

Test Group Summary Report

C02C Metals in Water – Total Range

March 2026 PT Round

Issued: May 8, 2026

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1.0 The Proficiency Testing Report

The Proficiency Testing Report consists of two parts.

- *PTC Proficiency Testing Report*: This report contains participant-specific data and other confidential information. This report is emailed to participants at the end of the PT round.
- *Test Group Summary Report*: A Test Group Summary Report is created for each quantified test group at the end of the PT round. These reports contain more detailed information on the round than is found in the participant-specific PTC Proficiency Testing Report. These reports do not contain any confidential information and are made available on the PTC web site.

2.0 Definitions

The participant-specific PTC Proficiency Testing Report contains some terms that new participants may not be familiar with.

<i>Code:</i>	The registration code that is unique to each analyte that a participant is registered for.
<i>App:</i>	If a participant is accredited by CALA, this three-digit number is the appendix number that the accredited method is assigned to.
<i>N:</i>	The number of participants results that were used to calculate the summary statistics. This excludes qualified data (e.g., <) and any results that were flagged as outliers.
<i>Assigned:</i>	The Assigned Value is the robust mean of the reported results, outliers excluded. This is often referred to as the “target” value.
<i>±u:</i>	The uncertainty of the assigned value.
<i>Reported:</i>	The result reported by the participant.
<i>s:</i>	The Standard Deviation of Proficiency Assessment (SDPA). This value is used to determine the acceptance limits for the PT evaluation.
<i>z-Score:</i>	A value assigned to each reported result that is a measure of the degree to which it deviates from the Assigned Value.
<i>Score:</i>	The composite score of the four results reported for each analyte. It is normalized to a score out of 100.
<i>Bias:</i>	A flag assigned if bias is detected using the re-scaled z-score procedure.

3.0 Scoring System

Participant performance is evaluated for each proficiency testing sample by a quantitative method that is consistent with ISO/IEC 17043 - *Conformity assessment- General requirements for the competence of proficiency testing providers*, the *International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories* (2006), and ISO 13528:2015 *Statistical methods for use in proficiency testing by interlaboratory comparisons*.

The following is a brief description of the evaluation procedure used by PTC. The detailed evaluation procedure is described in PROC09 - *PT Evaluation Procedure*, which is available on the PTC website (www.PTCCanada.org).

3.1 HOMOGENEITY AND STABILITY ASSESSMENT

Homogeneity and stability are assessed using participant data. Regression analysis is performed on reported result against order of sample production (Homogeneity) and reported result against date of analysis (Stability). If the slope is significantly different than zero for either then the Standard Deviation of Proficiency Assessment (s) is increased to minimize the impact.

3.2 THE Z SCORE

A "z-score" is calculated for each reported result as follows:

$$z - Score = \frac{(x - \bar{X})}{SDPA} \quad \text{where: } \begin{array}{l} x = \text{participant result;} \\ \bar{X} = \text{the Assigned Value;} \\ SDPA = \text{the Standard Deviation for Proficiency Assessment.} \end{array}$$

The assigned value \bar{X} is generally estimated from the inter-laboratory Robust mean after outliers due to obvious gross errors (e.g., reported in wrong units) have been removed.

The Standard Deviation for Proficiency Assessment, s, is determined as follows:

- The inter-laboratory Robust standard deviation ($Stdev_{rob}$) is calculated using reported results, obvious outliers removed;
- The regression equation standard deviation ($Stdev_{reg}$) is estimated from regression equations derived from previous studies (see PROC11- *PT Regression Equations* for details);
- The SDPA is the higher of $Stdev_{rob}$ and $Stdev_{reg}$;
- When a laboratory reports its detection limit, s will be estimated using a pooled variance procedure that uses both the inter-laboratory data and the reported detection limit.

3.2 COMPOSITE (PT) SCORE

Since each PT round involves four or two separate samples of distinct concentration for each test, it is necessary to calculate a composite PT score for each test to determine overall performance. The composite score is calculated by first averaging the absolute z-scores for the four results and then calculating a final score as $100 + (-15 \times \text{avg } |z|)$.

Acceptable PT Scores equal or exceed 70.

3.3 IDENTIFYING BIAS

The proficiency testing report provides flags for bias. These are determined using the re-scaled z-score procedure.

$$RSZ = \frac{\sum z}{\sqrt{N}} \quad \text{where } \begin{array}{l} z = \text{the z- score} \\ N = \text{the number of samples} \end{array}$$

Flags are assigned for each test group/parameter combination as follows:

$$RSZ \geq -2 \text{ and } \leq 2 \text{ no flag assigned}$$

RSZ > 2	H (High)
RSZ > 3	VH (Very High)
RSZ < -2	L (LOW)
RSZ < -3	VL (Very Low)

3.4 DEVIATIONS FROM EVALUATION PROCEDURE

Other than changes to the Standard Deviation of Proficiency Assessment due to homogeneity or stability flags, any deviation from the published evaluation procedure is described on the cover page(s) of the final *PTC Proficiency Testing Report*.

4.0 PT Round Specific Data Summary

The following pages provide more detailed information about the PT round indicated in the cover page of this report than is found in the participant-specific PTC Proficiency Testing Report. The graphical representations and the statistical summaries are based upon the data after outliers have been removed.

4.1 SUMMARY STATISTICS

In addition to some of the statistics found in the customer reports, this table includes additional summary statistics such as Median, different measures of dispersion, the number of outliers removed, the number of results in the Questionable range ($|z|$ between 2 and 3) and the Unacceptable range ($z > 3$), and whether a data set was flagged for Homogeneity or Stability. This section also includes sorted scatter plots of the data for each sample.

4.2 z - SCORE PLOTS

The z-scores for each sample are ranked in increasing order and plotted. When the data is normally distributed, the plot should show a slight sigmoidal curve, with an equal number of points above zero as below. Each bar in these plots is colour-coded to indicate the analytical method used by the participant.

4.3 KERNEL DENSITY PLOTS

Kernel density plots are generated for each data set. These plots are a graphical way to represent the overall data distribution and are used to visualize possible deviations from normality and unimodality.

4.4 STABILITY AND HOMOGENEITY PLOTS

Plots of reported result against analysis date, and reported result against order of bottling are displayed, along with the regression line. These regression analyses are used to determine if the SDPA should be adjusted due to homogeneity or stability.

4.5 BOX-AND-WHISKER PLOTS

Box-and-Whisker plots are another way to display the distribution of the data. The box denotes the first and third quartile and the whiskers are the 5th and 95th percentile.

4.6 HISTORIC COMPARISON PLOT

The Historic Comparison Plot is a plot of robust mean against robust standard deviation for the previous ten PT rounds as well as the current PT round. This plot can be used to identify possible changes in the sample formulation.

Aluminum

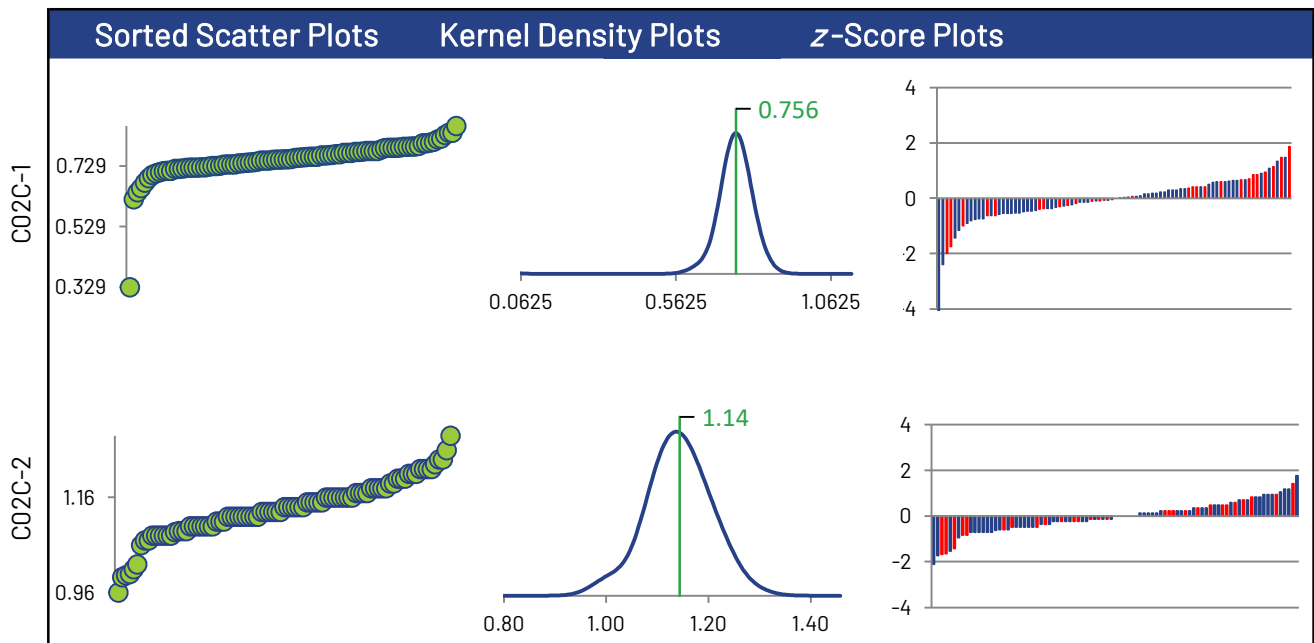
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	88	89	89	88
Median mg/L	0.755	1.14	1.09	0.404
Robust Mean mg/L	0.756	1.14	1.09	0.404
Uncertainty of the Assigned Value mg/L	0.00505	0.00743	0.00723	0.00265
Robust Standard Deviation mg/L	0.0379	0.0561	0.0546	0.0199
Regression Standard Deviation mg/L	0.0567	0.0854	0.0817	0.0303
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0567	0.0854	0.0817	0.0303
Flagged Outliers	0	0	0	0
$ z > 3.0$	1	0	0	2
$2 < z < 3$	1	1	0	4
Failure Rate %*	2.2			

Methods Used

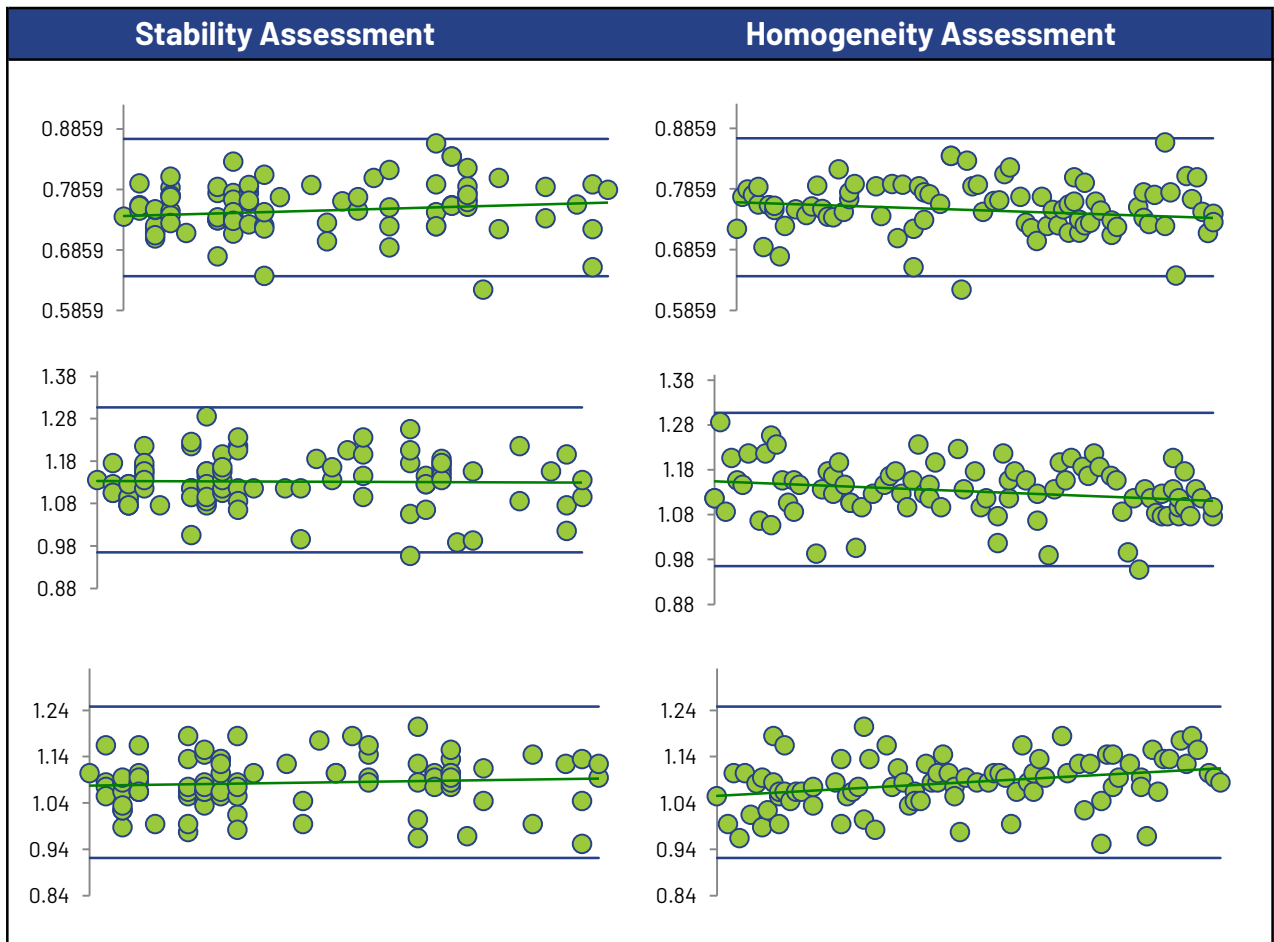
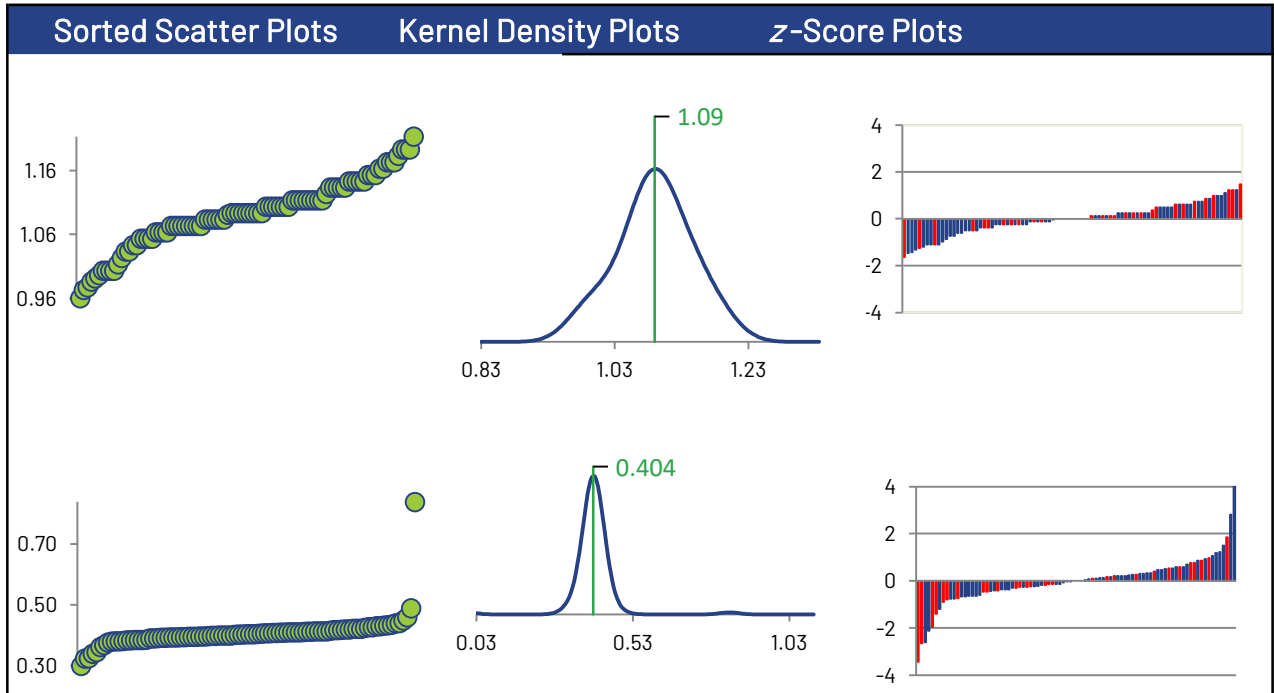
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	59	60	60	59
ICP/OES (Red)	29	29	29	29

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

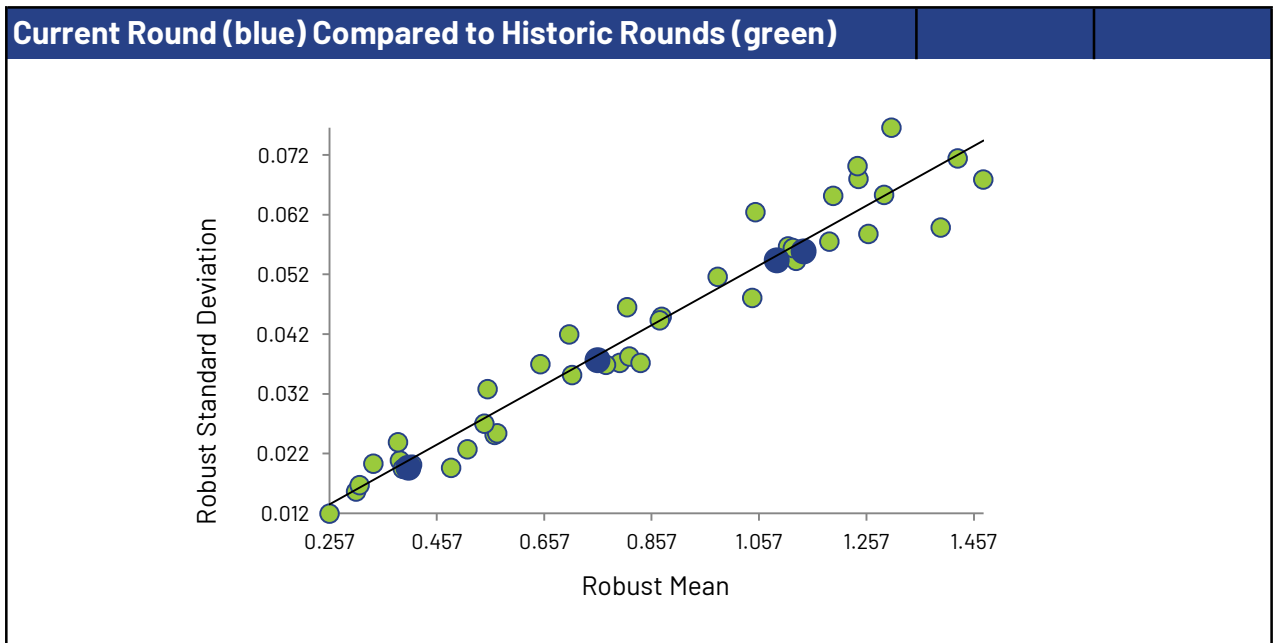
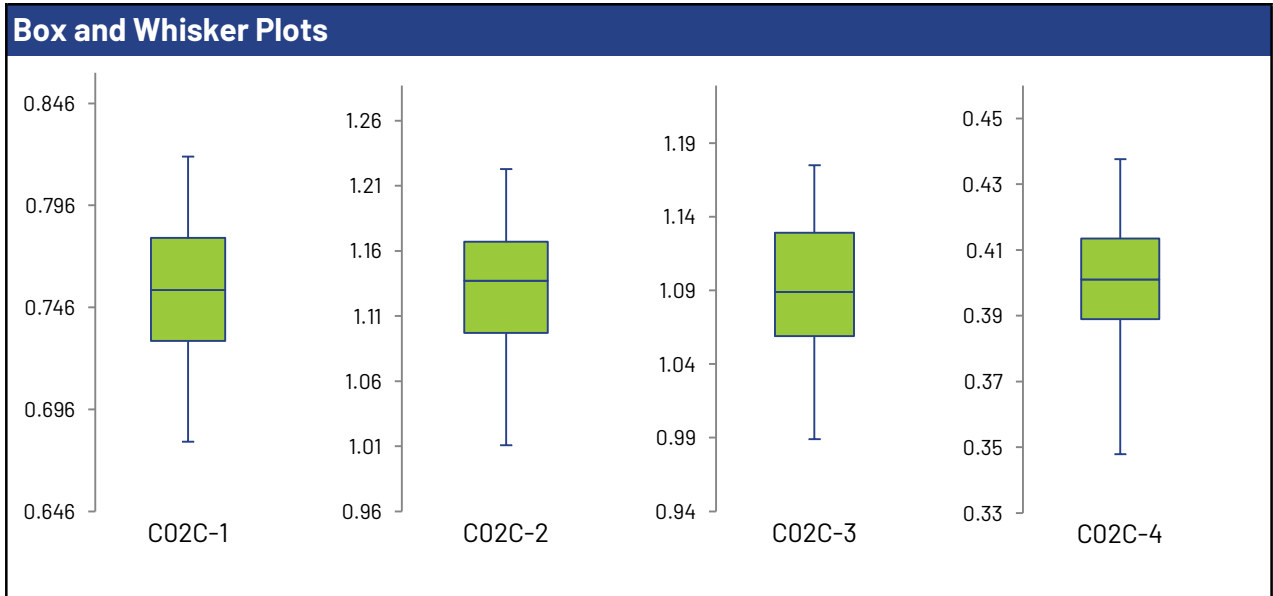
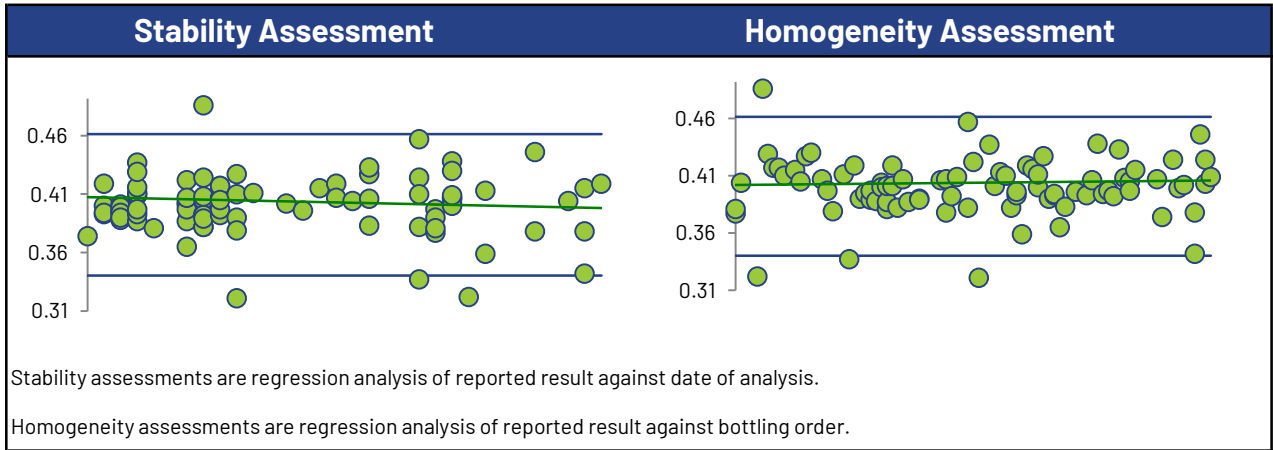


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Aluminum



Aluminum



Antimony

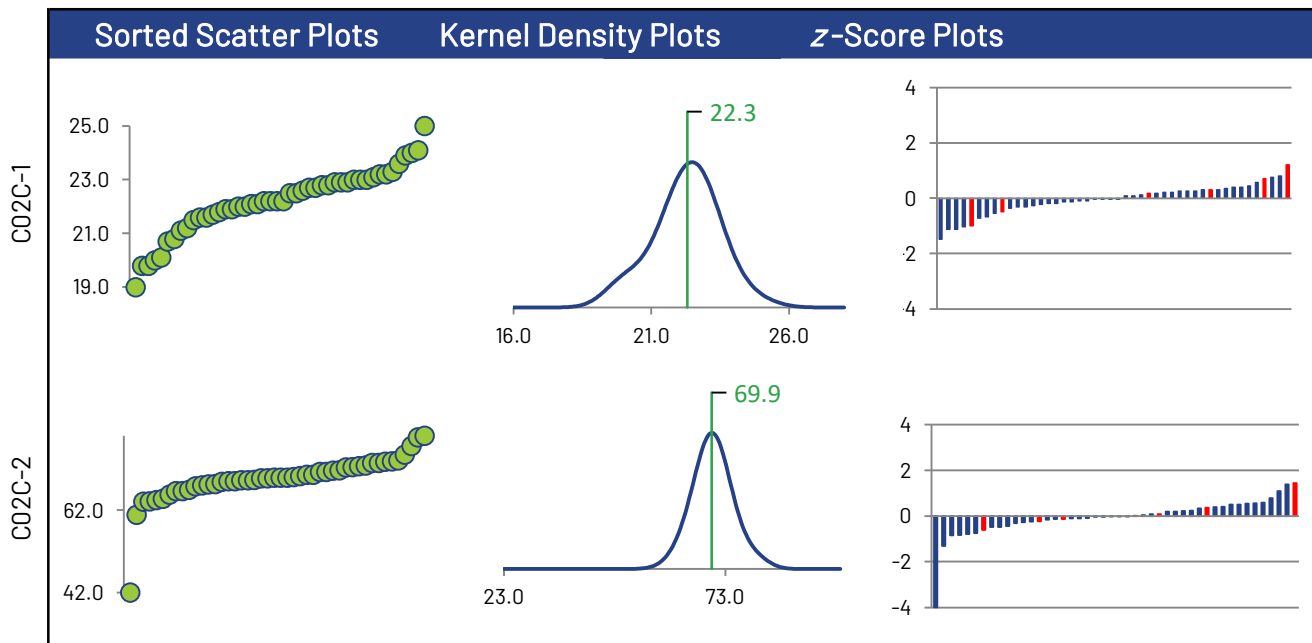
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	46	46	46	40
Median mg/L	22.2	69.8	73.3	3.58
Robust Mean mg/L	22.3	69.9	72.8	3.60
Uncertainty of the Assigned Value mg/L	0.208	0.680	0.783	0.0482
Robust Standard Deviation mg/L	1.13	3.69	4.25	0.244
Regression Standard Deviation mg/L	2.23	6.99	7.28	0.360
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	2.23	6.99	7.28	0.360
Flagged Outliers	0	1	1	1
$ z > 3.0$	0	1	0	1
$2 < z < 3$	0	0	0	2
Failure Rate %*	0.0			

Methods Used

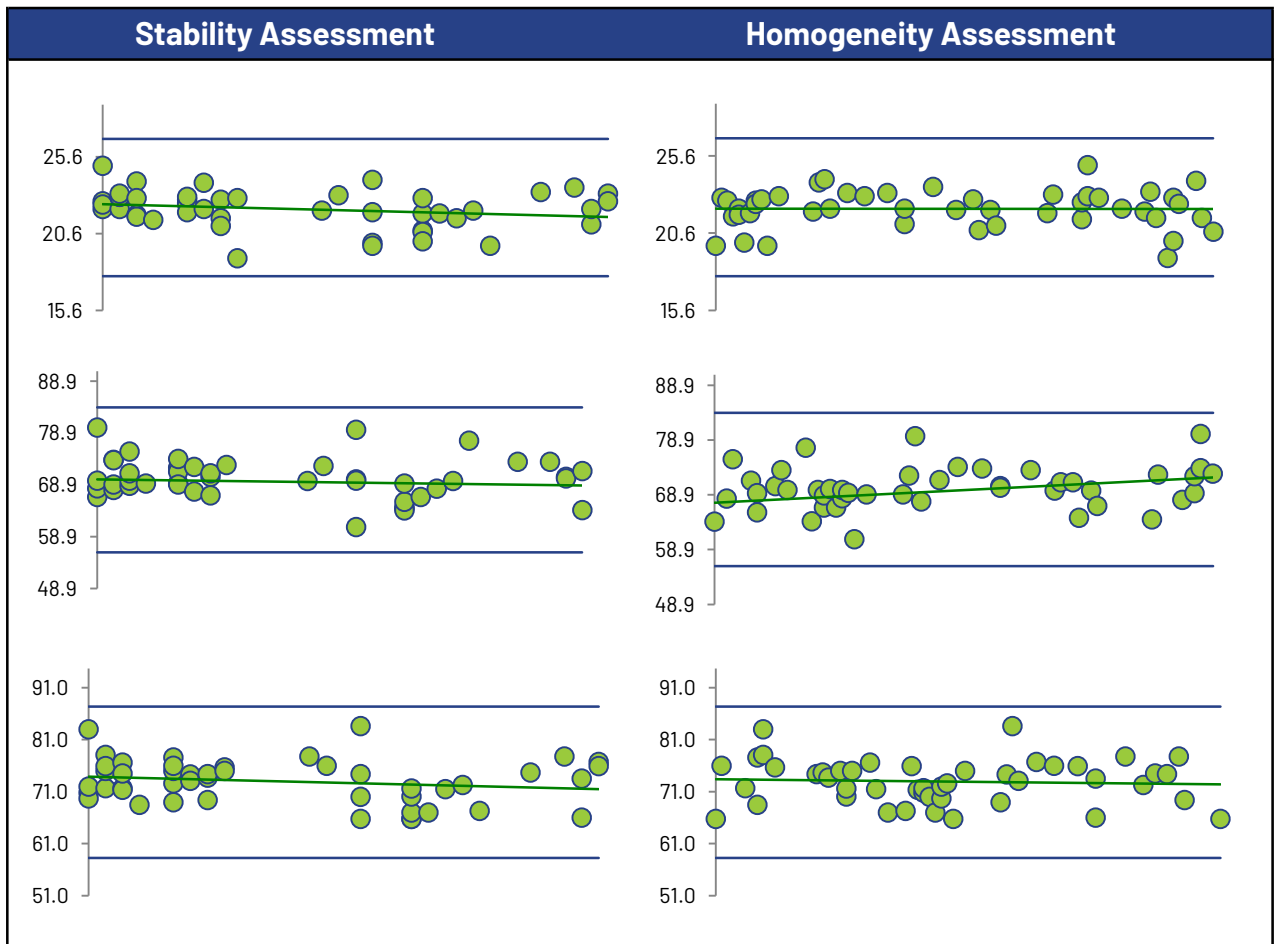
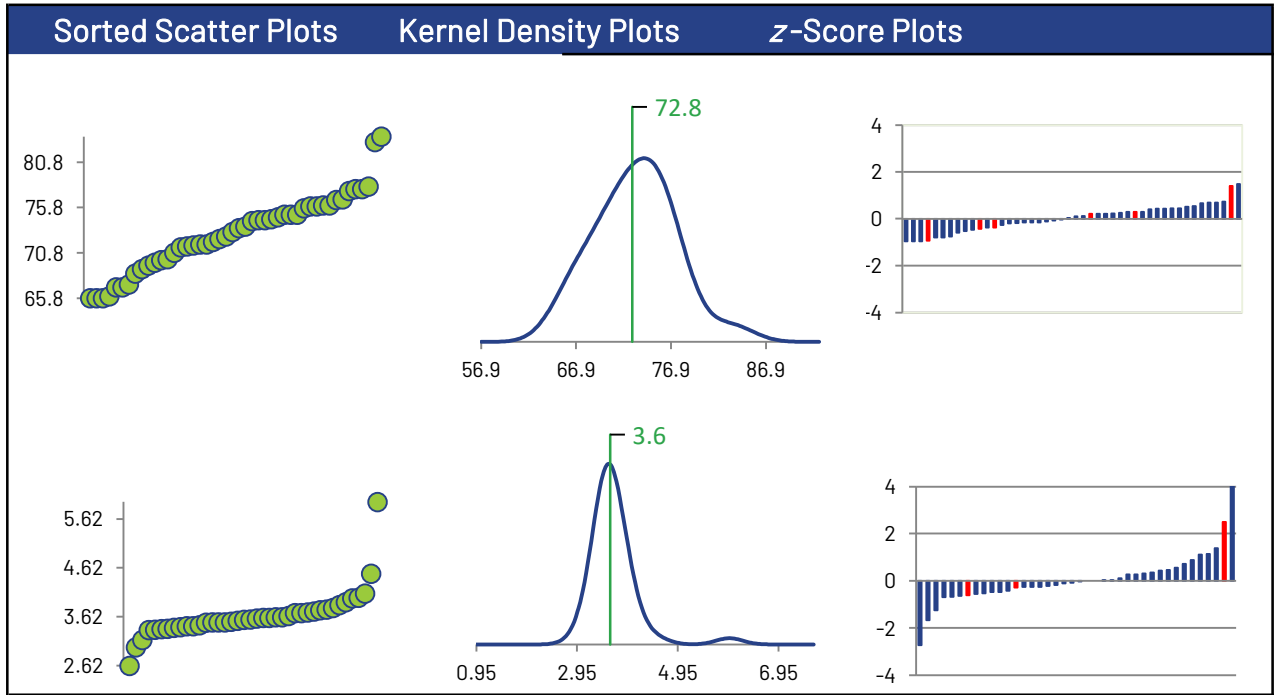
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	40	40	40	37
ICP/OES (Red)	6	6	6	3

