

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.

GrW51 Participating Laboratories

Lab Code	Lab Name	Matrix Code
ADEM01	Alabama Department of Environmental Management	GrW
ADFC99	Abu Dhabi Quality and Conformity Council-Central Testing Lab	GrW
AFOH01	USAFSAM/OEA	GrW
ARPL01	Analytical Support Operations - Radiochemical Processing Lab	GrW
ARSL01	ARS	GrW
ASUK99	AWE (Aldermaston)	GrW
AY1201	Consolidated Nuclear Security, LLC, ACO Laboratory	GrW
CESL01	Lawrence Livermore National Laboratory - EMRL	GrW
DEHS01	Department of Environmental Health & Safety	GrW
ELIW01	Energy Laboratories, Inc.	GrW
ERCL01	Washington State Public Health Laboratories	GrW
ERHD99	National Monitoring Section, Radiation Protection Bureau, Health Canada	GrW
FDHE01	Florida Dept of Health Environmental Laboratory	GrW
GENE01	GEL Laboratories, LLC	GrW
GPCL01	Georgia Power Company Environmental Laboratory	GrW
HCAL01	Lawrence Livermore National Laboratory	GrW
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory	GrW
HPAC99	UKHSA, RCE Glasgow	GrW
IEMA01	Illinois Emergency Management Agency Radiochemistry Laboratory	GrW
ISUE01	ISU Environmental Monitoring Laboratory	GrW
LZCA01	ACZ Laboratories, Inc	GrW
MART03	Radioactive Material Analysis Laboratory	GrW
MNDH01	Minnesota Department of Health, Public Health Lab. Division	GrW
NARL01	National Analytical Radiation Environmental Laboratory	GrW
NESI01	BWXT-Radioisotope & Analytical Chemistry Laboratory	GrW
NJDH01	New Jersey Dept. of Health, ECLS	GrW
NRLL99	Environmental Radioactivity - National Centre for Radiation Science	GrW
NSPH01	Nevada State Public Health Laboratory	GrW
ODHL01	Ohio Department of Health Laboratory	GrW
RPSC01	Radiation Protection Service	GrW
SEML01	SRS Environmental Monitoring Laboratory	GrW
SMER01	State of Michigan EGLE Radiological Lab	GrW
STRL01	South Texas Project Radiological Laboratory	GrW
TDHL01	Texas Department of State Health Services Laboratory	GrW
TELE02	Microbac Laboratories Inc. - Northbrook	GrW
TMAO01	EBERLINE Analytical Corporation	GrW
TNUT01	St. Louis USACE FUSRAP Laboratory	GrW
WSHL01	Wisconsin State Laboratory of Hygiene	GrW

Laboratories Not Reporting

Lab Code	Lab Name	Matrix Code
ARGO01	Idaho National Laboratory	GrW
DLEA01	DLE Associates	GrW
ISUP01	ISU - Department of Physics/Health Physics/EAL	GrW
LOCK03	Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	GrW
SOUT01	Southwest Research Institute	GrW

Study Reference Values

MAPEP-24-GrW51: Gross alpha/beta water

Radiological Reference Date: 08/01/2024

Radiological		Units: (Bq/L)
Analyte	Reference Value	Reference Uncertainty
Gross alpha	1.29	0.03
Gross beta	5.09	0.06

Sample Statistical Summary

MAPEP-24-GrW51: Gross alpha/beta water

Radiological Reference Date: 08/01/2024

Radiological							Units: (Bq/L)
Analyte	T(1)	A(2)	Grand ⁽³⁾ Mean	Standard Deviation	Reference Value	Reference Uncertainty	Acceptance Range
Gross alpha	38	34	1.19	0.29	1.29	0.03	0.39 - 2.19
Gross beta	38	36	5.06	0.54	5.09	0.06	2.55 - 7.64

- 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".

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

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Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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

Flag Summary Report

MAPEP-24-GrW51: Gross alpha/beta water

Radiological Reference Date: 08/01/2024

Radiological				
Analyte	A	W	RW	N
Gross alpha	34			4
Gross beta	36			2



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	51.6	1.29	N		3900.0	0.39 - 2.19	1.9092	A	
Gross beta	5.846	5.09	A		14.9	2.55 - 7.64	4.15	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

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NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.01	1.29	A		-21.7	0.39 - 2.19	0.24	W	
Gross beta	5.28	5.09	A		3.7	2.55 - 7.64	0.40	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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



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

Laboratory Results For MAPEP Series 51
 (AFOH01) USAFSAM/OEA
 2510 Fifth Street, Area B
 Wright-Patterson AFB, OH 45433-7913

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.37	1.29	A		6.2	0.39 - 2.19	0.13	A	
Gross beta	4.72	5.09	A		-7.3	2.55 - 7.64	0.15	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.27	1.29	A		-1.6	0.39 - 2.19	0.10	A	
Gross beta	5.01	5.09	A		-1.6	2.55 - 7.64	0.31	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.348	1.29	A		4.5	0.39 - 2.19	0.169	A	
Gross beta	5.046	5.09	A		-0.9	2.55 - 7.64	0.603	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Uncertainty Flags:

