

## **RESL CUSTOMER EXPORT CONTROL AGREEMENT**

It is the Radiological and Environmental Sciences Laboratory's (RESL) policy to conduct business in accordance with all applicable U.S. export control laws and regulations. It is also RESL's policy that its Customers comply with U.S. export control laws and regulations. Therefore, Customer agrees to the following:

1. Because products, technical data, and technical assistance (i.e., services) provided to Customer by RESL may be subject to U.S. export control laws and regulations, (i) transactions with certain persons and companies and (ii) the export or reexport of certain types and levels of products, technical data, and services are prohibited or restricted.
2. Customer acknowledges that it is responsible for its own compliance with U.S. export control laws and regulations. Customer further agrees that it assumes the responsibility to obtain all necessary U.S. export licenses or other U.S. governmental authorizations, as well as all liability for the failure to do so.
3. Customer acknowledges that export control requirements may change and that the export or reexport of RESL products, technical data, and services without an export license or other appropriate governmental authorization may result in criminal and/or civil liability.
4. The obligations and requirements described herein shall survive the expiration or termination of any agreement or contract between RESL and Customer.

## MaSU45 Participating Laboratories

| <b>Lab Code</b> | <b>Lab Name</b>                                     | <b>Matrix Code</b> |
|-----------------|---|--------------------|
| AFOH01          | USAFSAM/OEA   | MaSU               |
| ERCL01          | Washington State Public Health Laboratories         | MaSU               |
| GENE01          | GEL Laboratories, LLC                               | MaSU               |
| HCAL01          | Lawrence Livermore National Laboratory              | MaSU               |
| HPAL01          | Los Alamos National Laboratory                      | MaSU               |
| LANL01          | Los Alamos National Laboratory                      | MaSU               |
| RQCT01          | Radiobioassay Quality Control Testing               | MaSU               |
| SEML01          | SRS Environmental Monitoring Laboratory             | MaSU               |
| TELE01          | Teledyne Brown Engineering - Environmental Services | MaSU               |
| WIPP01          | WIPP Laboratories                                   | MaSU               |
| WSHL01          | Wisconsin State Laboratory of Hygiene               | MaSU               |

## Laboratories Not Reporting

| <b>Lab Code</b> | <b>Lab Name</b>             | <b>Matrix Code</b> |
|-----------------|-----------------------------|--------------------|
| ANLB01          | Argonne National Laboratory | MaSU               |

## Study Reference Values

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MAPEP-21-MaSU45

*Radiological Reference Date: 08/01/2021*

| Analyte           | Ref Value     | Ref Unc |
|-------------------|---------------|---------|
| Radiological      | Units: (Bq/L) |         |
| Americium-241     | 0.0747        | 0.0018  |
| Cesium-134        | 3.62          | 0.08    |
| Cobalt-57         | 0.865         | 0.019   |
| Manganese-54      | 0.417         | 0.009   |
| Plutonium-238     | 0.0455        | 0.0013  |
| Plutonium-239/240 | 0.091         | 0.002   |
| Potassium-40      | 54            | 3       |
| Strontium-90      | 1.48          | 0.03    |
| Uranium-234       | 0.116         | 0.002   |
| Uranium-238       | 0.121         | 0.003   |
| Zinc-65           | 0.420         | 0.009   |

## Sample Statistical Summary

MAPEP-21-MaSU45

Radiological Reference Date: 08/01/2021

| Analyte           | T(1) | A(2) | Grand(3)<br>Mean | Std<br>Dev | Ref<br>Value | Ref<br>Unc | Acceptance<br>Range    |
|-------------------|------|------|------------------|------------|--------------|------------|------------------------|
|                   |      |      |                  |            |              |            | Units: (Bq/L)          |
| Americium-241     | 7    | 7    | 0.0713           | 0.0067     | 0.0747       | 0.0018     | 0.0523 - 0.0971        |
| Cesium-134        | 10   | 9    | 3.41             | 0.28       | 3.62         | 0.08       | 2.53 - 4.71            |
| Cesium-137        | 9    | 9    |                  |            |              |            | False Positive Test    |
| Cobalt-57         | 10   | 8    | 0.863            | 0.077      | 0.865        | 0.019      | 0.606 - 1.125          |
| Cobalt-60         | 9    | 9    |                  |            |              |            | False Positive Test    |
| Curium-244        | 4    | 4    |                  |            |              |            | False Positive Test    |
| Hydrogen-3        | 1    | 1    |                  |            |              |            | False Positive Test    |
| Manganese-54      | 10   | 9    | 0.558            | 0.181      | 0.417        | 0.009      | Sensitivity Evaluation |
| Plutonium-238     | 8    | 8    | 0.0481           | 0.0030     | 0.0455       | 0.0013     | 0.0319 - 0.0592        |
| Plutonium-239/240 | 9    | 9    | 0.089            | 0.005      | 0.091        | 0.002      | 0.064 - 0.118          |
| Potassium-40      | 10   | 6    | 56               | 7          | 54           | 3          | 38 - 70                |
| Radium-226        | 1    | 1    |                  |            |              |            | False Positive Test    |
| Strontium-90      | 7    | 6    | 1.36             | 0.09       | 1.48         | 0.03       | 1.04 - 1.92            |
| Technetium-99     | 2    | 2    |                  |            |              |            | False Positive Test    |
| Uranium-234       | 7    | 7    | 0.116            | 0.018      | 0.116        | 0.002      | 0.081 - 0.151          |
| Uranium-238       | 7    | 6    | 0.125            | 0.012      | 0.121        | 0.003      | 0.085 - 0.157          |
| Zinc-65           | 10   | 8    | 0.508            | 0.254      | 0.420        | 0.009      | Sensitivity Evaluation |

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

### Results Flags:

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

### Uncertainty Flags:

- NOT ACCEPTABLE.....RP < 2%
  - ACCEPTABLE.....2% <= RP <= 15%
  - ACCEPTABLE WITH WARNING.....15% < RP <= 30%
  - NOT ACCEPTABLE.....RP > 30%
- Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

## Flag Summary Report

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MAPEP-21-MaSU45

| Radiological      |   |   |    |   |
|-------------------|---|---|----|---|
| Analyte           | A | W | RW | N |
| Americium-241     | 7 |   |    |   |
| Cesium-134        | 9 |   |    | 1 |
| Cesium-137        | 9 |   |    | 1 |
| Cobalt-57         | 8 |   |    | 2 |
| Cobalt-60         | 9 |   |    | 1 |
| Curium-244        | 4 |   |    |   |
| Hydrogen-3        | 1 |   |    |   |
| Manganese-54      | 9 |   |    | 1 |
| Plutonium-238     | 8 |   |    |   |
| Plutonium-239/240 | 9 |   |    |   |
| Potassium-40      | 6 |   |    | 4 |
| Radium-226        | 1 |   |    |   |
| Strontium-90      | 6 |   |    | 1 |
| Technetium-99     | 2 |   |    |   |
| Uranium-234       | 5 | 2 |    |   |
| Uranium-238       | 6 |   |    | 1 |
| Zinc-65           | 8 |   |    | 2 |



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

Laboratory Results For MAPEP-21-MaSU45

(AFOH01) USAFSAM/OEA

2510 Fifth Street, Area B

Wright-Patterson AFB, OH 45433-7913

| Radiological      |         |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|---------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result  | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | 0.0738  | 0.0747    | A    |       | -1.2     | 0.0523 - 0.0971        | 0.0040        | A        |
| Cesium-134        | 3.31    | 3.62      | A    |       | -8.6     | 2.53 - 4.71            | 0.11          | A        |
| Cesium-137        | -0.027  |           | A    |       |          | False Positive Test    | 0.040         |          |
| Cobalt-57         | 0.780   | 0.865     | A    |       | -9.8     | 0.606 - 1.125          | 0.039         | A        |
| Cobalt-60         | -0.046  |           | A    |       |          | False Positive Test    | 0.043         |          |
| Curium-244        | 0.00024 |           | A    |       |          | False Positive Test    | 0.00020       |          |
| Hydrogen-3        | NR      |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.447   | 0.417     | A    |       |          | Sensitivity Evaluation | 0.090         |          |
| Plutonium-238     | 0.0464  | 0.0455    | A    |       | 2.0      | 0.0319 - 0.0592        | 0.0027        | A        |
| Plutonium-239/240 | 0.0806  | 0.091     | A    |       | -11.4    | 0.064 - 0.118          | 0.0039        | A        |
| Potassium-40      | 52.2    | 54        | A    |       | -3.3     | 38 - 70                | 2.1           | A        |
| Radium-226        | 0.0033  |           | A    |       |          | False Positive Test    | 0.0012        |          |
| Strontium-90      | 1.400   | 1.48      | A    |       | -5.4     | 1.04 - 1.92            | 0.059         | A        |
| Technetium-99     | NR      |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | 0.1143  | 0.116     | A    |       | -1.5     | 0.081 - 0.151          | 0.0050        | A        |
| Uranium-238       | 0.1309  | 0.121     | A    |       | 8.2      | 0.085 - 0.157          | 0.0056        | A        |
| Zinc-65           | 0.364   | 0.420     | A    |       |          | Sensitivity Evaluation | 0.052         |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

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

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

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

RW = Report Warning

NR = Not Reported

**Uncertainty Flags:**

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations





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Laboratory Results For MAPEP-21-MaSU45  
 (ERCL01) Washington State Public Health Laboratories  
 1610 N.E. 150th Street  
 Shoreline, WA 98155-9701

| Radiological      |        |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|--------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | 0.0851 | 0.0747    | A    |       | 13.9     | 0.0523 - 0.0971        | 0.0089        | A        |
| Cesium-134        | 2.96   | 3.62      | A    |       | -18.2    | 2.53 - 4.71            | 0.23          | A        |
| Cesium-137        | 0.47   |           | A    |       |          | False Positive Test    | 0.17          |          |
| Cobalt-57         | 0.81   | 0.865     | A    |       | -6.4     | 0.606 - 1.125          | 0.18          | W        |
| Cobalt-60         | 0.07   |           | A    |       |          | False Positive Test    | 0.16          |          |
| Curium-244        | 0.0033 |           | A    |       |          | False Positive Test    | 0.0015        |          |
| Hydrogen-3        | NR     |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.64   | 0.417     | A    |       |          | Sensitivity Evaluation | 0.18          |          |
| Plutonium-238     | 0.0537 | 0.0455    | A    |       | 18.0     | 0.0319 - 0.0592        | 0.0062        | A        |
| Plutonium-239/240 | 0.0881 | 0.091     | A    |       | -3.2     | 0.064 - 0.118          | 0.0076        | A        |
| Potassium-40      | 82.1   | 54        | N    |       | 52.0     | 38 - 70                | 4.2           | A        |
| Radium-226        | NR     |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 1.30   | 1.48      | A    |       | -12.2    | 1.04 - 1.92            | 0.11          | A        |
| Technetium-99     | 0.41   |           | A    |       |          | False Positive Test    | 0.23          |          |
| Uranium-234       | 0.084  | 0.116     | W    |       | -27.6    | 0.081 - 0.151          | 0.011         | A        |
| Uranium-238       | 0.081  | 0.121     | N    |       | -33.1    | 0.085 - 0.157          | 0.011         | A        |
| Zinc-65           | 0.78   | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 0.36          |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
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Laboratory Results For MAPEP-21-MaSU45

(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 |
| Americium-241     | 0.0679  | 0.0747    | A    |       | -9.1     | 0.0523 - 0.0971        | 0.00271       | A        |
| Cesium-134        | 3.5     | 3.62      | A    |       | -3.3     | 2.53 - 4.71            | 0.344         | A        |
| Cesium-137        | 0.177   |           | A    |       |          | False Positive Test    | 0.138         |          |
| Cobalt-57         | 0.589   | 0.865     | N    |       | -31.9    | 0.606 - 1.125          | 0.204         | N        |
| Cobalt-60         | -0.265  |           | A    |       |          | False Positive Test    | 0.157         |          |
| Curium-244        | NR      |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR      |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.861   | 0.417     | A    | (17)  |          | Sensitivity Evaluation | 0.328         |          |
| Plutonium-238     | 0.0443  | 0.0455    | A    |       | -2.6     | 0.0319 - 0.0592        | 0.00227       | A        |
| Plutonium-239/240 | 0.0838  | 0.091     | A    |       | -7.9     | 0.064 - 0.118          | 0.00311       | A        |
| Potassium-40      | 52.9    | 54        | A    |       | -2.0     | 38 - 70                | 5.07          | A        |
| Radium-226        | NR      |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 1.36    | 1.48      | A    |       | -8.1     | 1.04 - 1.92            | 0.0633        | A        |
| Technetium-99     | -0.0912 |           | A    |       |          | False Positive Test    | 0.104         |          |
| Uranium-234       | 0.115   | 0.116     | A    |       | -0.9     | 0.081 - 0.151          | 0.00432       | A        |
| Uranium-238       | 0.115   | 0.121     | A    |       | -5.0     | 0.085 - 0.157          | 0.00433       | A        |
| Zinc-65           | 0.504   | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 0.473         |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

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

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

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

RW = Report Warning

NR = Not Reported

**Uncertainty Flags:**

NOT ACCEPTABLE.....RP < 2%

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

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

NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (HCAL01) Lawrence Livermore National Laboratory  
 Analytical Services and Instrumentation Analytical Lab  
 Livermore, CA 94550

| Radiological      |         |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|---------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result  | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | 0.070   | 0.0747    | A    |       | -6.3     | 0.0523 - 0.0971        | 0.0043        | A        |
| Cesium-134        | 3.51    | 3.62      | A    |       | -3.0     | 2.53 - 4.71            | 0.25          | A        |
| Cesium-137        | 1.38    |           | A    |       |          | False Positive Test    | 1.38          |          |
| Cobalt-57         | 0.85    | 0.865     | A    |       | -1.7     | 0.606 - 1.125          | 0.39          | N        |
| Cobalt-60         | 1.05    |           | A    |       |          | False Positive Test    | 1.05          |          |
| Curium-244        | 0.00018 |           | A    |       |          | False Positive Test    | 0.000060      |          |
| Hydrogen-3        | NR      |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.45    | 0.417     | A    | (17)  |          | Sensitivity Evaluation | 0.37          |          |
| Plutonium-238     | 0.047   | 0.0455    | A    |       | 3.3      | 0.0319 - 0.0592        | 0.0030        | A        |
| Plutonium-239/240 | 0.090   | 0.091     | A    |       | -1.1     | 0.064 - 0.118          | 0.0055        | A        |
| Potassium-40      | -57.35  | 54        | N    |       | -206.2   | 38 - 70                | 7.96          | N        |
| Radium-226        | NR      |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | NR      | 1.48      |      |       |          | 1.04 - 1.92            |               |          |
| Technetium-99     | NR      |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | NR      | 0.116     |      |       |          | 0.081 - 0.151          |               |          |
| Uranium-238       | NR      | 0.121     |      |       |          | 0.085 - 0.157          |               |          |
| Zinc-65           | -5.22   | 0.420     | N    | (29)  |          | Sensitivity Evaluation | 0.89          |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (HPAL01) Los Alamos National Laboratory  
 Milan Gadd, MS G761  
 Los Alamos, NM 87545-1663

| Radiological      |        |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|--------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | NR     | 0.0747    |      |       |          | 0.0523 - 0.0971        |               |          |
| Cesium-134        | NR     | 3.62      |      |       |          | 2.53 - 4.71            |               |          |
| Cesium-137        | NR     |           |      |       |          | False Positive Test    |               |          |
| Cobalt-57         | NR     | 0.865     |      |       |          | 0.606 - 1.125          |               |          |
| Cobalt-60         | NR     |           |      |       |          | False Positive Test    |               |          |
| Curium-244        | NR     |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR     |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | NR     | 0.417     |      |       |          | Sensitivity Evaluation |               |          |
| Plutonium-238     | NR     | 0.0455    |      |       |          | 0.0319 - 0.0592        |               |          |
| Plutonium-239/240 | 0.0901 | 0.091     | A    |       | -1.0     | 0.064 - 0.118          | 0.0019        | A        |
| Potassium-40      | NR     | 54        |      |       |          | 38 - 70                |               |          |
| Radium-226        | NR     |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | NR     | 1.48      |      |       |          | 1.04 - 1.92            |               |          |
| Technetium-99     | NR     |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | NR     | 0.116     |      |       |          | 0.081 - 0.151          |               |          |
| Uranium-238       | NR     | 0.121     |      |       |          | 0.085 - 0.157          |               |          |
| Zinc-65           | NR     | 0.420     |      |       |          | Sensitivity Evaluation |               |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations