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

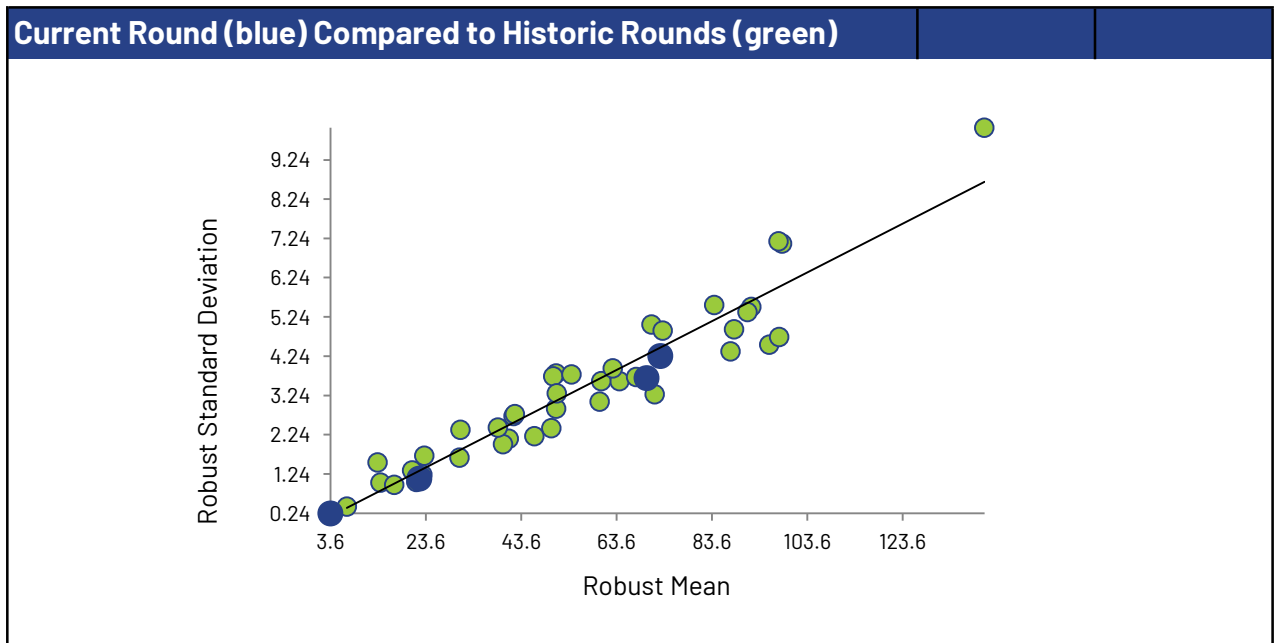
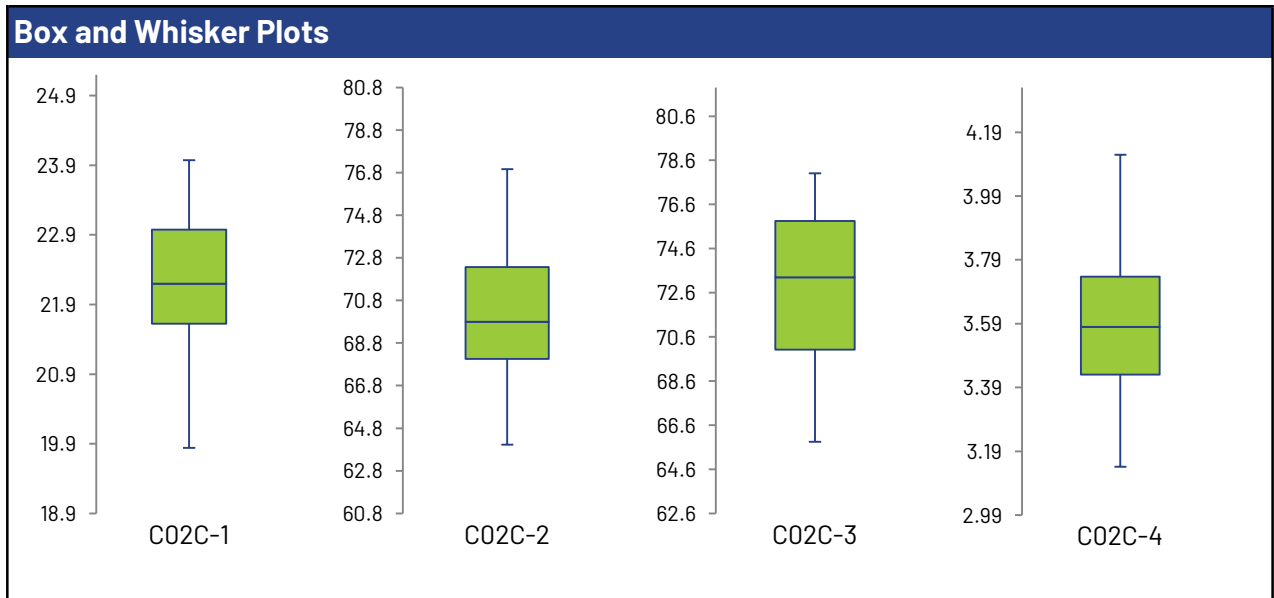
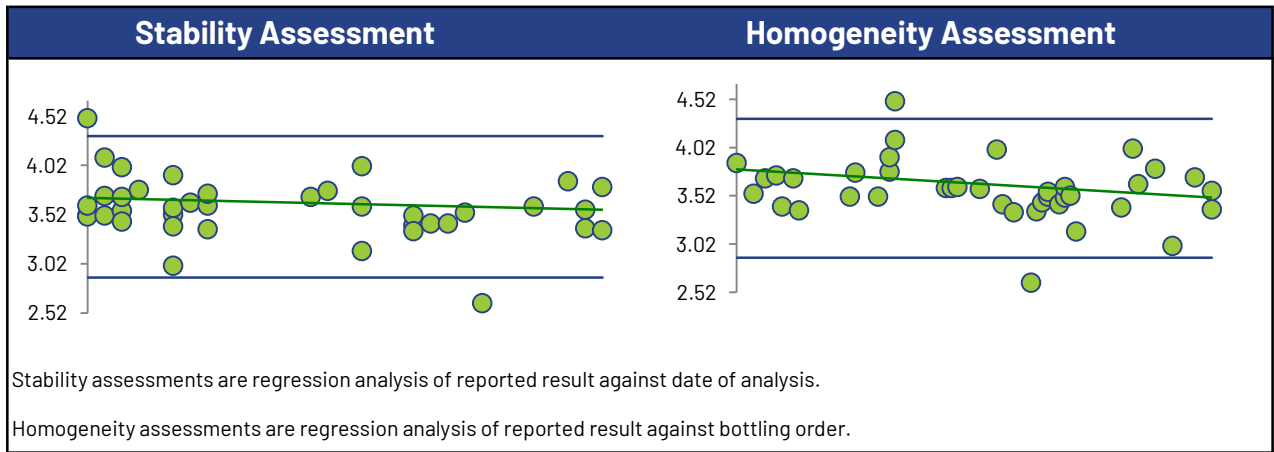


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Antimony



Antimony



Arsenic

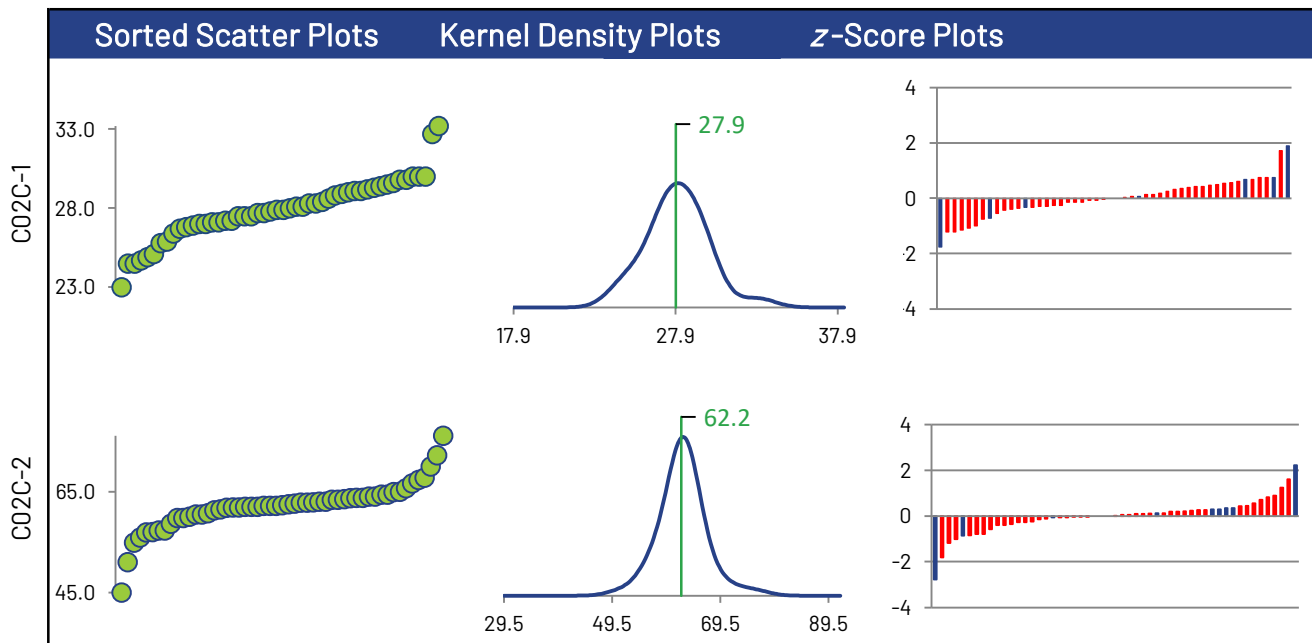
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	50	53	53	47
Median mg/L	27.9	62.3	80.0	10.6
Robust Mean mg/L	27.9	62.2	80.1	10.6
Uncertainty of the Assigned Value mg/L	0.299	0.553	0.781	0.124
Robust Standard Deviation mg/L	1.69	3.22	4.55	0.680
Regression Standard Deviation mg/L	2.79	6.22	8.01	1.06
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	2.79	6.22	8.01	1.06
Flagged Outliers	1	1	1	1
$ z > 3.0$	0	0	1	0
$2 < z < 3$	0	2	0	0
Failure Rate %*	0.0			

Methods Used

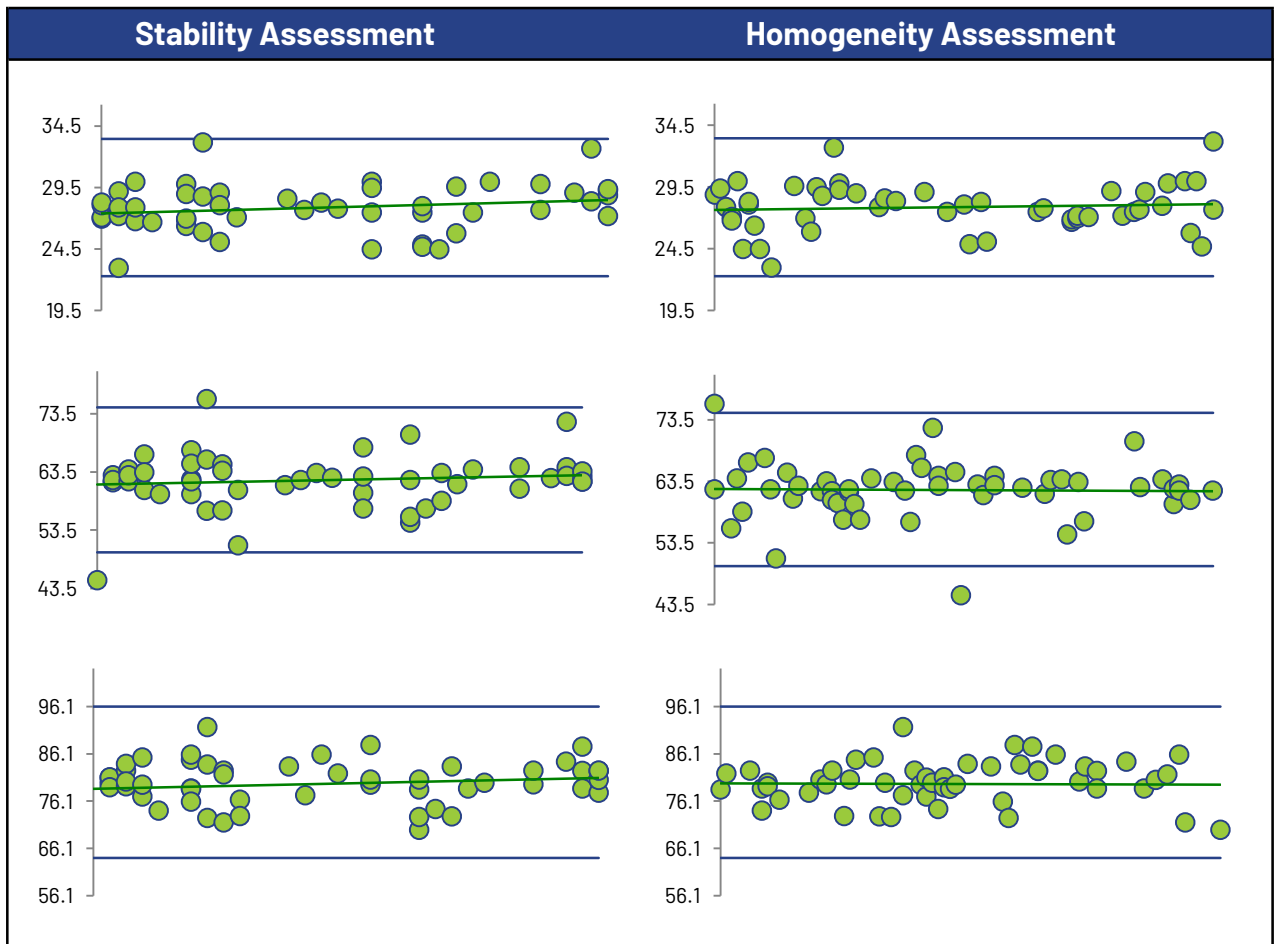
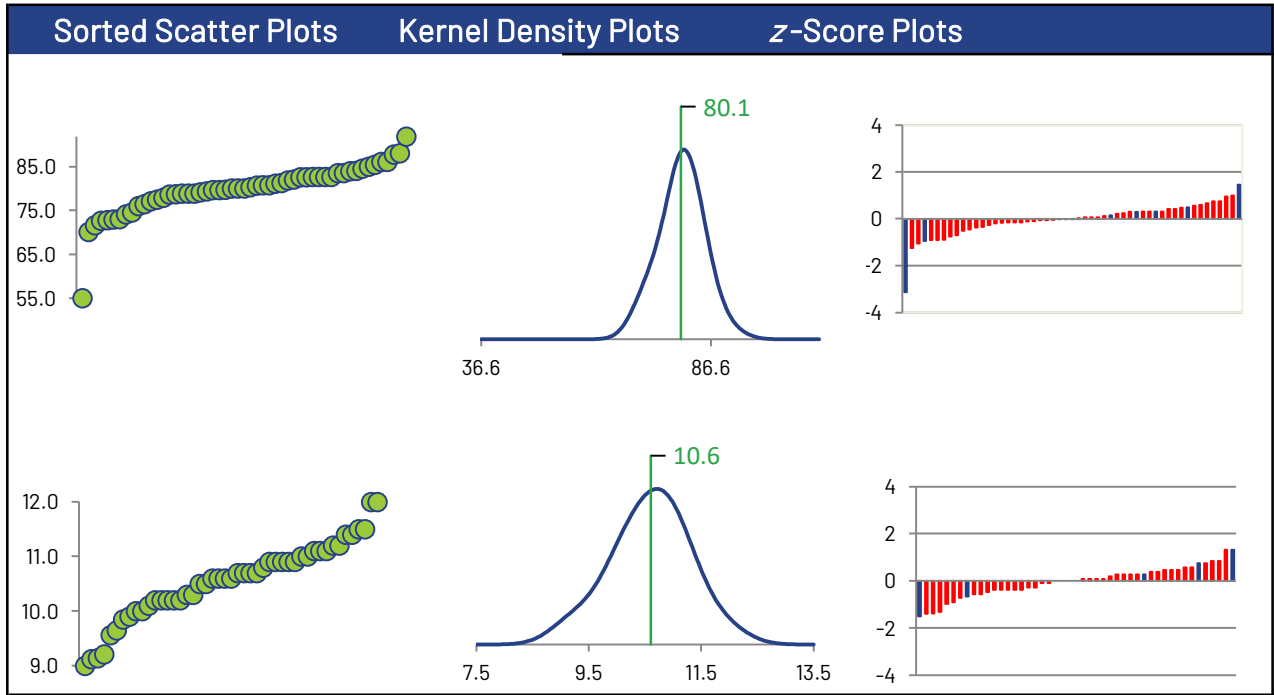
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/OES (Blue)	7	9	9	5
ICP/MS (Red)	43	44	44	42

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

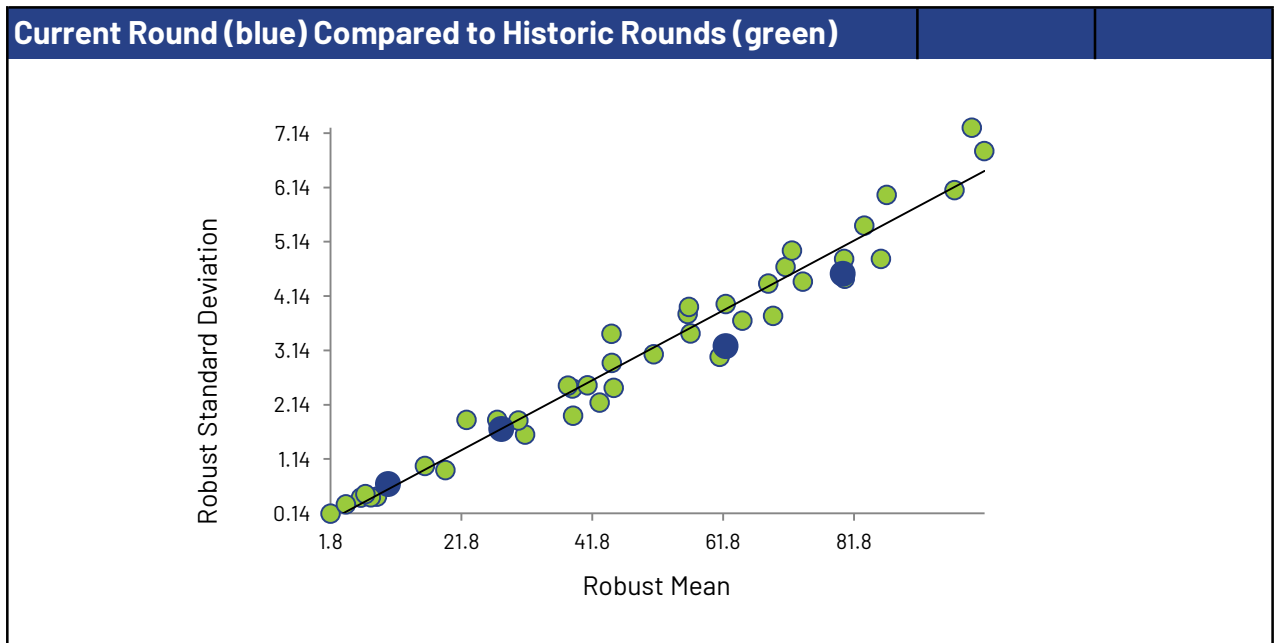
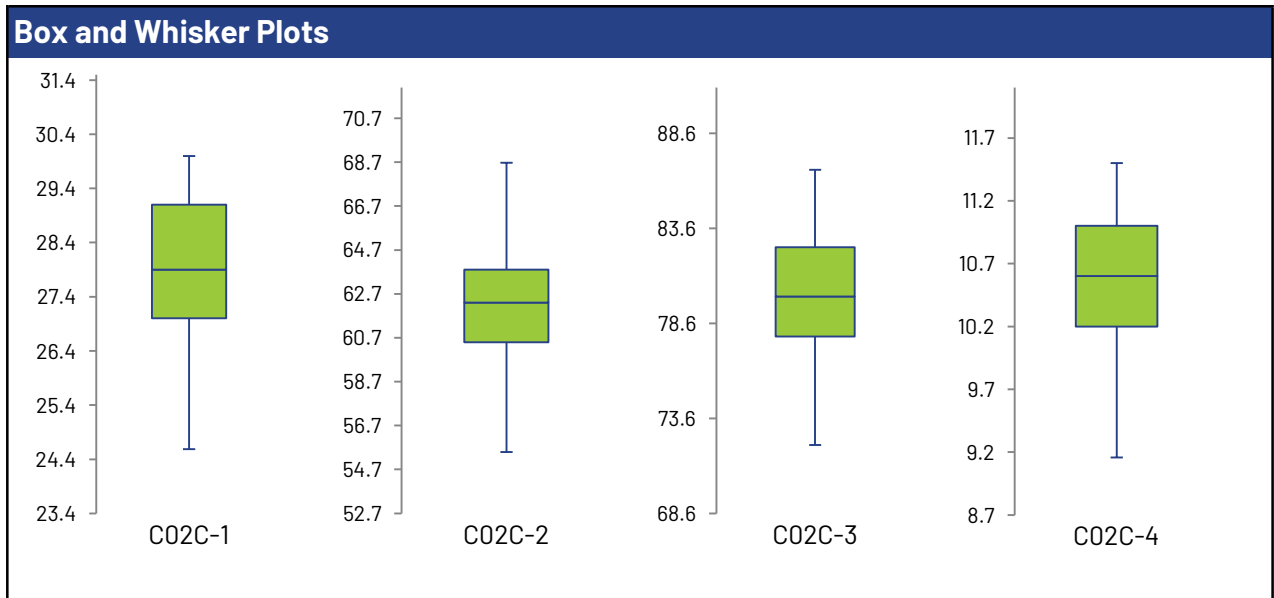
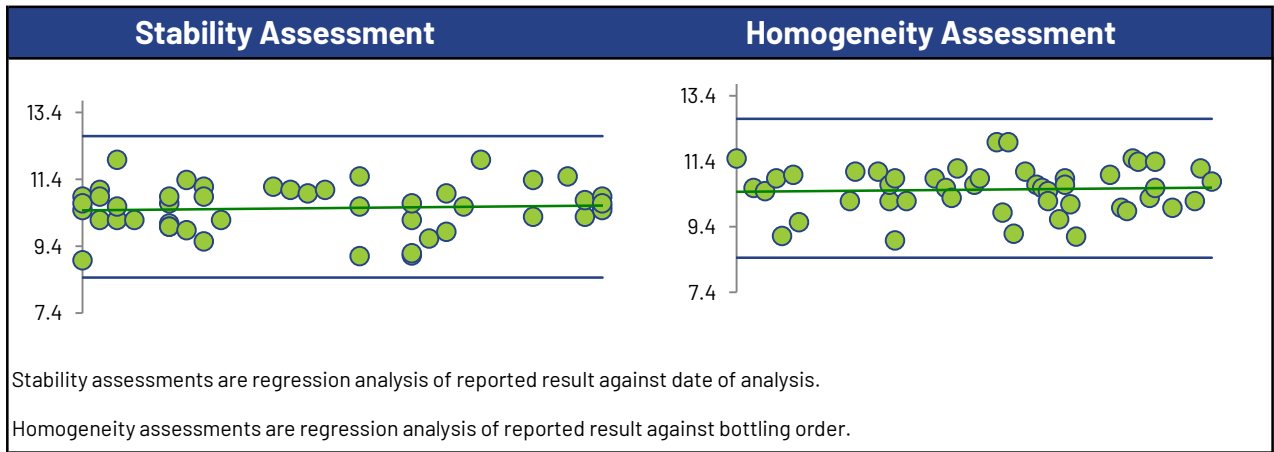


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Arsenic



Arsenic



Barium

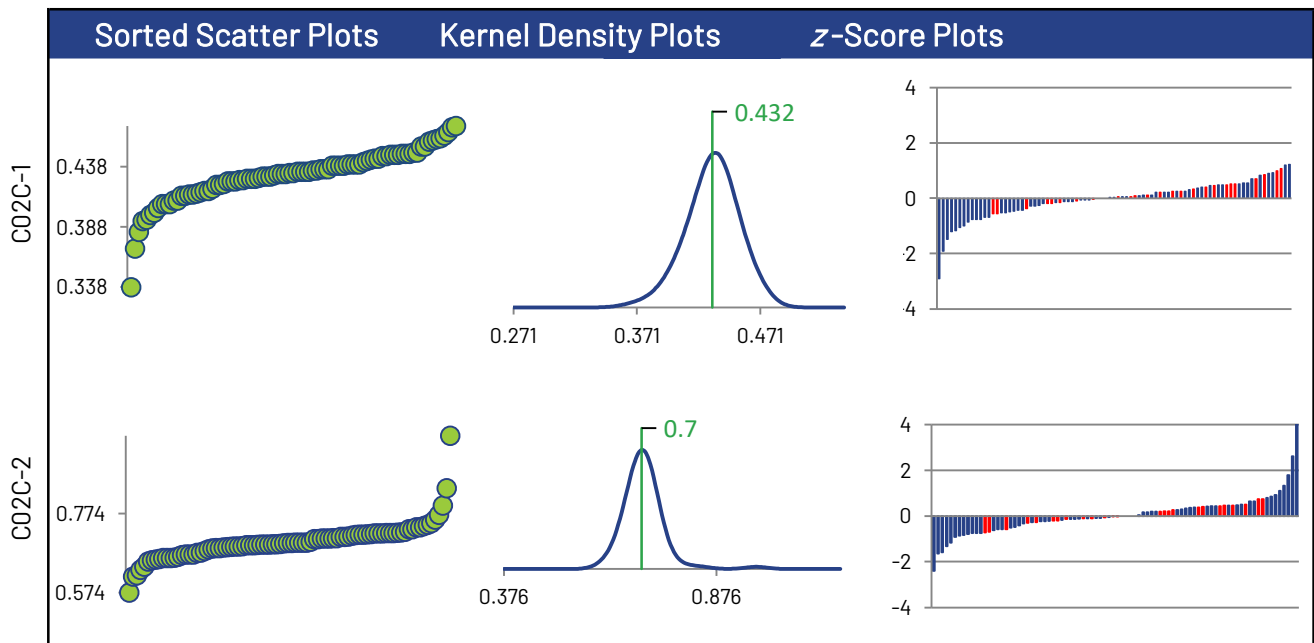
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	85	86	86	86
Median mg/L	0.433	0.699	1.48	0.513
Robust Mean mg/L	0.432	0.700	1.48	0.512
Uncertainty of the Assigned Value mg/L	0.00256	0.00423	0.00945	0.00294
Robust Standard Deviation mg/L	0.0189	0.0314	0.0701	0.0218
Regression Standard Deviation mg/L	0.0324	0.0525	0.111	0.0384
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0324	0.0525	0.111	0.0384
Flagged Outliers	1	0	0	0
$ z > 3.0$	0	1	1	1
$2 < z < 3$	1	2	2	0
Failure Rate %*	3.5			

Methods Used

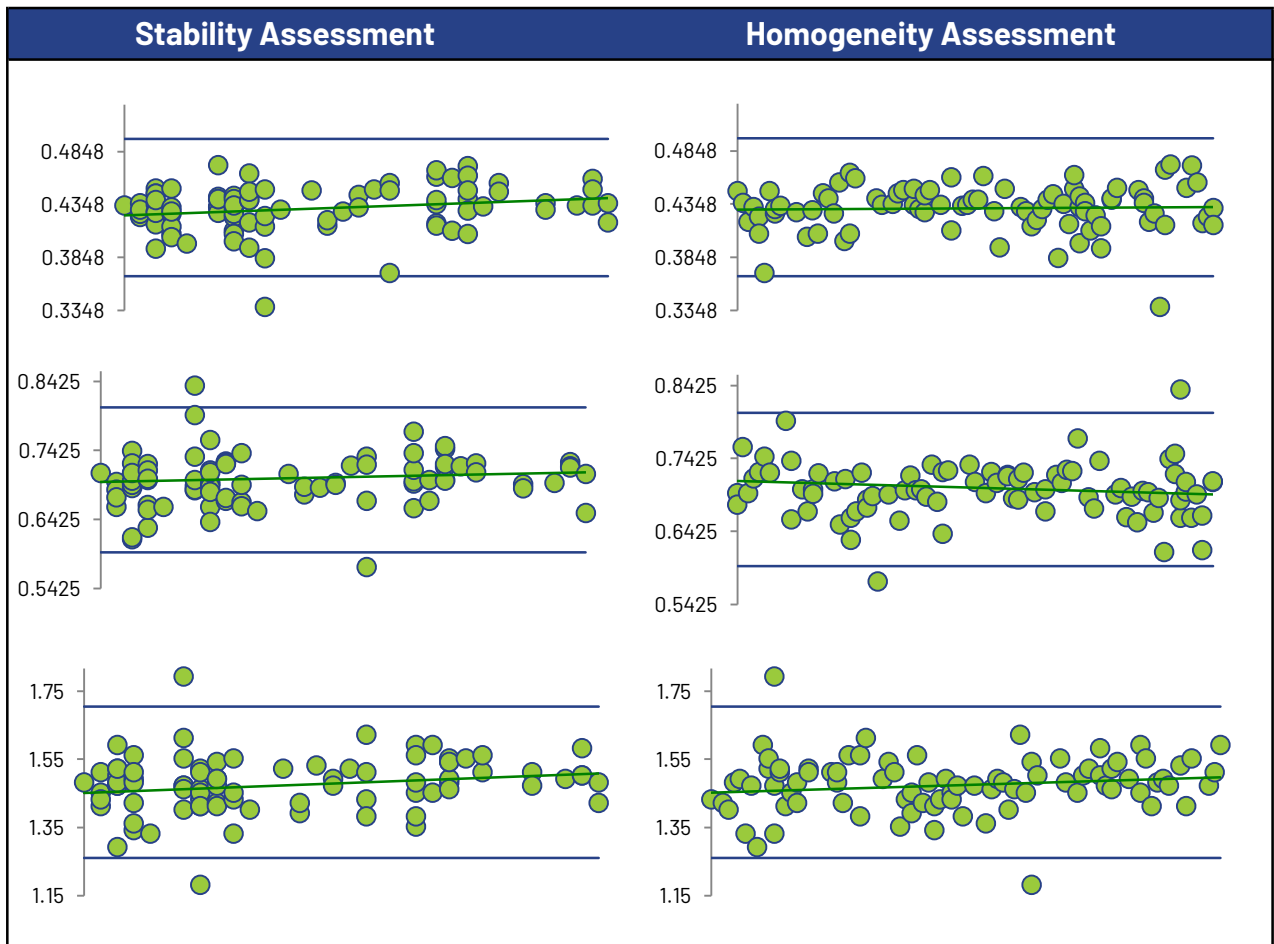
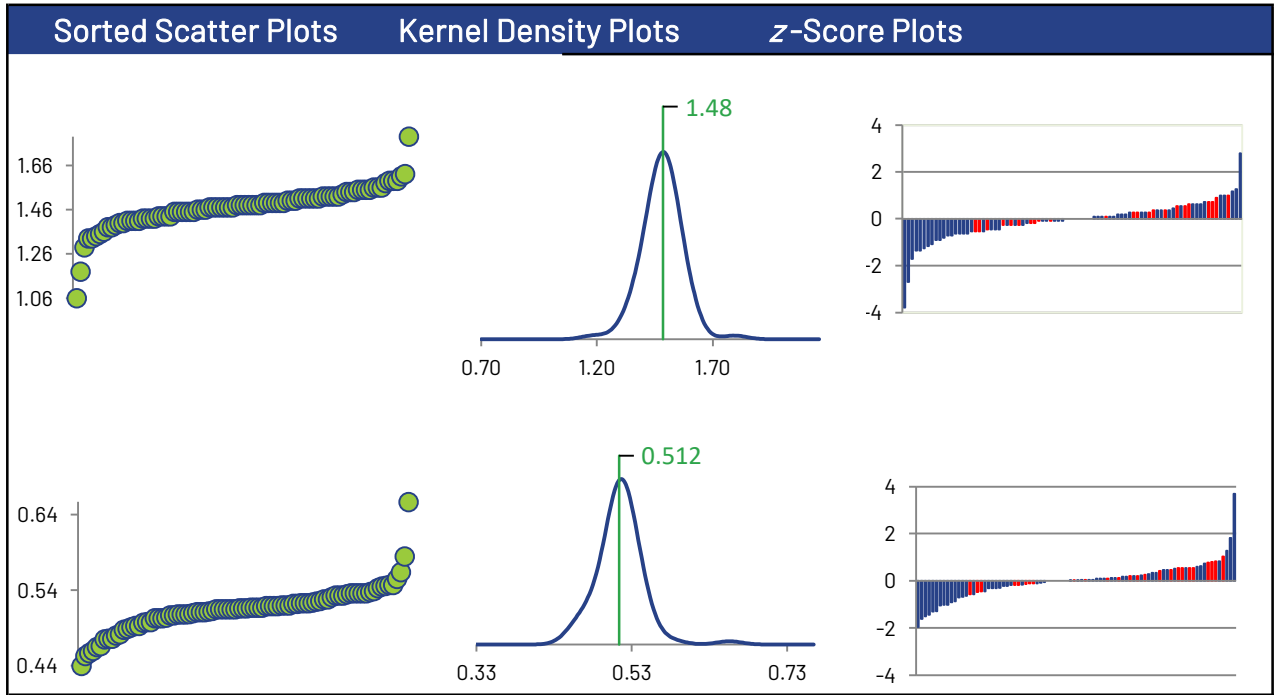
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	59	60	60	60
ICP/OES (Red)	26	26	26	26

