

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.

MaSU50 Participating Laboratories

Lab Code	Lab Name	Matrix Code
FDHE01	Florida Dept of Health Environmental Laboratory	MaSU
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	MaSU
GENE01	GEL Laboratories, LLC	MaSU
HCAL01	Lawrence Livermore National Laboratory	MaSU
IDGR01	Oak Ridge National Laboratory-Internal Dosimetry Group	MaSU
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	MaSU
ODHL01	Ohio Department of Health Laboratory	MaSU
TELE01	Teledyne Brown Engineering - Environmental Services	MaSU
WIPP01	WIPP Laboratories	MaSU
WSHL01	Wisconsin State Laboratory of Hygiene	MaSU

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
HPAL01	Los Alamos National Laboratory	MaSU
LANL01	Los Alamos National Laboratory	MaSU
STRL01	South Texas Project Radiological Laboratory	MaSU

Study Reference Values

MAPEP-24-MaSU50

Radiological Reference Date: 02/01/2024

Analyte	Ref Value	Ref Unc
Mass		Units: (ng/L)
Uranium-235		
Uranium-238		
Uranium-Total		

Analyte	Ref Value	Ref Unc
Radiological		Units: (Bq/L)
Americium-241	0.278	0.006
Cesium-134	1.36	0.04
Cesium-137	2.23	0.07
Cobalt-57	1.26	0.04
Cobalt-60	2.38	0.08
Manganese-54	1.51	0.05
Plutonium-238	0.0035	0.0003
Plutonium-239/240	0.0051	0.0004
Potassium-40		
Strontium-90	1.80	0.05
Zinc-65	0.84	0.03

Sample Statistical Summary

MAPEP-24-MaSU50

Radiological Reference Date: 02/01/2024

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (ng/L)
Uranium-235	3	3					False Positive Test
Uranium-238	3	2					False Positive Test
Uranium-Total	2	1					False Positive Test

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
							Units: (Bq/L)
Americium-241	8	7	0.258	0.022	0.278	0.006	0.195 - 0.361
Cesium-134	9	8	1.29	0.09	1.36	0.04	0.95 - 1.77
Cesium-137	9	8	2.22	0.10	2.23	0.07	1.56 - 2.90
Cobalt-57	9	8	1.17	0.07	1.26	0.04	0.88 - 1.64
Cobalt-60	9	8	2.34	0.13	2.38	0.08	1.67 - 3.09
Curium-244	3	3					False Positive Test
Manganese-54	9	8	1.54	0.12	1.51	0.05	1.06 - 1.96
Nickel-63	2	2					False Positive Test
Plutonium-238	7	6	0.0056	0.0197	0.0035	0.0003	Sensitivity Evaluation
Plutonium-239/240	7	7	0.0138	0.0222	0.0051	0.0004	Sensitivity Evaluation
Potassium-40	5						
Strontium-90	6	5			1.80	0.05	1.26 - 2.34
Technetium-99	1	1					False Positive Test
Uranium-234	7	6					False Positive Test
Uranium-238	7	7					False Positive Test
Zinc-65	9	6	0.80	0.10	0.84	0.03	0.59 - 1.09

Note: (1) T = Total number of laboratories reporting analyte.
(2) A = Number of laboratories with 'Acceptable' performance.
(3) Mean excludes values indicated as "Not Acceptable".

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Flag Summary Report

MAPEP-24-MaSU50

Mass				
Analyte	A	W	RW	N
Uranium-235	3			
Uranium-238	2			1
Uranium-Total	1			1
Radiological				
Analyte	A	W	RW	N
Americium-241	6	1		1
Cesium-134	8			1
Cesium-137	8			1
Cobalt-57	8			1
Cobalt-60	8			1
Curium-244	3			
Manganese-54	8			1
Nickel-63	2			
Plutonium-238	6			1
Plutonium-239/240	7			
Strontium-90	5			1
Technetium-99	1			
Uranium-234	6			1
Uranium-238	7			
Zinc-65	5	1		3



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

Laboratory Results For MAPEP-24-MaSU50
 (FDHE01) Florida Dept of Health Environmental Laboratory
 2100 All Childrens Way
 Orlando, FL 32818-5271

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.265	0.278	A		-4.7	0.195 - 0.361	0.072	W
Cesium-134	1.26	1.36	A		-7.4	0.95 - 1.77	0.041	A
Cesium-137	2.23	2.23	A		0.0	1.56 - 2.90	0.081	A
Cobalt-57	1.159	1.26	A		-8.0	0.88 - 1.64	0.057	A
Cobalt-60	2.257	2.38	A		-5.2	1.67 - 3.09	0.067	A
Curium-244	NR					False Positive Test		
Manganese-54	1.499	1.51	A		-0.7	1.06 - 1.96	0.067	A
Nickel-63	NR					False Positive Test		
Plutonium-238	0.0416	0.0035	A	(17)		Sensitivity Evaluation	0.02	
Plutonium-239/240	0.064	0.0051	A	(17)		Sensitivity Evaluation	0.03	
Strontium-90	1.93	1.80	A		7.2	1.26 - 2.34	0.4	W
Technetium-99	NR					False Positive Test		
Uranium-234	0.125		A			False Positive Test	0.42	
Uranium-238	0.12		A			False Positive Test	0.41	
Zinc-65	0.817	0.84	A		-2.7	0.59 - 1.09	0.099	A

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50

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

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.24	0.278	A		-13.7	0.195 - 0.361	0.09	N
Cesium-134	1.42	1.36	A		4.4	0.95 - 1.77	0.05	A
Cesium-137	2.24	2.23	A		0.4	1.56 - 2.90	0.13	A
Cobalt-57	1.16	1.26	A		-7.9	0.88 - 1.64	0.05	A
Cobalt-60	2.3	2.38	A		-3.4	1.67 - 3.09	0.07	A
Curium-244	NR					False Positive Test		
Manganese-54	1.47	1.51	A		-2.6	1.06 - 1.96	0.07	A
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.0035				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0051				Sensitivity Evaluation		
Strontium-90	NR	1.80				1.26 - 2.34		
Technetium-99	NR					False Positive Test		
Uranium-234	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Zinc-65	0.81	0.84	A		-3.6	0.59 - 1.09	0.07	A

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

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

Laboratory Results For MAPEP-24-MaSU50
 (GENE01) GEL Laboratories, LLC
 2040 Savage Road
 Charleston, SC 29407

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.270		A			False Positive Test	0.134	
Uranium-238	3.08		N	(1)		False Positive Test	0.401	
Uranium-Total	3.35		N	(1)		False Positive Test	0.401	

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.190	0.278	N		-31.7	0.195 - 0.361	0.0235	A
Cesium-134	1.33	1.36	A		-2.2	0.95 - 1.77	0.145	A
Cesium-137	2.32	2.23	A		4.0	1.56 - 2.90	0.158	A
Cobalt-57	1.26	1.26	A		0.0	0.88 - 1.64	0.110	A
Cobalt-60	2.64	2.38	A		10.9	1.67 - 3.09	0.219	A
Curium-244	0.000107		A			False Positive Test	0.000339	
Manganese-54	1.78	1.51	A		17.9	1.06 - 1.96	0.164	A
Nickel-63	0.0832		A			False Positive Test	0.151	
Plutonium-238	0.00269	0.0035	A			Sensitivity Evaluation	0.000536	
Plutonium-239/240	0.00507	0.0051	A			Sensitivity Evaluation	0.000738	
Potassium-40	-0.444						4.18	N
Strontium-90	1.62	1.80	A		-10.0	1.26 - 2.34	0.107	A
Technetium-99	0.00677		A			False Positive Test	0.169	
Uranium-234	0.00257		N	(1)		False Positive Test	0.000824	
Uranium-238	-0.000335		A			False Positive Test	0.000456	
Zinc-65	0.968	0.84	A		15.2	0.59 - 1.09	0.215	W

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

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

Laboratory Results For MAPEP-24-MaSU50
 (HCAL01) Lawrence Livermore National Laboratory
 Analytical Services and Instrumentation Analytical Lab
 Livermore, CA 94550

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	3.60e-03		A			False Positive Test	6.42e-03	
Uranium-238	0.8199		A			False Positive Test	0.7528	
Uranium-Total	0.8050		A			False Positive Test	4.5511	

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.21867	0.278	W		-21.3	0.195 - 0.361	0.01291	A
Cesium-134	0.57	1.36	N		-58.1	0.95 - 1.77	0.40	N
Cesium-137	1.52	2.23	N		-31.8	1.56 - 2.90	0.36	W
Cobalt-57	0.70	1.26	N		-44.4	0.88 - 1.64	0.38	N
Cobalt-60	1.63	2.38	N		-31.5	1.67 - 3.09	0.32	W
Curium-244	0.00009		A			False Positive Test	0.00004	
Manganese-54	0.88	1.51	N		-41.7	1.06 - 1.96	0.43	N
Nickel-63	0.01		A			False Positive Test	0.32	
Plutonium-238	0.00264	0.0035	A			Sensitivity Evaluation	0.00028	
Plutonium-239/240	0.00514	0.0051	A			Sensitivity Evaluation	0.00044	
Potassium-40	-1.75						4.30	N
Strontium-90	NR	1.80				1.26 - 2.34		
Technetium-99	NR					False Positive Test		
Uranium-234	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Zinc-65	-0.68	0.84	N		-181.0	0.59 - 1.09	0.85	N

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50
 (IDGR01) Oak Ridge National Laboratory-Internal Dosimetry Group
 Bethel Valley Road
 Oak Ridge, TN 37831-6107

