

GrW23 Samples Shipped

Lab Code	Lab Name	GrW
1	ADEM01 Alabama Department of Environmental Management	1
2	AFOH01 USAFSAM/OEHHL	2
3	ANTE01 ALS Group USA, Corp	1
4	ARPL01 Analytical Support Operations - Radiochemical Processing Lab	1
5	ARSL01 American Radiation Services Inc.	1
6	AY1201 B&W Y-12, Analytical Chemistry Organization Laboratory	1
7	CDHS01 California Department of Public Health	1
8	CEEA99 Laboratorio de Vigilancia Ambiental Radiactiva	1
9	CESL01 Lawrence Livermore National Laboratory - EMRL	1
10	CHMH01 222-S Laboratory	1
11	CHPR01 CHPRC Central Count Room	1
12	CMRC01 Carlsbad Environmental Monitoring and Research Center	1
13	DEHS01 Department of Environmental Health & Safety	1
14	DLEA01 DLE Associates	1
15	DPHE01 Colorado Dept. of Public Health & Env. / Laboratory Services Div.	1
16	DRMG01 B&W Pantex - D&RMG	1
17	EPAL01 U. S. EPA Office of Radiation and Indoor Air	1
18	ERCL01 Washington State Public Health Laboratories	1
19	ERHD99 Radiation Protection Bureau ERHD NMS	1
20	ERLG01 Environmental Radiation Laboratory	1
21	ERPD99 Ministry Of Health,Radiation Protection Department Lab	1
22	FDHE01 Florida Dept of Health Environmental Laboratory	1
23	FMEC99 Foods and Water Laboratories Center	1
24	GENE01 GEL Laboratories, LLC	1
25	HCAL01 Hazards Control Analytical Lab	1
26	HECR01 SC Dept. Health and Environmental Control Radiological Laboratory	1
27	HPAC99 HPA, CRCE Scotland	1
28	ISUP01 ISU - Department of Physics/Health Physics/EAL	1
29	JAEC99 Radiation Measurements Laboratory	2
30	KDHE01 Kansas Dept. of Health & Environment	1
31	KUFS99 Center for Research in Environmental Radiation	1
32	LAEC99 Lebanese Atomic Energy Commission - Environmental Radiation	1
33	LAWR01 LAWRENCE BERKELEY NATIONAL LABORATORY	1
34	LDRA99 Laboratori de Radiologia Ambiental-Universitat de Barcelona	1
35	LGCL99 LGC Ltd	1
36	LOCK03 Advanced Test Reactor (ATR) Complex Radioanalytical Laboratory	1
37	MART01 USEC, Inc.	1
38	MART02 United States Enrichment Corporation	1
39	MART03 Radioactive Material Analysis Laboratory	1
40	MKME01 PIKA International	1
41	MSCL01 MSC	1
42	NARL01 National Air and Radiation Environmental Laboratory	1
43	NCNS99 National Center for Nuclear Sciences and Technologies	1
44	NESI01 B&W Technical Services-Radioisotope & Analytical Chemistry Laboratory	1
45	NRLL99 National Radiation Laboratory	1
46	NTSI01 Nuclear Technology Services, Inc.	1
47	OBGL01 Life Science Laboratories, Inc.	1
48	ODHL01 Ohio Department of Health Laboratory	1

49	ORIS01	ORISE/IEAV	1
50	OTLI01	Outreach Technologies, Inc.	1
51	PESL01	Environmental Science Lab PNNL/ESL	1
52	QUAN01	TestAmerica St. Louis	1
53	QUAN03	TestAmerica	1
54	RMCL99	Royal Scientific Society - Radiation Protection Lab	1
55	RPSC01	Radiation Protection Service	1
56	RSAL01	RSA Laboratories, Inc.	1
57	SEML01	SRS Environmental Monitoring Laboratory	1
58	SNRC99	Soreq NRC	1
59	SOUT01	Southwest Research Institute	1
60	TDHL01	Texas Department of State Health Services Laboratory	1
61	TELE01	TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES	1
62	TELE02	Environmental, Inc., Midwest Lab	1
63	TMAO01	EBERLINE SERVICES OAK RIDGE LABORATORY	1
64	TMAR01	Eberline Analytical Corp. Richmond CA Lab	1
65	TNUT01	FUSRAP	1
66	USED99	National Center for Nuclear Energy, Sciences and Techniques	1
67	WEST03	Waste Sampling and Characterization Facility, MSA/RJLG	1
68	WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	1
69	WIPP01	WIPP Laboratories	1
70	WSHL01	Wisconsin State Laboratory of Hygiene	1
71	WSTI01	Waste Stream Technology Inc.	1
72	WVDP01	WVDP Environmental Laboratory	1
73	WVNS01	West Valley Process Chemistry	1
74	XXPNL1	Pacific Northwest National Laboratory	1

Total:

76

11 of 58 labs who received GrW23 samples have not entered data.

Lab Code	Lab Name	Standard
1 CHPR01	CHPRC Central Count Room	GrW
2 CMRC01	Carlsbad Environmental Monitoring and Research Center	GrW
3 DLEA01	DLE Associates	GrW
4 EPAL01	U. S. EPA Office of Radiation and Indoor Air	GrW
5 NTSI01	Nuclear Technology Services, Inc.	GrW
6 OBGL01	Life Science Laboratories, Inc.	GrW
7 PESL01	Environmental Science Lab PNNL/ESL	GrW
8 RSAL01	RSA Laboratories, Inc.	GrW
9 SCAL01	Centauri Labs	GrW
10 WIPP01	WIPP Laboratories	GrW
11 WVNS01	West Valley Process Chemistry	GrW

Setup and Process Data

MAPEP-10-GrW23

Analyte	Ref. Value	Total Ref.	Uncertainty	F.P.	S.E.
Radiological					
Gross alpha	1.92		0.02		
Gross beta	4.39		0.08		

Sample Statistical Summary

MAPEP-10-GrW23

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/L)
Gross alpha	57	50	1.64	0.49	1.92	0.02	0.58 - 3.26
Gross beta	57	54	4.54	0.57	4.39	0.08	2.20 - 6.59

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

Gross Alpha Flags:

A = Result acceptable, Bias 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 > +/- 70% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)

Gross Beta Flags:

A = Result acceptable, Bias 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)

Flag Summary Report

Generated January 3, 2011

MAPEP-10-GrW23

Radiological				
Analyte	A	W	RW	N
Gross alpha	50			7
Gross beta	54			3



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

Laboratory Results For MAPEP-10-GrW23
 (ADEM01) Alabama Department of Environmental Management
 Montgomery Laboratory
 Montgomery, AL 36110

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.455	1.92	A		27.9	0.58 - 3.26	0.003	L
Gross beta	5.588	4.39	A		27.3	2.20 - 6.59	0.001	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(AFOH01) USAFSAM/OEHHL

2350 Gillingham Dr

Brooks City-Base, TX 78235-5103

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.695	1.92	A		-11.7	0.58 - 3.26	0.227	
Gross beta	4.474	4.39	A		1.9	2.20 - 6.59	0.193	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(ANTE01) ALS Group USA, Corp
 225 Commerce Drive
 Fort Collins, CO 80524-1416

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.21	1.92	A		-37.0	0.58 - 3.26	1.010	H
Gross beta	4.43	4.39	A		0.9	2.20 - 6.59	0.360	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(ARPL01) Analytical Support Operations - Radiochemical Processing Lab

PO Box 999

Richland, WA 99354

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.53	1.92	A		-20.3	0.58 - 3.26	0.15	
Gross beta	5.09	4.39	A		15.9	2.20 - 6.59	0.51	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (ARSL01) American Radiation Services Inc.
 2609 North River Road
 Port Allen, LA 70767

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.976	1.92	A		2.9	0.58 - 3.26	0.478	H
Gross beta	4.085	4.39	A		-6.9	2.20 - 6.59	0.959	H

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(AY1201) B&W Y-12, Analytical Chemistry Organization Laboratory

Y12, NSC, Bldg. 9995, Rm 142

Oak Ridge, TN 37831-8189

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.88	1.92	A		-2.1	0.58 - 3.26	0.20	
Gross beta	4.65	4.39	A		5.9	2.20 - 6.59	0.25	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (CDHS01) California Department of Public Health
 Sanitation & Radiation Lab.
 Richmond, CA 94804-6403

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.965	1.92	A		-49.7	0.58 - 3.26	0.0907	
Gross beta	4.756	4.39	A		8.3	2.20 - 6.59	0.110	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(CEEA99) Laboratorio de Vigilancia Ambiental Radiactiva
 JUAN LARREA N15-36 Renewable RUC1768135980001
 Quito, EC170130

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (CESL01) Lawrence Livermore National Laboratory - EMRL
 7000 East Avenue
 Livermore, CA 94551

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	6.13E-01	1.92	A		-68.1	0.58 - 3.26	2.17E-01	H
Gross beta	4.88E+00	4.39	A		11.2	2.20 - 6.59	7.35E-01	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

A = Result acceptable, Bias ≤ 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 $> +/- 70\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 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)



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

Laboratory Results For MAPEP-10-GrW23

(CHMH01) 222-S Laboratory

P.O. Box 250, MS T6-10

Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.38	1.92	A		-28.1	0.58 - 3.26	0.64	H
Gross beta	4.29	4.39	A		-2.3	2.20 - 6.59	1.08	H

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (CHPR01) CHPRC Central Count Room
 2420 Stevens Center Place
 Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (CMRC01) Carlsbad Environmental Monitoring and Research Center
 1400 University Dr.
 Carlsbad, NM 88220

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
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N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (DEHS01) Department of Environmental Health & Safety
 North Carolina State Univ.
 Raleigh, NC 27695-8007

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.71	1.92	A		-63.0	0.58 - 3.26	0.10	
Gross beta	4.04	4.39	A		-8.0	2.20 - 6.59	0.20	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(DLEA01) DLE Associates

730 Alfred Nobel Drive

Hercules, CA 94547

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(DPHE01) Colorado Dept. of Public Health & Env. / Laboratory Services Div.

8100 Lowry Blvd
Denver, CO 80230

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.15	1.92	A		-40.1	0.58 - 3.26	0.15	
Gross beta	5.48	4.39	A		24.8	2.20 - 6.59	0.37	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (DRMG01) B&W Pantex - D&RMG
 Bldg 12-122
 Amarillo, TX 79120-0020

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.23E+00	1.92	A		-35.9	0.58 - 3.26	8.88E-02	
Gross beta	3.89E+00	4.39	A		-11.4	2.20 - 6.59	1.04E-01	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (EPAL01) U. S. EPA Office of Radiation and Indoor Air
 944 E. Harmon Ave.
 Las Vegas, NV 89119-6721

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (ERCL01) Washington State Public Health Laboratories
 1610 N.E. 150 th Street
 Shoreline, WA 98155-9701

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.88	1.92	A		-2.1	0.58 - 3.26	0.27	
Gross beta	4.4	4.39	A		0.2	2.20 - 6.59	0.22	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (ERHD99) Radiation Protection Bureau ERHD NMS
 775 Brookfield Road AL6302D1
 Ottawa, Ontario K1A 1C1

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.41	1.92	A		-26.6	0.58 - 3.26	0.47	H
Gross beta	4.57	4.39	A		4.1	2.20 - 6.59	1.60	H

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23
 (ERLG01) Environmental Radiation Laboratory
 Georgia Institute of Tech.
 Atlanta, GA 30332

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.0	1.92	A		4.2	0.58 - 3.26	.1	
Gross beta	4.5	4.39	A		2.5	2.20 - 6.59	.2	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (ERPD99) Ministry Of Health, Radiation Protection Department Lab
 Al-Awqaf Complex-Tower#12
 Sharq, Kuwait 656

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.411	1.92	N		-78.6	0.58 - 3.26	0.049	
Gross beta	3.239	4.39	A		-26.2	2.20 - 6.59	0.292	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (FDHE01) Florida Dept of Health Environmental Laboratory
 PO Box 680069
 Orlando, FL 32868-0069

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.10	1.92	A		9.4	0.58 - 3.26	0.14	
Gross beta	4.54	4.39	A		3.4	2.20 - 6.59	0.12	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (FMEC99) Foods and Water Laboratories Center
 Ministry of Regional Municipalities and Water Resources
 Muscat, B.O.Box. 3094 111

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.866	1.92	A		49.3	0.58 - 3.26	0.056	L
Gross beta	5.658	4.39	A		28.9	2.20 - 6.59	0.079	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(GENE01) GEL Laboratories, LLC

2040 Savage Road

Charleston, SC 29407

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.67	1.92	A		-13.0	0.58 - 3.26	0.189	
Gross beta	4.407	4.39	A		0.4	2.20 - 6.59	0.364	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (HCAL01) Hazards Control Analytical Lab
 Lawrence Livermore National
 Livermore, CA 94551

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.71	1.92	A		-10.9	0.58 - 3.26	0.24	
Gross beta	4.63	4.39	A		5.5	2.20 - 6.59	0.09	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(HECR01) SC Dept. Health and Environmental Control Radiological Laboratory
 2600 Bull St.
 Columbia, SC 29201

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.44	1.92	A		27.1	0.58 - 3.26	0.52	H
Gross beta	4.54	4.39	A		3.4	2.20 - 6.59	0.35	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (HPAC99) HPA, CRCE Scotland
 155 Hardgate Road
 Glasgow, Scotland G514LS

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (ISUP01) ISU - Department of Physics/Health Physics/EAL
 785 S. 8th Ave, Rm 120
 Pocatello, ID 83209-8106

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.42	1.92	N		-78.1	0.58 - 3.26	0.05	
Gross beta	5.52	4.39	A		25.7	2.20 - 6.59	0.12	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (JAEC99) Radiation Measurements Laboratory
 Jordan Atomic Energy Commission
 Amman, Jordan 00962 6

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	.661	1.92	A		-65.6	0.58 - 3.26	.032	
Gross beta	4.016	4.39	A		-8.5	2.20 - 6.59	.173	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (KDHE01) Kansas Dept. of Health & Environment
 Forbes Bldg. 740
 Topeka, KS 66620

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.7	1.92	A		-11.5	0.58 - 3.26	0.2	
Gross beta	4.5	4.39	A		2.5	2.20 - 6.59	0.3	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (KUFS99) Center for Research in Environmental Radiation
 Kuwait University - Faculty of Science
 Khaldia, Kuwait 13060

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(LAEC99) Lebanese Atomic Energy Commission - Environmental Radiation

National Council for Scientific Research

Beirut, Beirut 1107 2260

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

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

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	.723	1.92	A		-62.3	0.58 - 3.26	.165	H
Gross beta	5.15	4.39	A		17.3	2.20 - 6.59	.154	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(LDRA99) Laboratori de Radiologia Ambiental-Universitat de Barcelona

Facultat de Química

Barcelona, Barcelona 08028

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.37	1.92	A		-28.6	0.58 - 3.26	0.03	L
Gross beta	4.64	4.39	A		5.7	2.20 - 6.59	0.07	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(LGCL99) LGC Ltd

Queens Road

Teddington, Middlesex TW11 0LY

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.62	1.92	A		-15.6	0.58 - 3.26	0.23	
Gross beta	4.34	4.39	A		-1.1	2.20 - 6.59	0.35	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

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

INL/Battelle Energy Alliance, LLC

Idaho Falls, ID 83415-7111

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.19	1.92	A		-38.0	0.58 - 3.26	0.11	
Gross beta	5.15	4.39	A		17.3	2.20 - 6.59	0.36	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(MART01) USEC, Inc.
 Lab COC, Bldg. X-710, Rm 222
 Piketon, OH 45661-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.78	1.92	A		-7.3	0.58 - 3.26	0.181	
Gross beta	4.37	4.39	A		-0.5	2.20 - 6.59	0.186	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (MART02) United States Enrichment Corporation
 PO Box 1410
 Paducah, KY 42002

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.57	1.92	A		-18.2	0.58 - 3.26	0.16	
Gross beta	4.25	4.39	A		-3.2	2.20 - 6.59	0.13	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (MART03) Radioactive Material Analysis Laboratory
 ORNL
 Oak Ridge, TN 37831-6223

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.73	1.92	A		-9.9	0.58 - 3.26	0.40	H
Gross beta	4.87	4.39	A		10.9	2.20 - 6.59	0.49	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(MKME01) PIKA International

5025 Arnold Ave

McClellan, CA 95652

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	-.01	1.92	N		-100.5	0.58 - 3.26	.1	L
Gross beta	1.44	4.39	N		-67.2	2.20 - 6.59	.14	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(MSCL01) MSC
804 S. Illinois Ave
Oak Ridge, TN 37830

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.022	1.92	N		-98.9	0.58 - 3.26	0.003	
Gross beta	0.106	4.39	N		-97.6	2.20 - 6.59	0.005	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(NARL01) National Air and Radiation Environmental Laboratory

540 S. Morris Ave.

Montgomery, AL 36115-2601

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	5.70	1.92	N		196.9	0.58 - 3.26	1.3	H
Gross beta	4.93	4.39	A		12.3	2.20 - 6.59	0.59	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (NCNS99) National Center for Nuclear Sciences and Technologies
 Technopole Sidi
 Thabet Ariana, Ariana 2020

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.456	1.92	N		-76.3	0.58 - 3.26	0.007	L
Gross beta	4.715	4.39	A		7.4	2.20 - 6.59	0.116	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(NESI01) B&W Technical Services-Radioisotope & Analytical Chemistry Laboratory

Lynchburg Technology Center

Lynchburg, VA 24504-5447

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.81	1.92	A		-5.7	0.58 - 3.26	0.08	
Gross beta	4.66	4.39	A		6.2	2.20 - 6.59	0.09	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(NRL99) National Radiation Laboratory

PO Box 25099

Christchurch, Christchurch 8144

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (NTSI01) Nuclear Technology Services, Inc.
 635 Hembree Parkway
 Roswell, GA 30076

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(OBGL01) Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (ODHL01) Ohio Department of Health Laboratory
 8995 E Main Street
 Reynoldsburg, OH 43068

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.8352	1.92	A		-4.4	0.58 - 3.26	0.2886	
Gross beta	4.3216	4.39	A		-1.6	2.20 - 6.59	0.4921	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(ORIS01) ORISE/IEAV

PO Box 117

Oak Ridge, TN 37831-0117

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.51	1.92	A		-21.4	0.58 - 3.26	0.08	
Gross beta	6.63	4.39	N		51.0	2.20 - 6.59	0.30	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(OTLI01) Outreach Technologies, Inc.

311 N. Aspen

Broken Arrow, OK 74012-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	3.35	1.92	N		74.5	0.58 - 3.26	0.270	
Gross beta	4.34	4.39	A		-1.1	2.20 - 6.59	0.204	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (PESL01) Environmental Science Lab PNNL/ESL
 RPL 309/BRM # 13056
 Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(QUAN01) TestAmerica St. Louis

13715 Rider Trail North

Earth City, MO 63045-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.66	1.92	A		-13.5	0.58 - 3.26	0.111	
Gross beta	4.56	4.39	A		3.9	2.20 - 6.59	0.184	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(QUAN03) TestAmerica
 2800 GEORGE WASHINGTON WAY
 RICHLAND, WA 99354-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.7	1.92	A		-11.5	0.58 - 3.26	0.184	
Gross beta	4.73	4.39	A		7.7	2.20 - 6.59	0.0724	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (RMCL99) Royal Scientific Society - Radiation Protection Lab
 70 Ahmad Al-Tarawneh Str.
 Al-Jubaiha, Amman 11941

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.610	1.92	A		-16.1	0.58 - 3.26	0.093	
Gross beta	3.393	4.39	A		-22.7	2.20 - 6.59	0.097	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(RPSC01) Radiation Protection Service

Ontario Ministry of Labour

Weston, Ontario M9P 3T1

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.5	1.92	A		-21.9	0.58 - 3.26	0.3	
Gross beta	3.26	4.39	A		-25.7	2.20 - 6.59	0.33	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(RSAL01) RSA Laboratories, Inc.

PO Box 61

Hebron, CT 06248

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23

(SCAL01) Centauri Labs
 1000 Monticello Court
 Montgomery, AL 36117-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (SEML01) SRS Environmental Monitoring Laboratory
 Bldg 735-B
 Aiken, SC 29808

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.74	1.92	A		-9.4	0.58 - 3.26	0.26	
Gross beta	4.77	4.39	A		8.7	2.20 - 6.59	0.34	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (SNRC99) Soreq NRC
 Radioactivity Measurement Section
 Yavne, Israel 81800

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.05	1.92	A		6.8	0.58 - 3.26	0.33	
Gross beta	5.17	4.39	A		17.8	2.20 - 6.59	0.53	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (SOUT01) Southwest Research Institute
 6220 Culebra Rd.
 San Antonio, TX 78228-0510

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.32	1.92	A		-31.3	0.58 - 3.26	0.0874	
Gross beta	3.85	4.39	A		-12.3	2.20 - 6.59	0.230	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

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

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.27	1.92	A		-33.9	0.58 - 3.26	0.11	
Gross beta	4.47	4.39	A		1.8	2.20 - 6.59	0.09	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(TELE01) TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES

2508 Quality Lane

Knoxville, TN 37931-6819

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.38	1.92	A		24.0	0.58 - 3.26	0.389	
Gross beta	6.37	4.39	A		45.1	2.20 - 6.59	0.385	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (TELE02) Environmental, Inc., Midwest Lab
 700 Landwehr Road
 Northbrook, IL 60062-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.54	1.92	A		-19.8	0.58 - 3.26	0.09	
Gross beta	4.13	4.39	A		-5.9	2.20 - 6.59	0.15	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty



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

Laboratory Results For MAPEP-10-GrW23
 (TMAO01) EBERLINE SERVICES OAK RIDGE LABORATORY
 601 SCARBORO RD
 OAK RIDGE, TN 37830-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.42	1.92	A		26.0	0.58 - 3.26	0.23	
Gross beta	4.31	4.39	A		-1.8	2.20 - 6.59	0.17	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (TMAR01) Eberline Analytical Corp. Richmond CA Lab
 2030 Wright Ave
 Richmond, CA 94804-3849

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.317	1.92	A		-31.4	0.58 - 3.26	0.424	H
Gross beta	4.275	4.39	A		-2.6	2.20 - 6.59	0.769	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(TNUT01) FUSRAP
 8945 LATTY AVE
 BERKELEY, MO 63134-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.3394	1.92	A		21.8	0.58 - 3.26	0.0830	
Gross beta	4.2616	4.39	A		-2.9	2.20 - 6.59	0.0690	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(USED99) National Center for Nuclear Energy, Sciences and Techniques

CNESTEN BP 1382

RABAT, RABAT RP 10001

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(WEST03) Waste Sampling and Characterization Facility, MSA/RJLG

PO Box 650, S3-30

Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.35	1.92	A		-29.7	0.58 - 3.26	0.11	
Gross beta	4.15	4.39	A		-5.5	2.20 - 6.59	0.23	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23
 (WEST04) PACE ANALYTICAL SERVICES, PITTSBURGH
 1638 Roseytown Road
 Greensburg, PA 15601

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.119	1.92	A		10.4	0.58 - 3.26	0.4461	H
Gross beta	4.251	4.39	A		-3.2	2.20 - 6.59	0.7989	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23

(WIPP01) WIPP Laboratories

1400 University Drive

Carlsbad, NM 88220

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23
 (WSHL01) Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive
 Madison, WI 53718

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	2.26	1.92	A		17.7	0.58 - 3.26	0.18	
Gross beta	4.92	4.39	A		12.1	2.20 - 6.59	0.13	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23

(WSTI01) Waste Stream Technology Inc.

302 Grote Ave
Buffalo, NY 14207

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.68	1.92	A		-12.5	0.58 - 3.26	.258	
Gross beta	4.23	4.39	A		-3.6	2.20 - 6.59	.221	

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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Laboratory Results For MAPEP-10-GrW23
 (WVDP01) WVDP Environmental Laboratory
 10282 Rock Springs Road
 West Valley, NY 14171

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	1.34	1.92	A		-30.2	0.58 - 3.26	0.0780	
Gross beta	4.37	4.39	A		-0.5	2.20 - 6.59	0.124	L

Radiological Reference Date: August 1, 2010

Gross Alpha Flags:

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

Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty)



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

Laboratory Results For MAPEP-10-GrW23
 (WVNS01) West Valley Process Chemistry
 10282 Rock Springs Road
 West Valley, NY 14171-9799

Radiological						Units: (Bq/L)		
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Gross alpha	NR	1.92				0.58 - 3.26		
Gross beta	NR	4.39				2.20 - 6.59		

Radiological Reference Date: August 1, 2010

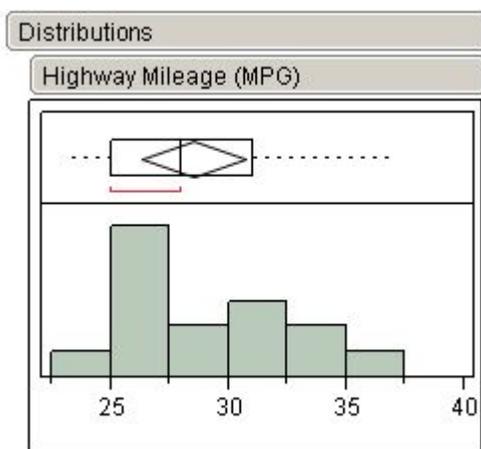
Gross Alpha Flags:

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

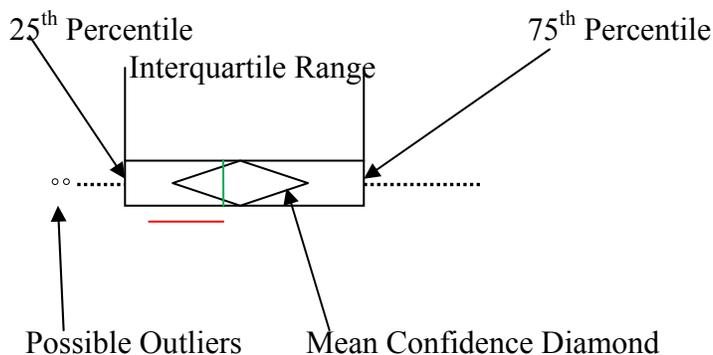
Gross Beta Flags:
 A = Result acceptable, Bias ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty

The intent of the distribution graphs contained within this report is to graphically demonstrate to users how % Bias data within the current MAPEP Series appears when examined by matrix, by analyte, by method of sample preparation or by method of detection. The data points (small 'dots') plot the bias (or z-score for organic constituents) of each of the analytes in each of the matrices. The BLACK small vertical line inside the small rectangle at the top of the data distribution graph is the mean of the population of the bias shown for that analyte in the matrix.



Moments	
Mean	28.466667
Std Dev	3.9797104
Std Err Mean	1.0275568
Upper 95% Mean	30.670557
Lower 95% Mean	26.262776
N	15
Sum Wgt	15
Sum	427
Variance	15.838095
Skewness	0.7309964
Kurtosis	-0.165153
CV	13.980247
N Missing	0



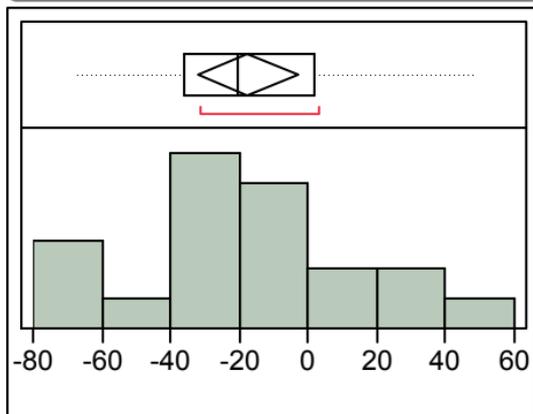
The box plots summarize the distribution of points for each analyte. The ends of the box are the 25th and 75th quantiles. The difference between the quartiles is the interquartile range. The line across the middle of the box identifies the median bias value. Each box has lines, sometimes called whiskers, which extend from each end. The whiskers extend from the ends of the small box to the outermost data point that falls within the distances computed. Any potential outliers are represented as small black dots.

The box plot of the bias data points and the mean visually illustrate the breadth of the distribution and where any potential outliers in the distribution might lie. The moments for the distribution plot are provided below the Bias plot. In some cases, N becomes very small and thus developed statistics may not accurately reflect estimates of the population if N were a significantly larger value.