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

Laboratory Results For MAPEP-21-MaSU45  
 (LANL01) Los Alamos National Laboratory  
 P. O. Box 1663  
 Los Alamos, NM 87545

| Radiological      |        |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|--------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | NR     | 0.0747    |      |       |          | 0.0523 - 0.0971        |               |          |
| Cesium-134        | 3.66   | 3.62      | A    |       | 1.1      | 2.53 - 4.71            | 0.20          | A        |
| Cesium-137        | NR     |           | N    | (11)  |          | False Positive Test    |               |          |
| Cobalt-57         | 1.01   | 0.865     | A    |       | 16.8     | 0.606 - 1.125          | 0.08          | A        |
| Cobalt-60         | NR     |           | N    | (11)  |          | False Positive Test    |               |          |
| Curium-244        | NR     |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR     |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 1.20   | 0.417     | N    | (4)   |          | Sensitivity Evaluation | 0.19          |          |
| Plutonium-238     | 0.0480 | 0.0455    | A    |       | 5.5      | 0.0319 - 0.0592        | 0.0034        | A        |
| Plutonium-239/240 | 0.0899 | 0.091     | A    |       | -1.2     | 0.064 - 0.118          | 0.0049        | A        |
| Potassium-40      | NR     | 54        | N    | (25)  |          | 38 - 70                |               |          |
| Radium-226        | NR     |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | NR     | 1.48      |      |       |          | 1.04 - 1.92            |               |          |
| Technetium-99     | NR     |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | NR     | 0.116     |      |       |          | 0.081 - 0.151          |               |          |
| Uranium-238       | NR     | 0.121     |      |       |          | 0.085 - 0.157          |               |          |
| Zinc-65           | NR     | 0.420     | N    | (18)  |          | Sensitivity Evaluation |               |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (RQCT01) Radiobioassay Quality Control Testing  
 PO Box 1625, MS 2114  
 Idaho Falls, ID 83415

| Radiological      |         |           |      |       |          |                        | Units: (Bq/L) |          |
|-------------------|---------|-----------|------|-------|----------|------------------------|---------------|----------|
| Analyte           | Result  | Ref Value | Flag | Notes | Bias (%) | Acceptance Range       | Unc Value     | Unc Flag |
| Americium-241     | 0.0651  | 0.0747    | A    |       | -12.9    | 0.0523 - 0.0971        | 0.00503       | A        |
| Cesium-134        | 3.23    | 3.62      | A    |       | -10.8    | 2.53 - 4.71            | 0.214         | A        |
| Cesium-137        | -0.018  |           | A    |       |          | False Positive Test    | 0.044         |          |
| Cobalt-57         | 0.8397  | 0.865     | A    |       | -2.9     | 0.606 - 1.125          | 0.0869        | A        |
| Cobalt-60         | -0.0411 |           | A    |       |          | False Positive Test    | 0.0485        |          |
| Curium-244        | NR      |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR      |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.4254  | 0.417     | A    |       |          | Sensitivity Evaluation | 0.0947        |          |
| Plutonium-238     | 0.0485  | 0.0455    | A    |       | 6.6      | 0.0319 - 0.0592        | 0.00317       | A        |
| Plutonium-239/240 | 0.0858  | 0.091     | A    |       | -5.7     | 0.064 - 0.118          | 0.00533       | A        |
| Potassium-40      | 64.3    | 54        | A    |       | 19.1     | 38 - 70                | 4.30          | A        |
| Radium-226        | NR      |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 1.228   | 1.48      | A    |       | -17.0    | 1.04 - 1.92            | 0.0744        | A        |
| Technetium-99     | NR      |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | 0.1162  | 0.116     | A    |       | 0.2      | 0.081 - 0.151          | 0.00707       | A        |
| Uranium-238       | 0.1139  | 0.121     | A    |       | -5.9     | 0.085 - 0.157          | 0.00695       | A        |
| Zinc-65           | 0.501   | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 0.168         |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (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 |
| Americium-241     | 0.0674   | 0.0747    | A    |       | -9.8     | 0.0523 - 0.0971        | 0.0033        | A        |
| Cesium-134        | 3.80     | 3.62      | A    |       | 5.0      | 2.53 - 4.71            | 0.23          | A        |
| Cesium-137        | 0.055    |           | A    |       |          | False Positive Test    | 0.041         |          |
| Cobalt-57         | 0.822    | 0.865     | A    |       | -5.0     | 0.606 - 1.125          | 0.084         | A        |
| Cobalt-60         | -0.037   |           | A    |       |          | False Positive Test    | 0.061         |          |
| Curium-244        | -0.00006 |           | A    |       |          | False Positive Test    | 0.00012       |          |
| Hydrogen-3        | -37      |           | A    |       |          | False Positive Test    | 56            |          |
| Manganese-54      | 0.424    | 0.417     | A    |       |          | Sensitivity Evaluation | 0.078         |          |
| Plutonium-238     | 0.0461   | 0.0455    | A    |       | 1.3      | 0.0319 - 0.0592        | 0.0026        | A        |
| Plutonium-239/240 | 0.0934   | 0.091     | A    |       | 2.6      | 0.064 - 0.118          | 0.0042        | A        |
| Potassium-40      | 64.7     | 54        | A    |       | 19.8     | 38 - 70                | 4.5           | A        |
| Radium-226        | NR       |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 1.48     | 1.48      | A    |       | 0.0      | 1.04 - 1.92            | 0.07          | A        |
| Technetium-99     | NR       |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | 0.1125   | 0.116     | A    |       | -3.0     | 0.081 - 0.151          | 0.0056        | A        |
| Uranium-238       | 0.1163   | 0.121     | A    |       | -3.9     | 0.085 - 0.157          | 0.0059        | A        |
| Zinc-65           | 0.31     | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 0.14          |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (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 |
| Americium-241     | NR     | 0.0747    |      |       |          | 0.0523 - 0.0971        |               |          |
| Cesium-134        | 3.1    | 3.62      | A    |       | -14.4    | 2.53 - 4.71            | .126          | A        |
| Cesium-137        | .083   |           |      | A     |          | False Positive Test    | .101          |          |
| Cobalt-57         | .844   | 0.865     | A    |       | -2.4     | 0.606 - 1.125          | .0975         | A        |
| Cobalt-60         | .0535  |           |      | A     |          | False Positive Test    | .0953         |          |
| Curium-244        | NR     |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR     |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | .459   | 0.417     | A    |       |          | Sensitivity Evaluation | .109          |          |
| Plutonium-238     | NR     | 0.0455    |      |       |          | 0.0319 - 0.0592        |               |          |
| Plutonium-239/240 | NR     | 0.091     |      |       |          | 0.064 - 0.118          |               |          |
| Potassium-40      | 48.8   | 54        | A    |       | -9.6     | 38 - 70                | 3.45          | A        |
| Radium-226        | NR     |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | NR     | 1.48      |      |       |          | 1.04 - 1.92            |               |          |
| Technetium-99     | NR     |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | .133   | 0.116     | A    |       | 14.7     | 0.081 - 0.151          | .022          | W        |
| Uranium-238       | .137   | 0.121     | A    |       | 13.2     | 0.085 - 0.157          | .0219         | W        |
| Zinc-65           | .339   | 0.420     | A    | (17)  |          | Sensitivity Evaluation | .28           |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations





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

Laboratory Results For MAPEP-21-MaSU45

(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 |
| Americium-241     | 6.98E-02  | 0.0747    | A    |       | -6.6     | 0.0523 - 0.0971        | 1.10E-02      | W        |
| Cesium-134        | 7.37E+00  | 3.62      | N    |       | 103.6    | 2.53 - 4.71            | 4.01E-01      | A        |
| Cesium-137        | -9.96E-03 |           | A    |       |          | False Positive Test    | 1.05E-01      |          |
| Cobalt-57         | 1.88E+00  | 0.865     | N    |       | 117.3    | 0.606 - 1.125          | 1.63E-01      | A        |
| Cobalt-60         | -9.70E-03 |           | A    |       |          | False Positive Test    | 2.36E-01      |          |
| Curium-244        | NR        |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR        |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 8.51E-01  | 0.417     | A    |       |          | Sensitivity Evaluation | 1.87E-01      |          |
| Plutonium-238     | 5.11E-02  | 0.0455    | A    |       | 12.3     | 0.0319 - 0.0592        | 9.25E-03      | W        |
| Plutonium-239/240 | 9.52E-02  | 0.091     | A    |       | 4.6      | 0.064 - 0.118          | 1.71E-02      | W        |
| Potassium-40      | 1.36E+02  | 54        | N    |       | 151.9    | 38 - 70                | 7.33          | A        |
| Radium-226        | NR        |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 1.38E+00  | 1.48      | A    |       | -6.8     | 1.04 - 1.92            | 5.04E-02      | A        |
| Technetium-99     | NR        |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | 1.40E-01  | 0.116     | W    |       | 20.7     | 0.081 - 0.151          | 1.61E-02      | A        |
| Uranium-238       | 1.39E-01  | 0.121     | A    |       | 14.9     | 0.085 - 0.157          | 1.61E-02      | A        |
| Zinc-65           | 9.92E-01  | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 3.76E-01      |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

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

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations



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

Laboratory Results For MAPEP-21-MaSU45  
 (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 |
| Americium-241     | NR      | 0.0747    |      |       |          | 0.0523 - 0.0971        |               |          |
| Cesium-134        | 3.64    | 3.62      | A    |       | 0.6      | 2.53 - 4.71            | 0.104         | A        |
| Cesium-137        | -0.0129 |           |      | A     |          | False Positive Test    | 0.0434        |          |
| Cobalt-57         | 0.95    | 0.865     | A    |       | 9.8      | 0.606 - 1.125          | 0.1           | A        |
| Cobalt-60         | 0.0296  |           |      | A     |          | False Positive Test    | 0.0248        |          |
| Curium-244        | NR      |           |      |       |          | False Positive Test    |               |          |
| Hydrogen-3        | NR      |           |      |       |          | False Positive Test    |               |          |
| Manganese-54      | 0.462   | 0.417     | A    |       |          | Sensitivity Evaluation | 0.0857        |          |
| Plutonium-238     | NR      | 0.0455    |      |       |          | 0.0319 - 0.0592        |               |          |
| Plutonium-239/240 | NR      | 0.091     |      |       |          | 0.064 - 0.118          |               |          |
| Potassium-40      | 55.7    | 54        | A    |       | 3.1      | 38 - 70                | 4.65          | A        |
| Radium-226        | NR      |           |      |       |          | False Positive Test    |               |          |
| Strontium-90      | 0.668   | 1.48      | N    |       | -54.9    | 1.04 - 1.92            | 1.22          | N        |
| Technetium-99     | NR      |           |      |       |          | False Positive Test    |               |          |
| Uranium-234       | NR      | 0.116     |      |       |          | 0.081 - 0.151          |               |          |
| Uranium-238       | NR      | 0.121     |      |       |          | 0.085 - 0.157          |               |          |
| Zinc-65           | 0.273   | 0.420     | A    | (17)  |          | Sensitivity Evaluation | 0.163         |          |

Radiological Reference Date: August 1, 2021

**Results Flags:**

- A = Result acceptable.....|Bias| <= 20%
- W = Result acceptable with warning.....20% < |Bias| <= 30%
- N = Result not acceptable.....|Bias| > 30%
- RW = Report Warning
- NR = Not Reported

**Uncertainty Flags:**

- NOT ACCEPTABLE.....RP < 2%
- ACCEPTABLE.....2% <= RP <= 15%
- ACCEPTABLE WITH WARNING.....15% < RP <= 30%
- NOT ACCEPTABLE.....RP > 30%

| Radiological |        |           |      |       |          | Units: (Bq/L)    |           |          |
|--------------|--------|-----------|------|-------|----------|------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias (%) | Acceptance Range | Unc Value | Unc Flag |

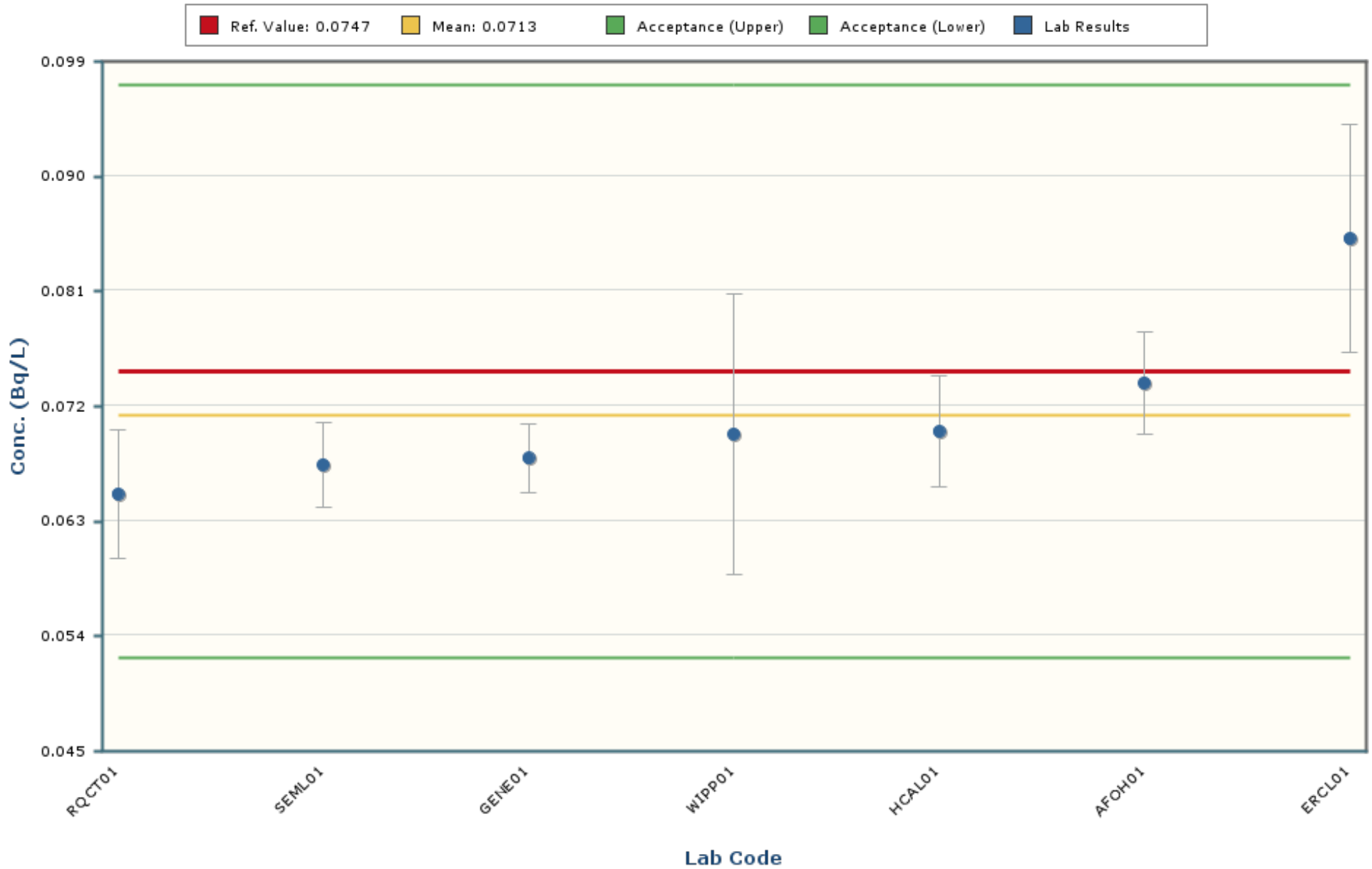
Relative Precision (RP) = (Reported Uncertainty / Reported Result) x 100