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

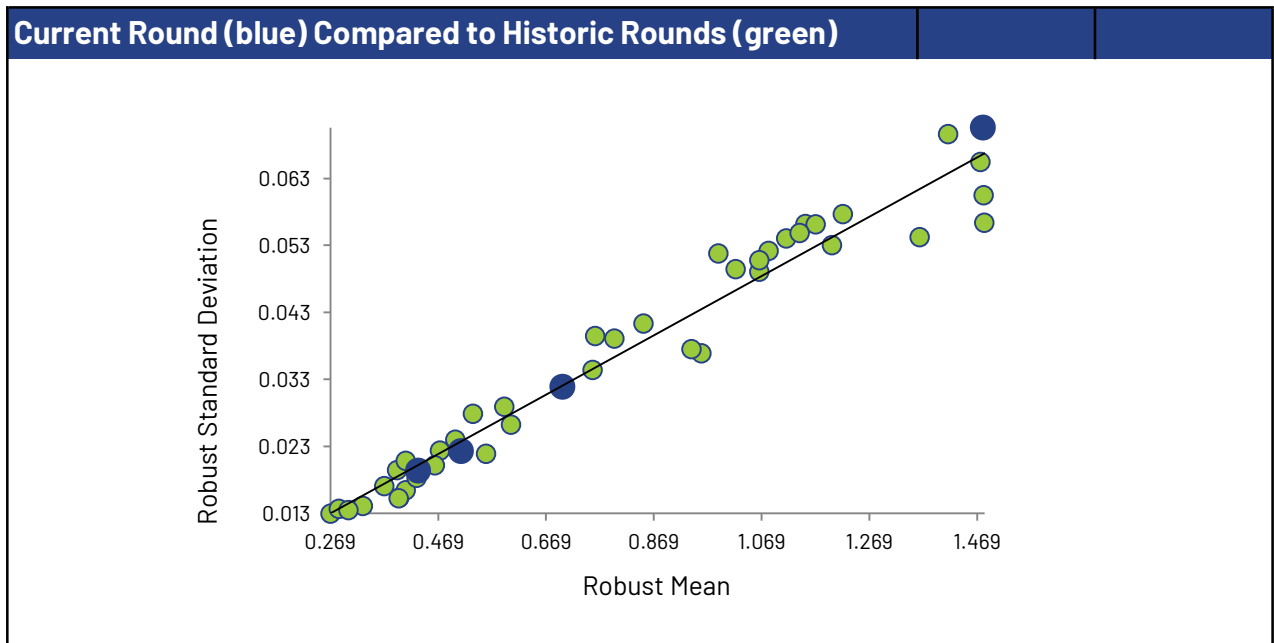
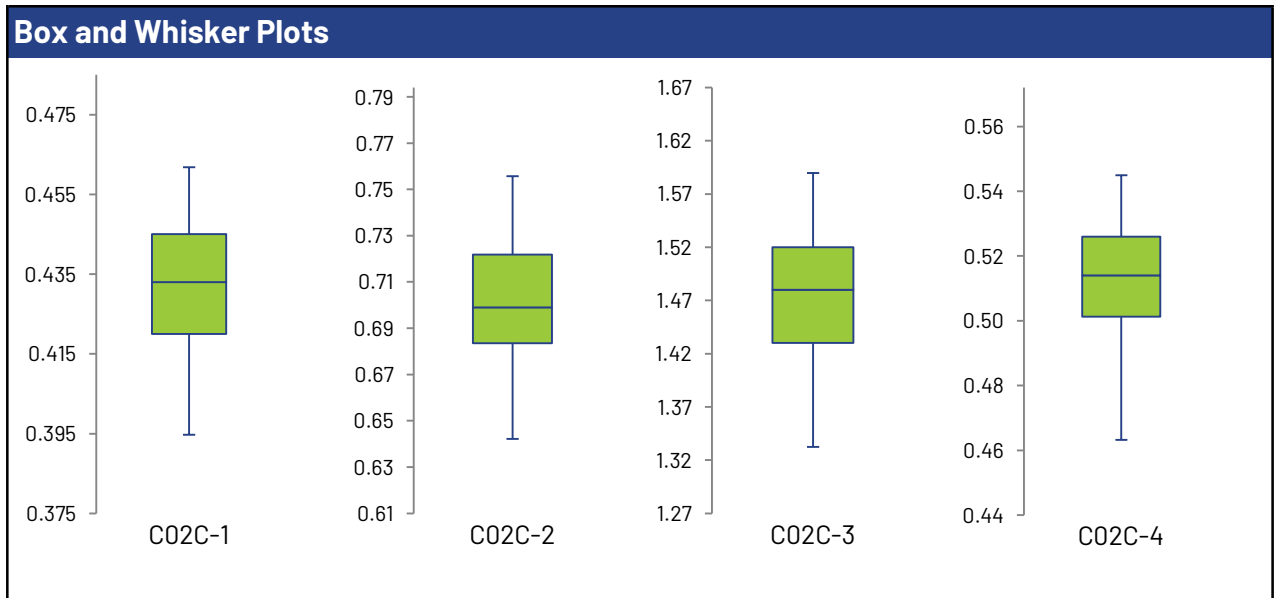
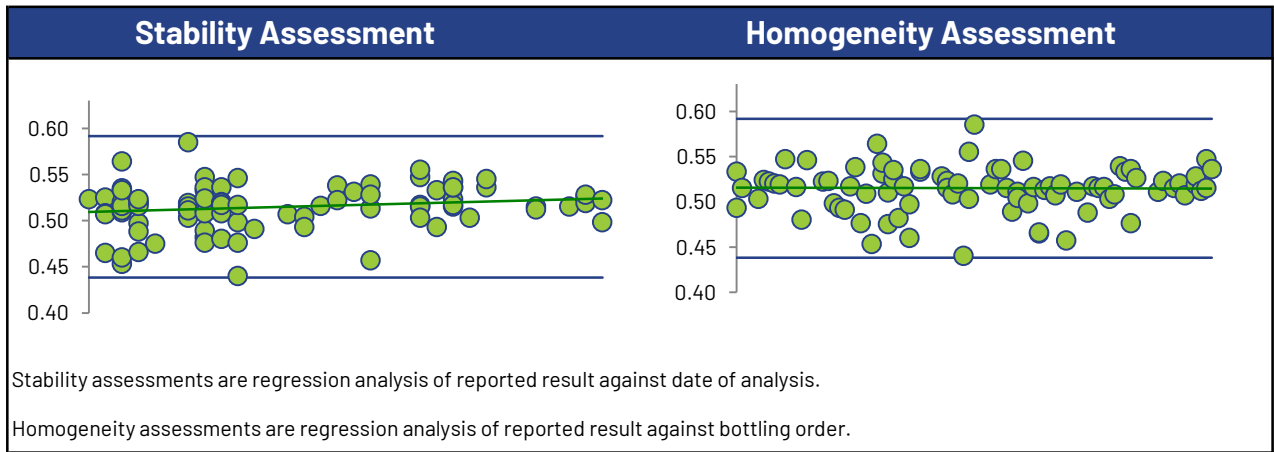


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Barium



Barium



Beryllium

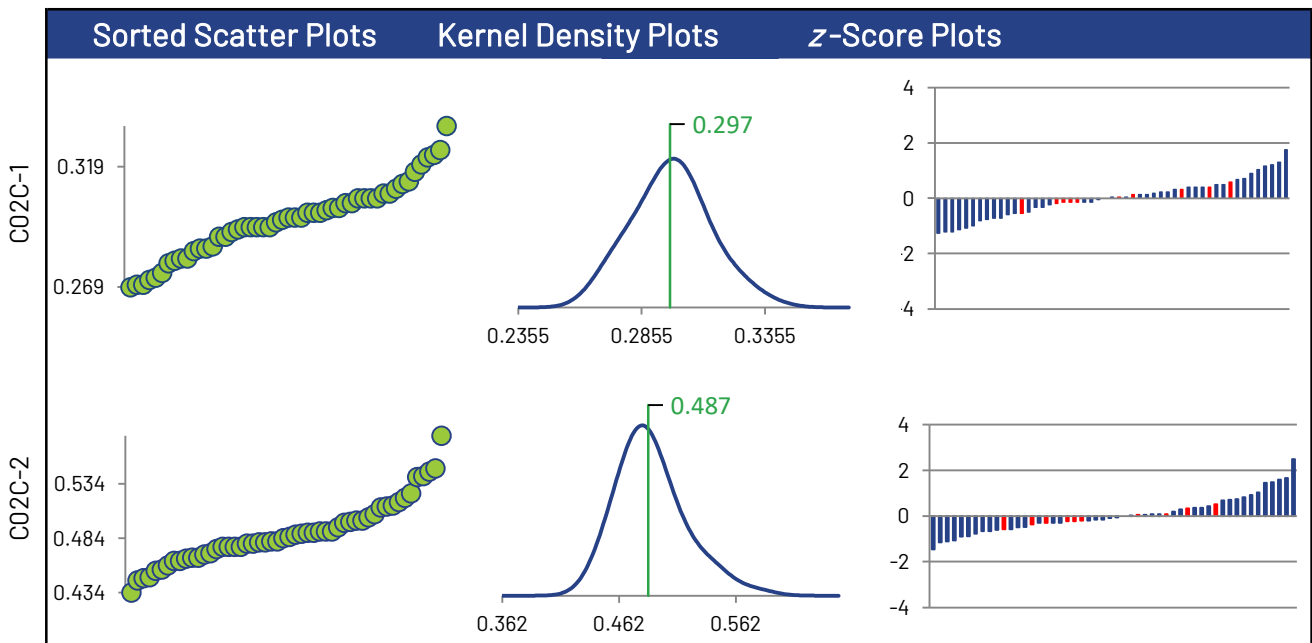
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	51	52	52	51
Median mg/L	0.298	0.485	0.820	0.0403
Robust Mean mg/L	0.297	0.487	0.821	0.0405
Uncertainty of the Assigned Value mg/L	0.00278	0.00459	0.00985	0.000466
Robust Standard Deviation mg/L	0.0159	0.0265	0.0568	0.00266
Regression Standard Deviation mg/L	0.0222	0.0365	0.0616	0.00304
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0222	0.0365	0.0616	0.00304
Flagged Outliers	1	0	0	1
$ z > 3.0$	0	0	0	1
$2 < z < 3$	0	1	1	1
Failure Rate %*	1.9			

Methods Used

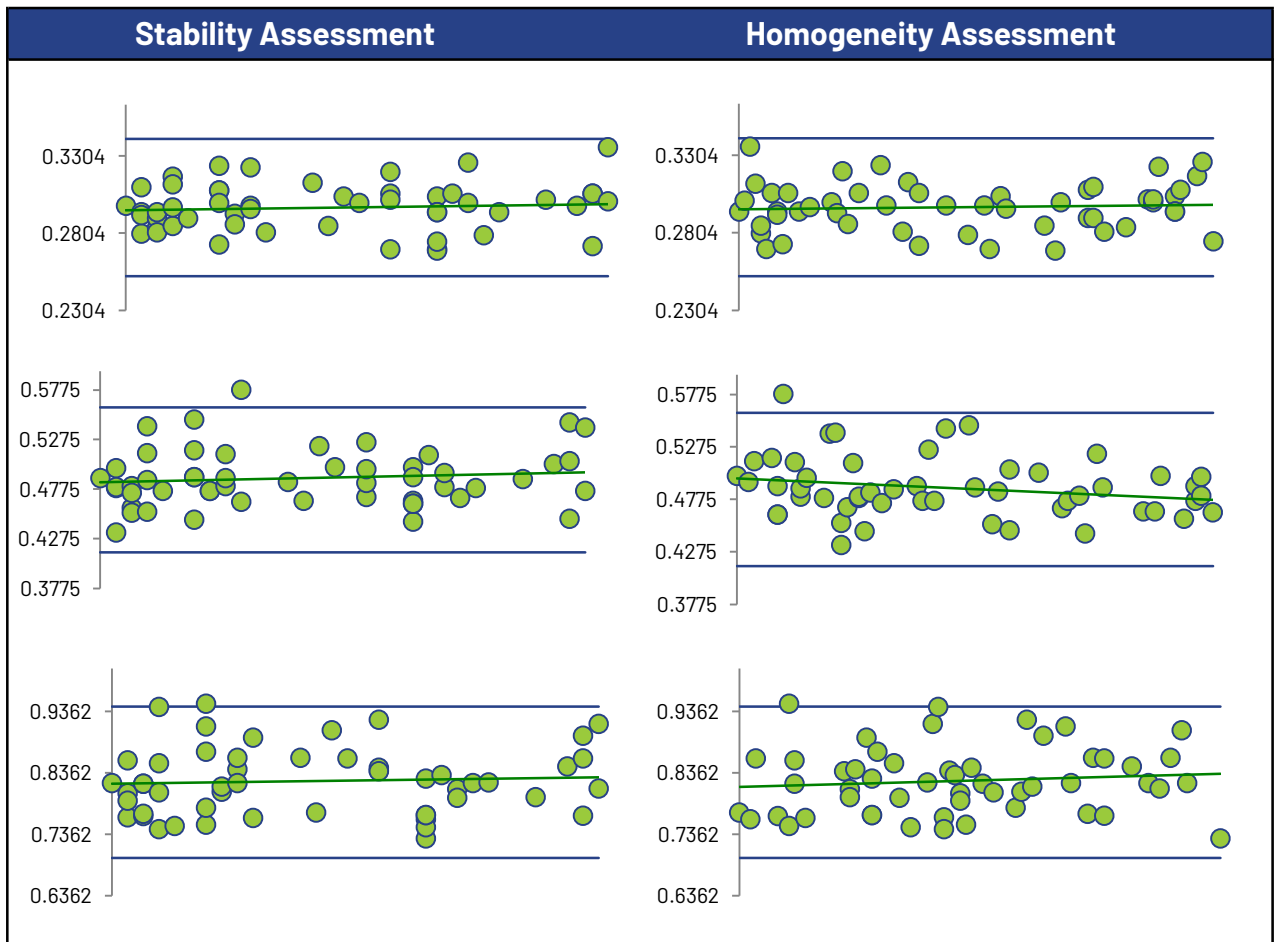
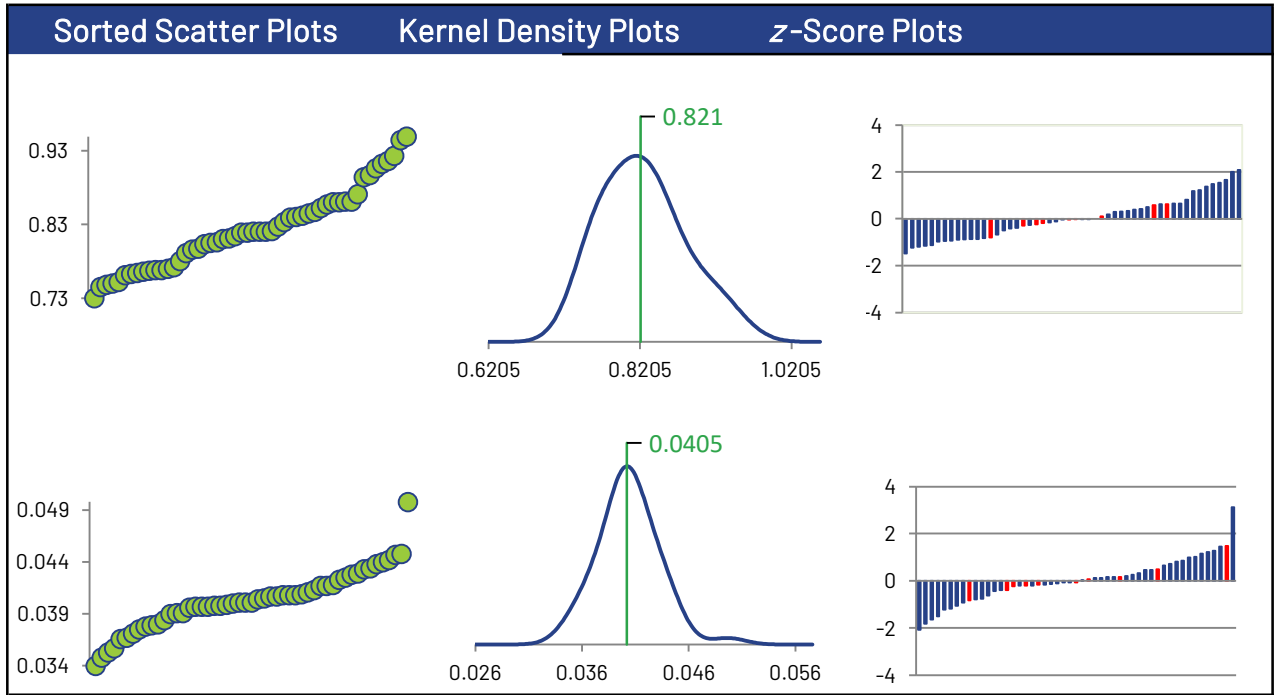
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	41	42	42	41
ICP/OES (Red)	10	10	10	10

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

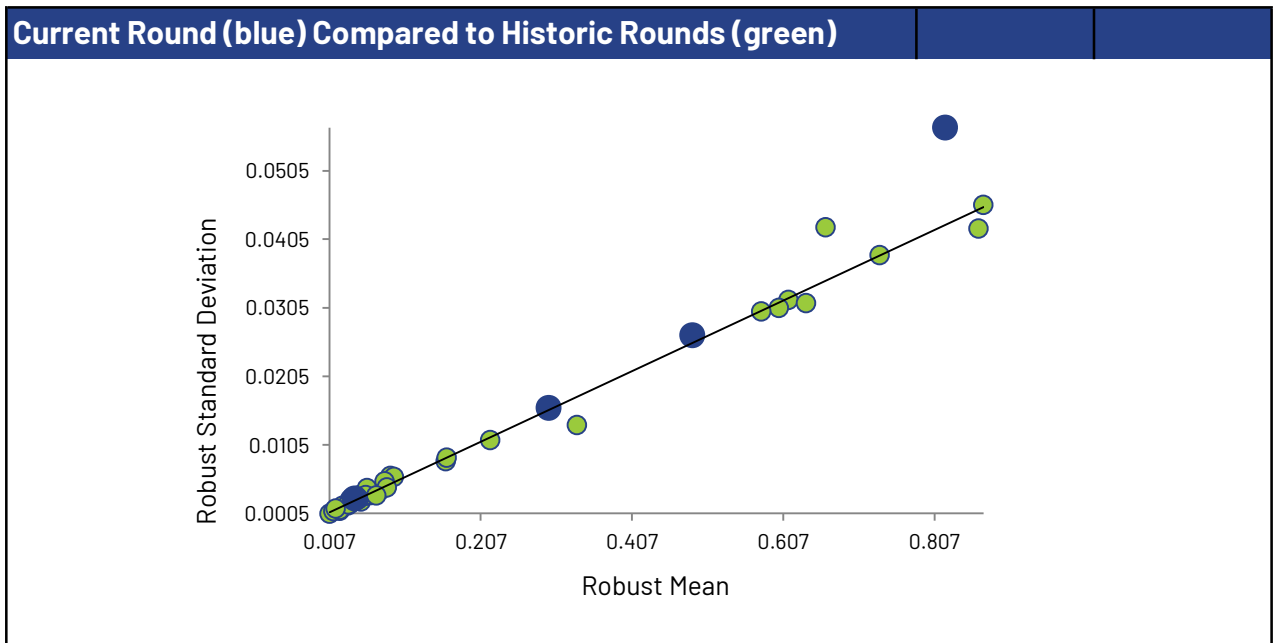
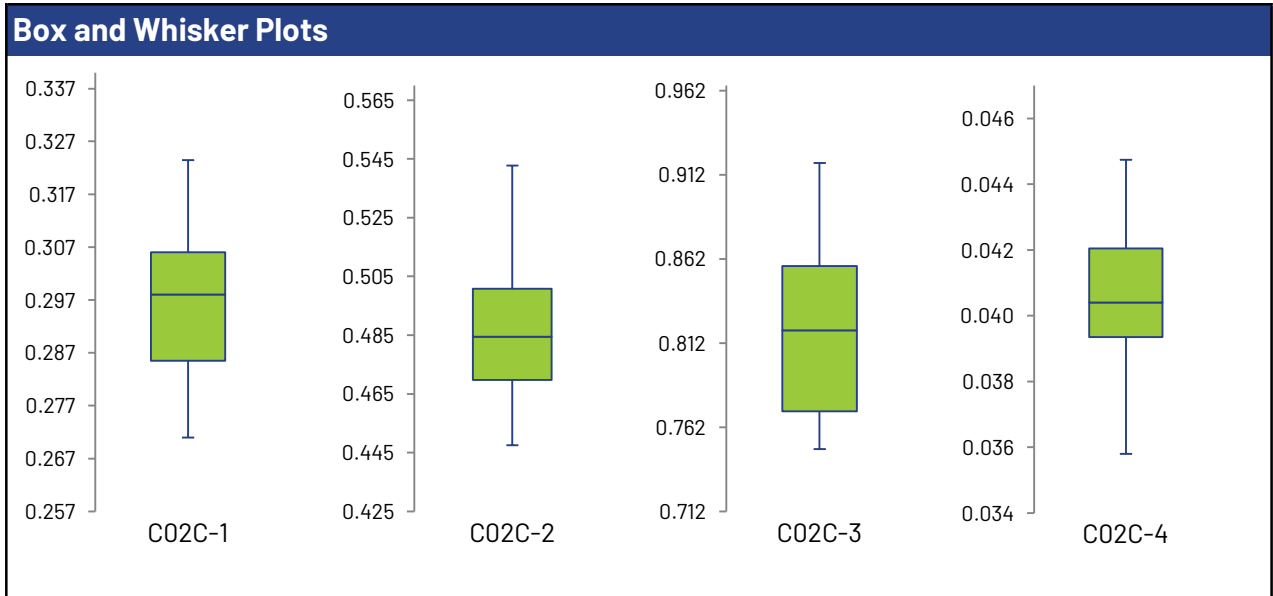
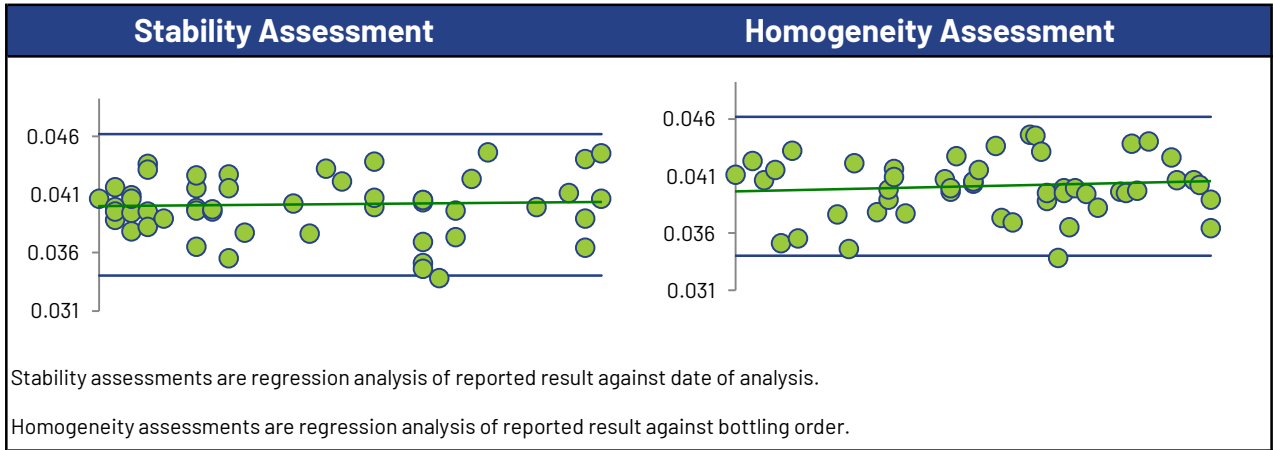


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Beryllium



Beryllium



Bismuth

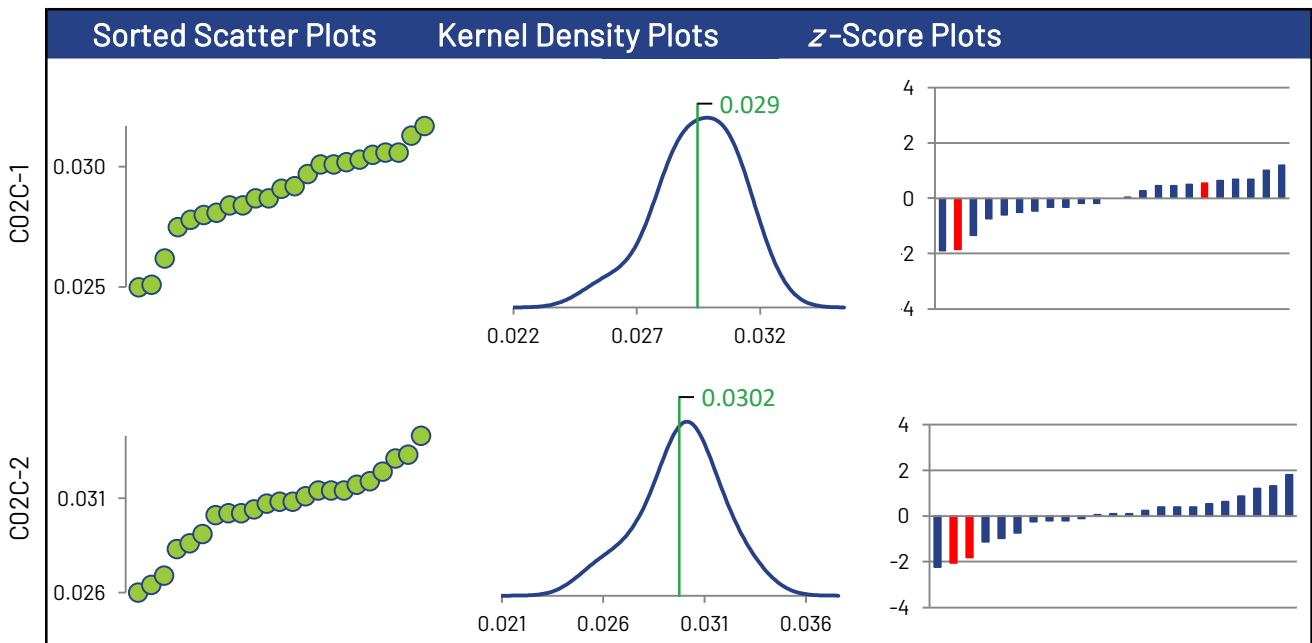
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	23	23	24	21
Median mg/L	0.0290	0.0304	0.0469	0.00979
Robust Mean mg/L	0.0290	0.0302	0.0466	0.00978
Uncertainty of the Assigned Value mg/L	0.000454	0.000537	0.000832	0.000168
Robust Standard Deviation mg/L	0.00174	0.00206	0.00326	0.000615
Regression Standard Deviation mg/L				
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) mg/L	0.00216	0.00206	0.00326	0.000615
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	2	1	1
Failure Rate %*	8.3			

Methods Used

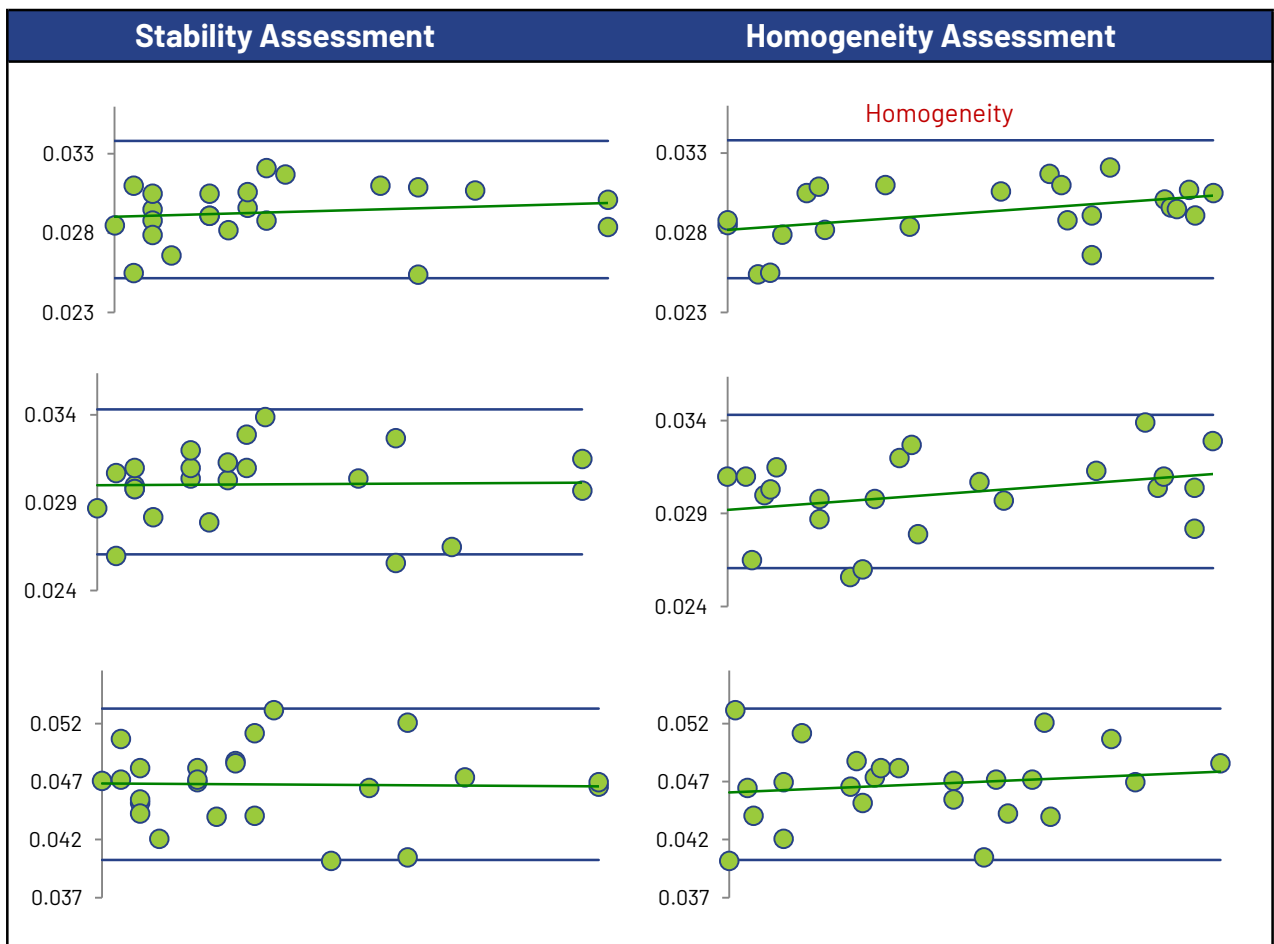
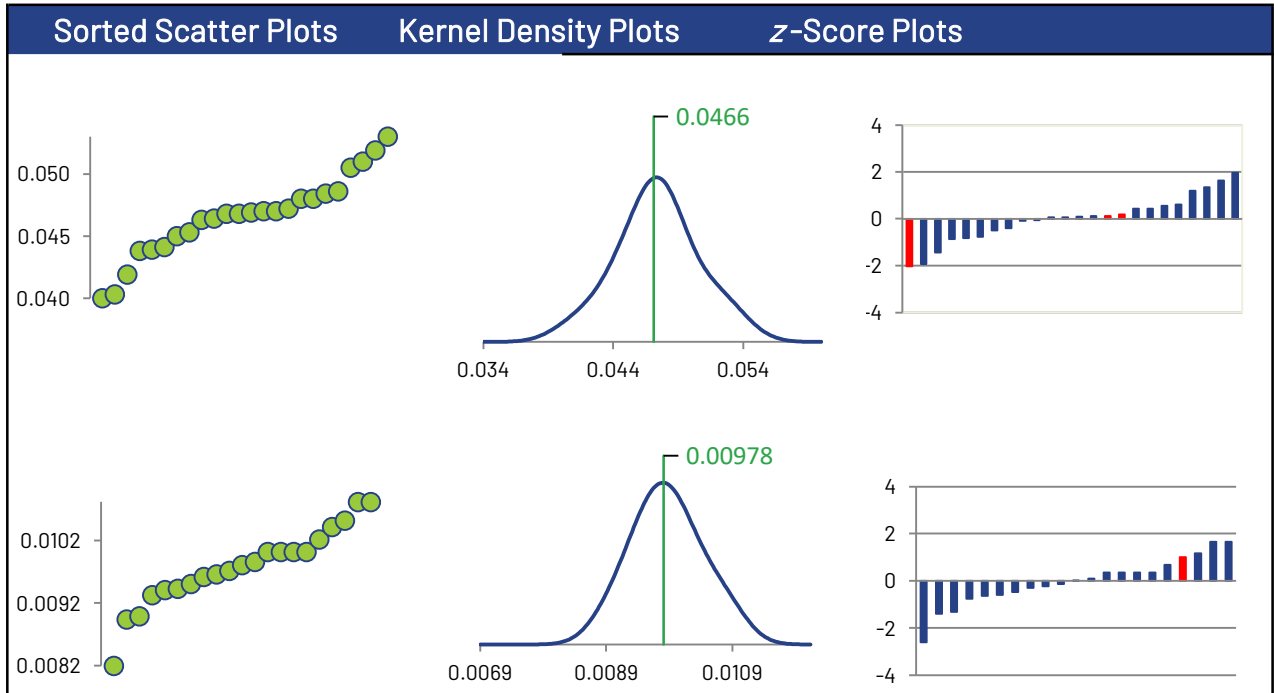
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	21	21	21	20
ICP/OES (Red)	2	2	3	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