GrW Distribution by Detection Method

Distributions Analyte Name=Gross alpha, Detection
Method=Beta Counting - 2 pi gas flow proportional counter

Bias

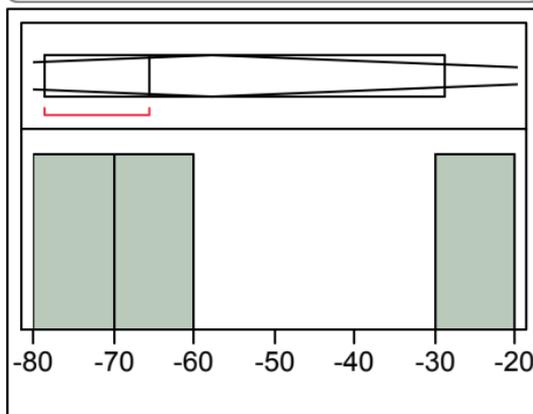


Moments

Mean	-17.525
Std Dev	31.23825
Std Err Mean	6.9850851
Upper 95% Mean	-2.905049
Lower 95% Mean	-32.14495
N	20
Sum Wgt	20
Sum	-350.5
Variance	975.82829
Skewness	0.2559045
Kurtosis	-0.206455
CV	-178.2496
N Missing	0

Distributions Analyte Name=Gross alpha, Detection
Method=Beta Counting - liquid scintillation counter

Bias



Moments

Mean	-57.6
Std Dev	25.942244
Std Err Mean	14.977761
Upper 95% Mean	6.8441055
Lower 95% Mean	-122.0441
N	3
Sum Wgt	3
Sum	-172.8
Variance	673
Skewness	1.2557327
Kurtosis	.
CV	-45.03862
N Missing	0

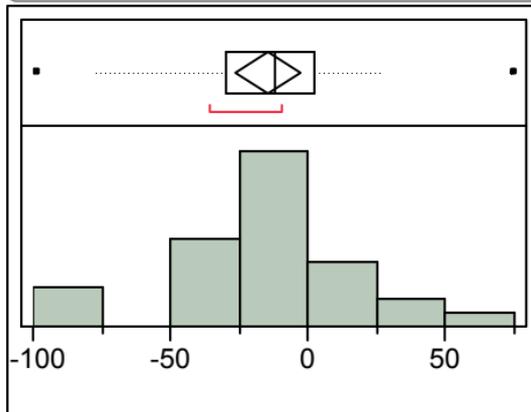
Distributions Analyte Name=Gross alpha, Detection
Method=Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias

GrW Distribution by Detection Method

Distributions Analyte Name=Gross alpha, Detection
Method=Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



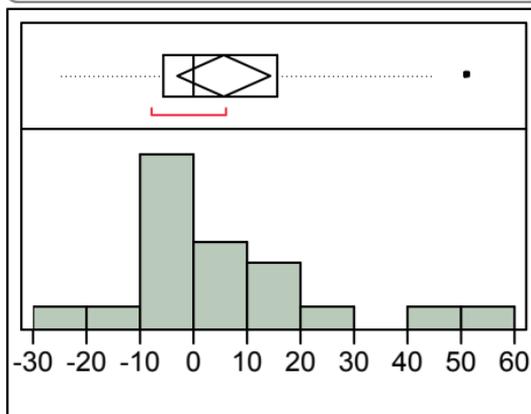
Moments

Mean	-14.52813
Std Dev	32.649431
Std Err Mean	5.7716584
Upper 95% Mean	-2.75675
Lower 95% Mean	-26.2995
N	32
Sum Wgt	32
Sum	-464.9
Variance	1065.9853
Skewness	-0.181316
Kurtosis	2.0267547
CV	-224.7326
N Missing	0

Distributions Analyte Name=Gross beta, Detection

Method=Beta Counting - 2 pi gas flow proportional counter

Bias



Moments

Mean	5.735
Std Dev	18.742052
Std Err Mean	4.1908502
Upper 95% Mean	14.50655
Lower 95% Mean	-3.03655
N	20
Sum Wgt	20
Sum	114.7
Variance	351.2645
Skewness	1.0871568
Kurtosis	1.2164963
CV	326.80125
N Missing	0

Distributions Analyte Name=Gross beta, Detection

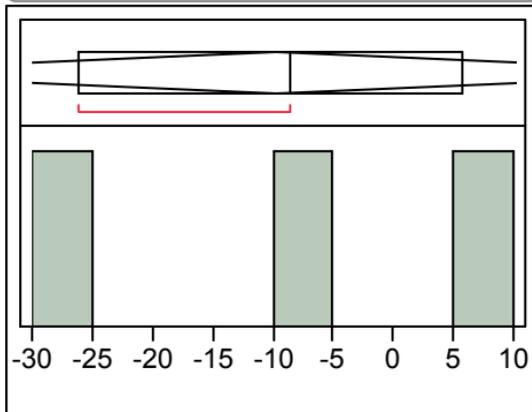
Method=Beta Counting - liquid scintillation counter

Bias

GrW Distribution by Detection Method

Distributions Analyte Name=Gross beta, Detection Method=Beta Counting - liquid scintillation counter

Bias



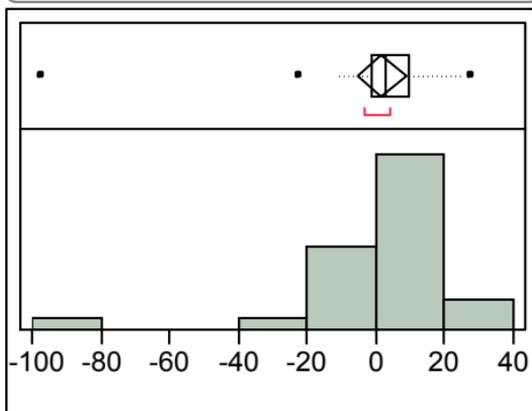
Moments

Mean	-9.666667
Std Dev	15.981969
Std Err Mean	9.2271941
Upper 95% Mean	30.034745
Lower 95% Mean	-49.36808
N	3
Sum Wgt	3
Sum	-29
Variance	255.42333
Skewness	-0.326745
Kurtosis	.
CV	-165.3307
N Missing	0

Distributions Analyte Name=Gross beta, Detection Method=Gross Alpha/Beta - 2 pi gas flow proportional counter

Method=Gross Alpha/Beta - 2 pi gas flow proportional counter

Bias



Moments

Mean	1.7333333
Std Dev	20.48624
Std Err Mean	3.5661967
Upper 95% Mean	8.9974383
Lower 95% Mean	-5.530772
N	33
Sum Wgt	33
Sum	57.2
Variance	419.68604
Skewness	-3.651383
Kurtosis	17.872805
CV	1181.8985
N Missing	0

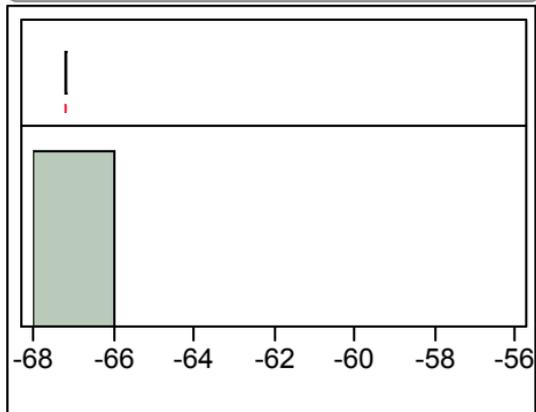
Distributions Analyte Name=Gross beta, Detection Method=Other

Bias

GrW Distribution by Detection Method

Distributions Analyte Name=Gross
beta, Detection Method=Other

Bias



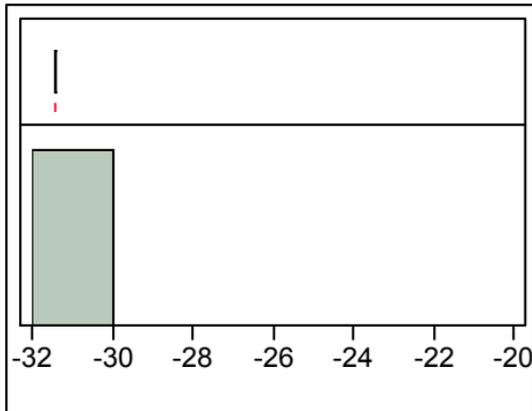
Moments

Mean	-67.2
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-67.2
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

GrW Distribution by Prep Method

Distributions Analyte Name=Gross alpha, Preparation Method=Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.

Bias

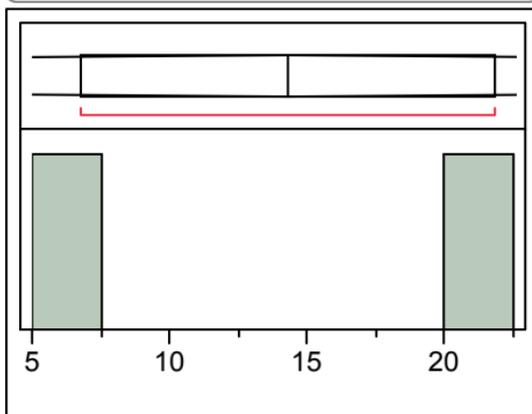


Moments

Mean	-31.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-31.4
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross alpha, Preparation Method=Coprecipitation, acidified

Bias



Moments

Mean	14.3
Std Dev	10.606602
Std Err Mean	7.5
Upper 95% Mean	109.59654
Lower 95% Mean	-80.99654
N	2
Sum Wgt	2
Sum	28.6
Variance	112.5
Skewness	.
Kurtosis	.
CV	74.17204
N Missing	0

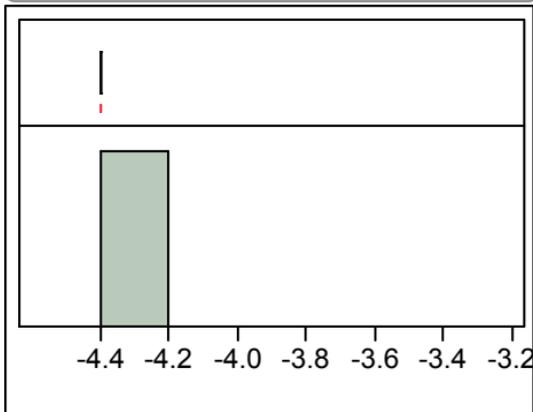
Distributions Analyte Name=Gross alpha, Preparation Method=Coprecipitation, straight

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross alpha,
Preparation Method=Coprecipitation, straight

Bias

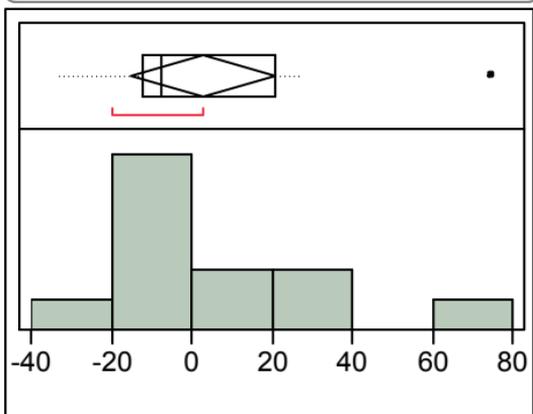


Moments

Mean	-4.4
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-4.4
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross alpha, Preparation Method=EPA
900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Moments

Mean	2.825
Std Dev	28.569855
Std Err Mean	8.2474066
Upper 95% Mean	20.97742
Lower 95% Mean	-15.32742
N	12
Sum Wgt	12
Sum	33.9
Variance	816.23659
Skewness	1.4925468
Kurtosis	2.8723772
CV	1011.3223
N Missing	0

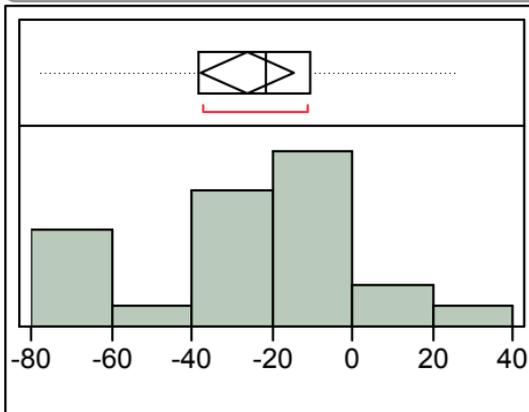
Distributions Analyte Name=Gross alpha,
Preparation Method=Evaporation, acidified

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross alpha,
Preparation Method=Evaporation, acidified

Bias

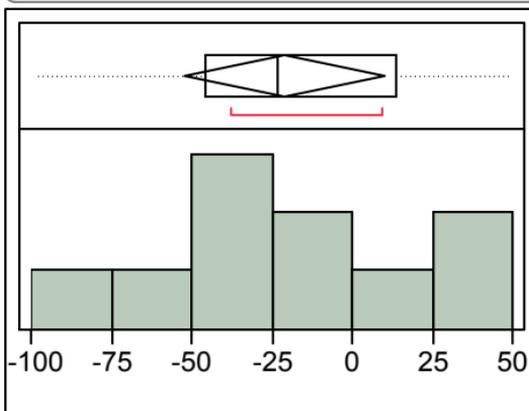


Moments

Mean	-26.168
Std Dev	28.202153
Std Err Mean	5.6404306
Upper 95% Mean	-14.52672
Lower 95% Mean	-37.80928
N	25
Sum Wgt	25
Sum	-654.2
Variance	795.36143
Skewness	-0.429192
Kurtosis	-0.230468
CV	-107.7734
N Missing	0

Distributions Analyte Name=Gross alpha,
Preparation Method=Evaporation, straight

Bias



Moments

Mean	-21
Std Dev	43.39342
Std Err Mean	13.722204
Upper 95% Mean	10.041783
Lower 95% Mean	-52.04178
N	10
Sum Wgt	10
Sum	-210
Variance	1882.9889
Skewness	-0.153274
Kurtosis	0.1438957
CV	-206.6353
N Missing	0

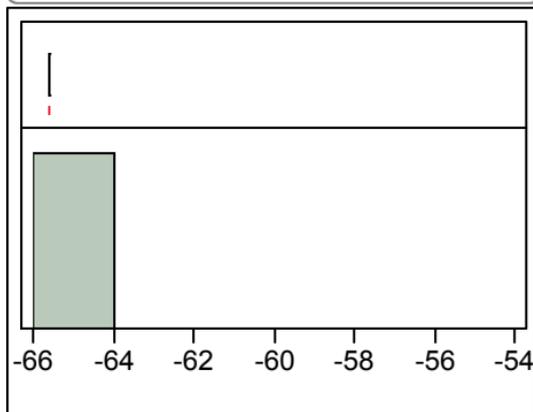
Distributions Analyte Name=Gross alpha, Preparation
Method=Ion Exchange Chromatography / Ion Chromatography

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross alpha, Preparation
Method=Ion Exchange Chromatography / Ion Chromatography

Bias

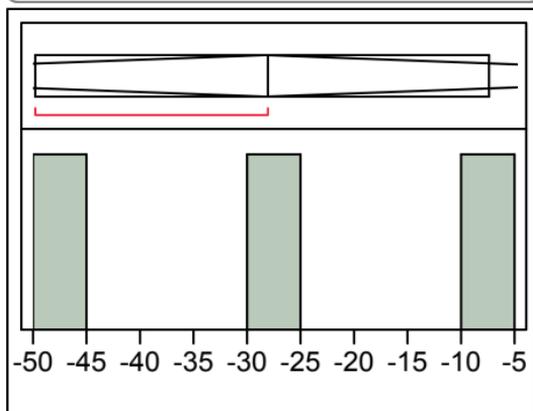


Moments

Mean	-65.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-65.6
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross alpha, Preparation
Method=No preparation - analyzed as received

Bias



Moments

Mean	-28.36667
Std Dev	21.201258
Std Err Mean	12.240552
Upper 95% Mean	24.300177
Lower 95% Mean	-81.03351
N	3
Sum Wgt	3
Sum	-85.1
Variance	449.49333
Skewness	-0.056591
Kurtosis	.
CV	-74.74004
N Missing	0

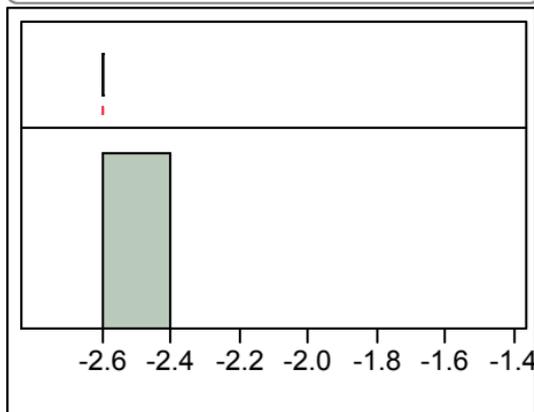
Distributions Analyte Name=Gross beta, Preparation Method=Acid
dissolution by strong Aqua Regia, hydrofluoric acid, etc.

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross beta, Preparation Method=Acid dissolution by strong Aqua Regia, hydrofluoric acid, etc.

Bias

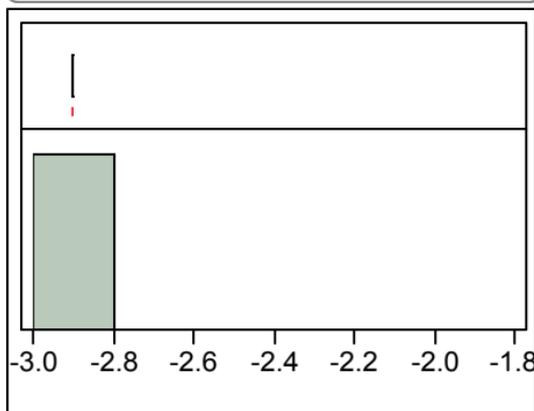


Moments

Mean	-2.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-2.6
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross beta, Preparation Method=Coprecipitation, acidified

Bias



Moments

Mean	-2.9
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-2.9
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

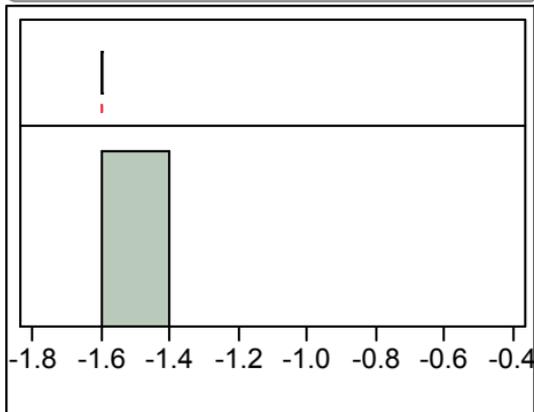
Distributions Analyte Name=Gross beta, Preparation Method=Coprecipitation, straight

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross beta,
Preparation Method=Coprecipitation, straight

Bias

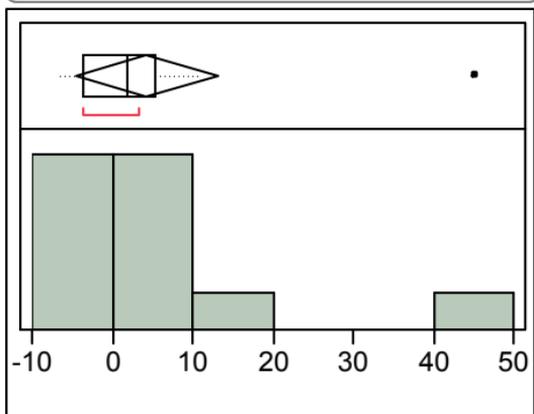


Moments

Mean	-1.6
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-1.6
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross beta, Preparation Method=EPA
900, Radioactivity, Gross Alpha/Beta Screening, 600/4-80-032

Bias



Moments

Mean	4.2583333
Std Dev	13.833915
Std Err Mean	3.9935072
Upper 95% Mean	13.047983
Lower 95% Mean	-4.531317
N	12
Sum Wgt	12
Sum	51.1
Variance	191.3772
Skewness	2.674237
Kurtosis	8.0920022
CV	324.86688
N Missing	0

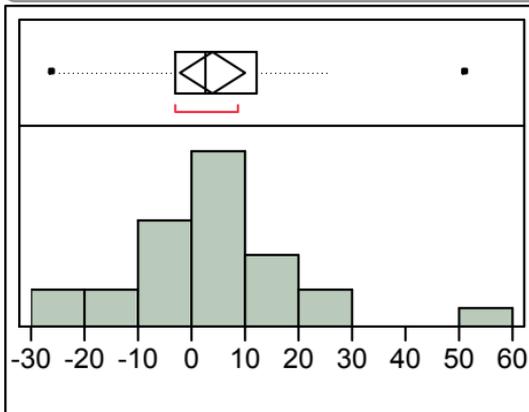
Distributions Analyte Name=Gross beta,
Preparation Method=Evaporation, acidified

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross beta,
Preparation Method=Evaporation, acidified

Bias

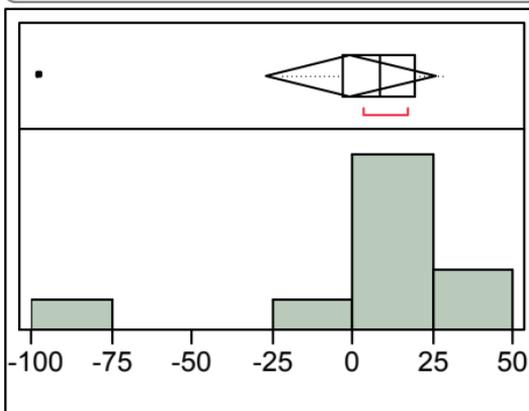


Moments

Mean	4.0148148
Std Dev	15.652223
Std Err Mean	3.0122717
Upper 95% Mean	10.206628
Lower 95% Mean	-2.176998
N	27
Sum Wgt	27
Sum	108.4
Variance	244.99208
Skewness	0.6911919
Kurtosis	2.3794339
CV	389.86164
N Missing	0

Distributions Analyte Name=Gross beta,
Preparation Method=Evaporation, straight

Bias



Moments

Mean	-0.65
Std Dev	37.052103
Std Err Mean	11.716904
Upper 95% Mean	25.855478
Lower 95% Mean	-27.15548
N	10
Sum Wgt	10
Sum	-6.5
Variance	1372.8583
Skewness	-2.353442
Kurtosis	6.1009463
CV	-5700.324
N Missing	0

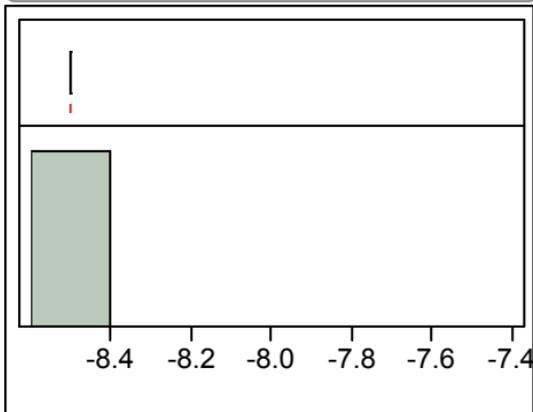
Distributions Analyte Name=Gross beta, Preparation
Method=Ion Exchange Chromatography / Ion Chromatography

Bias

GrW Distribution by Prep Method

Distributions Analyte Name=Gross beta, Preparation
Method=Ion Exchange Chromatography / Ion Chromatography

Bias

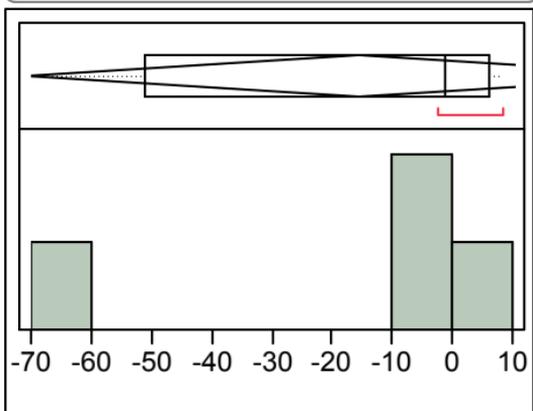


Moments

Mean	-8.5
Std Dev	.
Std Err Mean	.
Upper 95% Mean	.
Lower 95% Mean	.
N	1
Sum Wgt	1
Sum	-8.5
Variance	.
Skewness	.
Kurtosis	.
CV	.
N Missing	0

Distributions Analyte Name=Gross beta, Preparation
Method=No preparation - analyzed as received

Bias



Moments

Mean	-15.425
Std Dev	34.825984
Std Err Mean	17.412992
Upper 95% Mean	39.990912
Lower 95% Mean	-70.84091
N	4
Sum Wgt	4
Sum	-61.7
Variance	1212.8492
Skewness	-1.891645
Kurtosis	3.6810475
CV	-225.7762
N Missing	0

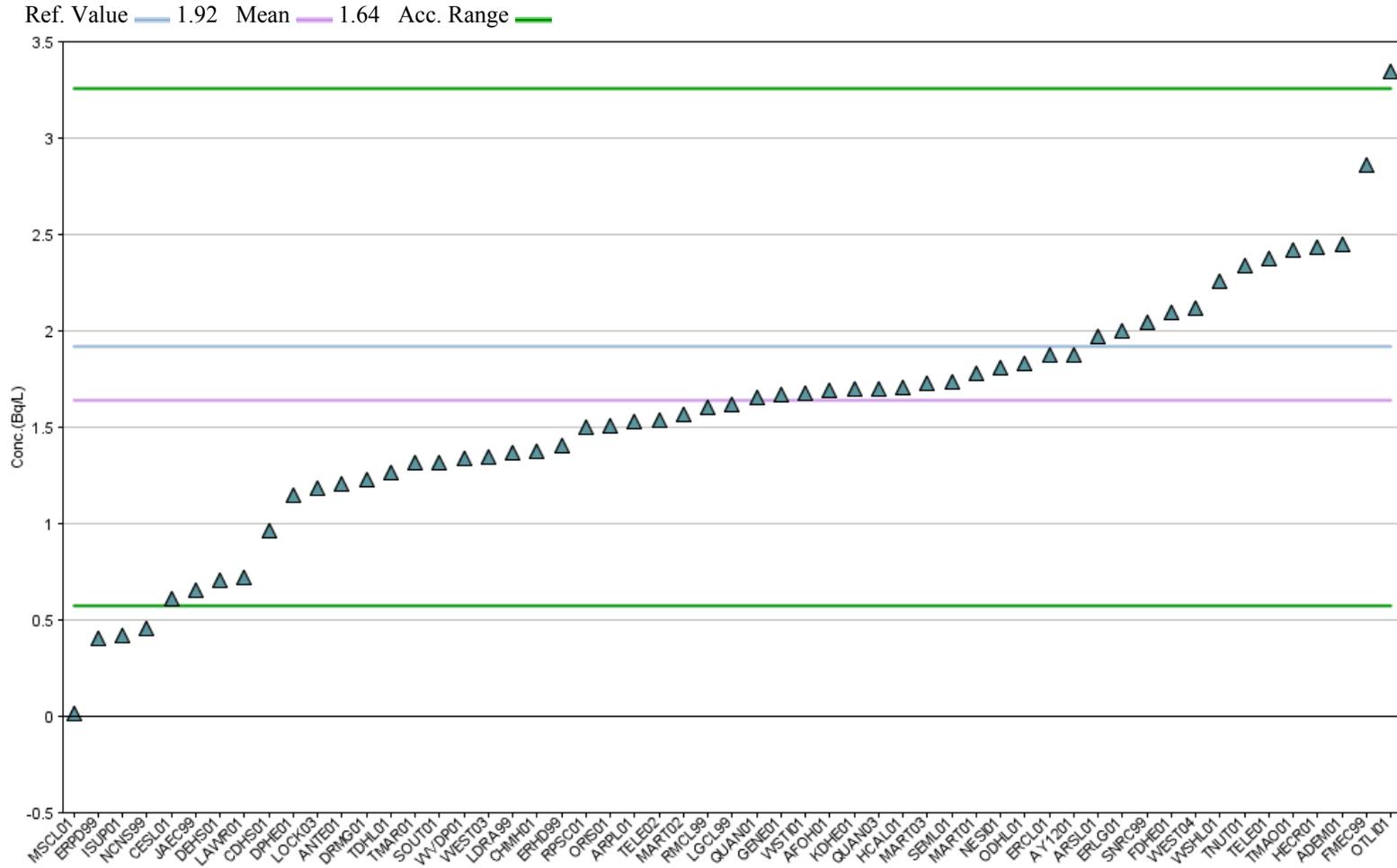
MAPEP-10-GrW23

Gross alpha/beta water

July 20, 2010 - November 17, 2010

Gross alpha

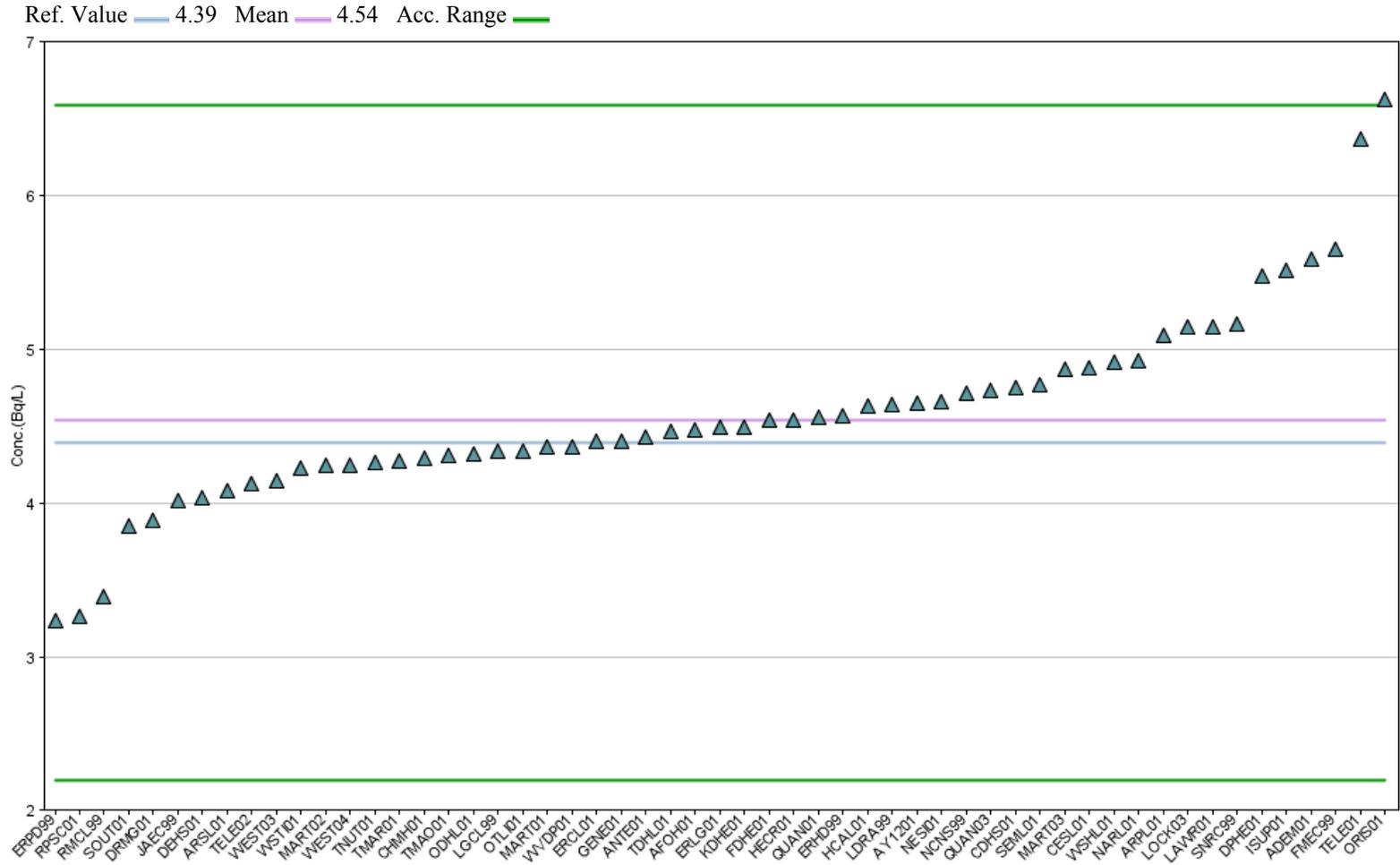
MAPEP-10-GrW23



Note: This chart shows only data points with values between 0.00 and 4.09 (± 5 Standard Deviations)

