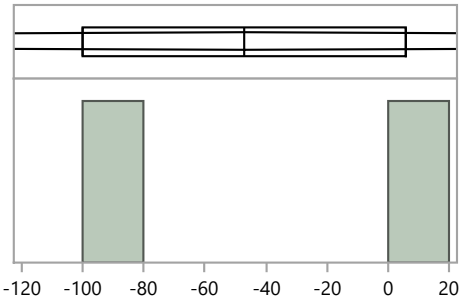


Quantiles		
100.0%	maximum	-8.9
99.5%		-8.9
97.5%		-8.9
90.0%		-8.9
75.0%	quartile	-8.9
50.0%	median	-8.9
25.0%	quartile	-8.9
10.0%		-8.9
2.5%		-8.9
0.5%		-8.9
0.0%	minimum	-8.9

Summary Statistics	
Mean	-8.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, acidified

Bias



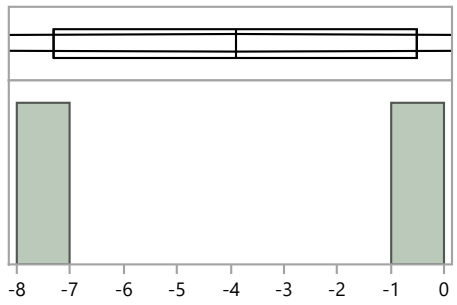
Quantiles		
100.0%	maximum	6.0
99.5%		6.0
97.5%		6.0
90.0%		6.0
75.0%	quartile	6.0
50.0%	median	-47.0
25.0%	quartile	-99.9
10.0%		-99.9
2.5%		-99.9
0.5%		-99.9
0.0%	minimum	-99.9

Summary Statistics	
Mean	-47.0
Std Dev	74.9
Std Err Mean	53.0
Upper 95% Mean	625.8
Lower 95% Mean	-719.7
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Coprecipitation, straight

Bias

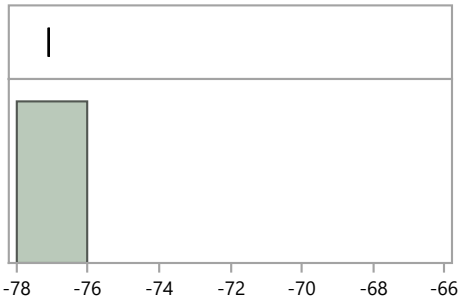


Quantiles		
100.0%	maximum	-0.5
99.5%		-0.5
97.5%		-0.5
90.0%		-0.5
75.0%	quartile	-0.5
50.0%	median	-3.9
25.0%	quartile	-7.3
10.0%		-7.3
2.5%		-7.3
0.5%		-7.3
0.0%	minimum	-7.3

Summary Statistics	
Mean	-3.9
Std Dev	4.8
Std Err Mean	3.4
Upper 95% Mean	39.3
Lower 95% Mean	-47.1
N	2.0

Distributions Analyte_Method=Plutonium-239/240 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

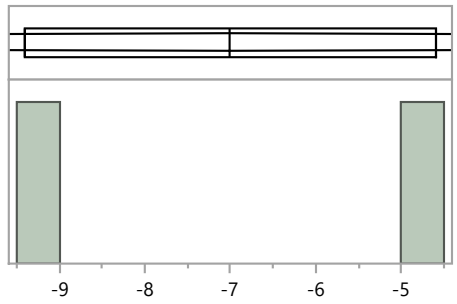


Quantiles		
100.0%	maximum	-77.1
99.5%		-77.1
97.5%		-77.1
90.0%		-77.1
75.0%	quartile	-77.1
50.0%	median	-77.1
25.0%	quartile	-77.1
10.0%		-77.1
2.5%		-77.1
0.5%		-77.1
0.0%	minimum	-77.1

Summary Statistics	
Mean	-77.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



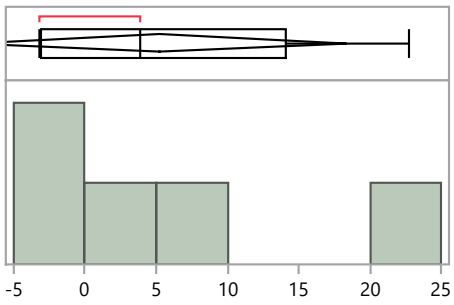
Quantiles		
100.0%	maximum	-4.6
99.5%		-4.6
97.5%		-4.6
90.0%		-4.6
75.0%	quartile	-4.6
50.0%	median	-7.0
25.0%	quartile	-9.4
10.0%		-9.4
2.5%		-9.4
0.5%		-9.4
0.0%	minimum	-9.4

Summary Statistics	
Mean	-7.0
Std Dev	3.4
Std Err Mean	2.4
Upper 95% Mean	23.5
Lower 95% Mean	-37.5
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Evaporation, acidified

Bias

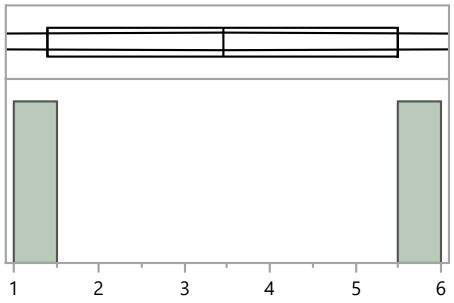


Quantiles		
100.0%	maximum	22.7
99.5%		22.7
97.5%		22.7
90.0%		22.7
75.0%	quartile	14.2
50.0%	median	3.9
25.0%	quartile	-3.1
10.0%		-3.2
2.5%		-3.2
0.5%		-3.2
0.0%	minimum	-3.2

Summary Statistics	
Mean	5.2
Std Dev	10.6
Std Err Mean	4.7
Upper 95% Mean	18.3
Lower 95% Mean	-7.9
N	5.0

Distributions Analyte_Method=Plutonium-239/240 Evaporation, straight

Bias

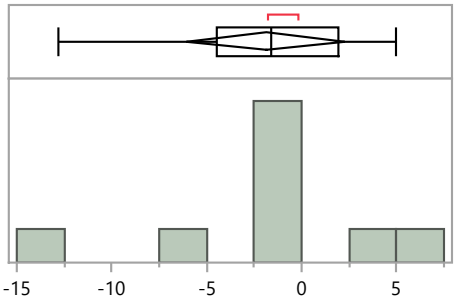


Quantiles		
100.0%	maximum	5.5
99.5%		5.5
97.5%		5.5
90.0%		5.5
75.0%	quartile	5.5
50.0%	median	3.5
25.0%	quartile	1.4
10.0%		1.4
2.5%		1.4
0.5%		1.4
0.0%	minimum	1.4

Summary Statistics	
Mean	3.5
Std Dev	2.9
Std Err Mean	2.1
Upper 95% Mean	29.5
Lower 95% Mean	-22.6
N	2.0

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

Bias



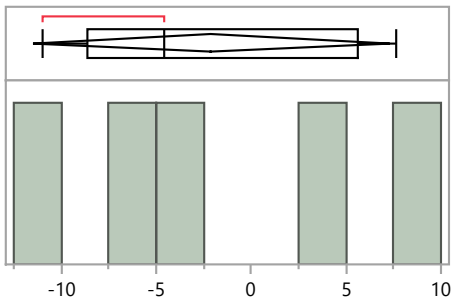
Quantiles		
100.0%	maximum	5.0
99.5%		5.0
97.5%		5.0
90.0%		5.0
75.0%	quartile	2.0
50.0%	median	-1.6
25.0%	quartile	-4.5
10.0%		-12.8
2.5%		-12.8
0.5%		-12.8
0.0%	minimum	-12.8

Summary Statistics	
Mean	-1.9
Std Dev	5.4
Std Err Mean	1.8
Upper 95% Mean	2.3
Lower 95% Mean	-6.0
N	9.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Plutonium-239/240 Other

Bias

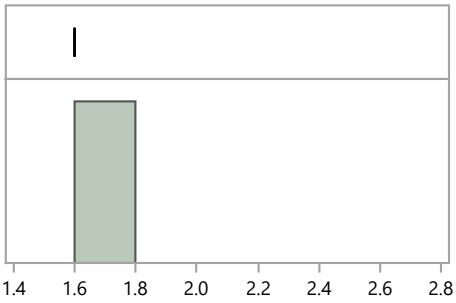


Quantiles		
100.0%	maximum	7.6
99.5%		7.6
97.5%		7.6
90.0%		7.6
75.0%	quartile	5.7
50.0%	median	-4.6
25.0%	quartile	-8.6
10.0%		-11.0
2.5%		-11.0
0.5%		-11.0
0.0%	minimum	-11.0

Summary Statistics	
Mean	-2.1
Std Dev	7.6
Std Err Mean	3.4
Upper 95% Mean	7.3
Lower 95% Mean	-11.5
N	5.0

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

Bias

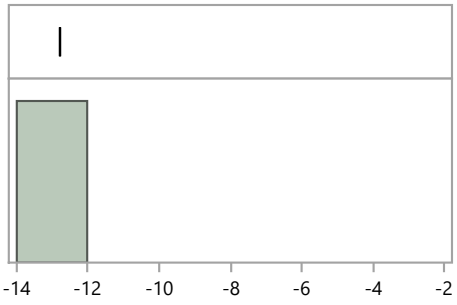


Quantiles		
100.0%	maximum	1.6
99.5%		1.6
97.5%		1.6
90.0%		1.6
75.0%	quartile	1.6
50.0%	median	1.6
25.0%	quartile	1.6
10.0%		1.6
2.5%		1.6
0.5%		1.6
0.0%	minimum	1.6

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

Distributions Analyte_Method=Radium-226 Acid leaching without hydrofluoric acid

Bias



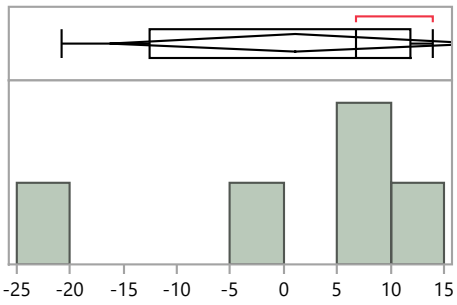
Quantiles		
100.0%	maximum	-12.8
99.5%		-12.8
97.5%		-12.8
90.0%		-12.8
75.0%	quartile	-12.8
50.0%	median	-12.8
25.0%	quartile	-12.8
10.0%		-12.8
2.5%		-12.8
0.5%		-12.8
0.0%	minimum	-12.8

Summary Statistics	
Mean	-12.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Radium-226 Coprecipitation, acidified