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



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

Laboratory Results For MAPEP Series 51
(ASUK99) AWE (Aldermaston)

A38.1 AWE

Reading, Berkshire RG7 4PR

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.2825	1.29	N		-78.1	0.39 - 2.19	0.08216	W	
Gross beta	5.9022	5.09	A		16.0	2.55 - 7.64	1.4348	W	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.38	1.29	A		7.0	0.39 - 2.19	0.13	A	
Gross beta	4.98	5.09	A		-2.2	2.55 - 7.64	0.19	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.27E+00	1.29	A		-1.6	0.39 - 2.19	1.41E-01	A	
Gross beta	4.68E+00	5.09	A		-8.1	2.55 - 7.64	1.44E-01	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	3.8	1.29	N		194.6	0.39 - 2.19	1.3	N	
Gross beta	4.34	5.09	A		-14.7	2.55 - 7.64	0.7	W	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.147	1.29	A		-11.1	0.39 - 2.19	0.1203	A	
Gross beta	4.736	5.09	A		-7.0	2.55 - 7.64	0.2461	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.42	1.29	A		10.1	0.39 - 2.19	0.12	A	
Gross beta	5.81	5.09	A		14.1	2.55 - 7.64	0.23	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.009	1.29	A		-21.8	0.39 - 2.19	0.202	W	
Gross beta	5.467	5.09	A		7.4	2.55 - 7.64	1.305	W	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

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Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.69	1.29	A		-46.5	0.39 - 2.19	0.19	W	
Gross beta	4.89	5.09	A		-3.9	2.55 - 7.64	0.25	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.07	1.29	A		-17.1	0.39 - 2.19	0.127	A	
Gross beta	4.78	5.09	A		-6.1	2.55 - 7.64	0.430	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.20	1.29	A		-7.0	0.39 - 2.19	0.31	W	
Gross beta	5.99	5.09	A		17.7	2.55 - 7.64	0.8	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Laboratory Results For MAPEP Series 51
 (HCAL01) Lawrence Livermore National Laboratory
 Analytical Services and Instrumentation Analytical Lab
 Livermore, CA 94550

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.06	1.29	A		-17.8	0.39 - 2.19	0.11	A	
Gross beta	4.72	5.09	A		-7.3	2.55 - 7.64	0.29	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.99	1.29	A		54.3	0.39 - 2.19	0.347	W	
Gross beta	4.95	5.09	A		-2.8	2.55 - 7.64	0.242	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.03	1.29	A		-20.2	0.39 - 2.19	0.16	W	
Gross beta	5.22	5.09	A		2.6	2.55 - 7.64	0.67	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.100	1.29	A		-14.7	0.39 - 2.19	0.046	A	
Gross beta	4.125	5.09	A		-19.0	2.55 - 7.64	0.070	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.64	1.29	A		-50.4	0.39 - 2.19	.04	A	
Gross beta	5.60	5.09	A		10.0	2.55 - 7.64	0.05	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.35	1.29	A		4.7	0.39 - 2.19	0.244	W	
Gross beta	5.37	5.09	A		5.5	2.55 - 7.64	0.241	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.65	1.29	A		27.9	0.39 - 2.19	0.15	A	
Gross beta	5.98	5.09	A		17.5	2.55 - 7.64	0.21	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological							Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.28	1.29	A		-0.8	0.39 - 2.19	0.232	W	
Gross beta	4.65	5.09	A		-8.6	2.55 - 7.64	0.199	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.05	1.29	A		-18.6	0.39 - 2.19	0.177	W	
Gross beta	4.72	5.09	A		-7.3	2.55 - 7.64	0.285	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.35	1.29	A		4.7	0.39 - 2.19	0.058	A	
Gross beta	4.82	5.09	A		-5.3	2.55 - 7.64	0.072	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.29	1.29	A		0.0	0.39 - 2.19	0.15	A	
Gross beta	4.70	5.09	A		-7.7	2.55 - 7.64	0.24	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.36	1.29	A		5.4	0.39 - 2.19	0.11	A	
Gross beta	5.28	5.09	A		3.7	2.55 - 7.64	0.44	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Laboratory Results For MAPEP Series 51
 (NSPH01) Nevada State Public Health Laboratory
 1664 North Virginia Street, MS 328
 Reno, NV 89557

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.10	1.29	A		-14.7	0.39 - 2.19	0.08	A	
Gross beta	4.6368	5.09	A		-8.9	2.55 - 7.64	0.11	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.64	1.29	A		-50.4	0.39 - 2.19	0.08	A	
Gross beta	5.12	5.09	A		0.6	2.55 - 7.64	0.22	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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 Development
Mississauga, Ontario L4V 1W8

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.12	1.29	A		-13.2	0.39 - 2.19	0.47	N	
Gross beta	3.69	5.09	A		-27.5	2.55 - 7.64	1.18	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.36	1.29	A		5.4	0.39 - 2.19	0.12	A	
Gross beta	5.31	5.09	A		4.3	2.55 - 7.64	0.19	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Laboratory Results For MAPEP Series 51
 (SMER01) State of Michigan EGLE Radiological Lab
 815 Filley St.
 Lansing, MI 48906