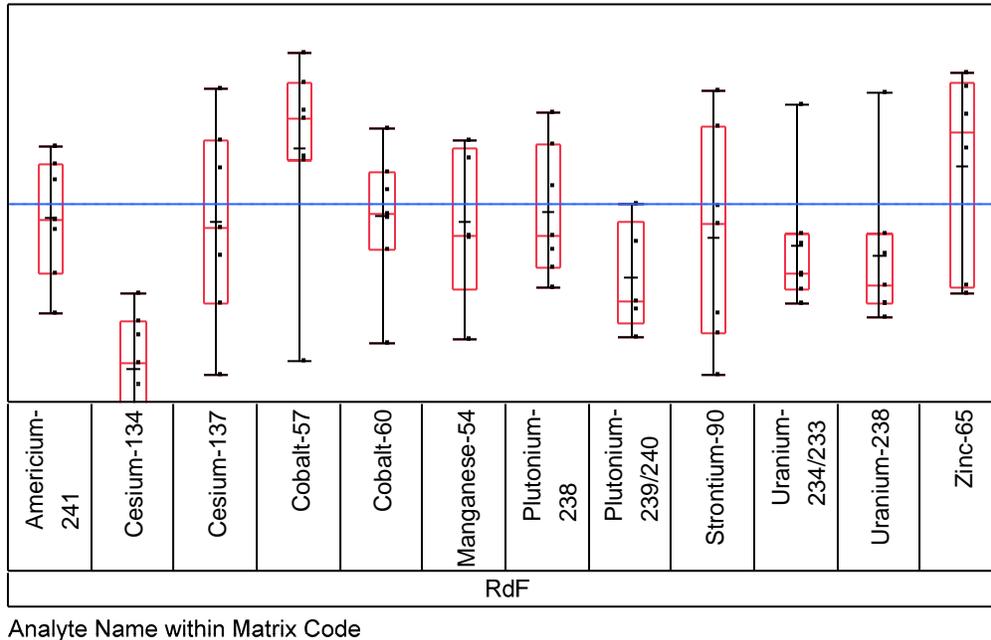
Gross beta

MAPEP-10-GrW23



Note: This chart shows only data points with values between 1.69 and 7.39 (± 5 Standard Deviations)

The intent of the historical graphs contained within this report is to graphically illustrate how laboratories are historically performing within the MAPEP program. The data points (small 'dots') plot the bias (or z-score for organic constituents) of each of the analytes in each of the matrices for each of the studies for MAPEP since Series 12. The BLACK small horizontal line is the mean of the population of the bias shown for that analyte in the matrix. The red box is a typical "box plot" of the data.



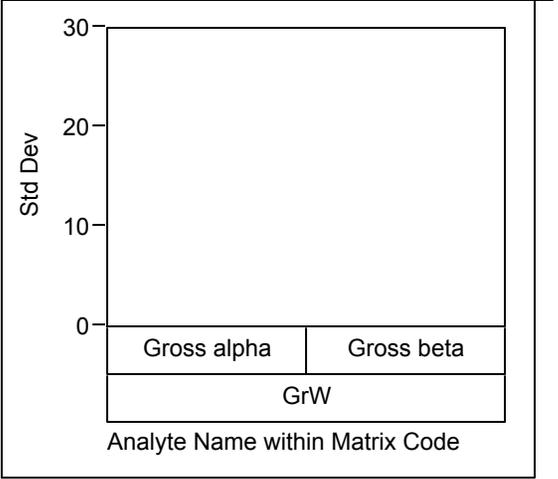
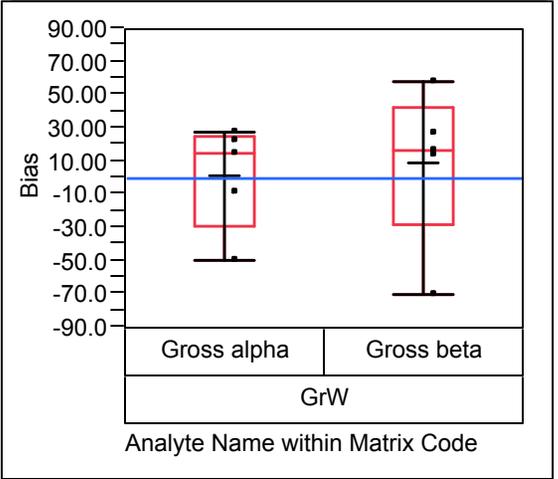
The box plots summarize the distribution of points for each analyte. The ends of the box are the 25th and 75th quantiles. The difference between the quartiles is the interquartile range. The line across the middle of the box identifies the median sample value. Each box has lines, sometimes called whiskers, that extend from each end. The whiskers extend from the ends of the box to the outermost data point that falls within the distances computed.

The box plot along with the laboratory bias data points and the mean visually illustrate the breadth of the distribution and where any potential outliers in the distribution might lie. The ideal visual representation would be to have a very small box plot on top of a very small distribution of data thus indicating very good precision. Accuracy would be reflected by having the mean bias very close to zero (i.e. the box plot overlaps zero at some point).

The Standard Deviation plot below the Bias plot is just that, the standard deviation of the % bias shown above. The ideal plot would be to have the standard deviation as small as possible.

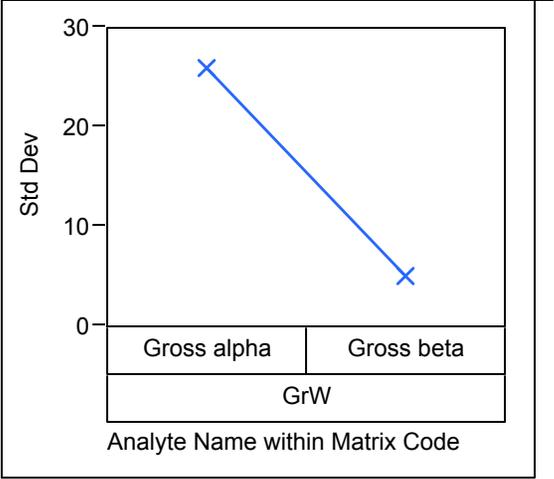
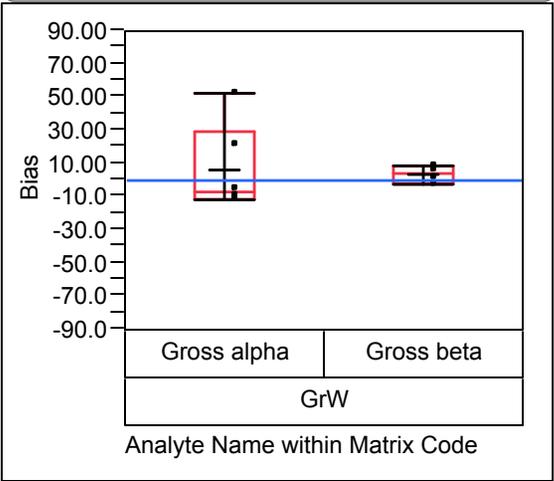
Variability Gauge Lab Code=ADEM01

Variability Chart for Bias



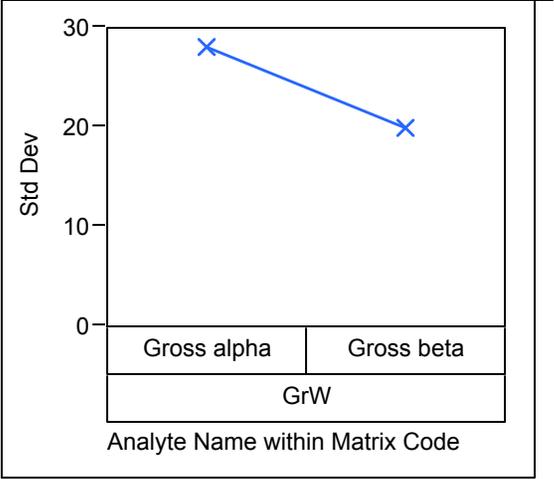
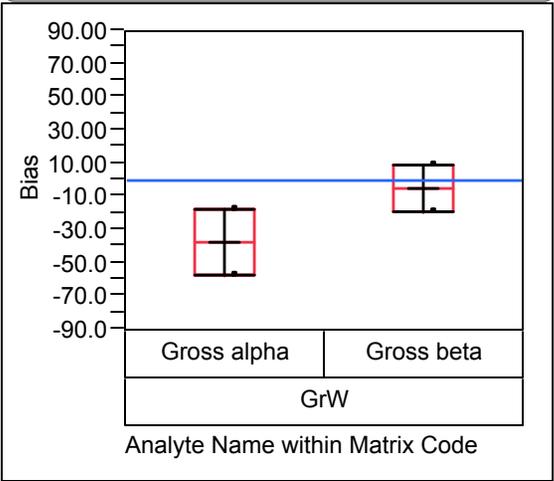
Variability Gauge Lab Code=AFOH01

Variability Chart for Bias



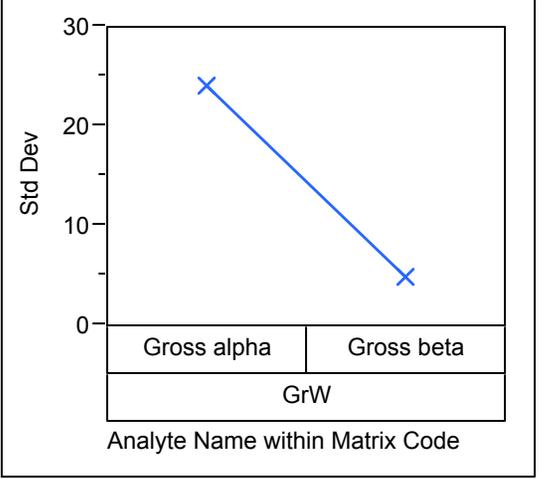
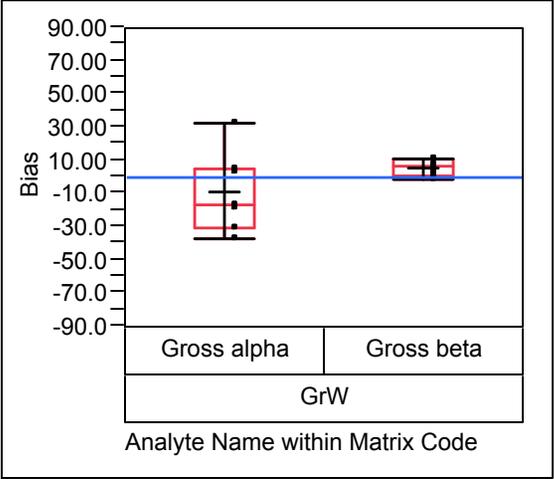
Variability Gauge Lab Code=ANLA01

Variability Chart for Bias



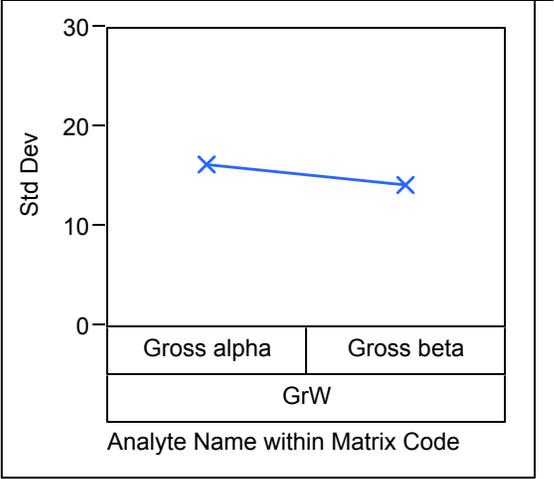
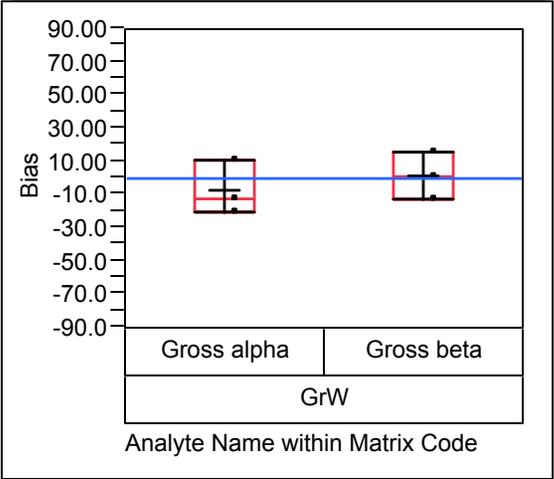
Variability Gauge Lab Code=ANTE01

Variability Chart for Bias



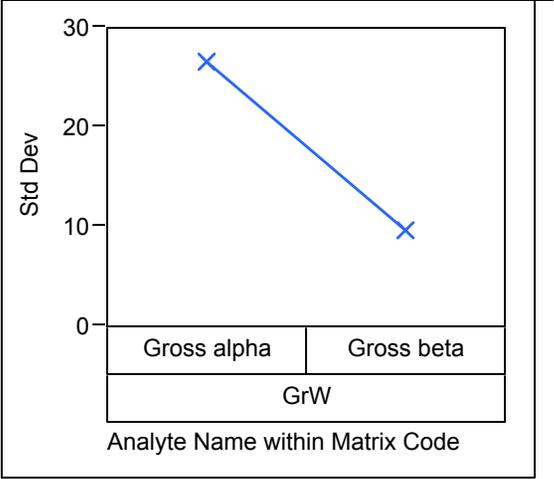
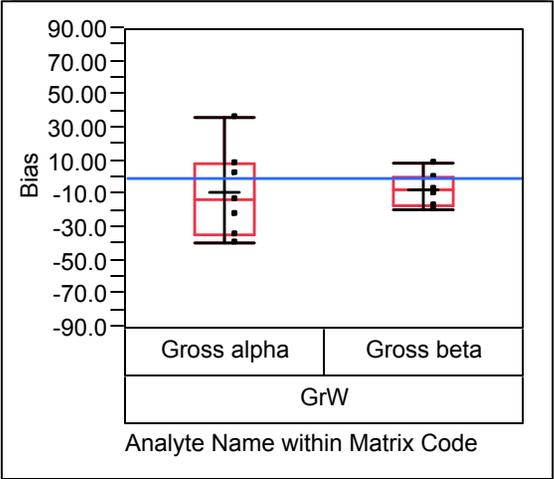
Variability Gauge Lab Code=ARPL01

Variability Chart for Bias



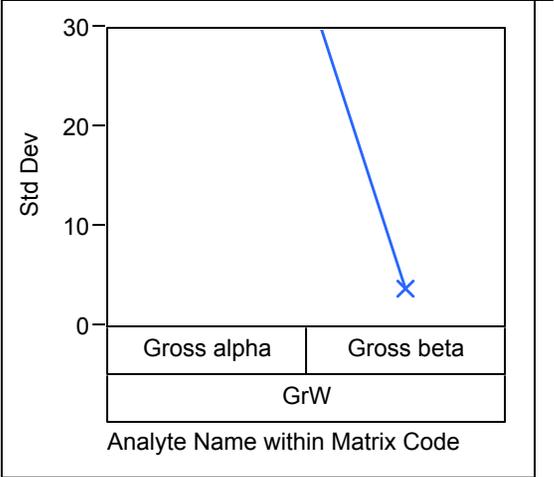
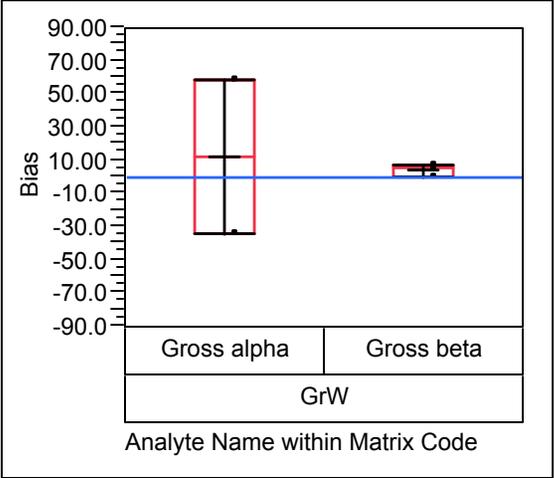
Variability Gauge Lab Code=ARSL01

Variability Chart for Bias



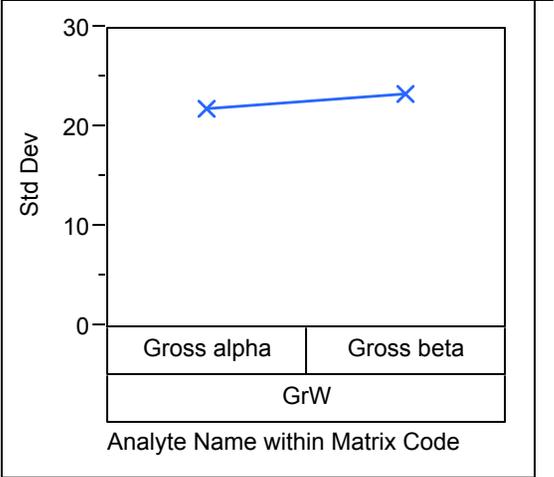
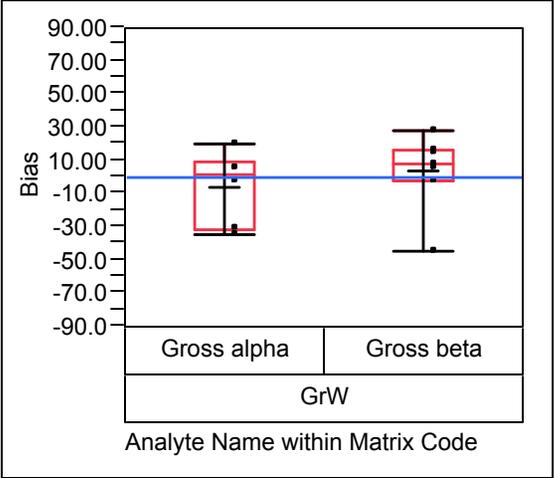
Variability Gauge Lab Code=ATLI01

Variability Chart for Bias



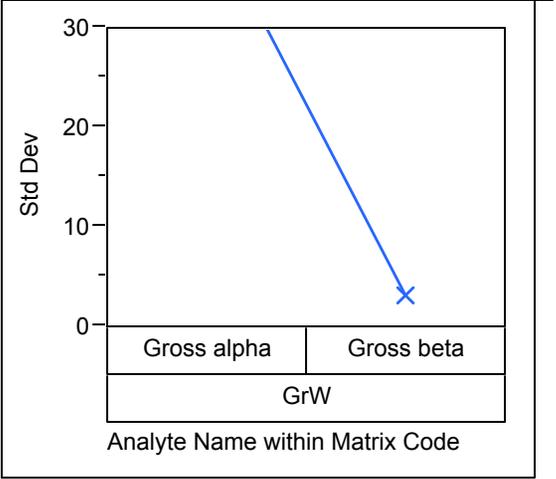
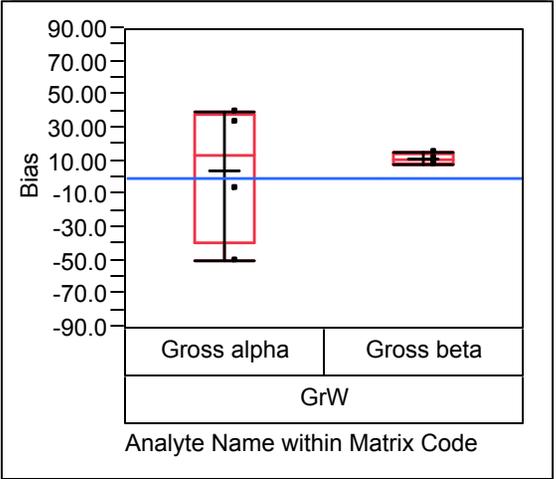
Variability Gauge Lab Code=AY1201

Variability Chart for Bias



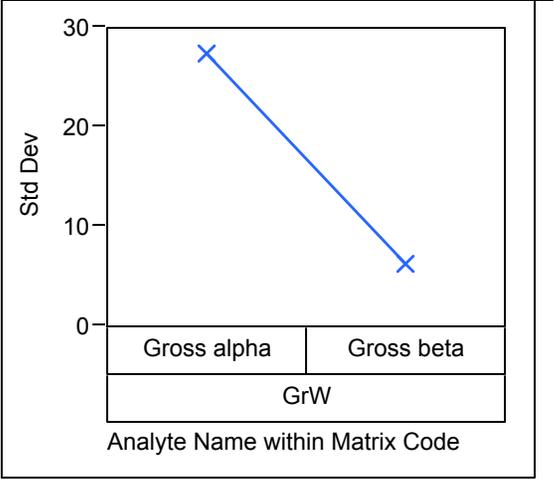
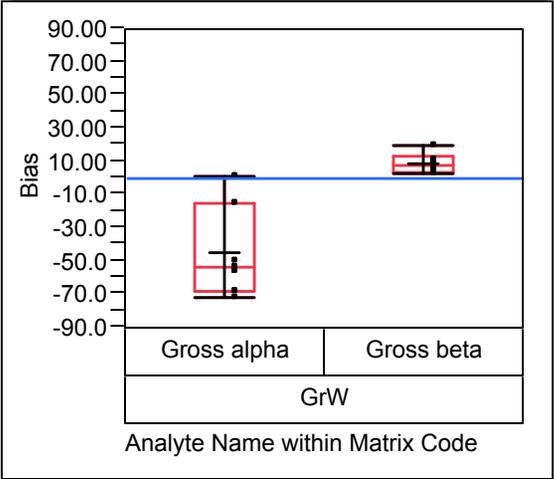
Variability Gauge Lab Code=CDHS01

Variability Chart for Bias



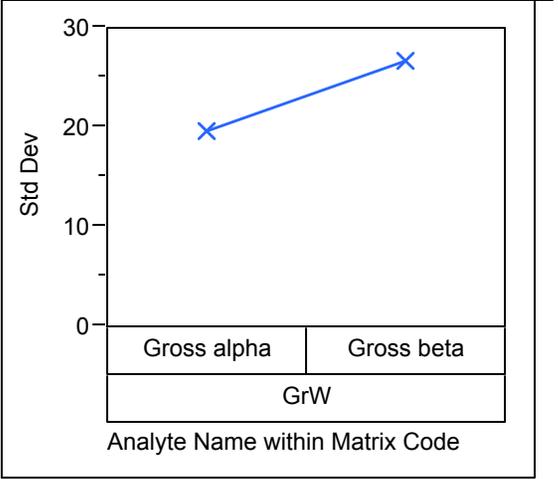
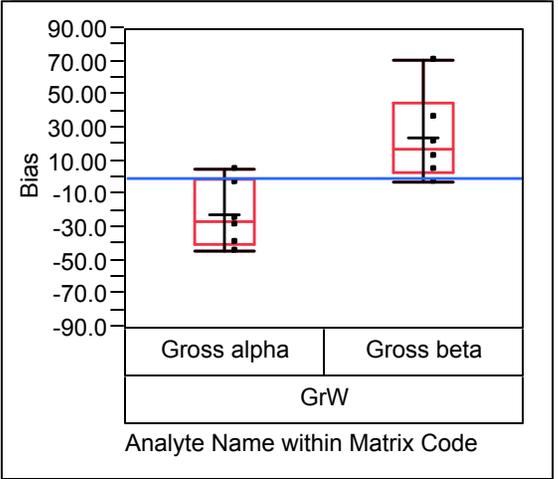
Variability Gauge Lab Code=CESL01

Variability Chart for Bias



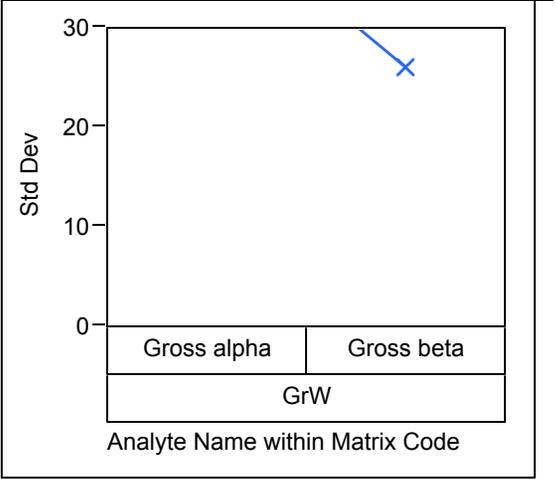
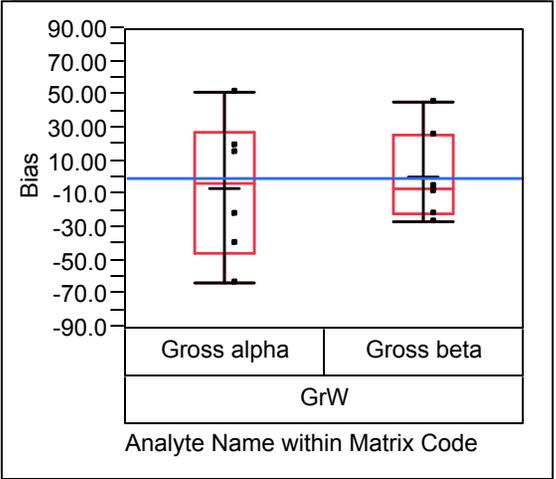
Variability Gauge Lab Code=CHMH01