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	0.02		A			False Positive Test	0.04	
Uranium-238	1.0		A			False Positive Test	4.0	
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.28	0.278	A		0.7	0.195 - 0.361	0.02	A
Cesium-134	NR	1.36				0.95 - 1.77		
Cesium-137	NR	2.23				1.56 - 2.90		
Cobalt-57	NR	1.26				0.88 - 1.64		
Cobalt-60	NR	2.38				1.67 - 3.09		
Curium-244	0.00008		A			False Positive Test	0.00023	
Manganese-54	NR	1.51				1.06 - 1.96		
Nickel-63	NR					False Positive Test		
Plutonium-238	0.0027	0.0035	A			Sensitivity Evaluation	0.0006	
Plutonium-239/240	0.0042	0.0051	A			Sensitivity Evaluation	0.0007	
Strontium-90	1.7	1.80	A		-5.6	1.26 - 2.34	0.2	A
Technetium-99	NR					False Positive Test		
Uranium-234	-0.0005		A			False Positive Test	0.0006	
Uranium-238	-0.0004		A			False Positive Test	0.0006	
Zinc-65	NR	0.84				0.59 - 1.09		

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50
 (IEMA01) Illinois Emergency Management Agency Radiochemistry Laboratory
 1301 Knotts St.
 Springfield, IL 62703

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.262	0.278	A		-5.8	0.195 - 0.361	0.014	A
Cesium-134	1.29	1.36	A		-5.1	0.95 - 1.77	0.04	A
Cesium-137	2.21	2.23	A		-0.9	1.56 - 2.90	0.08	A
Cobalt-57	1.30	1.26	A		3.2	0.88 - 1.64	0.04	A
Cobalt-60	2.29	2.38	A		-3.8	1.67 - 3.09	0.06	A
Curium-244	NR					False Positive Test		
Manganese-54	1.54	1.51	A		2.0	1.06 - 1.96	0.07	A
Nickel-63	NR					False Positive Test		
Plutonium-238	0.0030	0.0035	A	(17)		Sensitivity Evaluation	0.0028	
Plutonium-239/240	0.0041	0.0051	A	(17)		Sensitivity Evaluation	0.0027	
Strontium-90	1.76	1.80	A		-2.2	1.26 - 2.34	0.20	A
Technetium-99	NR					False Positive Test		
Uranium-234	0.0015		A			False Positive Test	0.0024	
Uranium-238	-0.0016		A			False Positive Test	0.0019	
Zinc-65	0.74	0.84	A		-11.9	0.59 - 1.09	0.13	W

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50
 (ODHL01) Ohio Department of Health Laboratory
 8995 E Main Street
 Reynoldsburg, OH 43068

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.278				0.195 - 0.361		
Cesium-134	1.27	1.36	A		-6.6	0.95 - 1.77	0.0759	A
Cesium-137	2.19	2.23	A		-1.8	1.56 - 2.90	0.166	A
Cobalt-57	1.14	1.26	A		-9.5	0.88 - 1.64	0.114	A
Cobalt-60	2.39	2.38	A		0.4	1.67 - 3.09	0.102	A
Curium-244	NR					False Positive Test		
Manganese-54	1.51	1.51	A		0.0	1.06 - 1.96	0.131	A
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.0035				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0051				Sensitivity Evaluation		
Potassium-40	0.1						3.64	N
Strontium-90	NR	1.80				1.26 - 2.34		
Technetium-99	NR					False Positive Test		
Uranium-234	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Zinc-65	0.585	0.84	N		-30.4	0.59 - 1.09	0.205	N

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50
 (TELE01) Teledyne Brown Engineering - Environmental Services
 2508 Quality Lane
 Knoxville, TN 37931-6819

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	NR	0.278				0.195 - 0.361		
Cesium-134	1.12	1.36	A		-17.6	0.95 - 1.77	0.10	A
Cesium-137	2.00	2.23	A		-10.3	1.56 - 2.90	0.24	A
Cobalt-57	1.06	1.26	A		-15.9	0.88 - 1.64	0.15	A
Cobalt-60	2.26	2.38	A		-5.0	1.67 - 3.09	0.19	A
Curium-244	NR					False Positive Test		
Manganese-54	1.44	1.51	A		-4.6	1.06 - 1.96	0.23	W
Nickel-63	NR					False Positive Test		
Plutonium-238	NR	0.0035				Sensitivity Evaluation		
Plutonium-239/240	NR	0.0051				Sensitivity Evaluation		
Potassium-40	-1.8						0.1	N
Strontium-90	NR	1.80				1.26 - 2.34		
Technetium-99	NR					False Positive Test		
Uranium-234	0.001012		A			False Positive Test	0.00144	
Uranium-238	0.00228		A			False Positive Test	0.00293	
Zinc-65	-0.423	0.84	(6)		-150.4	0.59 - 1.09	0.274	N

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result



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

Laboratory Results For MAPEP-24-MaSU50

(WIPP01) WIPP Laboratories

1400 University Drive

Carlsbad, NM 88220

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	2.60E-001	0.278	A		-6.5	0.195 - 0.361	1.58E-	A
Cesium-134	1.32E+000	1.36	A		-2.9	0.95 - 1.77	7.96E-	A
Cesium-137	2.22E+000	2.23	A		-0.4	1.56 - 2.90	1.41E-	A
Cobalt-57	1.17E+000	1.26	A		-7.1	0.88 - 1.64	5.97E-	A
Cobalt-60	2.24E+000	2.38	A		-5.9	1.67 - 3.09	1.47E-	A
Curium-244	NR					False Positive Test		
Manganese-54	1.63E+000	1.51	A		7.9	1.06 - 1.96	1.46E-	A
Nickel-63	NR					False Positive Test		
Plutonium-238	1.67E-003	0.0035	N	(4)		Sensitivity Evaluation	3.55E-	
Plutonium-239/240	3.89E-003	0.0051	A			Sensitivity Evaluation	5.79E-	
Strontium-90	1.73E+000	1.80	A		-3.9	1.26 - 2.34	7.72E-	A
Technetium-99	NR					False Positive Test		
Uranium-234	1.37E-004			A		False Positive Test	5.11E-	
Uranium-238	2.05E-004			A		False Positive Test	4.86E-	
Zinc-65	8.24E-001	0.84	A		-1.9	0.59 - 1.09	2.06E-	W

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

(1) = False Positive

(4) = Sensitivity Evaluation

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



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

Laboratory Results For MAPEP-24-MaSU50
 (WSHL01) Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive
 Madison, WI 53718

Mass							Units: (ng/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Uranium-235	NR					False Positive Test		
Uranium-238	NR					False Positive Test		
Uranium-Total	NR					False Positive Test		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.282	0.278	A		1.4	0.195 - 0.361	.042	A
Cesium-134	1.3358	1.36	A		-1.8	0.95 - 1.77	0.0505	A
Cesium-137	2.3203	2.23	A		4.0	1.56 - 2.90	0.0938	A
Cobalt-57	1.1369	1.26	A		-9.8	0.88 - 1.64	0.0547	A
Cobalt-60	2.3771	2.38	A		-0.1	1.67 - 3.09	0.156	A
Curium-244	NR					False Positive Test		
Manganese-54	1.43	1.51	A		-5.3	1.06 - 1.96	0.0833	A
Nickel-63	NR					False Positive Test		
Plutonium-238	-0.0193	0.0035	A	(17)		Sensitivity Evaluation	0.0173	
Plutonium-239/240	0.0105	0.0051	A	(17)		Sensitivity Evaluation	0.0103	
Potassium-40	6.6						5.01	N
Strontium-90	0.68	1.80	N		-62.2	1.26 - 2.34	.40	N
Technetium-99	NR					False Positive Test		
Uranium-234	0.0143			A		False Positive Test	0.0094	
Uranium-238	-0.000239			A		False Positive Test	0.00726	
Zinc-65	0.667	0.84	W		-20.6	0.59 - 1.09	0.117	W

Radiological Reference Date: February 1, 2024

RESL measured a K-40 value in the background urine of 52 +/- 3 Bq/L.

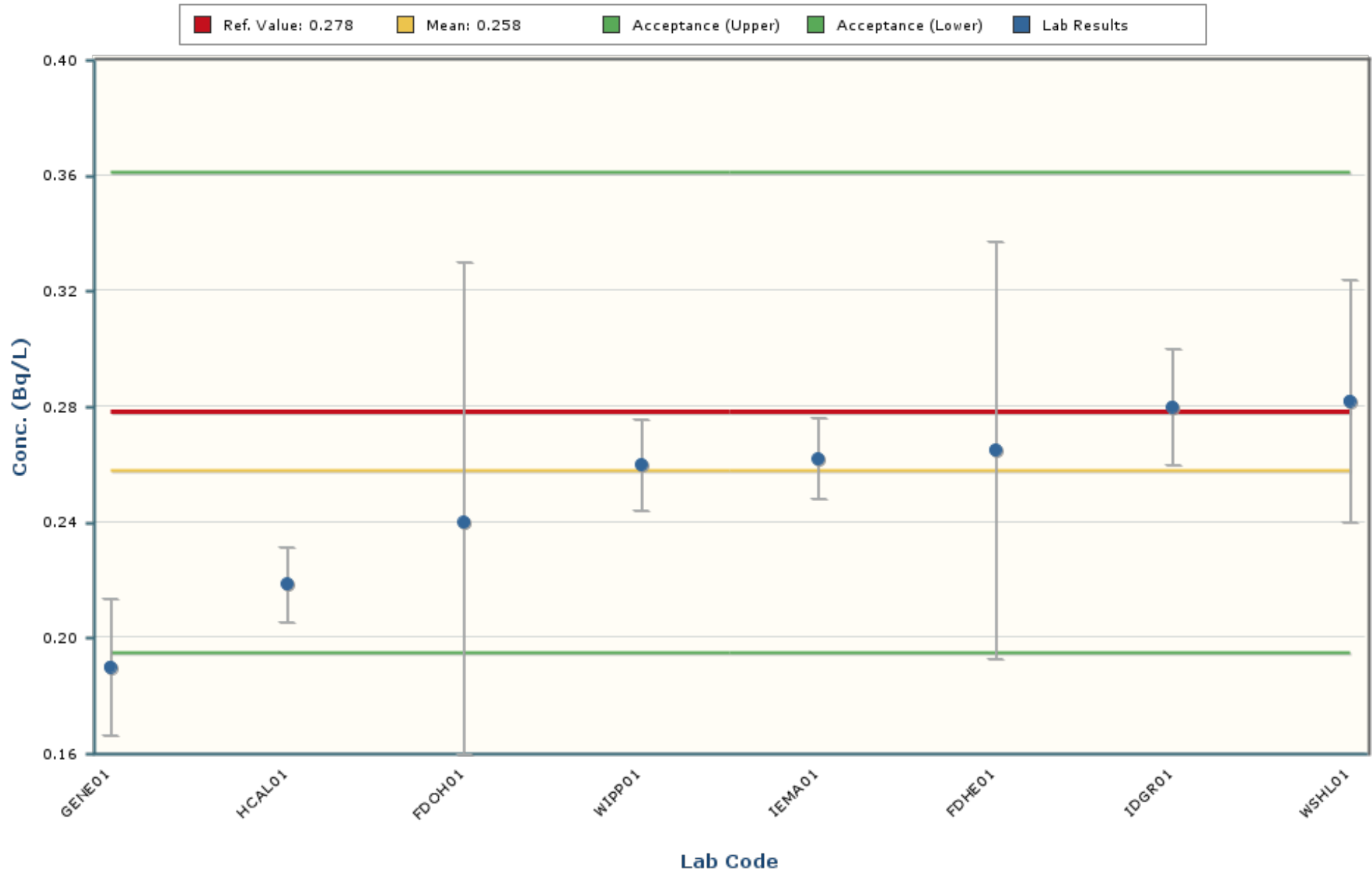
RESL did not add a Uranium-234/238 spike to the MaSU50 Sample Matrix.