**Notes:**

- (4) = Sensitivity Evaluation
- (11) = False Positive Test, Result Not Reported
- (17) = NOT DETECTED - reported a statistically zero result
- (18) = Sensitivity Evaluation, Value Not Reported
- (25) = Result not reported with other gamma results
- (29) = Statistically significant negative value at 3 standard deviations

# Americium-241

## MAPEP-21-MaSU45



### Notes:

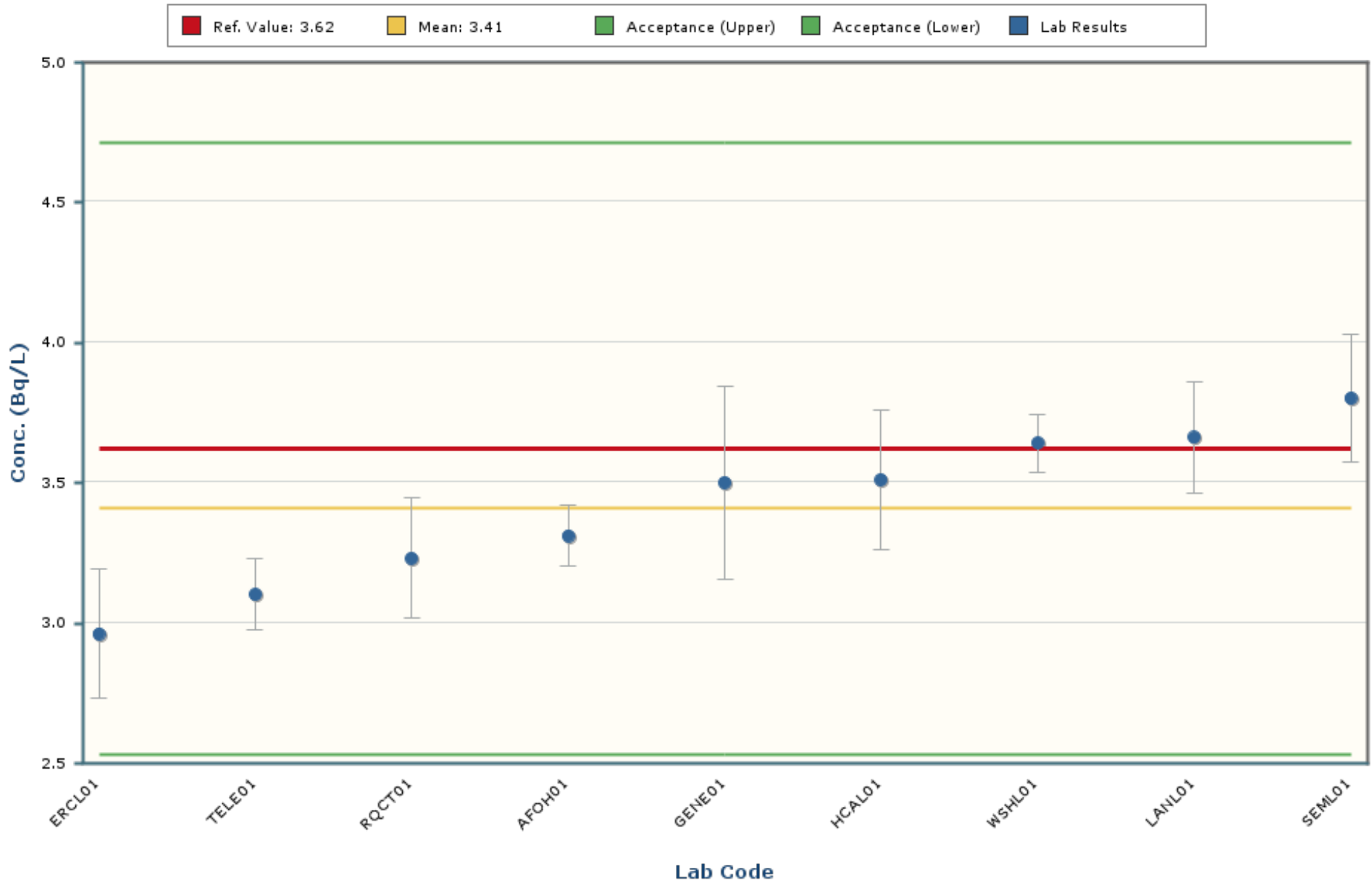
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.0380 and 0.1046 ( $\pm 5$  Standard Deviations).

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

# Cesium-134

## MAPEP-21-MaSU45



### Notes:

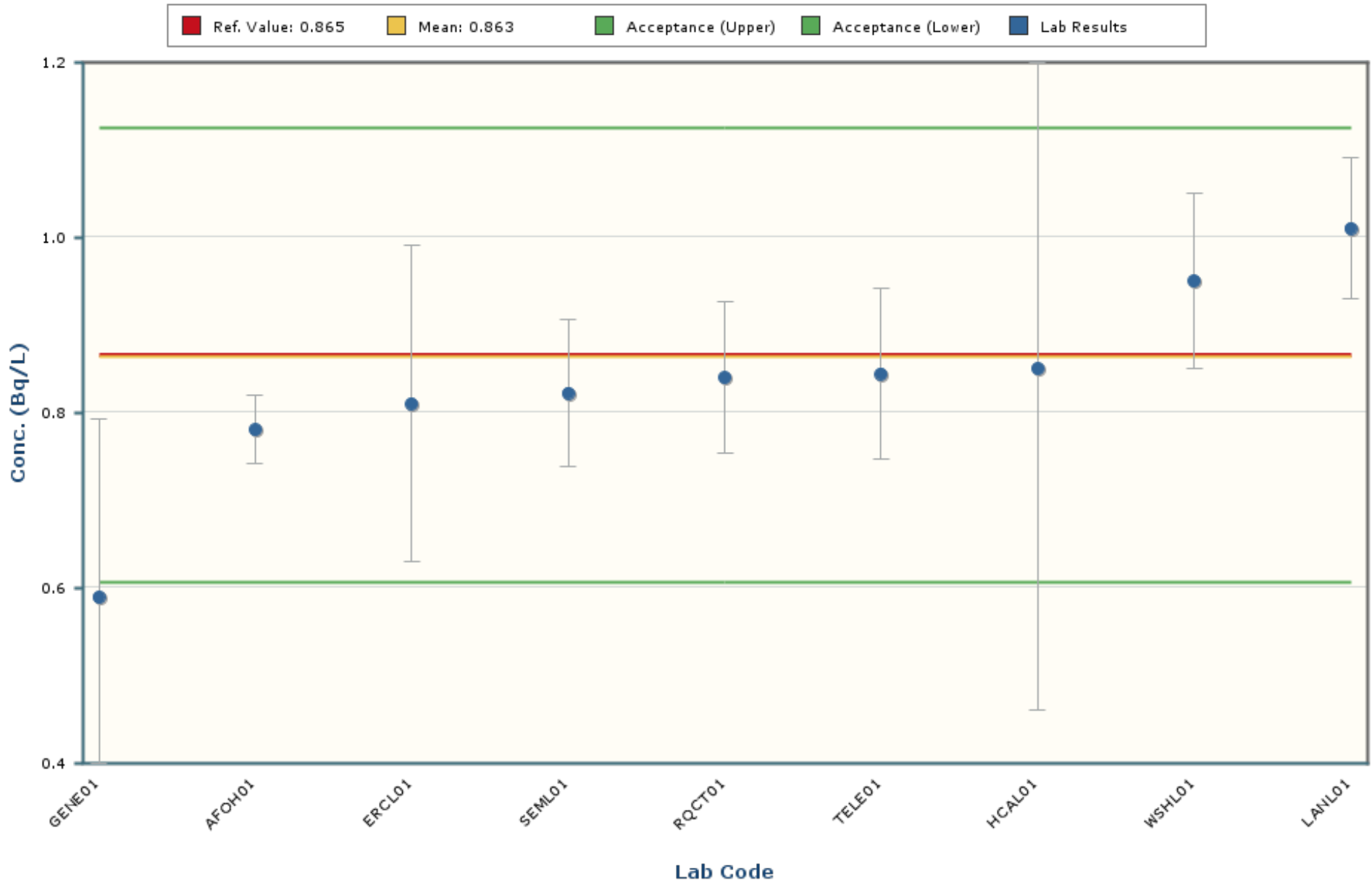
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 2.01 and 4.81 ( $\pm 5$  Standard Deviations).

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

# Cobalt-57

## MAPEP-21-MaSU45



### Notes:

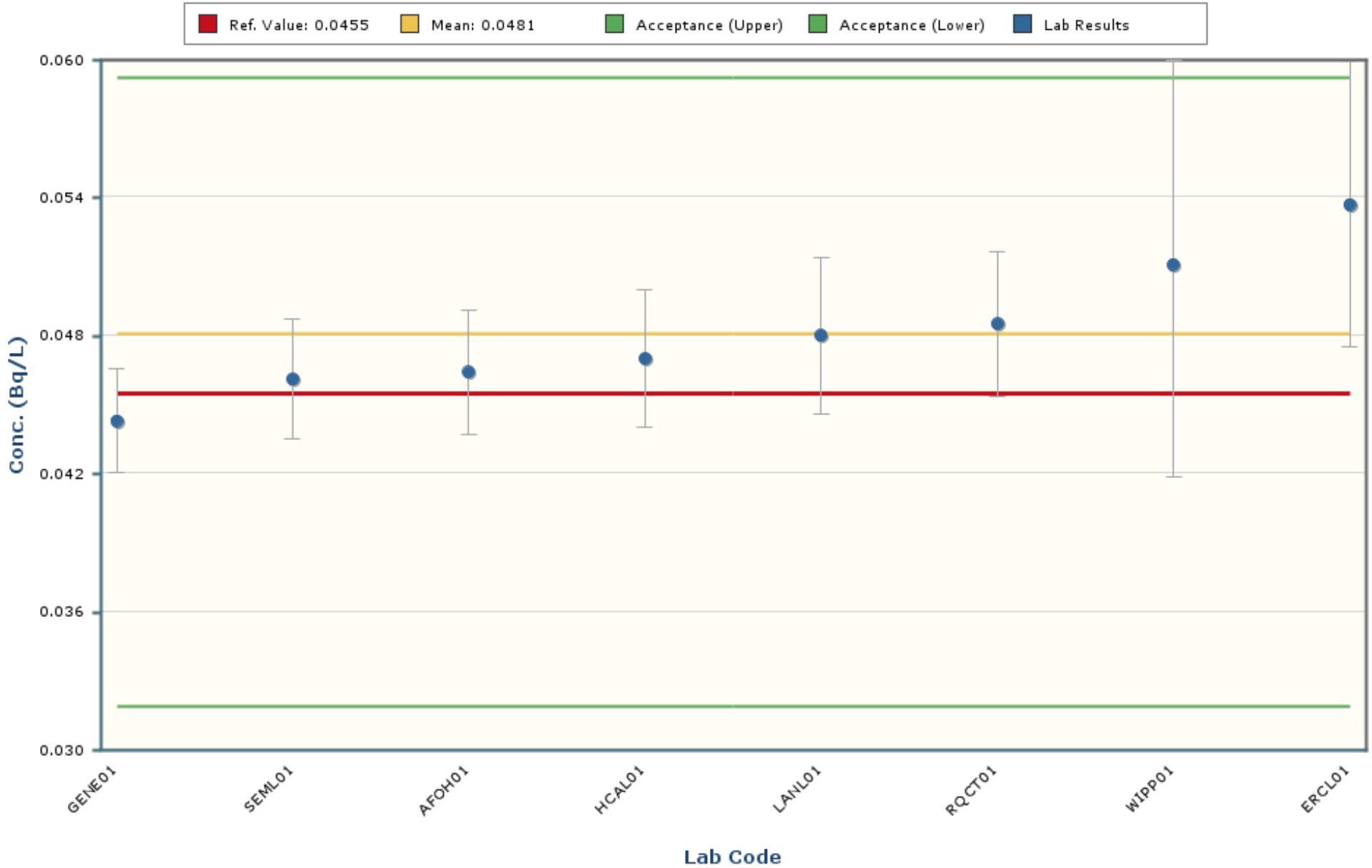
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.478 and 1.249 ( $\pm 5$  Standard Deviations).

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

# Plutonium-238

## MAPEP-21-MaSU45



### Notes:

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

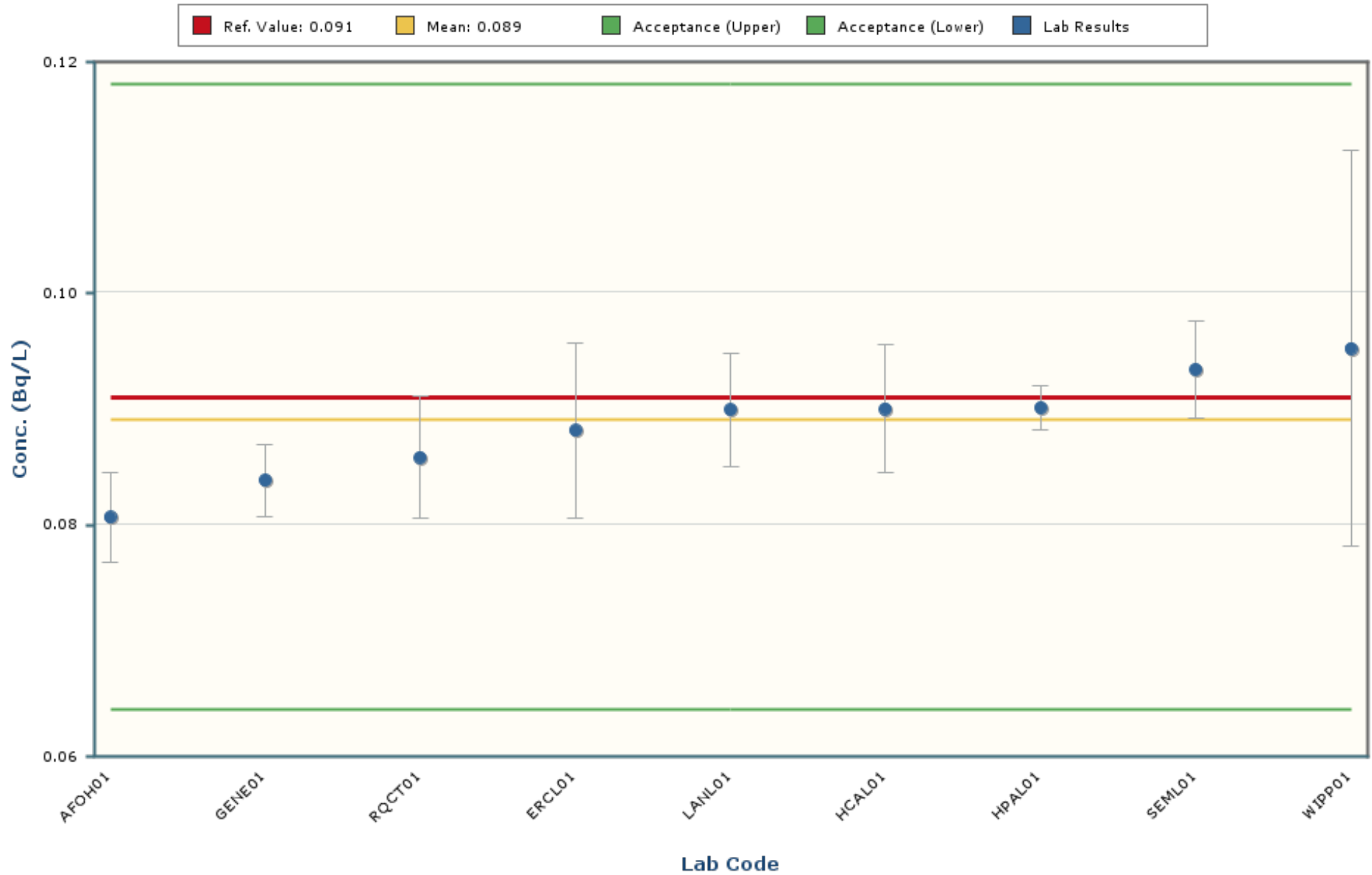
The chart shows only data points with values between 0.0331 and 0.0631 ( $\pm 5$  Standard Deviations).