Bias

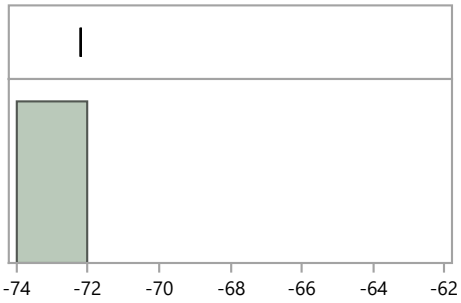


Quantiles		
100.0%	maximum	13.9
99.5%		13.9
97.5%		13.9
90.0%		13.9
75.0%	quartile	11.8
50.0%	median	6.7
25.0%	quartile	-12.6
10.0%		-20.8
2.5%		-20.8
0.5%		-20.8
0.0%	minimum	-20.8

Summary Statistics	
Mean	1.0
Std Dev	14.0
Std Err Mean	6.2
Upper 95% Mean	18.3
Lower 95% Mean	-16.3
N	5.0

Distributions Analyte_Method=Radium-226 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

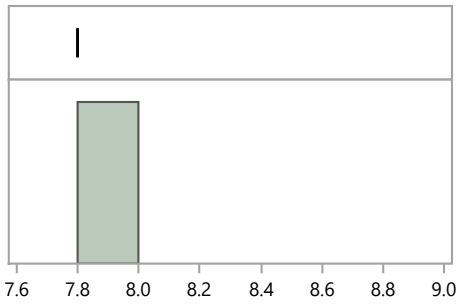


Quantiles		
100.0%	maximum	-72.2
99.5%		-72.2
97.5%		-72.2
90.0%		-72.2
75.0%	quartile	-72.2
50.0%	median	-72.2
25.0%	quartile	-72.2
10.0%		-72.2
2.5%		-72.2
0.5%		-72.2
0.0%	minimum	-72.2

Summary Statistics	
Mean	-72.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Radium-226 Evaporation, acidified

Bias



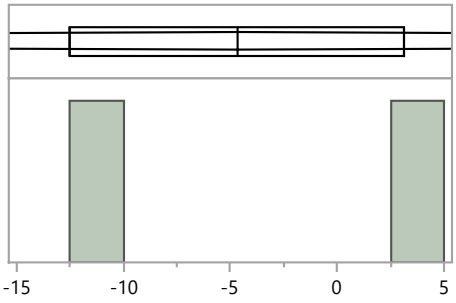
Quantiles		
100.0%	maximum	7.8
99.5%		7.8
97.5%		7.8
90.0%		7.8
75.0%	quartile	7.8
50.0%	median	7.8
25.0%	quartile	7.8
10.0%		7.8
2.5%		7.8
0.5%		7.8
0.0%	minimum	7.8

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

MaW51 Distribution by Preparation Method

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

Bias

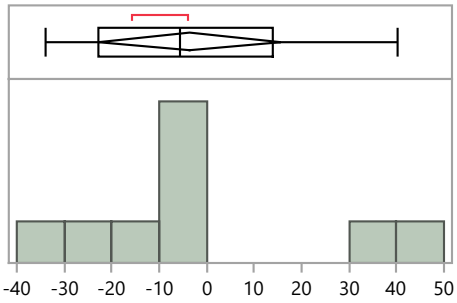


Quantiles		
100.0%	maximum	3.1
99.5%		3.1
97.5%		3.1
90.0%		3.1
75.0%	quartile	3.1
50.0%	median	-4.7
25.0%	quartile	-12.5
10.0%		-12.5
2.5%		-12.5
0.5%		-12.5
0.0%	minimum	-12.5

Summary Statistics	
Mean	-4.7
Std Dev	11.0
Std Err Mean	7.8
Upper 95% Mean	94.4
Lower 95% Mean	-103.8
N	2.0

Distributions Analyte_Method=Radium-226 Other

Bias

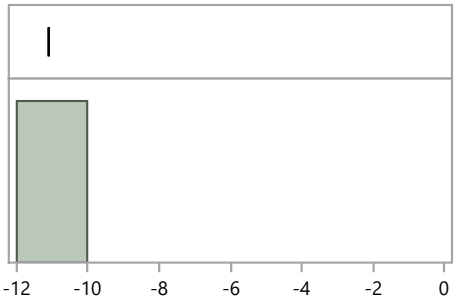


Quantiles		
100.0%	maximum	40.3
99.5%		40.3
97.5%		40.3
90.0%		40.3
75.0%	quartile	14.0
50.0%	median	-5.6
25.0%	quartile	-22.9
10.0%		-33.9
2.5%		-33.9
0.5%		-33.9
0.0%	minimum	-33.9

Summary Statistics	
Mean	-3.6
Std Dev	25.0
Std Err Mean	8.3
Upper 95% Mean	15.6
Lower 95% Mean	-22.8
N	9.0

Distributions Analyte_Method=Radium-226 Total dissolution by fusion

Bias



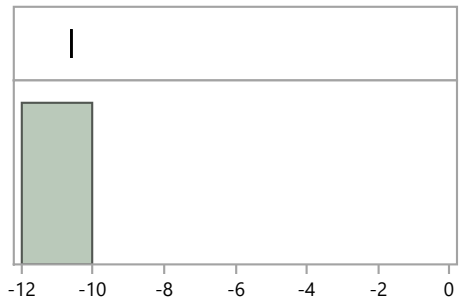
Quantiles		
100.0%	maximum	-11.1
99.5%		-11.1
97.5%		-11.1
90.0%		-11.1
75.0%	quartile	-11.1
50.0%	median	-11.1
25.0%	quartile	-11.1
10.0%		-11.1
2.5%		-11.1
0.5%		-11.1
0.0%	minimum	-11.1

Summary Statistics	
Mean	-11.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Selenium EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

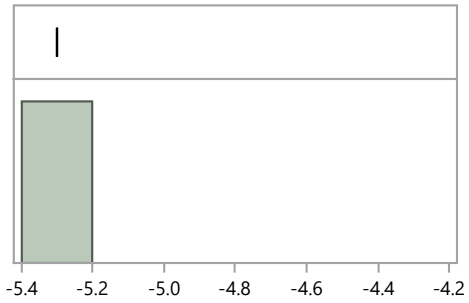


Quantiles		
100.0%	maximum	-10.6
99.5%		-10.6
97.5%		-10.6
90.0%		-10.6
75.0%	quartile	-10.6
50.0%	median	-10.6
25.0%	quartile	-10.6
10.0%		-10.6
2.5%		-10.6
0.5%		-10.6
0.0%	minimum	-10.6

Summary Statistics	
Mean	-10.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Selenium EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

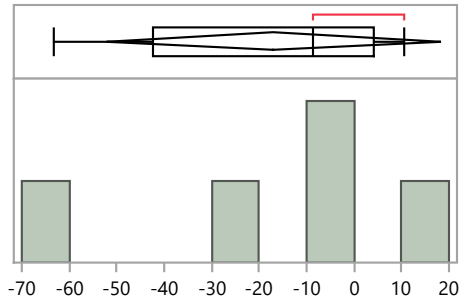


Quantiles		
100.0%	maximum	-5.3
99.5%		-5.3
97.5%		-5.3
90.0%		-5.3
75.0%	quartile	-5.3
50.0%	median	-5.3
25.0%	quartile	-5.3
10.0%		-5.3
2.5%		-5.3
0.5%		-5.3
0.0%	minimum	-5.3

Summary Statistics	
Mean	-5.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Selenium No preparation - analyzed as received

Bias



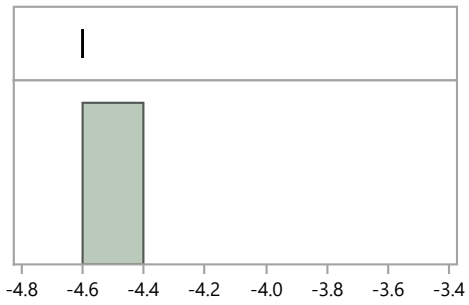
Quantiles		
100.0%	maximum	10.6
99.5%		10.6
97.5%		10.6
90.0%		10.6
75.0%	quartile	4.2
50.0%	median	-8.7
25.0%	quartile	-42.4
10.0%		-63.1
2.5%		-63.1
0.5%		-63.1
0.0%	minimum	-63.1

Summary Statistics	
Mean	-17.0
Std Dev	28.3
Std Err Mean	12.6
Upper 95% Mean	18.1
Lower 95% Mean	-52.1
N	5.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Selenium SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

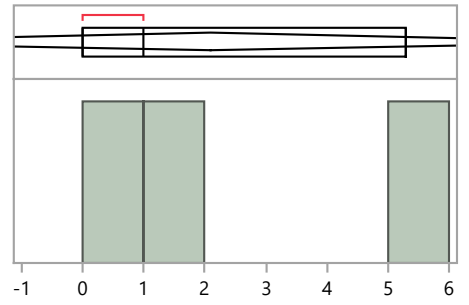


Quantiles		
100.0%	maximum	-4.6
99.5%		-4.6
97.5%		-4.6
90.0%		-4.6
75.0%	quartile	-4.6
50.0%	median	-4.6
25.0%	quartile	-4.6
10.0%		-4.6
2.5%		-4.6
0.5%		-4.6
0.0%	minimum	-4.6

Summary Statistics	
Mean	-4.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Selenium SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

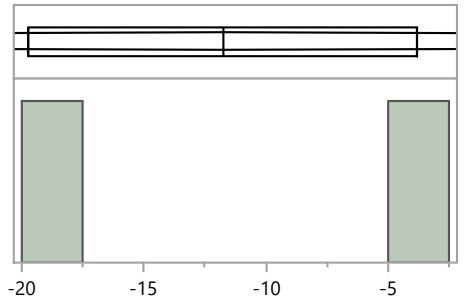


Quantiles		
100.0%	maximum	5.3
99.5%		5.3
97.5%		5.3
90.0%		5.3
75.0%	quartile	5.3
50.0%	median	1.0
25.0%	quartile	0.0
10.0%		0.0
2.5%		0.0
0.5%		0.0
0.0%	minimum	0.0

Summary Statistics	
Mean	2.1
Std Dev	2.8
Std Err Mean	1.6
Upper 95% Mean	9.1
Lower 95% Mean	-4.9
N	3.0

Distributions Analyte_Method=Selenium SW846 Methods 3015, 3051 (Microwave assisted)

Bias



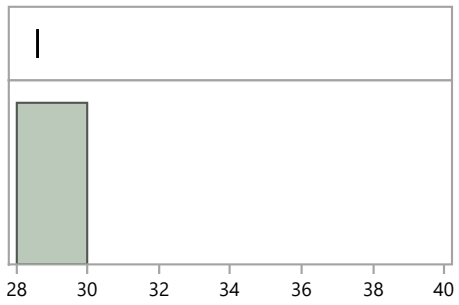
Quantiles		
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-11.8
25.0%	quartile	-19.7
10.0%		-19.7
2.5%		-19.7
0.5%		-19.7
0.0%	minimum	-19.7

