

Series 15 Participants - GrW

<i>Lab Code</i>	<i>Lab Name</i>
ADEM01	Alabama Department of Environmental Management
AFOH01	AFIOH/SDRR
ANLA01	Argonne National Laboratory/Analytical Chemistry Lab.
ANTE01	Paragon Analytics a Division of DataChem Laboratories, Inc.
ARPL01	Analytical Support Operations - Radiochemical Processing Lab
ARSL01	American Radiation Services Inc.
ATLI01	ATL International, Inc.
AY1201	BWXT Y-12, Analytical Chemistry Organization Laboratory
CDHS01	California Department of Health Services
CESL01	Lawrence Livermore National Laboratory - EMRL
CHMH01	222-S Laboratory
CORE02	STL Denver
CYAP01	Connecticut Yankee Atomic Power Company (CYAPCo)
DEHS01	Department of Environmental Health & Safety
ENES01	Energy Northwest Environmental Services
ERCL01	Public Health Laboratories
ERLG01	Environmental Radiation Laboratory
ERPD99	Environmental Radiation Protection Division
FDHE01	Florida Dept of Health Environmental Laboratory
FMEC99	Food and Environment Monitoring Center
FNAL01	Fermi National Accelerator Laboratory (FermiLab)
GENE01	General Engineering Laboratories, LLC
GPLP01	GPL Laboratories, LLLP
GROW01	FGL Environmental
HCAL01	Hazards Control Analytical Lab
HECR01	SC Dept. Health and Environmental Control Radiological Laboratory
HWRL01	Lawrence Livermore National Laboratory - HWRL
ISUP01	ISU - Department of Physics/Health Physics/EAL
JAEC99	Radiation Measurements Laboratory
KAST99	Environmental Studies Laboratory
LOCK01	ICP Analytical Laboratories Department
LOCK03	Reactor Technology Complex (RTC) Radioanalytical Laboratory
MART01	USEC, Inc.
MART02	United States Enrichment Corporation
MART03	Radioactive Material Analysis Laboratory
MDPH01	MDPH-Radiation Control Program
NARL01	National Air and Radiation Environmental Laboratory

<i>Lab Code</i>	<i>Lab Name</i>
NESI01	BWXT Services-Radioisotope & Analytical Chemistry Laboratory
NJDH01	New Jersey Dept. of Health & Senior Services, PHEL, ECLS
NRLL99	National Radiation Laboratory
NTSI01	Nuclear Technology Services, Inc.
OBGL01	O'Brien & Gere Laboratories, Inc.
ODHL01	Ohio Department of Health Laboratory
ORIS01	ORISE/ESSAP
OTLI01	Outreach Technologies, Inc.
PESL01	Environmental Science Lab PNNL/ESL
QUAN01	STL St. Louis
QUAN03	SEVERN TRENT LABORATORIES RICHLAND
RECC01	GEL Laboratories of Ohio, LLC
RMCL99	Royal Scientific Society - Radiation Measurements Lab
RPSC01	Radiation Protection Service
RSAL01	RSA Laboratories, Inc.
SCAL01	Sanford Cohen and Associates, Inc.
SEML01	SRS Environmental Monitoring Laboratory
SLDL01	Scientific Laboratory Division
SNRC99	Soreq NRC
SOUT01	Southwest Research Institute
TDHL01	Texas Department of State Health Services Laboratory
TELE01	TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES
TELE02	Environmental, Inc., Midwest Lab
TMAE01	Eberline Services, Inc.
TMAO01	EBERLINE SERVICES OAK RIDGE LABORATORY
TMAR01	Eberline Services
TNUT01	FUSRAP
UQNP99	Qatar University- Nuclear Physics Lab
WEST03	Waste Sampling and Characterization Facility
WEST04	PACE ANALYTICAL SERVICES WALTZ MILL SITE
WSHL01	Wisconsin State Laboratory of Hygiene
WVDP01	WVDP Environmental Laboratory
XXPNL1	Pacific Northwest National Laboratory