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



# Plutonium-239/240

## MAPEP-21-MaSU45



### Notes:

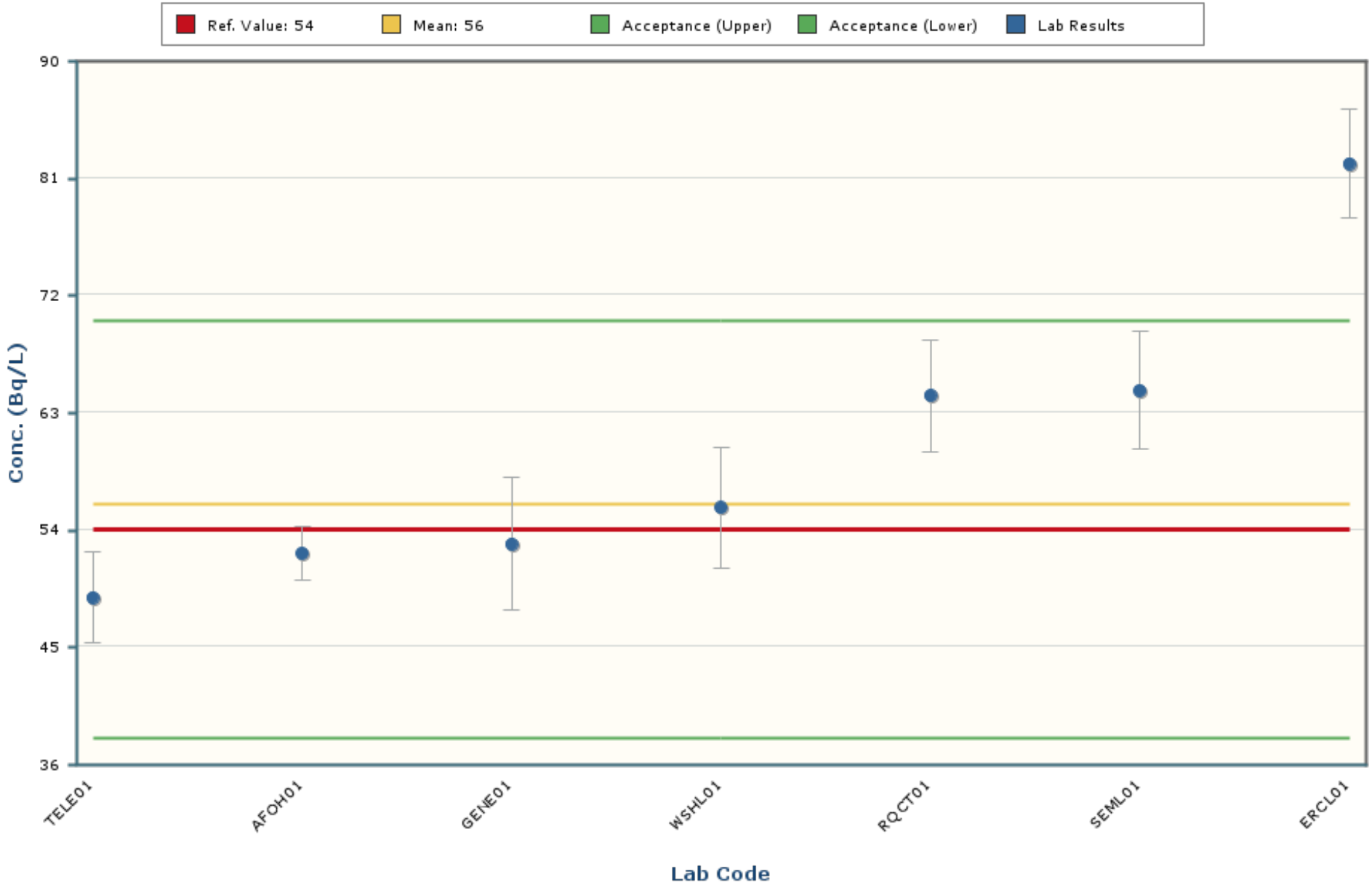
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.066 and 0.111 ( $\pm 5$  Standard Deviations).

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

# Potassium-40

## MAPEP-21-MaSU45



### Notes:

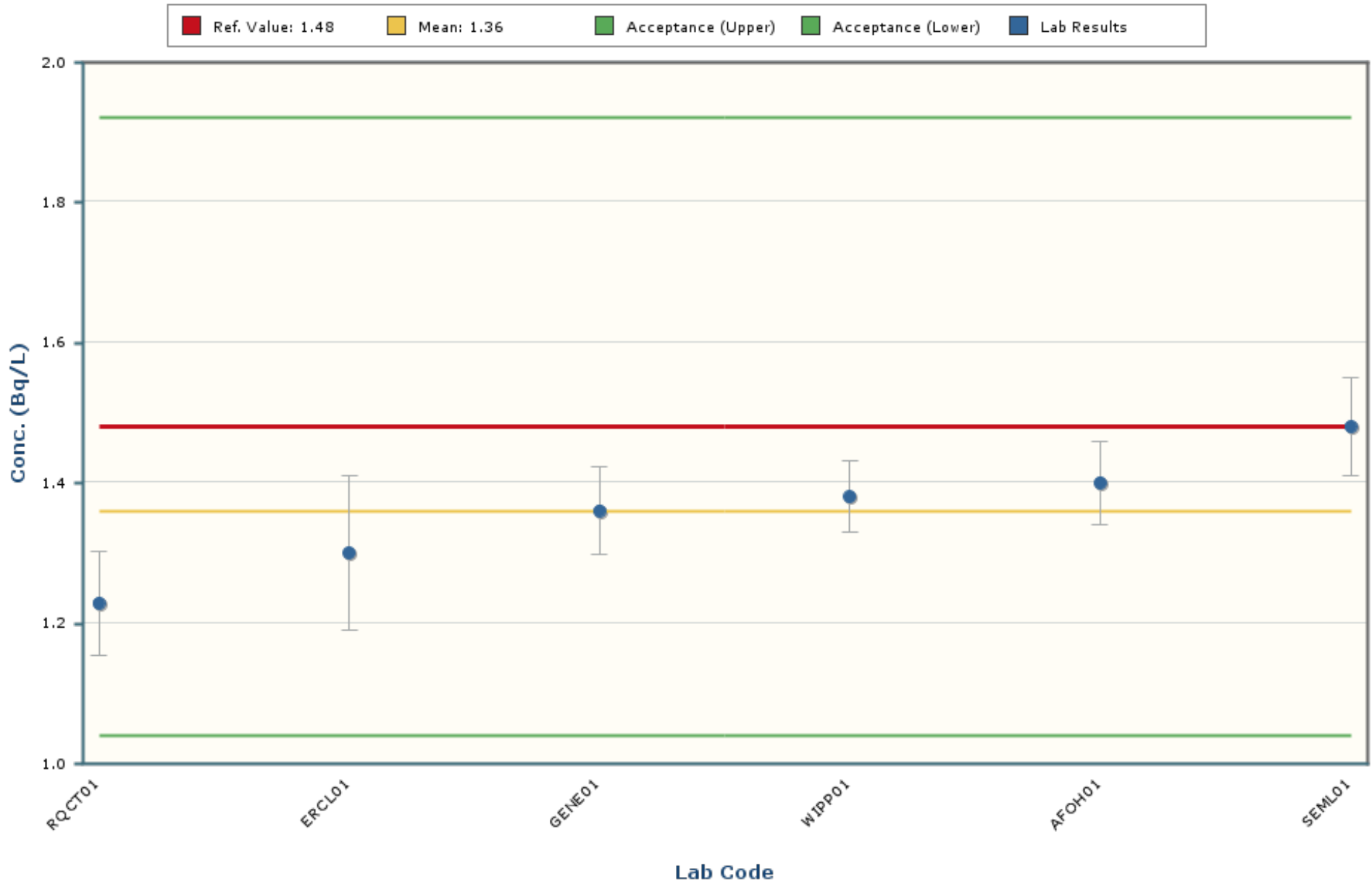
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 23 and 90 ( $\pm 5$  Standard Deviations).

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

# Strontium-90

## MAPEP-21-MaSU45



### Notes:

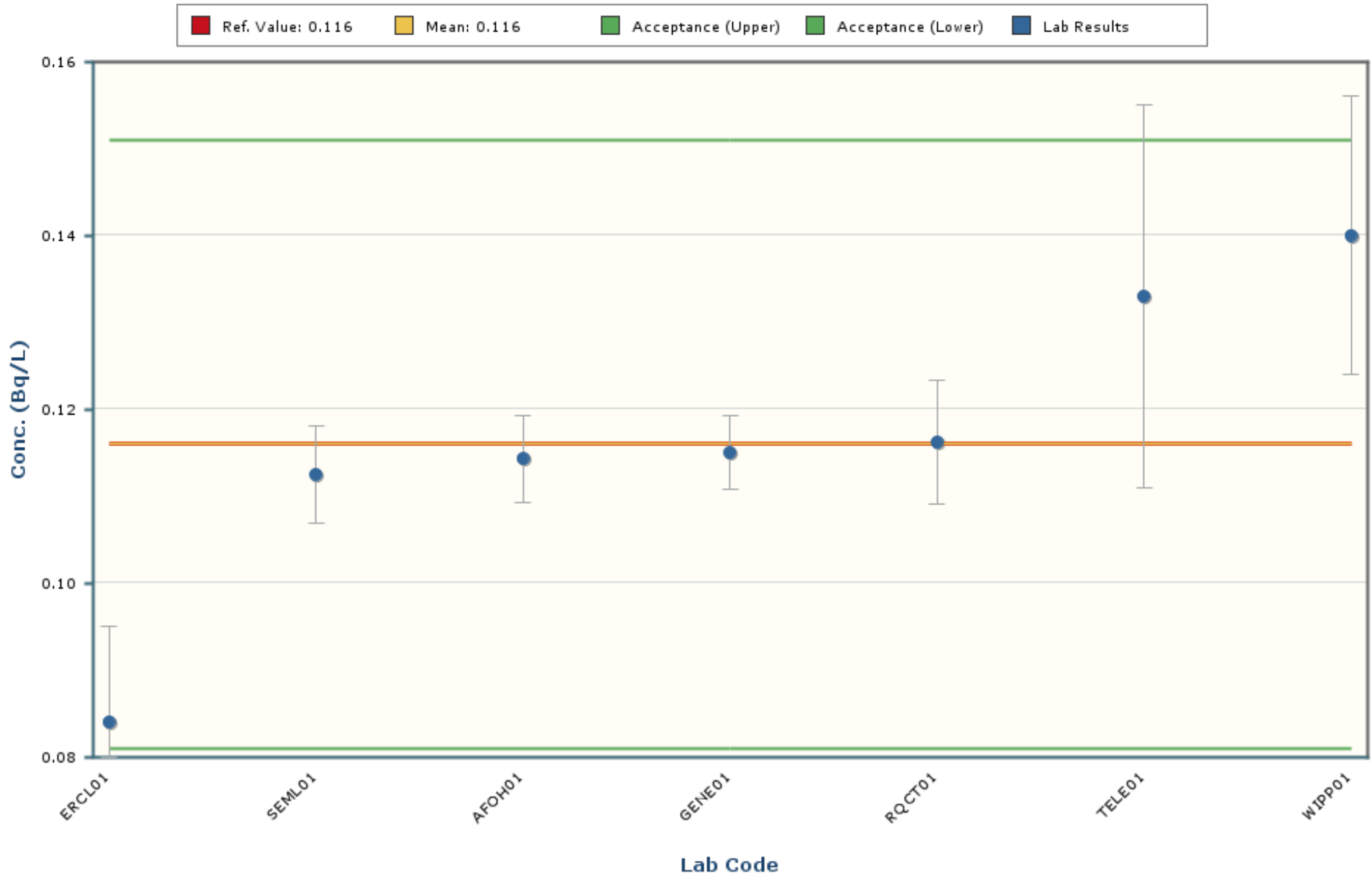
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.93 and 1.79 ( $\pm 5$  Standard Deviations).

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

# Uranium-234

## MAPEP-21-MaSU45



### Notes:

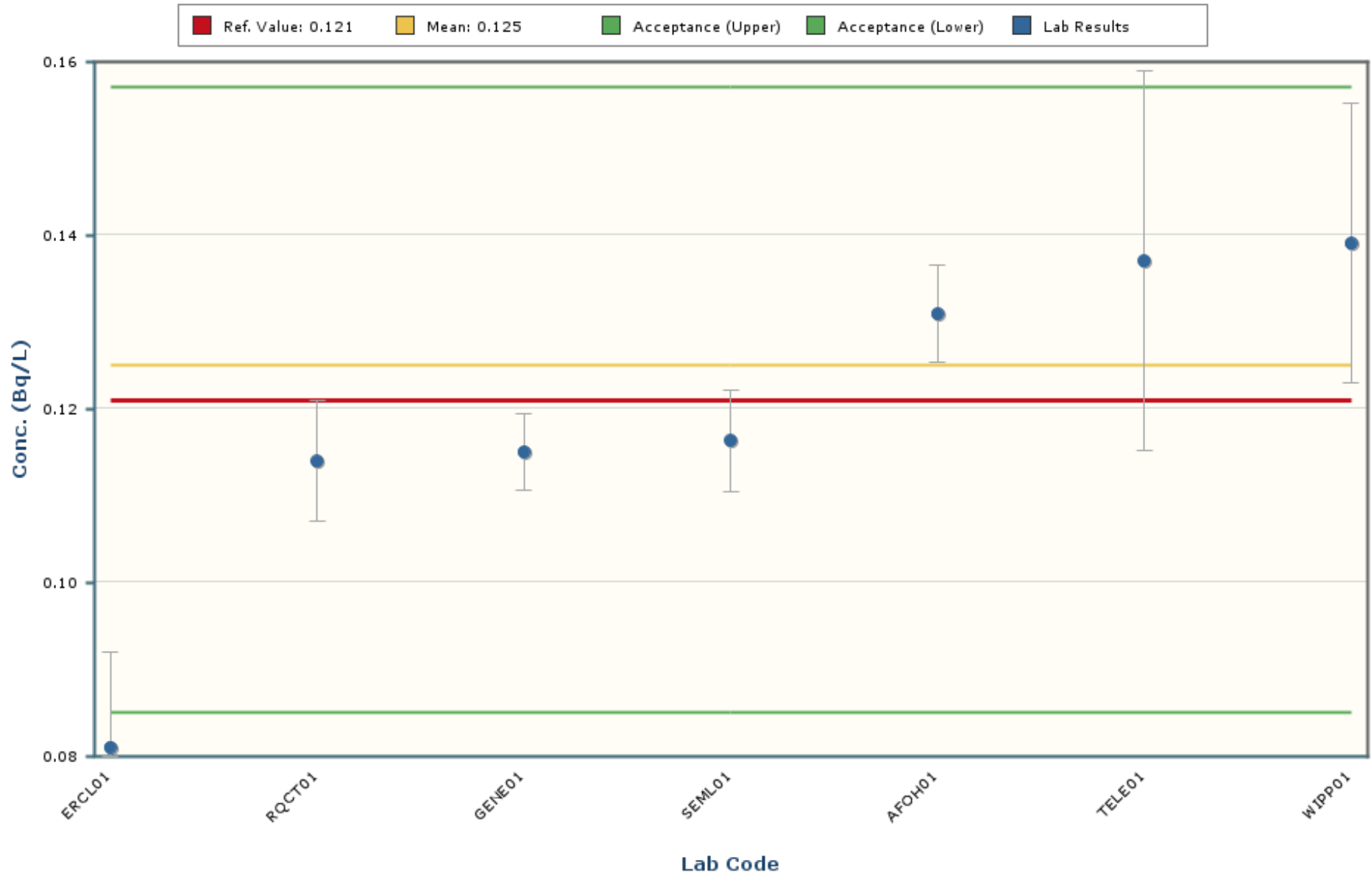
The chart mean excludes values outside of a bias range of  $\pm 30\%$ .