Radiological							Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	2.41	1.29	N		86.8	0.39 - 2.19	0.88	N	
Gross beta	8.21	5.09	N		61.3	2.55 - 7.64	1.2	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.164	1.29	A		-9.8	0.39 - 2.19	0.13	A	
Gross beta	2.231	5.09	N		-56.2	2.55 - 7.64	0.058	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.363	1.29	A		5.7	0.39 - 2.19	0.084	A	
Gross beta	4.95	5.09	A		-2.8	2.55 - 7.64	0.14	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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-

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.88	1.29	A		-31.8	0.39 - 2.19	0.01	N	
Gross beta	4.35	5.09	A		-14.5	2.55 - 7.64	0.01	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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-

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	0.71	1.29	A		-45.0	0.39 - 2.19	0.10	A	
Gross beta	5.99	5.09	A		17.7	2.55 - 7.64	.22	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.6411	1.29	A		27.2	0.39 - 2.19	0.1301	A	
Gross beta	5.2792	5.09	A		3.7	2.55 - 7.64	0.2191	A	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

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



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

Radiological								Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag	
Gross alpha	1.2913	1.29	A		0.1	0.39 - 2.19	0.0742	A	
Gross beta	5.069	5.09	A		-0.4	2.55 - 7.64	0.0889	N	

Radiological Reference Date: August 1, 2024

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 70\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Uncertainty Flags:

NOT ACCEPTABLE.....RP $< 2\%$

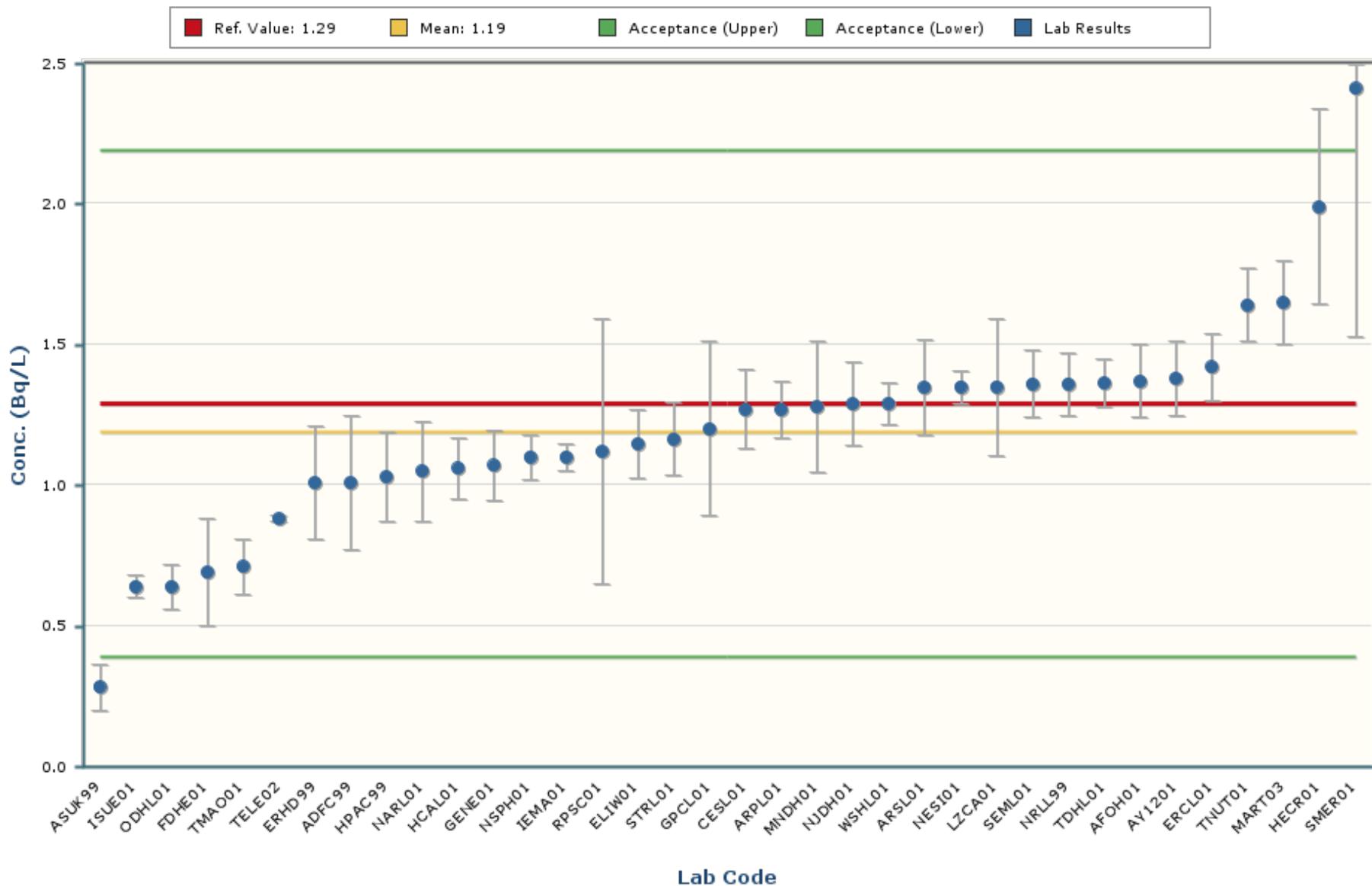
ACCEPTABLE..... $2\% \leq RP \leq 15\%$

ACCEPTABLE WITH WARNING..... $15\% < RP \leq 30\%$

NOT ACCEPTABLE.....RP $> 30\%$

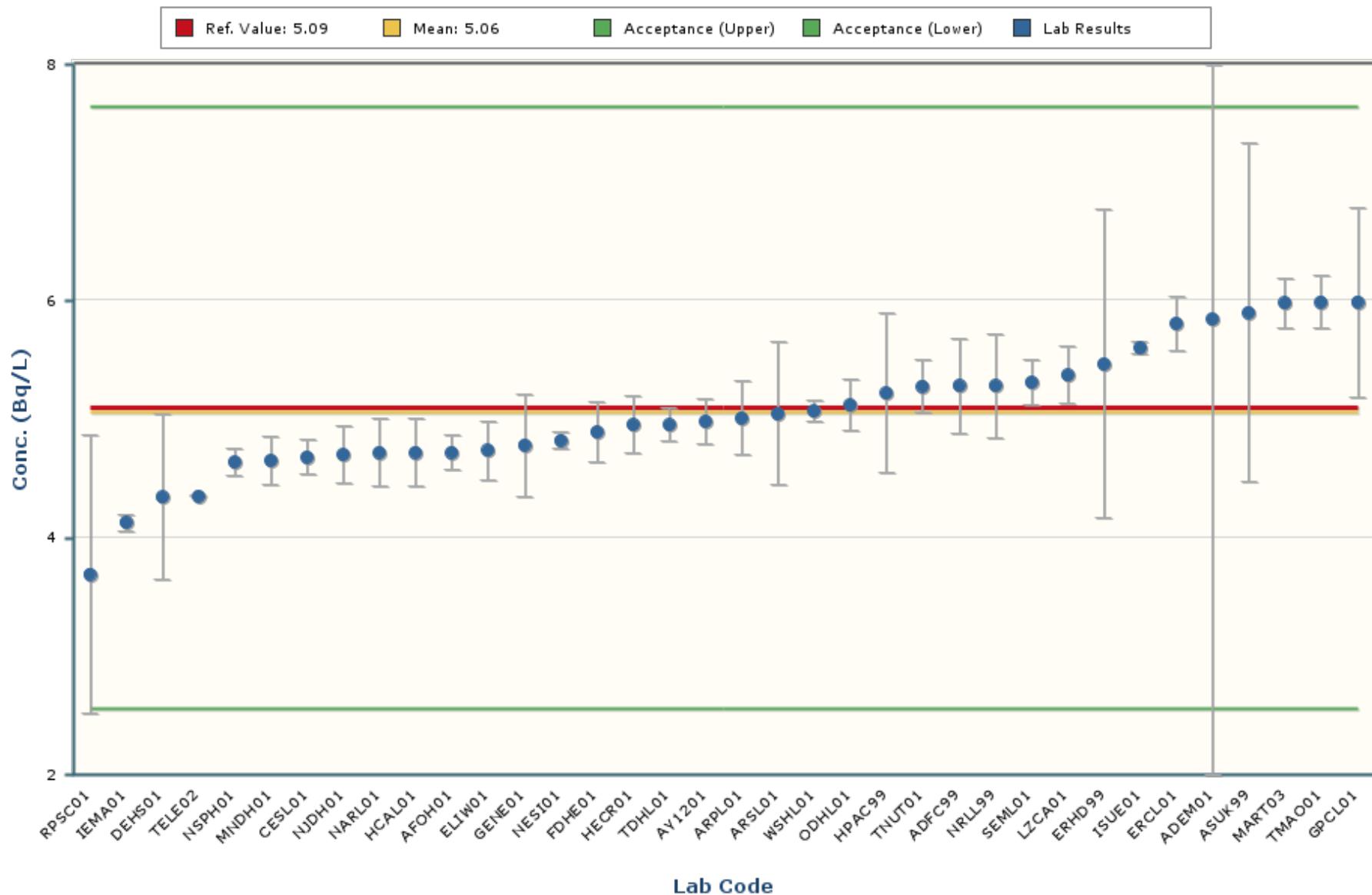
Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