Labs Not Reporting GrW

LAB_CODE LAB_NAME

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CORE02	STL Denver
CYAP01	Connecticut Yankee Atomic Power Company (CYAPCo)
FMEC99	Food and Environment Monitoring Center
FNAL01	Fermi National Accelerator Laboratory (FermiLab)
HCAL01	Hazards Control Analytical Lab
KAST99	Environmental Studies Laboratory
MDPH01	MDPH-Radiation Control Program
NESI01	BWXT Services-Radioisotope & Analytical Chemistry Laborator
NTSI01	Nuclear Technology Services, Inc.
OTLI01	Outreach Technologies, Inc.
PESL01	Environmental Science Lab PNNL/ESL
RMCL99	Royal Scientific Society - Radiation Measurements Lab
RSAL01	RSA Laboratories, Inc.
UQNP99	Qatar University- Nuclear Physics Lab
WEST04	PACE ANALYTICAL SERVICES WALTZ MILL SITE

Mixed Analyte Performance Evaluation Program

Statistical Summary

Sample ID: MAPEP-06-GrW15

Gross Alpha / Beta Water Standard

Analyte	T(1)	A(2)	Grand Mean	Std. Dev.	Reference Value	Analyte Text	Acceptance Limits	Units
Gross alpha	53	51	0.539	0.197	0.581		>0.0 - 1.162	(Bq/L)
Gross beta	52	46	1.315	0.213	1.13		0.56 - 1.70	(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Note:

Outliers are excluded from the statistical summary.
Outliers are defined as laboratory data with a bias greater than 60 percent for gamma spectrometry analyses and 30 percent for all others.

- (1) T = Total Number of Laboratories Reporting Analyte.
- (2) A = Number of Laboratories with 'Acceptable' Performance.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

AFOH01

AFIOH/SDRR

Sample ID: MAPEP-06-GrW15

2350 Gillingham Dr

Brooks City-Base TX 78235-5103

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.78	0.581	A		34.3	>0.0 - 1.162	0.19	H	(Bq/L)
Gross beta	1.36	1.13	A		20.4	0.56 - 1.70	0.18		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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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A = Result acceptable, Bias \leq +/- 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).

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Flags:

A = Result acceptable
 W = Result acceptable with warning
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 L = Uncertainty potentially too low
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 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
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 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ANLA01

Argonne National Laboratory/Analytical Chemistry Lab.

Sample ID: MAPEP-06-GrW15

9700 S. Cass Avenue

Argonne IL 60439-4803

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.34	0.581	A		-41.5	>0.0 - 1.162	0.03		(Bq/L)
Gross beta	1.44	1.13	A		27.4	0.56 - 1.70	0.06		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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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N = Result not acceptable, Bias $>$ +/- 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).

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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ANTE01

Paragon Analytics a Division of DataChem Laboratories,
225 Commerce Drive
Fort Collins CO 80524-1416

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.419	0.581	A		-27.9	>0.0 - 1.162	0.051		(Bq/L)
Gross beta	1.28	1.13	A		13.3	0.56 - 1.70	0.115		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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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Gross Beta Flags:

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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ARPL01

Analytical Support Operations - Radiochemical Processi

Sample ID: MAPEP-06-GrW15

PO Box 999

Richland WA 99352

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.354	0.581	A		-39.1	>0.0 - 1.162	0.06		(Bq/L)
Gross beta	1.1	1.13	A		-2.7	0.56 - 1.70	0.11		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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).

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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ARSL01

American Radiation Services Inc.

Sample ID: MAPEP-06-GrW15

2609 North River Road

Port Allen

LA

70767

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.26	0.581	A		-55.3	>0.0 - 1.162	0.18	H	(Bq/L)
Gross beta	1.45	1.13	A		28.3	0.56 - 1.70	0.19		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ATLI01

ATL International, Inc.

Sample ID: MAPEP-06-GrW15

20010 Century Blvd, Suite 500

Germantown MD 20874

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.4993	0.581	A		-14.1	>0.0 - 1.162	0.2115	H	(Bq/L)
Gross beta	1.5175	1.13	A		34.3	0.56 - 1.70	0.1005		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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).