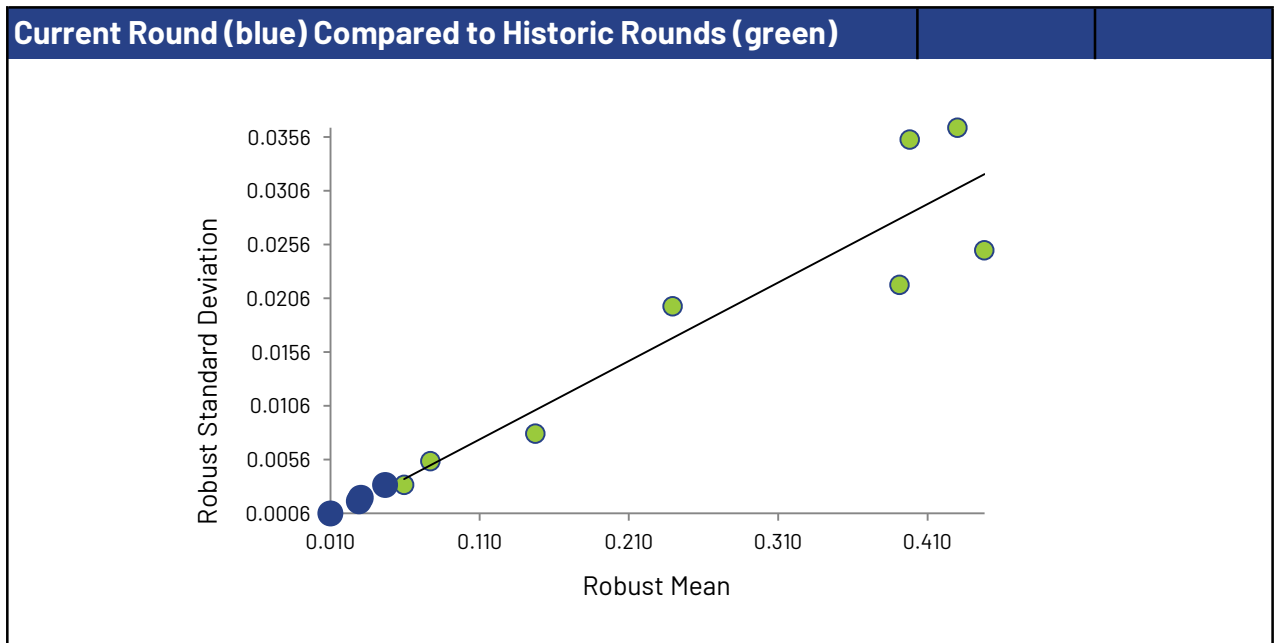
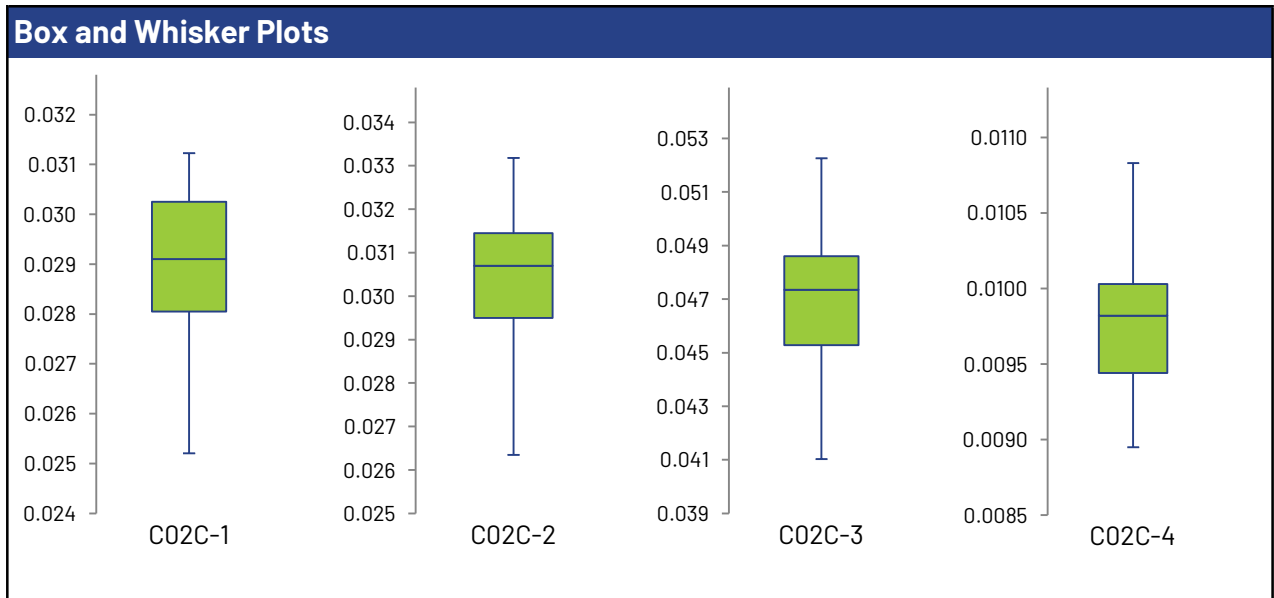
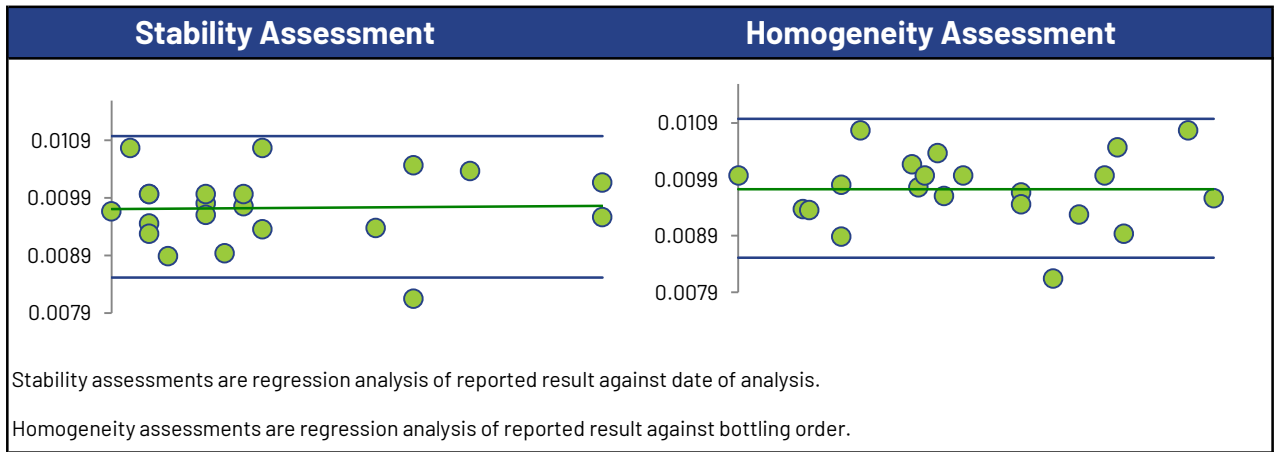


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Bismuth



Bismuth



Boron

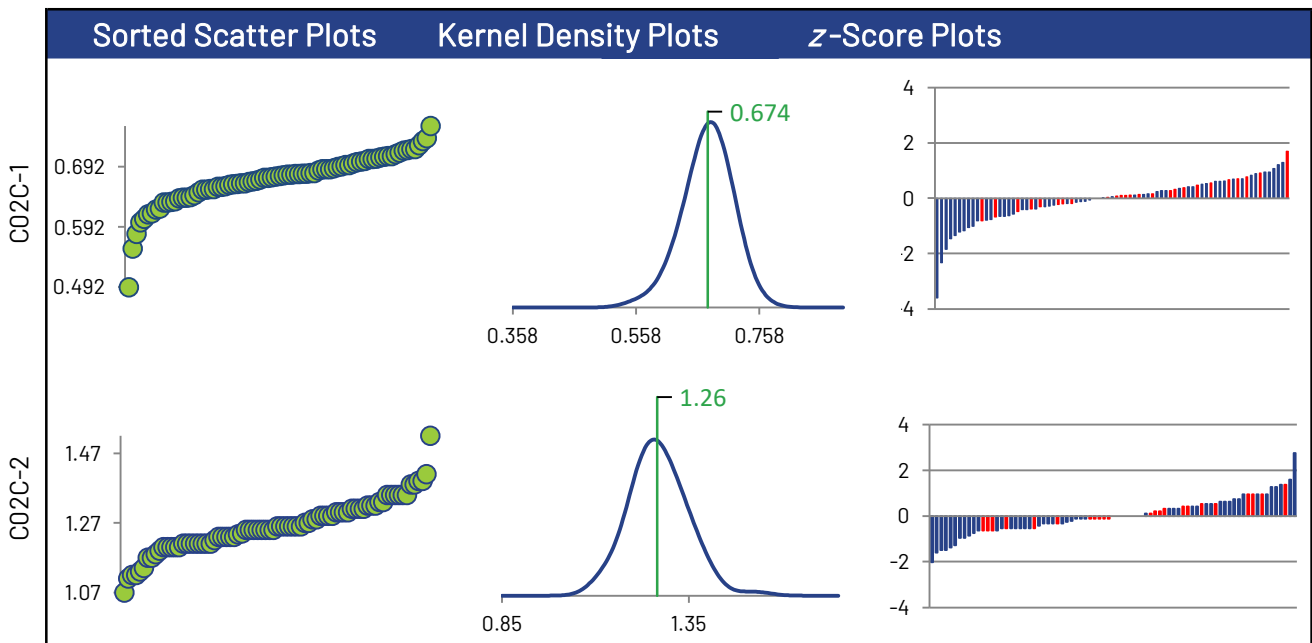
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	79	79	79	78
Median mg/L	0.677	1.26	1.10	0.294
Robust Mean mg/L	0.674	1.26	1.11	0.294
Uncertainty of the Assigned Value mg/L	0.00503	0.00982	0.0107	0.00258
Robust Standard Deviation mg/L	0.0358	0.0698	0.0762	0.0182
Regression Standard Deviation mg/L	0.0506	0.0946	0.0829	0.0221
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0506	0.0946	0.0829	0.0221
Flagged Outliers	0	0	0	1
$ z > 3.0$	1	0	0	1
$2 < z < 3$	1	2	3	3
Failure Rate %*	3.8			

Methods Used

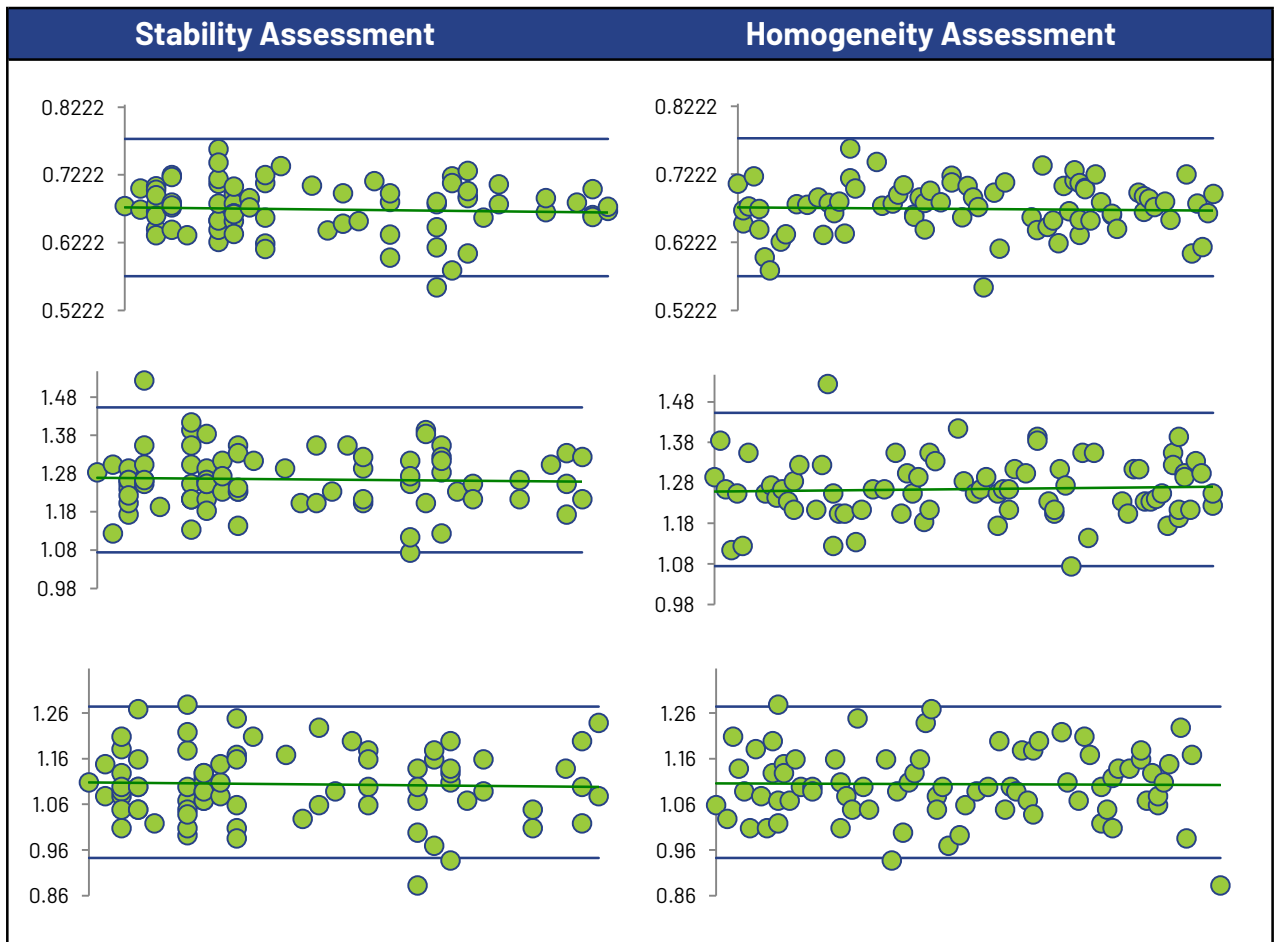
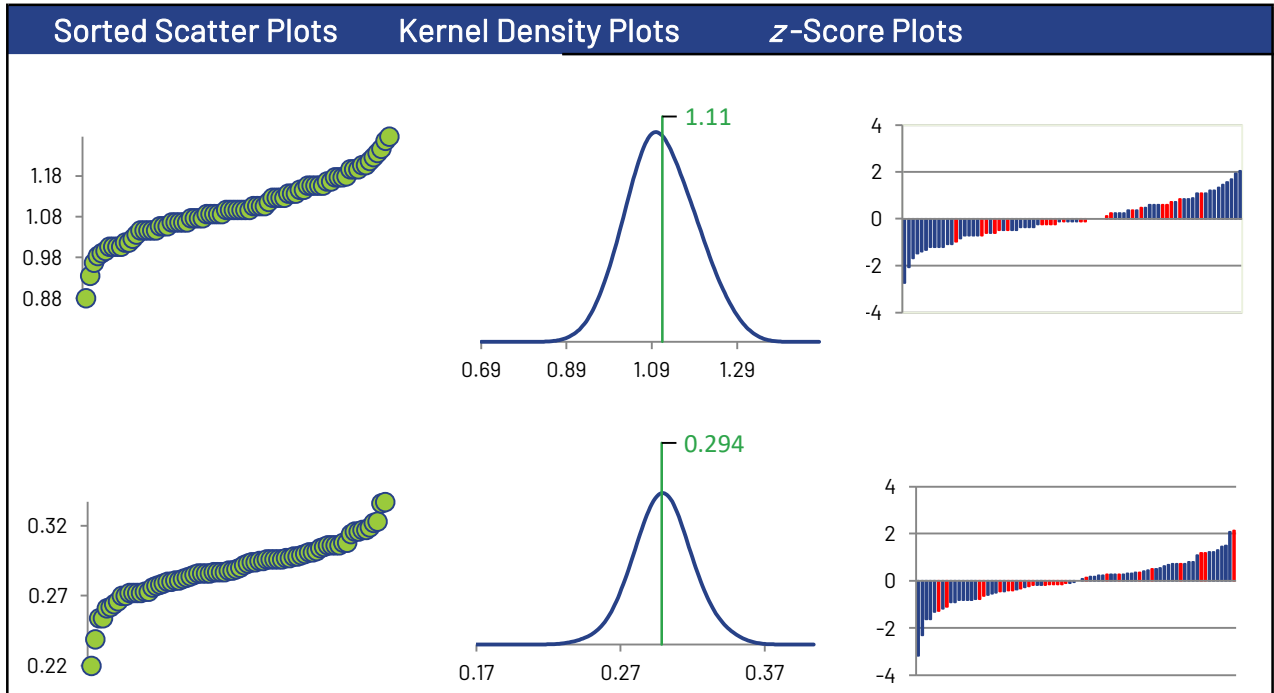
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	54	54	54	53
ICP/OES (Red)	25	25	25	25

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

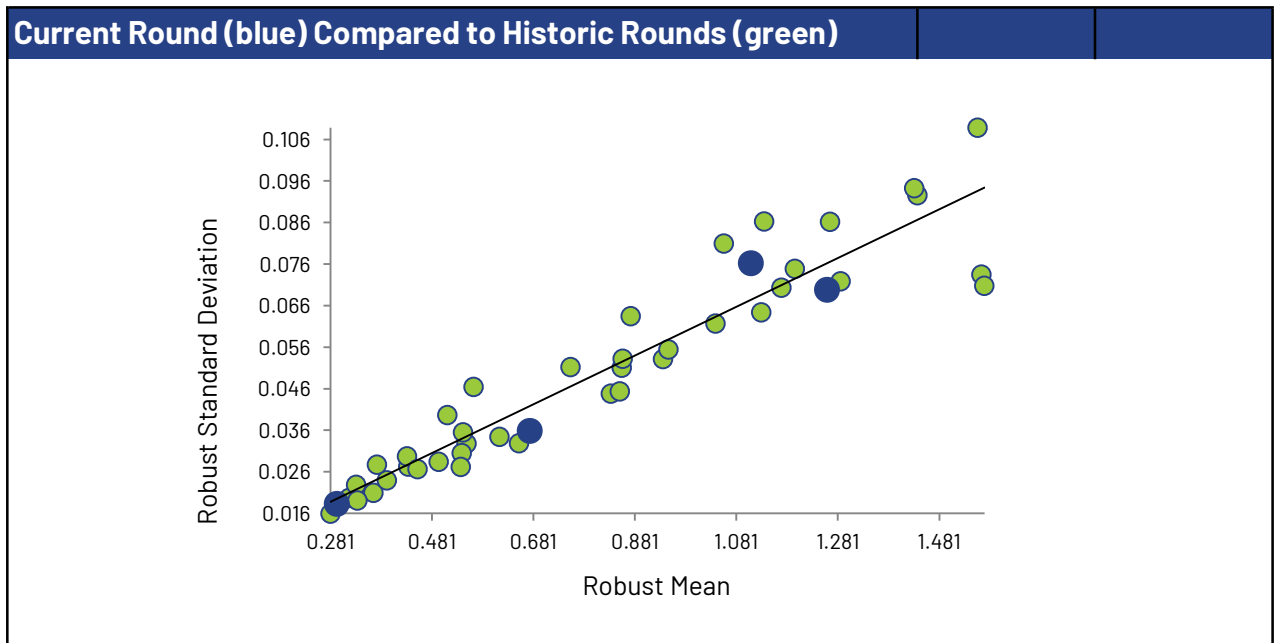
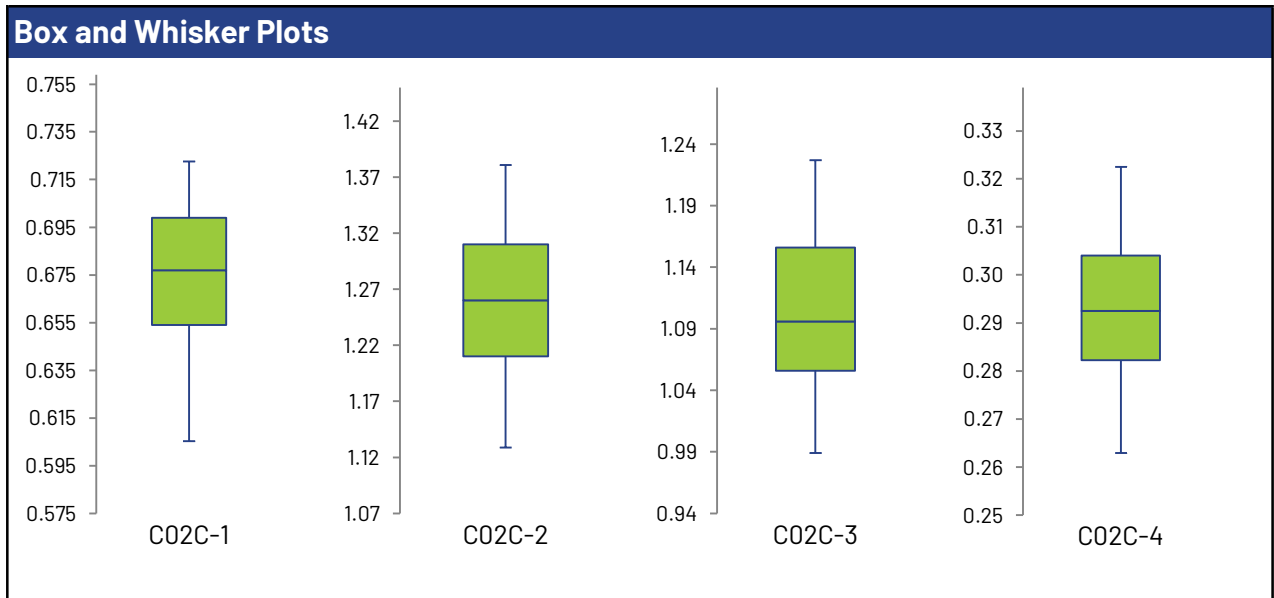
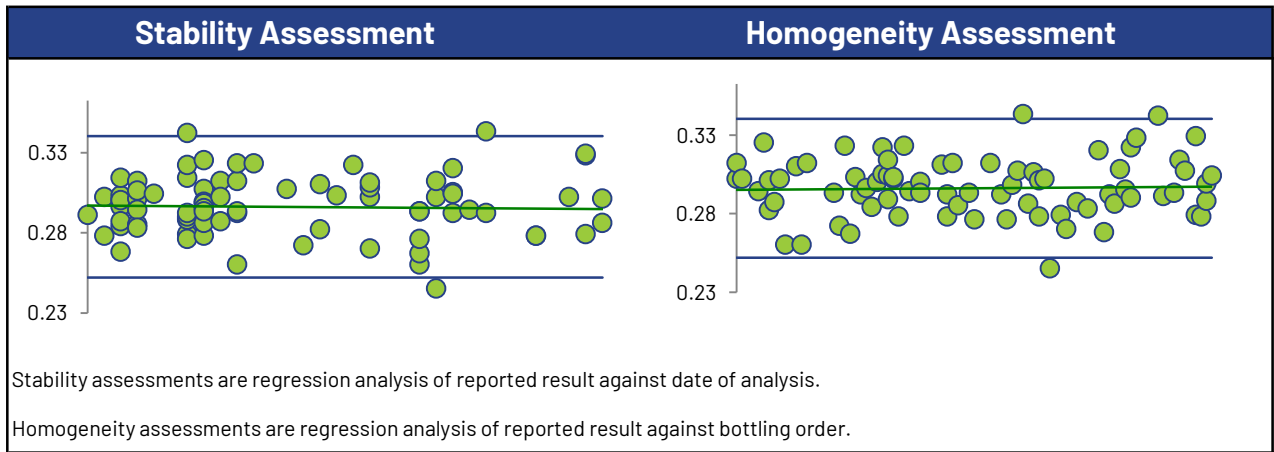


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Boron



Boron



Cadmium

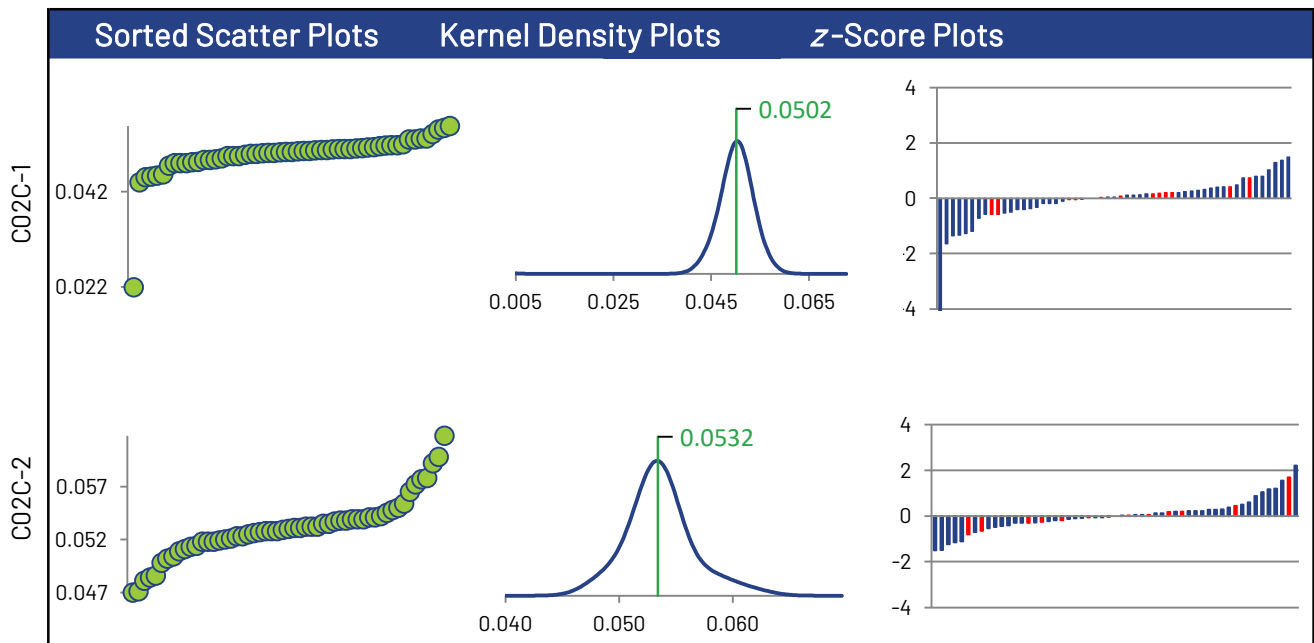
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	55	55	56	55
Median mg/L	0.0504	0.0532	0.0720	0.0151
Robust Mean mg/L	0.0502	0.0532	0.0720	0.0150
Uncertainty of the Assigned Value mg/L	0.000367	0.000366	0.000493	0.000132
Robust Standard Deviation mg/L	0.00218	0.00217	0.00295	0.000782
Regression Standard Deviation mg/L	0.00377	0.00399	0.00540	0.00113
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.00377	0.00399	0.00540	0.00113
Flagged Outliers	1	1	0	0
$ z > 3.0$	1	0	0	1
$2 < z < 3$	0	1	0	0
Failure Rate %*	3.6			

Methods Used

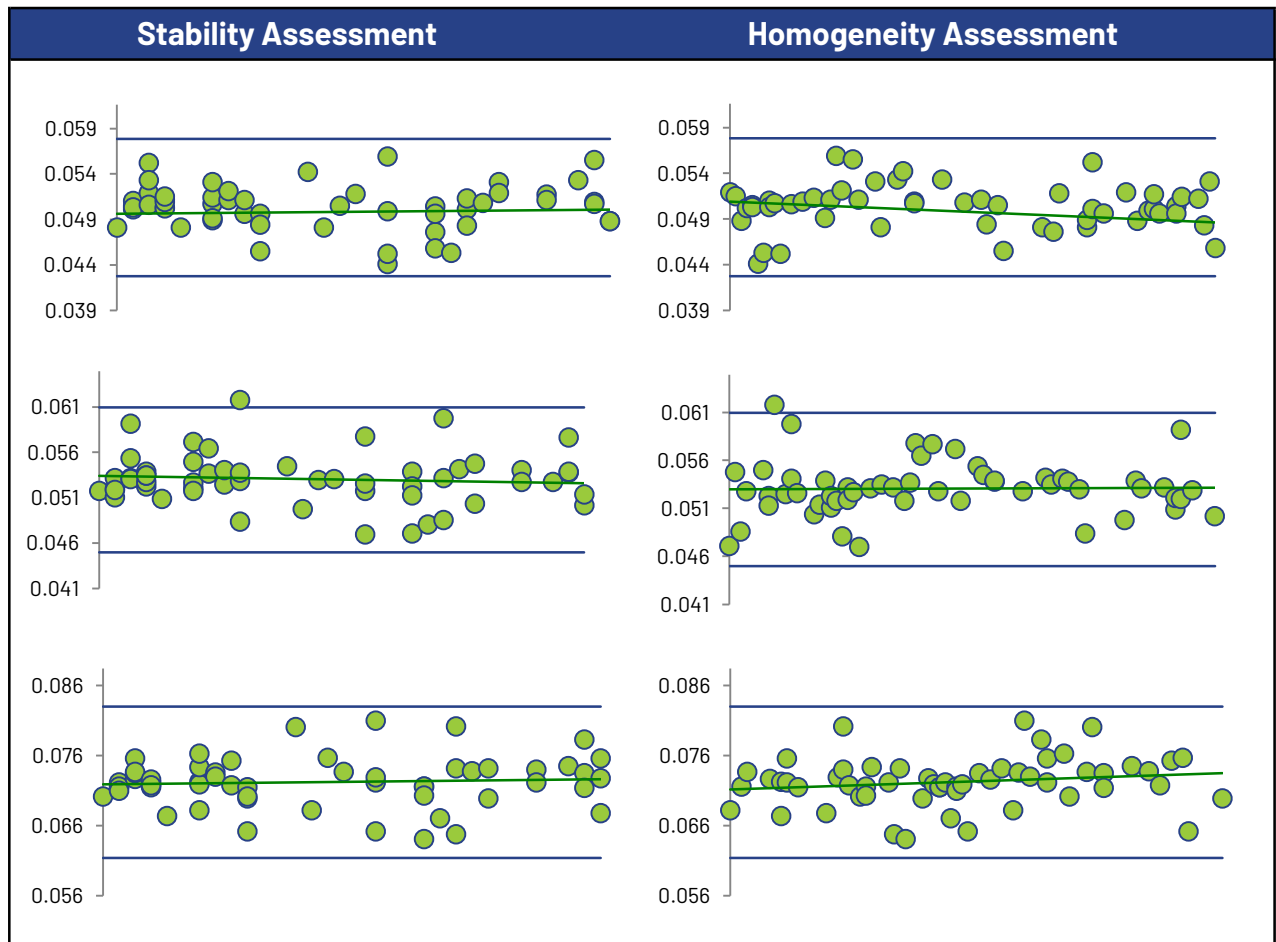
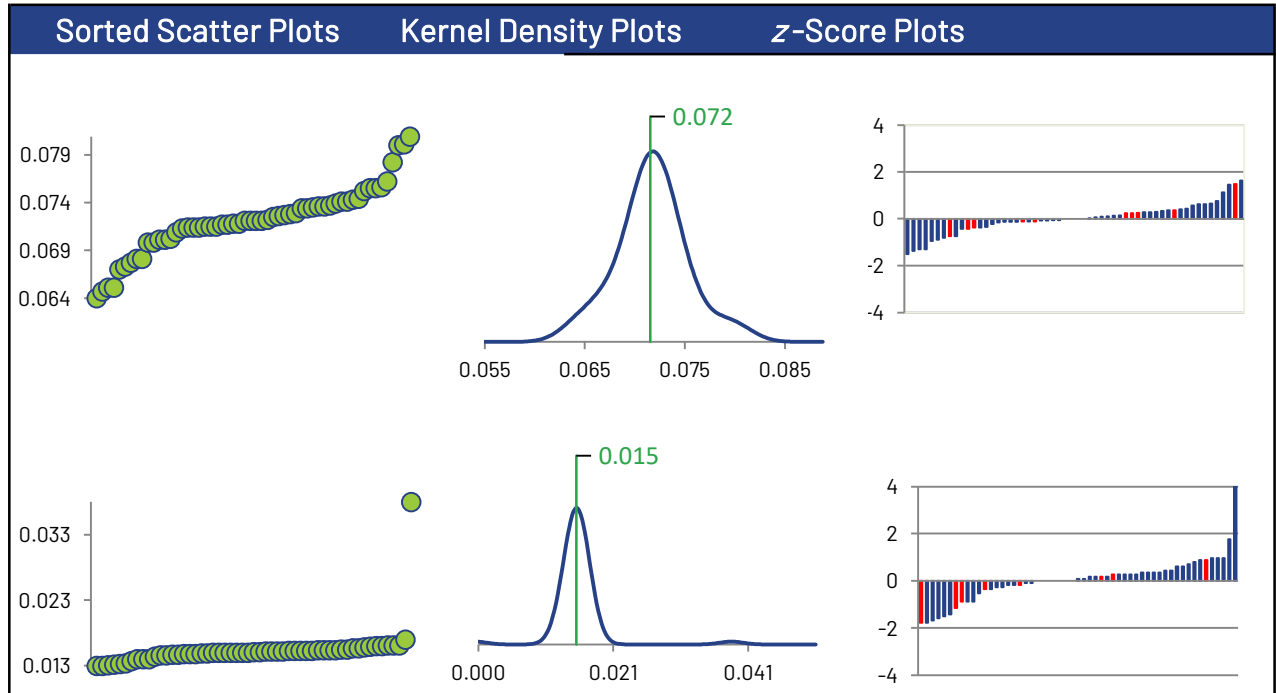
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	43	43	44	44
ICP/OES (Red)	12	12	12	11