Notes:

- (1) = False Positive
- (4) = Sensitivity Evaluation
- (17) = NOT DETECTED - reported a statistically zero result

Americium-241

MAPEP-24-MaSU50



Notes:

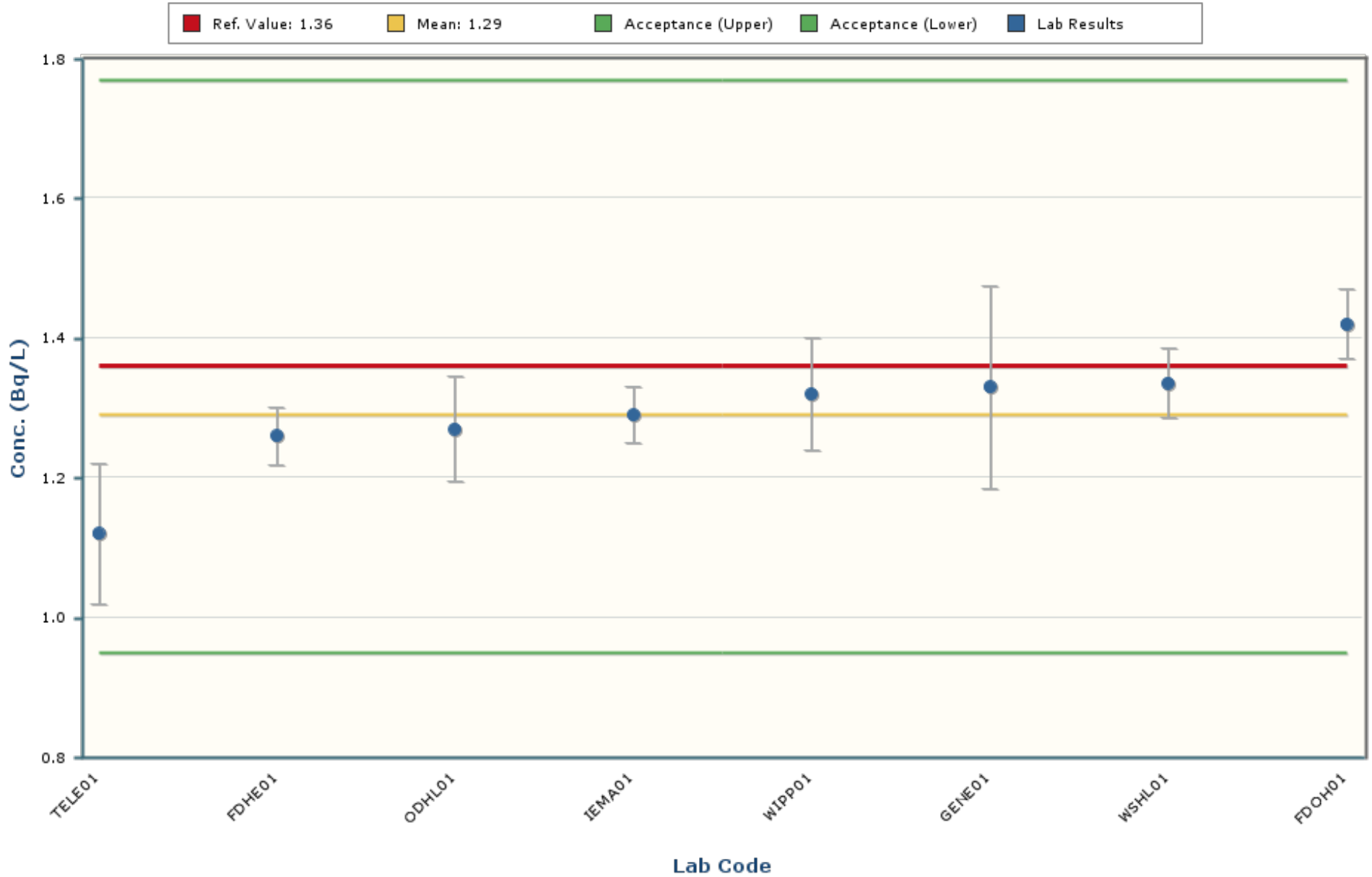
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.146 and 0.370 (± 5 Standard Deviations).

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

Cesium-134

MAPEP-24-MaSU50



Notes:

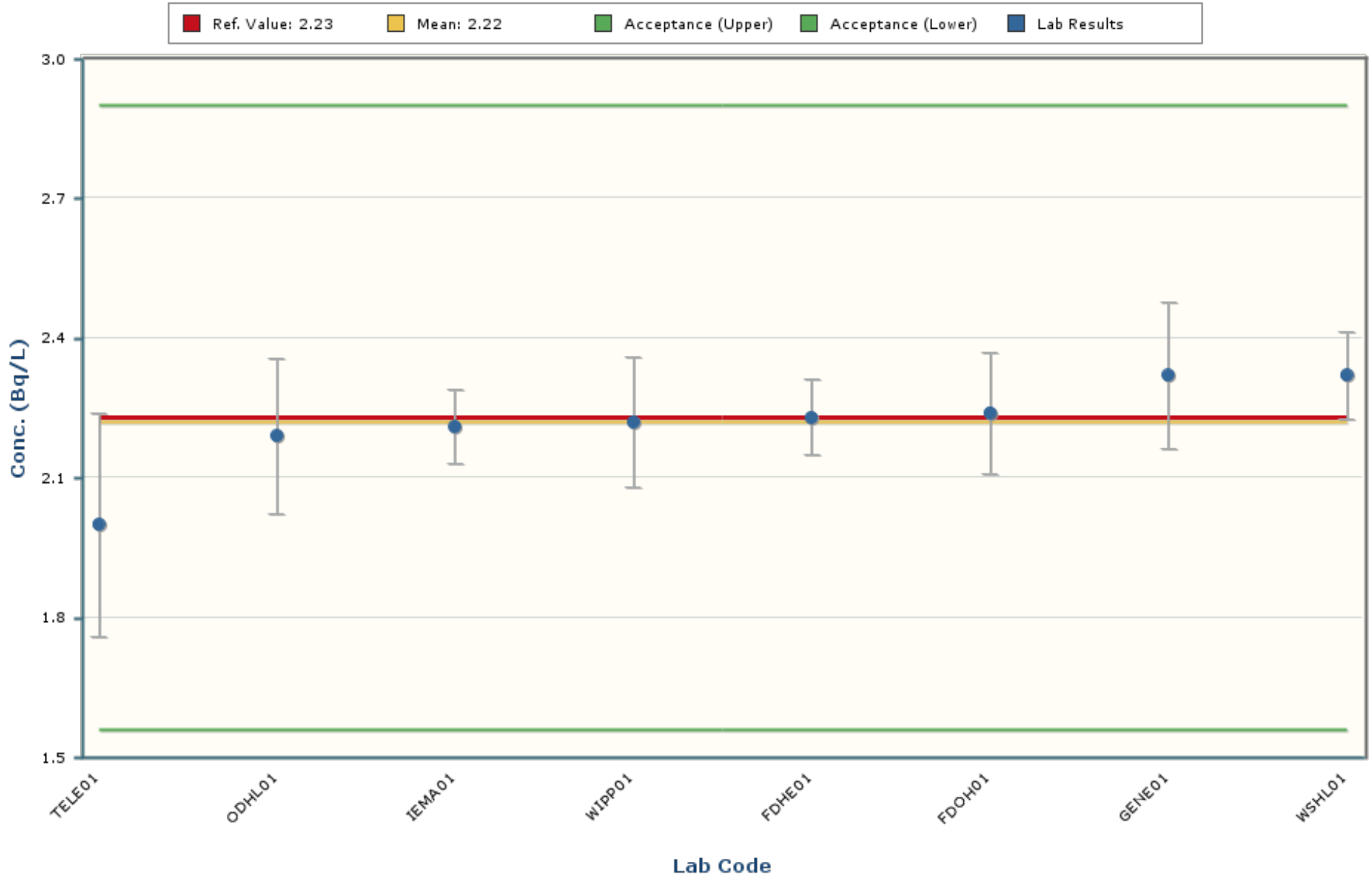
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.86 and 1.72 (± 5 Standard Deviations).