Summary Statistics	
Mean	-11.8
Std Dev	11.2
Std Err Mean	8.0
Upper 95% Mean	89.3
Lower 95% Mean	-112.8
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Acid dissolution with hydrofluoric acid

Bias

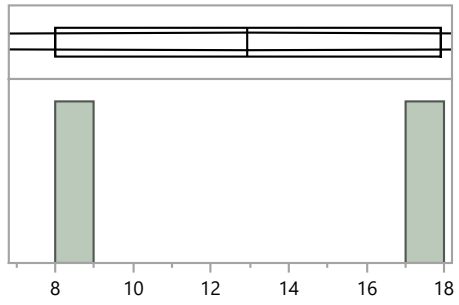


Quantiles		
100.0%	maximum	28.6
99.5%		28.6
97.5%		28.6
90.0%		28.6
75.0%	quartile	28.6
50.0%	median	28.6
25.0%	quartile	28.6
10.0%		28.6
2.5%		28.6
0.5%		28.6
0.0%	minimum	28.6

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

Distributions Analyte_Method=Strontium-90 Coprecipitation, acidified

Bias

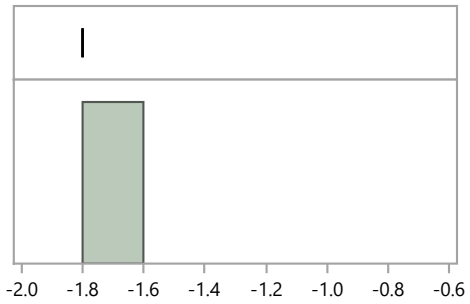


Quantiles		
100.0%	maximum	17.9
99.5%		17.9
97.5%		17.9
90.0%		17.9
75.0%	quartile	17.9
50.0%	median	13.0
25.0%	quartile	8.0
10.0%		8.0
2.5%		8.0
0.5%		8.0
0.0%	minimum	8.0

Summary Statistics	
Mean	13.0
Std Dev	7.0
Std Err Mean	5.0
Upper 95% Mean	75.8
Lower 95% Mean	-49.9
N	2.0

Distributions Analyte_Method=Strontium-90 Coprecipitation, straight

Bias



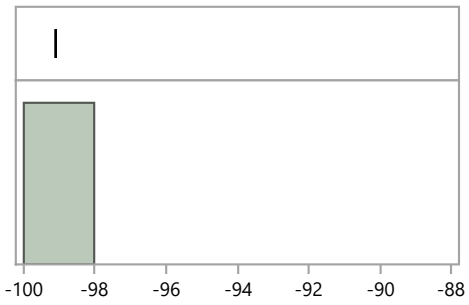
Quantiles		
100.0%	maximum	-1.8
99.5%		-1.8
97.5%		-1.8
90.0%		-1.8
75.0%	quartile	-1.8
50.0%	median	-1.8
25.0%	quartile	-1.8
10.0%		-1.8
2.5%		-1.8
0.5%		-1.8
0.0%	minimum	-1.8

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

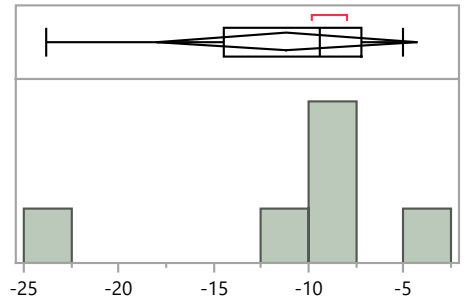


Quantiles		
100.0%	maximum	-99.1
99.5%		-99.1
97.5%		-99.1
90.0%		-99.1
75.0%	quartile	-99.1
50.0%	median	-99.1
25.0%	quartile	-99.1
10.0%		-99.1
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics	
Mean	-99.1
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

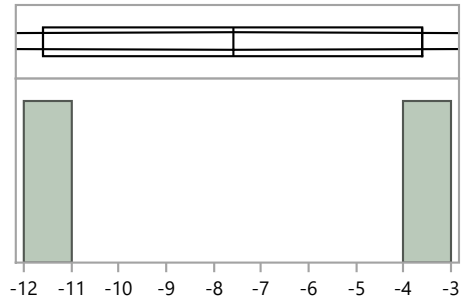


Quantiles		
100.0%	maximum	-5.0
99.5%		-5.0
97.5%		-5.0
90.0%		-5.0
75.0%	quartile	-7.3
50.0%	median	-9.4
25.0%	quartile	-14.4
10.0%		-23.8
2.5%		-23.8
0.5%		-23.8
0.0%	minimum	-23.8

Summary Statistics	
Mean	-11.2
Std Dev	6.5
Std Err Mean	2.7
Upper 95% Mean	-4.3
Lower 95% Mean	-18.0
N	6.0

Distributions Analyte_Method=Strontium-90 Evaporation, acidified

Bias



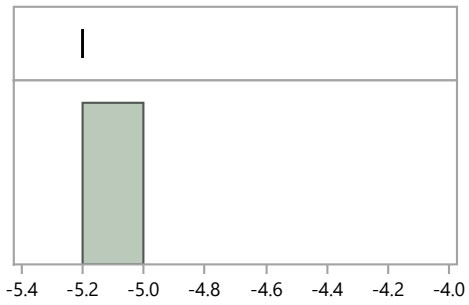
Quantiles		
100.0%	maximum	-3.6
99.5%		-3.6
97.5%		-3.6
90.0%		-3.6
75.0%	quartile	-3.6
50.0%	median	-7.6
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-7.6
Std Dev	5.7
Std Err Mean	4.0
Upper 95% Mean	43.2
Lower 95% Mean	-58.4
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Evaporation, straight

Bias

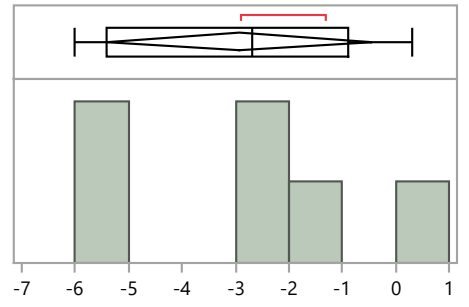


Quantiles		
100.0%	maximum	-5.2
99.5%		-5.2
97.5%		-5.2
90.0%		-5.2
75.0%	quartile	-5.2
50.0%	median	-5.2
25.0%	quartile	-5.2
10.0%		-5.2
2.5%		-5.2
0.5%		-5.2
0.0%	minimum	-5.2

Summary Statistics	
Mean	-5.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias

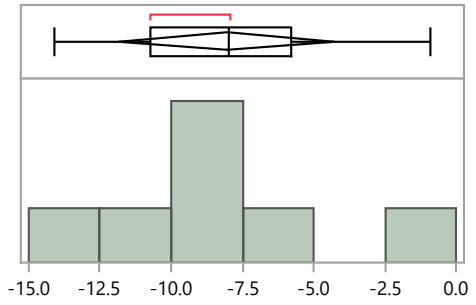


Quantiles		
100.0%	maximum	0.3
99.5%		0.3
97.5%		0.3
90.0%		0.3
75.0%	quartile	-0.9
50.0%	median	-2.7
25.0%	quartile	-5.4
10.0%		-6.0
2.5%		-6.0
0.5%		-6.0
0.0%	minimum	-6.0

Summary Statistics	
Mean	-2.9
Std Dev	2.4
Std Err Mean	1.0
Upper 95% Mean	-0.5
Lower 95% Mean	-5.4
N	6.0

Distributions Analyte_Method=Strontium-90 Other

Bias



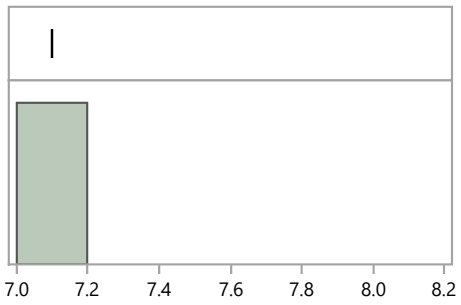
Quantiles		
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-5.8
50.0%	median	-8.0
25.0%	quartile	-10.7
10.0%		-14.1
2.5%		-14.1
0.5%		-14.1
0.0%	minimum	-14.1

Summary Statistics	
Mean	-8.0
Std Dev	4.1
Std Err Mean	1.5
Upper 95% Mean	-4.3
Lower 95% Mean	-11.8
N	7.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Technetium-99 Acid dissolution with hydrofluoric acid

Bias

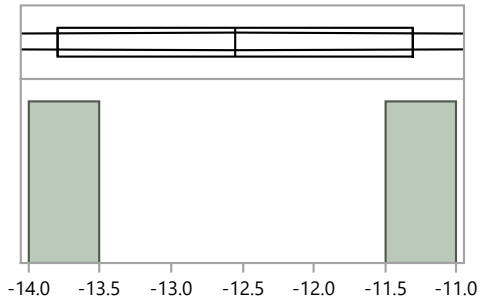


Quantiles		
100.0%	maximum	7.1
99.5%		7.1
97.5%		7.1
90.0%		7.1
75.0%	quartile	7.1
50.0%	median	7.1
25.0%	quartile	7.1
10.0%		7.1
2.5%		7.1
0.5%		7.1
0.0%	minimum	7.1

Summary Statistics	
Mean	7.1
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

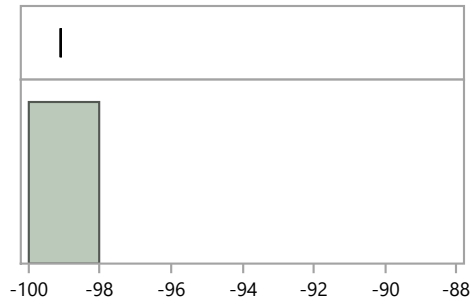


Quantiles		
100.0%	maximum	-11.3
99.5%		-11.3
97.5%		-11.3
90.0%		-11.3
75.0%	quartile	-11.3
50.0%	median	-12.6
25.0%	quartile	-13.8
10.0%		-13.8
2.5%		-13.8
0.5%		-13.8
0.0%	minimum	-13.8

Summary Statistics	
Mean	-12.6
Std Dev	1.8
Std Err Mean	1.3
Upper 95% Mean	3.3
Lower 95% Mean	-28.4
N	2.0

Distributions Analyte_Method=Technetium-99 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias



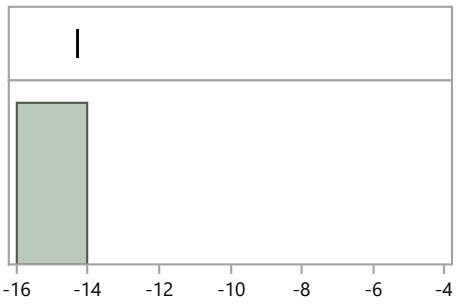
Quantiles		
100.0%	maximum	-99.1
99.5%		-99.1
97.5%		-99.1
90.0%		-99.1
75.0%	quartile	-99.1
50.0%	median	-99.1
25.0%	quartile	-99.1
10.0%		-99.1
2.5%		-99.1
0.5%		-99.1
0.0%	minimum	-99.1