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

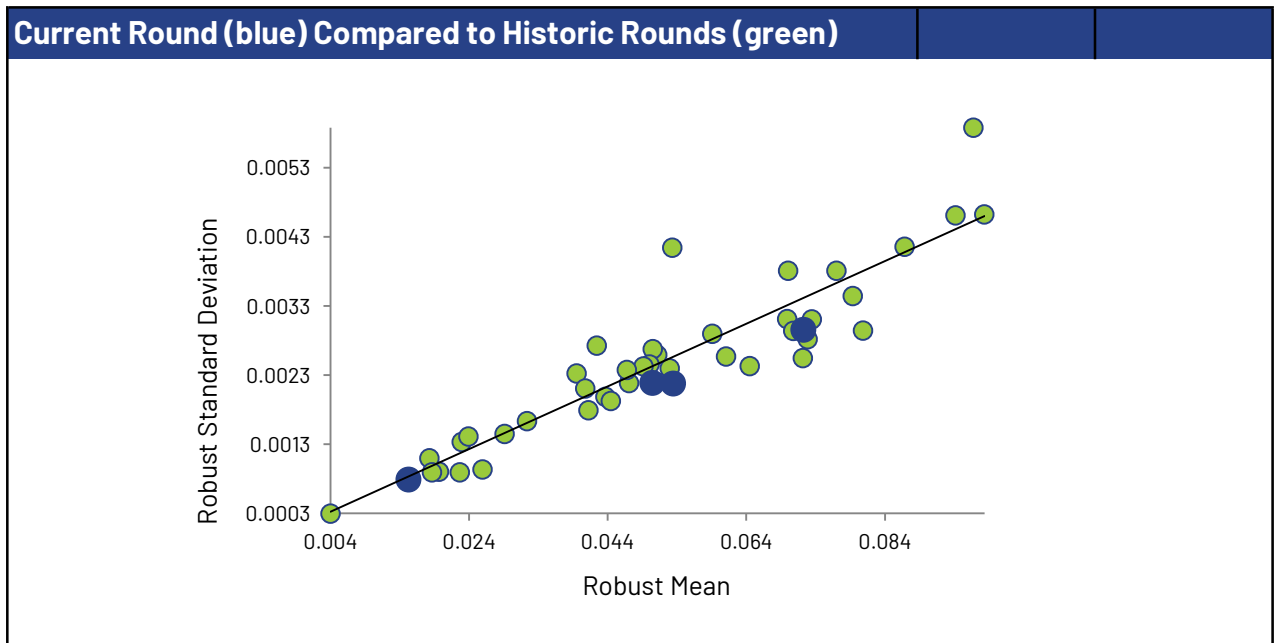
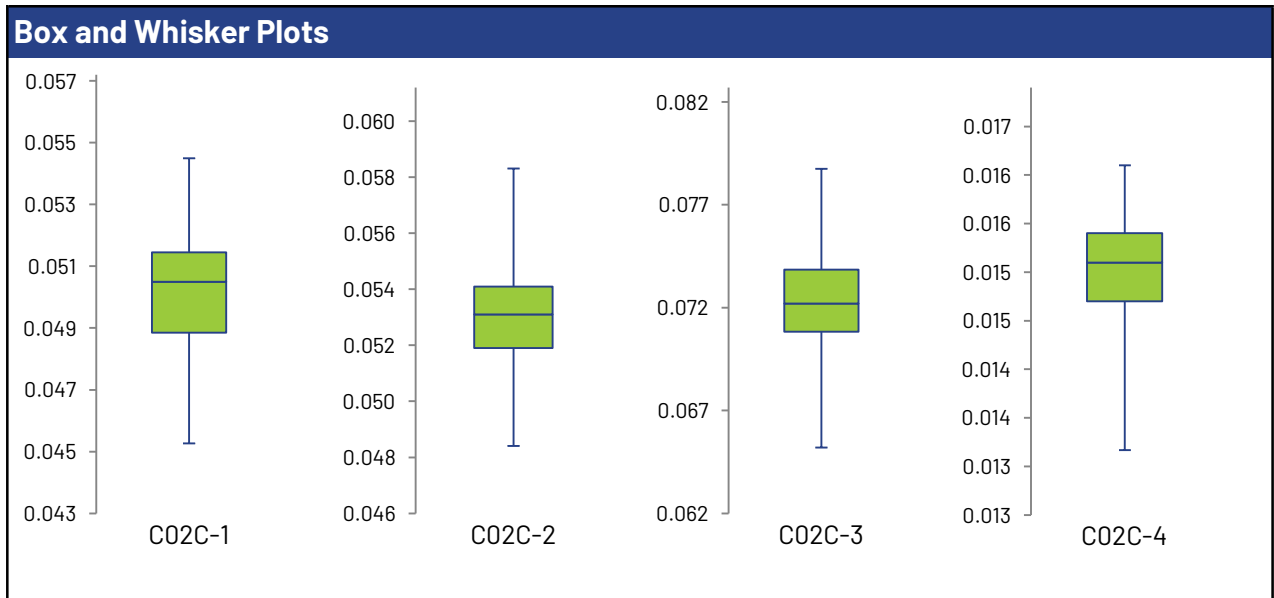
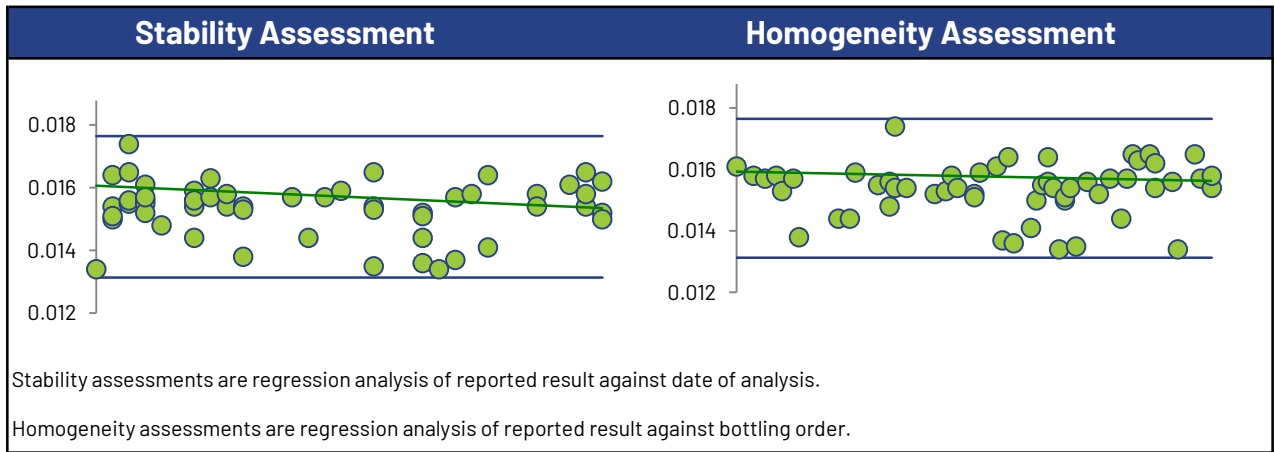


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Cadmium



Cadmium



Chromium

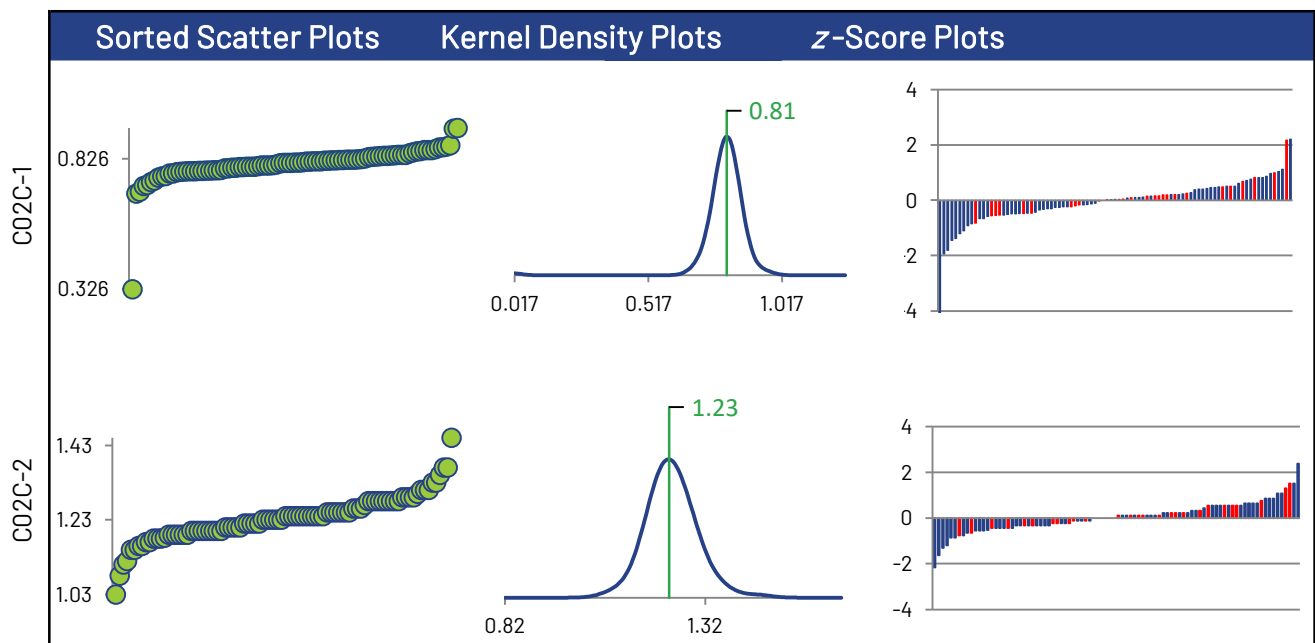
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	89	90	90	89
Median mg/L	0.812	1.24	1.16	0.494
Robust Mean mg/L	0.810	1.23	1.16	0.492
Uncertainty of the Assigned Value mg/L	0.00496	0.00689	0.00700	0.00260
Robust Standard Deviation mg/L	0.0374	0.0523	0.0531	0.0196
Regression Standard Deviation mg/L	0.0607	0.0925	0.0869	0.0369
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0607	0.0925	0.0869	0.0369
Flagged Outliers	0	0	0	0
$ z > 3.0$	1	0	0	2
$2 < z < 3$	2	2	1	1
Failure Rate %*	2.2			

Methods Used

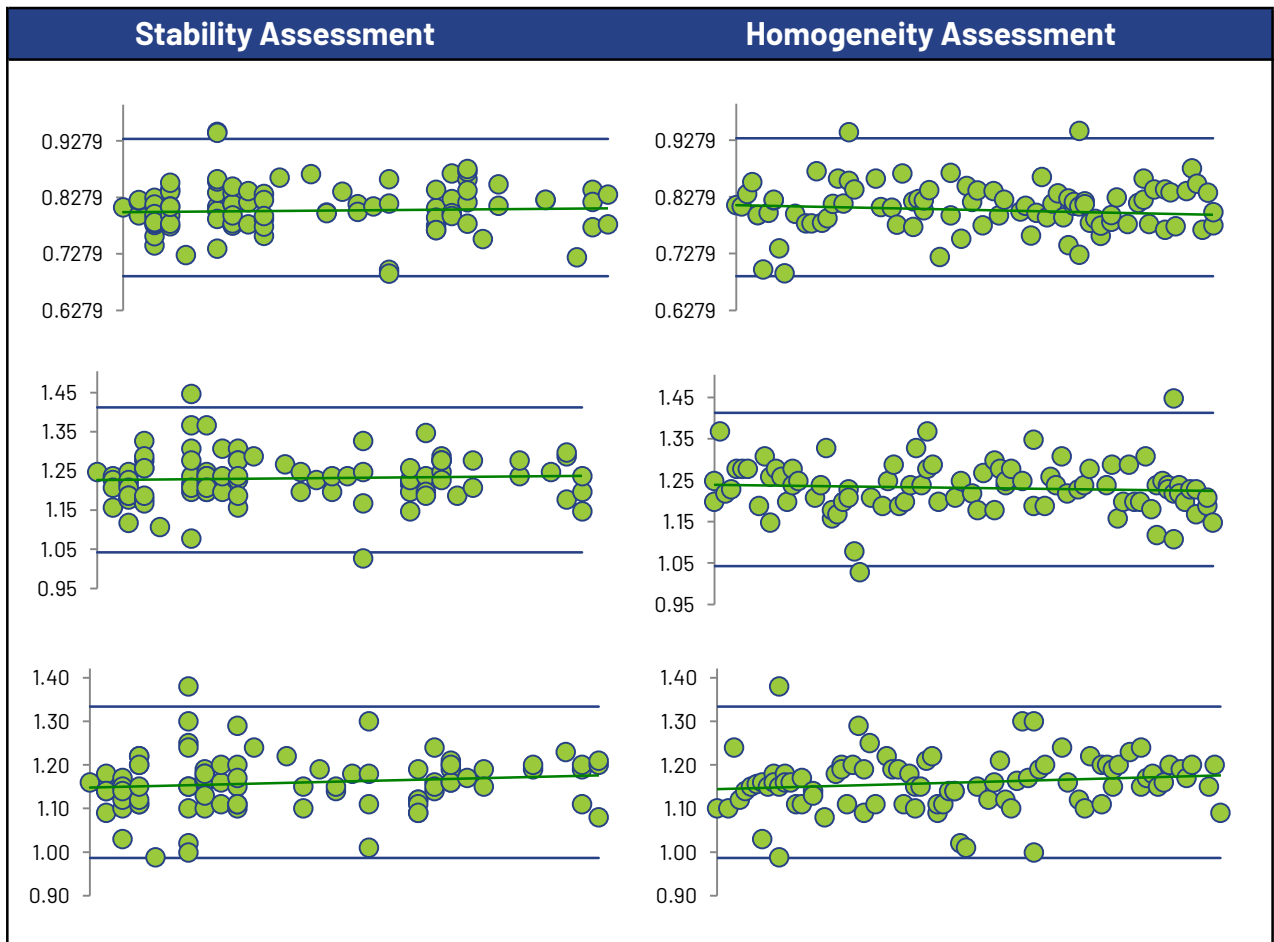
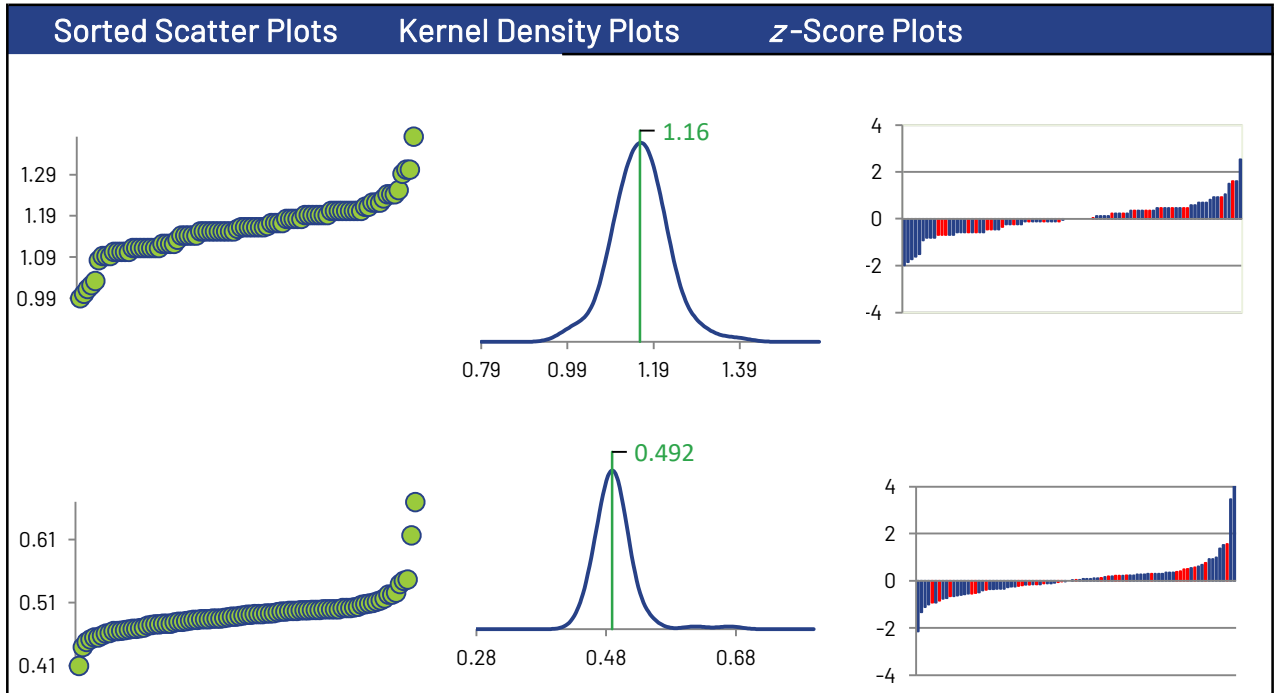
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	61	62	62	61
ICP/OES (Red)	28	28	28	28

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

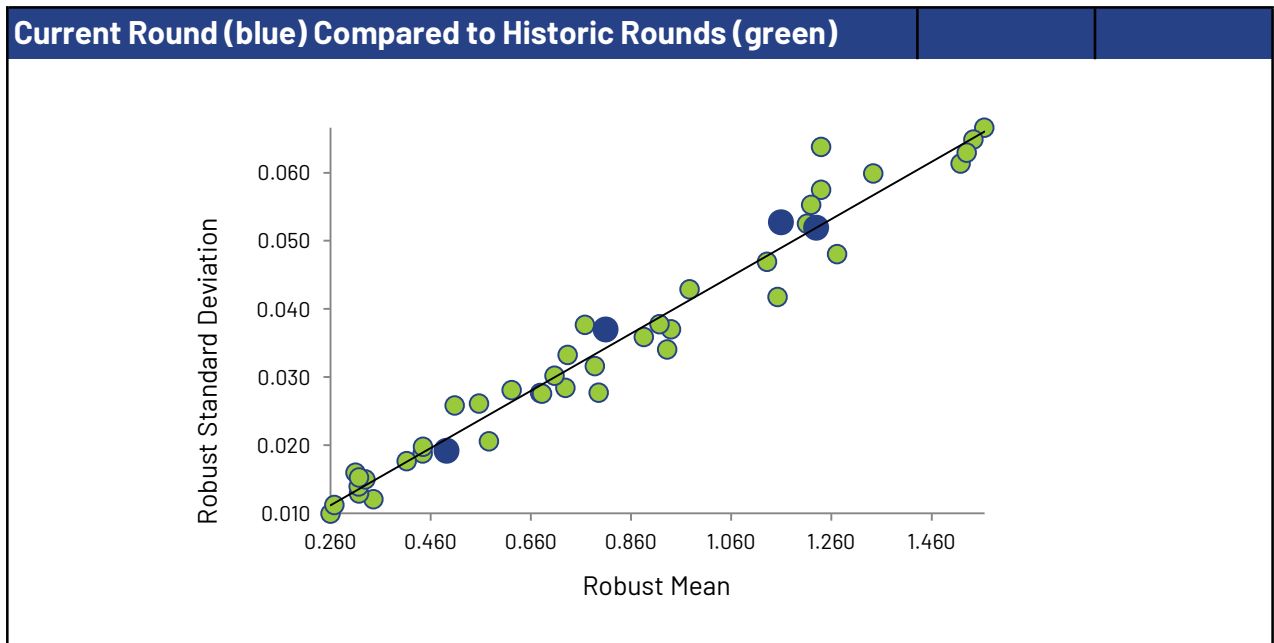
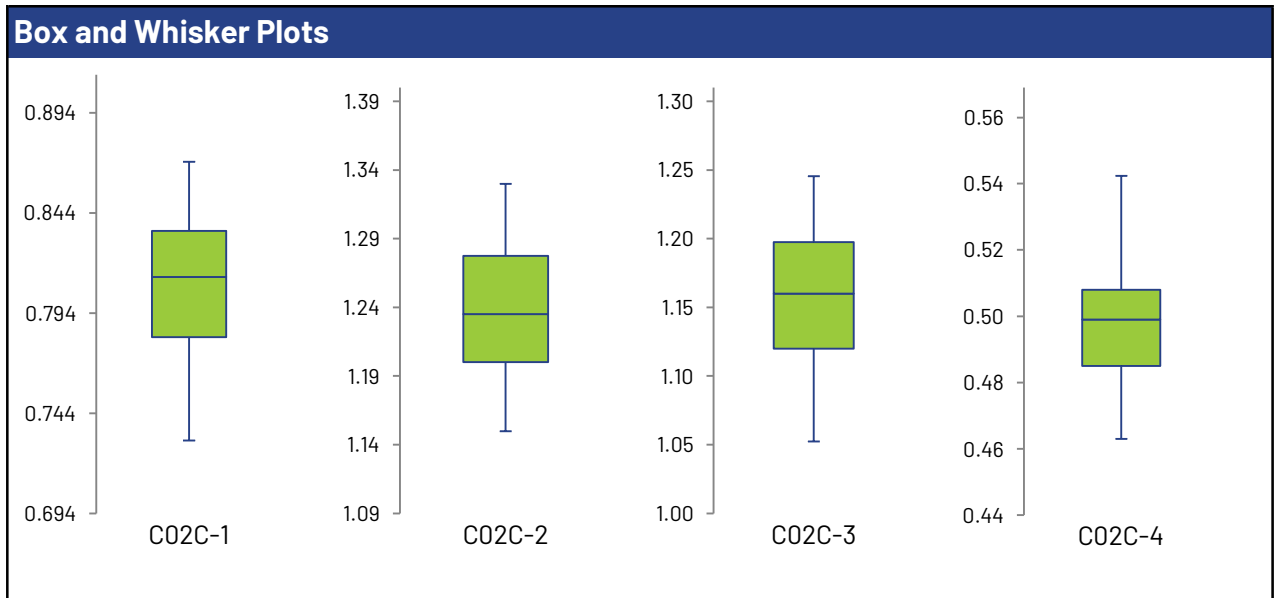
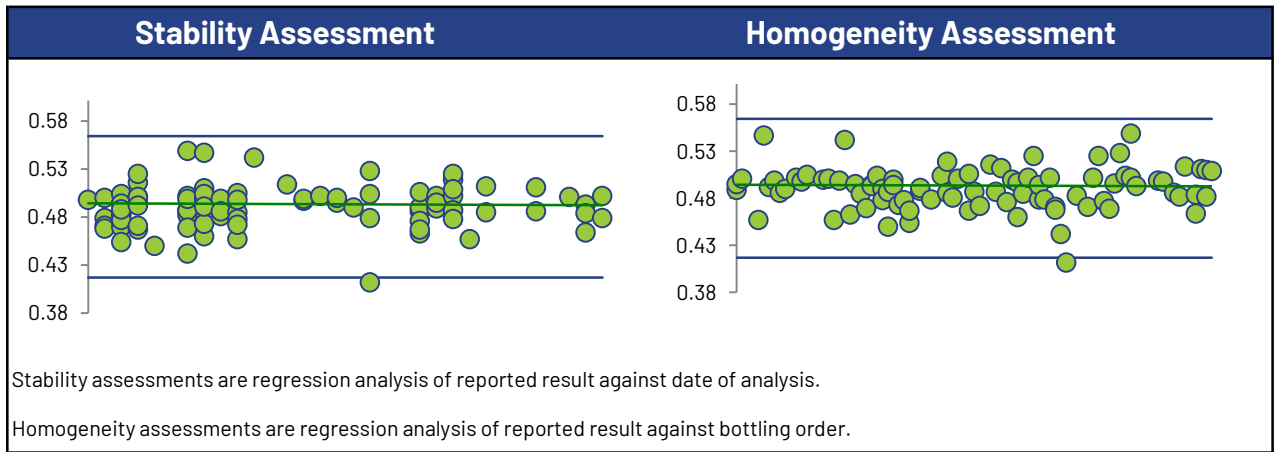


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Chromium



Chromium



Cobalt

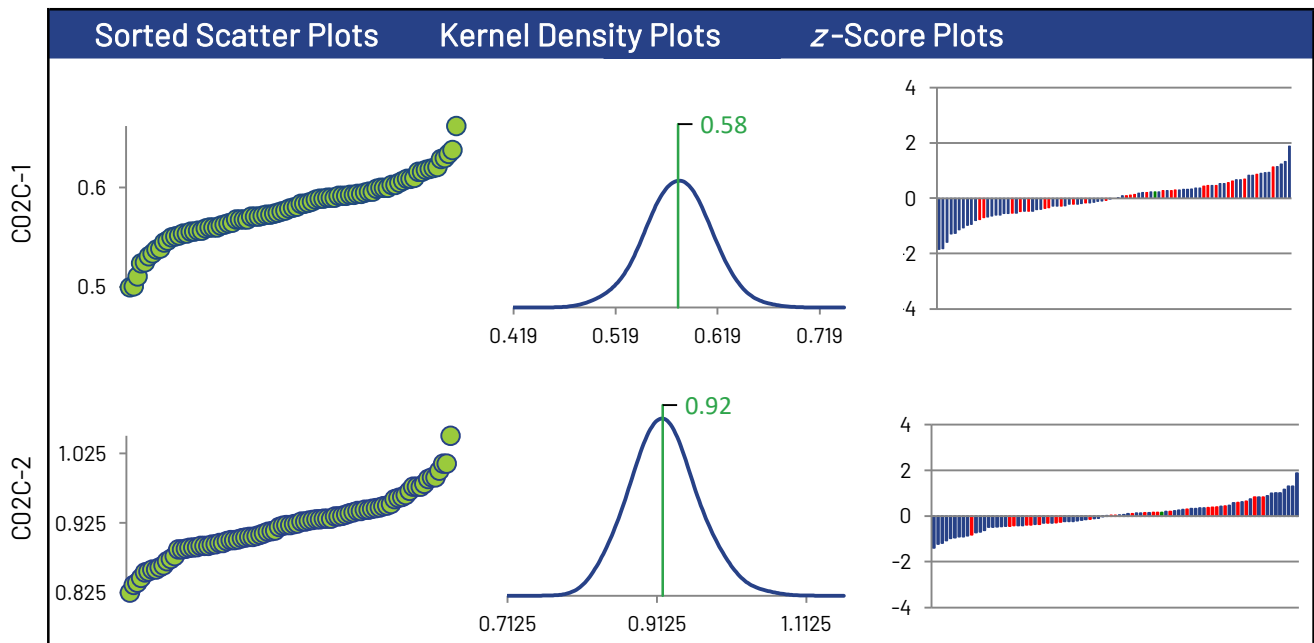
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	87	87	87	86
Median mg/L	0.580	0.922	1.48	0.321
Robust Mean mg/L	0.580	0.920	1.48	0.319
Uncertainty of the Assigned Value mg/L	0.00389	0.00567	0.00879	0.00206
Robust Standard Deviation mg/L	0.0290	0.0423	0.0656	0.0153
Regression Standard Deviation mg/L	0.0435	0.0690	0.111	0.0239
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0435	0.0690	0.111	0.0239
Flagged Outliers	0	0	0	1
$ z > 3.0$	0	0	0	0
$2 < z < 3$	0	0	1	0
Failure Rate %*	1.1			

Methods Used

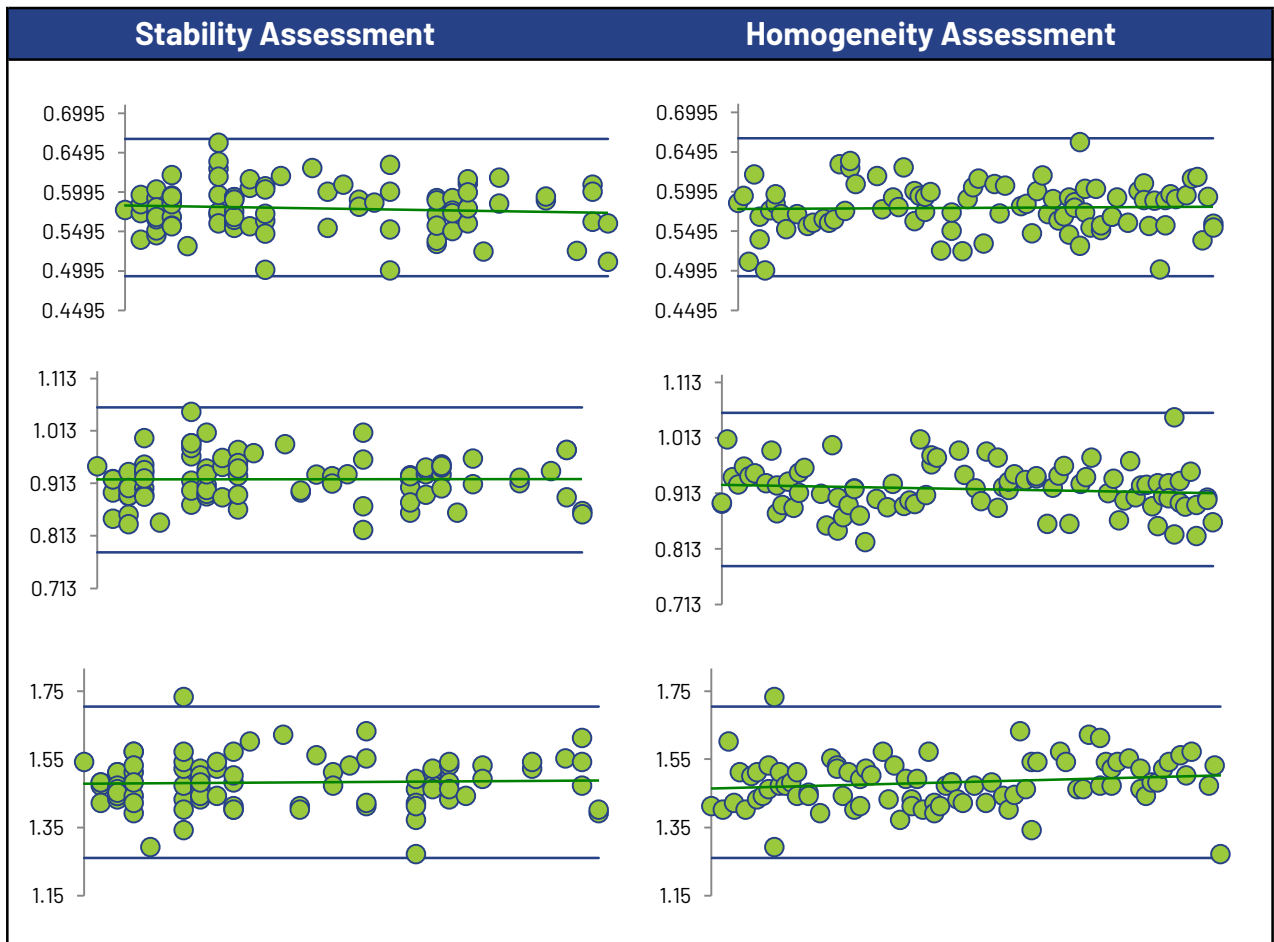
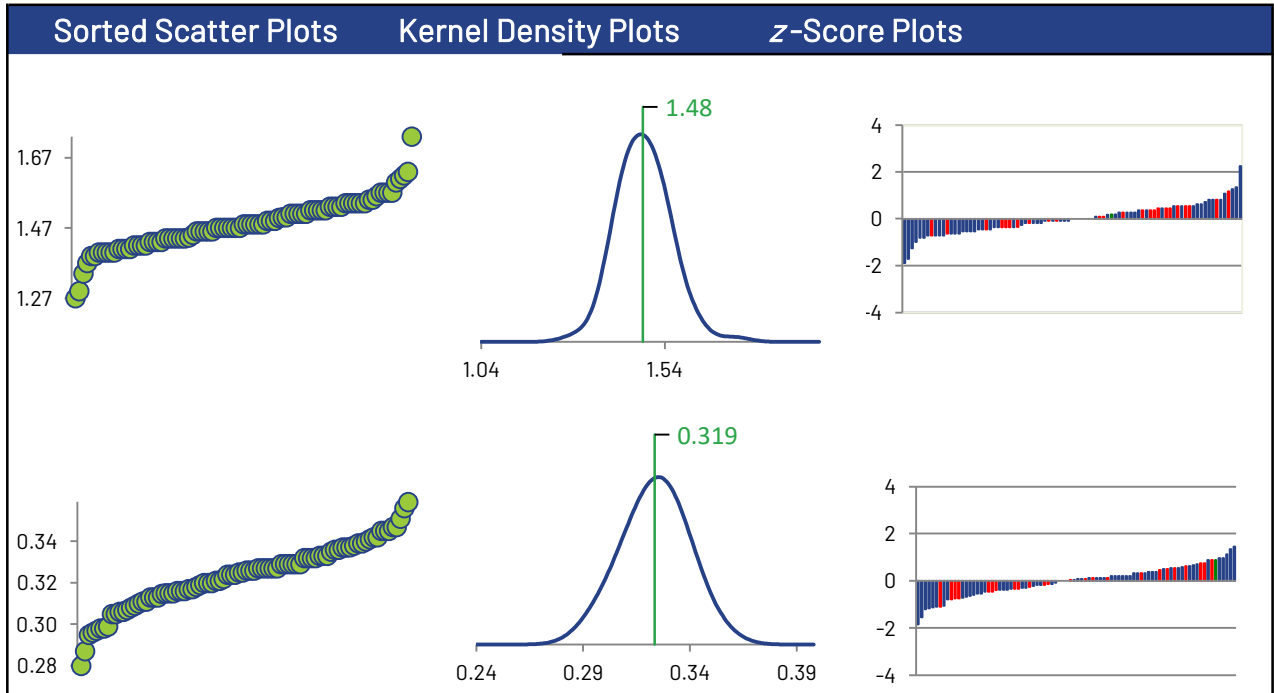
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	60	60	60	59
ICP/OES (Red)	26	26	26	26
AA FLAME (Green)	1	1	1	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