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

Cesium-137

MAPEP-24-MaSU50



Notes:

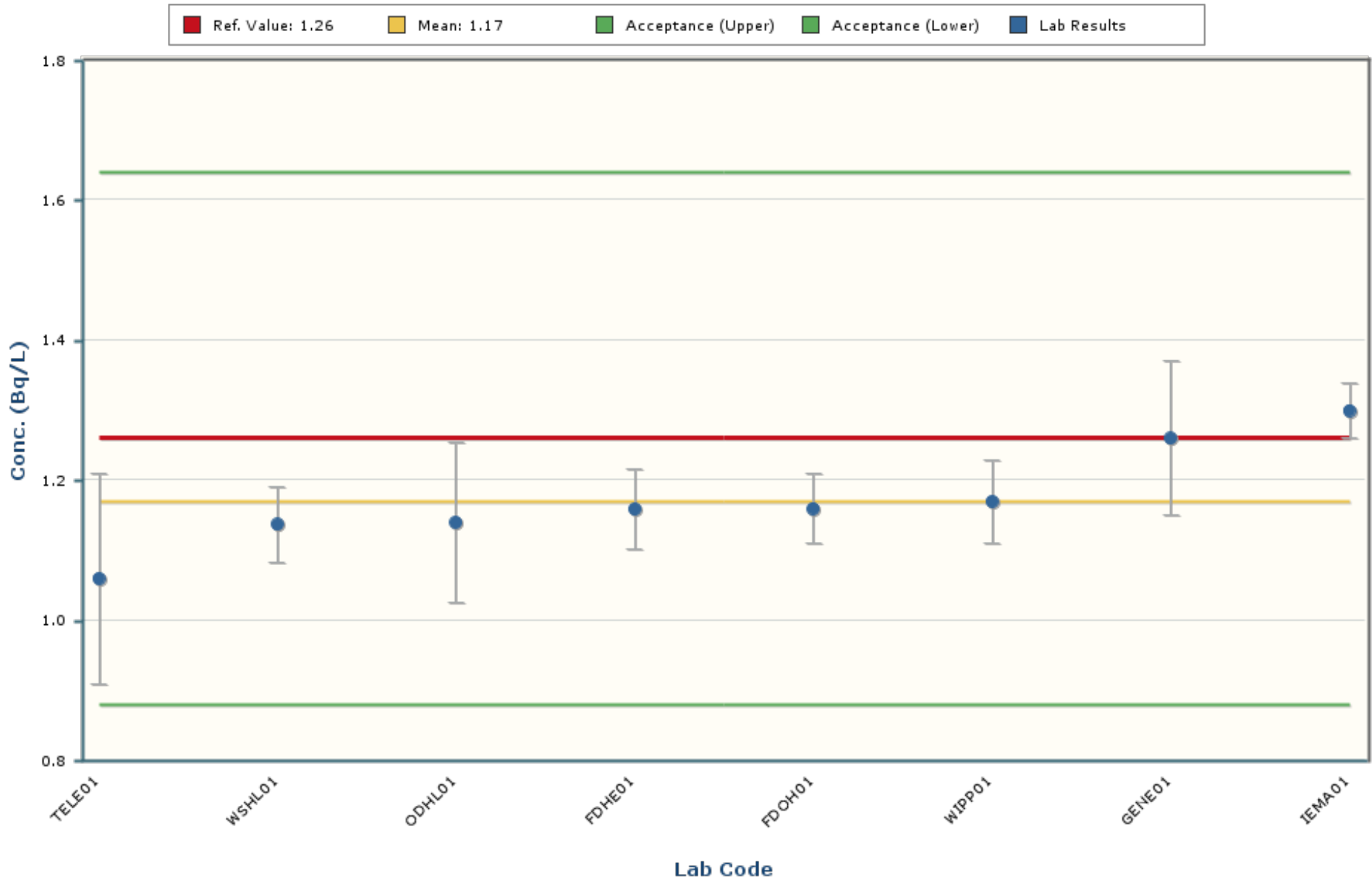
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.72 and 2.72 (± 5 Standard Deviations).

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

Cobalt-57

MAPEP-24-MaSU50



Notes:

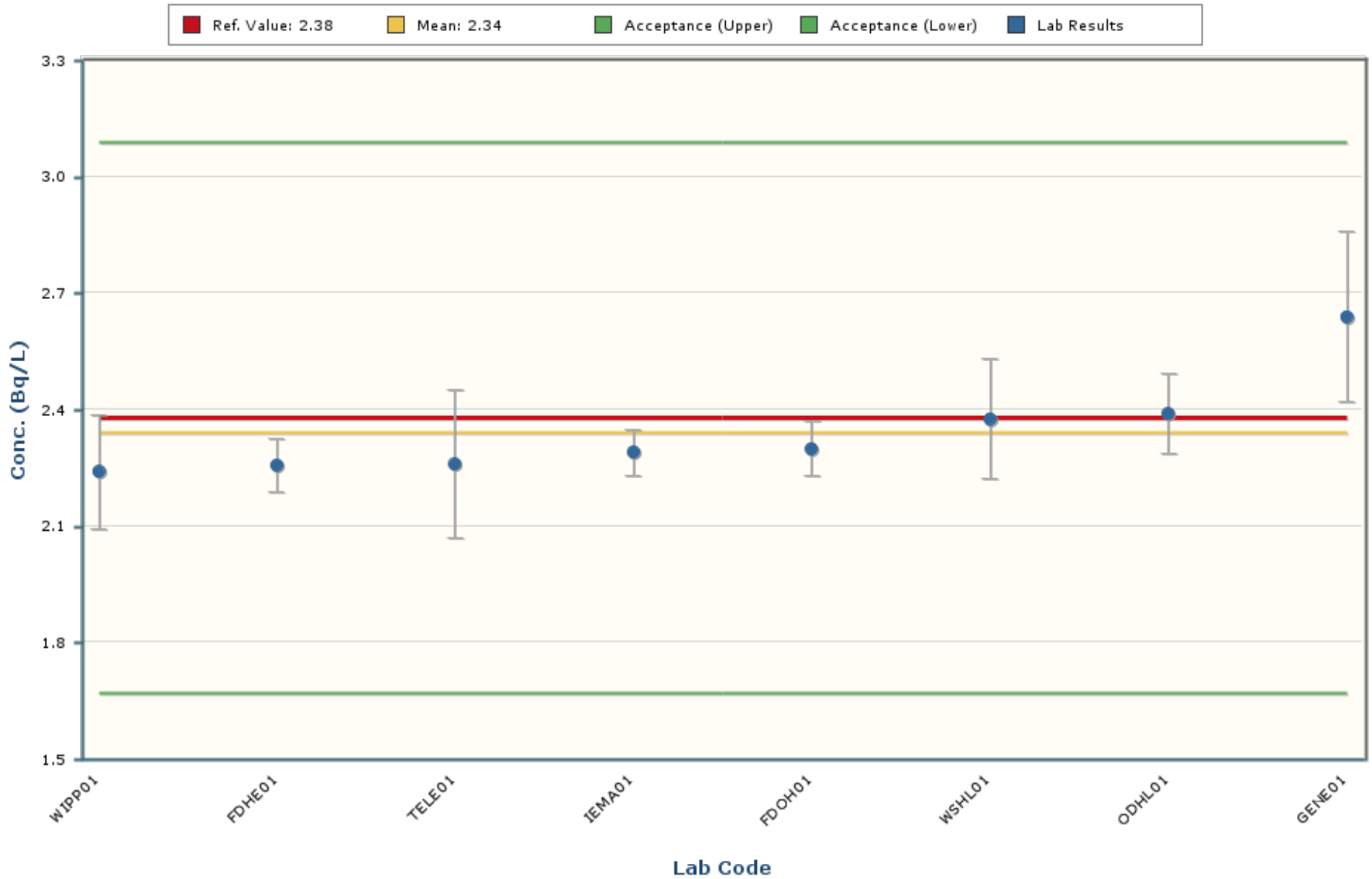
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.80 and 1.55 (± 5 Standard Deviations).

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

Cobalt-60

MAPEP-24-MaSU50



Notes:

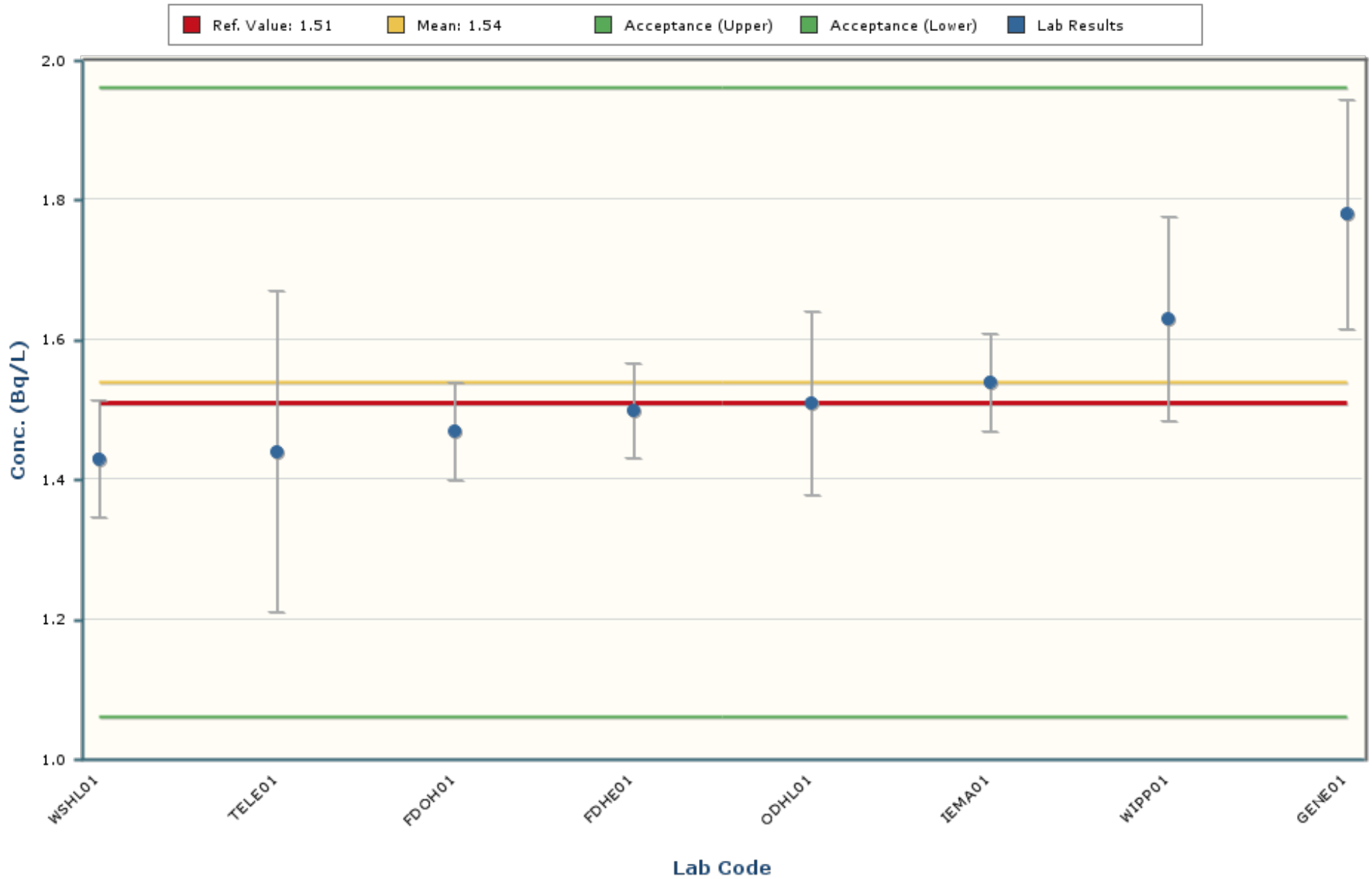
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 1.69 and 3.00 (± 5 Standard Deviations).