Summary Statistics	
Mean	-99.1
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Technetium-99 Evaporation, acidified

Bias

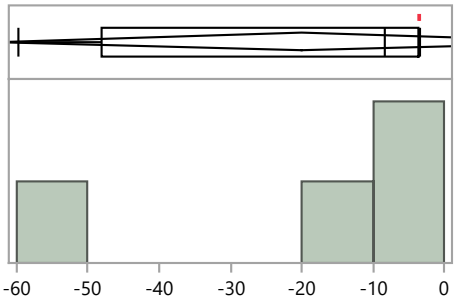


Quantiles		
100.0%	maximum	-14.3
99.5%		-14.3
97.5%		-14.3
90.0%		-14.3
75.0%	quartile	-14.3
50.0%	median	-14.3
25.0%	quartile	-14.3
10.0%		-14.3
2.5%		-14.3
0.5%		-14.3
0.0%	minimum	-14.3

Summary Statistics	
Mean	-14.3
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias

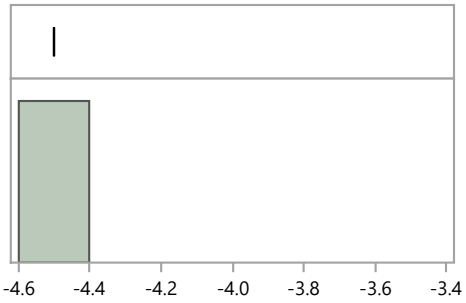


Quantiles		
100.0%	maximum	-3.5
99.5%		-3.5
97.5%		-3.5
90.0%		-3.5
75.0%	quartile	-3.5
50.0%	median	-8.4
25.0%	quartile	-48.1
10.0%		-59.7
2.5%		-59.7
0.5%		-59.7
0.0%	minimum	-59.7

Summary Statistics	
Mean	-20.0
Std Dev	26.9
Std Err Mean	13.4
Upper 95% Mean	22.7
Lower 95% Mean	-62.7
N	4.0

Distributions Analyte_Method=Technetium-99 No preparation - analyzed as received

Bias



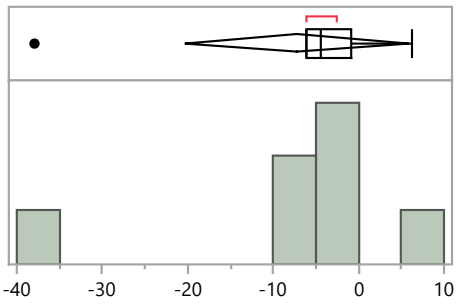
Quantiles		
100.0%	maximum	-4.5
99.5%		-4.5
97.5%		-4.5
90.0%		-4.5
75.0%	quartile	-4.5
50.0%	median	-4.5
25.0%	quartile	-4.5
10.0%		-4.5
2.5%		-4.5
0.5%		-4.5
0.0%	minimum	-4.5

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Technetium-99 Other

Bias

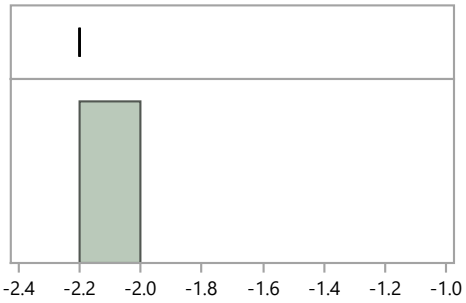


Quantiles		
100.0%	maximum	6.3
99.5%		6.3
97.5%		6.3
90.0%		6.3
75.0%	quartile	-0.9
50.0%	median	-4.5
25.0%	quartile	-6.1
10.0%		-37.9
2.5%		-37.9
0.5%		-37.9
0.0%	minimum	-37.9

Summary Statistics	
Mean	-7.3
Std Dev	14.1
Std Err Mean	5.3
Upper 95% Mean	5.8
Lower 95% Mean	-20.4
N	7.0

Distributions Analyte_Method=Technetium-99 SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

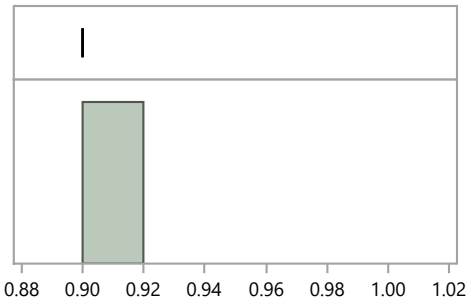


Quantiles		
100.0%	maximum	-2.2
99.5%		-2.2
97.5%		-2.2
90.0%		-2.2
75.0%	quartile	-2.2
50.0%	median	-2.2
25.0%	quartile	-2.2
10.0%		-2.2
2.5%		-2.2
0.5%		-2.2
0.0%	minimum	-2.2

Summary Statistics	
Mean	-2.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Thallium EPA Method 200.7 Trace Metals in Waters & Wastes

Bias



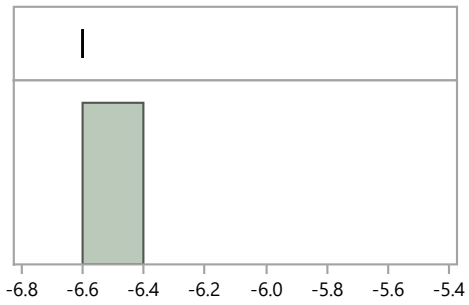
Quantiles		
100.0%	maximum	0.9
99.5%		0.9
97.5%		0.9
90.0%		0.9
75.0%	quartile	0.9
50.0%	median	0.9
25.0%	quartile	0.9
10.0%		0.9
2.5%		0.9
0.5%		0.9
0.0%	minimum	0.9

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

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Thallium EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

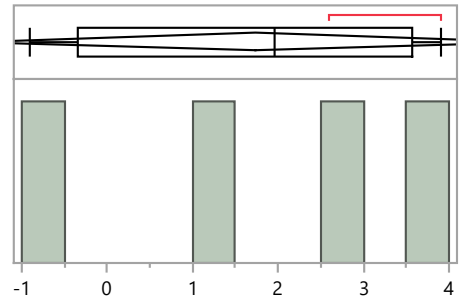


Quantiles		
100.0%	maximum	-6.6
99.5%		-6.6
97.5%		-6.6
90.0%		-6.6
75.0%	quartile	-6.6
50.0%	median	-6.6
25.0%	quartile	-6.6
10.0%		-6.6
2.5%		-6.6
0.5%		-6.6
0.0%	minimum	-6.6

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

Distributions Analyte_Method=Thallium No preparation - analyzed as received

Bias

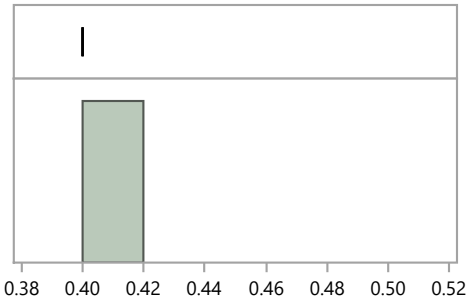


Quantiles		
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	3.6
50.0%	median	2.0
25.0%	quartile	-0.4
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

Summary Statistics	
Mean	1.7
Std Dev	2.0
Std Err Mean	1.0
Upper 95% Mean	5.0
Lower 95% Mean	-1.5
N	4.0

Distributions Analyte_Method=Thallium SW846 Method 3050B, Section 7.5, Increased Solubility

Bias



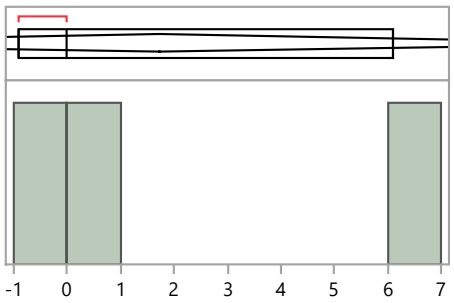
Quantiles		
100.0%	maximum	0.4
99.5%		0.4
97.5%		0.4
90.0%		0.4
75.0%	quartile	0.4
50.0%	median	0.4
25.0%	quartile	0.4
10.0%		0.4
2.5%		0.4
0.5%		0.4
0.0%	minimum	0.4

Summary Statistics	
Mean	0.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Thallium SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

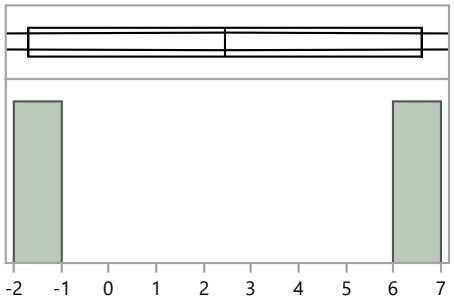


Quantiles		
100.0%	maximum	6.1
99.5%		6.1
97.5%		6.1
90.0%		6.1
75.0%	quartile	6.1
50.0%	median	0.0
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

Summary Statistics	
Mean	1.7
Std Dev	3.8
Std Err Mean	2.2
Upper 95% Mean	11.2
Lower 95% Mean	-7.7
N	3.0

Distributions Analyte_Method=Thallium SW846 Methods 3015, 3051 (Microwave assisted)

Bias

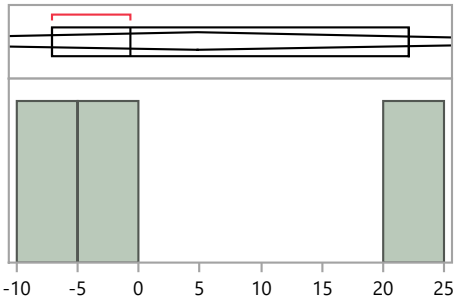


Quantiles		
100.0%	maximum	6.6
99.5%		6.6
97.5%		6.6
90.0%		6.6
75.0%	quartile	6.6
50.0%	median	2.5
25.0%	quartile	-1.7
10.0%		-1.7
2.5%		-1.7
0.5%		-1.7
0.0%	minimum	-1.7

Summary Statistics	
Mean	2.5
Std Dev	5.9
Std Err Mean	4.2
Upper 95% Mean	55.2
Lower 95% Mean	-50.3
N	2.0