Gross alpha
MAPEP-24-GrW51



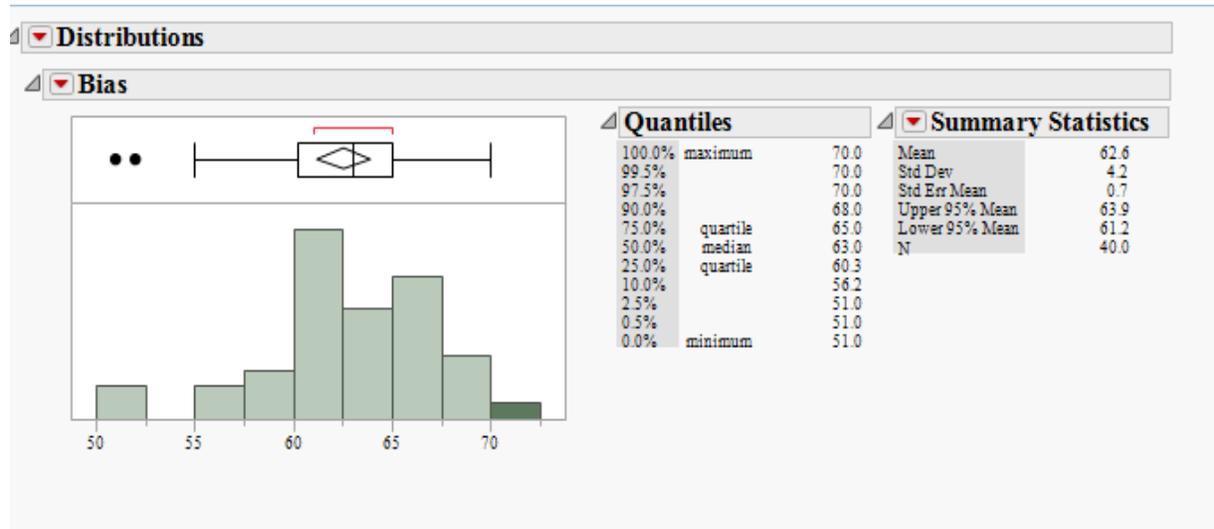
Notes:
 The chart shows only data points with values between -0.24 and 2.63 (± 5 Standard Deviations).

Gross beta
MAPEP-24-GrW51



Notes:
 The chart shows only data points with values between 2.34 and 7.77 (± 5 Standard Deviations).

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.

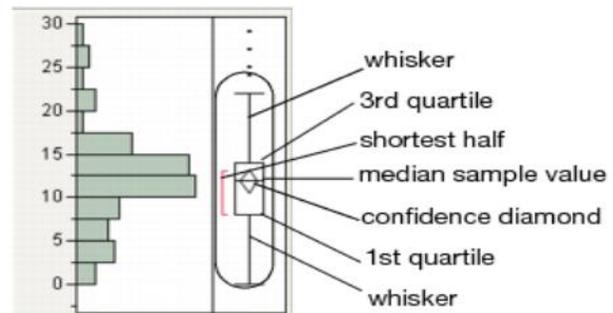


Outlier Box Plot

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)

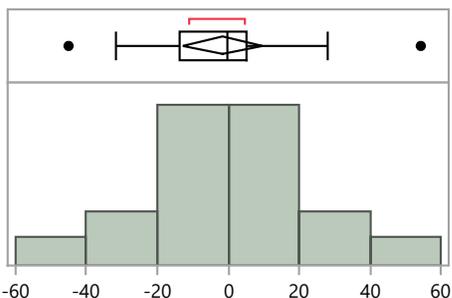


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

GrW51 Distribution by Detection Method

Distributions Analyte_Detection=Gross alpha Gas Flow Proportional Counter

Bias



Quantiles

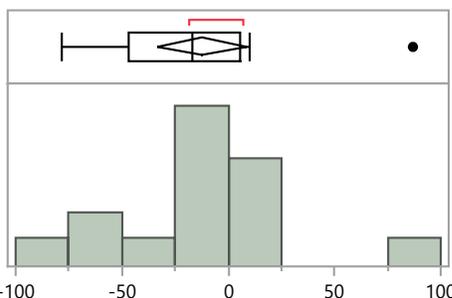
100.0%	maximum	54.3
99.5%		54.3
97.5%		54.3
90.0%		30.5
75.0%	quartile	5.1
50.0%	median	-0.4
25.0%	quartile	-13.6
10.0%		-33.1
2.5%		-45.0
0.5%		-45.0
0.0%	minimum	-45.0

Summary Statistics

Mean	-1.4
Std Dev	22.6
Std Err Mean	5.3
Upper 95% Mean	9.8
Lower 95% Mean	-12.7
N	18.0

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

Bias



Quantiles

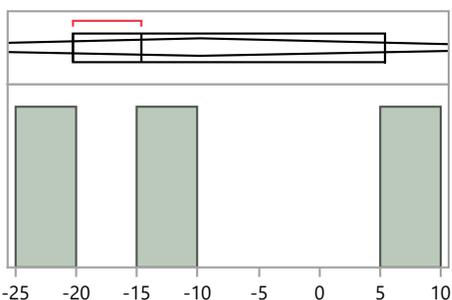
100.0%	maximum	86.8
99.5%		86.8
97.5%		86.8
90.0%		40.8
75.0%	quartile	5.7
50.0%	median	-17.1
25.0%	quartile	-46.5
10.0%		-61.5
2.5%		-78.1
0.5%		-78.1
0.0%	minimum	-78.1