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

Manganese-54

MAPEP-24-MaSU50



Notes:

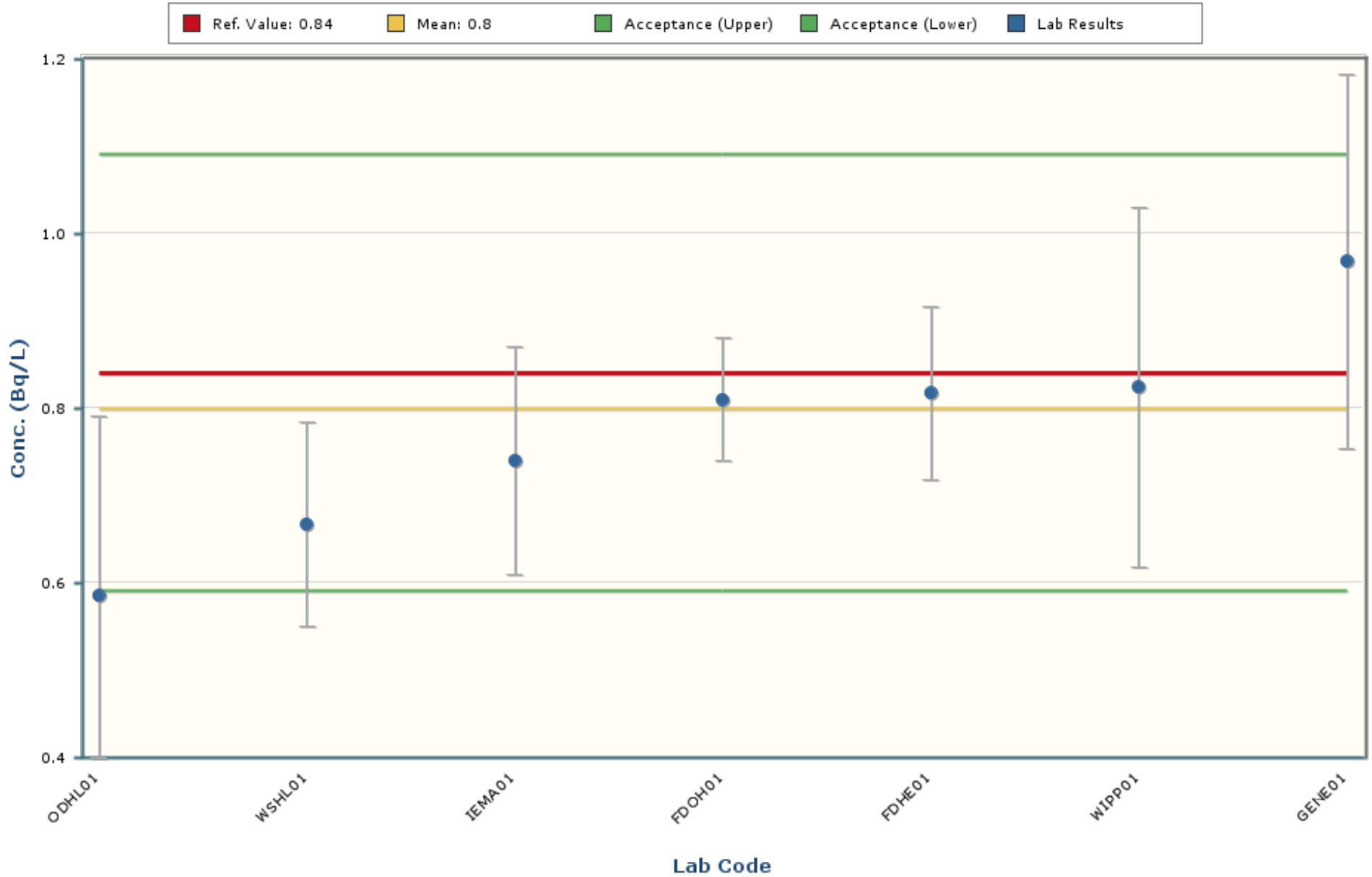
The chart mean excludes values outside of a bias range of $\pm 30\%$.

The chart shows only data points with values between 0.95 and 2.12 (± 5 Standard Deviations).

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

Zinc-65

MAPEP-24-MaSU50



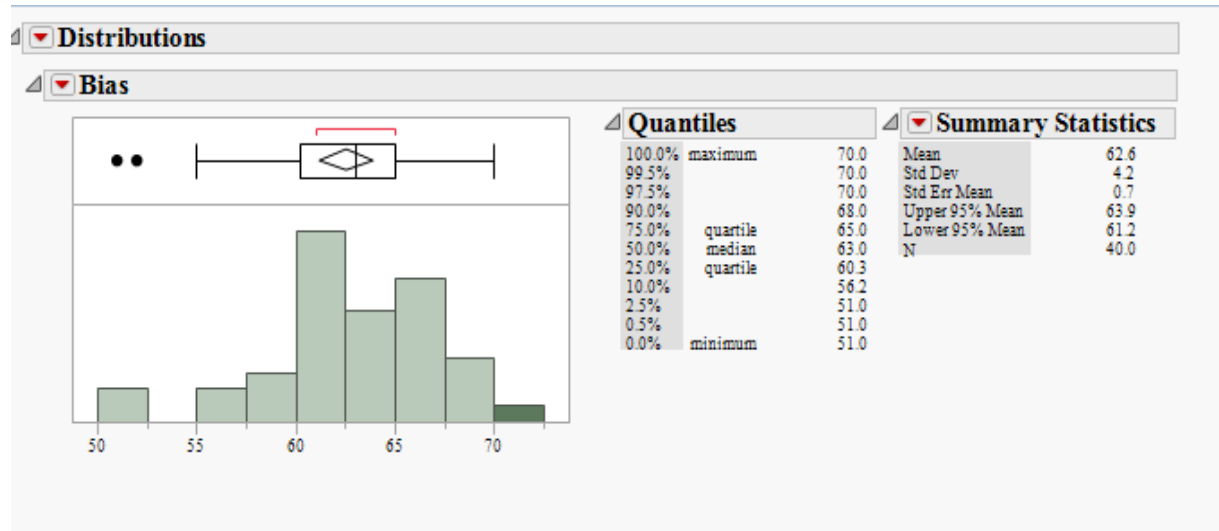
Notes:

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

The chart shows only data points with values between 0.30 and 1.31 (± 5 Standard Deviations).

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

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

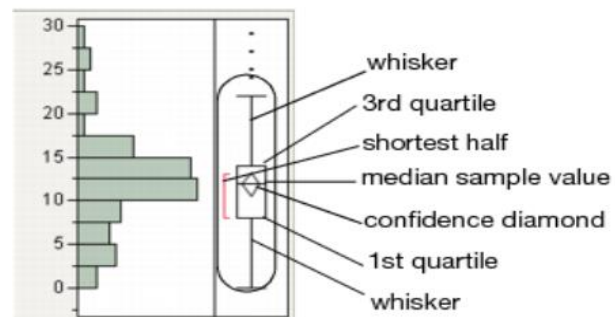


Outlier Box Plot

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

3rd quartile + 1.5*(interquartile range)

1st quartile - 1.5*(interquartile range)

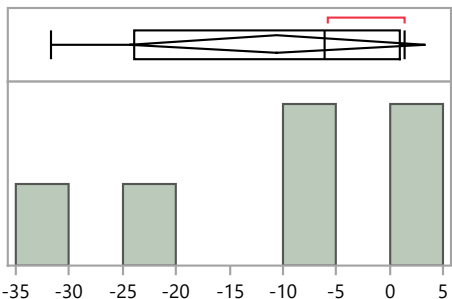


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

MaU50 Distribution by Detection Method

Distributions Analyte_Detection=Americium-241 Alpha Spectrometry

Bias

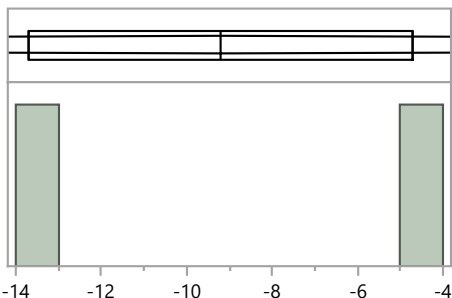


Quantiles		
100.0%	maximum	1.4
99.5%		1.4
97.5%		1.4
90.0%		1.4
75.0%	quartile	0.9
50.0%	median	-6.2
25.0%	quartile	-23.9
10.0%		-31.7
2.5%		-31.7
0.5%		-31.7
0.0%	minimum	-31.7