The chart shows only data points with values between 0.027 and 0.205 ( $\pm 5$  Standard Deviations).

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

# Uranium-238

## MAPEP-21-MaSU45



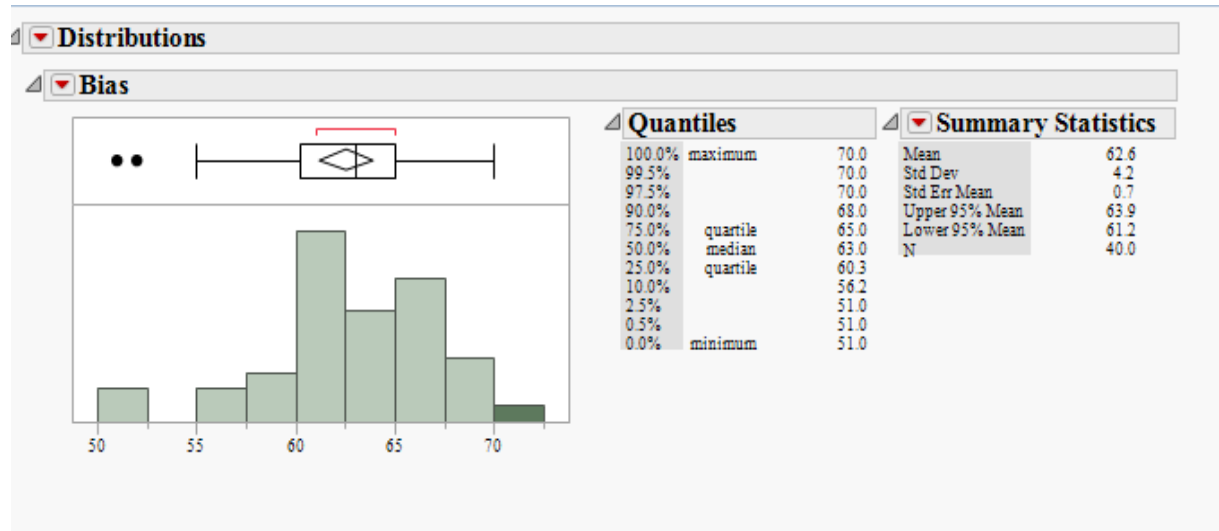
### Notes:

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

The chart shows only data points with values between 0.067 and 0.183 ( $\pm 5$  Standard Deviations).

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

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

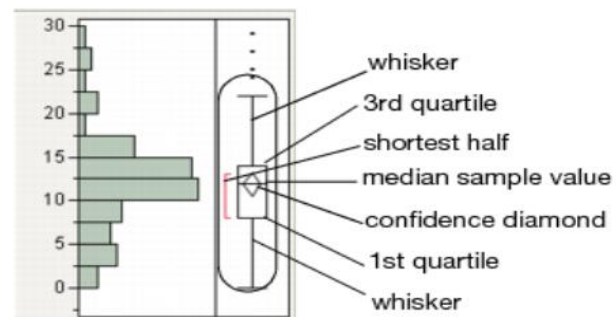


### Outlier Box Plot

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

3rd quartile + 1.5\*(interquartile range)

1st quartile - 1.5\*(interquartile range)

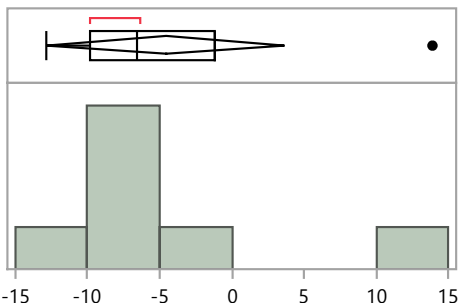


If the data points do not reach the computed ranges, then the whiskers are determined by the upper and lower data point values (not including outliers). The bracket outside of the box identifies the *shortest half*, which is the most dense 50% of the observations (Rousseuw and Leroy 1987).

**MaSU Distribution by Detection Method**

**Distributions Analyte\_Detection=Americium-241 Alpha Spectrometry**

**Bias**

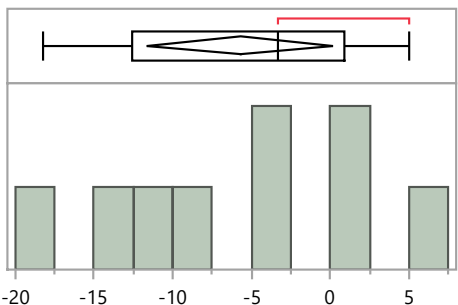


| Quantiles |          |       |
|-----------|----------|-------|
| 100.0%    | maximum  | 13.9  |
| 99.5%     |          | 13.9  |
| 97.5%     |          | 13.9  |
| 90.0%     |          | 13.9  |
| 75.0%     | quartile | -1.2  |
| 50.0%     | median   | -6.6  |
| 25.0%     | quartile | -9.8  |
| 10.0%     |          | -12.9 |
| 2.5%      |          | -12.9 |
| 0.5%      |          | -12.9 |
| 0.0%      | minimum  | -12.9 |

| Summary Statistics |       |
|--------------------|-------|
| Mean               | -4.6  |
| Std Dev            | 8.9   |
| Std Err Mean       | 3.4   |
| Upper 95% Mean     | 3.7   |
| Lower 95% Mean     | -12.8 |
| N                  | 7.0   |

**Distributions Analyte\_Detection=Cesium-134 Gamma Spectrometry**

**Bias**

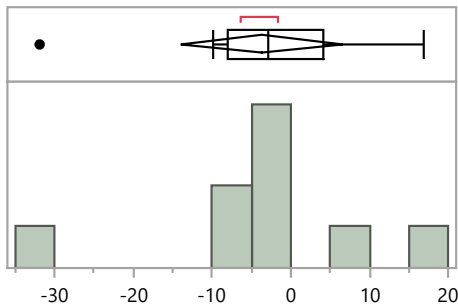


| Quantiles |          |       |
|-----------|----------|-------|
| 100.0%    | maximum  | 5.0   |
| 99.5%     |          | 5.0   |
| 97.5%     |          | 5.0   |
| 90.0%     |          | 5.0   |
| 75.0%     | quartile | 0.9   |
| 50.0%     | median   | -3.3  |
| 25.0%     | quartile | -12.6 |
| 10.0%     |          | -18.2 |
| 2.5%      |          | -18.2 |
| 0.5%      |          | -18.2 |
| 0.0%      | minimum  | -18.2 |

| Summary Statistics |       |
|--------------------|-------|
| Mean               | -5.7  |
| Std Dev            | 7.7   |
| Std Err Mean       | 2.6   |
| Upper 95% Mean     | 0.2   |
| Lower 95% Mean     | -11.7 |
| N                  | 9.0   |

**Distributions Analyte\_Detection=Cobalt-57 Gamma Spectrometry**

**Bias**



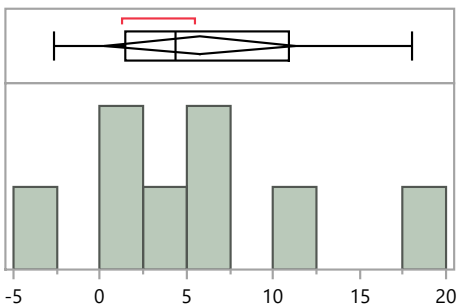
| Quantiles |          |       |
|-----------|----------|-------|
| 100.0%    | maximum  | 16.8  |
| 99.5%     |          | 16.8  |
| 97.5%     |          | 16.8  |
| 90.0%     |          | 16.8  |
| 75.0%     | quartile | 4.1   |
| 50.0%     | median   | -2.9  |
| 25.0%     | quartile | -8.1  |
| 10.0%     |          | -31.9 |
| 2.5%      |          | -31.9 |
| 0.5%      |          | -31.9 |
| 0.0%      | minimum  | -31.9 |

| Summary Statistics |       |
|--------------------|-------|
| Mean               | -3.7  |
| Std Dev            | 13.5  |
| Std Err Mean       | 4.5   |
| Upper 95% Mean     | 6.6   |
| Lower 95% Mean     | -14.1 |
| N                  | 9.0   |

**MaU Distribution by Detection Method**

**Distributions Analyte\_Detection=Plutonium-238 Alpha Spectrometry**

**Bias**



**Quantiles**

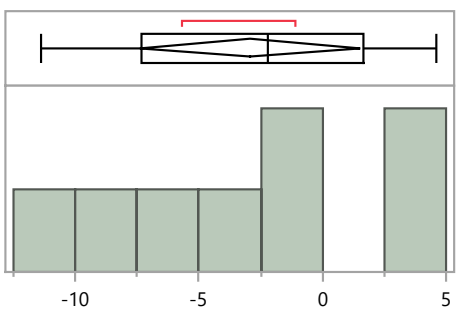
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 18.0 |
| 99.5%  |          | 18.0 |
| 97.5%  |          | 18.0 |
| 90.0%  |          | 18.0 |
| 75.0%  | quartile | 10.9 |
| 50.0%  | median   | 4.4  |
| 25.0%  | quartile | 1.5  |
| 10.0%  |          | -2.6 |
| 2.5%   |          | -2.6 |
| 0.5%   |          | -2.6 |
| 0.0%   | minimum  | -2.6 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | 5.8  |
| Std Dev        | 6.6  |
| Std Err Mean   | 2.3  |
| Upper 95% Mean | 11.3 |
| Lower 95% Mean | 0.3  |
| N              | 8.0  |

**Distributions Analyte\_Detection=Plutonium-239/240 Alpha Spectrometry**

**Bias**



**Quantiles**

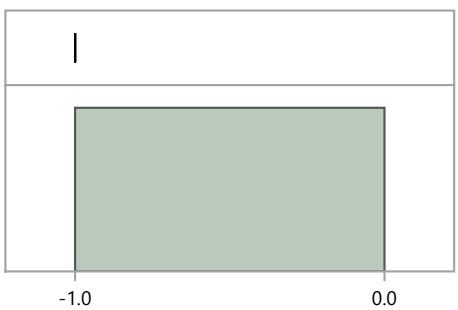
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 4.6   |
| 99.5%  |          | 4.6   |
| 97.5%  |          | 4.6   |
| 90.0%  |          | 4.6   |
| 75.0%  | quartile | 1.7   |
| 50.0%  | median   | -2.2  |
| 25.0%  | quartile | -7.4  |
| 10.0%  |          | -11.4 |
| 2.5%   |          | -11.4 |
| 0.5%   |          | -11.4 |
| 0.0%   | minimum  | -11.4 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | -2.9 |
| Std Dev        | 5.3  |
| Std Err Mean   | 1.9  |
| Upper 95% Mean | 1.5  |
| Lower 95% Mean | -7.4 |
| N              | 8.0  |

**Distributions Analyte\_Detection=Plutonium-239/240 Thermal Ionization Mass Spectrometry**

**Bias**



**Quantiles**

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

**Summary Statistics**

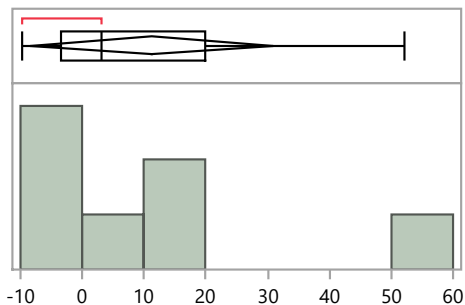
|                |      |
|----------------|------|
| Mean           | -1.0 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |



**MaU Distribution by Detection Method**

**Distributions Analyte\_Detection=Potassium-40 Gamma Spectrometry**

**Bias**



**Quantiles**

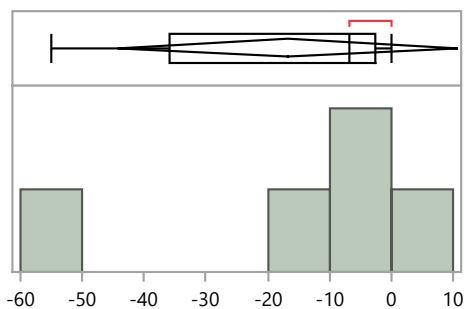
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 52.0 |
| 99.5%  |          | 52.0 |
| 97.5%  |          | 52.0 |
| 90.0%  |          | 52.0 |
| 75.0%  | quartile | 19.8 |
| 50.0%  | median   | 3.1  |
| 25.0%  | quartile | -3.3 |
| 10.0%  |          | -9.6 |
| 2.5%   |          | -9.6 |
| 0.5%   |          | -9.6 |
| 0.0%   | minimum  | -9.6 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | 11.3 |
| Std Dev        | 21.1 |
| Std Err Mean   | 8.0  |
| Upper 95% Mean | 30.9 |
| Lower 95% Mean | -8.3 |
| N              | 7.0  |

**Distributions Analyte\_Detection=Strontium-90 Gas Flow Proportional Counter**

**Bias**



**Quantiles**

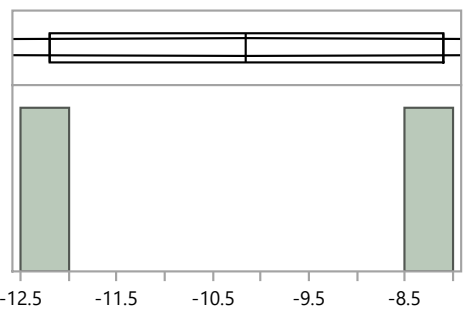
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 0.0   |
| 99.5%  |          | 0.0   |
| 97.5%  |          | 0.0   |
| 90.0%  |          | 0.0   |
| 75.0%  | quartile | -2.7  |
| 50.0%  | median   | -6.8  |
| 25.0%  | quartile | -36.0 |
| 10.0%  |          | -54.9 |
| 2.5%   |          | -54.9 |
| 0.5%   |          | -54.9 |
| 0.0%   | minimum  | -54.9 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -16.8 |
| Std Dev        | 22.2  |
| Std Err Mean   | 9.9   |
| Upper 95% Mean | 10.7  |
| Lower 95% Mean | -44.3 |
| N              | 5.0   |

**Distributions Analyte\_Detection=Strontium-90 Gross Alpha/Beta - 2 pi gas flow proportional counter**

**Bias**



**Quantiles**

|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -8.1  |
| 99.5%  |          | -8.1  |
| 97.5%  |          | -8.1  |
| 90.0%  |          | -8.1  |
| 75.0%  | quartile | -8.1  |
| 50.0%  | median   | -10.2 |
| 25.0%  | quartile | -12.2 |
| 10.0%  |          | -12.2 |
| 2.5%   |          | -12.2 |
| 0.5%   |          | -12.2 |
| 0.0%   | minimum  | -12.2 |