Variability Chart for Bias



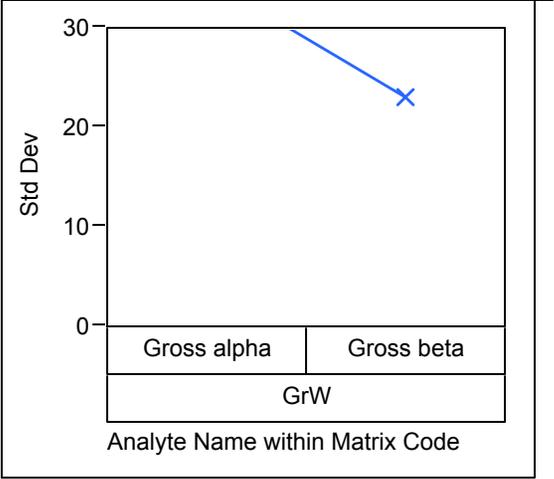
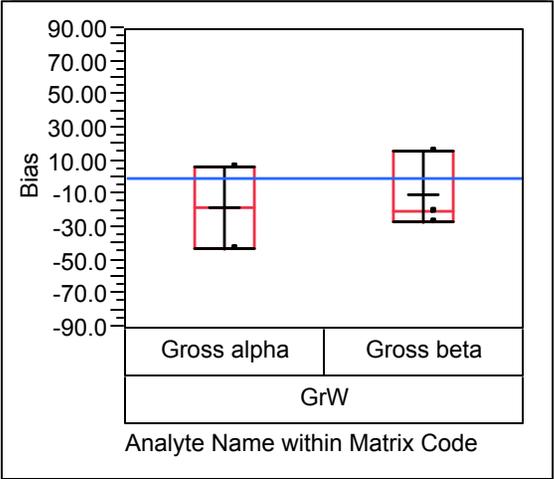
Variability Gauge Lab Code=DEHS01

Variability Chart for Bias



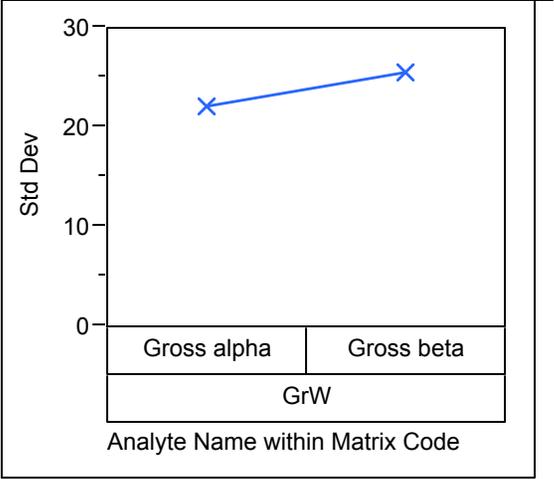
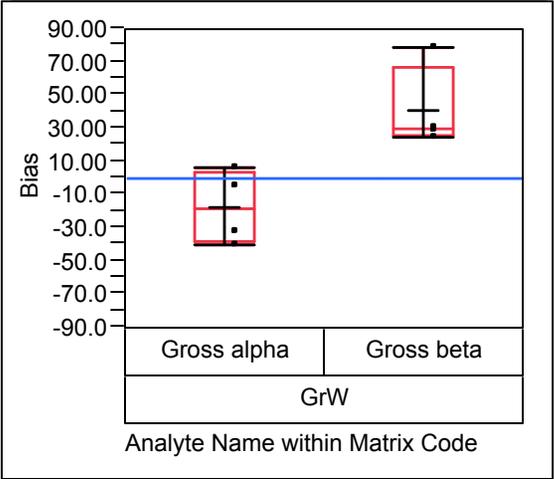
Variability Gauge Lab Code=DLEA01

Variability Chart for Bias



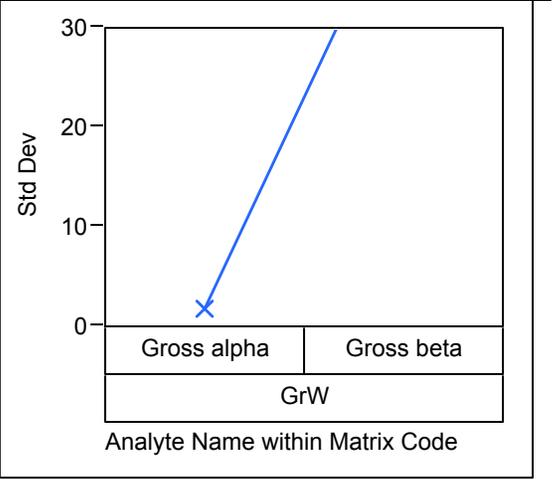
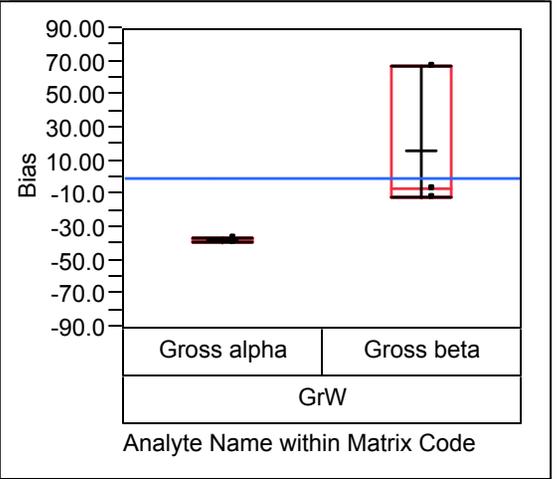
Variability Gauge Lab Code=DPHE01

Variability Chart for Bias



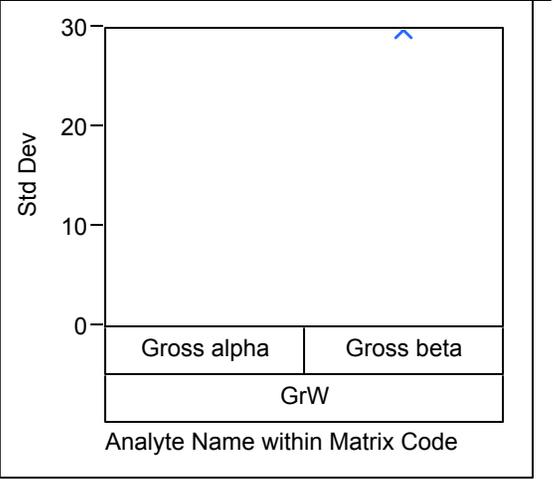
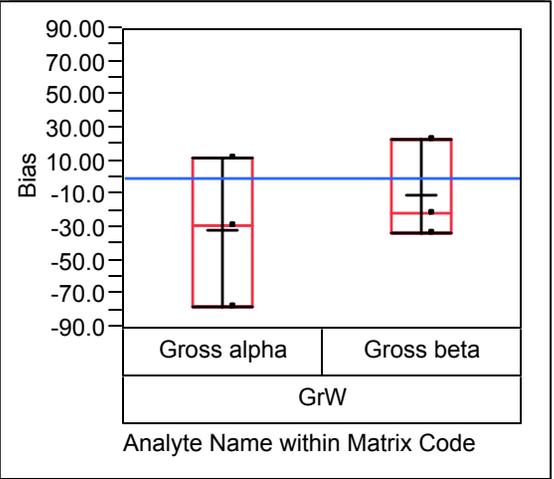
Variability Gauge Lab Code=DRMG01

Variability Chart for Bias



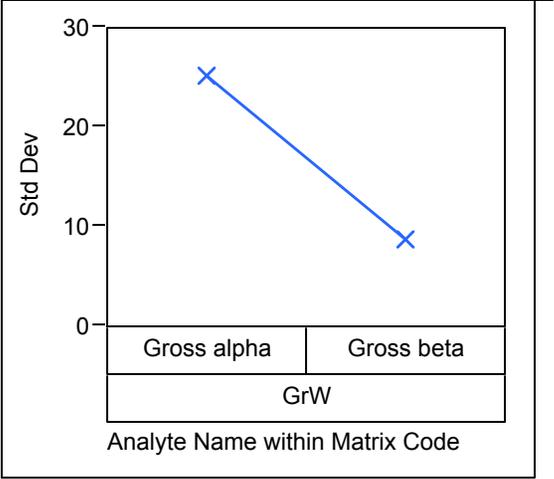
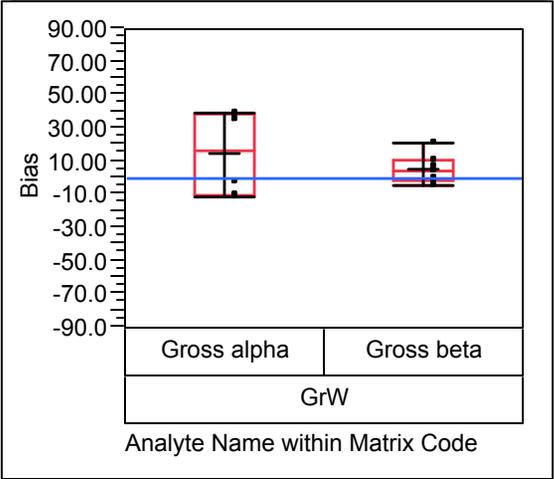
Variability Gauge Lab Code=ENES01

Variability Chart for Bias



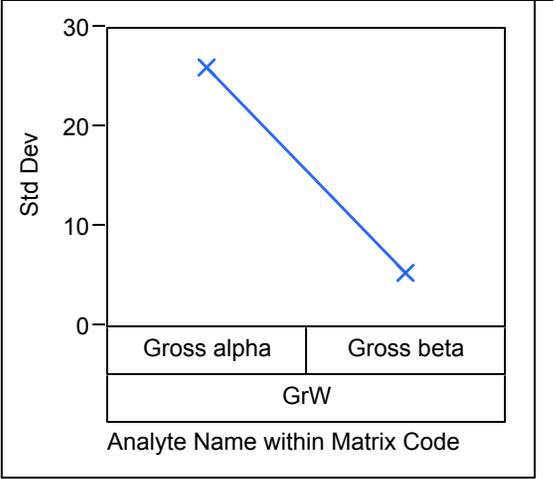
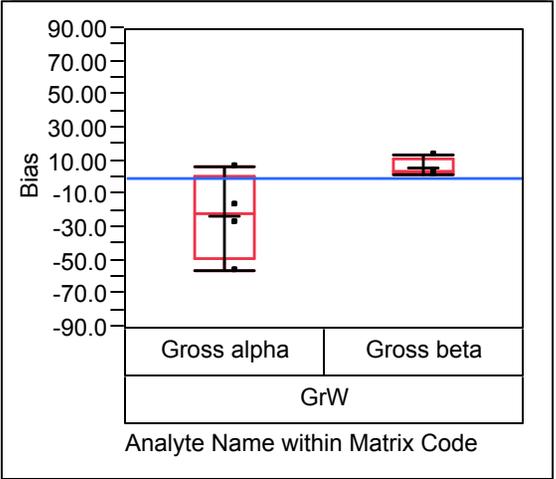
Variability Gauge Lab Code=ERCL01

Variability Chart for Bias



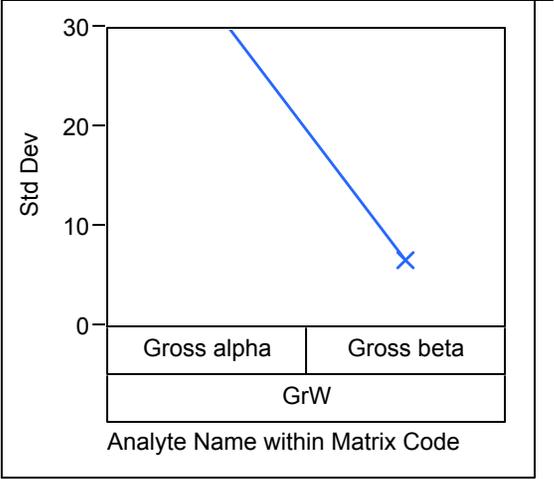
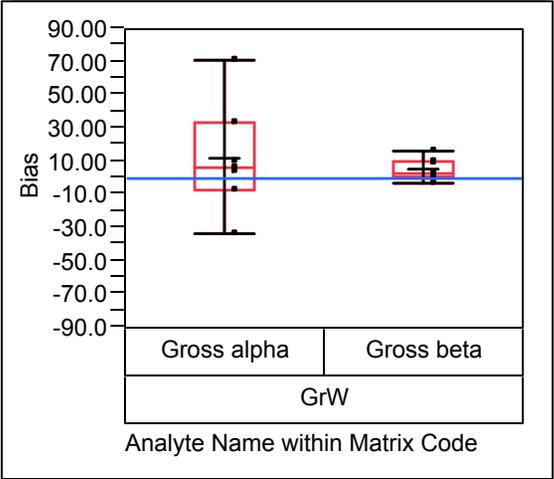
Variability Gauge Lab Code=ERHD99

Variability Chart for Bias



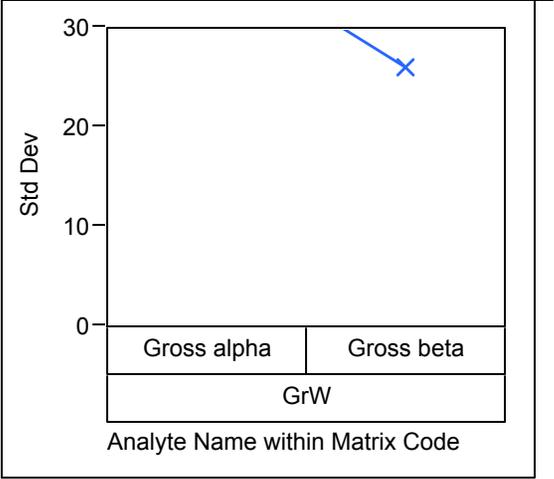
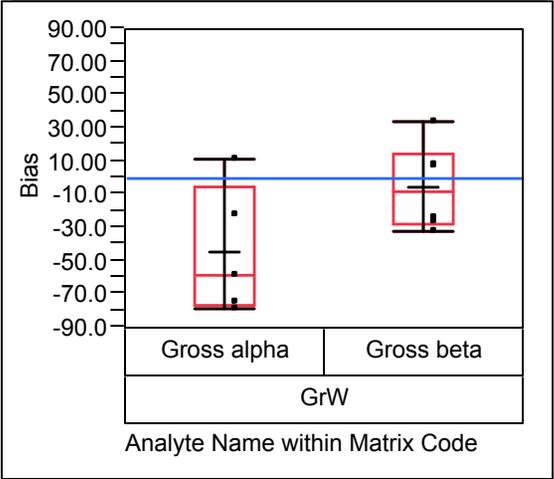
Variability Gauge Lab Code=ERLG01

Variability Chart for Bias



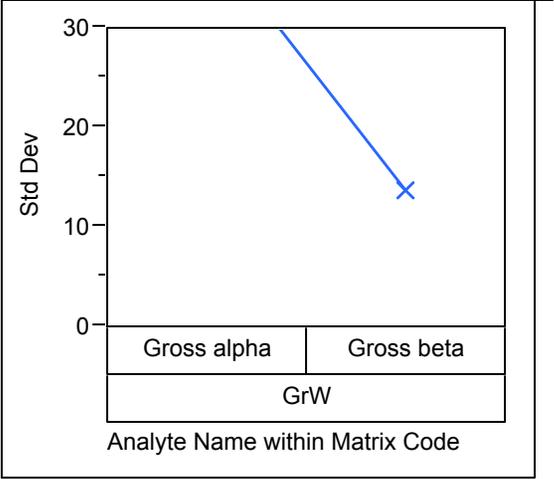
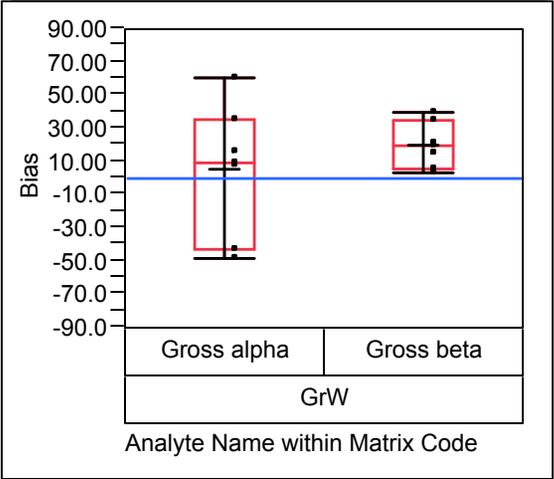
Variability Gauge Lab Code=ERPD99

Variability Chart for Bias



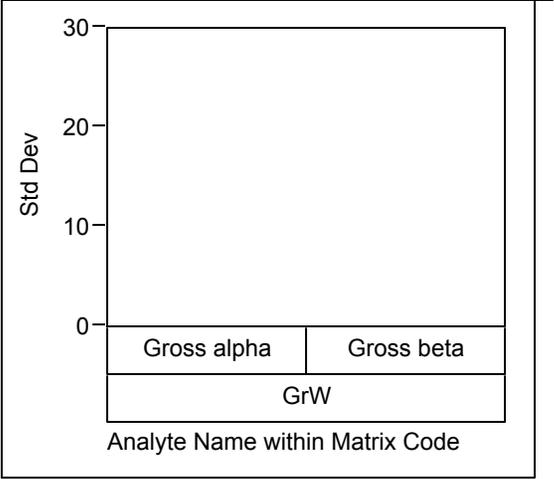
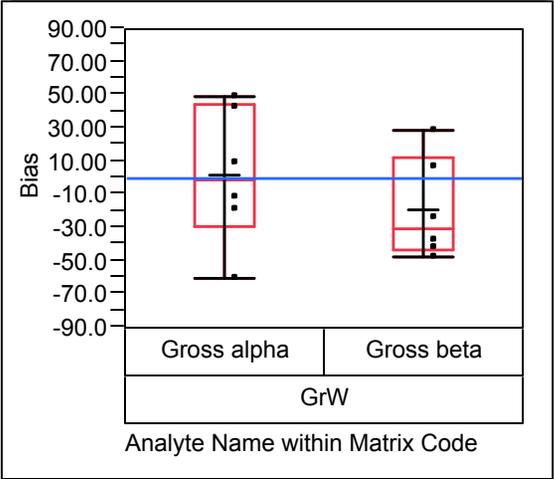
Variability Gauge Lab Code=FDHE01

Variability Chart for Bias



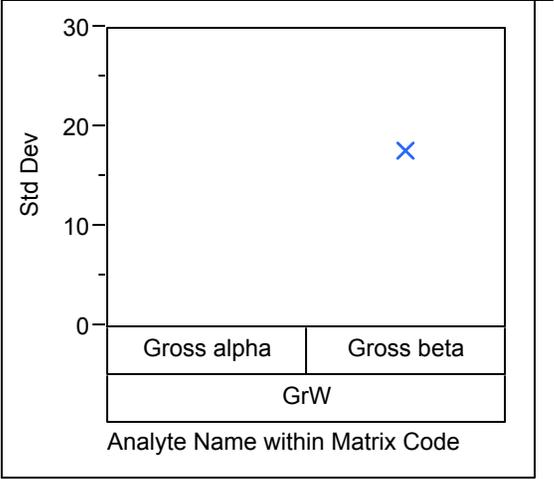
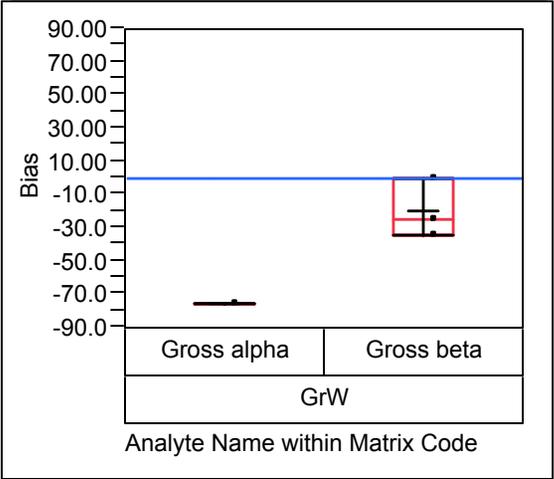
Variability Gauge Lab Code=FMEC99

Variability Chart for Bias



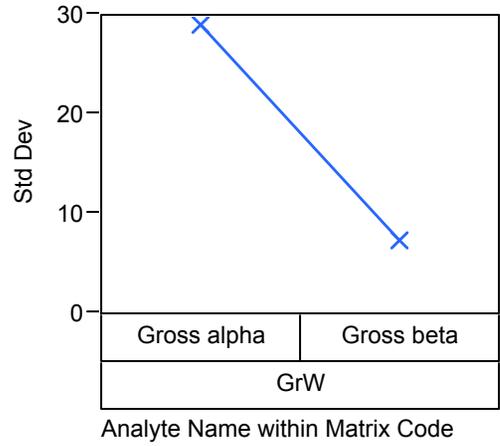
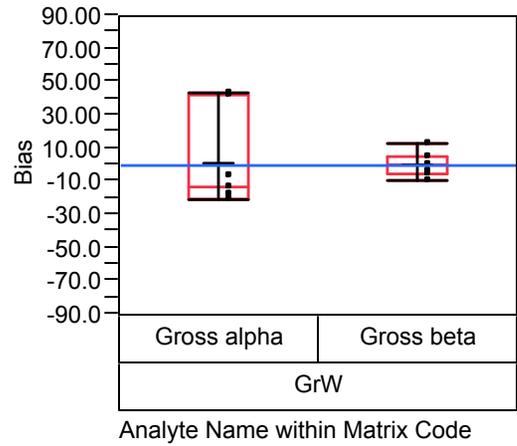
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Variability Chart for Bias



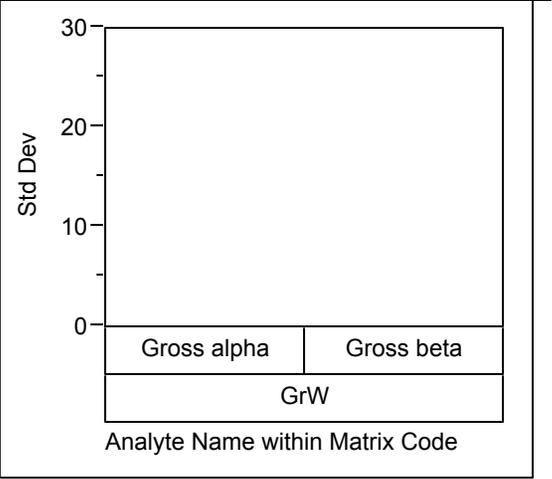
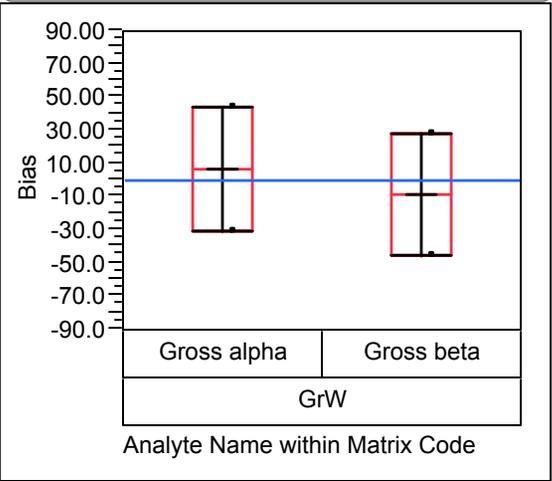
Variability Gauge Lab Code=GENE01

Variability Chart for Bias



Variability Gauge Lab Code=GPLP01

Variability Chart for Bias

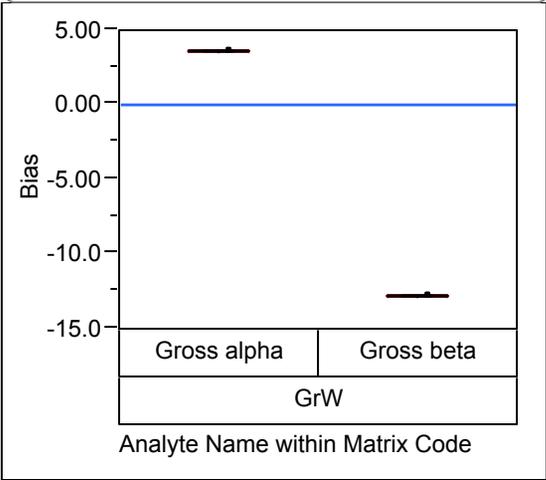


Variability Gauge Lab Code=GROW01

Variability Chart for Bias

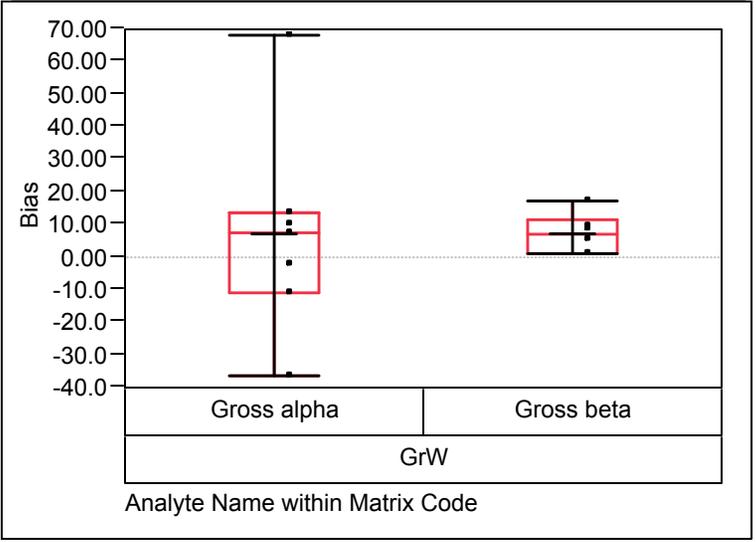
Variability Gauge Lab Code=GROW01

Variability Chart for Bias



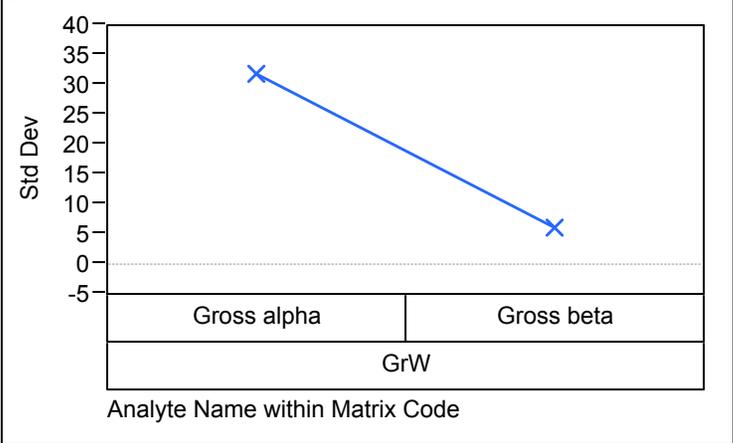
Variability Gauge Lab Code=HCAL01

Variability Chart for Bias



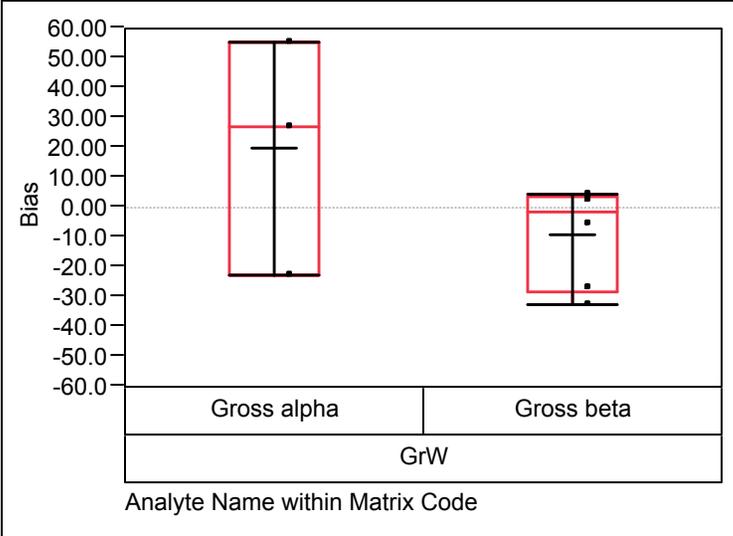
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Variability Chart for Bias