Summary Statistics	
Mean	-10.5
Std Dev	13.2
Std Err Mean	5.4
Upper 95% Mean	3.3
Lower 95% Mean	-24.4
N	6.0

Distributions Analyte_Detection=Americium-241 Gamma Spectrometry

Bias

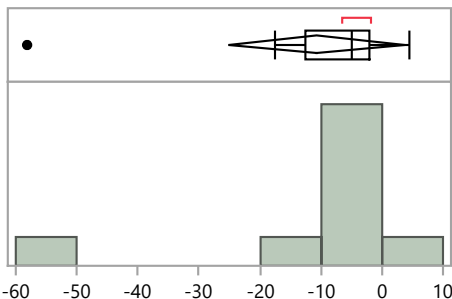


Quantiles		
100.0%	maximum	-4.7
99.5%		-4.7
97.5%		-4.7
90.0%		-4.7
75.0%	quartile	-4.7
50.0%	median	-9.2
25.0%	quartile	-13.7
10.0%		-13.7
2.5%		-13.7
0.5%		-13.7
0.0%	minimum	-13.7

Summary Statistics	
Mean	-9.2
Std Dev	6.4
Std Err Mean	4.5
Upper 95% Mean	48.0
Lower 95% Mean	-66.4
N	2.0

Distributions Analyte_Detection=Cesium-134 Gamma Spectrometry

Bias



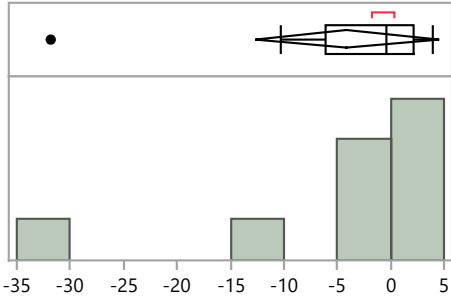
Quantiles		
100.0%	maximum	4.4
99.5%		4.4
97.5%		4.4
90.0%		4.4
75.0%	quartile	-2.0
50.0%	median	-5.1
25.0%	quartile	-12.5
10.0%		-58.1
2.5%		-58.1
0.5%		-58.1
0.0%	minimum	-58.1

Summary Statistics	
Mean	-10.8
Std Dev	18.7
Std Err Mean	6.2
Upper 95% Mean	3.6
Lower 95% Mean	-25.2
N	9.0

MaU50 Distribution by Detection Method

Distributions Analyte_Detection=Cesium-137 Gamma Spectrometry

Bias



Quantiles

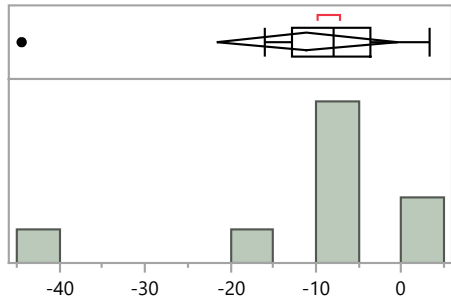
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	2.2
50.0%	median	-0.4
25.0%	quartile	-6.1
10.0%		-31.8
2.5%		-31.8
0.5%		-31.8
0.0%	minimum	-31.8

Summary Statistics

Mean	-4.1
Std Dev	11.2
Std Err Mean	3.7
Upper 95% Mean	4.5
Lower 95% Mean	-12.7
N	9.0

Distributions Analyte_Detection=Cobalt-57 Gamma Spectrometry

Bias



Quantiles

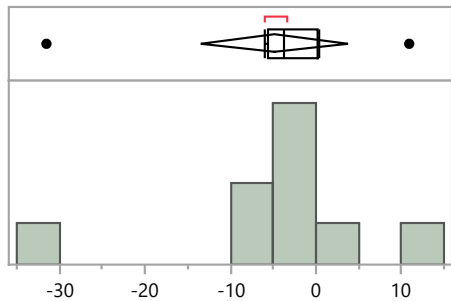
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	-3.6
50.0%	median	-8.0
25.0%	quartile	-12.9
10.0%		-44.4
2.5%		-44.4
0.5%		-44.4
0.0%	minimum	-44.4

Summary Statistics

Mean	-11.0
Std Dev	13.7
Std Err Mean	4.6
Upper 95% Mean	-0.5
Lower 95% Mean	-21.6
N	9.0

Distributions Analyte_Detection=Cobalt-60 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	10.9
99.5%		10.9
97.5%		10.9
90.0%		10.9
75.0%	quartile	0.2
50.0%	median	-3.8
25.0%	quartile	-5.6
10.0%		-31.5
2.5%		-31.5
0.5%		-31.5
0.0%	minimum	-31.5

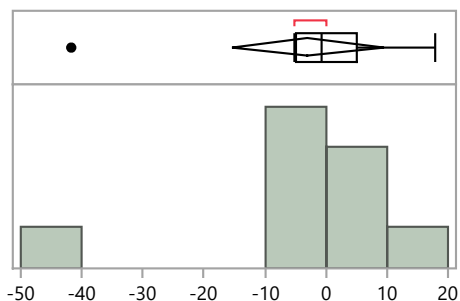
Summary Statistics

Mean	-4.8
Std Dev	11.3
Std Err Mean	3.8
Upper 95% Mean	3.8
Lower 95% Mean	-13.5
N	9.0

MaU50 Distribution by Detection Method

Distributions Analyte_Detection=Manganese-54 Gamma Spectrometry

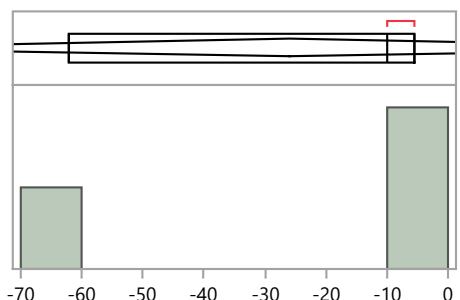
Bias



Quantiles			Summary Statistics	
100.0%	maximum	17.9	Mean	-3.0
99.5%		17.9	Std Dev	16.2
97.5%		17.9	Std Err Mean	5.4
90.0%		17.9	Upper 95% Mean	9.4
75.0%	quartile	5.0	Lower 95% Mean	-15.5
50.0%	median	-0.7	N	9.0
25.0%	quartile	-5.0		
10.0%		-41.7		
2.5%		-41.7		
0.5%		-41.7		
0.0%	minimum	-41.7		

Distributions Analyte_Detection=Strontium-90 Gas Flow Proportional Counter

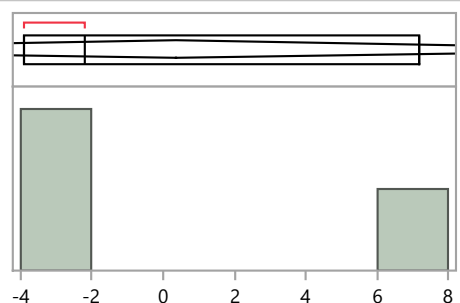
Bias



Quantiles			Summary Statistics	
100.0%	maximum	-5.6	Mean	-25.9
99.5%		-5.6	Std Dev	31.5
97.5%		-5.6	Std Err Mean	18.2
90.0%		-5.6	Upper 95% Mean	52.3
75.0%	quartile	-5.6	Lower 95% Mean	-104.1
50.0%	median	-10.0	N	3.0
25.0%	quartile	-62.2		
10.0%		-62.2		
2.5%		-62.2		
0.5%		-62.2		
0.0%	minimum	-62.2		

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

Bias

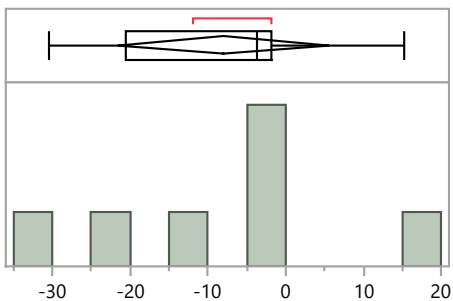


Quantiles			Summary Statistics	
100.0%	maximum	7.2	Mean	0.4
99.5%		7.2	Std Dev	6.0
97.5%		7.2	Std Err Mean	3.5
90.0%		7.2	Upper 95% Mean	15.2
75.0%	quartile	7.2	Lower 95% Mean	-14.5
50.0%	median	-2.2	N	3.0
25.0%	quartile	-3.9		
10.0%		-3.9		
2.5%		-3.9		
0.5%		-3.9		
0.0%	minimum	-3.9		

MaU50 Distribution by Detection Method

Distributions Analyte_Detection=Zinc-65 Gamma Spectrometry

Bias



Quantiles

100.0%	maximum	15.2
99.5%		15.2
97.5%		15.2
90.0%		15.2
75.0%	quartile	-1.9
50.0%	median	-3.6
25.0%	quartile	-20.6
10.0%		-30.4
2.5%		-30.4
0.5%		-30.4
0.0%	minimum	-30.4

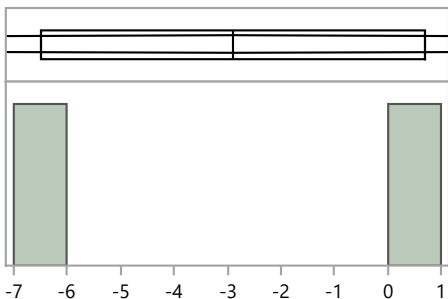
Summary Statistics

Mean	-8.0
Std Dev	14.7
Std Err Mean	5.6
Upper 95% Mean	5.6
Lower 95% Mean	-21.6
N	7.0

MaU50 Distribution by Preparation Method

Distributions Analyte_Method=Americium-241 Coprecipitation, acidified

Bias



Quantiles

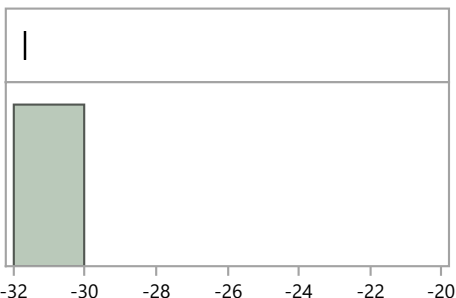
100.0%	maximum	0.7
99.5%		0.7
97.5%		0.7
90.0%		0.7
75.0%	quartile	0.7
50.0%	median	-2.9
25.0%	quartile	-6.5
10.0%		-6.5
2.5%		-6.5
0.5%		-6.5
0.0%	minimum	-6.5