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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

AY1201

BWXT Y-12, Analytical Chemistry Organization Laborato
Y12, NSC, Bldg. 9995, Rm 142
Oak Ridge TN 37831-8189

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.563	0.581	A		-3.1	>0.0 - 1.162	0.17	H	(Bq/L)
Gross beta	1.36	1.13	A		20.4	0.56 - 1.70	0.22		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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).

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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

CDHS01

California Department of Health Services

Sample ID: MAPEP-06-GrW15

Sanitation & Radiation Lab.

Richmond

CA

94804-6403

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.484	0.581	A		-16.7	>0.0 - 1.162	0.211	H	(Bq/L)
Gross beta	1.44	1.13	A		27.4	0.56 - 1.70	0.189		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

CESL01

Lawrence Livermore National Laboratory - EMRL

Sample ID: MAPEP-06-GrW15

7000 East Avenue

Livermore CA 94551

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.241	0.581	A		-58.5	>0.0 - 1.162	0.00608	L	(Bq/L)
Gross beta	1.09	1.13	A		-3.5	0.56 - 1.70	0.0213	L	(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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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Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

CHMH01

222-S Laboratory

Sample ID: MAPEP-06-GrW15

Hanford MSIN

Richland

WA

99352

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.429	0.581	A		-26.2	>0.0 - 1.162	0.15	H	(Bq/L)
Gross beta	1.27	1.13	A		12.4	0.56 - 1.70	0.35	H	(Bq/L)

Gross Alpha Flags:

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 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

DEHS01

Department of Environmental Health & Safety

Sample ID: MAPEP-06-GrW15

North Carolina State Univ.

Raleigh

NC

27695-8007

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	9.73	0.581	N		1574.7	>0.0 - 1.162	1.61		(Bq/L)
Gross beta	9.61	1.13	N		750.4	0.56 - 1.70	0.92		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ENES01

Energy Northwest Environmental Services

Sample ID: MAPEP-06-GrW15

350 Hills St., Suite 107

Richland WA 99354

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.6801	0.581	A		17.1	>0.0 - 1.162	0.078		(Bq/L)
Gross beta	1.7606	1.13	N		55.8	0.56 - 1.70	0.061		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ERCL01

Public Health Laboratories

Sample ID: MAPEP-06-GrW15

1610 N.E. 150 th Srteet

Shoreline

WA

98155-9701

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.58	0.581	A		-0.2	>0.0 - 1.162	0.10		(Bq/L)
Gross beta	1.30	1.13	A		15.0	0.56 - 1.70	0.09		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ERLG01

Environmental Radiation Laboratory

Sample ID: MAPEP-06-GrW15

Georgia Institute of Tech.

Atlanta GA 30332

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	.71	0.581	A		22.2	>0.0 - 1.162	.1		(Bq/L)
Gross beta	1.4	1.13	A		23.9	0.56 - 1.70	0.2		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ERPD99

Environmental Radiation Protection Division
Mubarak Al-Kabeer Street, al-Awqaf Compl
Sharq Kuwait 656

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.8000	0.581	A		37.7	>0.0 - 1.162	0.0384		(Bq/L)
Gross beta	2.4000	1.13	N		112.4	0.56 - 1.70	0.1392		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

FDHE01

Florida Dept of Health Environmental Laboratory

Sample ID: MAPEP-06-GrW15

PO Box 680069

Orlando

FL

32868-0069

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.78	0.581	A		34.3	>0.0 - 1.162	0.05		(Bq/L)
Gross beta	1.53	1.13	A		35.4	0.56 - 1.70	0.08		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

GENE01

General Engineering Laboratories, LLC

Sample ID: MAPEP-06-GrW15

2040 Savage Road

Charleston SC 29407

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.465	0.581	A		-20.0	>0.0 - 1.162	0.033		(Bq/L)
Gross beta	1.313	1.13	A		16.2	0.56 - 1.70	0.040		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

GPLP01

GPL Laboratories, LLLP

Sample ID: MAPEP-06-GrW15

7210A Corporate Court

Frederick

MD

21703

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.2867	0.581	A		-50.7	>0.0 - 1.162	0.0426		(Bq/L)
Gross beta	0.6445	1.13	A		-43.0	0.56 - 1.70	0.0265		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