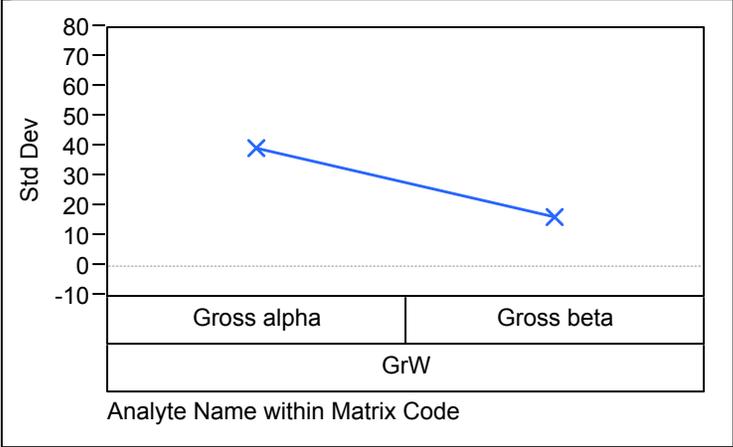
Variability Gauge Lab Code=HECR01

Variability Chart for Bias



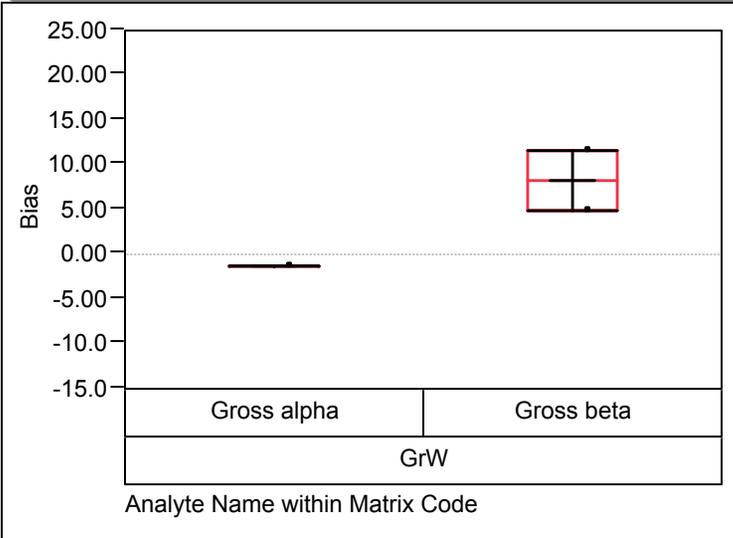
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Variability Chart for Bias



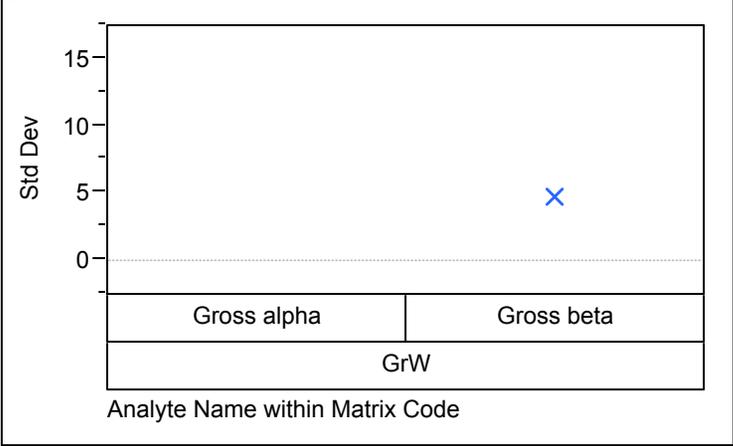
Variability Gauge Lab Code=HWRL01

Variability Chart for Bias



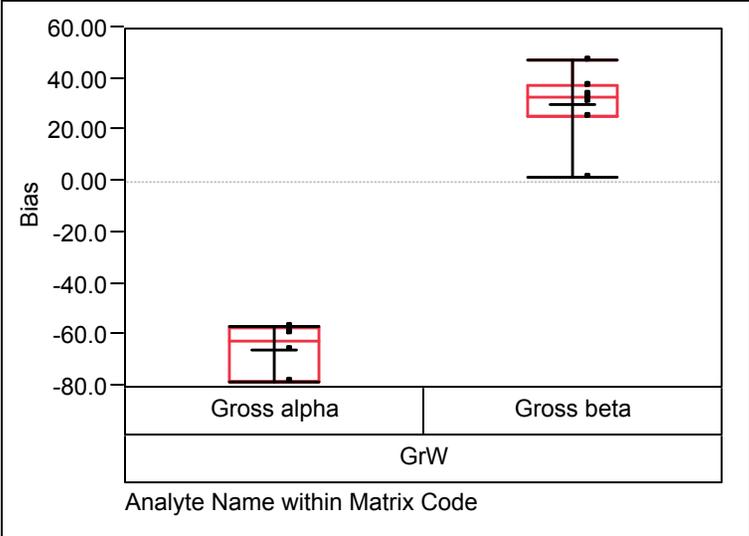
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Variability Chart for Bias



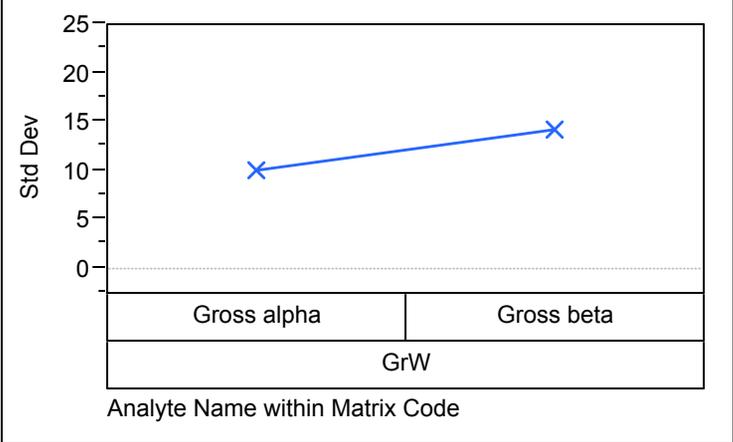
Variability Gauge Lab Code=ISUP01

Variability Chart for Bias



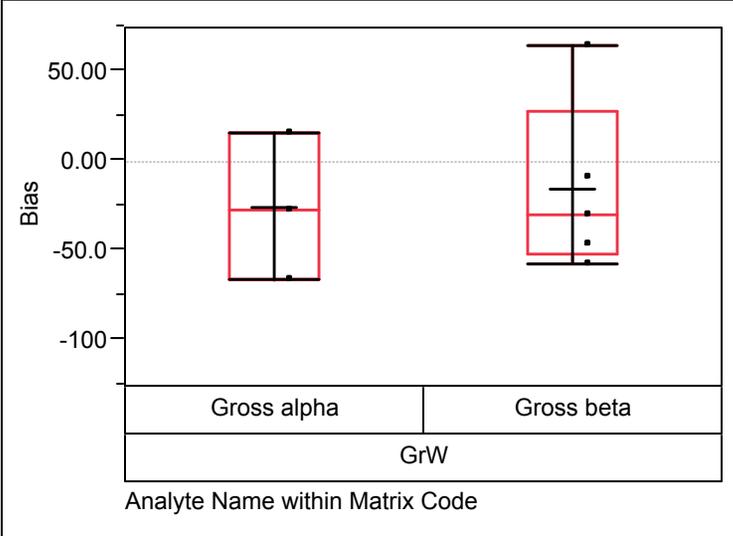
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Variability Chart for Bias



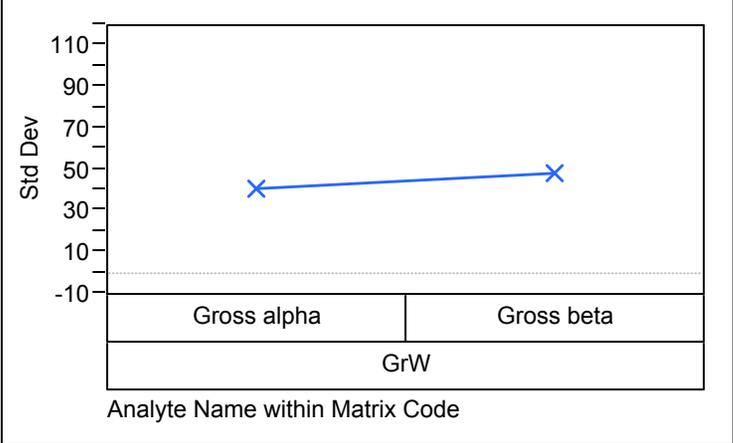
Variability Gauge Lab Code=JAEC99

Variability Chart for Bias



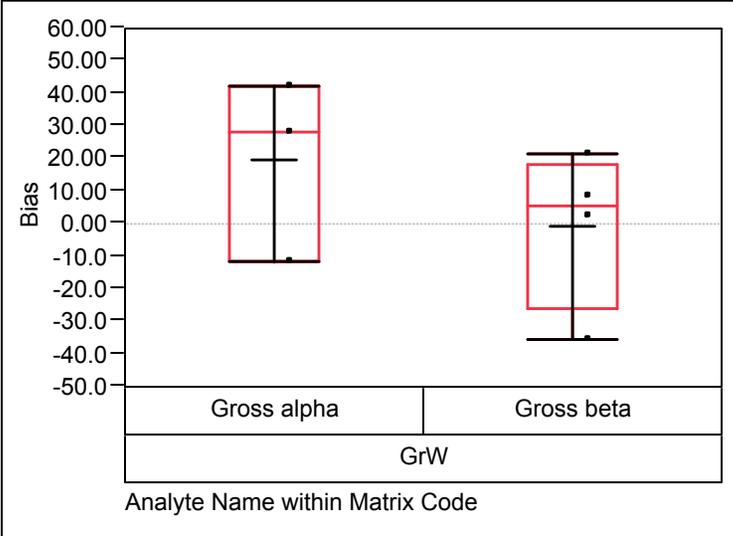
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Variability Chart for Bias



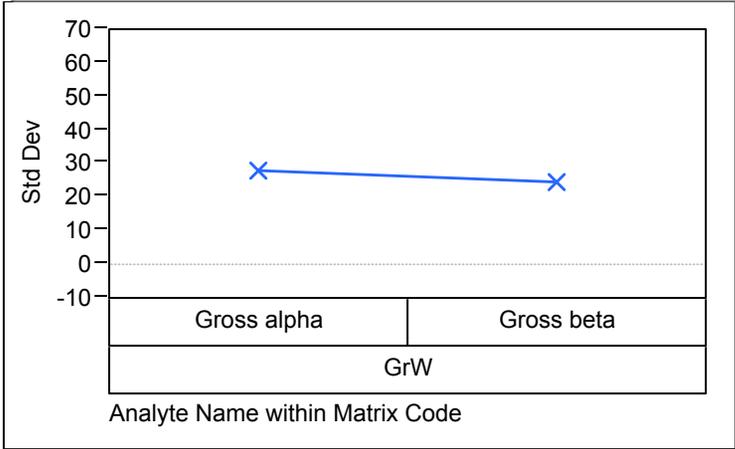
Variability Gauge Lab Code=KDHE01

Variability Chart for Bias



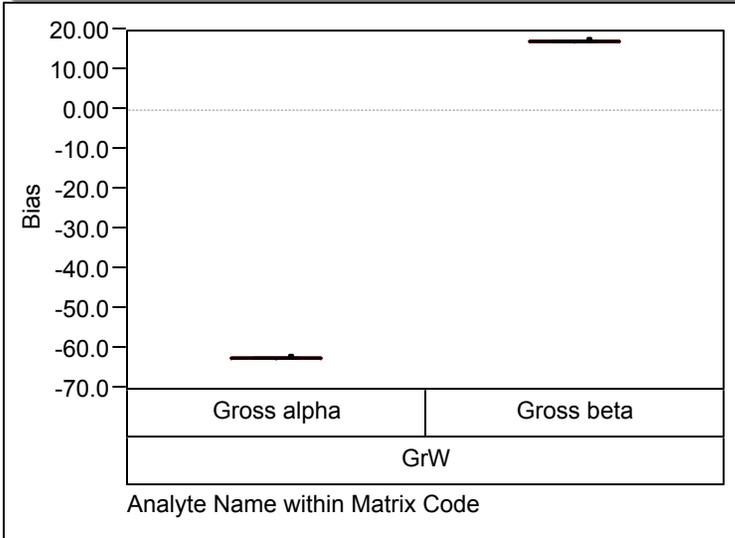
Variability Gauge Lab Code=KDHE01

Variability Chart for Bias



Variability Gauge Lab Code=LAWR01

Variability Chart for Bias

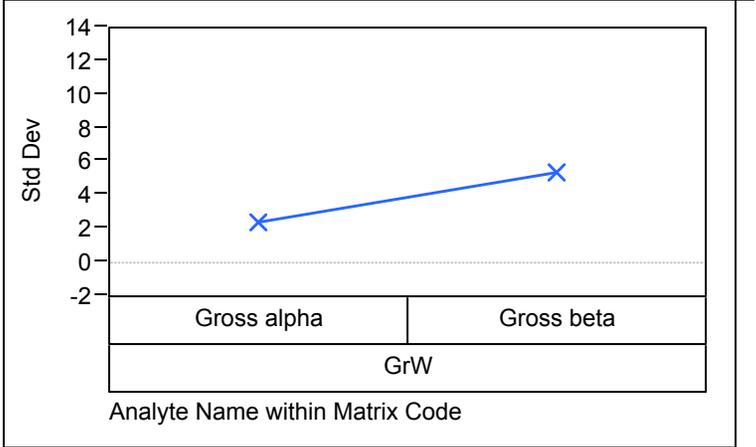
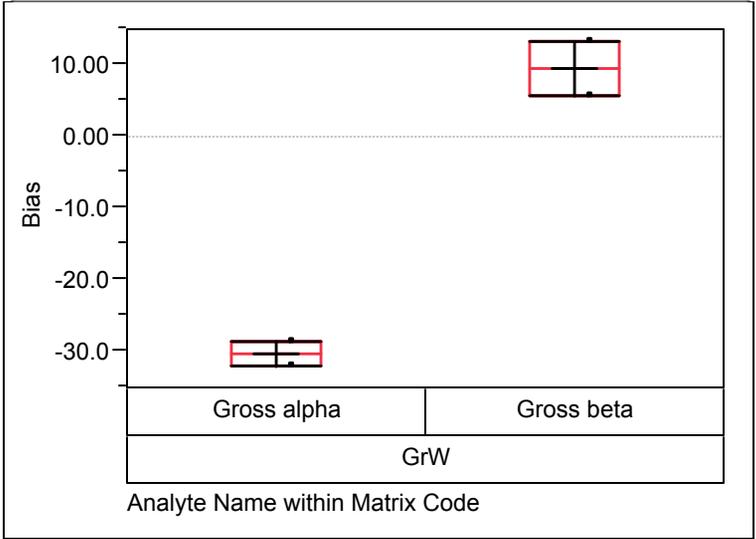


Variability Gauge Lab Code=LDRA99

Variability Chart for Bias

Variability Gauge Lab Code=LDRA99

Variability Chart for Bias

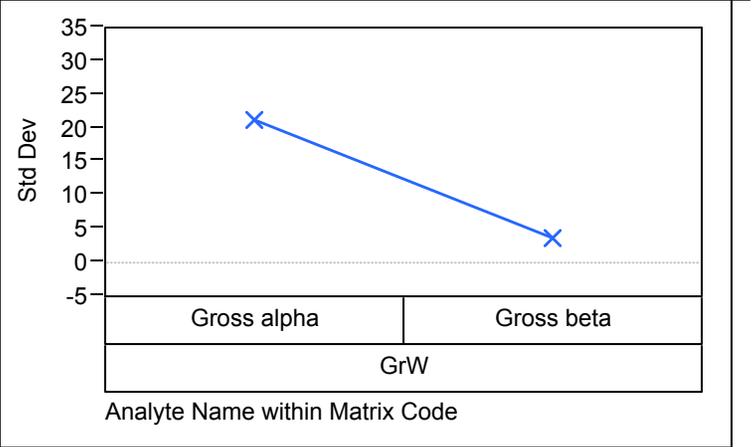
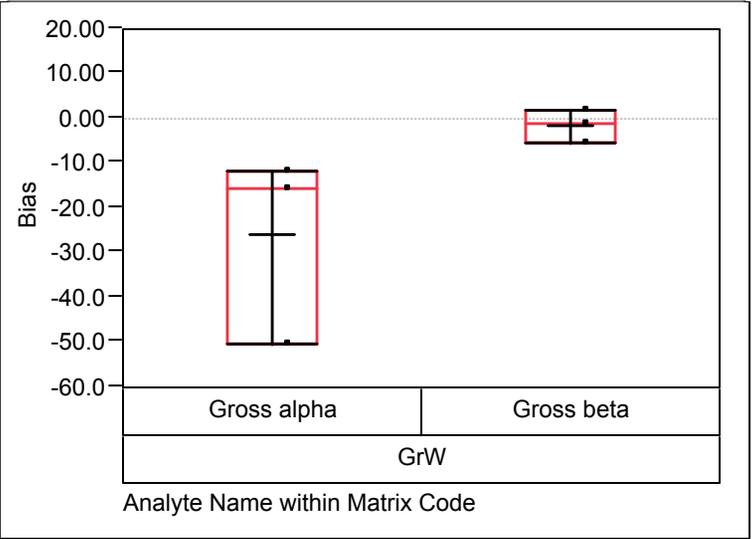


Variability Gauge Lab Code=LGCL99

Variability Chart for Bias

Variability Gauge Lab Code=LGCL99

Variability Chart for Bias

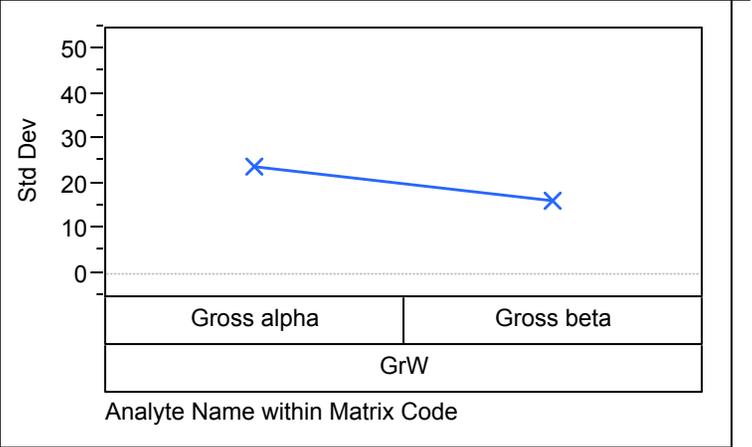
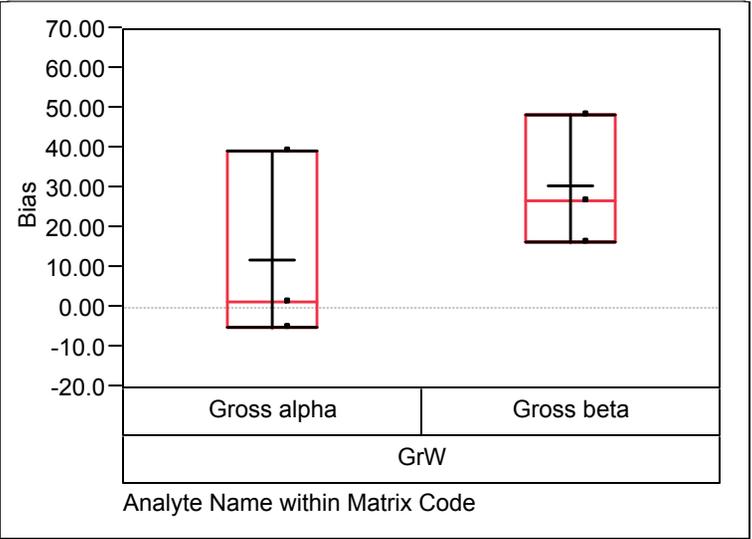


Variability Gauge Lab Code=LOCK01

Variability Chart for Bias

Variability Gauge Lab Code=LOCK01

Variability Chart for Bias

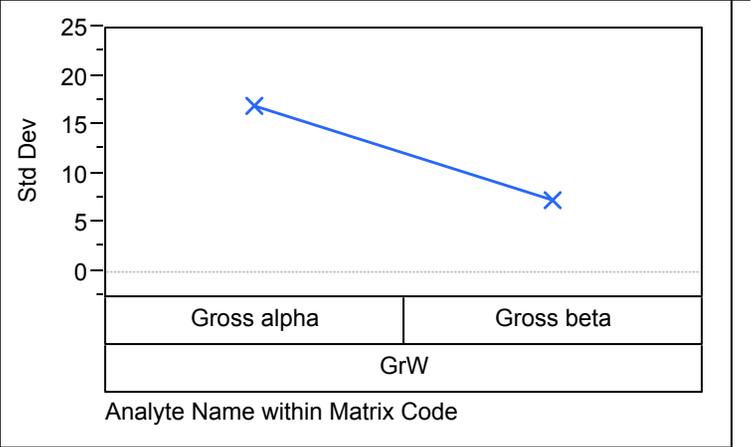
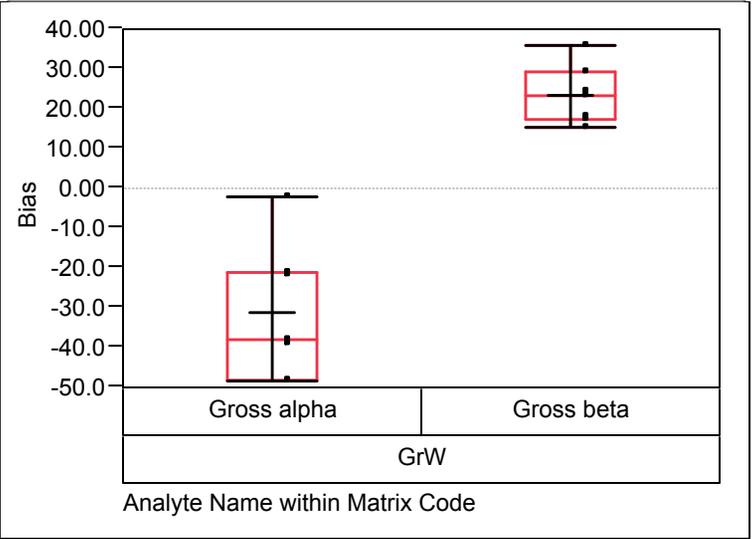


Variability Gauge Lab Code=LOCK03

Variability Chart for Bias

Variability Gauge Lab Code=LOCK03

Variability Chart for Bias

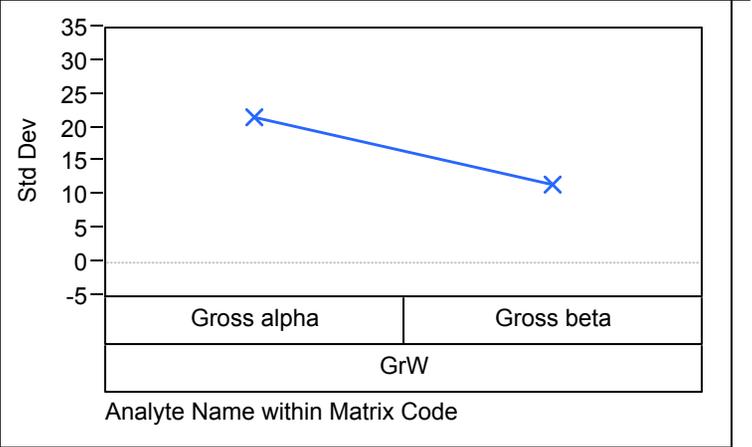
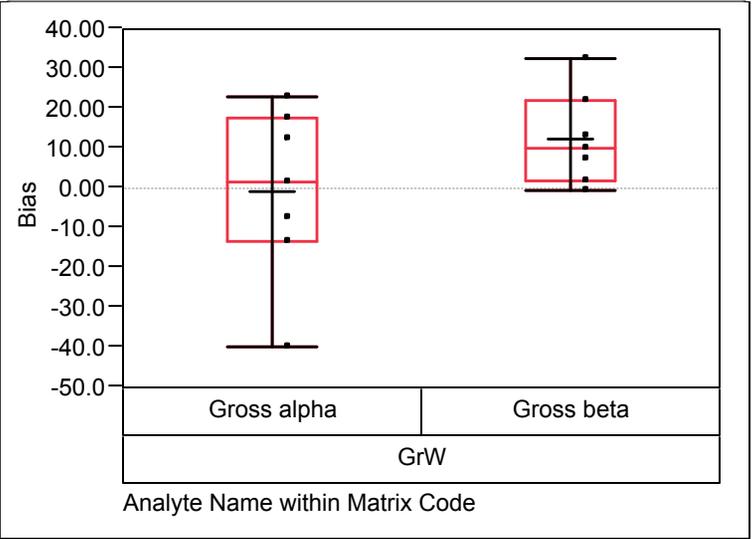


Variability Gauge Lab Code=MART01

Variability Chart for Bias

Variability Gauge Lab Code=MART01

Variability Chart for Bias

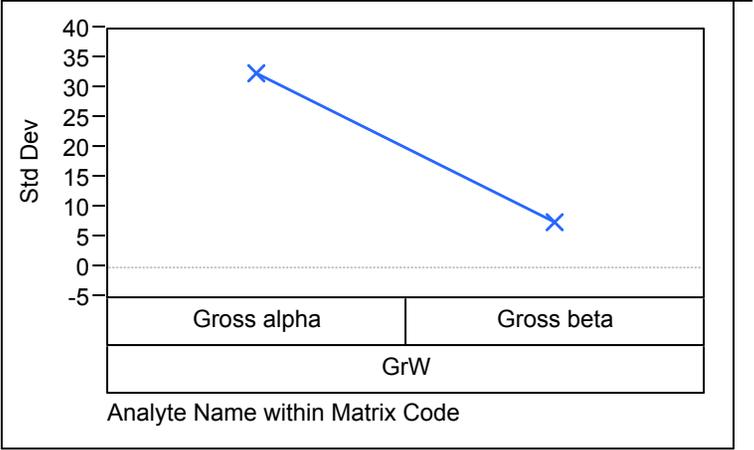
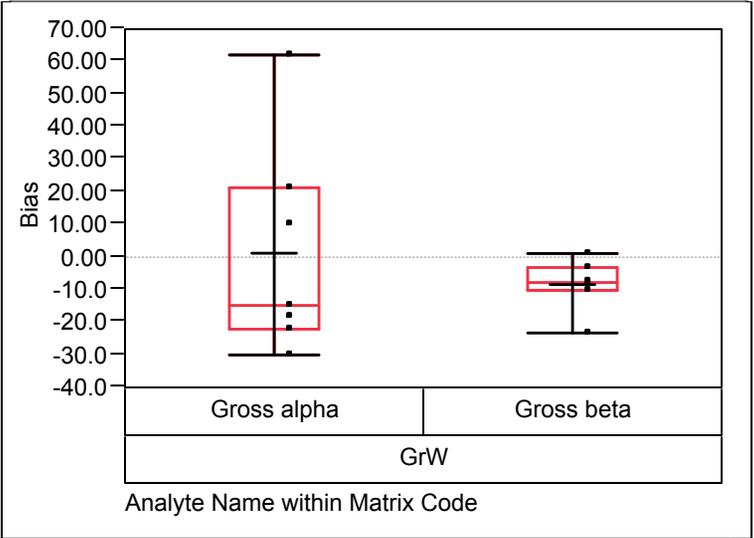


Variability Gauge Lab Code=MART02

Variability Chart for Bias

Variability Gauge Lab Code=MART02

Variability Chart for Bias

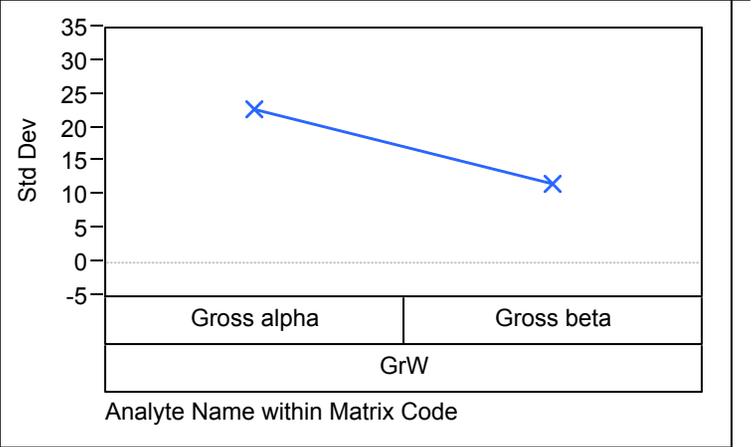
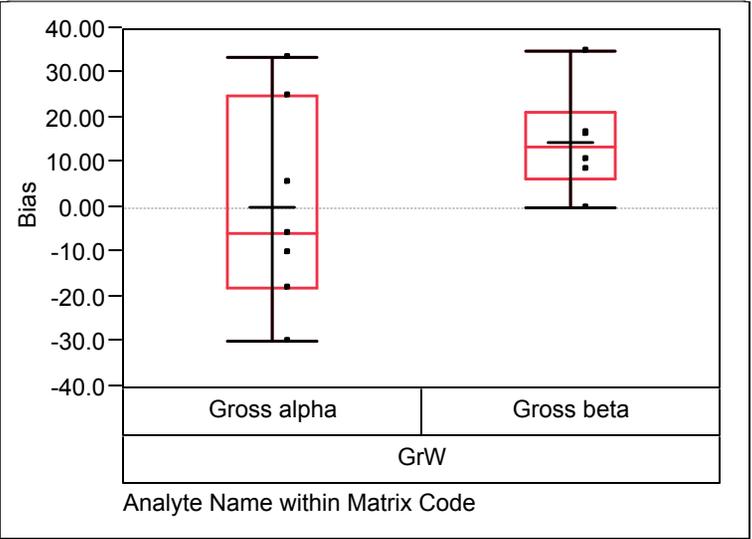