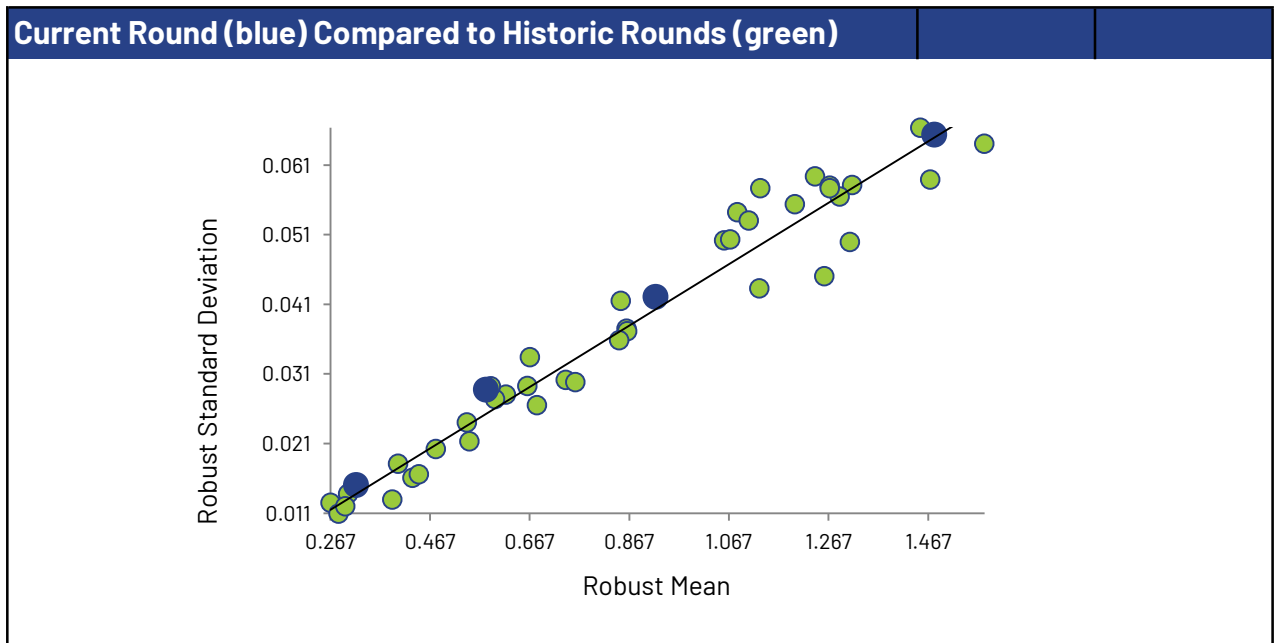
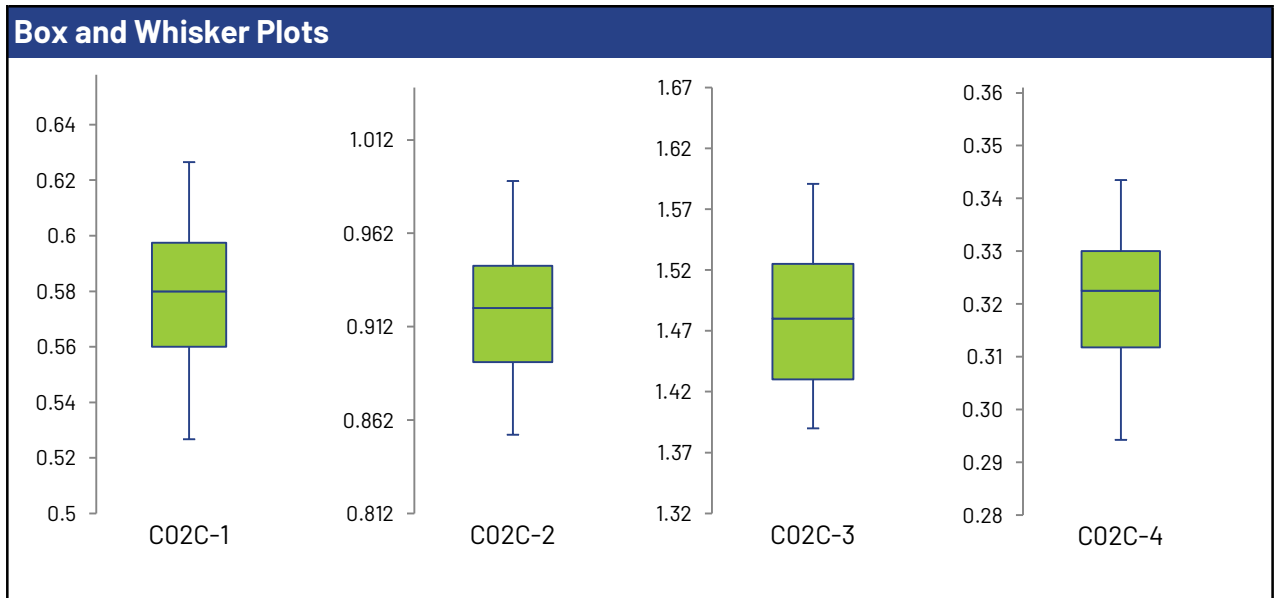
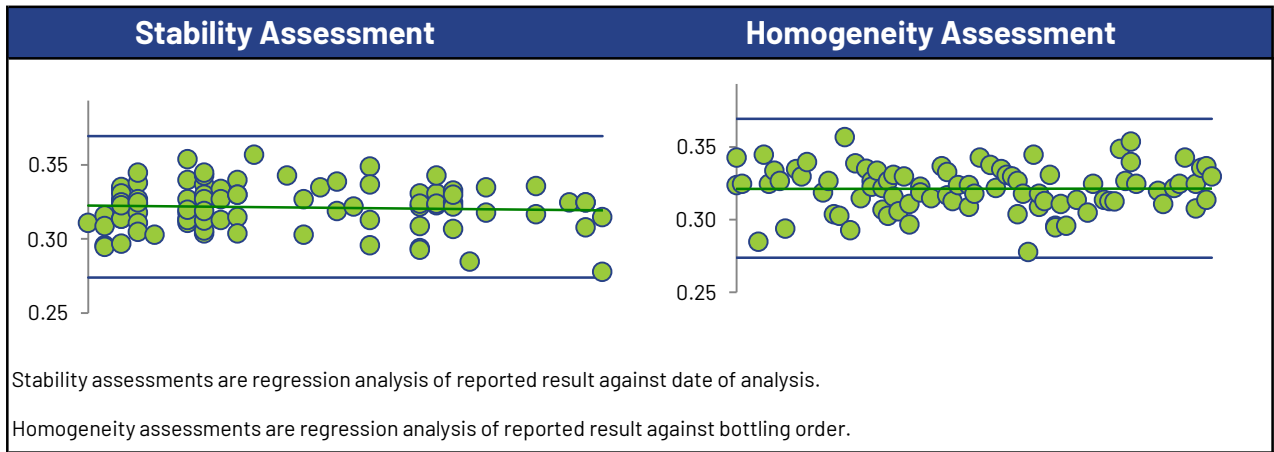


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Cobalt



Cobalt



Copper

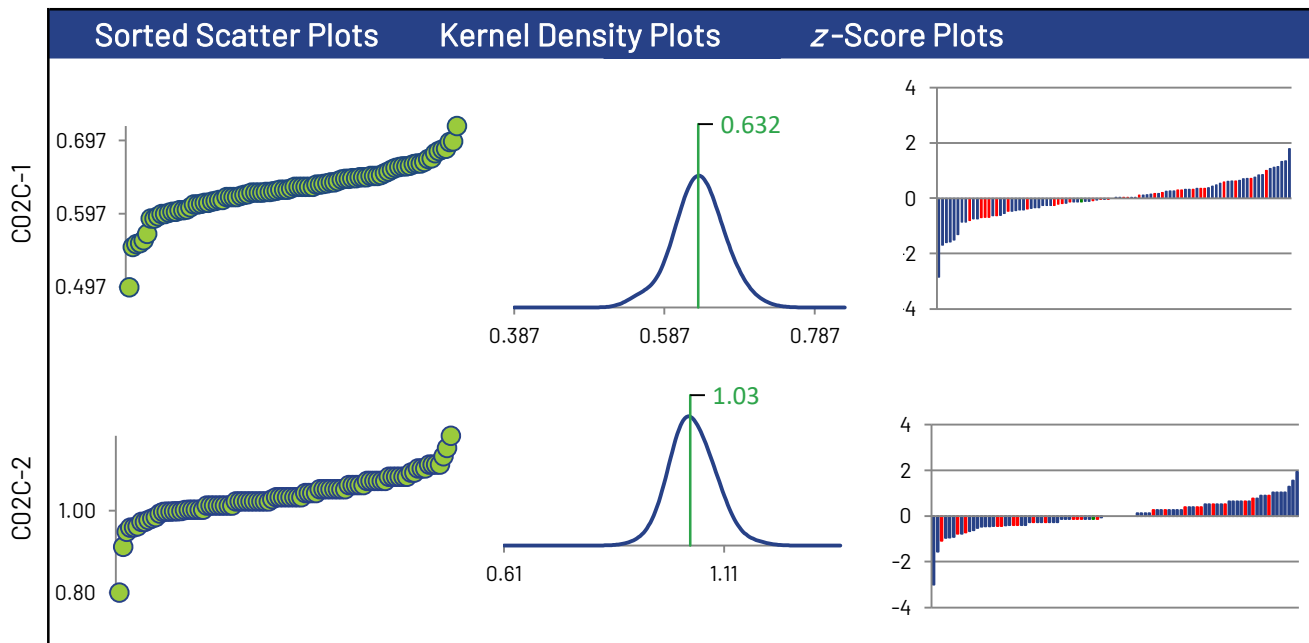
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	92	92	92	92
Median mg/L	0.633	1.03	1.32	0.550
Robust Mean mg/L	0.632	1.03	1.32	0.548
Uncertainty of the Assigned Value mg/L	0.00379	0.00598	0.00778	0.00334
Robust Standard Deviation mg/L	0.0291	0.0459	0.0597	0.0256
Regression Standard Deviation mg/L	0.0474	0.0776	0.0993	0.0411
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0474	0.0776	0.0993	0.0411
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	2
$2 < z < 3$	1	1	3	0
Failure Rate %*	2.2			

Methods Used

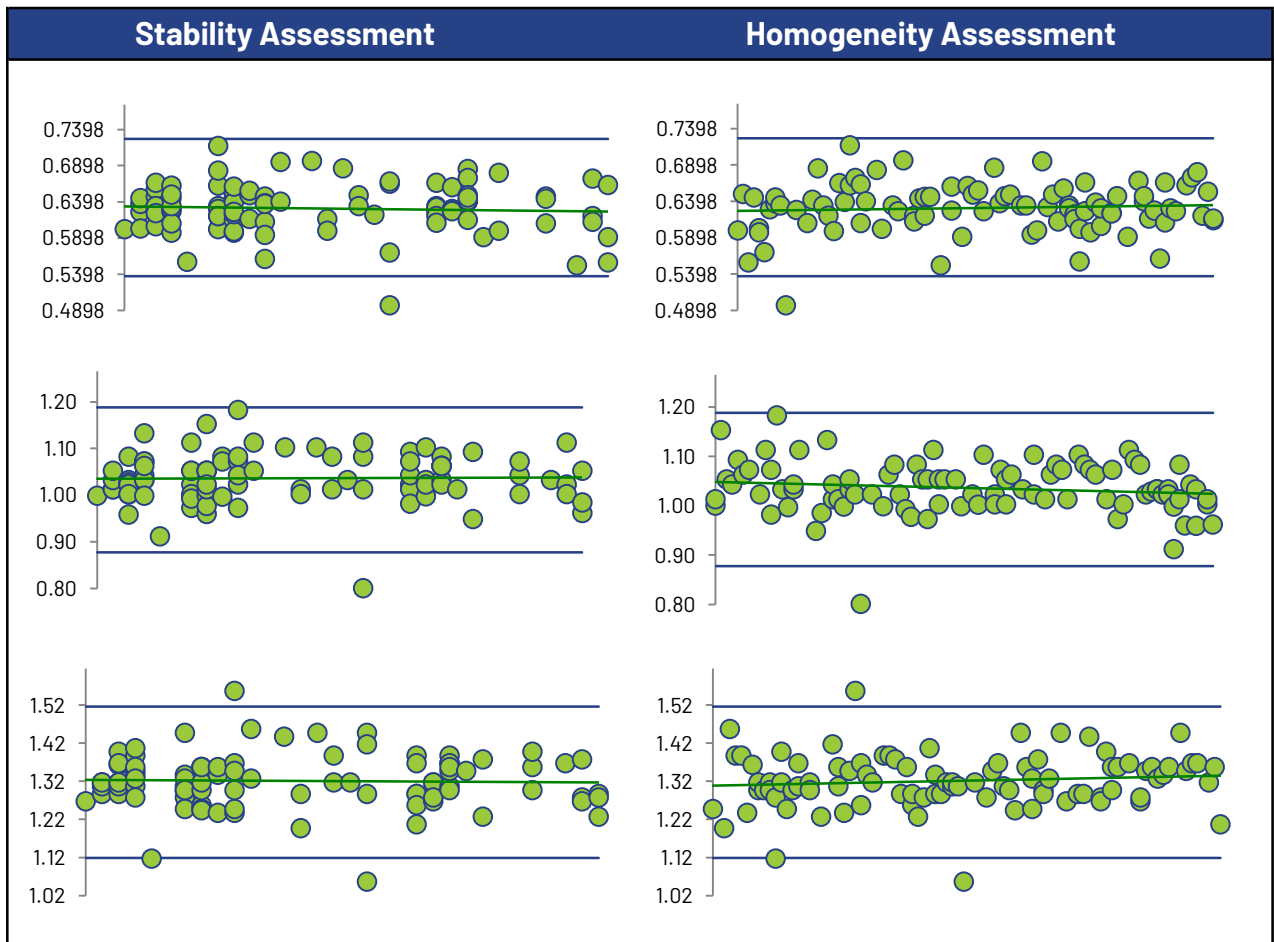
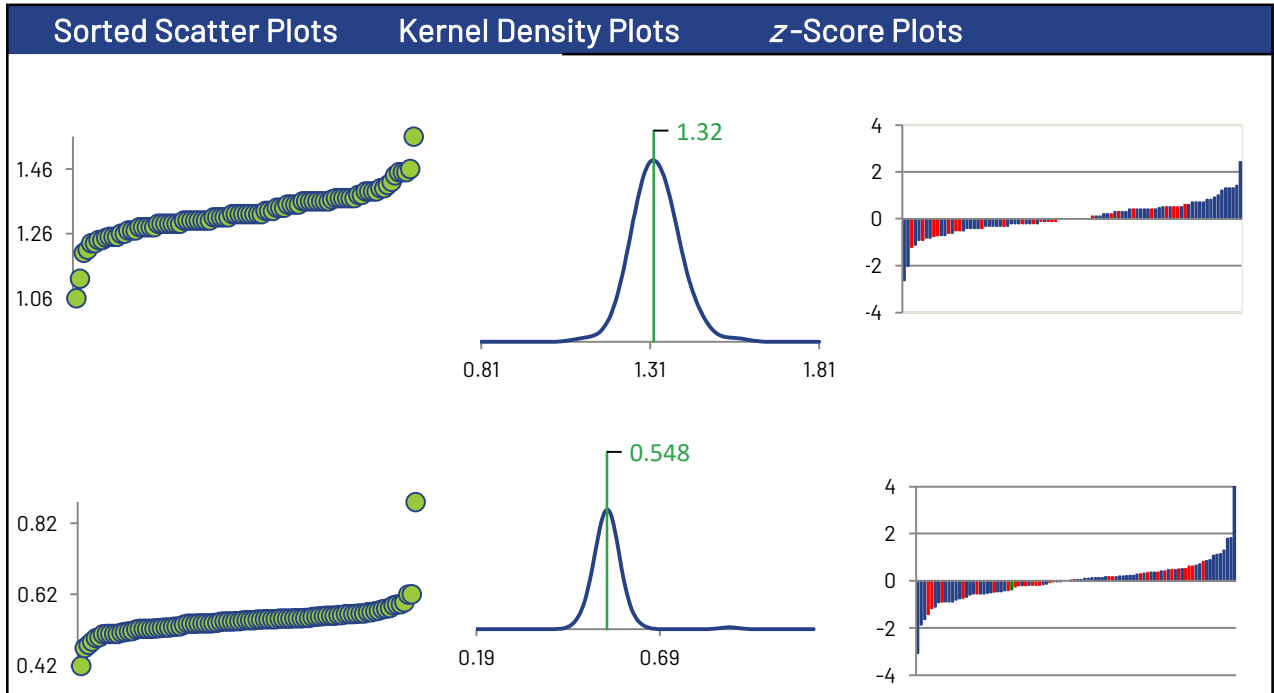
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	63	63	63	63
ICP/OES (Red)	28	28	28	28
AA FLAME (Green)	1	1	1	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

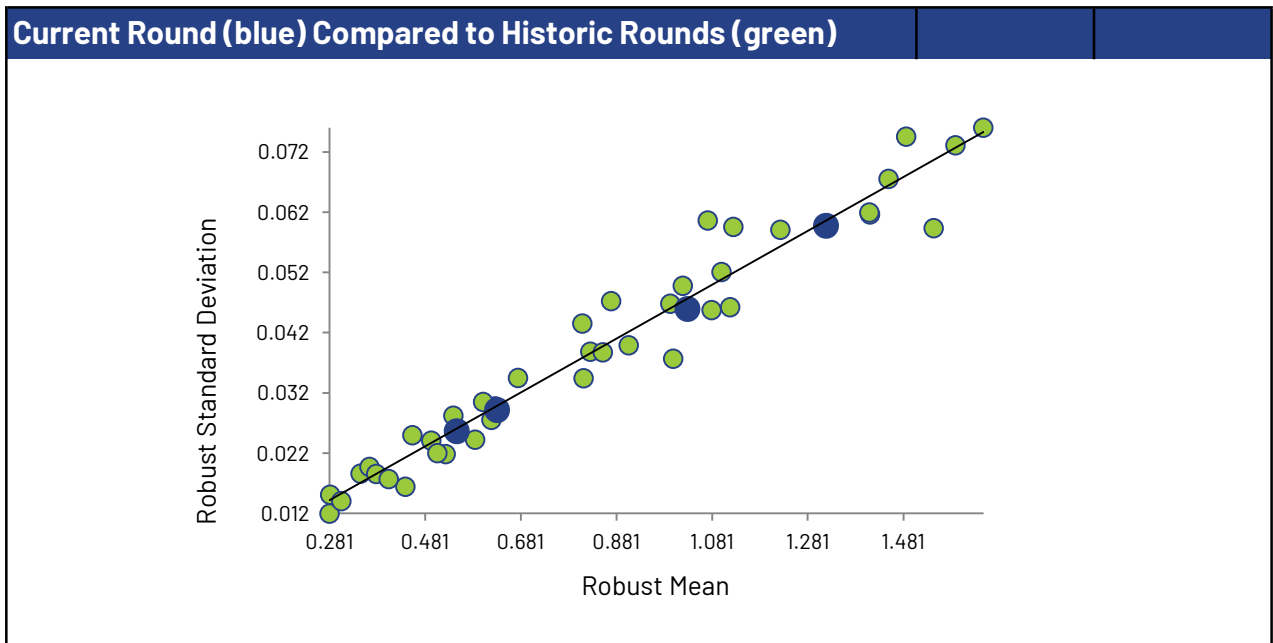
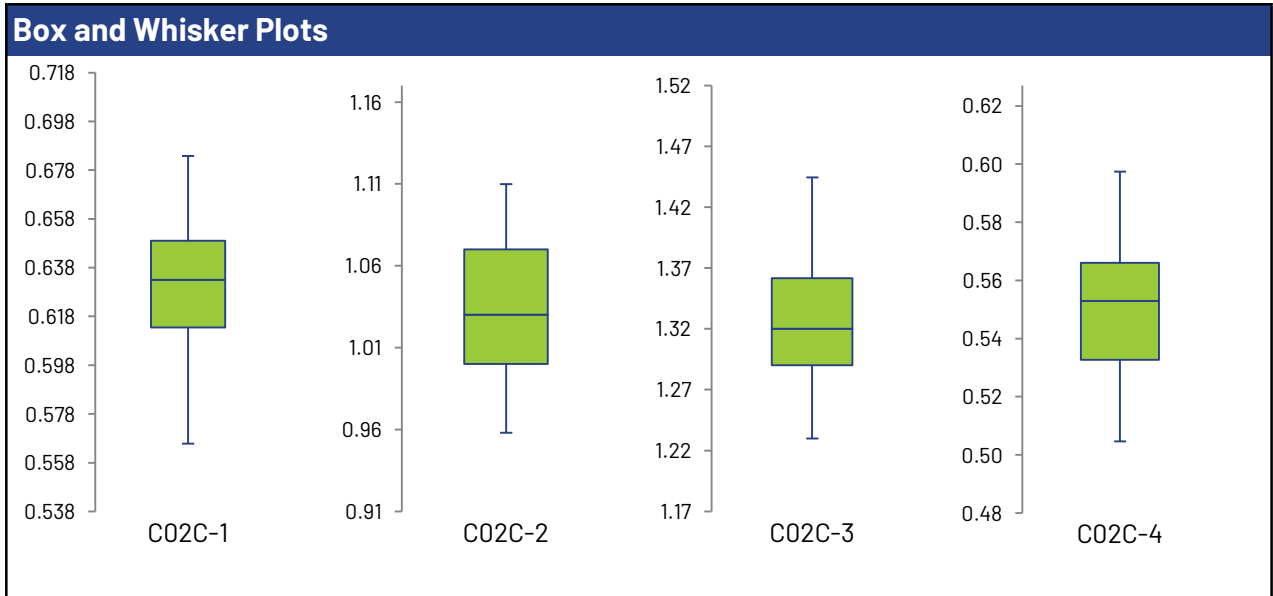
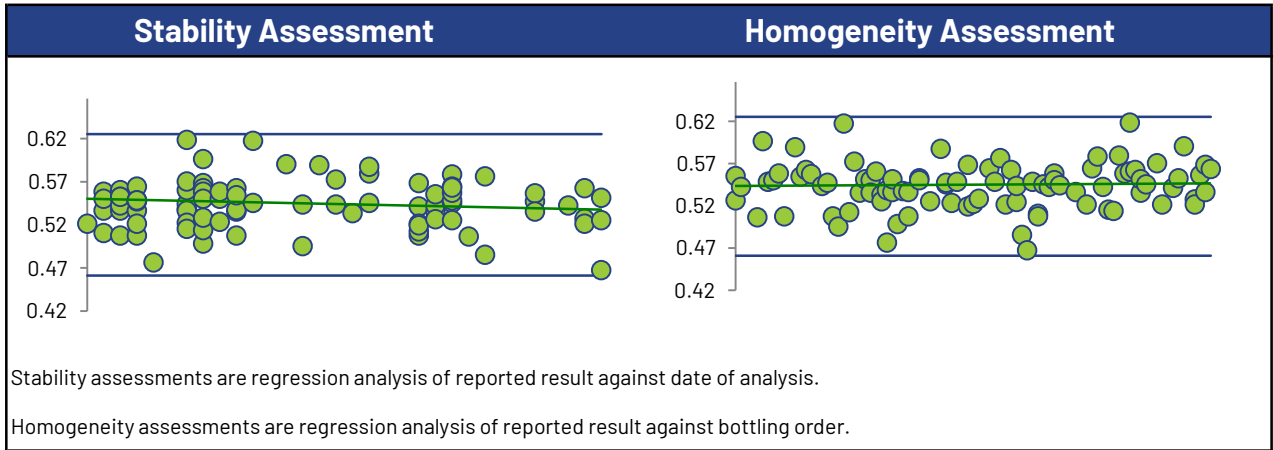


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Copper



Copper



Iron

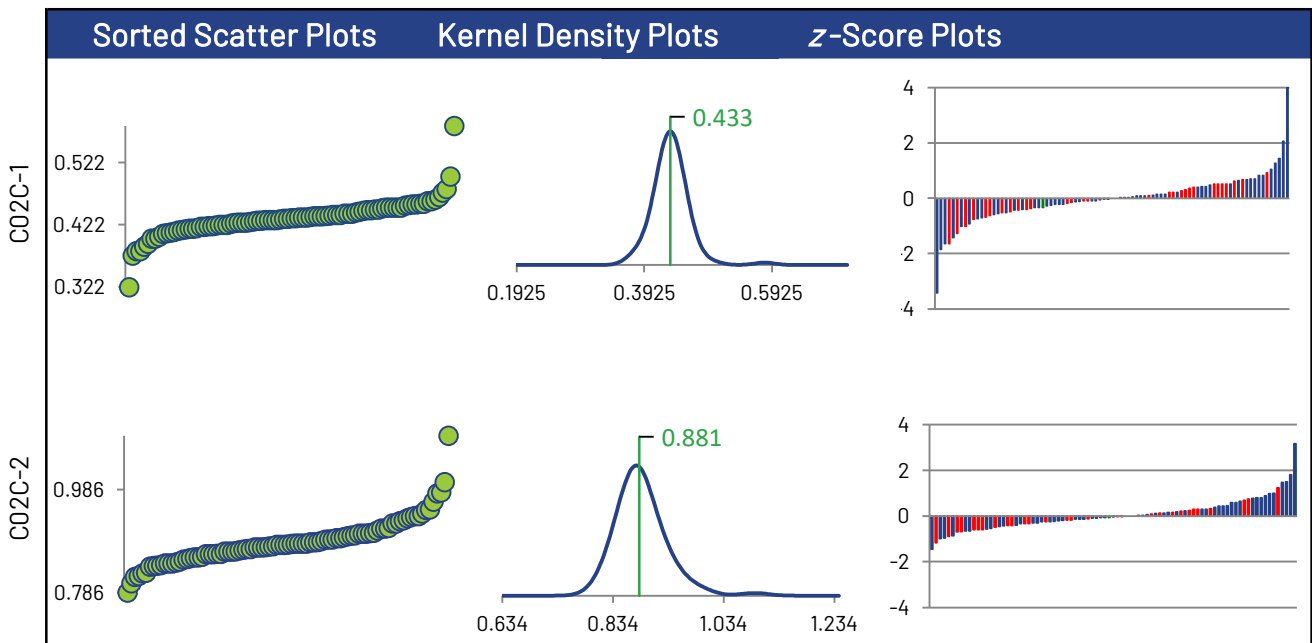
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	87	87	87	87
Median mg/L	0.433	0.879	1.19	0.577
Robust Mean mg/L	0.433	0.881	1.19	0.577
Uncertainty of the Assigned Value mg/L	0.00268	0.00490	0.00693	0.00307
Robust Standard Deviation mg/L	0.0200	0.0366	0.0517	0.0229
Regression Standard Deviation mg/L	0.0324	0.0661	0.0896	0.0433
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0324	0.0661	0.0896	0.0433
Flagged Outliers	0	0	0	0
$ z > 3.0$	2	1	0	1
$2 < z < 3$	1	0	2	3
Failure Rate %*	2.3			

Methods Used

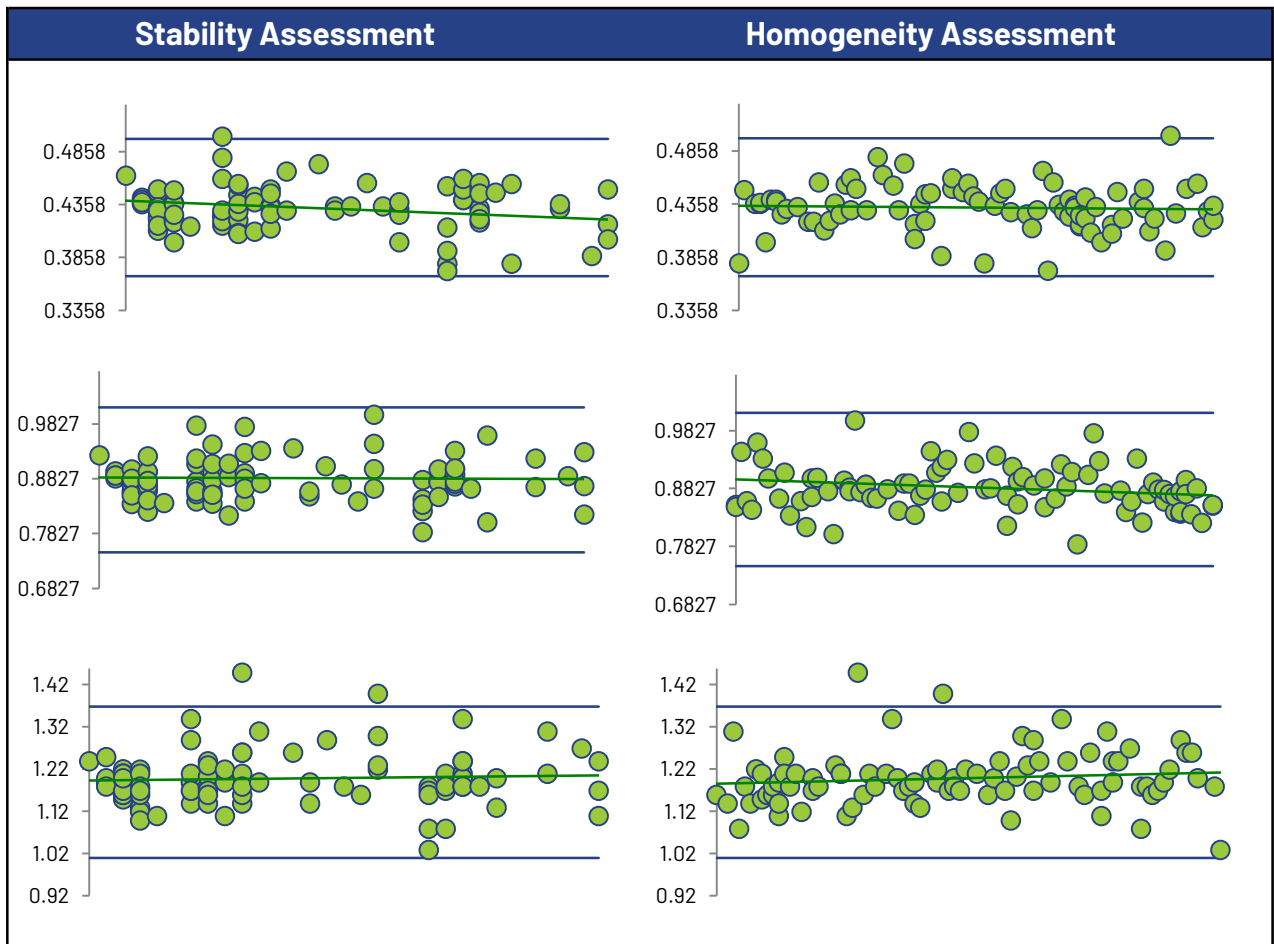
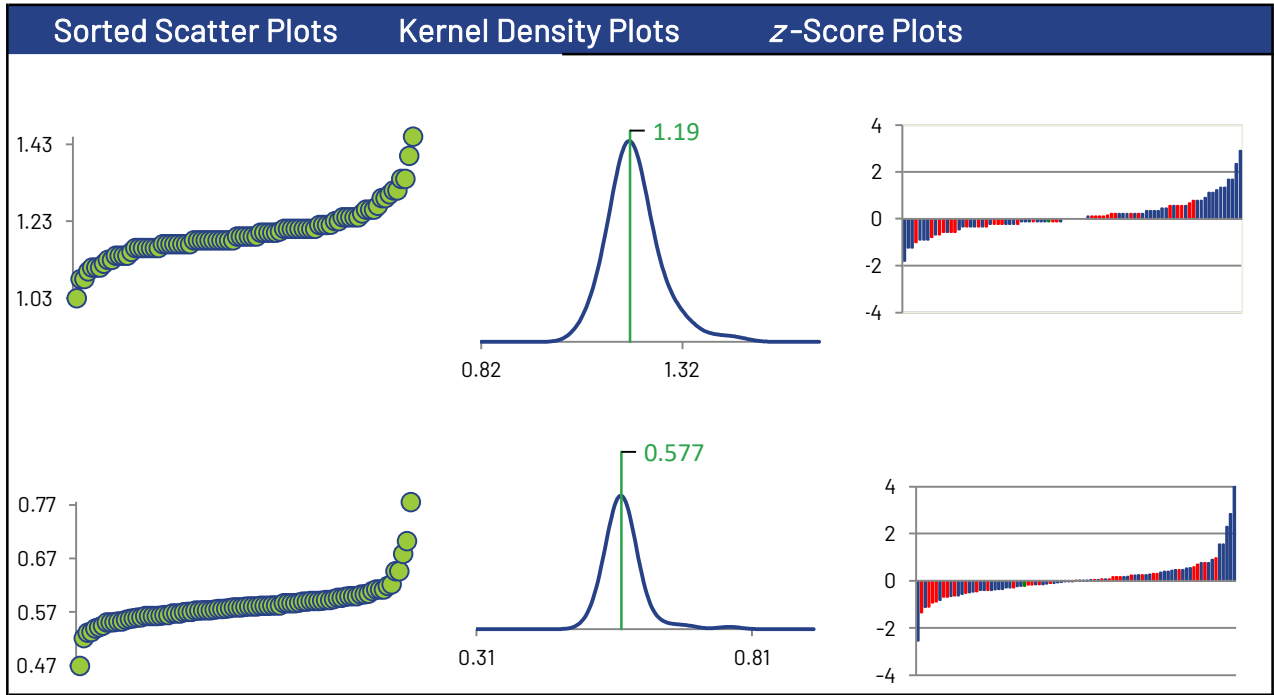
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	55	55	55	55
ICP/OES (Red)	31	31	31	31
COLORIMETRIC (Green)	1	1	1	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

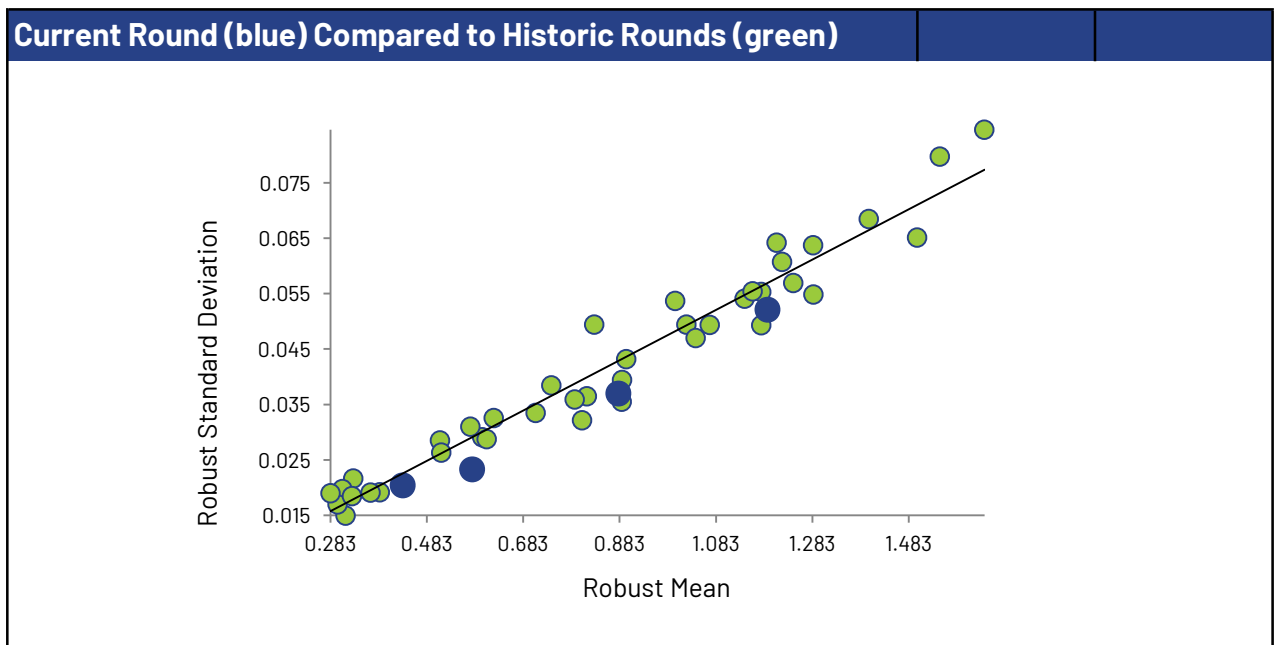
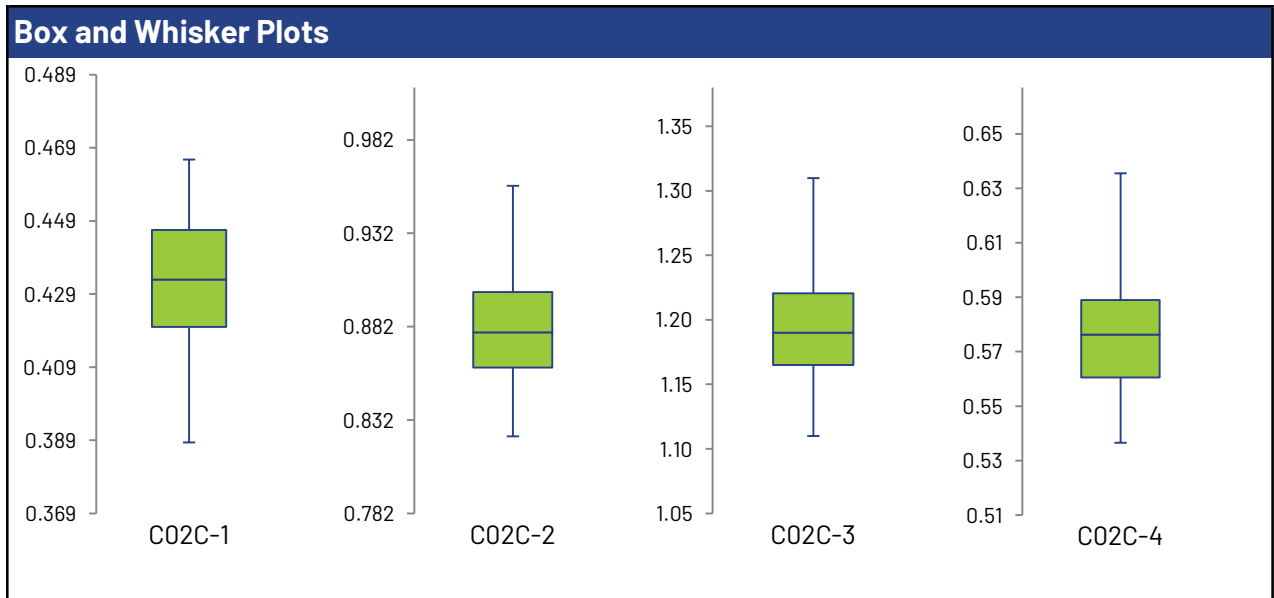
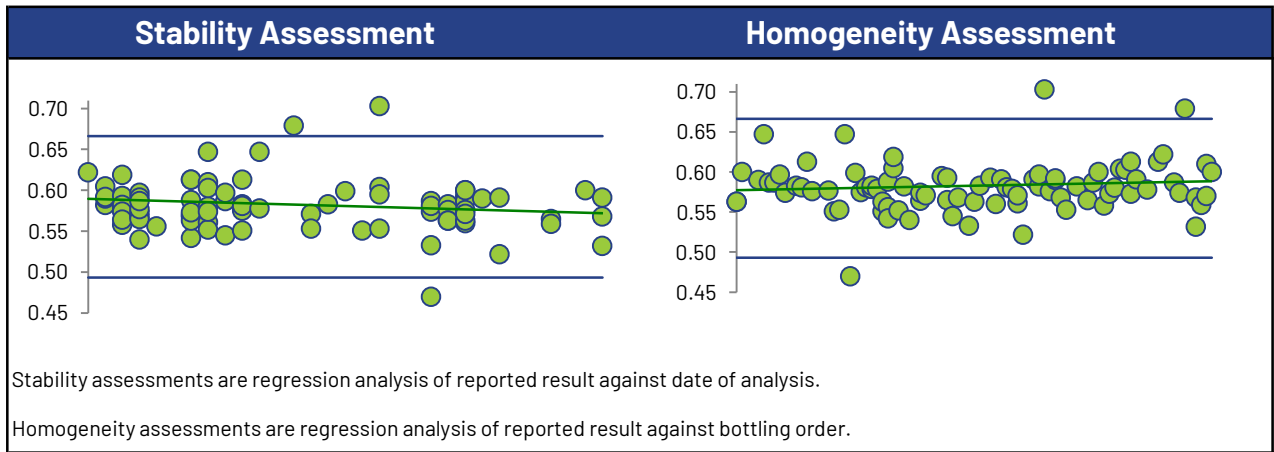