GROW01

FGL Environmental

Sample ID: MAPEP-06-GrW15

853 Corporation St.

Santa Paula

CA

93060-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	1.20	0.581	N		106.5	>0.0 - 1.162	0.1		(Bq/L)
Gross beta	1.42	1.13	A		25.7	0.56 - 1.70	0.12		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

HECRO1

SC Dept. Health and Environmental Control Radiological
2600 Bull St.
Columbia SC 29201

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.762	0.581	A		31.2	>0.0 - 1.162	0.125		(Bq/L)
Gross beta	1.061	1.13	A		-6.1	0.56 - 1.70	0.125		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

HWRL01

Lawrence Livermore National Laboratory - HWRL

Sample ID: MAPEP-06-GrW15

7000 East Avenue

Livermore CA 94551

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.394	0.581	A		-32.2	>0.0 - 1.162	0.035		(Bq/L)
Gross beta	1.31	1.13	A		15.9	0.56 - 1.70	0.046		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ISUP01

ISU - Department of Physics/Health Physics/EAL

Sample ID: MAPEP-06-GrW15

785 S. 8th Ave, Rm 120

Pocatello

ID

83209-8106

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.33	0.581	A		-43.2	>0.0 - 1.162	0.05		(Bq/L)
Gross beta	1.49	1.13	A		31.9	0.56 - 1.70	0.07		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

JAEC99

Radiation Measurements Laboratory

Sample ID: MAPEP-06-GrW15

Jordan Atomic Energy Commission

Amman Jordan 00962 6

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.0464	0.581	A		-92.0	>0.0 - 1.162	0.0740	H	(Bq/L)
Gross beta	0.282	1.13	N		-75.0	0.56 - 1.70	0.041		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

LOCK01

ICP Analytical Laboratories Department

Sample ID: MAPEP-06-GrW15

CH2M-WG Idaho, LLC

Idaho Falls

ID

83415-5210

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.539	0.581	A		-7.2	>0.0 - 1.162	0.088		(Bq/L)
Gross beta	1.57	1.13	A		38.9	0.56 - 1.70	0.11		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

LOCK03

Reactor Technology Complex (RTC) Radioanalytical Lab

Sample ID: MAPEP-06-GrW15

INL/Battelle Energy Alliance, LLC

Scoville ID 83415-7111

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.32	0.581	A		-44.9	>0.0 - 1.162	0.08	H	(Bq/L)
Gross beta	1.32	1.13	A		16.8	0.56 - 1.70	0.15		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

MARTOI

USEC, Inc.

Sample ID: MAPEP-06-GrW15

Lab COC, Bldg. X-710, Rm 222

Piketon OH 45661-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.5365	0.581	A		-7.7	>0.0 - 1.162	0.085		(Bq/L)
Gross beta	1.5133	1.13	A		33.9	0.56 - 1.70	0.121		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

MART02

United States Enrichment Corporation

Sample ID: MAPEP-06-GrW15

5600 Hobbs Road

Paducah KY 42001-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.36	0.581	A		-38.0	>0.0 - 1.162	0.12	H	(Bq/L)
Gross beta	0.59	1.13	A		-47.8	0.56 - 1.70	0.06		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

MART03

Radioactive Material Analysis Laboratory

Sample ID: MAPEP-06-GrW15

ORNL

Oak Ridge

TN

37831-6223

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.28	0.581	A		-51.8	>0.0 - 1.162	0.11	H	(Bq/L)
Gross beta	1.20	1.13	A		6.2	0.56 - 1.70	0.16		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

NARL01

National Air and Radiation Environmental Laboratory
540 S. Morris Ave.
Montgomery AL 36115-2601

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.637	0.581	A		9.6	>0.0 - 1.162	0.133	H	(Bq/L)
Gross beta	1.43	1.13	A		26.5	0.56 - 1.70	0.06		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias $\leq 20\%$
20% $<$ Bias $\leq 30\%$
Bias $> 30\%$

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

NJDH01

New Jersey Dept. of Health & Senior Services, PHEL, E
Market and Warren Streets
Trenton NJ 08625-0361

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.839	0.581	A		44.4	>0.0 - 1.162	0.042		(Bq/L)
Gross beta	1.35	1.13	A		19.5	0.56 - 1.70	0.03	L	(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

NRL99

National Radiation Laboratory

108 Victoria St

Christchurch

Christchu 8001

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.517	0.581	A		-11.0	>0.0 - 1.162	0.030		(Bq/L)
Gross beta	1.330	1.13	A		17.7	0.56 - 1.70	0.086		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

OBGL01

O'Brien & Gere Laboratories, Inc.