Variability Gauge Lab Code=MART03

Variability Chart for Bias

Variability Gauge Lab Code=MART03

Variability Chart for Bias

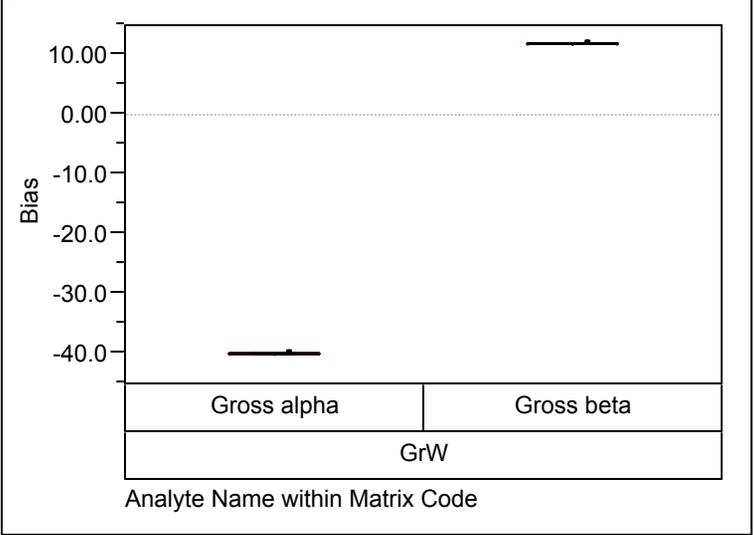


Variability Gauge Lab Code=MDPH01

Variability Chart for Bias

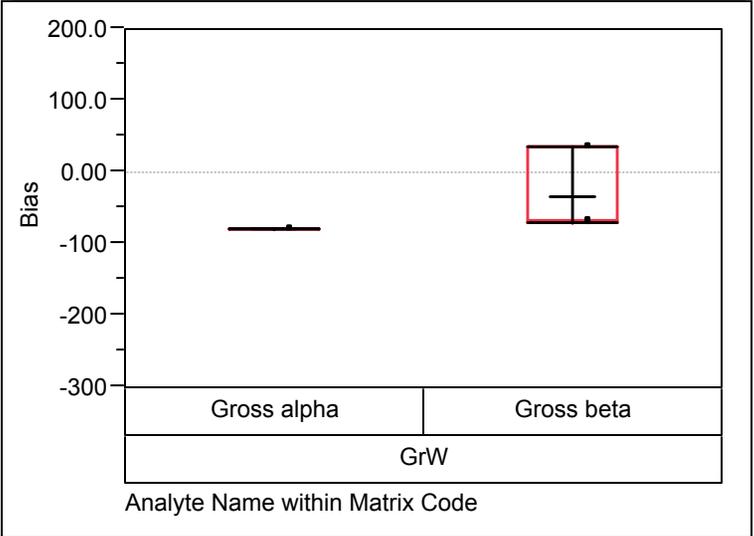
Variability Gauge Lab Code=MDPH01

Variability Chart for Bias



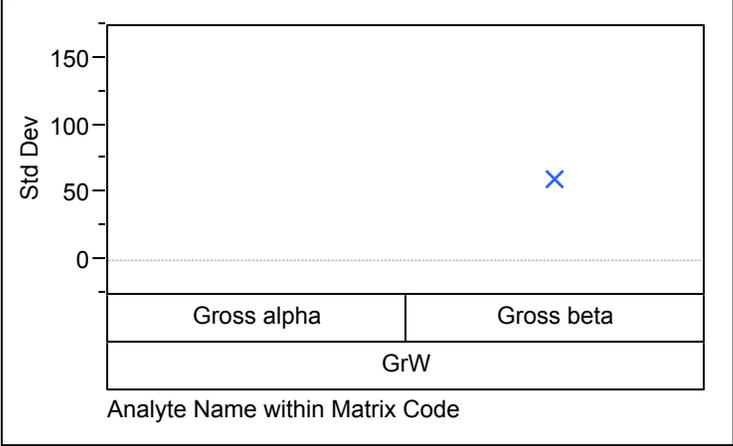
Variability Gauge Lab Code=MKME01

Variability Chart for Bias



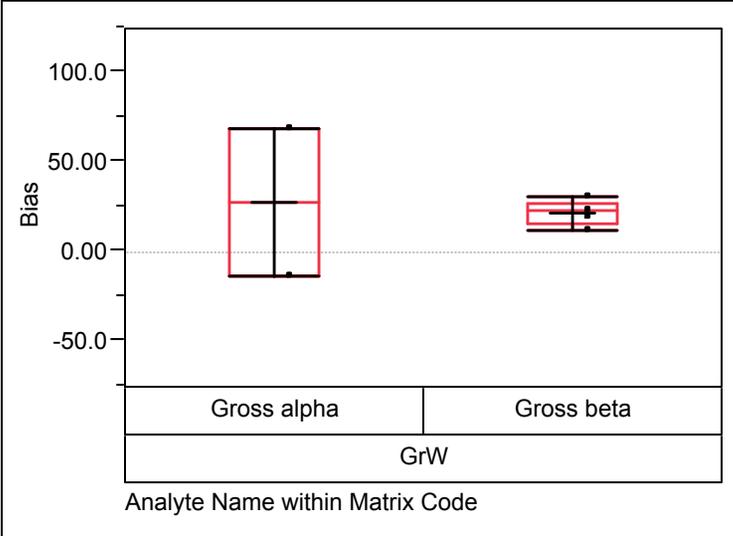
Variability Gauge Lab Code=MKME01

Variability Chart for Bias



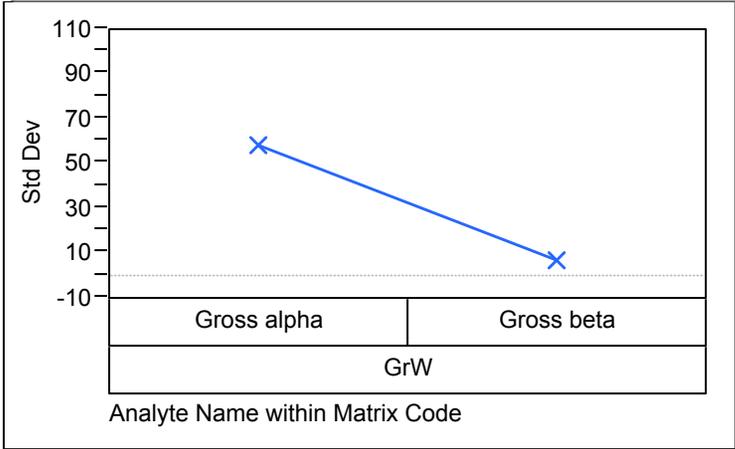
Variability Gauge Lab Code=NARL01

Variability Chart for Bias



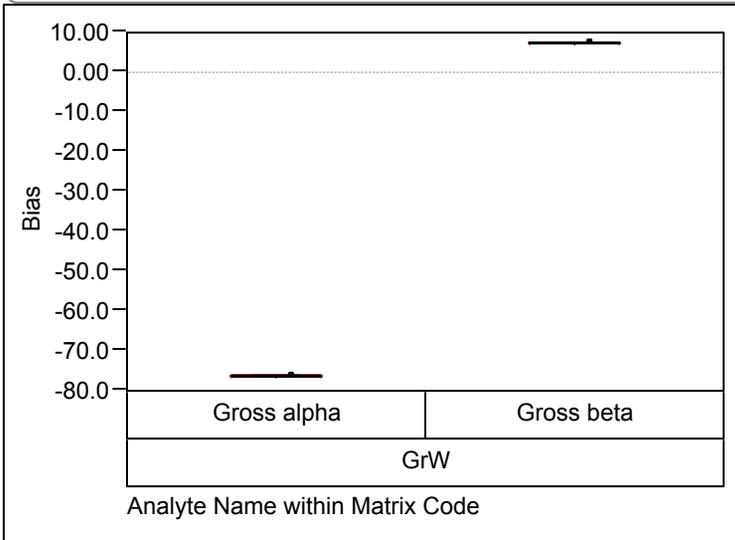
Variability Gauge Lab Code=NARL01

Variability Chart for Bias



Variability Gauge Lab Code=NCNS99

Variability Chart for Bias

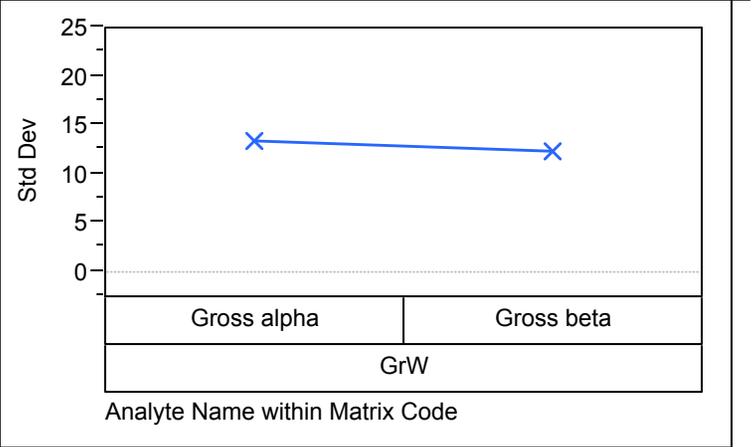
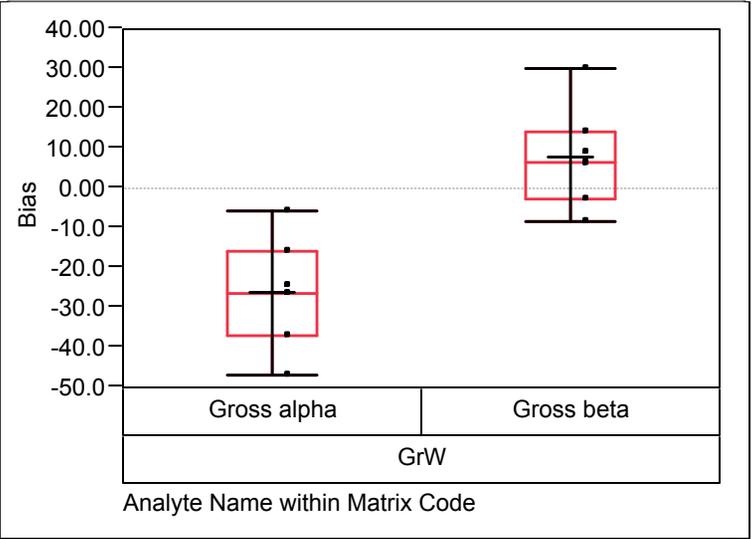


Variability Gauge Lab Code=NESI01

Variability Chart for Bias

Variability Gauge Lab Code=NESI01

Variability Chart for Bias

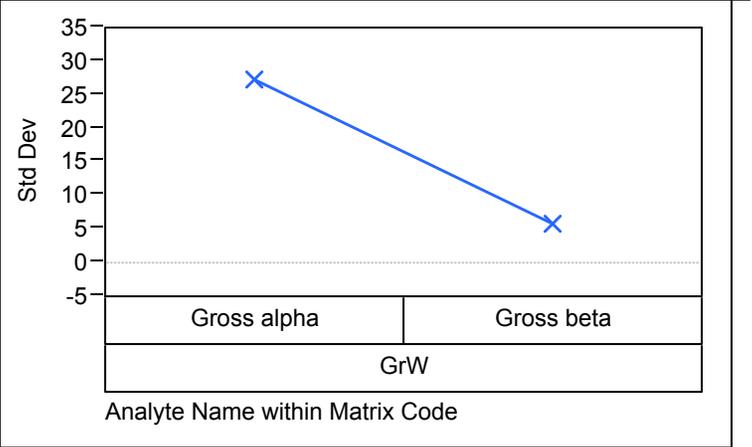
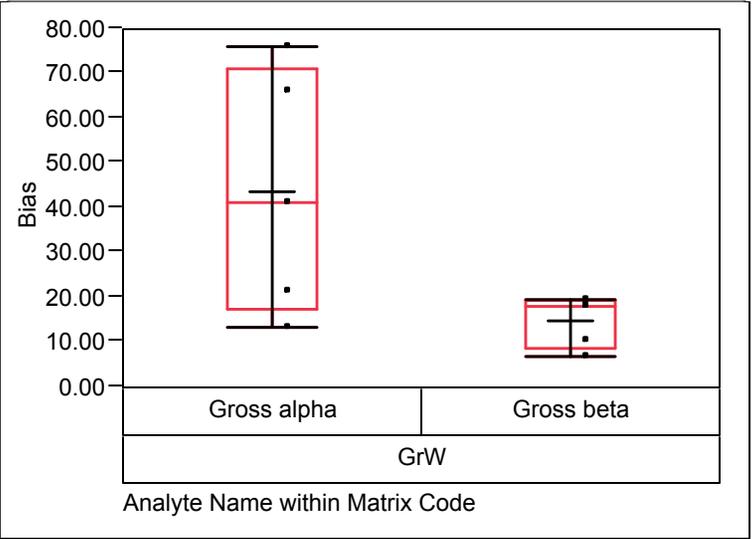


Variability Gauge Lab Code=NJDH01

Variability Chart for Bias

Variability Gauge Lab Code=NJDH01

Variability Chart for Bias

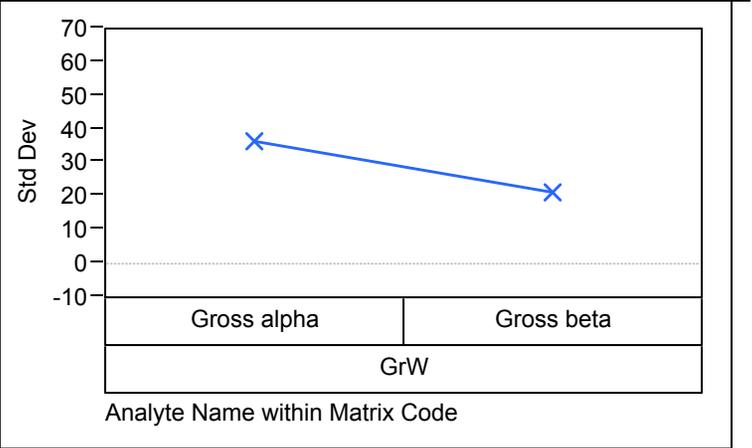
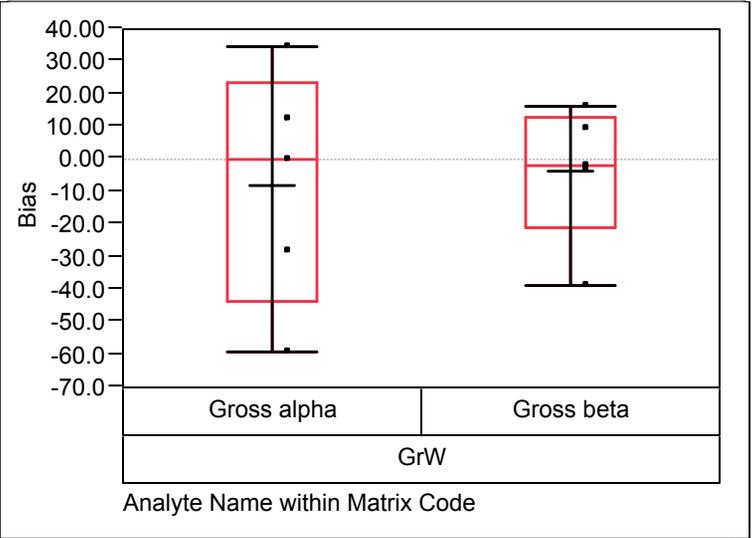


Variability Gauge Lab Code=NRLL99

Variability Chart for Bias

Variability Gauge Lab Code=NRLL99

Variability Chart for Bias

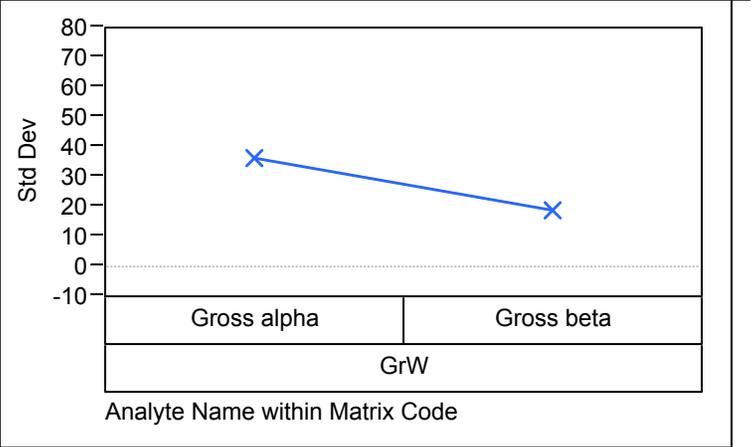
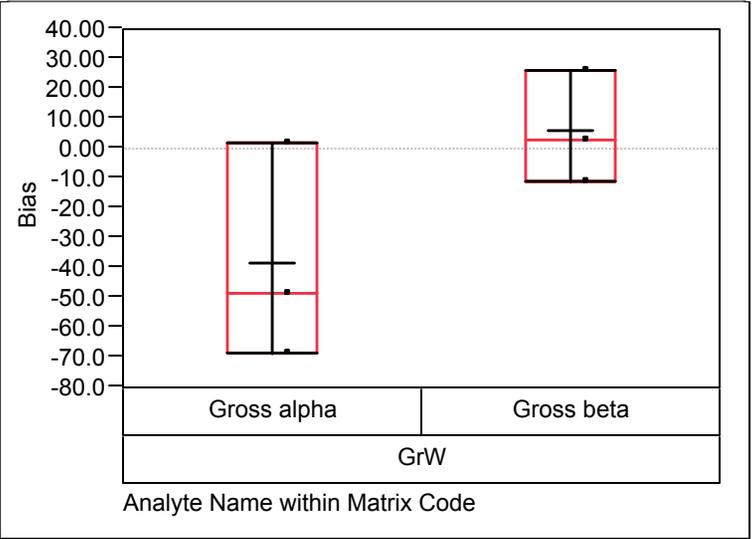


Variability Gauge Lab Code=NTSI01

Variability Chart for Bias

Variability Gauge Lab Code=NTSI01

Variability Chart for Bias

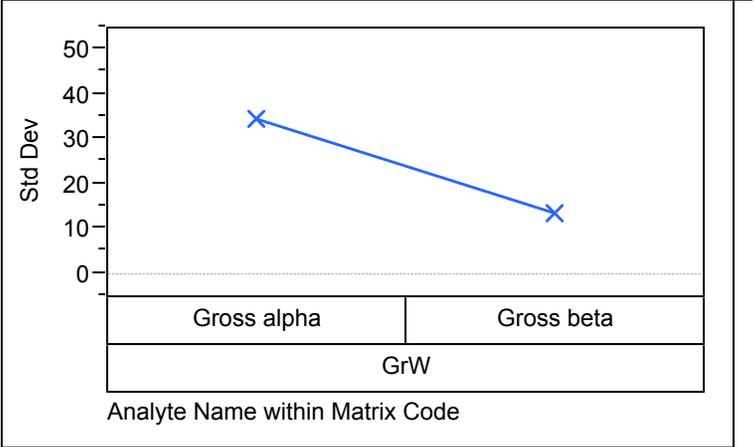
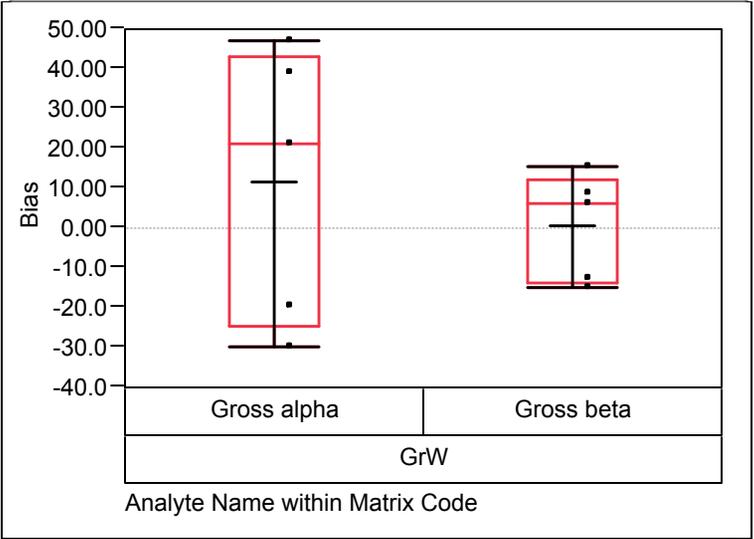


Variability Gauge Lab Code=OBGL01

Variability Chart for Bias

Variability Gauge Lab Code=OBGL01

Variability Chart for Bias

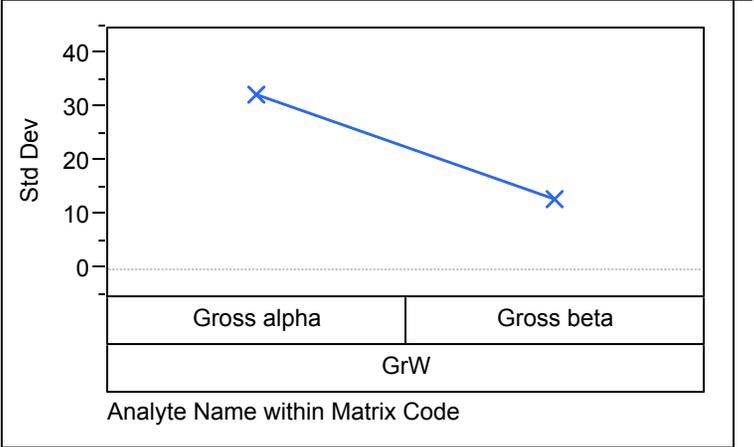
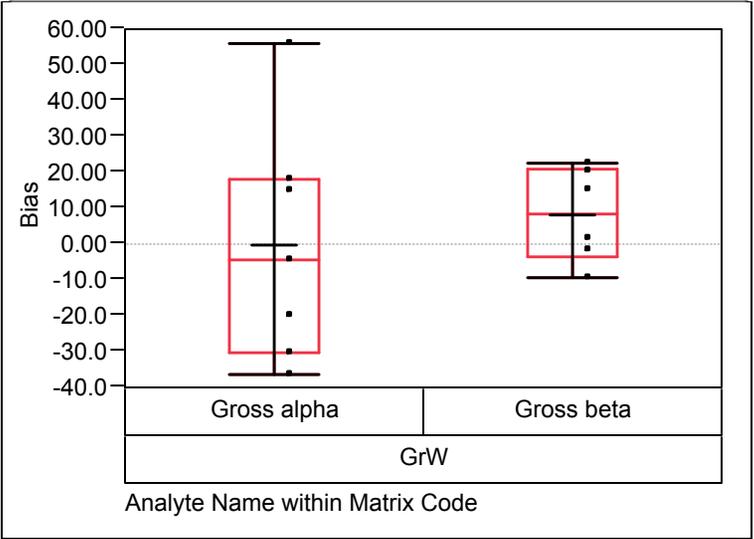


Variability Gauge Lab Code=ODHL01

Variability Chart for Bias

Variability Gauge Lab Code=ODHL01

Variability Chart for Bias

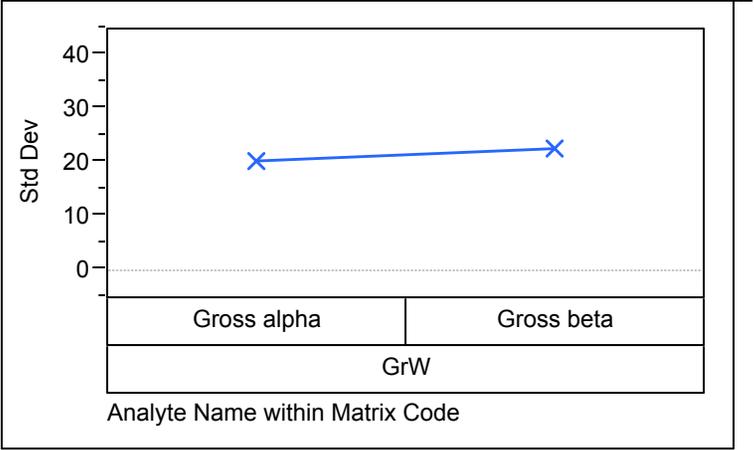
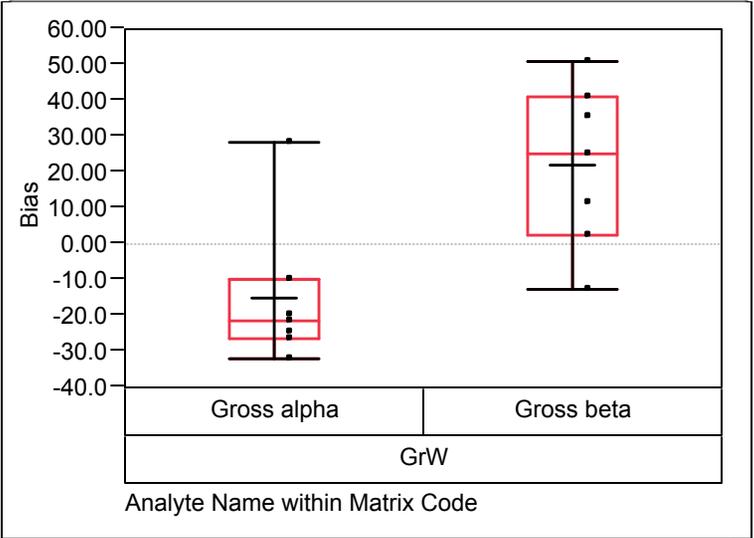


Variability Gauge Lab Code=ORIS01

Variability Chart for Bias

Variability Gauge Lab Code=ORIS01

Variability Chart for Bias

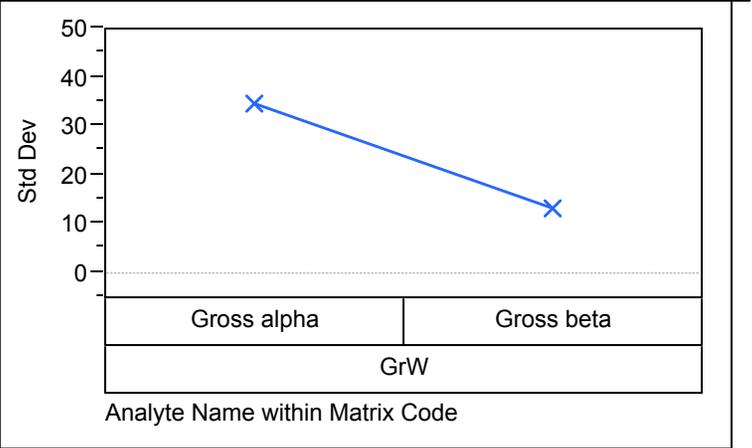
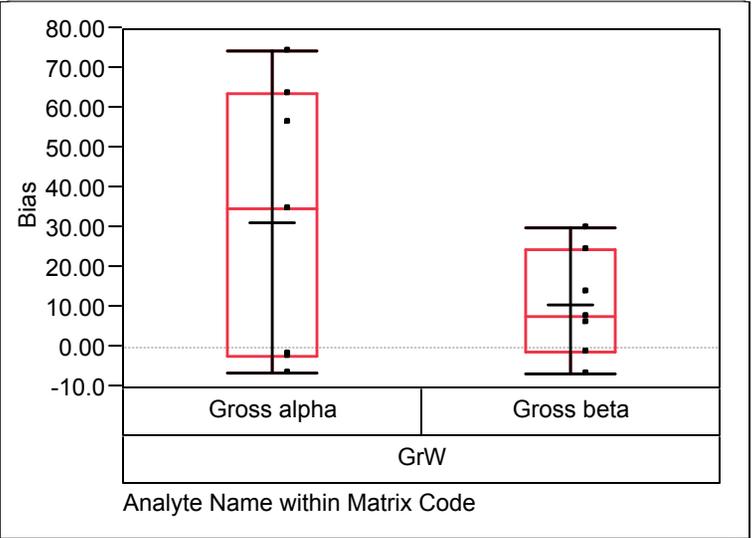