Summary Statistics

Mean	-12.6
Std Dev	37.9
Std Err Mean	9.8
Upper 95% Mean	8.4
Lower 95% Mean	-33.6
N	15.0

Distributions Analyte_Detection=Gross alpha Liquid Scintillation Counter

Bias



Quantiles

100.0%	maximum	5.4
99.5%		5.4
97.5%		5.4
90.0%		5.4
75.0%	quartile	5.4
50.0%	median	-14.7
25.0%	quartile	-20.2
10.0%		-20.2
2.5%		-20.2
0.5%		-20.2
0.0%	minimum	-20.2

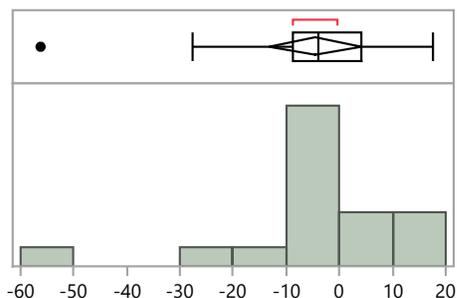
Summary Statistics

Mean	-9.8
Std Dev	13.5
Std Err Mean	7.8
Upper 95% Mean	23.6
Lower 95% Mean	-43.3
N	3.0

GrW51 Distribution by Detection Method

Distributions Analyte_Detection=Gross beta Gas Flow Proportional Counter

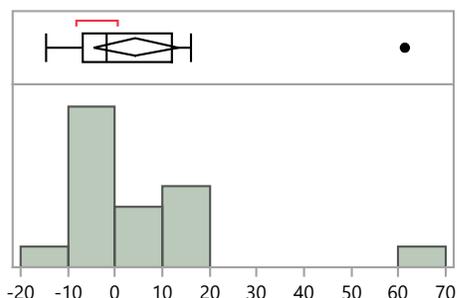
Bias



Quantiles			Summary Statistics	
100.0%	maximum	17.7	Mean	-4.5
99.5%		17.7	Std Dev	17.3
97.5%		17.7	Std Err Mean	4.1
90.0%		17.7	Upper 95% Mean	4.1
75.0%	quartile	-4.2	Lower 95% Mean	-13.1
50.0%	median	-4.1	N	18.0
25.0%	quartile	-8.7		
10.0%		-30.4		
2.5%		-56.2		
0.5%		-56.2		
0.0%	minimum	-56.2		

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

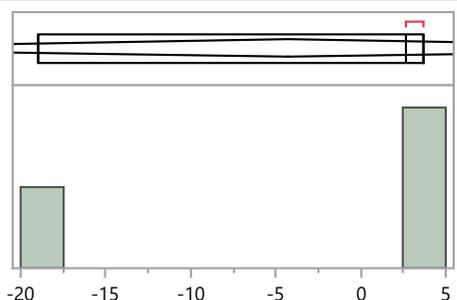
Bias



Quantiles			Summary Statistics	
100.0%	maximum	61.3	Mean	4.4
99.5%		61.3	Std Dev	17.2
97.5%		61.3	Std Err Mean	4.2
90.0%		25.1	Upper 95% Mean	13.2
75.0%	quartile	12.1	Lower 95% Mean	-4.5
50.0%	median	-1.6	N	17.0
25.0%	quartile	-6.7		
10.0%		-9.4		
2.5%		-14.7		
0.5%		-14.7		
0.0%	minimum	-14.7		

Distributions Analyte_Detection=Gross beta Liquid Scintillation Counter

Bias

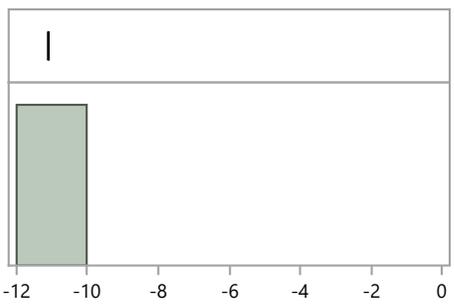


Quantiles			Summary Statistics	
100.0%	maximum	3.7	Mean	-4.2
99.5%		3.7	Std Dev	12.8
97.5%		3.7	Std Err Mean	7.4
90.0%		3.7	Upper 95% Mean	27.6
75.0%	quartile	3.7	Lower 95% Mean	-36.0
50.0%	median	2.6	N	3.0
25.0%	quartile	-19.0		
10.0%		-19.0		
2.5%		-19.0		
0.5%		-19.0		
0.0%	minimum	-19.0		

GrW51 Distribution by Preparation Method

Distributions Analyte_Method=Gross alpha Coprecipitation, acidified

Bias

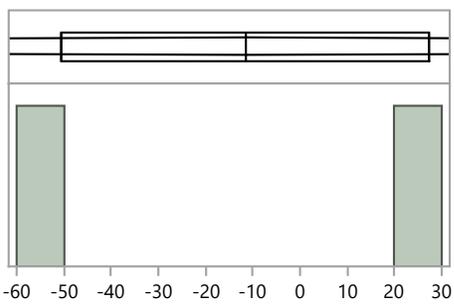


Quantiles		
100.0%	maximum	-11.1
99.5%		-11.1
97.5%		-11.1
90.0%		-11.1
75.0%	quartile	-11.1
50.0%	median	-11.1
25.0%	quartile	-11.1
10.0%		-11.1
2.5%		-11.1
0.5%		-11.1
0.0%	minimum	-11.1