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Iron



Iron



Lead

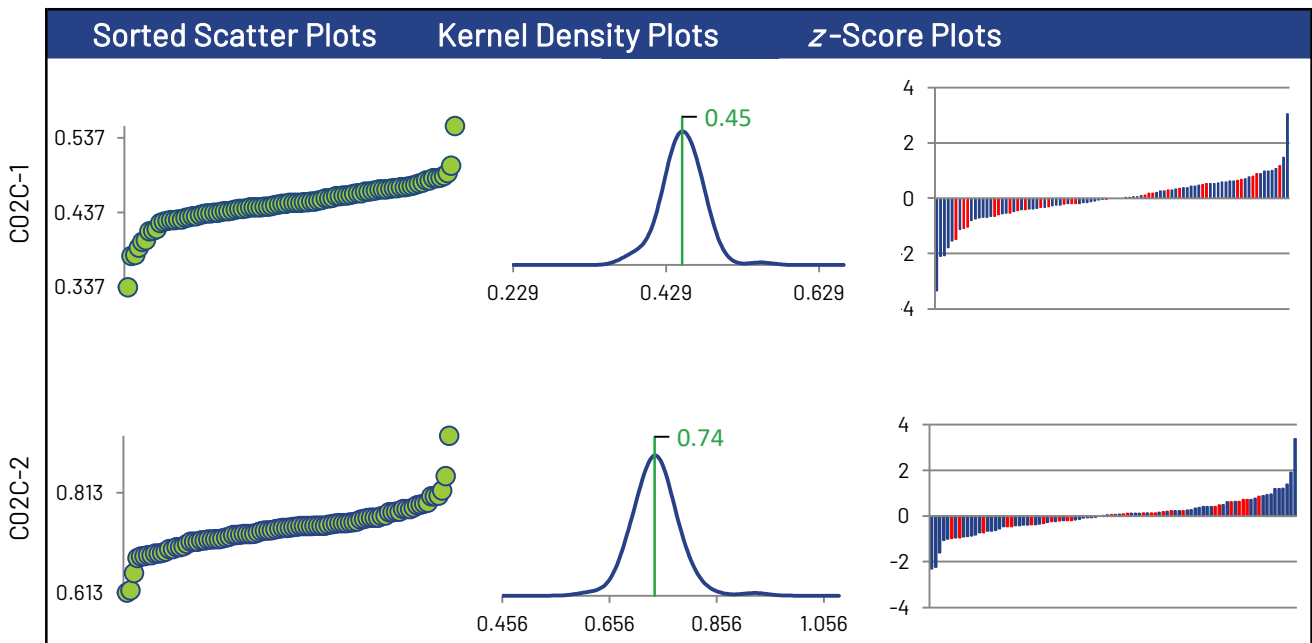
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	92	92	92	92
Median mg/L	0.450	0.743	1.33	0.340
Robust Mean mg/L	0.450	0.740	1.33	0.341
Uncertainty of the Assigned Value mg/L	0.00292	0.00467	0.00747	0.00209
Robust Standard Deviation mg/L	0.0224	0.0358	0.0573	0.0160
Regression Standard Deviation mg/L	0.0338	0.0555	0.0999	0.0255
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0338	0.0555	0.0999	0.0255
Flagged Outliers	0	0	0	0
$ z > 3.0$	2	1	1	1
$2 < z < 3$	2	2	1	1
Failure Rate %*	3.3			

Methods Used

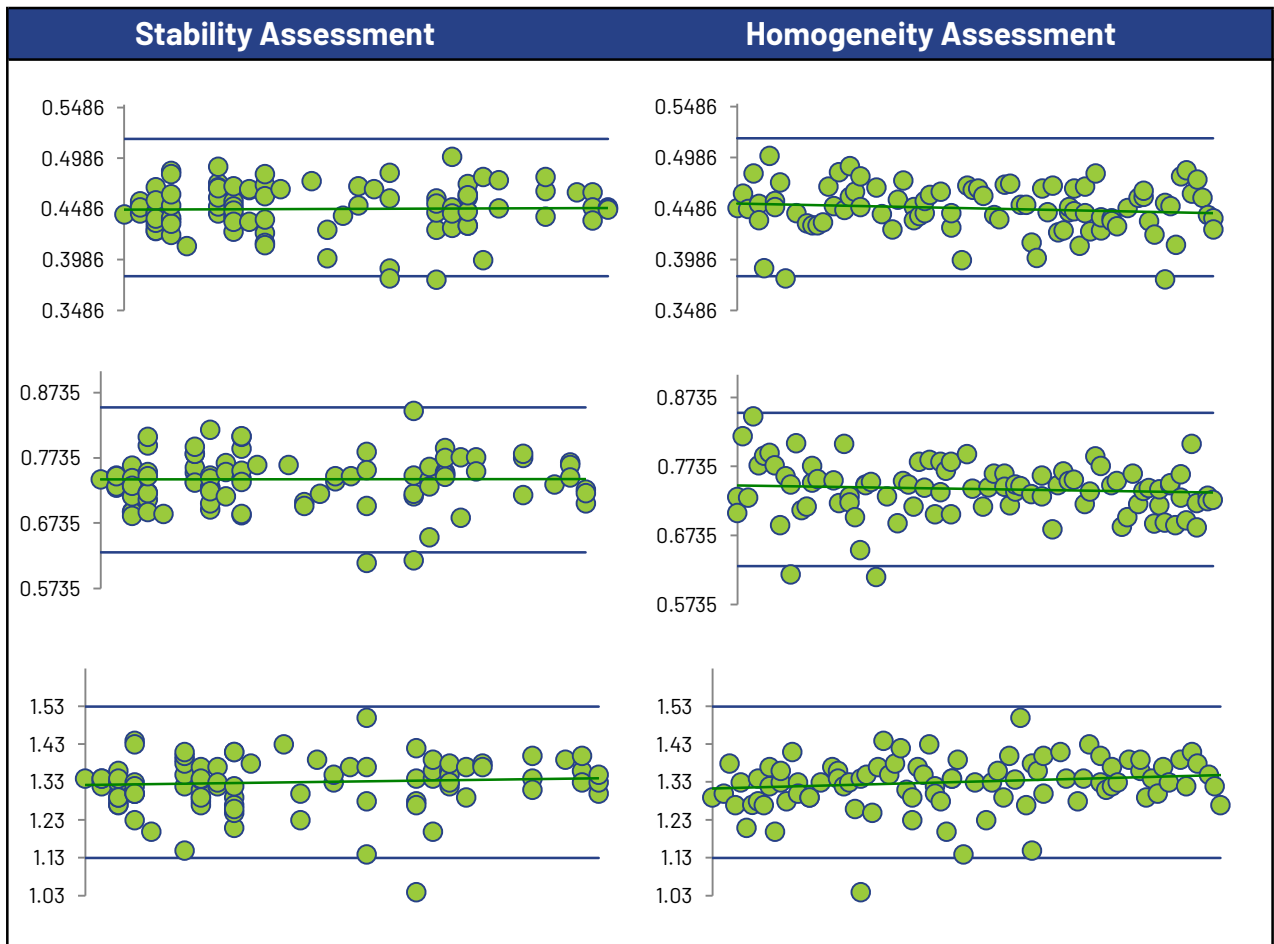
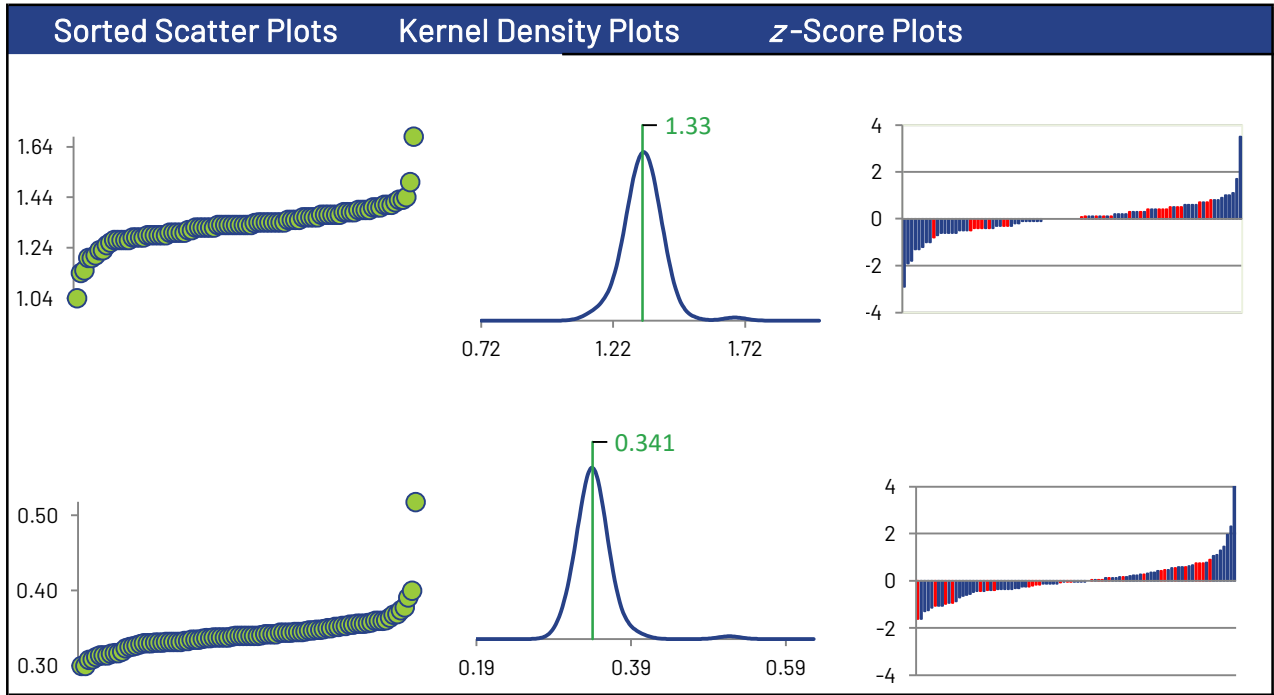
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	63	63	63	63
ICP/OES (Red)	29	29	29	29

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

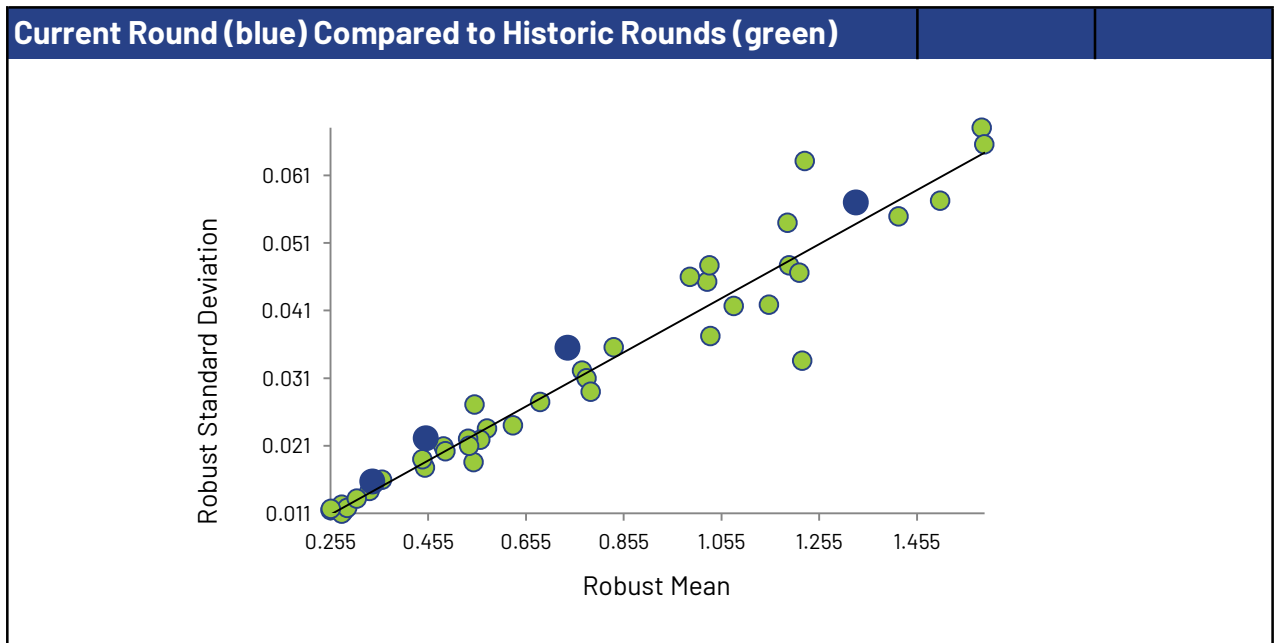
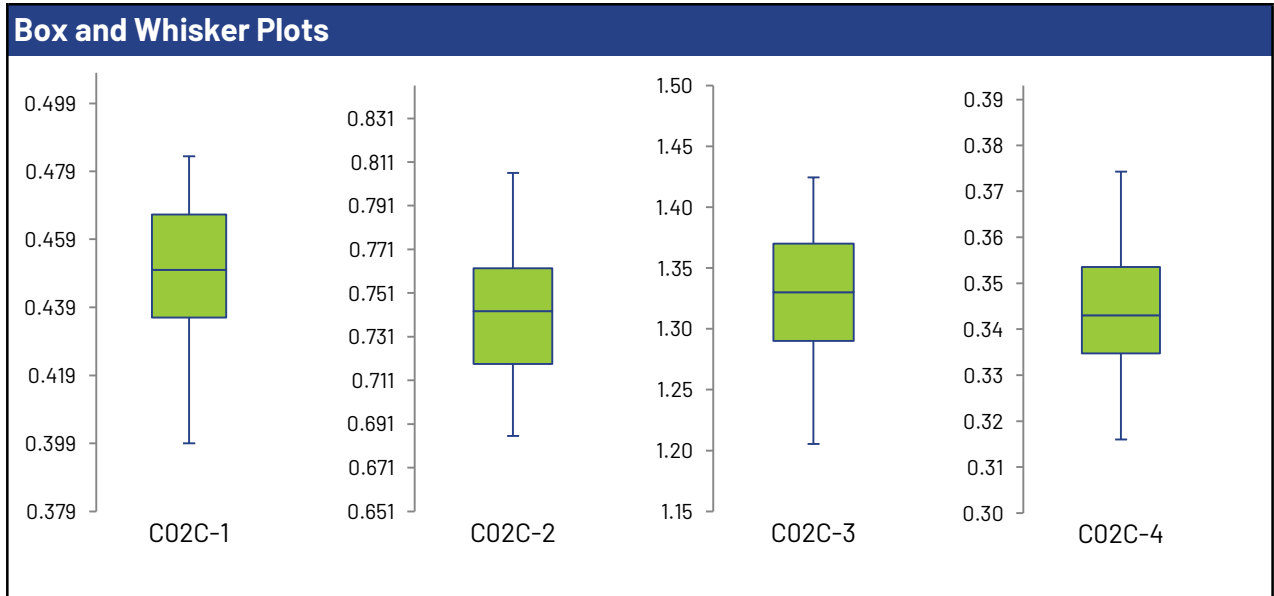
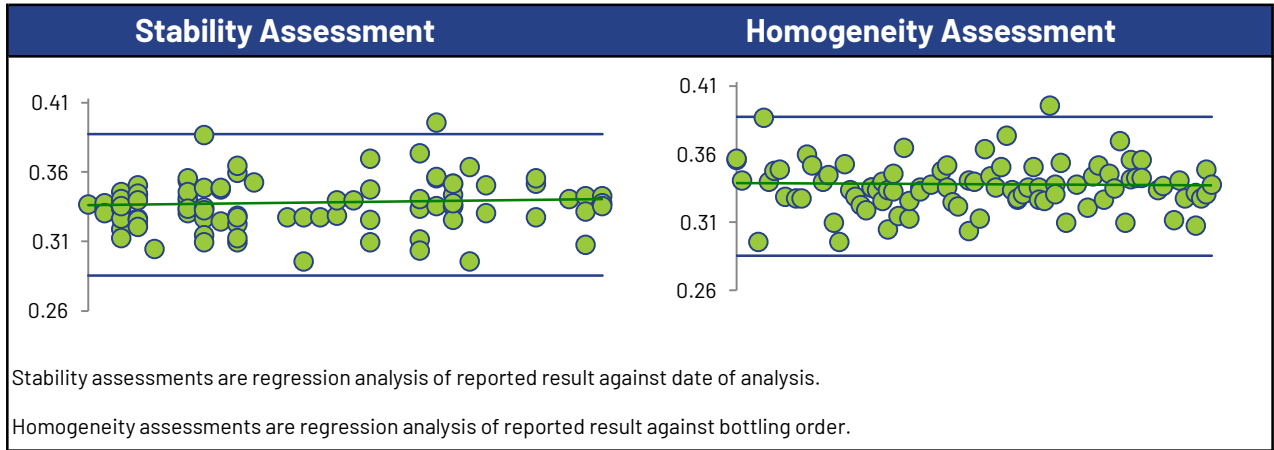


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Lead



Lead



Lithium

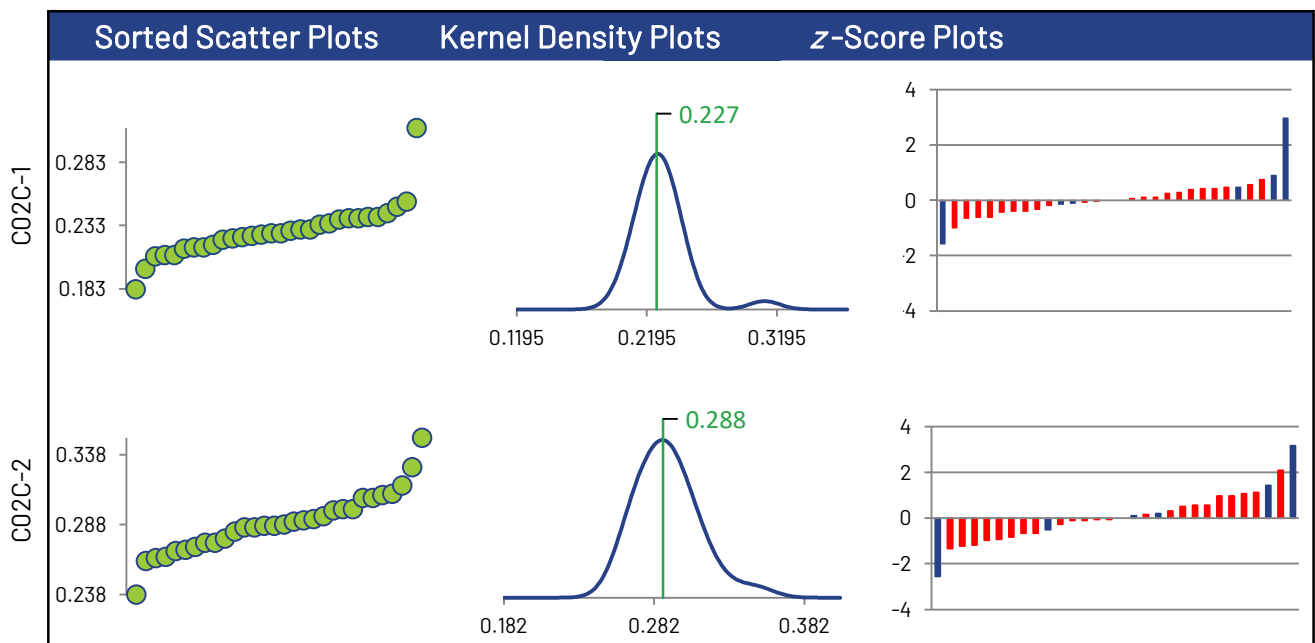
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	30	30	30	30
Median mg/L	0.227	0.288	0.392	0.0809
Robust Mean mg/L	0.227	0.288	0.392	0.0813
Uncertainty of the Assigned Value mg/L	0.00340	0.00447	0.00625	0.00108
Robust Standard Deviation mg/L	0.0149	0.0196	0.0274	0.00474
Regression Standard Deviation mg/L				
Stability Flag				
Homogeneity Flag	Homogeneity			
Standard Deviation Used (SDPA) mg/L	0.0279	0.0196	0.0274	0.00474
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	1	0	2
$2 < z < 3$	1	2	1	2
Failure Rate %*	6.7			

Methods Used

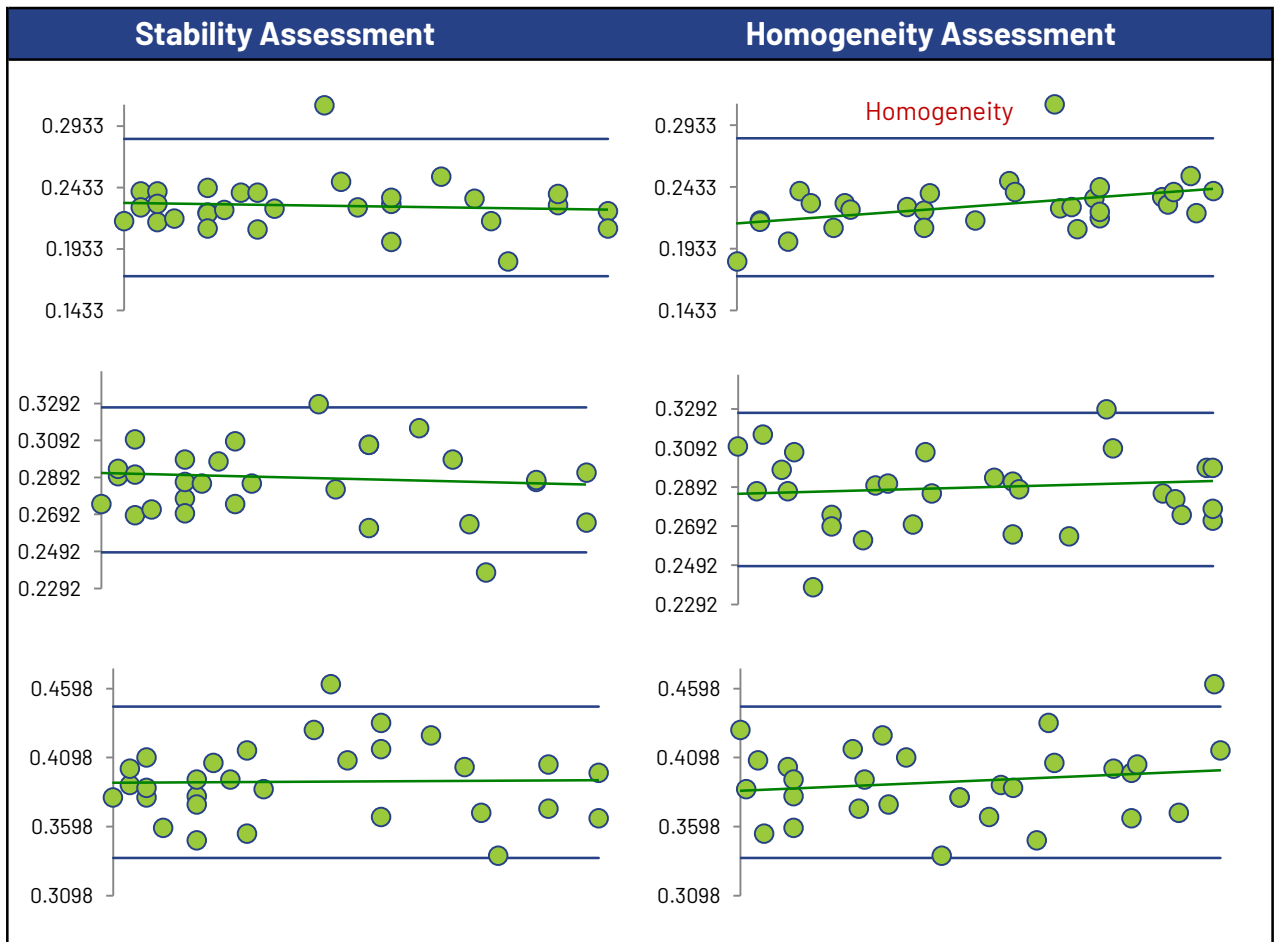
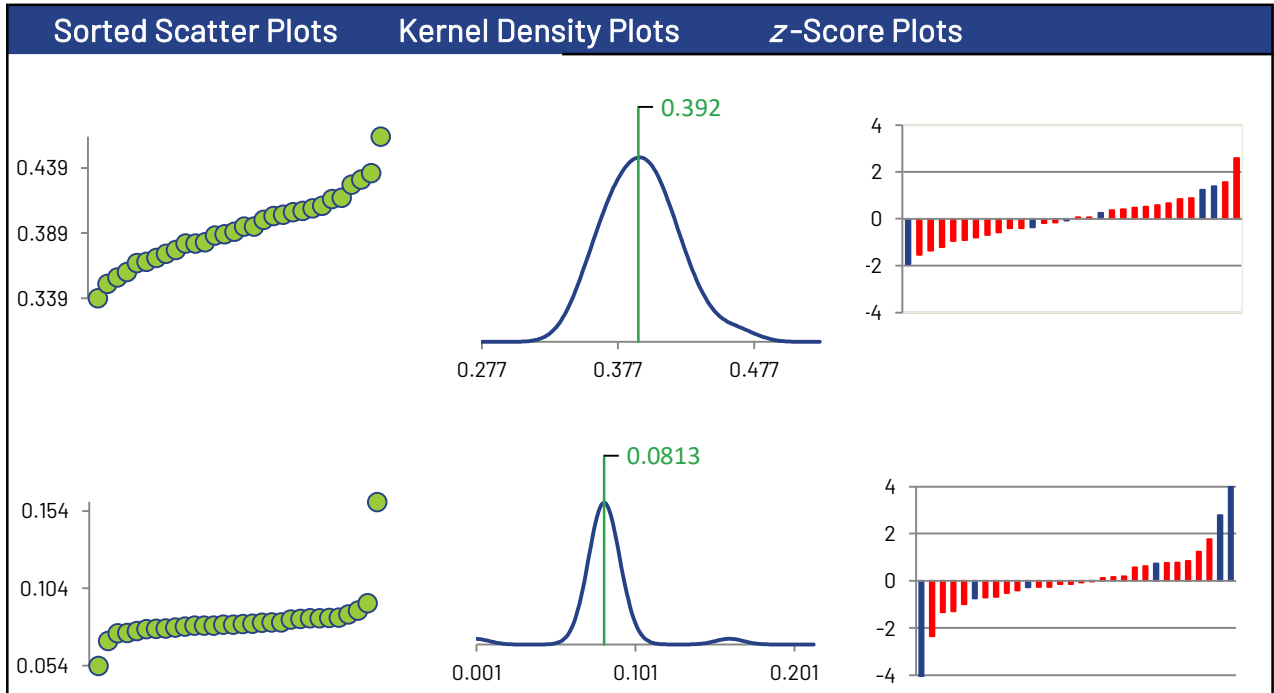
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/OES (Blue)	6	6	6	6
ICP/MS (Red)	24	24	24	24

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

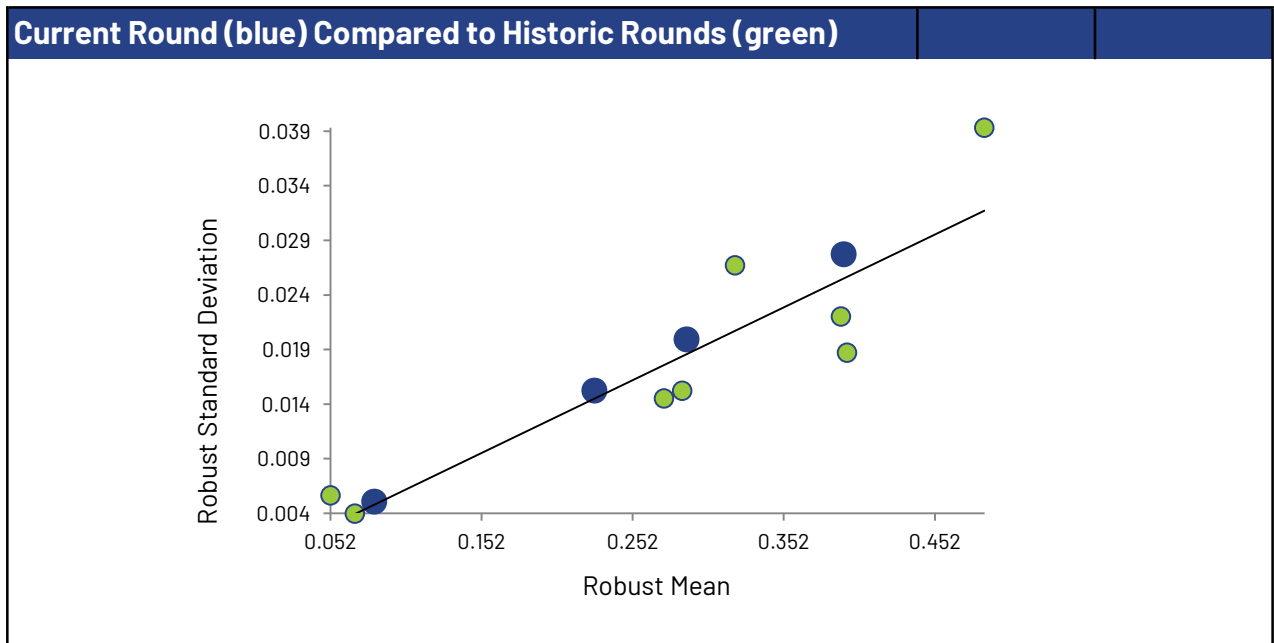
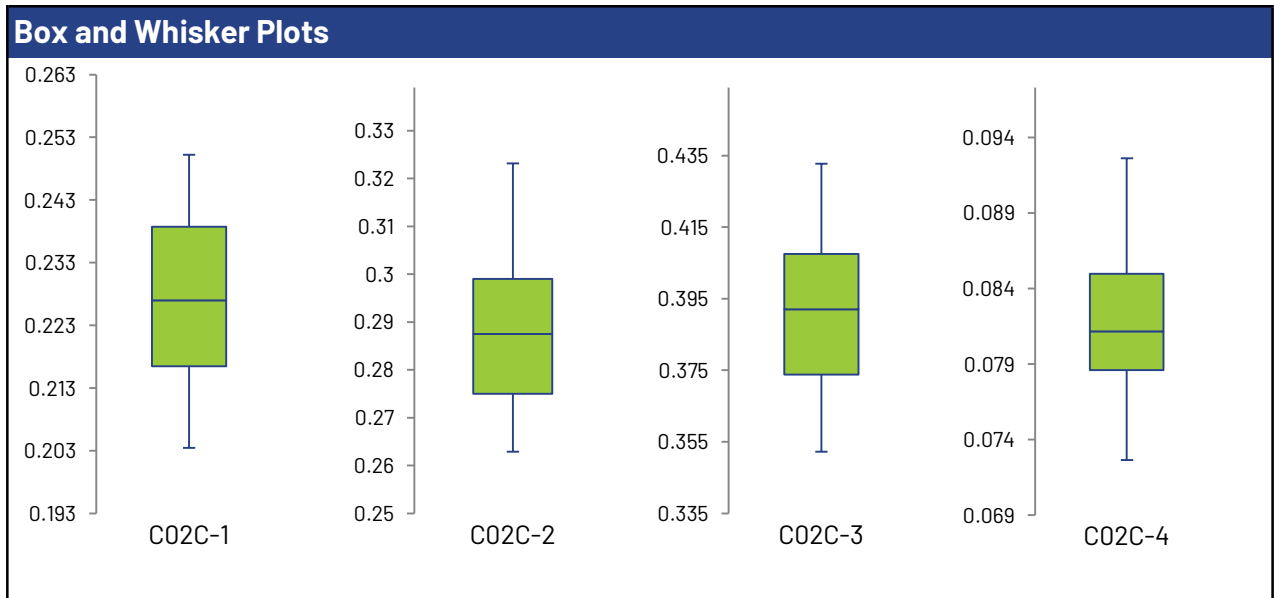
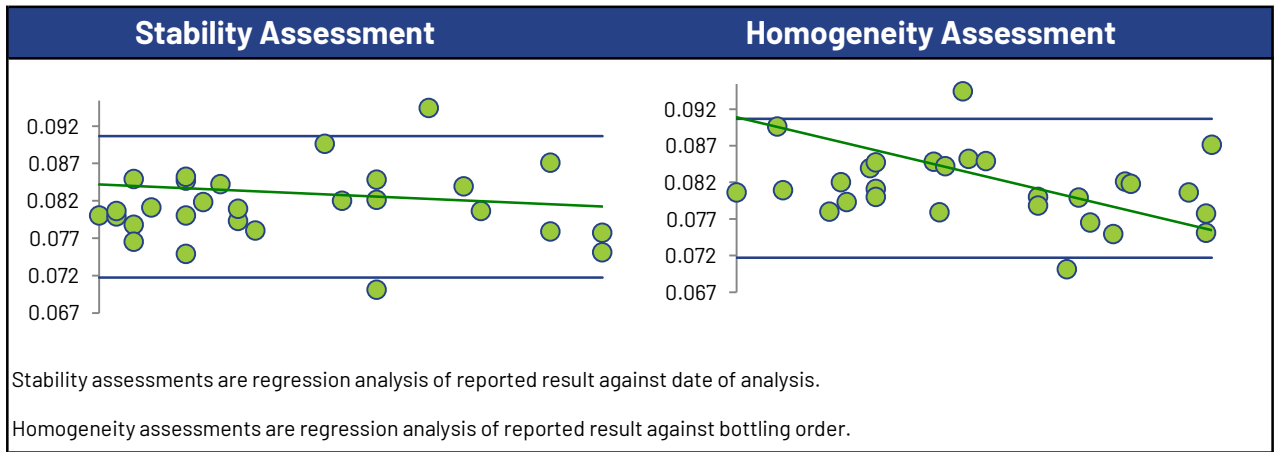