Distributions Analyte_Method=Uranium-234 Coprecipitation, acidified

Bias



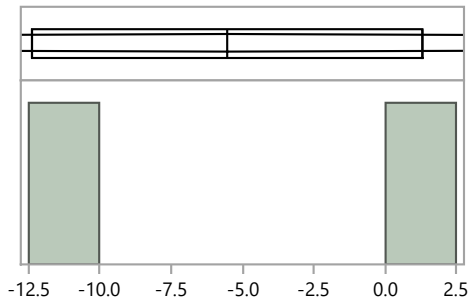
Quantiles		
100.0%	maximum	22.1
99.5%		22.1
97.5%		22.1
90.0%		22.1
75.0%	quartile	22.1
50.0%	median	-0.7
25.0%	quartile	-7.1
10.0%		-7.1
2.5%		-7.1
0.5%		-7.1
0.0%	minimum	-7.1

Summary Statistics	
Mean	4.8
Std Dev	15.3
Std Err Mean	8.9
Upper 95% Mean	42.9
Lower 95% Mean	-33.4
N	3.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Coprecipitation, straight

Bias

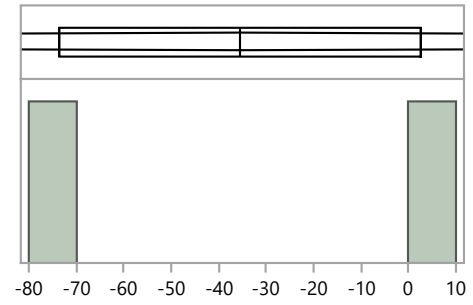


Quantiles		
100.0%	maximum	1.3
99.5%		1.3
97.5%		1.3
90.0%		1.3
75.0%	quartile	1.3
50.0%	median	-5.6
25.0%	quartile	-12.4
10.0%		-12.4
2.5%		-12.4
0.5%		-12.4
0.0%	minimum	-12.4

Summary Statistics	
Mean	-5.6
Std Dev	9.7
Std Err Mean	6.9
Upper 95% Mean	81.5
Lower 95% Mean	-92.6
N	2.0

Distributions Analyte_Method=Uranium-234 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

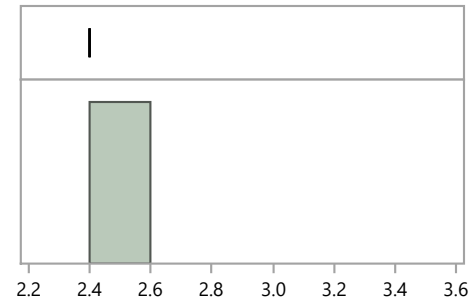


Quantiles		
100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	2.6
50.0%	median	-35.6
25.0%	quartile	-73.7
10.0%		-73.7
2.5%		-73.7
0.5%		-73.7
0.0%	minimum	-73.7

Summary Statistics	
Mean	-35.6
Std Dev	54.0
Std Err Mean	38.2
Upper 95% Mean	449.2
Lower 95% Mean	-520.3
N	2.0

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

Bias



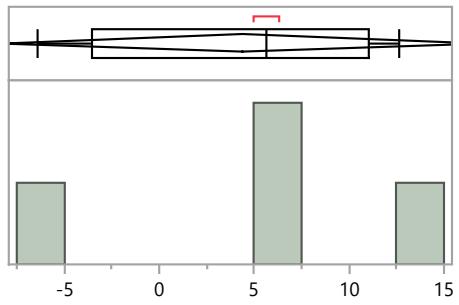
Quantiles		
100.0%	maximum	2.4
99.5%		2.4
97.5%		2.4
90.0%		2.4
75.0%	quartile	2.4
50.0%	median	2.4
25.0%	quartile	2.4
10.0%		2.4
2.5%		2.4
0.5%		2.4
0.0%	minimum	2.4

Summary Statistics	
Mean	2.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Evaporation, acidified

Bias

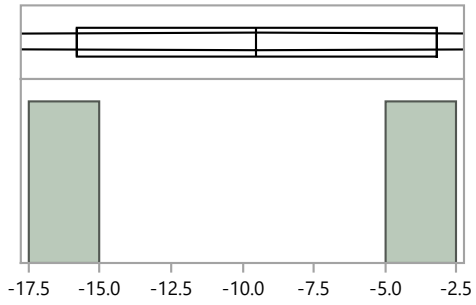


Quantiles		
100.0%	maximum	12.6
99.5%		12.6
97.5%		12.6
90.0%		12.6
75.0%	quartile	11.0
50.0%	median	5.7
25.0%	quartile	-3.6
10.0%		-6.4
2.5%		-6.4
0.5%		-6.4
0.0%	minimum	-6.4

Summary Statistics	
Mean	4.4
Std Dev	7.9
Std Err Mean	4.0
Upper 95% Mean	17.0
Lower 95% Mean	-8.2
N	4.0

Distributions Analyte_Method=Uranium-234 Evaporation, straight

Bias

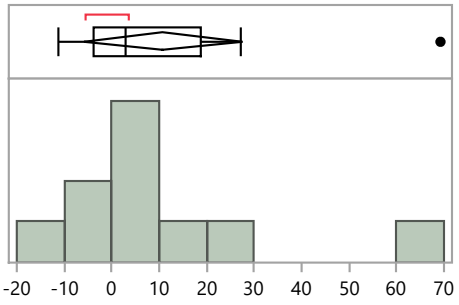


Quantiles		
100.0%	maximum	-3.2
99.5%		-3.2
97.5%		-3.2
90.0%		-3.2
75.0%	quartile	-3.2
50.0%	median	-9.5
25.0%	quartile	-15.8
10.0%		-15.8
2.5%		-15.8
0.5%		-15.8
0.0%	minimum	-15.8

Summary Statistics	
Mean	-9.5
Std Dev	8.9
Std Err Mean	6.3
Upper 95% Mean	70.5
Lower 95% Mean	-89.5
N	2.0

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

Bias



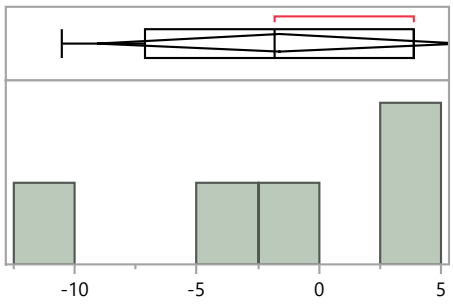
Quantiles		
100.0%	maximum	69.2
99.5%		69.2
97.5%		69.2
90.0%		65.0
75.0%	quartile	18.6
50.0%	median	3.0
25.0%	quartile	-3.9
10.0%		-10.7
2.5%		-11.3
0.5%		-11.3
0.0%	minimum	-11.3

Summary Statistics	
Mean	10.8
Std Dev	23.3
Std Err Mean	7.4
Upper 95% Mean	27.5
Lower 95% Mean	-5.8
N	10.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-234 Other

Bias

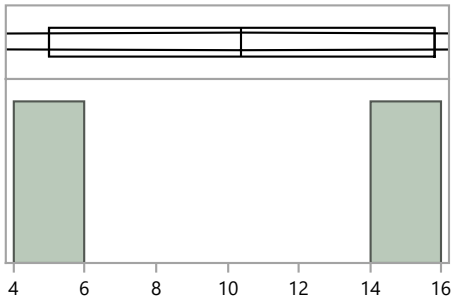


Quantiles		
100.0%	maximum	3.9
99.5%		3.9
97.5%		3.9
90.0%		3.9
75.0%	quartile	3.9
50.0%	median	-1.8
25.0%	quartile	-7.1
10.0%		-10.5
2.5%		-10.5
0.5%		-10.5
0.0%	minimum	-10.5

Summary Statistics	
Mean	-1.6
Std Dev	6.0
Std Err Mean	2.7
Upper 95% Mean	5.8
Lower 95% Mean	-9.1
N	5.0

Distributions Analyte_Method=Uranium-234 Total dissolution by fusion

Bias

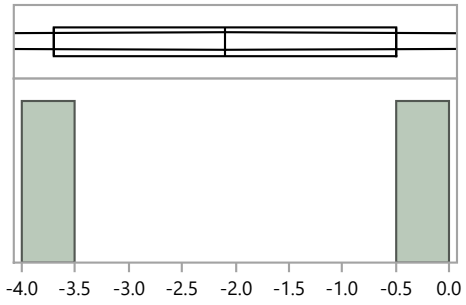


Quantiles		
100.0%	maximum	15.8
99.5%		15.8
97.5%		15.8
90.0%		15.8
75.0%	quartile	15.8
50.0%	median	10.4
25.0%	quartile	5.0
10.0%		5.0
2.5%		5.0
0.5%		5.0
0.0%	minimum	5.0

Summary Statistics	
Mean	10.4
Std Dev	7.6
Std Err Mean	5.4
Upper 95% Mean	79.0
Lower 95% Mean	-58.2
N	2.0

Distributions Analyte_Method=Uranium-235 EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



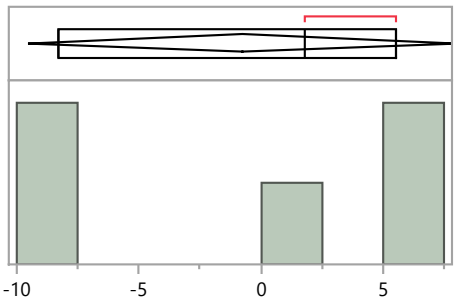
Quantiles		
100.0%	maximum	-0.5
99.5%		-0.5
97.5%		-0.5
90.0%		-0.5
75.0%	quartile	-0.5
50.0%	median	-2.1
25.0%	quartile	-3.7
10.0%		-3.7
2.5%		-3.7
0.5%		-3.7
0.0%	minimum	-3.7

Summary Statistics	
Mean	-2.1
Std Dev	2.3
Std Err Mean	1.6
Upper 95% Mean	18.2
Lower 95% Mean	-22.4
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-235 No preparation - analyzed as received

Bias

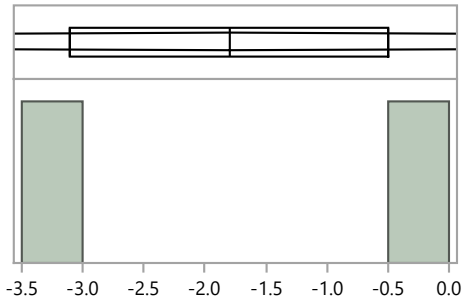


Quantiles		
100.0%	maximum	5.5
99.5%		5.5
97.5%		5.5
90.0%		5.5
75.0%	quartile	5.5
50.0%	median	1.8
25.0%	quartile	-8.3
10.0%		-8.3
2.5%		-8.3
0.5%		-8.3
0.0%	minimum	-8.3

Summary Statistics	
Mean	-0.8
Std Dev	7.0
Std Err Mean	3.2
Upper 95% Mean	8.0
Lower 95% Mean	-9.5
N	5.0