**Summary Statistics**

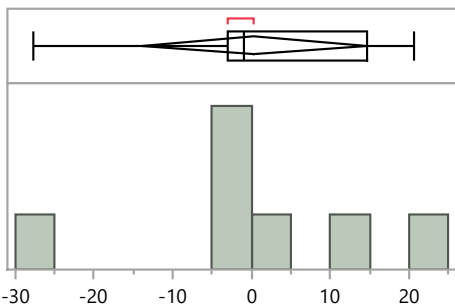
|                |       |
|----------------|-------|
| Mean           | -10.2 |
| Std Dev        | 2.9   |
| Std Err Mean   | 2.0   |
| Upper 95% Mean | 15.9  |
| Lower 95% Mean | -36.2 |
| N              | 2.0   |

MaSU45 Distribution by Detection Method

**MaU Distribution by Detection Method**

**Distributions Analyte\_Detection=Uranium-234 Alpha Spectrometry**

**Bias**



**Quantiles**

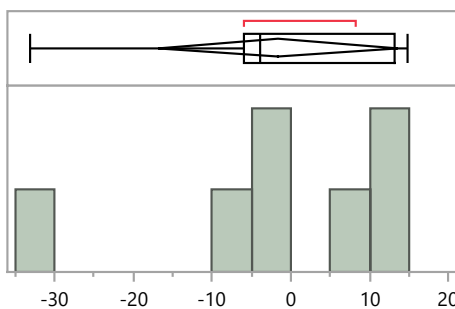
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 20.7  |
| 99.5%  |          | 20.7  |
| 97.5%  |          | 20.7  |
| 90.0%  |          | 20.7  |
| 75.0%  | quartile | 14.7  |
| 50.0%  | median   | -0.9  |
| 25.0%  | quartile | -3.0  |
| 10.0%  |          | -27.6 |
| 2.5%   |          | -27.6 |
| 0.5%   |          | -27.6 |
| 0.0%   | minimum  | -27.6 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | 0.4   |
| Std Dev        | 15.4  |
| Std Err Mean   | 5.8   |
| Upper 95% Mean | 14.6  |
| Lower 95% Mean | -13.8 |
| N              | 7.0   |

**Distributions Analyte\_Detection=Uranium-238 Alpha Spectrometry**

**Bias**



**Quantiles**

|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 14.9  |
| 99.5%  |          | 14.9  |
| 97.5%  |          | 14.9  |
| 90.0%  |          | 14.9  |
| 75.0%  | quartile | 13.2  |
| 50.0%  | median   | -3.9  |
| 25.0%  | quartile | -5.9  |
| 10.0%  |          | -33.1 |
| 2.5%   |          | -33.1 |
| 0.5%   |          | -33.1 |
| 0.0%   | minimum  | -33.1 |

**Summary Statistics**

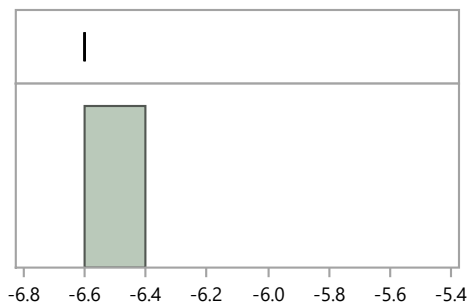
|                |       |
|----------------|-------|
| Mean           | -1.7  |
| Std Dev        | 16.4  |
| Std Err Mean   | 6.2   |
| Upper 95% Mean | 13.5  |
| Lower 95% Mean | -16.8 |
| N              | 7.0   |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Americium-241 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

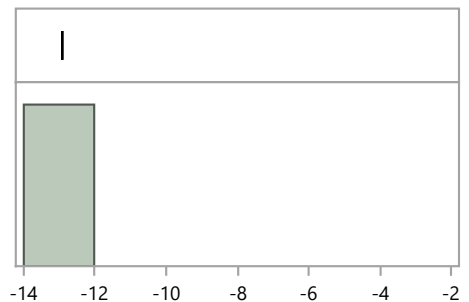
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -6.6 |
| 99.5%  |          | -6.6 |
| 97.5%  |          | -6.6 |
| 90.0%  |          | -6.6 |
| 75.0%  | quartile | -6.6 |
| 50.0%  | median   | -6.6 |
| 25.0%  | quartile | -6.6 |
| 10.0%  |          | -6.6 |
| 2.5%   |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

**Summary Statistics**

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

**Distributions Analyte\_Method=Americium-241 Coprecipitation, acidified**

**Bias**



**Quantiles**

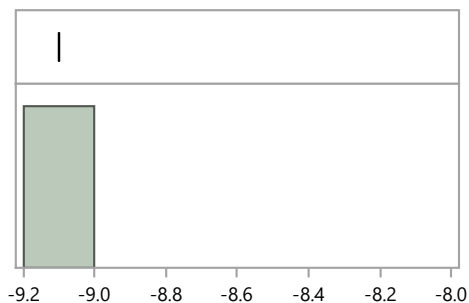
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -12.9 |
| 99.5%  |          | -12.9 |
| 97.5%  |          | -12.9 |
| 90.0%  |          | -12.9 |
| 75.0%  | quartile | -12.9 |
| 50.0%  | median   | -12.9 |
| 25.0%  | quartile | -12.9 |
| 10.0%  |          | -12.9 |
| 2.5%   |          | -12.9 |
| 0.5%   |          | -12.9 |
| 0.0%   | minimum  | -12.9 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -12.9 |
| Std Dev        | .     |
| Std Err Mean   | .     |
| Upper 95% Mean | .     |
| Lower 95% Mean | .     |
| N              | 1.0   |

**Distributions Analyte\_Method=Americium-241 Coprecipitation, straight**

**Bias**



**Quantiles**

|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -9.1 |
| 99.5%  |          | -9.1 |
| 97.5%  |          | -9.1 |
| 90.0%  |          | -9.1 |
| 75.0%  | quartile | -9.1 |
| 50.0%  | median   | -9.1 |
| 25.0%  | quartile | -9.1 |
| 10.0%  |          | -9.1 |
| 2.5%   |          | -9.1 |
| 0.5%   |          | -9.1 |
| 0.0%   | minimum  | -9.1 |

**Summary Statistics**

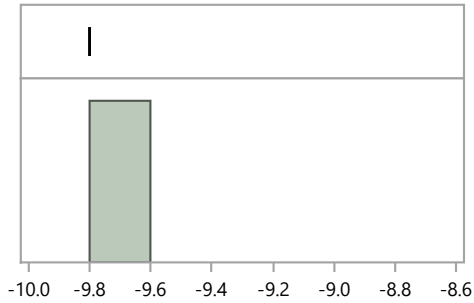
|                |      |
|----------------|------|
| Mean           | -9.1 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Americium-241 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



**Quantiles**

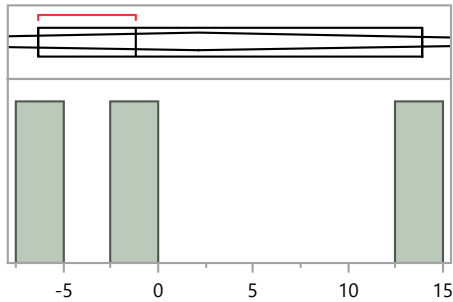
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -9.8 |
| 99.5%  |          | -9.8 |
| 97.5%  |          | -9.8 |
| 90.0%  |          | -9.8 |
| 75.0%  | quartile | -9.8 |
| 50.0%  | median   | -9.8 |
| 25.0%  | quartile | -9.8 |
| 10.0%  |          | -9.8 |
| 2.5%   |          | -9.8 |
| 0.5%   |          | -9.8 |
| 0.0%   | minimum  | -9.8 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | -9.8 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Americium-241 Other**

**Bias**



**Quantiles**

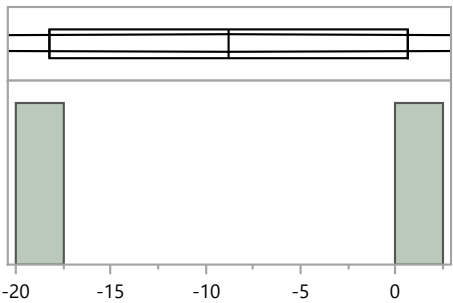
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 13.9 |
| 99.5%  |          | 13.9 |
| 97.5%  |          | 13.9 |
| 90.0%  |          | 13.9 |
| 75.0%  | quartile | 13.9 |
| 50.0%  | median   | -1.2 |
| 25.0%  | quartile | -6.3 |
| 10.0%  |          | -6.3 |
| 2.5%   |          | -6.3 |
| 0.5%   |          | -6.3 |
| 0.0%   | minimum  | -6.3 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | 2.1   |
| Std Dev        | 10.5  |
| Std Err Mean   | 6.1   |
| Upper 95% Mean | 28.2  |
| Lower 95% Mean | -24.0 |
| N              | 3.0   |

**Distributions Analyte\_Method=Cesium-134 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 0.6   |
| 99.5%  |          | 0.6   |
| 97.5%  |          | 0.6   |
| 90.0%  |          | 0.6   |
| 75.0%  | quartile | 0.6   |
| 50.0%  | median   | -8.8  |
| 25.0%  | quartile | -18.2 |
| 10.0%  |          | -18.2 |
| 2.5%   |          | -18.2 |
| 0.5%   |          | -18.2 |
| 0.0%   | minimum  | -18.2 |

**Summary Statistics**

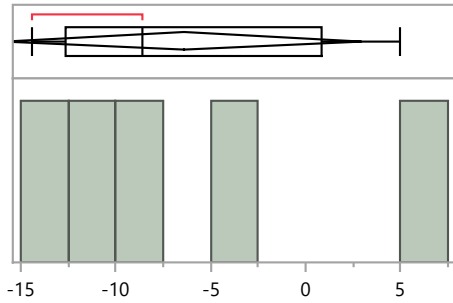
|                |        |
|----------------|--------|
| Mean           | -8.8   |
| Std Dev        | 13.3   |
| Std Err Mean   | 9.4    |
| Upper 95% Mean | 110.6  |
| Lower 95% Mean | -128.2 |
| N              | 2.0    |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Cesium-134 No preparation - analyzed as received**

**Bias**



**Quantiles**

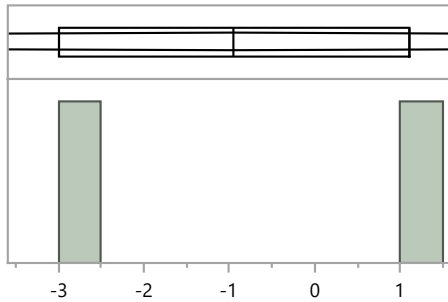
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | 5.0   |
| 99.5%  |          | 5.0   |
| 97.5%  |          | 5.0   |
| 90.0%  |          | 5.0   |
| 75.0%  | quartile | 0.9   |
| 50.0%  | median   | -8.6  |
| 25.0%  | quartile | -12.6 |
| 10.0%  |          | -14.4 |
| 2.5%   |          | -14.4 |
| 0.5%   |          | -14.4 |
| 0.0%   | minimum  | -14.4 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -6.4  |
| Std Dev        | 7.5   |
| Std Err Mean   | 3.4   |
| Upper 95% Mean | 2.9   |
| Lower 95% Mean | -15.8 |
| N              | 5.0   |

**Distributions Analyte\_Method=Cesium-134 Other**

**Bias**



**Quantiles**

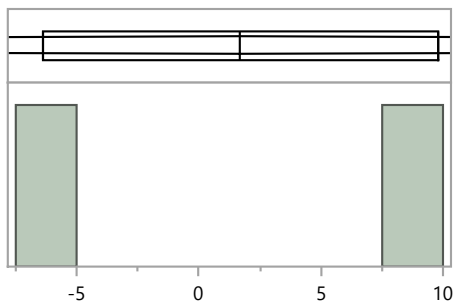
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 1.1  |
| 99.5%  |          | 1.1  |
| 97.5%  |          | 1.1  |
| 90.0%  |          | 1.1  |
| 75.0%  | quartile | 1.1  |
| 50.0%  | median   | -1.0 |
| 25.0%  | quartile | -3.0 |
| 10.0%  |          | -3.0 |
| 2.5%   |          | -3.0 |
| 0.5%   |          | -3.0 |
| 0.0%   | minimum  | -3.0 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -1.0  |
| Std Dev        | 2.9   |
| Std Err Mean   | 2.1   |
| Upper 95% Mean | 25.1  |
| Lower 95% Mean | -27.0 |
| N              | 2.0   |

**Distributions Analyte\_Method=Cobalt-57 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 9.8  |
| 99.5%  |          | 9.8  |
| 97.5%  |          | 9.8  |
| 90.0%  |          | 9.8  |
| 75.0%  | quartile | 9.8  |
| 50.0%  | median   | 1.7  |
| 25.0%  | quartile | -6.4 |
| 10.0%  |          | -6.4 |
| 2.5%   |          | -6.4 |
| 0.5%   |          | -6.4 |
| 0.0%   | minimum  | -6.4 |

**Summary Statistics**

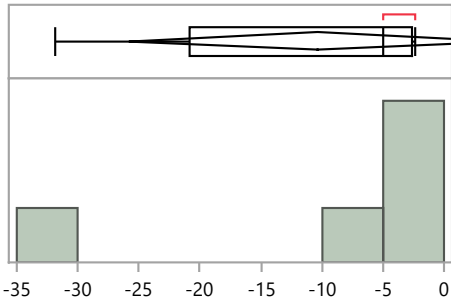
|                |        |
|----------------|--------|
| Mean           | 1.7    |
| Std Dev        | 11.5   |
| Std Err Mean   | 8.1    |
| Upper 95% Mean | 104.6  |
| Lower 95% Mean | -101.2 |
| N              | 2.0    |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Cobalt-57 No preparation - analyzed as received**

**Bias**



**Quantiles**

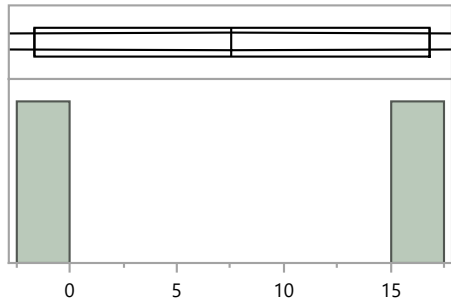
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -2.4  |
| 99.5%  |          | -2.4  |
| 97.5%  |          | -2.4  |
| 90.0%  |          | -2.4  |
| 75.0%  | quartile | -2.7  |
| 50.0%  | median   | -5.0  |
| 25.0%  | quartile | -20.9 |
| 10.0%  |          | -31.9 |
| 2.5%   |          | -31.9 |
| 0.5%   |          | -31.9 |
| 0.0%   | minimum  | -31.9 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -10.4 |
| Std Dev        | 12.4  |
| Std Err Mean   | 5.5   |
| Upper 95% Mean | 5.0   |
| Lower 95% Mean | -25.8 |
| N              | 5.0   |

**Distributions Analyte\_Method=Cobalt-57 Other**

**Bias**



**Quantiles**

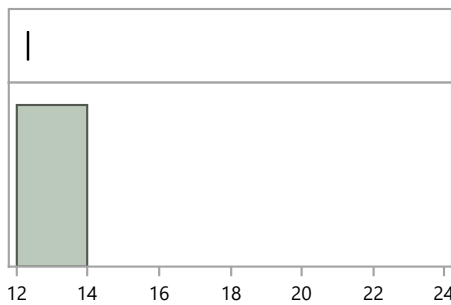
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 16.8 |
| 99.5%  |          | 16.8 |
| 97.5%  |          | 16.8 |
| 90.0%  |          | 16.8 |
| 75.0%  | quartile | 16.8 |
| 50.0%  | median   | 7.6  |
| 25.0%  | quartile | -1.7 |
| 10.0%  |          | -1.7 |
| 2.5%   |          | -1.7 |
| 0.5%   |          | -1.7 |
| 0.0%   | minimum  | -1.7 |