Sample ID: MAPEP-06-GrW15

PO Box 4873

Syracuse

NY

13221-4873

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.467	0.581	A		-19.6	>0.0 - 1.162	0.103	H	(Bq/L)
Gross beta	1.222	1.13	A		8.1	0.56 - 1.70	0.138		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ODH101

Ohio Department of Health Laboratory

Sample ID: MAPEP-06-GrW15

1571 Perry St

Columbus

OH

43201

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	.76	0.581	A		30.8	>0.0 - 1.162	.19	H	(Bq/L)
Gross beta	1.14	1.13	A		0.9	0.56 - 1.70	0.26	H	(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

ORISO1

ORISE/ESSAP

Sample ID: MAPEP-06-GrW15

PO Box 117

Oak Ridge

TN

37831-0117

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.65	0.581	A		11.9	>0.0 - 1.162	0.06		(Bq/L)
Gross beta	1.52	1.13	A		34.5	0.56 - 1.70	0.10		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

QUAN01

STL St. Louis

Sample ID: MAPEP-06-GrW15

13715 Rider Trail North

Earth City

MO

63045-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.4476	0.581	A		-23.0	>0.0 - 1.162	0.0313		(Bq/L)
Gross beta	1.2575	1.13	A		11.3	0.56 - 1.70	0.0662		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

QUAN03

SEVERN TRENT LABORATORIES RICHLAND
2800 GEORGE WASHINGTON WAY
RICHLAND WA 99354-

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.60	0.581	A		3.3	>0.0 - 1.162	0.067		(Bq/L)
Gross beta	1.03	1.13	A		-8.9	0.56 - 1.70	0.077		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

RECC01

GEL Laboratories of Ohio, LLC

Sample ID: MAPEP-06-GrW15

6954 Cornell Road

Cincinnati

OH

45242-3025

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.519	0.581	A		-10.7	>0.0 - 1.162	0.0925		(Bq/L)
Gross beta	1.51	1.13	A		33.6	0.56 - 1.70	.0914		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

RPSC01

Radiation Protection Service

Sample ID: MAPEP-06-GrW15

Ontario Ministry of Labour

Weston

Ontario M9P 3T1

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.69	0.581	A		18.8	>0.0 - 1.162	0.16	H	(Bq/L)
Gross beta	1.02	1.13	A		-9.7	0.56 - 1.70	.06		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

SCAL01

Sanford Cohen and Associates, Inc.

Sample ID: MAPEP-06-GrW15

1000 Monticello Court

Montgomery AL 36117-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.555	0.581	A		-4.5	>0.0 - 1.162	0.142	H	(Bq/L)
Gross beta	1.25	1.13	A		10.6	0.56 - 1.70	0.188		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

SEML01

SRS Environmental Monitoring Laboratory

Sample ID: MAPEP-06-GrW15

Bldg 735-B

Aiken

SC

29808

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.68	0.581	A		17.0	>0.0 - 1.162	0.14	H	(Bq/L)
Gross beta	1.26	1.13	A		11.5	0.56 - 1.70	0.14		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

SLDL01

Scientific Laboratory Division

Sample ID: MAPEP-06-GrW15

PO Box 4700

Albuquerque

NM

87196-4700

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.59	0.581	A		1.5	>0.0 - 1.162	0.10		(Bq/L)
Gross beta	1.38	1.13	A		22.1	0.56 - 1.70	0.23		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

SNRC99

Soreq NRC

Sample ID: MAPEP-06-GrW15

Radioactivity Measurement Section

Yavne

Israel 81800

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.77	0.581	A		32.5	>0.0 - 1.162	0.08		(Bq/L)
Gross beta	1.38	1.13	A		22.1	0.56 - 1.70	0.24		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