Distributions Analyte_Method=Uranium-235 Other

Bias

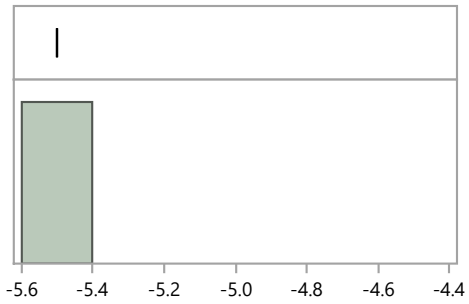


Quantiles		
100.0%	maximum	-0.5
99.5%		-0.5
97.5%		-0.5
90.0%		-0.5
75.0%	quartile	-0.5
50.0%	median	-1.8
25.0%	quartile	-3.1
10.0%		-3.1
2.5%		-3.1
0.5%		-3.1
0.0%	minimum	-3.1

Summary Statistics	
Mean	-1.8
Std Dev	1.8
Std Err Mean	1.3
Upper 95% Mean	14.7
Lower 95% Mean	-18.3
N	2.0

Distributions Analyte_Method=Uranium-235 SW846 Method 3050B, Section 7.5, Increased Solubility

Bias



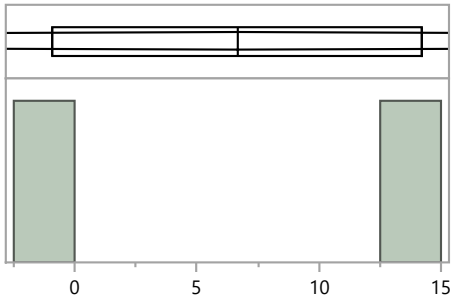
Quantiles		
100.0%	maximum	-5.5
99.5%		-5.5
97.5%		-5.5
90.0%		-5.5
75.0%	quartile	-5.5
50.0%	median	-5.5
25.0%	quartile	-5.5
10.0%		-5.5
2.5%		-5.5
0.5%		-5.5
0.0%	minimum	-5.5

Summary Statistics	
Mean	-5.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-235 SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

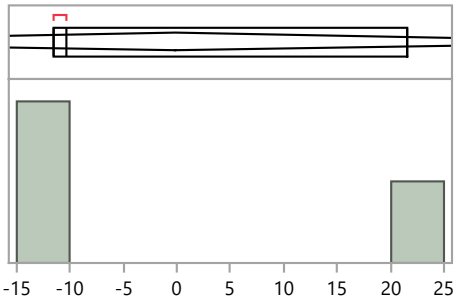


Quantiles		
100.0%	maximum	14.2
99.5%		14.2
97.5%		14.2
90.0%		14.2
75.0%	quartile	14.2
50.0%	median	6.7
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

Summary Statistics	
Mean	6.7
Std Dev	10.7
Std Err Mean	7.6
Upper 95% Mean	102.6
Lower 95% Mean	-89.3
N	2.0

Distributions Analyte_Method=Uranium-238 Coprecipitation, acidified

Bias

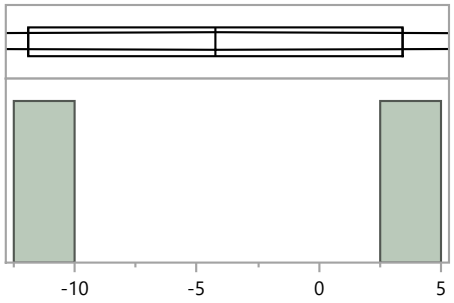


Quantiles		
100.0%	maximum	21.6
99.5%		21.6
97.5%		21.6
90.0%		21.6
75.0%	quartile	21.6
50.0%	median	-10.4
25.0%	quartile	-11.6
10.0%		-11.6
2.5%		-11.6
0.5%		-11.6
0.0%	minimum	-11.6

Summary Statistics	
Mean	-0.1
Std Dev	18.8
Std Err Mean	10.9
Upper 95% Mean	46.6
Lower 95% Mean	-46.9
N	3.0

Distributions Analyte_Method=Uranium-238 Coprecipitation, straight

Bias



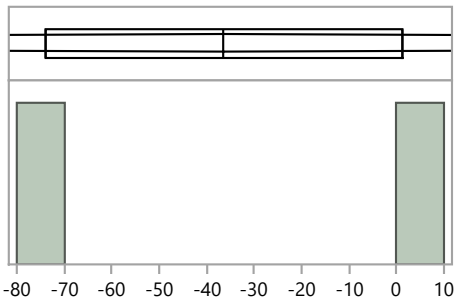
Quantiles		
100.0%	maximum	3.4
99.5%		3.4
97.5%		3.4
90.0%		3.4
75.0%	quartile	3.4
50.0%	median	-4.3
25.0%	quartile	-11.9
10.0%		-11.9
2.5%		-11.9
0.5%		-11.9
0.0%	minimum	-11.9

Summary Statistics	
Mean	-4.3
Std Dev	10.8
Std Err Mean	7.7
Upper 95% Mean	93.0
Lower 95% Mean	-101.5
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 EPA 901.1, Gamma Emitting, 600/4-80-032

Bias

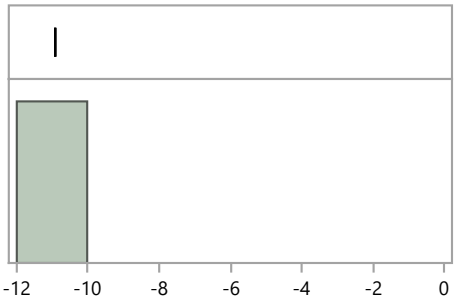


Quantiles		
100.0%	maximum	1.3
99.5%		1.3
97.5%		1.3
90.0%		1.3
75.0%	quartile	1.3
50.0%	median	-36.4
25.0%	quartile	-74.0
10.0%		-74.0
2.5%		-74.0
0.5%		-74.0
0.0%	minimum	-74.0

Summary Statistics	
Mean	-36.4
Std Dev	53.2
Std Err Mean	37.7
Upper 95% Mean	442.0
Lower 95% Mean	-514.7
N	2.0

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

Bias

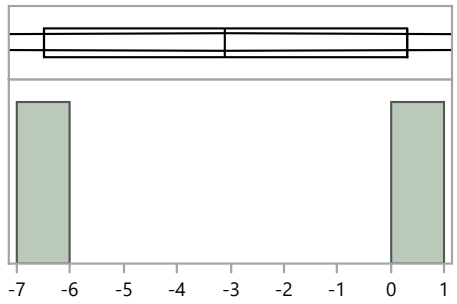


Quantiles		
100.0%	maximum	-10.9
99.5%		-10.9
97.5%		-10.9
90.0%		-10.9
75.0%	quartile	-10.9
50.0%	median	-10.9
25.0%	quartile	-10.9
10.0%		-10.9
2.5%		-10.9
0.5%		-10.9
0.0%	minimum	-10.9

Summary Statistics	
Mean	-10.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-238 EPA Method 200.8 Trace Metals in Waters & Wastes

Bias



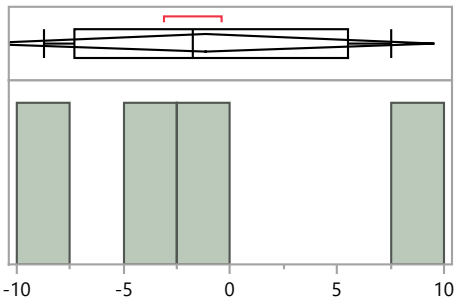
Quantiles		
100.0%	maximum	0.3
99.5%		0.3
97.5%		0.3
90.0%		0.3
75.0%	quartile	0.3
50.0%	median	-3.1
25.0%	quartile	-6.5
10.0%		-6.5
2.5%		-6.5
0.5%		-6.5
0.0%	minimum	-6.5

Summary Statistics	
Mean	-3.1
Std Dev	4.8
Std Err Mean	3.4
Upper 95% Mean	40.1
Lower 95% Mean	-46.3
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 Evaporation, acidified

Bias

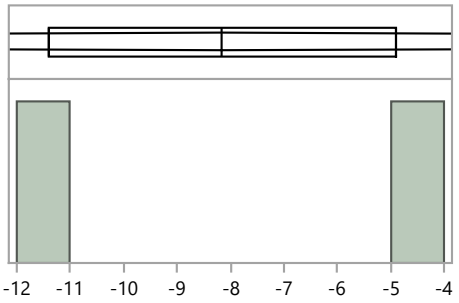


Quantiles		
100.0%	maximum	7.5
99.5%		7.5
97.5%		7.5
90.0%		7.5
75.0%	quartile	5.5
50.0%	median	-1.8
25.0%	quartile	-7.3
10.0%		-8.7
2.5%		-8.7
0.5%		-8.7
0.0%	minimum	-8.7

Summary Statistics	
Mean	-1.2
Std Dev	6.7
Std Err Mean	3.4
Upper 95% Mean	9.5
Lower 95% Mean	-11.9
N	4.0

Distributions Analyte_Method=Uranium-238 Evaporation, straight

Bias

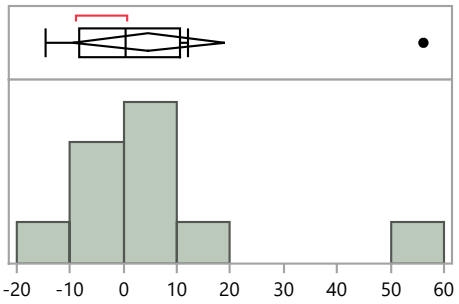


Quantiles		
100.0%	maximum	-4.9
99.5%		-4.9
97.5%		-4.9
90.0%		-4.9
75.0%	quartile	-4.9
50.0%	median	-8.2
25.0%	quartile	-11.4
10.0%		-11.4
2.5%		-11.4
0.5%		-11.4
0.0%	minimum	-11.4

Summary Statistics	
Mean	-8.2
Std Dev	4.6
Std Err Mean	3.3
Upper 95% Mean	33.1
Lower 95% Mean	-49.4
N	2.0

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

Bias



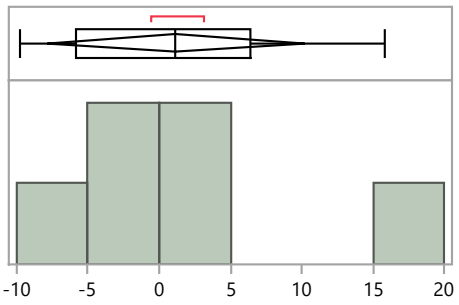
Quantiles		
100.0%	maximum	56.1
99.5%		56.1
97.5%		56.1
90.0%		51.7
75.0%	quartile	10.5
50.0%	median	0.4
25.0%	quartile	-8.4
10.0%		-13.9
2.5%		-14.5
0.5%		-14.5
0.0%	minimum	-14.5

Summary Statistics	
Mean	4.7
Std Dev	20.0
Std Err Mean	6.3
Upper 95% Mean	19.1
Lower 95% Mean	-9.6
N	10.0