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

Distributions Analyte_Method=Gross alpha Coprecipitation, straight

Bias

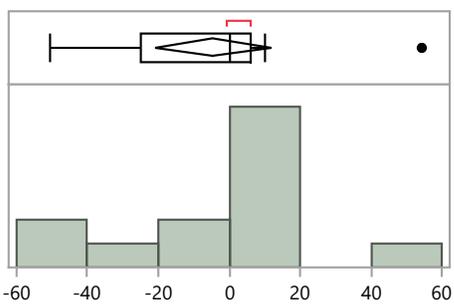


Quantiles		
100.0%	maximum	27.2
99.5%		27.2
97.5%		27.2
90.0%		27.2
75.0%	quartile	27.2
50.0%	median	-11.6
25.0%	quartile	-50.4
10.0%		-50.4
2.5%		-50.4
0.5%		-50.4
0.0%	minimum	-50.4

Summary Statistics	
Mean	-11.6
Std Dev	54.9
Std Err Mean	38.8
Upper 95% Mean	481.4
Lower 95% Mean	-504.6
N	2.0

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

Bias



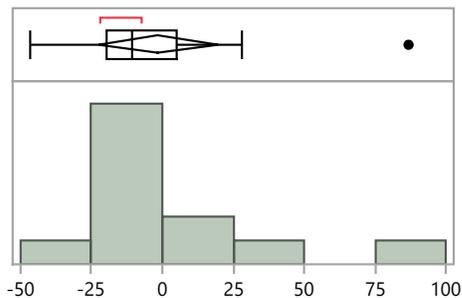
Quantiles		
100.0%	maximum	54.3
99.5%		54.3
97.5%		54.3
90.0%		36.6
75.0%	quartile	6.0
50.0%	median	0.1
25.0%	quartile	-24.8
10.0%		-48.2
2.5%		-50.4
0.5%		-50.4
0.0%	minimum	-50.4

Summary Statistics	
Mean	-4.6
Std Dev	27.0
Std Err Mean	7.5
Upper 95% Mean	11.7
Lower 95% Mean	-21.0
N	13.0

GrW51 Distribution by Preparation Method

Distributions Analyte_Method=Gross alpha Evaporation, acidified

Bias

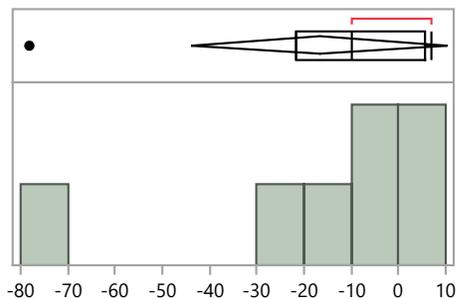


Quantiles	
100.0%	maximum 86.8
99.5%	86.8
97.5%	86.8
90.0%	69.1
75.0%	quartile 5.2
50.0%	median -10.9
25.0%	quartile -19.4
10.0%	-39.1
2.5%	-46.5
0.5%	-46.5
0.0%	minimum -46.5

Summary Statistics	
Mean	-1.6
Std Dev	33.2
Std Err Mean	9.6
Upper 95% Mean	19.6
Lower 95% Mean	-22.7
N	12.0

Distributions Analyte_Method=Gross alpha Evaporation, straight

Bias

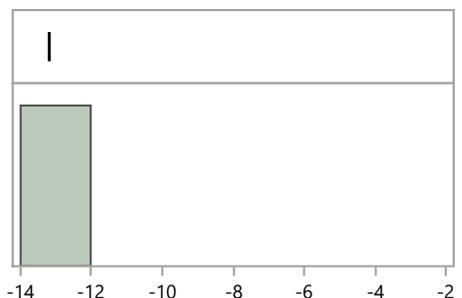


Quantiles	
100.0%	maximum 7.0
99.5%	7.0
97.5%	7.0
90.0%	7.0
75.0%	quartile 5.4
50.0%	median -9.8
25.0%	quartile -21.8
10.0%	-78.1
2.5%	-78.1
0.5%	-78.1
0.0%	minimum -78.1

Summary Statistics	
Mean	-16.8
Std Dev	29.2
Std Err Mean	11.0
Upper 95% Mean	10.2
Lower 95% Mean	-43.8
N	7.0

Distributions Analyte_Method=Gross alpha Other

Bias



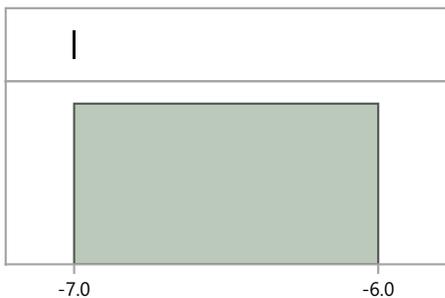
Quantiles	
100.0%	maximum -13.2
99.5%	-13.2
97.5%	-13.2
90.0%	-13.2
75.0%	quartile -13.2
50.0%	median -13.2
25.0%	quartile -13.2
10.0%	-13.2
2.5%	-13.2
0.5%	-13.2
0.0%	minimum -13.2