Variability Gauge Lab Code=OTLI01

Variability Chart for Bias

Variability Gauge Lab Code=OTLI01

Variability Chart for Bias

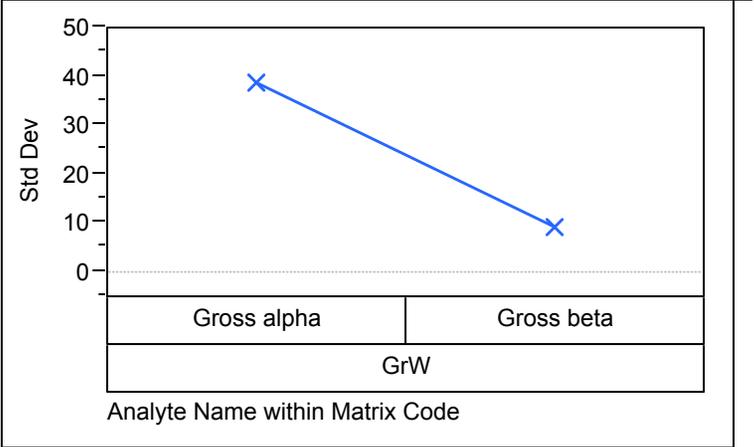
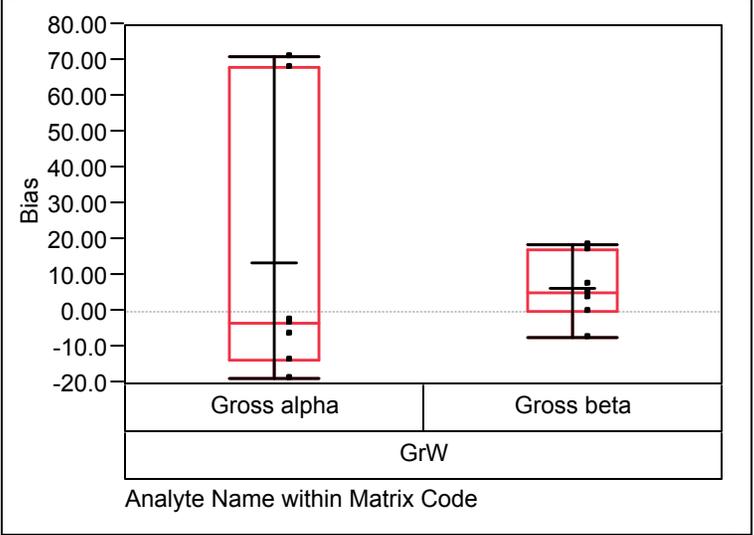


Variability Gauge Lab Code=QUAN01

Variability Chart for Bias

Variability Gauge Lab Code=QUAN01

Variability Chart for Bias

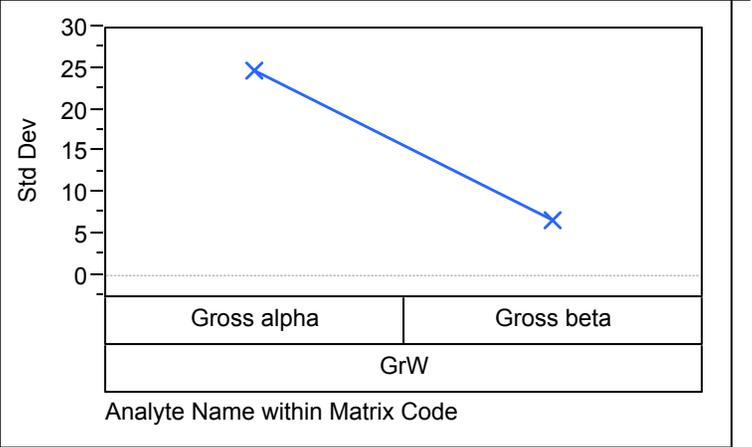
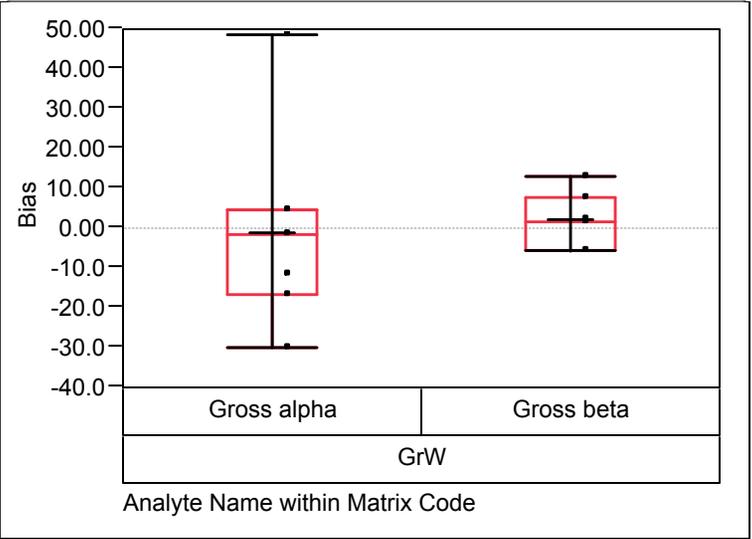


Variability Gauge Lab Code=QUAN03

Variability Chart for Bias

Variability Gauge Lab Code=QUAN03

Variability Chart for Bias

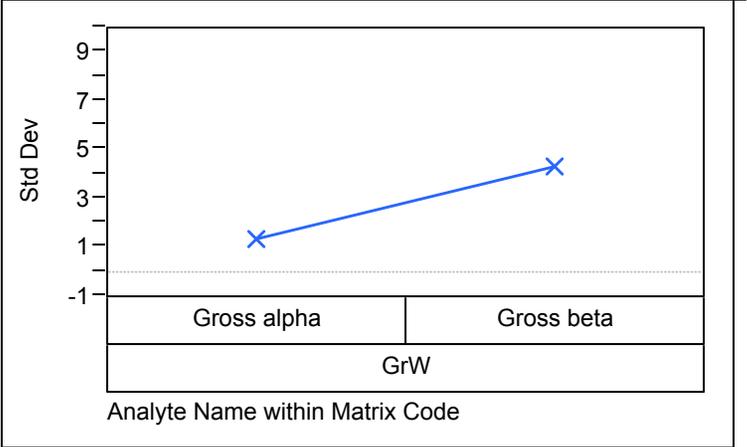
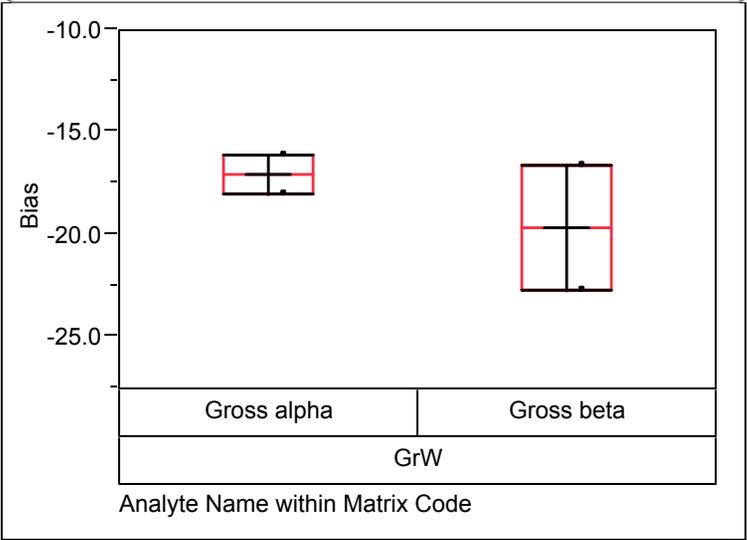


Variability Gauge Lab Code=RESL88

Variability Chart for Bias

Variability Gauge Lab Code=RMCL99

Variability Chart for Bias

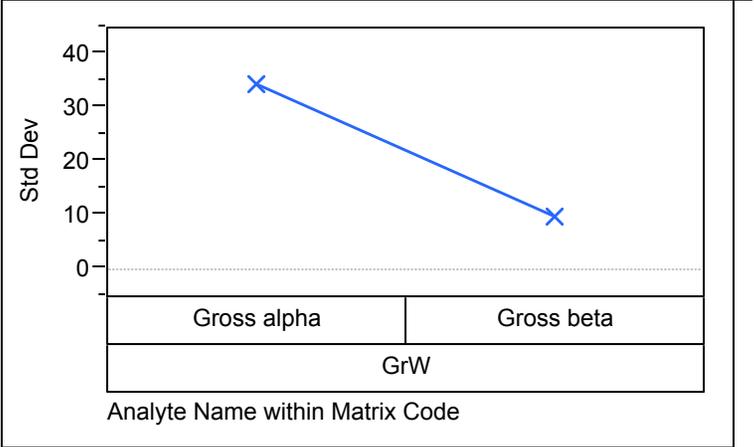
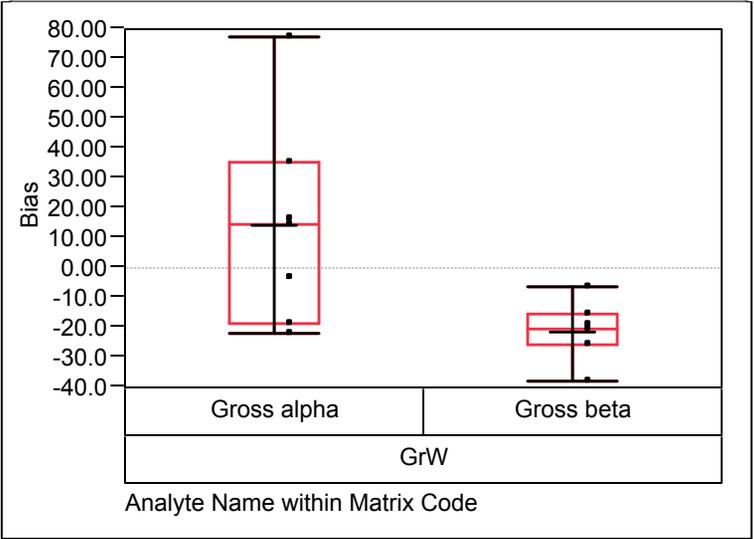


Variability Gauge Lab Code=RPSC01

Variability Chart for Bias

Variability Gauge Lab Code=RPSC01

Variability Chart for Bias

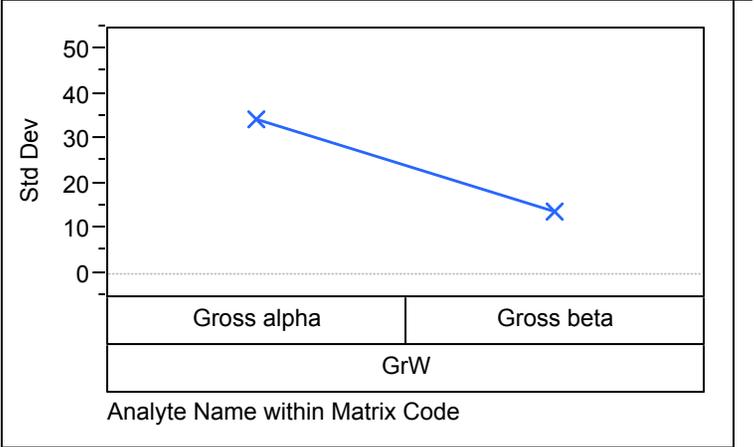
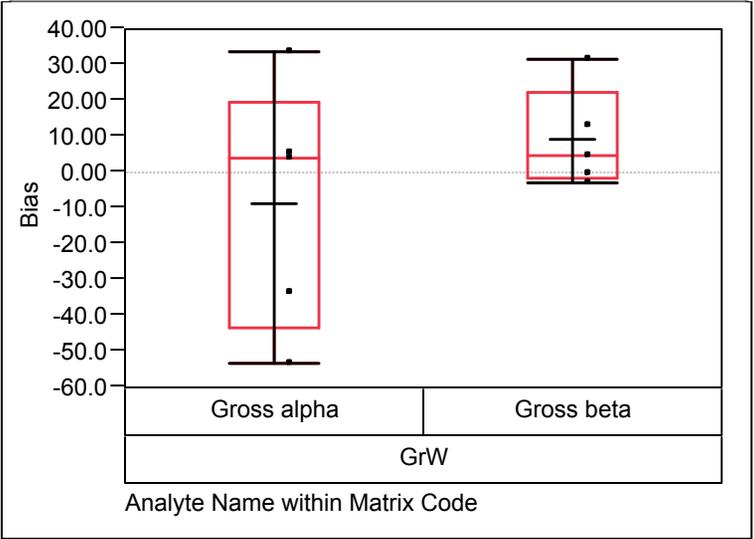


Variability Gauge Lab Code=RSAL01

Variability Chart for Bias

Variability Gauge Lab Code=RSAL01

Variability Chart for Bias

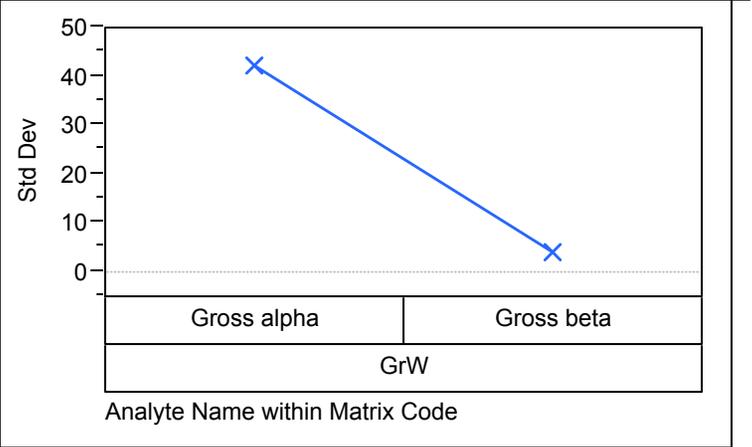
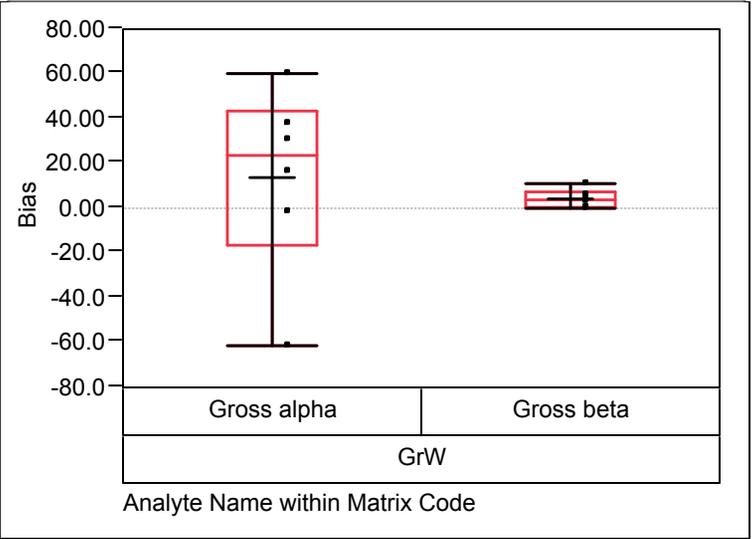


Variability Gauge Lab Code=SCAL01

Variability Chart for Bias

Variability Gauge Lab Code=SCAL01

Variability Chart for Bias

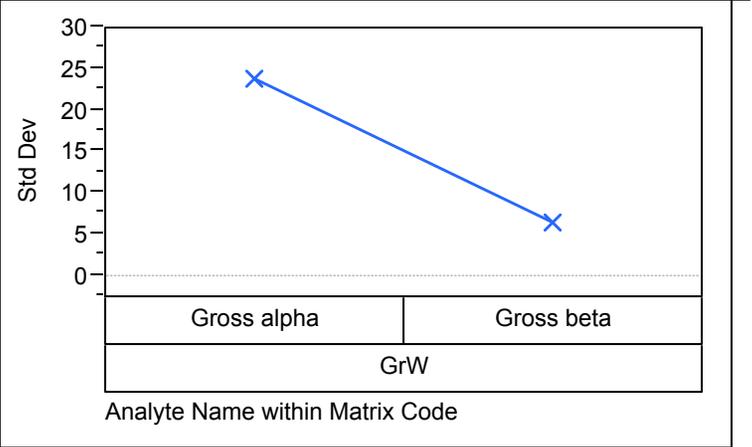
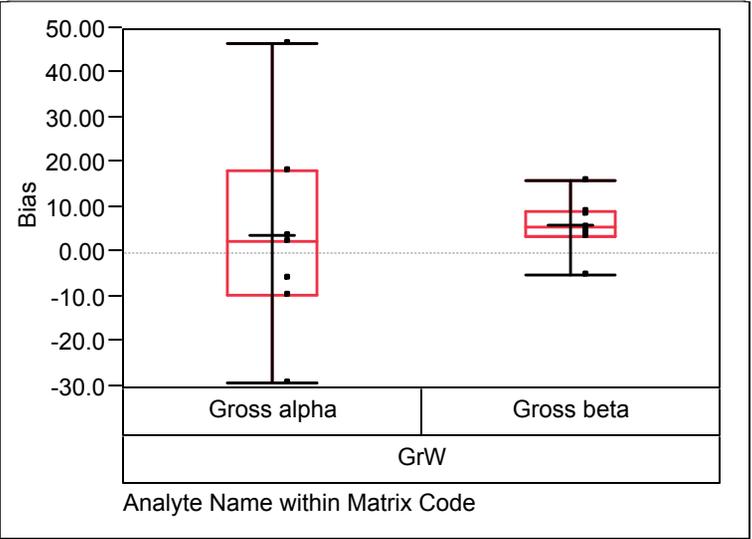


Variability Gauge Lab Code=SEML01

Variability Chart for Bias

Variability Gauge Lab Code=SEML01

Variability Chart for Bias

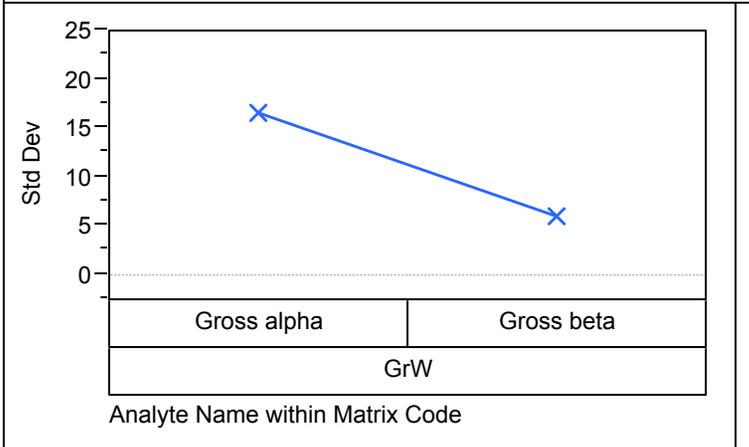
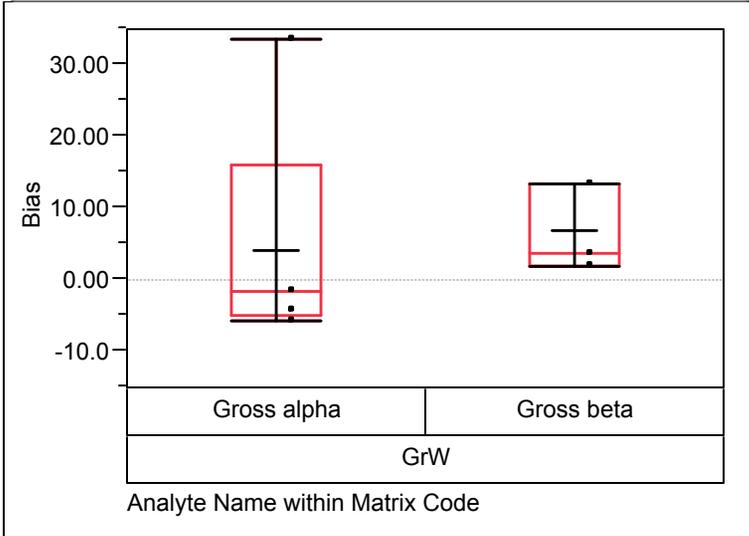


Variability Gauge Lab Code=SLDL01

Variability Chart for Bias

Variability Gauge Lab Code=SLDL01

Variability Chart for Bias

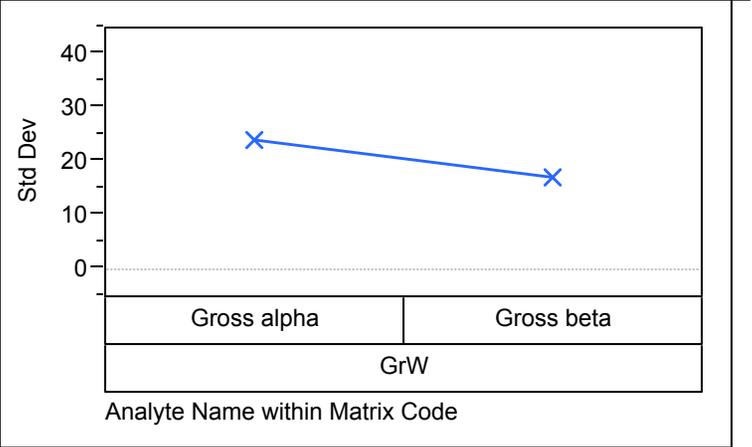
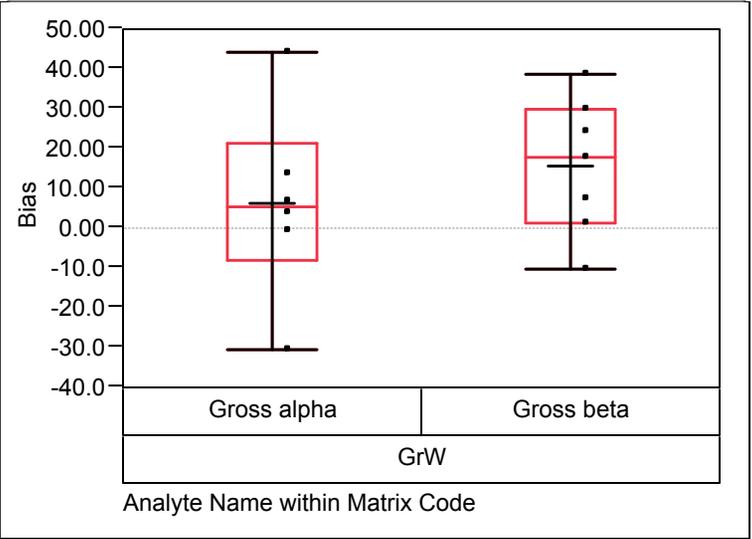


Variability Gauge Lab Code=SNRC99

Variability Chart for Bias

Variability Gauge Lab Code=SNRC99

Variability Chart for Bias

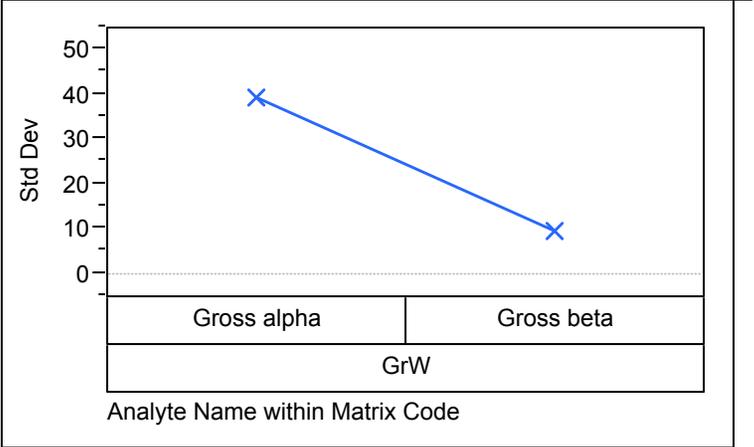
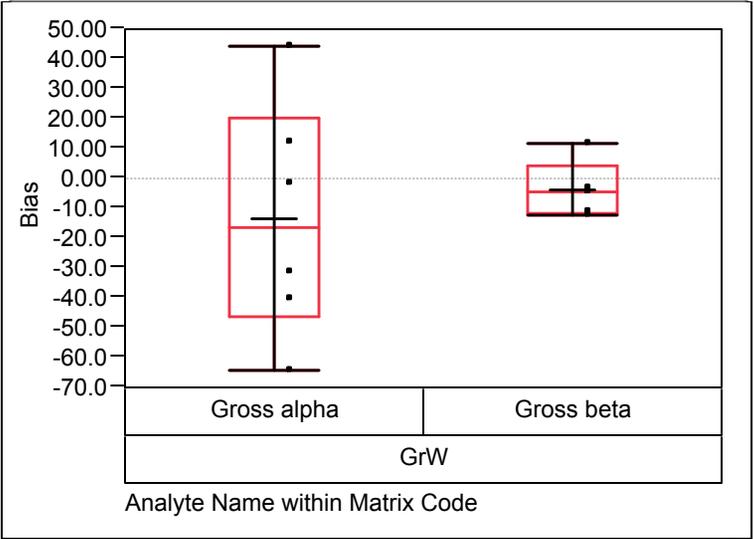


Variability Gauge Lab Code=SOUT01

Variability Chart for Bias

Variability Gauge Lab Code=SOUT01

Variability Chart for Bias

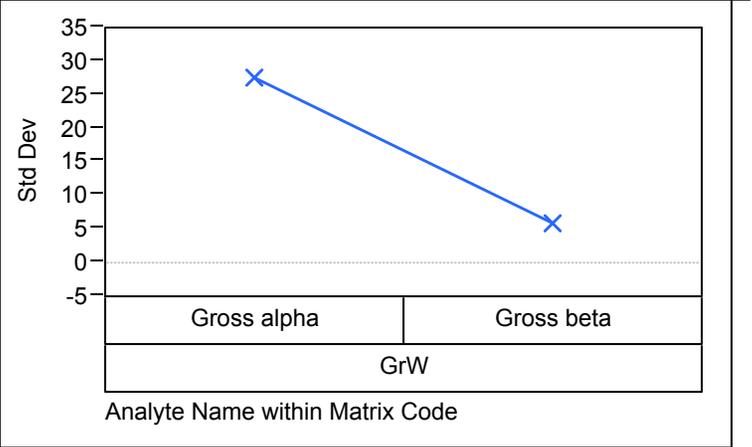
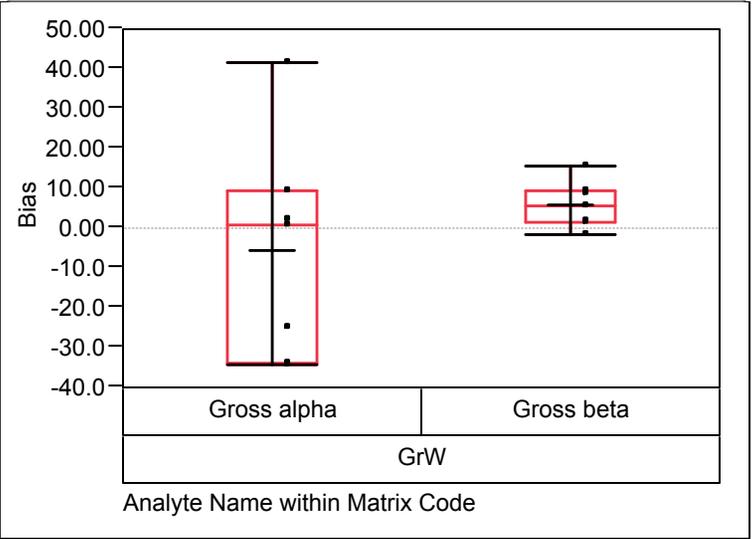


Variability Gauge Lab Code=TDHL01

Variability Chart for Bias

Variability Gauge Lab Code=TDHL01

Variability Chart for Bias

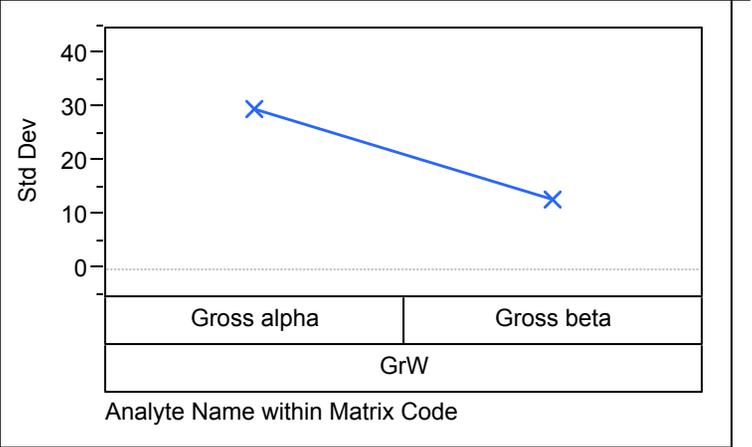
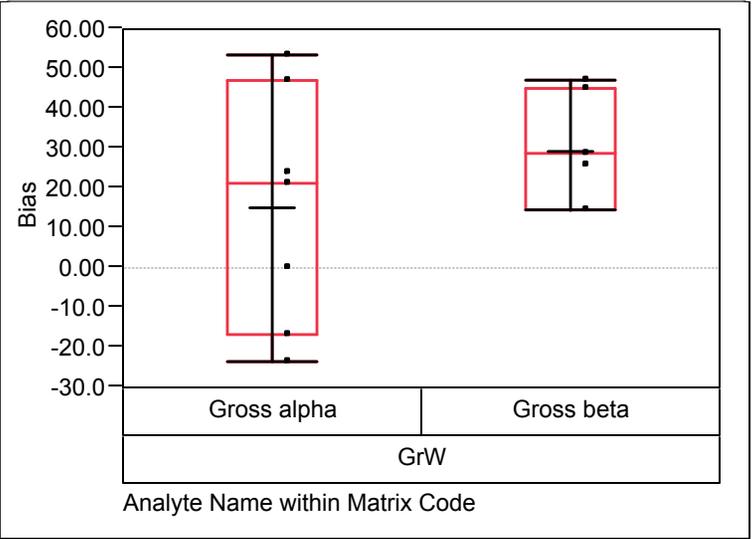