**Summary Statistics**

|                |        |
|----------------|--------|
| Mean           | 7.6    |
| Std Dev        | 13.1   |
| Std Err Mean   | 9.3    |
| Upper 95% Mean | 125.1  |
| Lower 95% Mean | -110.0 |
| N              | 2.0    |

**Distributions Analyte\_Method=Plutonium-238 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 12.3 |
| 99.5%  |          | 12.3 |
| 97.5%  |          | 12.3 |
| 90.0%  |          | 12.3 |
| 75.0%  | quartile | 12.3 |
| 50.0%  | median   | 12.3 |
| 25.0%  | quartile | 12.3 |
| 10.0%  |          | 12.3 |
| 2.5%   |          | 12.3 |
| 0.5%   |          | 12.3 |
| 0.0%   | minimum  | 12.3 |

**Summary Statistics**

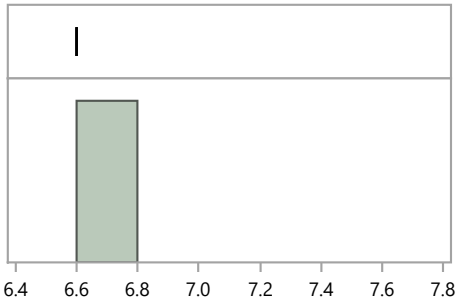
|                |      |
|----------------|------|
| Mean           | 12.3 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Plutonium-238 Coprecipitation, acidified**

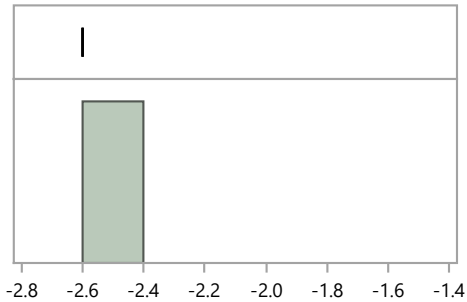
**Bias**



| Quantiles |          |     | Summary Statistics |     |
|-----------|----------|-----|--------------------|-----|
| 100.0%    | maximum  | 6.6 | Mean               | 6.6 |
| 99.5%     |          | 6.6 | Std Dev            | .   |
| 97.5%     |          | 6.6 | Std Err Mean       | .   |
| 90.0%     |          | 6.6 | Upper 95% Mean     | .   |
| 75.0%     | quartile | 6.6 | Lower 95% Mean     | .   |
| 50.0%     | median   | 6.6 | N                  | 1.0 |
| 25.0%     | quartile | 6.6 |                    |     |
| 10.0%     |          | 6.6 |                    |     |
| 2.5%      |          | 6.6 |                    |     |
| 0.5%      |          | 6.6 |                    |     |
| 0.0%      | minimum  | 6.6 |                    |     |

**Distributions Analyte\_Method=Plutonium-238 Coprecipitation, straight**

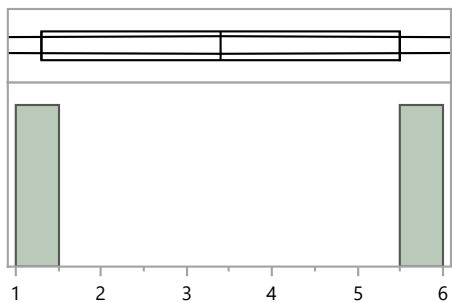
**Bias**



| Quantiles |          |      | Summary Statistics |      |
|-----------|----------|------|--------------------|------|
| 100.0%    | maximum  | -2.6 | Mean               | -2.6 |
| 99.5%     |          | -2.6 | Std Dev            | .    |
| 97.5%     |          | -2.6 | Std Err Mean       | .    |
| 90.0%     |          | -2.6 | Upper 95% Mean     | .    |
| 75.0%     | quartile | -2.6 | Lower 95% Mean     | .    |
| 50.0%     | median   | -2.6 | N                  | 1.0  |
| 25.0%     | quartile | -2.6 |                    |      |
| 10.0%     |          | -2.6 |                    |      |
| 2.5%      |          | -2.6 |                    |      |
| 0.5%      |          | -2.6 |                    |      |
| 0.0%      | minimum  | -2.6 |                    |      |

**Distributions Analyte\_Method=Plutonium-238 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



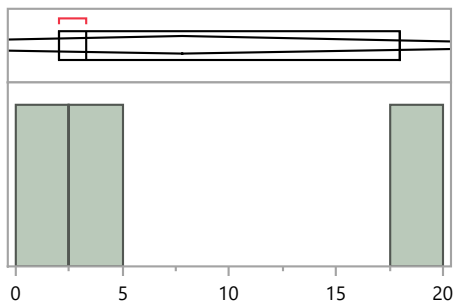
| Quantiles |          |     | Summary Statistics |       |
|-----------|----------|-----|--------------------|-------|
| 100.0%    | maximum  | 5.5 | Mean               | 3.4   |
| 99.5%     |          | 5.5 | Std Dev            | 3.0   |
| 97.5%     |          | 5.5 | Std Err Mean       | 2.1   |
| 90.0%     |          | 5.5 | Upper 95% Mean     | 30.1  |
| 75.0%     | quartile | 5.5 | Lower 95% Mean     | -23.3 |
| 50.0%     | median   | 3.4 | N                  | 2.0   |
| 25.0%     | quartile | 1.3 |                    |       |
| 10.0%     |          | 1.3 |                    |       |
| 2.5%      |          | 1.3 |                    |       |
| 0.5%      |          | 1.3 |                    |       |
| 0.0%      | minimum  | 1.3 |                    |       |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Plutonium-238 Other**

**Bias**



**Quantiles**

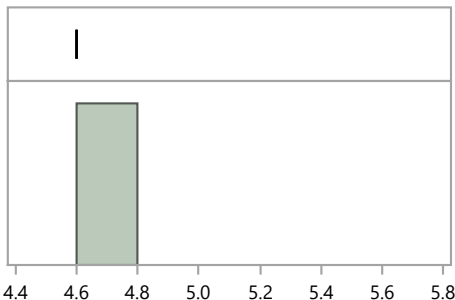
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 18.0 |
| 99.5%  |          | 18.0 |
| 97.5%  |          | 18.0 |
| 90.0%  |          | 18.0 |
| 75.0%  | quartile | 18.0 |
| 50.0%  | median   | 3.3  |
| 25.0%  | quartile | 2.0  |
| 10.0%  |          | 2.0  |
| 2.5%   |          | 2.0  |
| 0.5%   |          | 2.0  |
| 0.0%   | minimum  | 2.0  |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | 7.8   |
| Std Dev        | 8.9   |
| Std Err Mean   | 5.1   |
| Upper 95% Mean | 29.8  |
| Lower 95% Mean | -14.3 |
| N              | 3.0   |

**Distributions Analyte\_Method=Plutonium-239/240 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

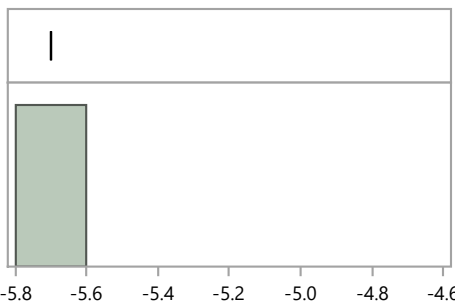
|        |          |     |
|--------|----------|-----|
| 100.0% | maximum  | 4.6 |
| 99.5%  |          | 4.6 |
| 97.5%  |          | 4.6 |
| 90.0%  |          | 4.6 |
| 75.0%  | quartile | 4.6 |
| 50.0%  | median   | 4.6 |
| 25.0%  | quartile | 4.6 |
| 10.0%  |          | 4.6 |
| 2.5%   |          |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

**Summary Statistics**

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

**Distributions Analyte\_Method=Plutonium-239/240 Coprecipitation, acidified**

**Bias**



**Quantiles**

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

**Summary Statistics**

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

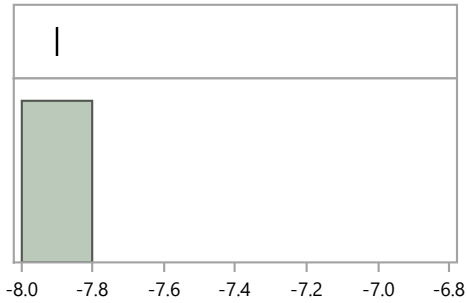


MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Plutonium-239/240 Coprecipitation, straight**

**Bias**



**Quantiles**

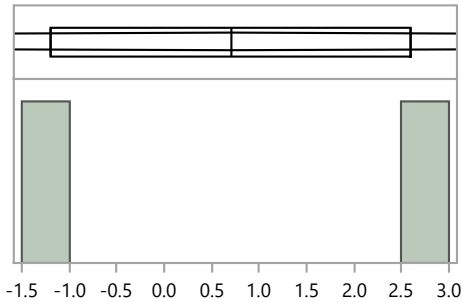
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -7.9 |
| 99.5%  |          | -7.9 |
| 97.5%  |          | -7.9 |
| 90.0%  |          | -7.9 |
| 75.0%  | quartile | -7.9 |
| 50.0%  | median   | -7.9 |
| 25.0%  | quartile | -7.9 |
| 10.0%  |          | -7.9 |
| 2.5%   |          | -7.9 |
| 0.5%   |          | -7.9 |
| 0.0%   | minimum  | -7.9 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | -7.9 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Plutonium-239/240 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



**Quantiles**

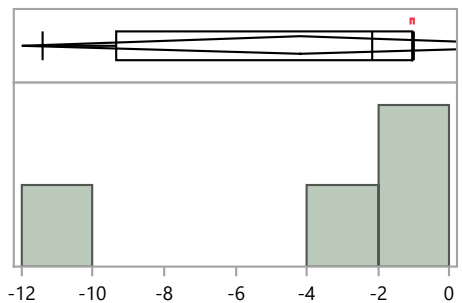
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 2.6  |
| 99.5%  |          | 2.6  |
| 97.5%  |          | 2.6  |
| 90.0%  |          | 2.6  |
| 75.0%  | quartile | 2.6  |
| 50.0%  | median   | 0.7  |
| 25.0%  | quartile | -1.2 |
| 10.0%  |          | -1.2 |
| 2.5%   |          | -1.2 |
| 0.5%   |          | -1.2 |
| 0.0%   | minimum  | -1.2 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | 0.7   |
| Std Dev        | 2.7   |
| Std Err Mean   | 1.9   |
| Upper 95% Mean | 24.8  |
| Lower 95% Mean | -23.4 |
| N              | 2.0   |

**Distributions Analyte\_Method=Plutonium-239/240 Other**

**Bias**



**Quantiles**

|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -1.0  |
| 99.5%  |          | -1.0  |
| 97.5%  |          | -1.0  |
| 90.0%  |          | -1.0  |
| 75.0%  | quartile | -1.0  |
| 50.0%  | median   | -2.2  |
| 25.0%  | quartile | -9.4  |
| 10.0%  |          | -11.4 |
| 2.5%   |          | -11.4 |
| 0.5%   |          | -11.4 |
| 0.0%   | minimum  | -11.4 |

**Summary Statistics**

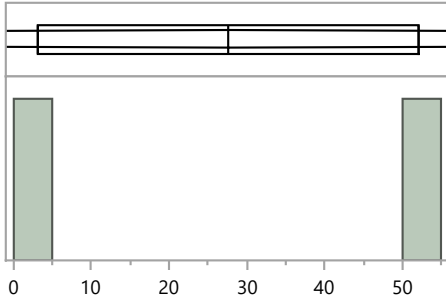
|                |       |
|----------------|-------|
| Mean           | -4.2  |
| Std Dev        | 4.9   |
| Std Err Mean   | 2.5   |
| Upper 95% Mean | 3.7   |
| Lower 95% Mean | -12.0 |
| N              | 4.0   |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Potassium-40 EPA 901.1, Gamma Emitting, 600/4-80-032**

**Bias**



**Quantiles**

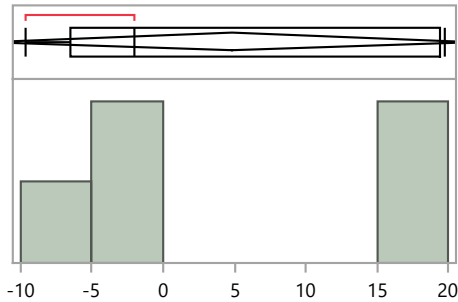
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 52.0 |
| 99.5%  |          | 52.0 |
| 97.5%  |          | 52.0 |
| 90.0%  |          | 52.0 |
| 75.0%  | quartile | 52.0 |
| 50.0%  | median   | 27.6 |
| 25.0%  | quartile | 3.1  |
| 10.0%  |          | 3.1  |
| 2.5%   |          | 3.1  |
| 0.5%   |          | 3.1  |
| 0.0%   | minimum  | 3.1  |

**Summary Statistics**

|                |        |
|----------------|--------|
| Mean           | 27.6   |
| Std Dev        | 34.6   |
| Std Err Mean   | 24.5   |
| Upper 95% Mean | 338.2  |
| Lower 95% Mean | -283.1 |
| N              | 2.0    |

**Distributions Analyte\_Method=Potassium-40 No preparation - analyzed as received**

**Bias**



**Quantiles**

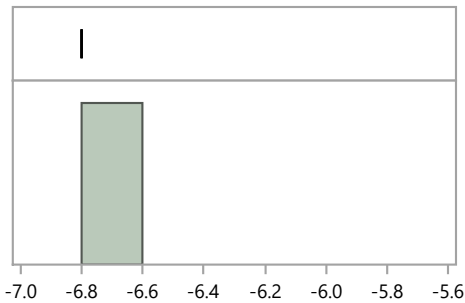
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 19.8 |
| 99.5%  |          | 19.8 |
| 97.5%  |          | 19.8 |
| 90.0%  |          | 19.8 |
| 75.0%  | quartile | 19.5 |
| 50.0%  | median   | -2.0 |
| 25.0%  | quartile | -6.5 |
| 10.0%  |          | -9.6 |
| 2.5%   |          | -9.6 |
| 0.5%   |          | -9.6 |
| 0.0%   | minimum  | -9.6 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | 4.8   |
| Std Dev        | 13.7  |
| Std Err Mean   | 6.1   |
| Upper 95% Mean | 21.8  |
| Lower 95% Mean | -12.2 |
| N              | 5.0   |

**Distributions Analyte\_Method=Strontium-90 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -6.8 |
| 99.5%  |          | -6.8 |
| 97.5%  |          | -6.8 |
| 90.0%  |          | -6.8 |
| 75.0%  | quartile | -6.8 |
| 50.0%  | median   | -6.8 |
| 25.0%  | quartile | -6.8 |
| 10.0%  |          | -6.8 |
| 2.5%   |          | -6.8 |
| 0.5%   |          | -6.8 |
| 0.0%   | minimum  | -6.8 |

**Summary Statistics**

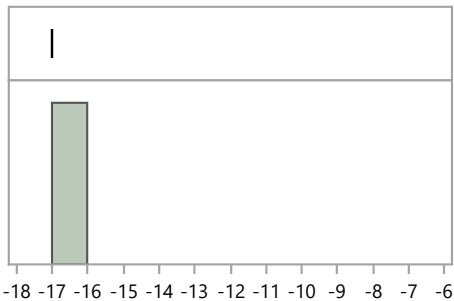
|                |      |
|----------------|------|
| Mean           | -6.8 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Strontium-90 Coprecipitation, acidified**