MaW51 Distribution by Preparation Method

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

Bias

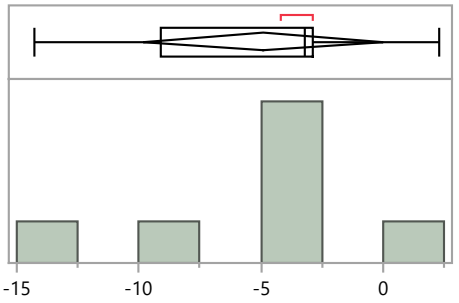


Quantiles		
100.0%	maximum	15.8
99.5%		15.8
97.5%		15.8
90.0%		15.8
75.0%	quartile	6.4
50.0%	median	1.2
25.0%	quartile	-5.8
10.0%		-9.7
2.5%		-9.7
0.5%		-9.7
0.0%	minimum	-9.7

Summary Statistics	
Mean	1.2
Std Dev	8.7
Std Err Mean	3.5
Upper 95% Mean	10.3
Lower 95% Mean	-7.9
N	6.0

Distributions Analyte_Method=Uranium-238 Other

Bias

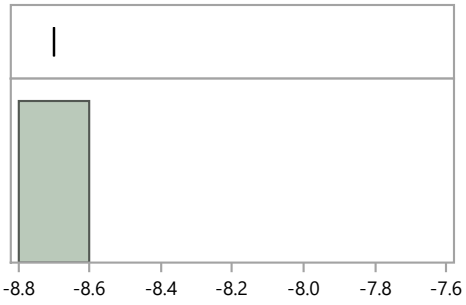


Quantiles		
100.0%	maximum	2.3
99.5%		2.3
97.5%		2.3
90.0%		2.3
75.0%	quartile	-2.9
50.0%	median	-3.2
25.0%	quartile	-9.1
10.0%		-14.3
2.5%		-14.3
0.5%		-14.3
0.0%	minimum	-14.3

Summary Statistics	
Mean	-4.9
Std Dev	5.3
Std Err Mean	2.0
Upper 95% Mean	0.0
Lower 95% Mean	-9.8
N	7.0

Distributions Analyte_Method=Uranium-238 SW846 Method 3050B, Section 7.5, Increased Solubility

Bias



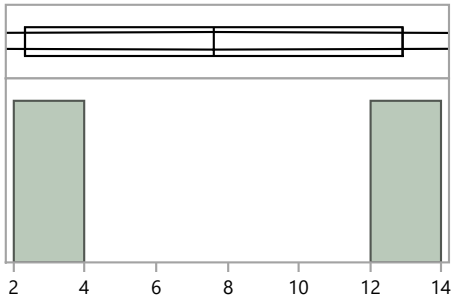
Quantiles		
100.0%	maximum	-8.7
99.5%		-8.7
97.5%		-8.7
90.0%		-8.7
75.0%	quartile	-8.7
50.0%	median	-8.7
25.0%	quartile	-8.7
10.0%		-8.7
2.5%		-8.7
0.5%		-8.7
0.0%	minimum	-8.7

Summary Statistics	
Mean	-8.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-238 SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

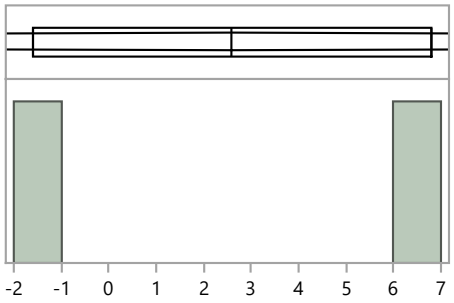


Quantiles		
100.0%	maximum	12.9
99.5%		12.9
97.5%		12.9
90.0%		12.9
75.0%	quartile	12.9
50.0%	median	7.6
25.0%	quartile	2.3
10.0%		2.3
2.5%		2.3
0.5%		2.3
0.0%	minimum	2.3

Summary Statistics	
Mean	7.6
Std Dev	7.5
Std Err Mean	5.3
Upper 95% Mean	74.9
Lower 95% Mean	-59.7
N	2.0

Distributions Analyte_Method=Uranium-238 Total dissolution by fusion

Bias

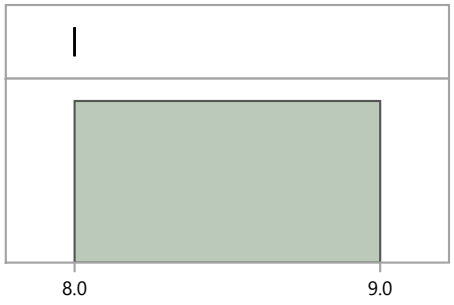


Quantiles		
100.0%	maximum	6.8
99.5%		6.8
97.5%		6.8
90.0%		6.8
75.0%	quartile	6.8
50.0%	median	2.6
25.0%	quartile	-1.6
10.0%		-1.6
2.5%		-1.6
0.5%		-1.6
0.0%	minimum	-1.6

Summary Statistics	
Mean	2.6
Std Dev	5.9
Std Err Mean	4.2
Upper 95% Mean	56.0
Lower 95% Mean	-50.8
N	2.0

Distributions Analyte_Method=Uranium-Total EPA Method 200.2 Sample Preparation Methods

Bias



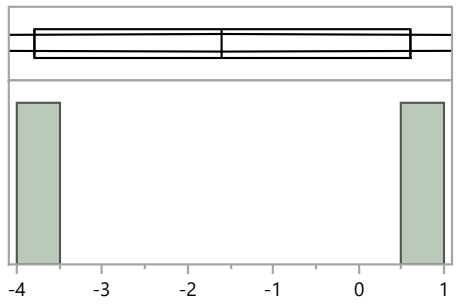
Quantiles		
100.0%	maximum	8.0
99.5%		8.0
97.5%		8.0
90.0%		8.0
75.0%	quartile	8.0
50.0%	median	8.0
25.0%	quartile	8.0
10.0%		8.0
2.5%		8.0
0.5%		8.0
0.0%	minimum	8.0

Summary Statistics	
Mean	8.0
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-Total EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

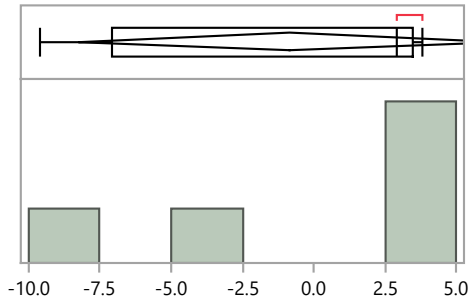


Quantiles		
100.0%	maximum	0.6
99.5%		0.6
97.5%		0.6
90.0%		0.6
75.0%	quartile	0.6
50.0%	median	-1.6
25.0%	quartile	-3.8
10.0%		-3.8
2.5%		-3.8
0.5%		-3.8
0.0%	minimum	-3.8

Summary Statistics	
Mean	-1.6
Std Dev	3.1
Std Err Mean	2.2
Upper 95% Mean	26.4
Lower 95% Mean	-29.6
N	2.0

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

Bias

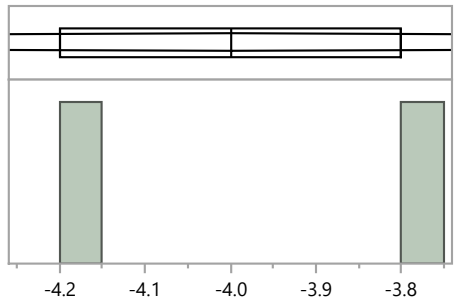


Quantiles		
100.0%	maximum	3.8
99.5%		3.8
97.5%		3.8
90.0%		3.8
75.0%	quartile	3.5
50.0%	median	2.9
25.0%	quartile	-7.1
10.0%		-9.6
2.5%		-9.6
0.5%		-9.6
0.0%	minimum	-9.6

Summary Statistics	
Mean	-0.8
Std Dev	6.0
Std Err Mean	2.7
Upper 95% Mean	6.6
Lower 95% Mean	-8.2
N	5.0

Distributions Analyte_Method=Uranium-Total Other

Bias



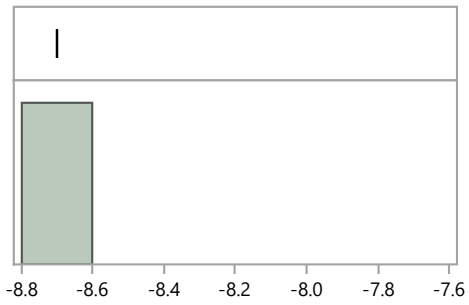
Quantiles		
100.0%	maximum	-3.8
99.5%		-3.8
97.5%		-3.8
90.0%		-3.8
75.0%	quartile	-3.8
50.0%	median	-4.0
25.0%	quartile	-4.2
10.0%		-4.2
2.5%		-4.2
0.5%		-4.2
0.0%	minimum	-4.2

Summary Statistics	
Mean	-4.0
Std Dev	0.3
Std Err Mean	0.2
Upper 95% Mean	-1.5
Lower 95% Mean	-6.5
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Uranium-Total SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

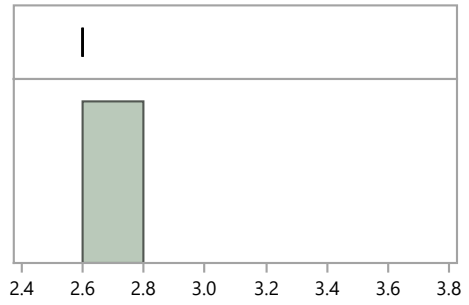


Quantiles		
100.0%	maximum	-8.7
99.5%		-8.7
97.5%		-8.7
90.0%		-8.7
75.0%	quartile	-8.7
50.0%	median	-8.7
25.0%	quartile	-8.7
10.0%		-8.7
2.5%		-8.7
0.5%		-8.7
0.0%	minimum	-8.7

Summary Statistics	
Mean	-8.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

Distributions Analyte_Method=Uranium-Total SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

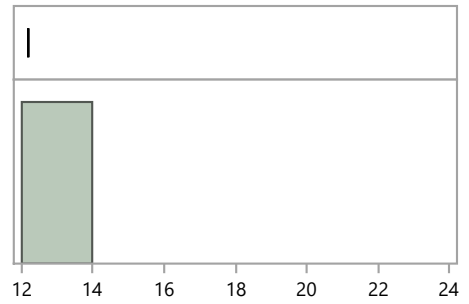


Quantiles		
100.0%	maximum	2.6
99.5%		2.6
97.5%		2.6
90.0%		2.6
75.0%	quartile	2.6
50.0%	median	2.6
25.0%	quartile	2.6
10.0%		2.6
2.5%		2.6
0.5%		2.6
0.0%	minimum	2.6