Summary Statistics	
Mean	-13.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0

GrW51 Distribution by Preparation Method

Distributions Analyte_Method=Gross beta Coprecipitation, acidified

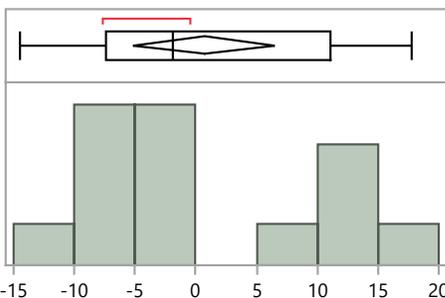
Bias



Quantiles			Summary Statistics	
100.0%	maximum	-7.0	Mean	-7.0
99.5%		-7.0	Std Dev	.
97.5%		-7.0	Std Err Mean	.
90.0%		-7.0	Upper 95% Mean	.
75.0%	quartile	-7.0	Lower 95% Mean	.
50.0%	median	-7.0	N	1.0
25.0%	quartile	-7.0		
10.0%		-7.0		
2.5%		-7.0		
0.5%		-7.0		
0.0%	minimum	-7.0		

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

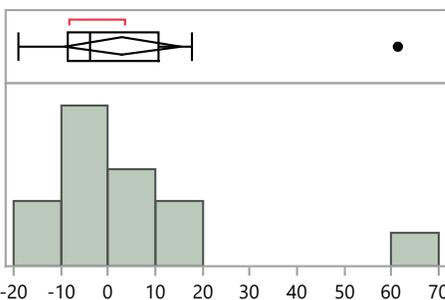
Bias



Quantiles			Summary Statistics	
100.0%	maximum	17.7	Mean	0.7
99.5%		17.7	Std Dev	10.1
97.5%		17.7	Std Err Mean	2.7
90.0%		16.3	Upper 95% Mean	6.5
75.0%	quartile	11.0	Lower 95% Mean	-5.1
50.0%	median	-1.9	N	14.0
25.0%	quartile	-7.4		
10.0%		-11.6		
2.5%		-14.5		
0.5%		-14.5		
0.0%	minimum	-14.5		

Distributions Analyte_Method=Gross beta Evaporation, acidified

Bias

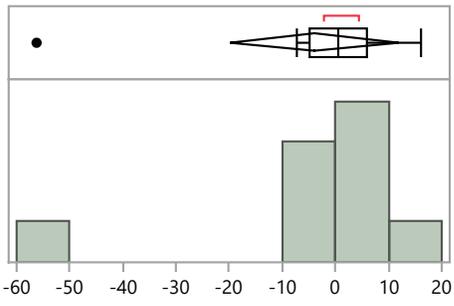


Quantiles			Summary Statistics	
100.0%	maximum	61.3	Mean	3.1
99.5%		61.3	Std Dev	20.6
97.5%		61.3	Std Err Mean	5.7
90.0%		43.9	Upper 95% Mean	15.6
75.0%	quartile	10.6	Lower 95% Mean	-9.3
50.0%	median	-3.9	N	13.0
25.0%	quartile	-8.5		
10.0%		-17.3		
2.5%		-19.0		
0.5%		-19.0		
0.0%	minimum	-19.0		

GrW51 Distribution by Preparation Method

Distributions Analyte_Method=Gross beta Evaporation, straight

Bias

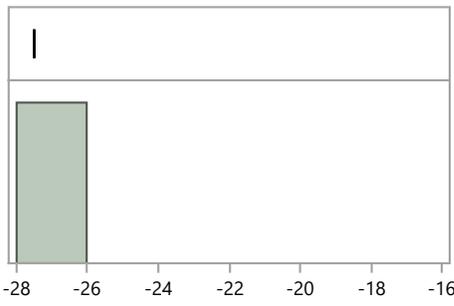


Quantiles	
100.0%	maximum 16.0
99.5%	16.0
97.5%	16.0
90.0%	16.0
75.0%	quartile 5.9
50.0%	median 0.6
25.0%	quartile -4.8
10.0%	-56.2
2.5%	-56.2
0.5%	-56.2
0.0%	minimum -56.2

Summary Statistics	
Mean	-3.9
Std Dev	20.7
Std Err Mean	6.9
Upper 95% Mean	12.0
Lower 95% Mean	-19.8
N	9.0

Distributions Analyte_Method=Gross beta Other

Bias



Quantiles	
100.0%	maximum -27.5
99.5%	-27.5
97.5%	-27.5
90.0%	-27.5
75.0%	quartile -27.5
50.0%	median -27.5
25.0%	quartile -27.5
10.0%	-27.5
2.5%	-27.5
0.5%	-27.5
0.0%	minimum -27.5

Summary Statistics	
Mean	-27.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1.0