SOUT01

Southwest Research Institute
6220 Culebra Rd.
San Antonio TX 78228-0510

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.989	0.581	A		70.2	>0.0 - 1.162	0.230	H	(Bq/L)
Gross beta	1.22	1.13	A		8.0	0.56 - 1.70	0.181		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias $\leq 20\%$
20% $<$ Bias $\leq 30\%$
Bias $> 30\%$

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TDHL01

Texas Department of State Health Services Laboratory
1100 W 49th Street
Austin TX 78756

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.392	0.581	A		-32.5	>0.0 - 1.162	0.070		(Bq/L)
Gross beta	1.35	1.13	A		19.5	0.56 - 1.70	0.12		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias $\leq 20\%$
20% $<$ Bias $\leq 30\%$
Bias $> 30\%$

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TELE01

TELEDYNE BROWN ENGINEERING - ENVIRONMENT

Sample ID: MAPEP-06-GrW15

2508 Quality Lane

Knoxville

TN

37931-6819

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	5.75E-01	0.581	A		-1.0	>0.0 - 1.162	2.19E-01	H	(Bq/L)
Gross beta	1.52E+00	1.13	A		34.5	0.56 - 1.70	1.84E-01		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TELE02

Environmental, Inc., Midwest Lab

Sample ID: MAPEP-06-GrW15

700 Landwehr Road

Northbrook IL 60062-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.59	0.581	A		1.5	>0.0 - 1.162	0.10		(Bq/L)
Gross beta	1.69	1.13	A		49.6	0.56 - 1.70	0.07		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TMAEOI

Eberline Services, Inc.
7021 Pan American Freeway N.E.
Albuquerque NM 87109-

Sample ID: MAPEP-06-GrW15

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.696	0.581	A		19.8	>0.0 - 1.162	0.108		(Bq/L)
Gross beta	1.36	1.13	A		20.4	0.56 - 1.70	0.142		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias \leq 20%
20% $<$ Bias \leq 30%
Bias $>$ 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL $>$ CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TMA001

EBERLINE SERVICES OAK RIDGE LABORATORY

Sample ID: MAPEP-06-GrW15

601 SCARBORO RD

OAK RIDGE TN 37830-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.652	0.581	A		12.2	>0.0 - 1.162	0.075		(Bq/L)
Gross beta	1.77	1.13	N		56.6	0.56 - 1.70	0.095		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TMAR01

Eberline Services

Sample ID: MAPEP-06-GrW15

2030 Wright Ave

Richmond

CA

94804-0040

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.217	0.581	A		-62.7	>0.0 - 1.162	0.048	H	(Bq/L)
Gross beta	0.37	1.13	N		-67.3	0.56 - 1.70	0.048		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

TNUT01

FUSRAP

Sample ID: MAPEP-06-GrW15

8945 LATTY AVE

BERKELEY

MO

63134-

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.838	0.581	A		44.2	>0.0 - 1.162	0.127		(Bq/L)
Gross beta	NR	1.13				0.56 - 1.70			

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

WEST03

Waste Sampling and Characterization Facility

Sample ID: MAPEP-06-GrW15

PO Box 1000, S3-30

Richland

WA

99352

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.321	0.581	A		-44.8	>0.0 - 1.162	0.074	H	(Bq/L)
Gross beta	1.60	1.13	A		41.6	0.56 - 1.70	0.19		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Bias $\leq 20\%$
 20% $<$ Bias $\leq 30\%$
 Bias $> 30\%$

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

WSHLO1

Wisconsin State Laboratory of Hygiene

Sample ID: MAPEP-06-GrW15

2601 Agriculture Drive

Madison

WI

53718

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.73	0.581	A		25.6	>0.0 - 1.162	0.13		(Bq/L)
Gross beta	1.39	1.13	A		23.0	0.56 - 1.70	0.10		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

A = Result acceptable
 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results - Gross alpha / beta Water Standard

WVDP01

WVDP Environmental Laboratory

Sample ID: MAPEP-06-GrW15

10282 Rock Springs Road

West Valley NY 14171

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Gross alpha	0.339	0.581	A		-41.7	>0.0 - 1.162	0.0382		(Bq/L)
Gross beta	1.33	1.13	A		17.7	0.56 - 1.70	0.0615		(Bq/L)

Gross Alpha Flags:

A = Result acceptable, Bias \leq +/- 100% 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 $>$ +/- 100% 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 +/- 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 $>$ +/- 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).