Summary Statistics	
Mean	2.6
Std Dev	0.0
Std Err Mean	0.0
Upper 95% Mean	2.6
Lower 95% Mean	2.6
N	2.0

Distributions Analyte_Method=Uranium-Total SW846 Methods 3015, 3051 (Microwave assisted)

Bias



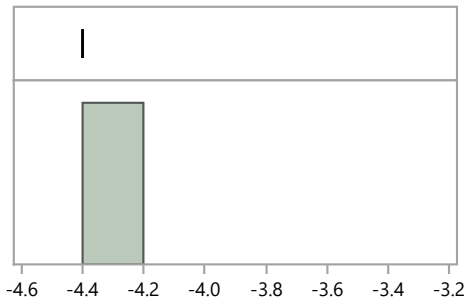
Quantiles		
100.0%	maximum	12.2
99.5%		12.2
97.5%		12.2
90.0%		12.2
75.0%	quartile	12.2
50.0%	median	12.2
25.0%	quartile	12.2
10.0%		12.2
2.5%		12.2
0.5%		12.2
0.0%	minimum	12.2

Summary Statistics	
Mean	12.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Zinc EPA Method 200.7 Trace Metals in Waters & Wastes

Bias

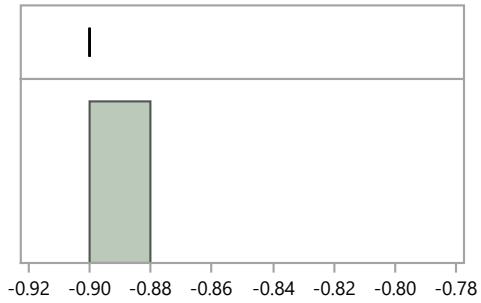


Quantiles		
100.0%	maximum	-4.4
99.5%		-4.4
97.5%		-4.4
90.0%		-4.4
75.0%	quartile	-4.4
50.0%	median	-4.4
25.0%	quartile	-4.4
10.0%		-4.4
2.5%		-4.4
0.5%		-4.4
0.0%	minimum	-4.4

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

Distributions Analyte_Method=Zinc EPA Method 200.8 Trace Metals in Waters & Wastes

Bias

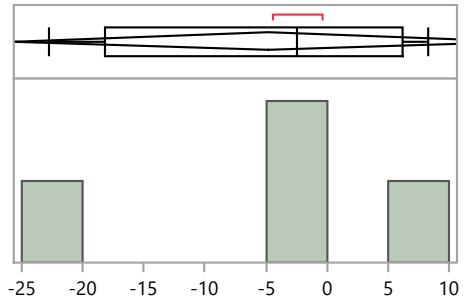


Quantiles		
100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-0.9
25.0%	quartile	-0.9
10.0%		-0.9
2.5%		-0.9
0.5%		-0.9
0.0%	minimum	-0.9

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

Distributions Analyte_Method=Zinc No preparation - analyzed as received

Bias



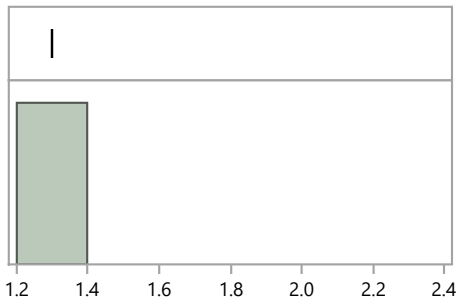
Quantiles		
100.0%	maximum	8.3
99.5%		8.3
97.5%		8.3
90.0%		8.3
75.0%	quartile	6.1
50.0%	median	-2.4
25.0%	quartile	-18.2
10.0%		-22.8
2.5%		-22.8
0.5%		-22.8
0.0%	minimum	-22.8

Summary Statistics	
Mean	-4.8
Std Dev	13.1
Std Err Mean	6.6
Upper 95% Mean	16.0
Lower 95% Mean	-25.7
N	4.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Zinc SW846 Method 3050B, Section 7.5, Increased Solubility

Bias

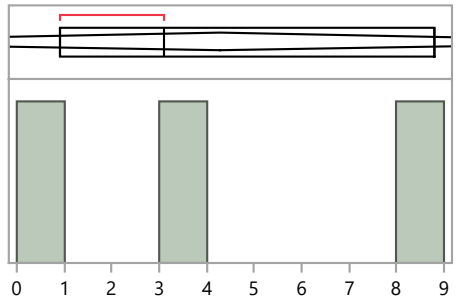


Quantiles		
100.0%	maximum	1.3
99.5%		1.3
97.5%		1.3
90.0%		1.3
75.0%	quartile	1.3
50.0%	median	1.3
25.0%	quartile	1.3
10.0%		1.3
2.5%		1.3
0.5%		1.3
0.0%	minimum	1.3

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

Distributions Analyte_Method=Zinc SW846 Methods 3005, 3010, 3020, 3050 or CLP ILM03.0

Bias

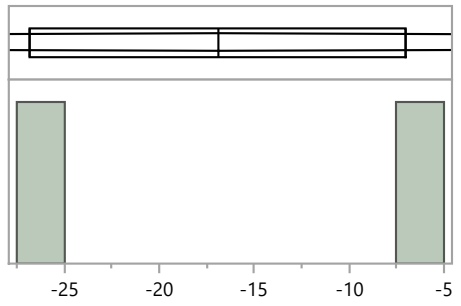


Quantiles		
100.0%	maximum	8.8
99.5%		8.8
97.5%		8.8
90.0%		8.8
75.0%	quartile	8.8
50.0%	median	3.1
25.0%	quartile	0.9
10.0%		0.9
2.5%		0.9
0.5%		0.9
0.0%	minimum	0.9

Summary Statistics	
Mean	4.3
Std Dev	4.1
Std Err Mean	2.4
Upper 95% Mean	14.4
Lower 95% Mean	-5.9
N	3.0

Distributions Analyte_Method=Zinc SW846 Methods 3015, 3051 (Microwave assisted)

Bias



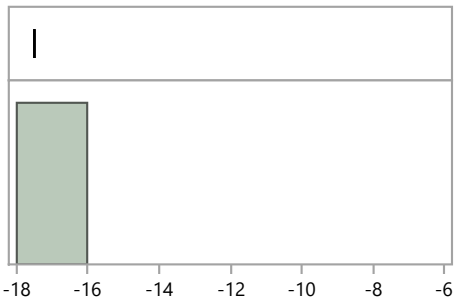
Quantiles		
100.0%	maximum	-7.0
99.5%		-7.0
97.5%		-7.0
90.0%		-7.0
75.0%	quartile	-7.0
50.0%	median	-16.9
25.0%	quartile	-26.8
10.0%		-26.8
2.5%		-26.8
0.5%		-26.8
0.0%	minimum	-26.8

Summary Statistics	
Mean	-16.9
Std Dev	14.0
Std Err Mean	9.9
Upper 95% Mean	108.9
Lower 95% Mean	-142.7
N	2.0

MaW51 Distribution by Preparation Method

Distributions Analyte_Method=Zinc SW846 Methods 3052 (Microwave assisted Total Decomposition)

Bias

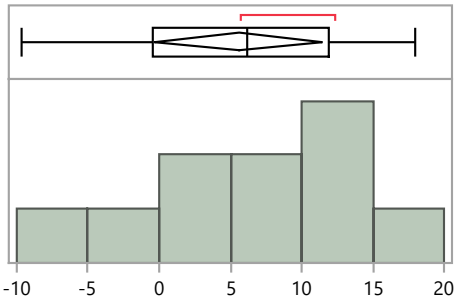


Quantiles		
100.0%	maximum	-17.5
99.5%		-17.5
97.5%		-17.5
90.0%		-17.5
75.0%	quartile	-17.5
50.0%	median	-17.5
25.0%	quartile	-17.5
10.0%		-17.5
2.5%		-17.5
0.5%		-17.5
0.0%	minimum	-17.5

Summary Statistics	
Mean	-17.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias

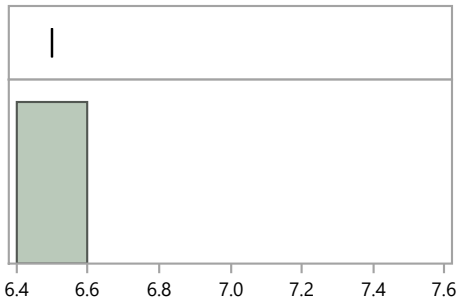


Quantiles		
100.0%	maximum	18.0
99.5%		18.0
97.5%		18.0
90.0%		17.4
75.0%	quartile	11.9
50.0%	median	6.2
25.0%	quartile	-0.4
10.0%		-8.9
2.5%		-9.6
0.5%		-9.6
0.0%	minimum	-9.6

Summary Statistics	
Mean	5.6
Std Dev	8.2
Std Err Mean	2.6
Upper 95% Mean	11.5
Lower 95% Mean	-0.3
N	10.0

Distributions Analyte_Method=Zinc-65 Evaporation, acidified

Bias



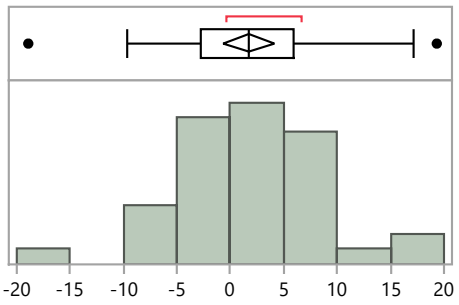
Quantiles		
100.0%	maximum	6.5
99.5%		6.5
97.5%		6.5
90.0%		6.5
75.0%	quartile	6.5
50.0%	median	6.5
25.0%	quartile	6.5
10.0%		6.5
2.5%		6.5
0.5%		6.5
0.0%	minimum	6.5

Summary Statistics	
Mean	6.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaW51 Distribution by Preparation Method

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

Bias

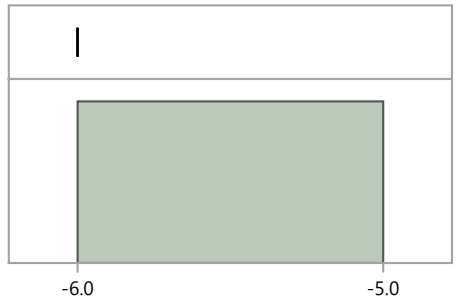


Quantiles		
100.0%	maximum	19.3
99.5%		19.3
97.5%		19.3
90.0%		9.1
75.0%	quartile	5.9
50.0%	median	1.8
25.0%	quartile	-2.7
10.0%		-7.1
2.5%		-18.9
0.5%		-18.9
0.0%	minimum	-18.9

Summary Statistics	
Mean	1.7
Std Dev	7.1
Std Err Mean	1.2
Upper 95% Mean	4.0
Lower 95% Mean	-0.6
N	38.0

Distributions Analyte_Method=Zinc-65 Other

Bias



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

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