Variability Gauge Lab Code=TELE01

Variability Chart for Bias

Variability Gauge Lab Code=TELE01

Variability Chart for Bias

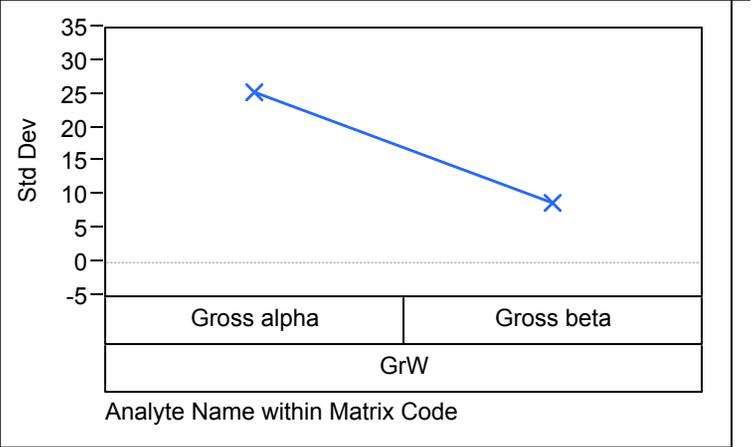
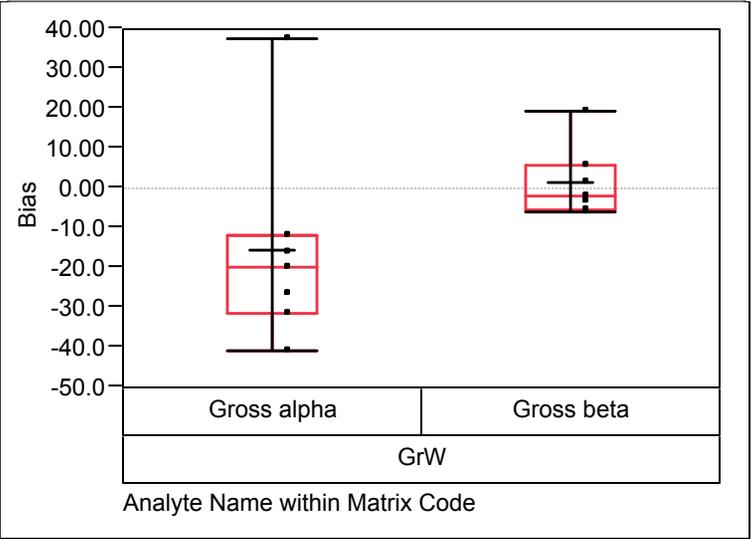


Variability Gauge Lab Code=TELE02

Variability Chart for Bias

Variability Gauge Lab Code=TELE02

Variability Chart for Bias

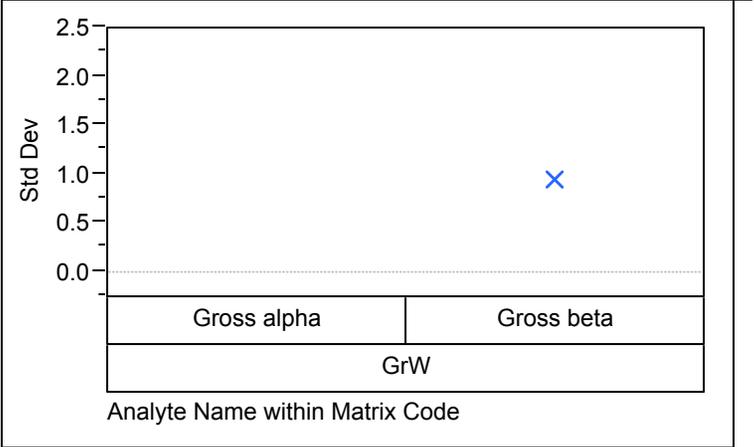
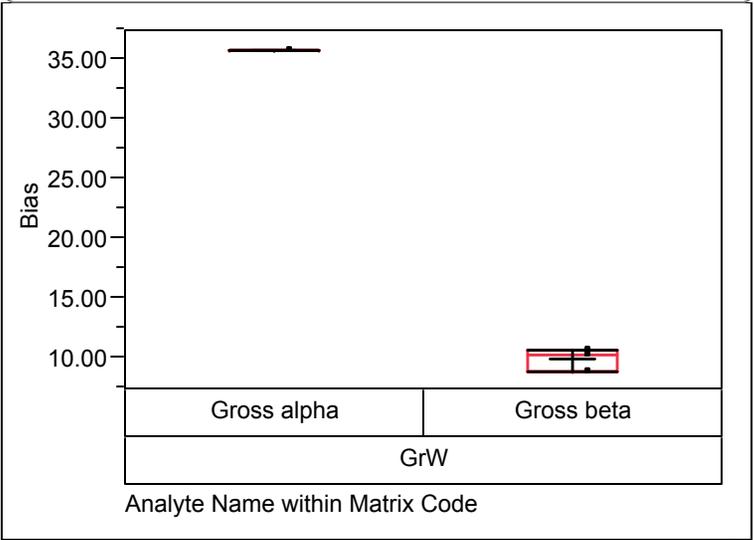


Variability Gauge Lab Code=TMAE01

Variability Chart for Bias

Variability Gauge Lab Code=TMAE01

Variability Chart for Bias

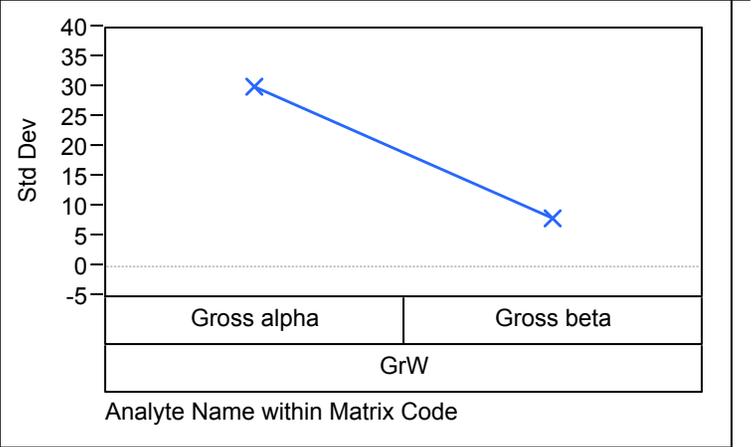
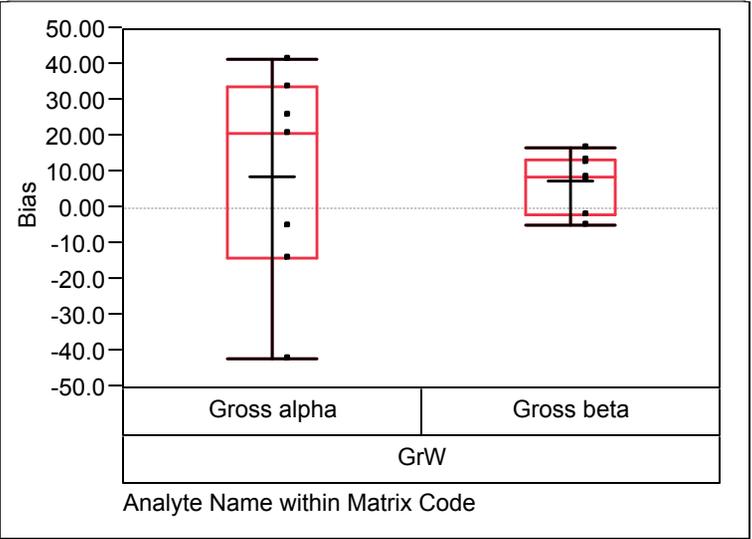


Variability Gauge Lab Code=TMAO01

Variability Chart for Bias

Variability Gauge Lab Code=TMAO01

Variability Chart for Bias

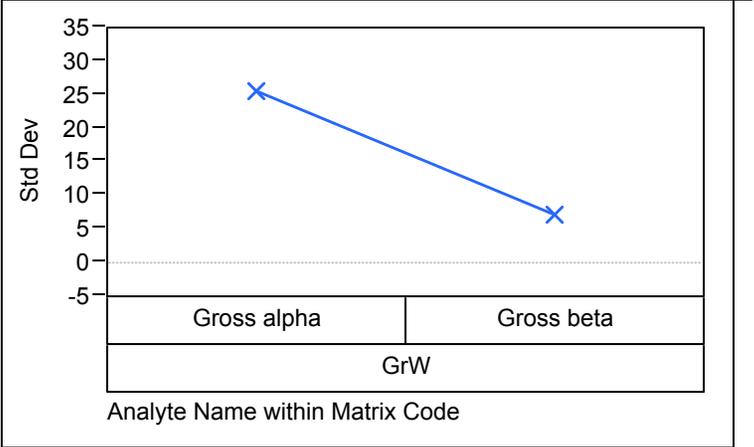
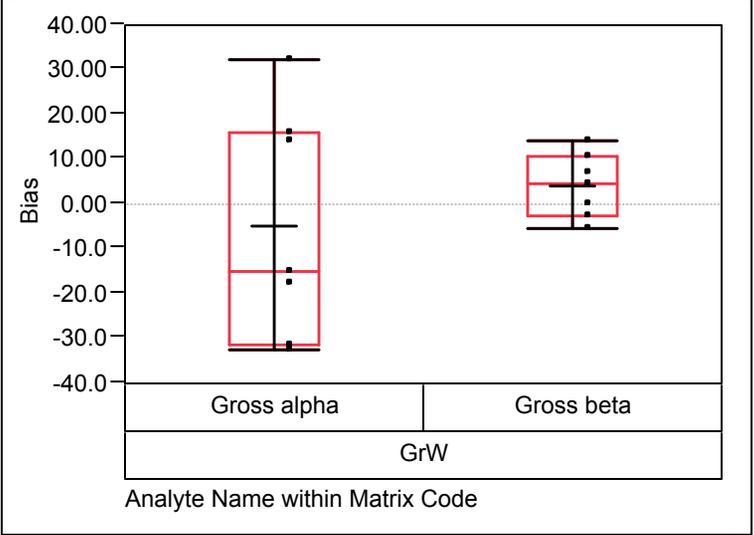


Variability Gauge Lab Code=TMAR01

Variability Chart for Bias

Variability Gauge Lab Code=TMAR01

Variability Chart for Bias

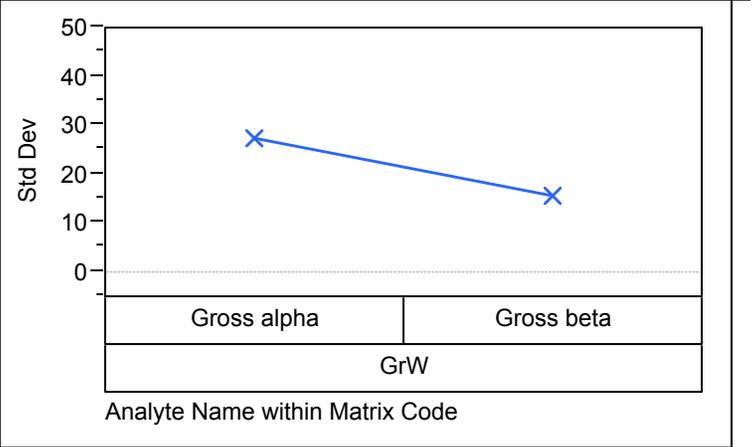
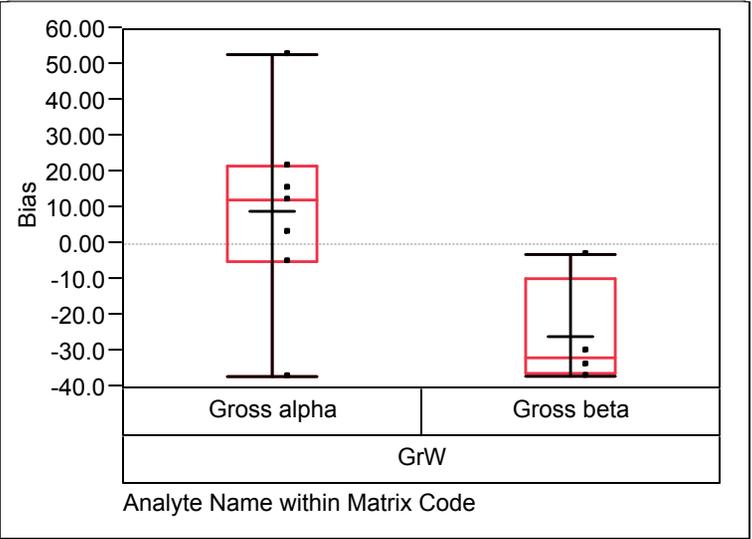


Variability Gauge Lab Code=TNUT01

Variability Chart for Bias

Variability Gauge Lab Code=TNUT01

Variability Chart for Bias

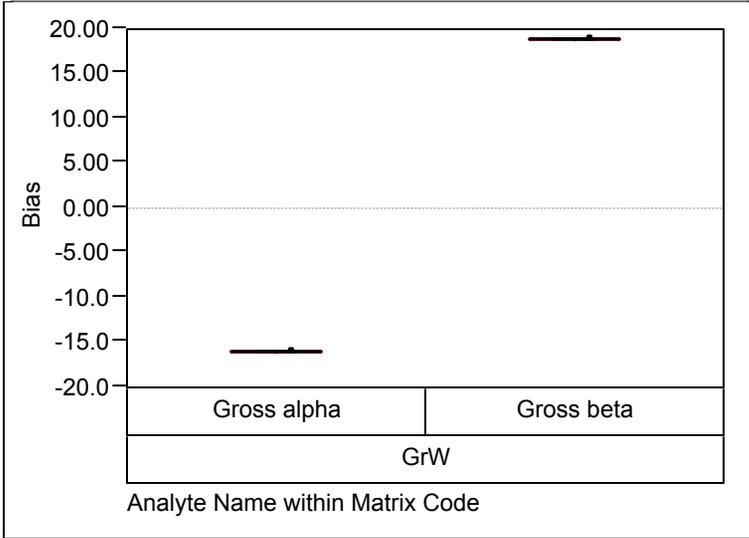


Variability Gauge Lab Code=USED99

Variability Chart for Bias

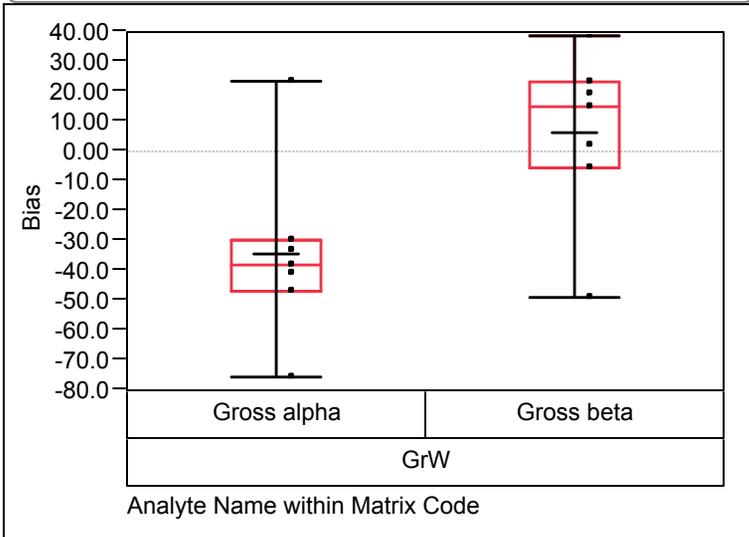
Variability Gauge Lab Code=USED99

Variability Chart for Bias



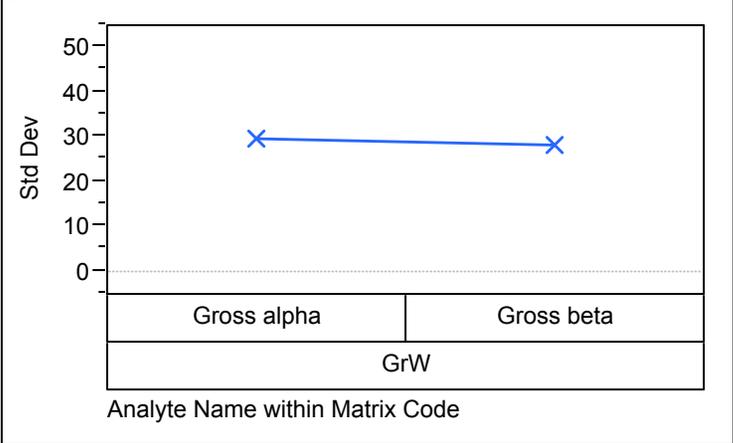
Variability Gauge Lab Code=WEST03

Variability Chart for Bias



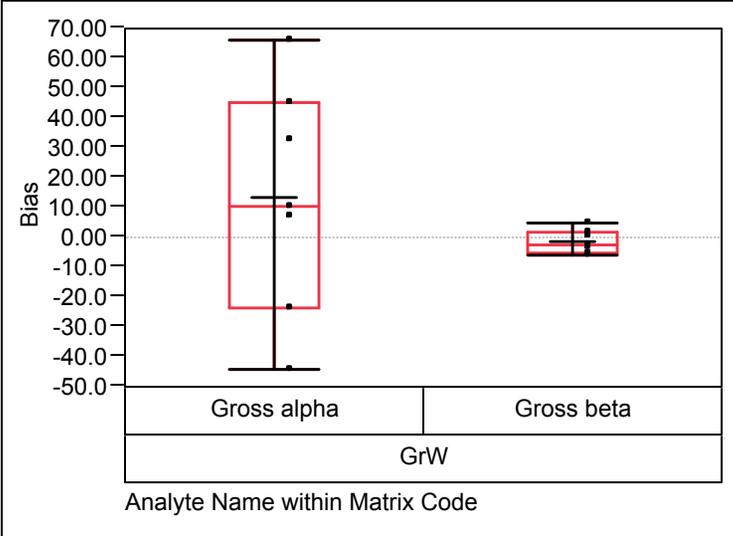
Variability Gauge Lab Code=WEST03

Variability Chart for Bias



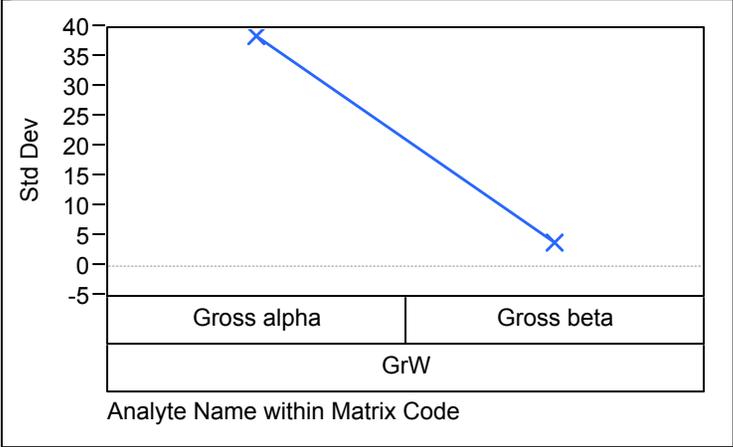
Variability Gauge Lab Code=WEST04

Variability Chart for Bias



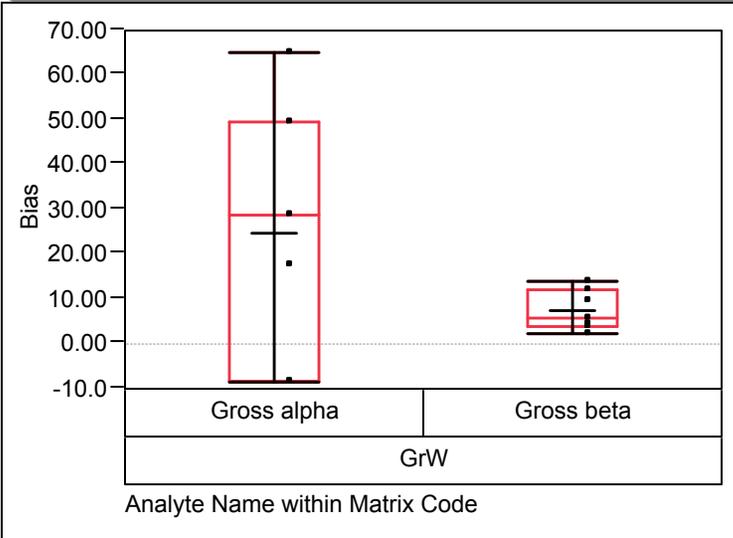
Variability Gauge Lab Code=WEST04

Variability Chart for Bias



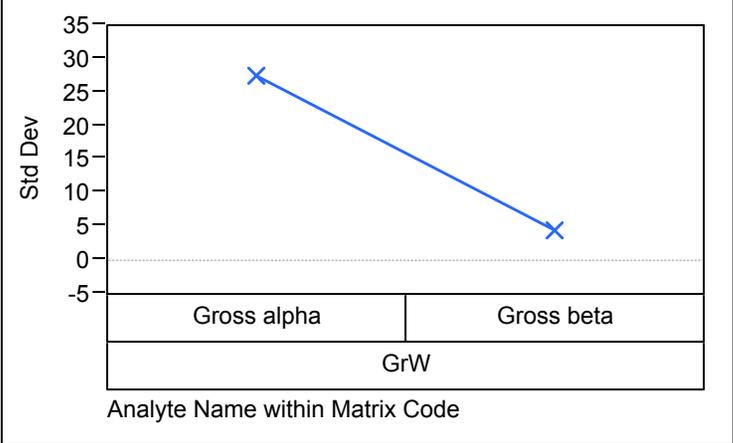
Variability Gauge Lab Code=WSHL01

Variability Chart for Bias



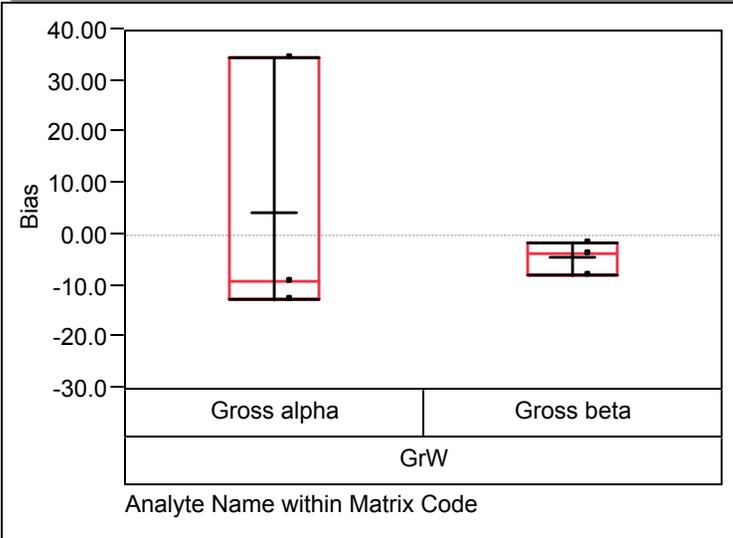
Variability Gauge Lab Code=WSHL01

Variability Chart for Bias



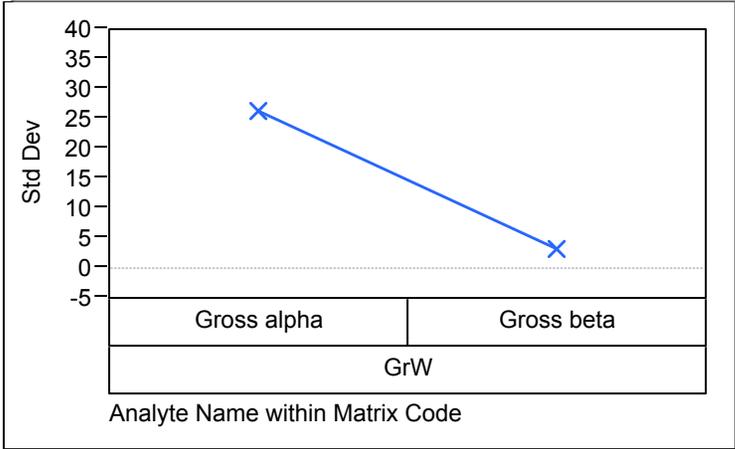
Variability Gauge Lab Code=WSTI01

Variability Chart for Bias



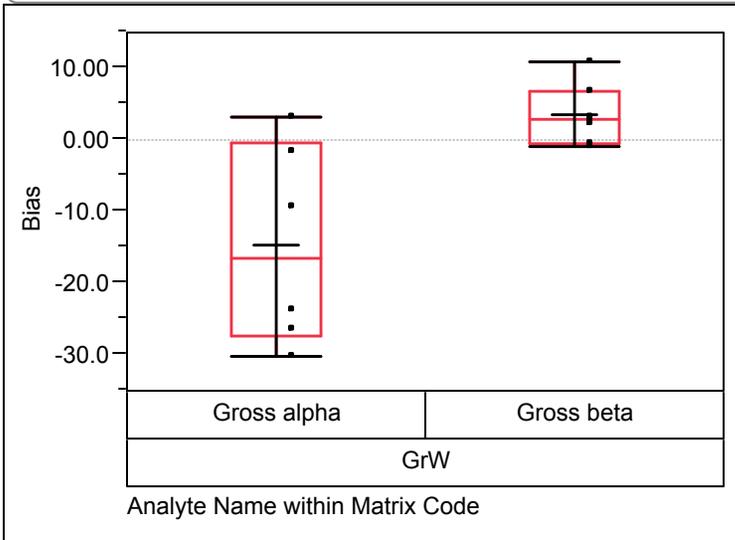
Variability Gauge Lab Code=WSTI01

Variability Chart for Bias



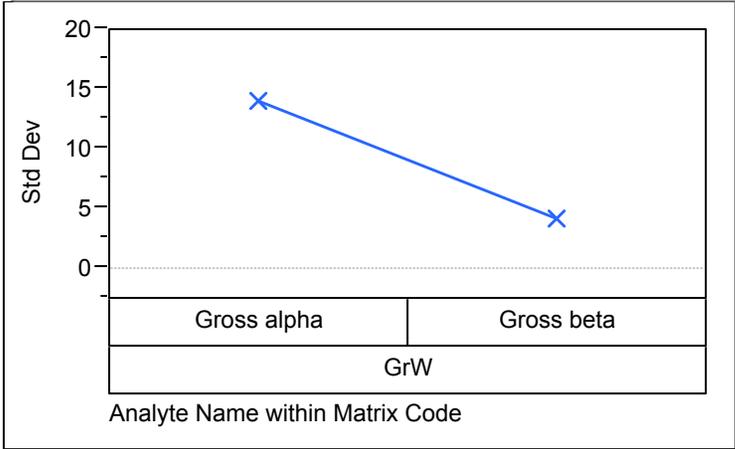
Variability Gauge Lab Code=WVDP01

Variability Chart for Bias



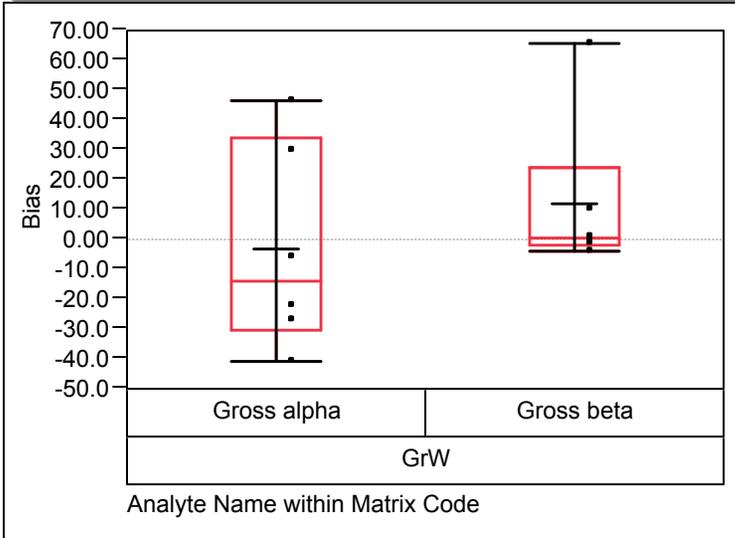
Variability Gauge Lab Code=WVDP01

Variability Chart for Bias



Variability Gauge Lab Code=WVNS01

Variability Chart for Bias



Variability Gauge Lab Code=WVNS01

Variability Chart for Bias