Flags:

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 W = Result acceptable with warning
 N = Result not acceptable
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

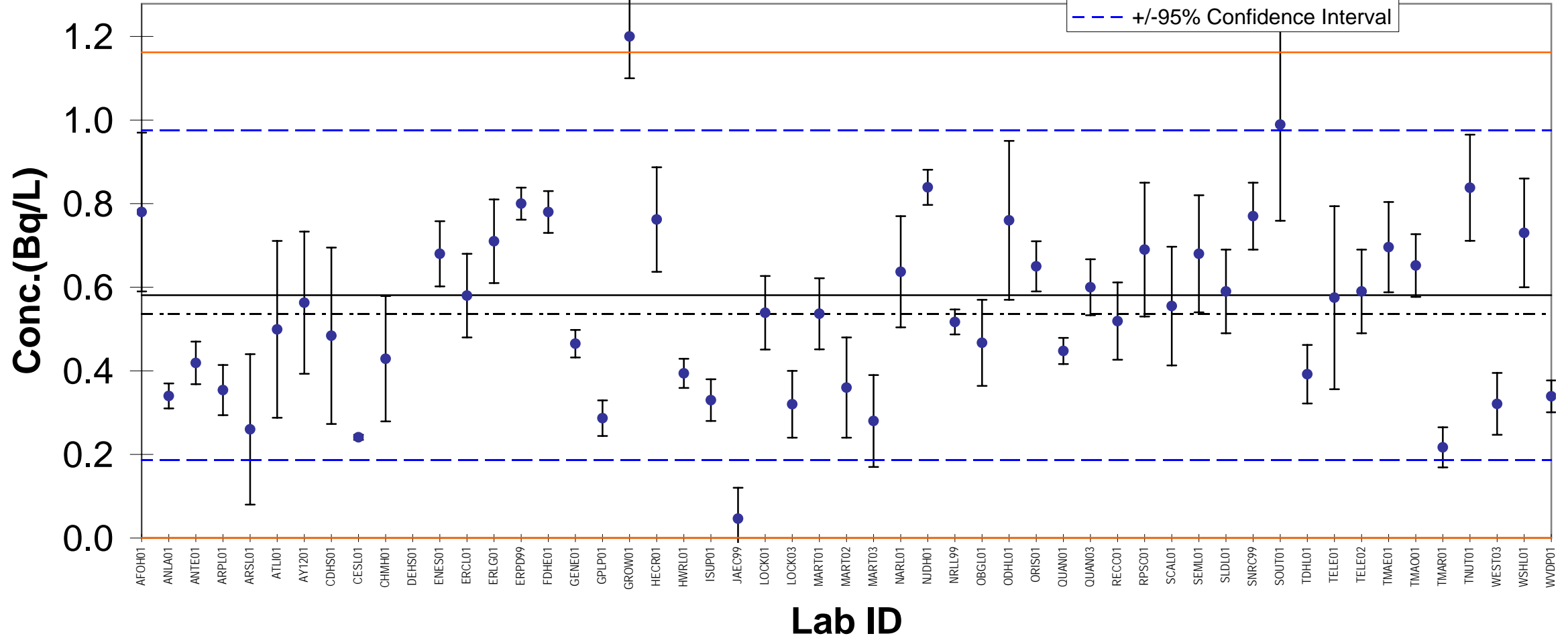
Bias \leq 20%
 20% $<$ Bias \leq 30%
 Bias $>$ 30%

Flag Text

1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL $>$ CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Gross Alpha Water MAPEP-06-GrW15

- Lab Result
- Ref. Value 0.581
- - - Mean 0.535
- +/-100% of Ref. Value
- - - +/-95% Confidence Interval



Gross Beta Water MAPEP-06-GrW15

- Lab Result
- Ref. Value 1.13
- - - Mean 1.32
- +/-50% of Ref. Value
- - - +/-95% Confidence Interval