**Bias**



**Quantiles**

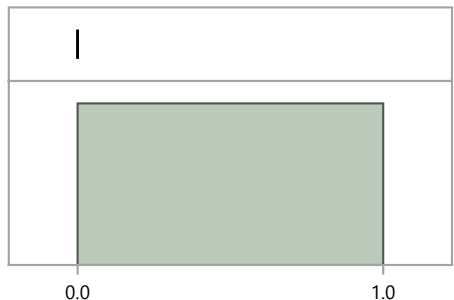
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -17.0 |
| 99.5%  |          | -17.0 |
| 97.5%  |          | -17.0 |
| 90.0%  |          | -17.0 |
| 75.0%  | quartile | -17.0 |
| 50.0%  | median   | -17.0 |
| 25.0%  | quartile | -17.0 |
| 10.0%  |          | -17.0 |
| 2.5%   |          | -17.0 |
| 0.5%   |          | -17.0 |
| 0.0%   | minimum  | -17.0 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -17.0 |
| Std Dev        | .     |
| Std Err Mean   | .     |
| Upper 95% Mean | .     |
| Lower 95% Mean | .     |
| N              | 1.0   |

**Distributions Analyte\_Method=Strontium-90 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



**Quantiles**

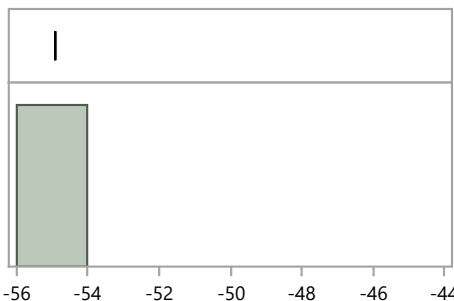
|        |          |     |
|--------|----------|-----|
| 100.0% | maximum  | 0.0 |
| 99.5%  |          | 0.0 |
| 97.5%  |          | 0.0 |
| 90.0%  |          | 0.0 |
| 75.0%  | quartile | 0.0 |
| 50.0%  | median   | 0.0 |
| 25.0%  | quartile | 0.0 |
| 10.0%  |          | 0.0 |
| 2.5%   |          |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

**Summary Statistics**

|                |     |
|----------------|-----|
| Mean           | 0.0 |
| Std Dev        | .   |
| Std Err Mean   | .   |
| Upper 95% Mean | .   |
| Lower 95% Mean | .   |
| N              | 1.0 |

**Distributions Analyte\_Method=Strontium-90 No preparation - analyzed as received**

**Bias**



**Quantiles**

|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -54.9 |
| 99.5%  |          | -54.9 |
| 97.5%  |          | -54.9 |
| 90.0%  |          | -54.9 |
| 75.0%  | quartile | -54.9 |
| 50.0%  | median   | -54.9 |
| 25.0%  | quartile | -54.9 |
| 10.0%  |          | -54.9 |
| 2.5%   |          | -54.9 |
| 0.5%   |          | -54.9 |
| 0.0%   | minimum  | -54.9 |

**Summary Statistics**

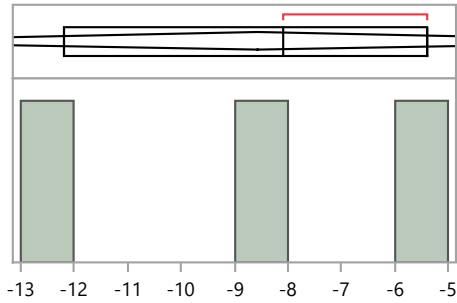
|                |       |
|----------------|-------|
| Mean           | -54.9 |
| Std Dev        | .     |
| Std Err Mean   | .     |
| Upper 95% Mean | .     |
| Lower 95% Mean | .     |
| N              | 1.0   |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Strontium-90 Other**

**Bias**



**Quantiles**

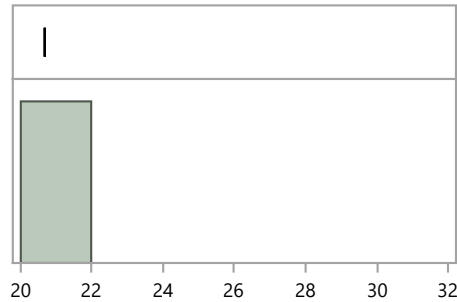
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -5.4  |
| 99.5%  |          | -5.4  |
| 97.5%  |          | -5.4  |
| 90.0%  |          | -5.4  |
| 75.0%  | quartile | -5.4  |
| 50.0%  | median   | -8.1  |
| 25.0%  | quartile | -12.2 |
| 10.0%  |          | -12.2 |
| 2.5%   |          | -12.2 |
| 0.5%   |          | -12.2 |
| 0.0%   | minimum  | -12.2 |

**Summary Statistics**

|                |       |
|----------------|-------|
| Mean           | -8.6  |
| Std Dev        | 3.4   |
| Std Err Mean   | 2.0   |
| Upper 95% Mean | -0.1  |
| Lower 95% Mean | -17.1 |
| N              | 3.0   |

**Distributions Analyte\_Method=Uranium-234 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

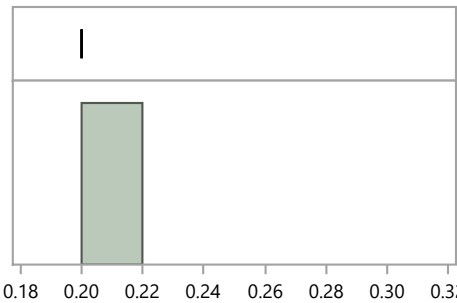
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 20.7 |
| 99.5%  |          | 20.7 |
| 97.5%  |          | 20.7 |
| 90.0%  |          | 20.7 |
| 75.0%  | quartile | 20.7 |
| 50.0%  | median   | 20.7 |
| 25.0%  | quartile | 20.7 |
| 10.0%  |          | 20.7 |
| 2.5%   |          | 20.7 |
| 0.5%   |          | 20.7 |
| 0.0%   | minimum  | 20.7 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | 20.7 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Uranium-234 Coprecipitation, acidified**

**Bias**



**Quantiles**

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

**Summary Statistics**

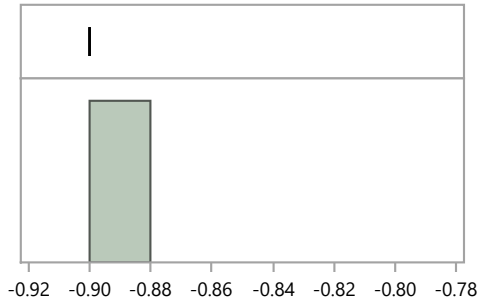
|                |     |
|----------------|-----|
| Mean           | 0.2 |
| Std Dev        | .   |
| Std Err Mean   | .   |
| Upper 95% Mean | .   |
| Lower 95% Mean | .   |
| N              | 1.0 |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-234 Coprecipitation, straight**

**Bias**



**Quantiles**

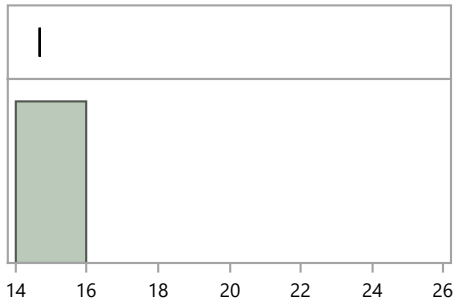
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -0.9 |
| 99.5%  |          | -0.9 |
| 97.5%  |          | -0.9 |
| 90.0%  |          | -0.9 |
| 75.0%  | quartile | -0.9 |
| 50.0%  | median   | -0.9 |
| 25.0%  | quartile | -0.9 |
| 10.0%  |          | -0.9 |
| 2.5%   |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

**Summary Statistics**

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

**Distributions Analyte\_Method=Uranium-234 EPA 908, Uranium-Radiochemical Method, 600/4/80-032**

**Bias**



**Quantiles**

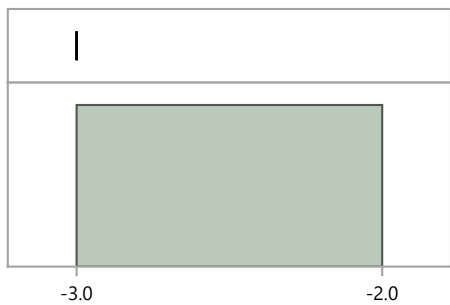
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 14.7 |
| 99.5%  |          | 14.7 |
| 97.5%  |          | 14.7 |
| 90.0%  |          | 14.7 |
| 75.0%  | quartile | 14.7 |
| 50.0%  | median   | 14.7 |
| 25.0%  | quartile | 14.7 |
| 10.0%  |          | 14.7 |
| 2.5%   |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

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | 14.7 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Uranium-234 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



**Quantiles**

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

**Summary Statistics**

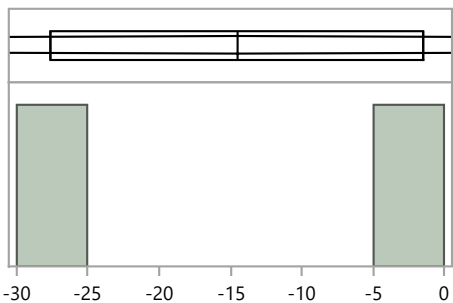
|                |      |
|----------------|------|
| Mean           | -3.0 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-234 Other**

**Bias**



**Quantiles**

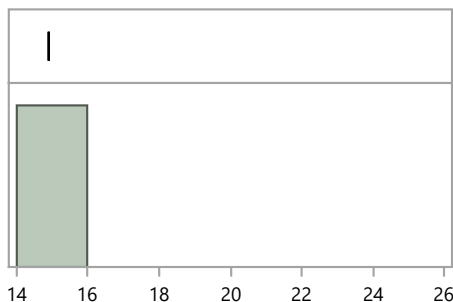
|        |          |       |
|--------|----------|-------|
| 100.0% | maximum  | -1.5  |
| 99.5%  |          | -1.5  |
| 97.5%  |          | -1.5  |
| 90.0%  |          | -1.5  |
| 75.0%  | quartile | -1.5  |
| 50.0%  | median   | -14.6 |
| 25.0%  | quartile | -27.6 |
| 10.0%  |          | -27.6 |
| 2.5%   |          | -27.6 |
| 0.5%   |          | -27.6 |
| 0.0%   | minimum  | -27.6 |

**Summary Statistics**

|                |        |
|----------------|--------|
| Mean           | -14.6  |
| Std Dev        | 18.5   |
| Std Err Mean   | 13.1   |
| Upper 95% Mean | 151.3  |
| Lower 95% Mean | -180.4 |
| N              | 2.0    |

**Distributions Analyte\_Method=Uranium-238 Acid dissolution with hydrofluoric acid**

**Bias**



**Quantiles**

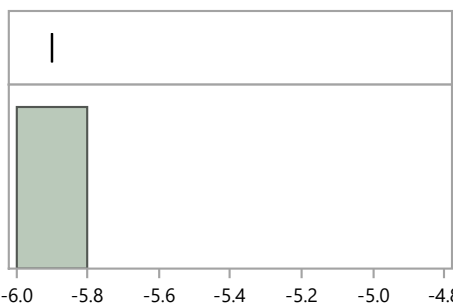
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 14.9 |
| 99.5%  |          | 14.9 |
| 97.5%  |          | 14.9 |
| 90.0%  |          | 14.9 |
| 75.0%  | quartile | 14.9 |
| 50.0%  | median   | 14.9 |
| 25.0%  | quartile | 14.9 |
| 10.0%  |          | 14.9 |
| 2.5%   |          | 14.9 |
| 0.5%   |          | 14.9 |
| 0.0%   | minimum  | 14.9 |

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | 14.9 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Uranium-238 Coprecipitation, acidified**

**Bias**



**Quantiles**

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

**Summary Statistics**

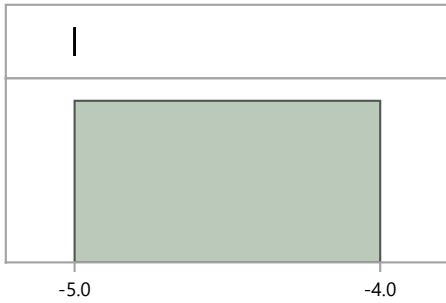
|                |      |
|----------------|------|
| Mean           | -5.9 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

**MaSU Distribution by Prep Method**

**Distributions Analyte\_Method=Uranium-238 Coprecipitation, straight**

**Bias**



**Quantiles**

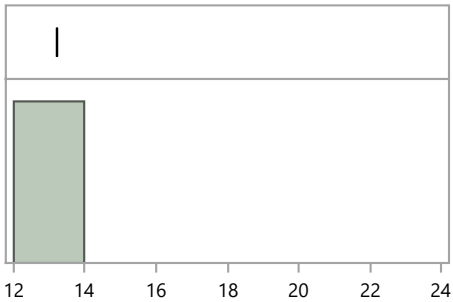
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | -5.0 |
| 99.5%  |          | -5.0 |
| 97.5%  |          | -5.0 |
| 90.0%  |          | -5.0 |
| 75.0%  | quartile | -5.0 |
| 50.0%  | median   | -5.0 |
| 25.0%  | quartile | -5.0 |
| 10.0%  |          | -5.0 |
| 2.5%   |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

**Summary Statistics**

|                |      |
|----------------|------|
| Mean           | -5.0 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

**Distributions Analyte\_Method=Uranium-238 EPA 908, Uranium-Radiochemical Method, 600/4/80-032**

**Bias**



**Quantiles**

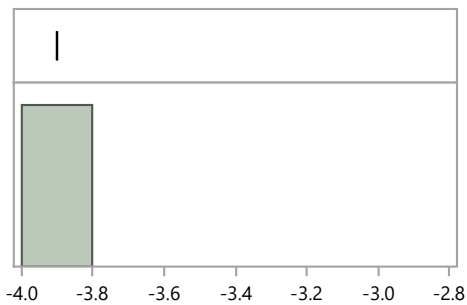
|        |          |      |
|--------|----------|------|
| 100.0% | maximum  | 13.2 |
| 99.5%  |          | 13.2 |
| 97.5%  |          | 13.2 |
| 90.0%  |          | 13.2 |
| 75.0%  | quartile | 13.2 |
| 50.0%  | median   | 13.2 |
| 25.0%  | quartile | 13.2 |
| 10.0%  |          | 13.2 |
| 2.5%   |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

**Summary Statistics**

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

**Distributions Analyte\_Method=Uranium-238 Ion Exchange Chromatography / Ion Chromatography**

**Bias**



**Quantiles**

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

**Summary Statistics**

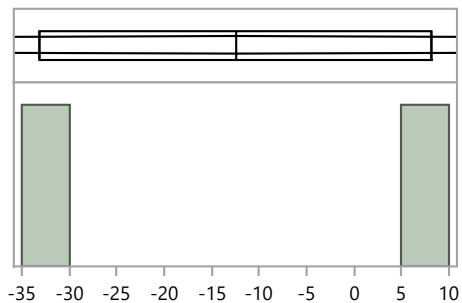
|                |      |
|----------------|------|
| Mean           | -3.9 |
| Std Dev        | .    |
| Std Err Mean   | .    |
| Upper 95% Mean | .    |
| Lower 95% Mean | .    |
| N              | 1.0  |

MaSU45 Distribution by Preparation Method

MaSU Distribution by Prep Method

Distributions Analyte\_Method=Uranium-238 Other

Bias



| Quantiles |          |       | Summary Statistics |        |
|-----------|----------|-------|--------------------|--------|
| 100.0%    | maximum  | 8.2   | Mean               | -12.5  |
| 99.5%     |          | 8.2   | Std Dev            | 29.2   |
| 97.5%     |          | 8.2   | Std Err Mean       | 20.7   |
| 90.0%     |          | 8.2   | Upper 95% Mean     | 249.9  |
| 75.0%     | quartile | 8.2   | Lower 95% Mean     | -274.8 |
| 50.0%     | median   | -12.5 | N                  | 2.0    |
| 25.0%     | quartile | -33.1 |                    |        |
| 10.0%     |          | -33.1 |                    |        |
| 2.5%      |          | -33.1 |                    |        |
| 0.5%      |          | -33.1 |                    |        |
| 0.0%      | minimum  | -33.1 |                    |        |