Summary Statistics

Mean	-2.9
Std Dev	5.1
Std Err Mean	3.6
Upper 95% Mean	42.8
Lower 95% Mean	-48.6
N	2.0

Distributions Analyte_Method=Americium-241 Coprecipitation, straight

Bias



Quantiles

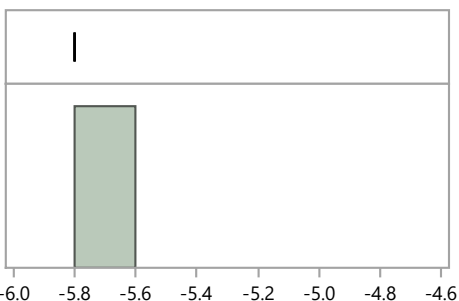
100.0%	maximum	-31.7
99.5%		-31.7
97.5%		-31.7
90.0%		-31.7
75.0%	quartile	-31.7
50.0%	median	-31.7
25.0%	quartile	-31.7
10.0%		-31.7
2.5%		-31.7
0.5%		-31.7
0.0%	minimum	-31.7

Summary Statistics

Mean	-31.7
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

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

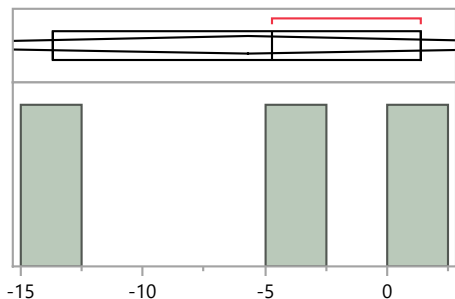
Summary Statistics

Mean	-5.8
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaU50 Distribution by Preparation Method

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

Bias



Quantiles

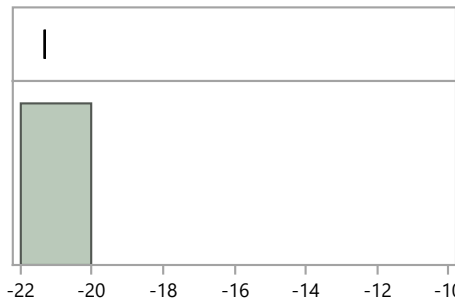
100.0%	maximum	1.4
99.5%		1.4
97.5%		1.4
90.0%		1.4
75.0%	quartile	1.4
50.0%	median	-4.7
25.0%	quartile	-13.7
10.0%		-13.7
2.5%		-13.7
0.5%		-13.7
0.0%	minimum	-13.7

Summary Statistics

Mean	-5.7
Std Dev	7.6
Std Err Mean	4.4
Upper 95% Mean	13.2
Lower 95% Mean	-24.5
N	3.0

Distributions Analyte_Method=Americium-241 Other

Bias



Quantiles

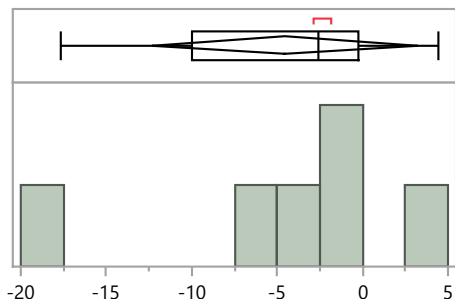
100.0%	maximum	-21.3
99.5%		-21.3
97.5%		-21.3
90.0%		-21.3
75.0%	quartile	-21.3
50.0%	median	-21.3
25.0%	quartile	-21.3
10.0%		-21.3
2.5%		-21.3
0.5%		-21.3
0.0%	minimum	-21.3

Summary Statistics

Mean	-21.3
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	4.4
99.5%		4.4
97.5%		4.4
90.0%		4.4
75.0%	quartile	-0.3
50.0%	median	-2.6
25.0%	quartile	-10.0
10.0%		-17.6
2.5%		-17.6
0.5%		-17.6
0.0%	minimum	-17.6

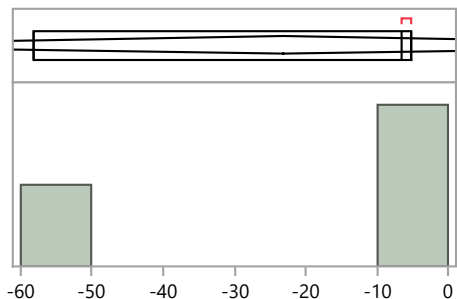
Summary Statistics

Mean	-4.6
Std Dev	7.4
Std Err Mean	3.0
Upper 95% Mean	3.2
Lower 95% Mean	-12.4
N	6.0

MaU50 Distribution by Preparation Method

Distributions Analyte_Method=Cesium-134 Other

Bias



Quantiles

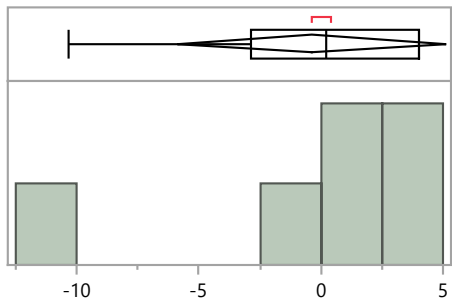
100.0%	maximum	-5.1
99.5%		-5.1
97.5%		-5.1
90.0%		-5.1
75.0%	quartile	-5.1
50.0%	median	-6.6
25.0%	quartile	-58.1
10.0%		-58.1
2.5%		-58.1
0.5%		-58.1
0.0%	minimum	-58.1

Summary Statistics

Mean	-23.3
Std Dev	30.2
Std Err Mean	17.4
Upper 95% Mean	51.7
Lower 95% Mean	-98.2
N	3.0

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

Bias



Quantiles

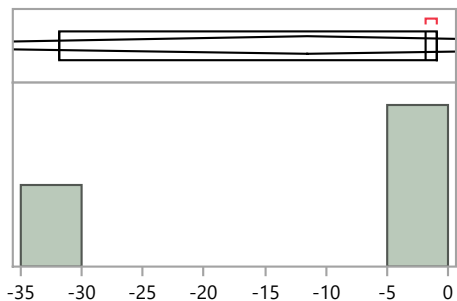
100.0%	maximum	4.0
99.5%		4.0
97.5%		4.0
90.0%		4.0
75.0%	quartile	4.0
50.0%	median	0.2
25.0%	quartile	-2.9
10.0%		-10.3
2.5%		-10.3
0.5%		-10.3
0.0%	minimum	-10.3

Summary Statistics

Mean	-0.4
Std Dev	5.2
Std Err Mean	2.1
Upper 95% Mean	5.1
Lower 95% Mean	-5.9
N	6.0

Distributions Analyte_Method=Cesium-137 Other

Bias



Quantiles

100.0%	maximum	-0.9
99.5%		-0.9
97.5%		-0.9
90.0%		-0.9
75.0%	quartile	-0.9
50.0%	median	-1.8
25.0%	quartile	-31.8
10.0%		-31.8
2.5%		-31.8
0.5%		-31.8
0.0%	minimum	-31.8

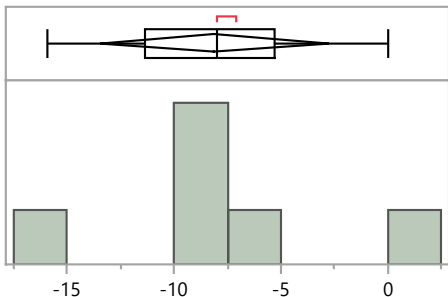
Summary Statistics

Mean	-11.5
Std Dev	17.6
Std Err Mean	10.2
Upper 95% Mean	32.2
Lower 95% Mean	-55.2
N	3.0

MaU50 Distribution by Preparation Method

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

Bias



Quantiles

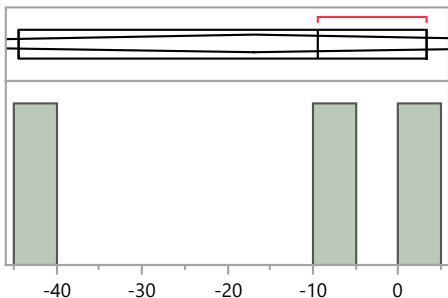
100.0%	maximum	0.0
99.5%		0.0
97.5%		0.0
90.0%		0.0
75.0%	quartile	-5.3
50.0%	median	-8.0
25.0%	quartile	-11.3
10.0%		-15.9
2.5%		-15.9
0.5%		-15.9
0.0%	minimum	-15.9

Summary Statistics

Mean	-8.1
Std Dev	5.1
Std Err Mean	2.1
Upper 95% Mean	-2.8
Lower 95% Mean	-13.5
N	6.0

Distributions Analyte_Method=Cobalt-57 Other

Bias



Quantiles

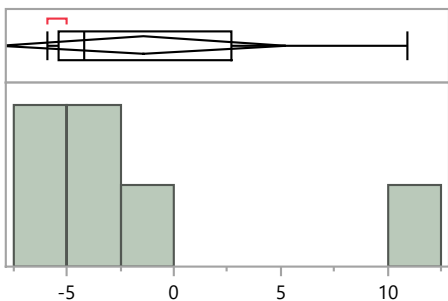
100.0%	maximum	3.2
99.5%		3.2
97.5%		3.2
90.0%		3.2
75.0%	quartile	3.2
50.0%	median	-9.5
25.0%	quartile	-44.4
10.0%		-44.4
2.5%		-44.4
0.5%		-44.4
0.0%	minimum	-44.4

Summary Statistics

Mean	-16.9
Std Dev	24.6
Std Err Mean	14.2
Upper 95% Mean	44.3
Lower 95% Mean	-78.1
N	3.0

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

Bias



Quantiles

100.0%	maximum	10.9
99.5%		10.9
97.5%		10.9
90.0%		10.9
75.0%	quartile	2.7
50.0%	median	-4.2
25.0%	quartile	-5.4
10.0%		-5.9
2.5%		-5.9
0.5%		-5.9
0.0%	minimum	-5.9

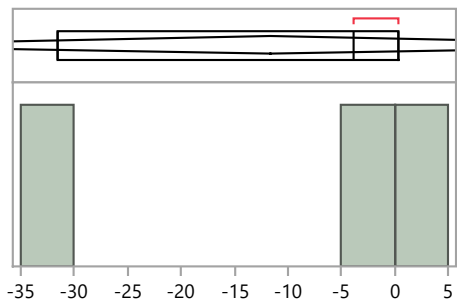
Summary Statistics

Mean	-1.5
Std Dev	6.4
Std Err Mean	2.6
Upper 95% Mean	5.3
Lower 95% Mean	-8.2
N	6.0

MaU50 Distribution by Preparation Method

Distributions Analyte_Method=Cobalt-60 Other

Bias



Quantiles

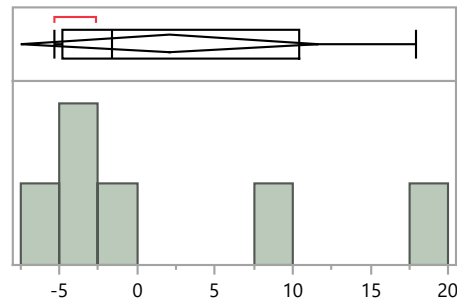
100.0%	maximum	0.4
99.5%		0.4
97.5%		0.4
90.0%		0.4
75.0%	quartile	0.4
50.0%	median	-3.8
25.0%	quartile	-31.5
10.0%		-31.5
2.5%		-31.5
0.5%		-31.5
0.0%	minimum	-31.5

Summary Statistics

Mean	-11.6
Std Dev	17.3
Std Err Mean	10.0
Upper 95% Mean	31.4
Lower 95% Mean	-54.7
N	3.0

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

Bias



Quantiles

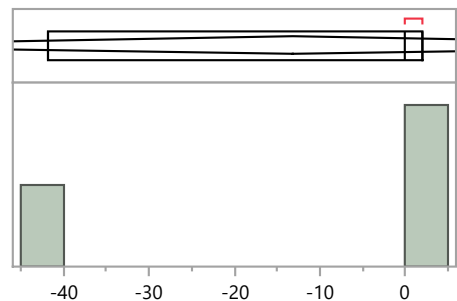
100.0%	maximum	17.9
99.5%		17.9
97.5%		17.9
90.0%		17.9
75.0%	quartile	10.4
50.0%	median	-1.7
25.0%	quartile	-4.8
10.0%		-5.3
2.5%		-5.3
0.5%		-5.3
0.0%	minimum	-5.3

Summary Statistics

Mean	2.1
Std Dev	9.1
Std Err Mean	3.7
Upper 95% Mean	11.6
Lower 95% Mean	-7.4
N	6.0

Distributions Analyte_Method=Manganese-54 Other

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	0.0
25.0%	quartile	-41.7
10.0%		-41.7
2.5%		-41.7
0.5%		-41.7
0.0%	minimum	-41.7

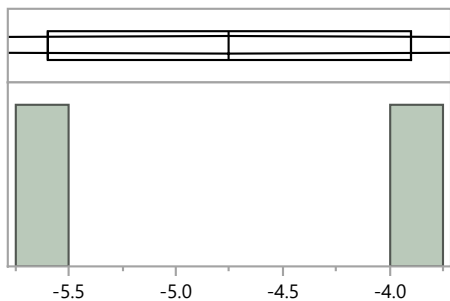
Summary Statistics

Mean	-13.2
Std Dev	24.7
Std Err Mean	14.2
Upper 95% Mean	48.1
Lower 95% Mean	-74.5
N	3.0

MaU50 Distribution by Preparation Method

Distributions Analyte_Method=Strontium-90 Coprecipitation, acidified

Bias

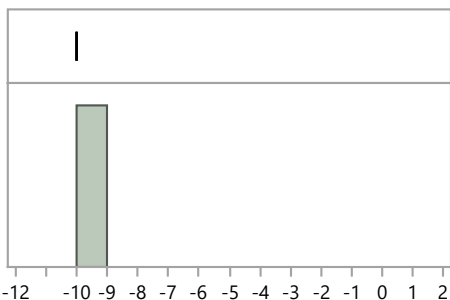


Quantiles		
100.0%	maximum	-3.9
99.5%		-3.9
97.5%		-3.9
90.0%		-3.9
75.0%	quartile	-3.9
50.0%	median	-4.8
25.0%	quartile	-5.6
10.0%		-5.6
2.5%		-5.6
0.5%		-5.6
0.0%	minimum	-5.6

Summary Statistics	
Mean	-4.8
Std Dev	1.2
Std Err Mean	0.9
Upper 95% Mean	6.1
Lower 95% Mean	-15.6
N	2.0

Distributions Analyte_Method=Strontium-90 Coprecipitation, straight

Bias

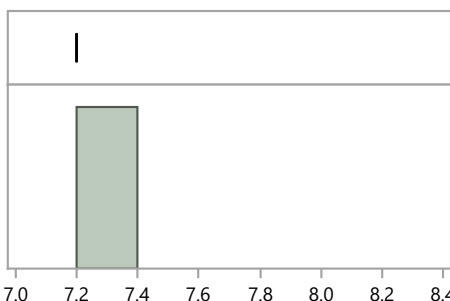


Quantiles		
100.0%	maximum	-10.0
99.5%		-10.0
97.5%		-10.0
90.0%		-10.0
75.0%	quartile	-10.0
50.0%	median	-10.0
25.0%	quartile	-10.0
10.0%		-10.0
2.5%		-10.0
0.5%		-10.0
0.0%	minimum	-10.0

Summary Statistics	
Mean	-10.0
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



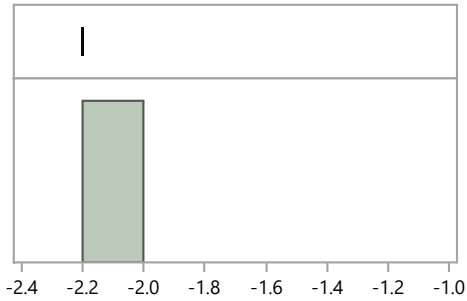
Quantiles		
100.0%	maximum	7.2
99.5%		7.2
97.5%		7.2
90.0%		7.2
75.0%	quartile	7.2
50.0%	median	7.2
25.0%	quartile	7.2
10.0%		7.2
2.5%		7.2
0.5%		7.2
0.0%	minimum	7.2

Summary Statistics	
Mean	7.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

MaU50 Distribution by Preparation Method

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

Bias



Quantiles

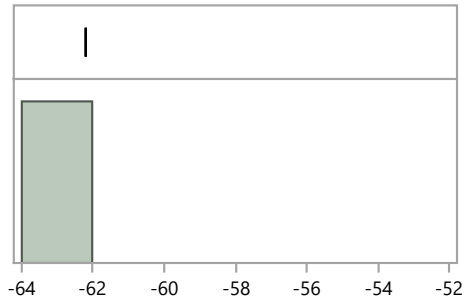
100.0%	maximum	-2.2
99.5%		-2.2
97.5%		-2.2
90.0%		-2.2
75.0%	quartile	-2.2
50.0%	median	-2.2
25.0%	quartile	-2.2
10.0%		-2.2
2.5%		-2.2
0.5%		-2.2
0.0%	minimum	-2.2

Summary Statistics

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

Distributions Analyte_Method=Strontium-90 No preparation - analyzed as received

Bias



Quantiles

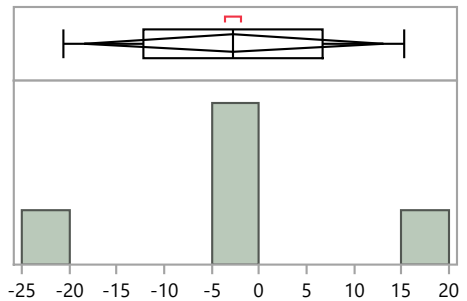
100.0%	maximum	-62.2
99.5%		-62.2
97.5%		-62.2
90.0%		-62.2
75.0%	quartile	-62.2
50.0%	median	-62.2
25.0%	quartile	-62.2
10.0%		-62.2
2.5%		-62.2
0.5%		-62.2
0.0%	minimum	-62.2

Summary Statistics

Mean	-62.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

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

Bias



Quantiles

100.0%	maximum	15.2
99.5%		15.2
97.5%		15.2
90.0%		15.2
75.0%	quartile	6.7
50.0%	median	-2.7
25.0%	quartile	-12.1
10.0%		-20.6
2.5%		-20.6
0.5%		-20.6
0.0%	minimum	-20.6

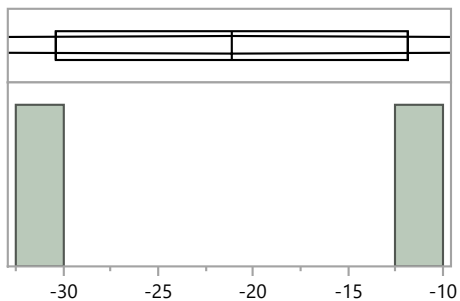
Summary Statistics

Mean	-2.7
Std Dev	12.7
Std Err Mean	5.7
Upper 95% Mean	13.0
Lower 95% Mean	-18.5
N	5.0

MaU50 Distribution by Preparation Method

Distributions Analyte_Method=Zinc-65 Other

Bias



Quantiles			Summary Statistics	
100.0%	maximum	-11.9	Mean	-21.2
99.5%		-11.9	Std Dev	13.1
97.5%		-11.9	Std Err Mean	9.3
90.0%		-11.9	Upper 95% Mean	96.4
75.0%	quartile	-11.9	Lower 95% Mean	-138.7
50.0%	median	-21.2	N	2.0
25.0%	quartile	-30.4		
10.0%		-30.4		
2.5%		-30.4		
0.5%		-30.4		
0.0%	minimum	-30.4		