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Lithium



Lithium



Manganese

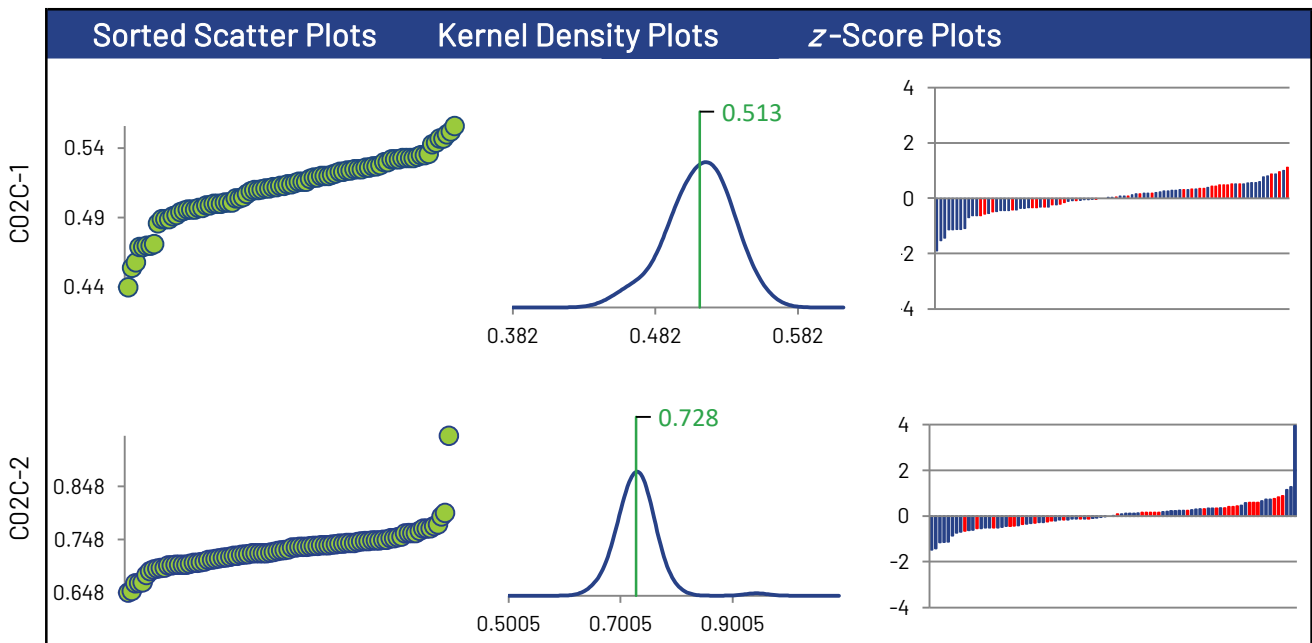
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	89	89	89	89
Median mg/L	0.514	0.729	1.19	0.449
Robust Mean mg/L	0.513	0.728	1.19	0.446
Uncertainty of the Assigned Value mg/L	0.00270	0.00366	0.00624	0.00253
Robust Standard Deviation mg/L	0.0204	0.0276	0.0471	0.0191
Regression Standard Deviation mg/L	0.0385	0.0546	0.0895	0.0335
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0385	0.0546	0.0895	0.0335
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	1	0	0
$2 < z < 3$	0	0	1	0
Failure Rate %*	0.0			

Methods Used

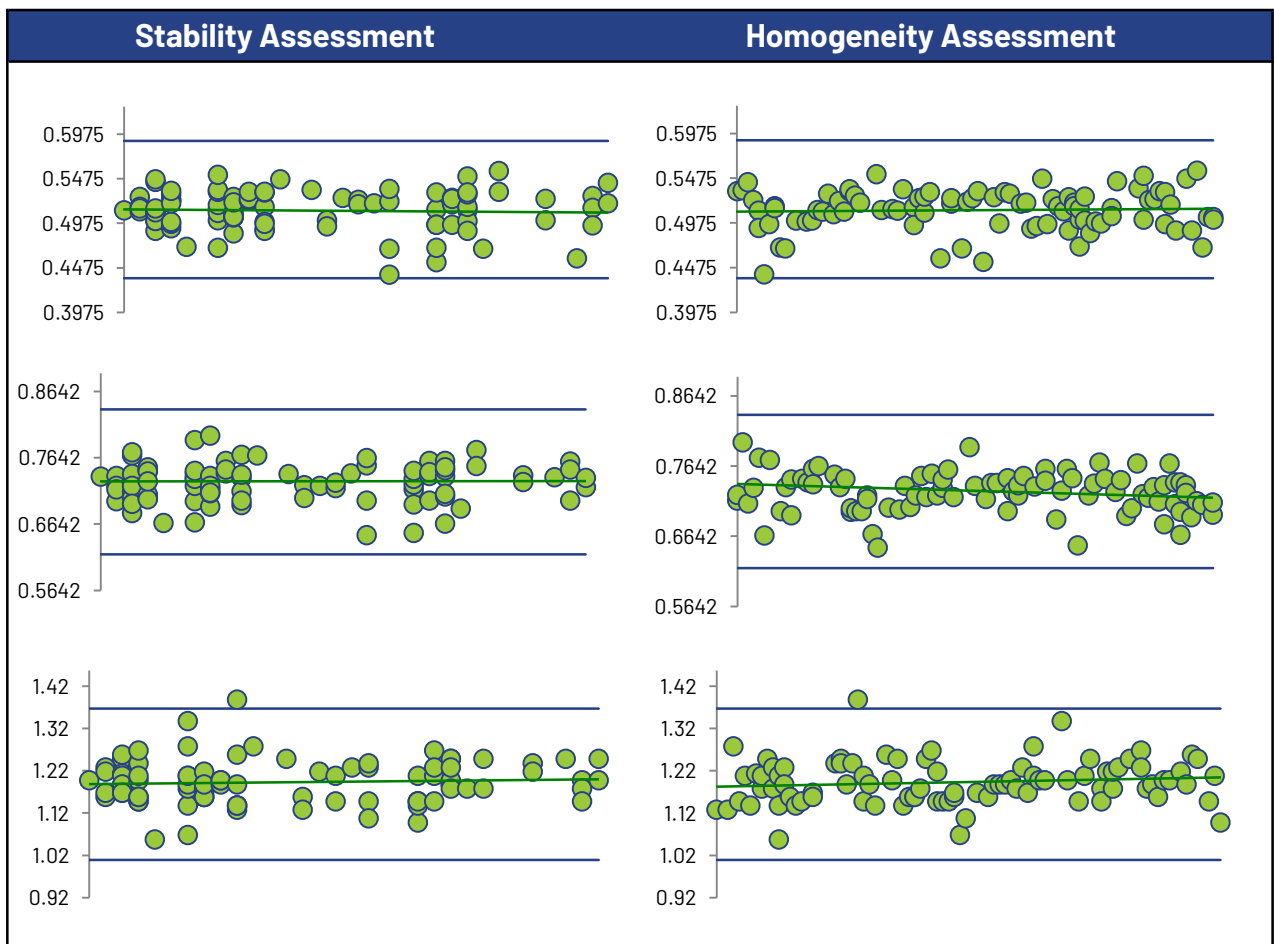
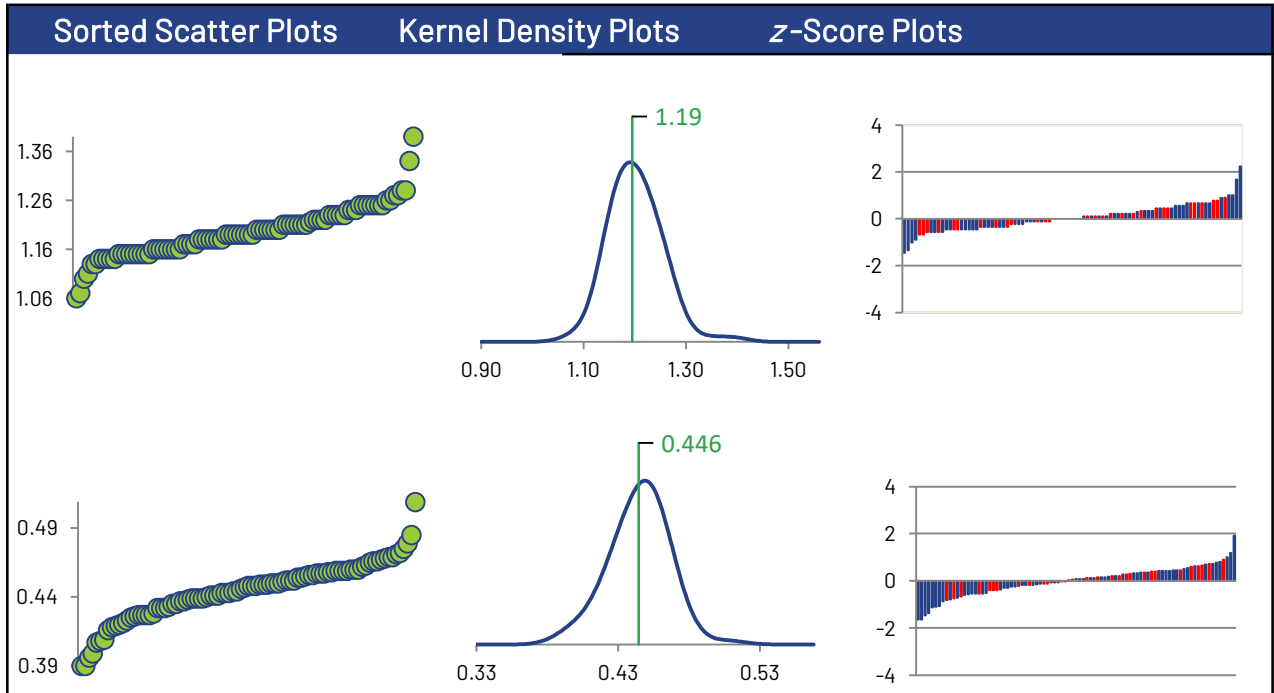
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	58	58	58	58
ICP/OES (Red)	31	31	31	31

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

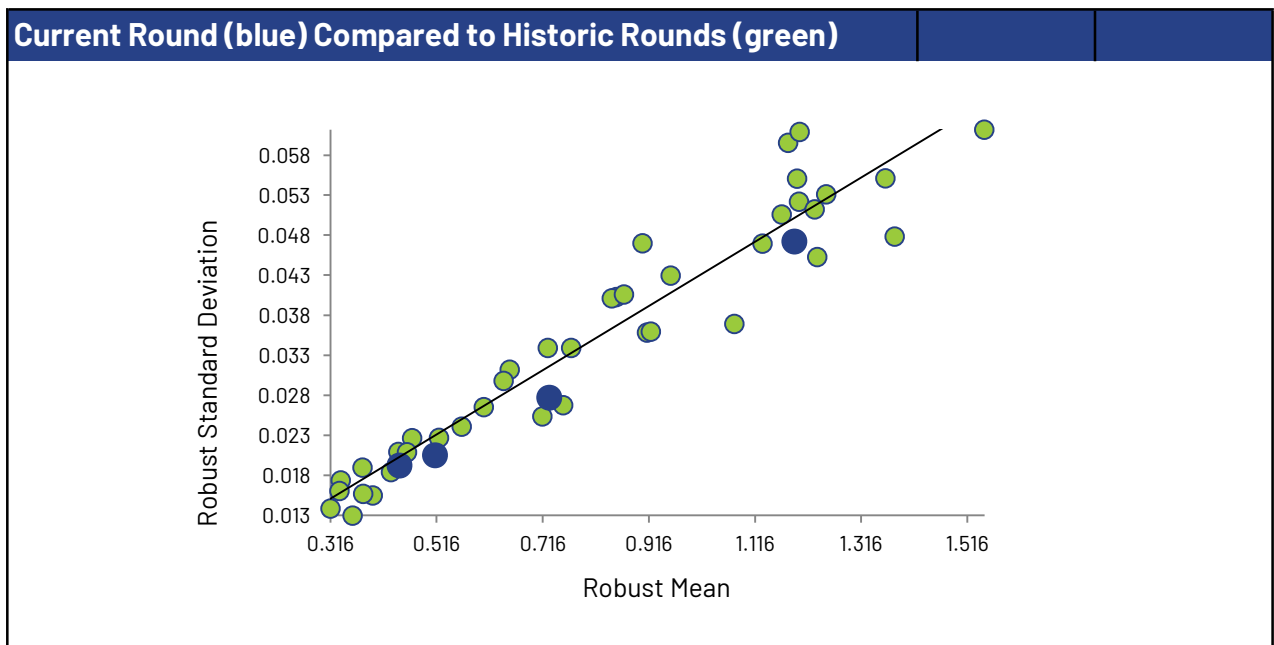
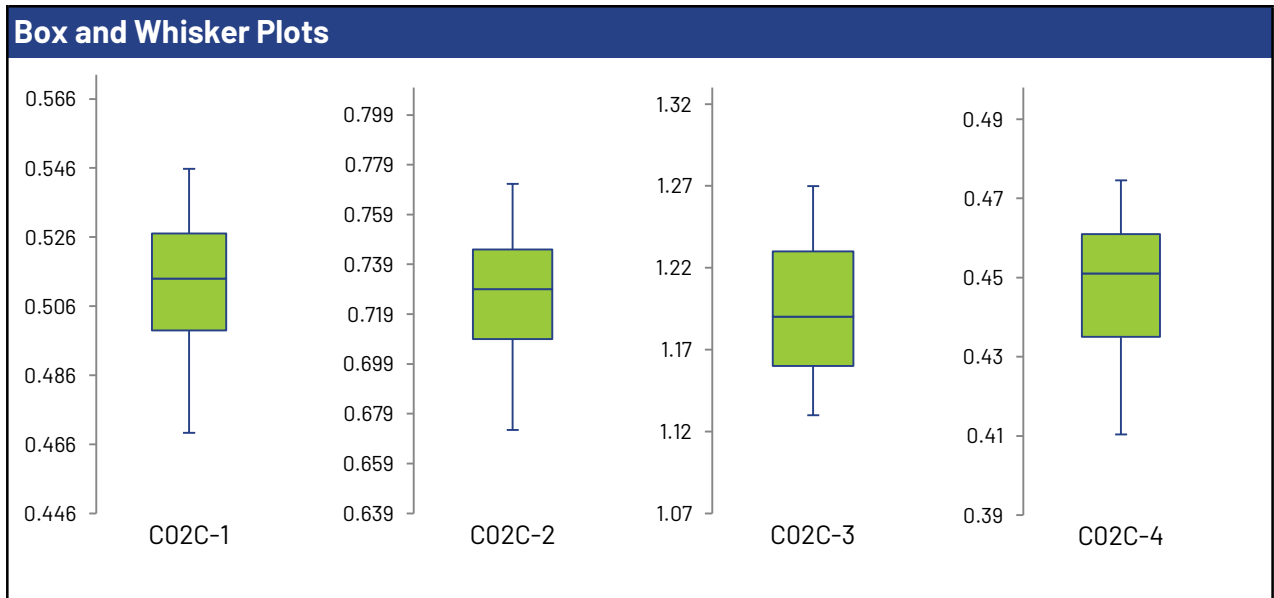
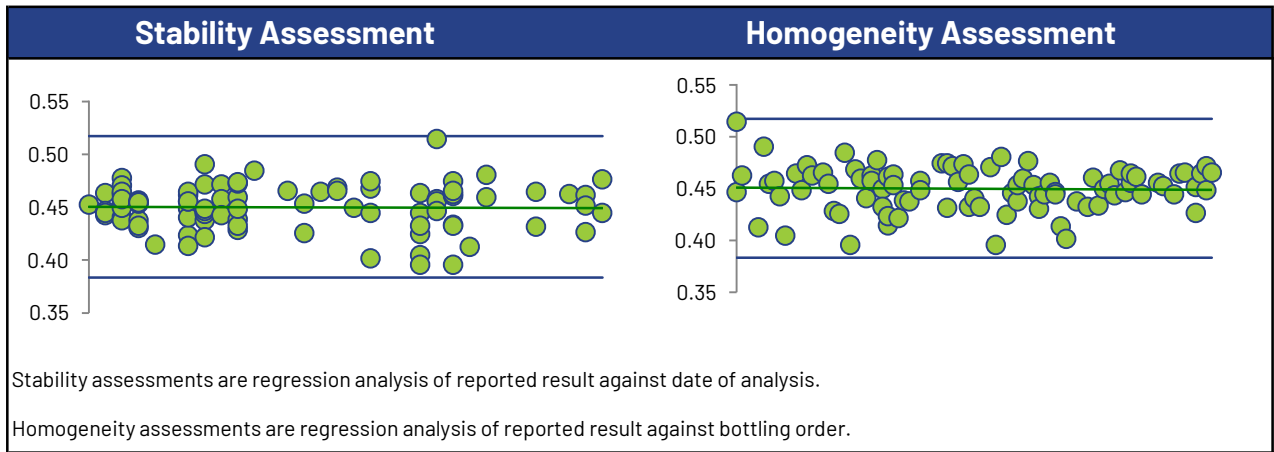


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Manganese



Manganese



Molybdenum

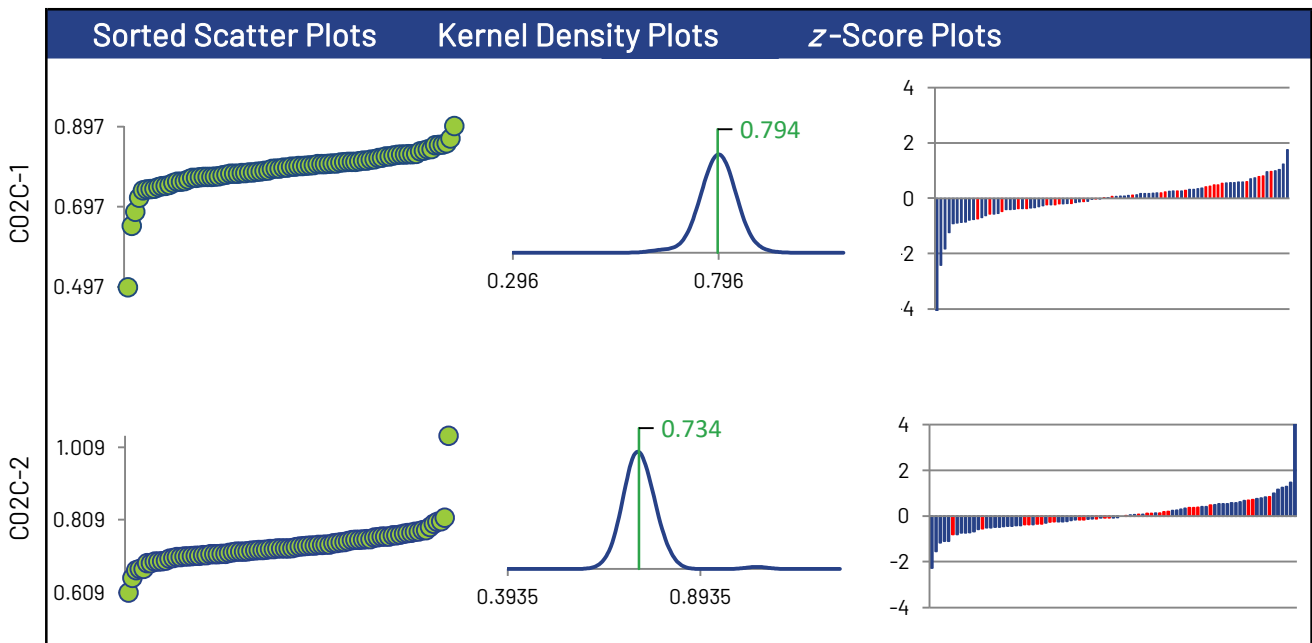
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	87	87	87	86
Median mg/L	0.798	0.730	1.45	0.273
Robust Mean mg/L	0.794	0.734	1.45	0.272
Uncertainty of the Assigned Value mg/L	0.00465	0.00434	0.00840	0.00158
Robust Standard Deviation mg/L	0.0347	0.0324	0.0627	0.0117
Regression Standard Deviation mg/L	0.0596	0.0551	0.109	0.0204
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0596	0.0551	0.109	0.0204
Flagged Outliers	0	0	0	1
$ z > 3.0$	1	1	0	0
$2 < z < 3$	1	1	2	0
Failure Rate %*	1.1			

Methods Used

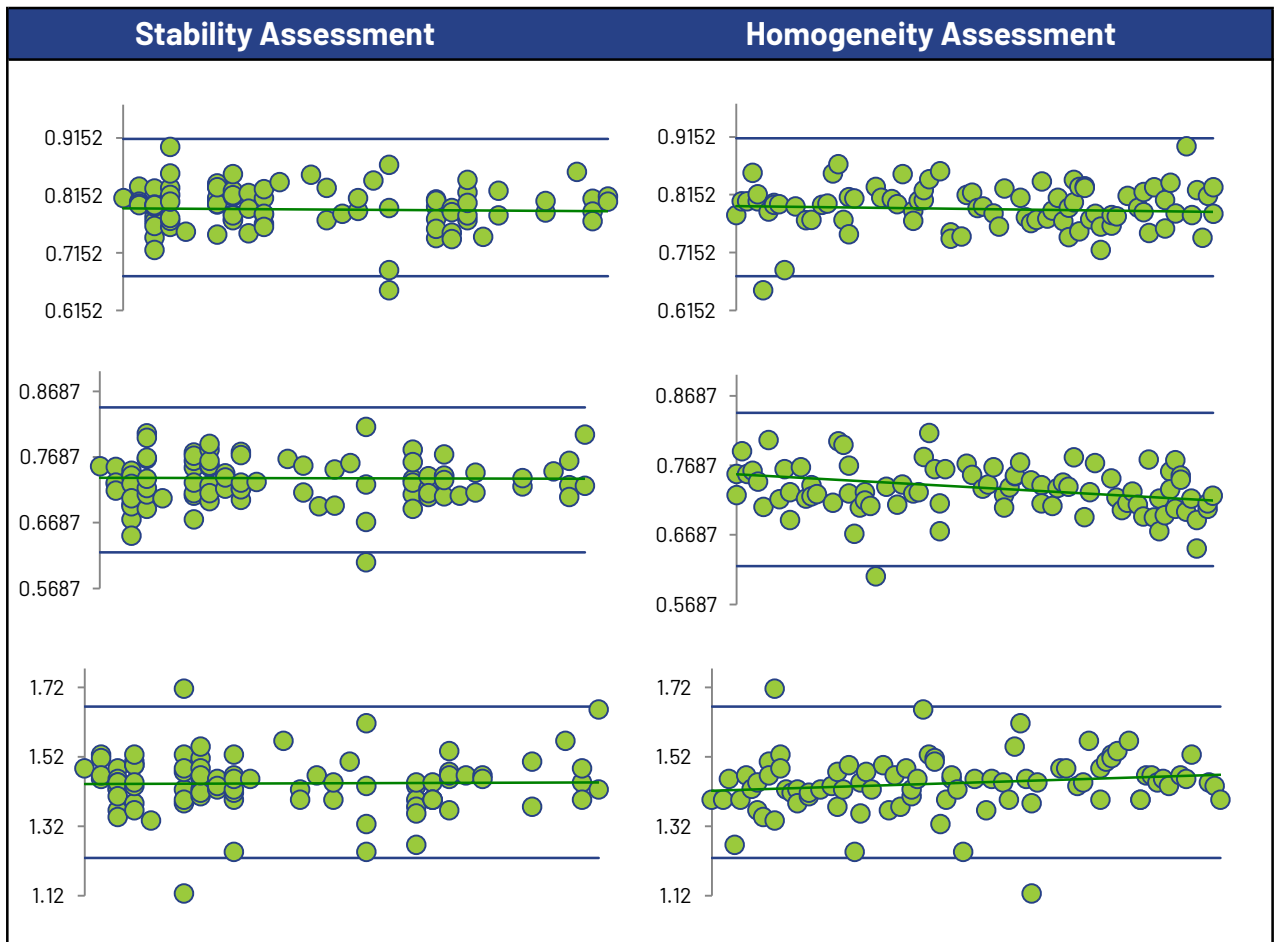
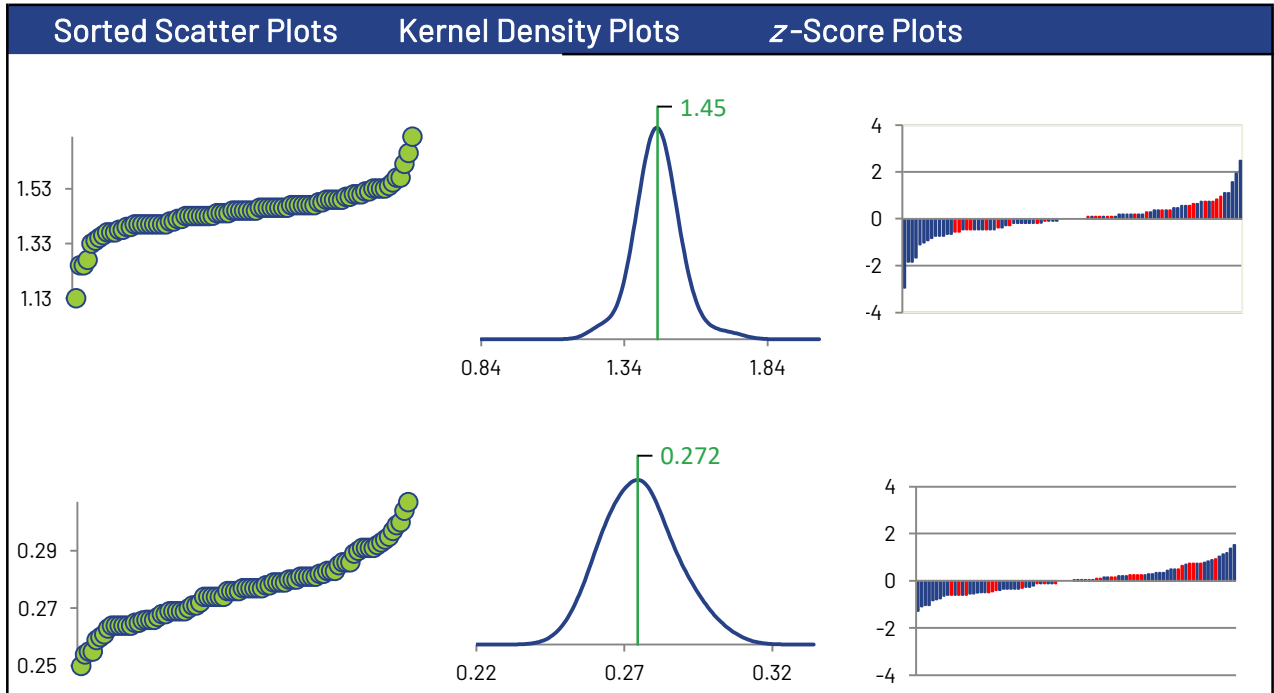
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	60	60	60	59
ICP/OES (Red)	27	27	27	27

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

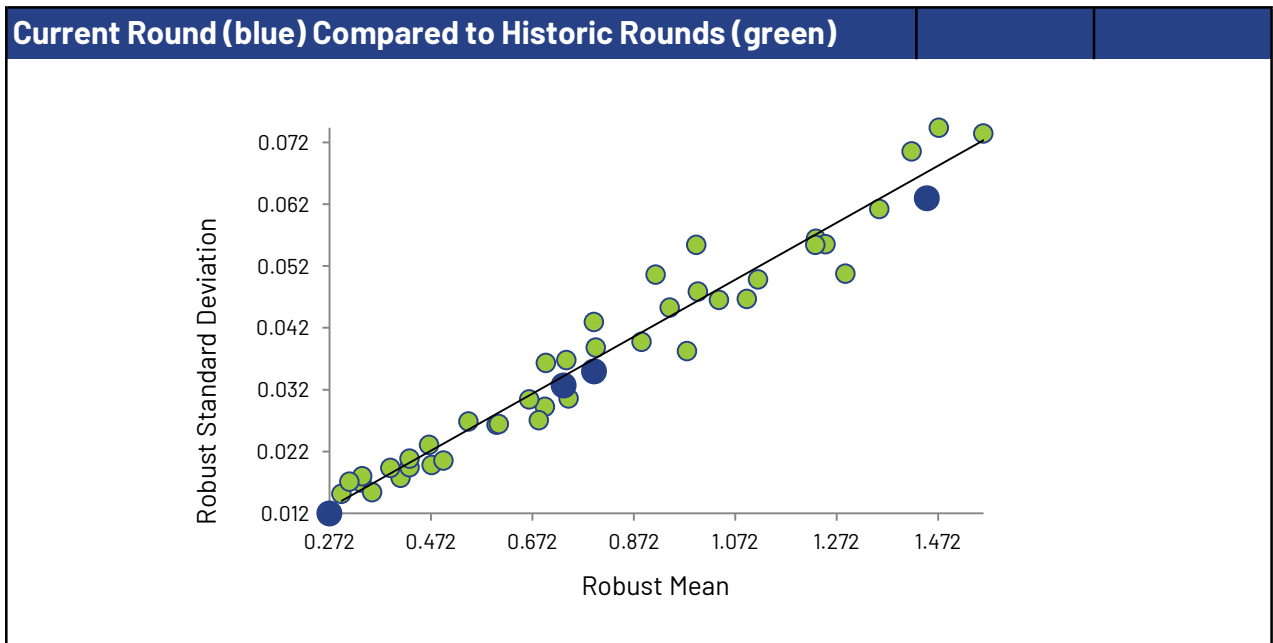
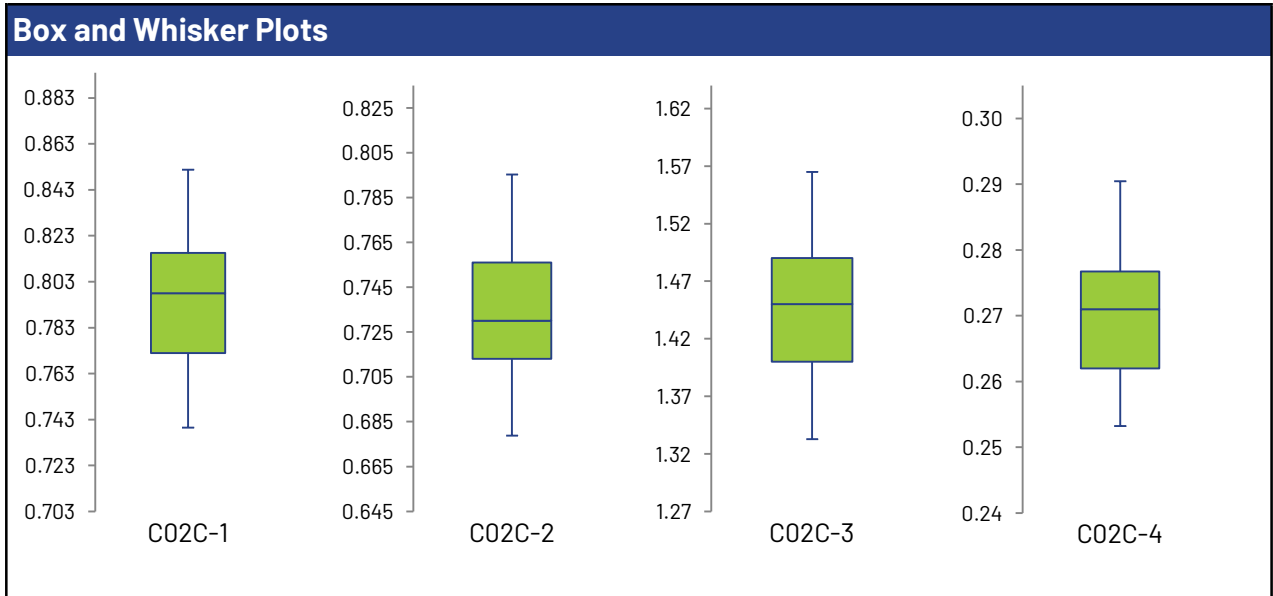
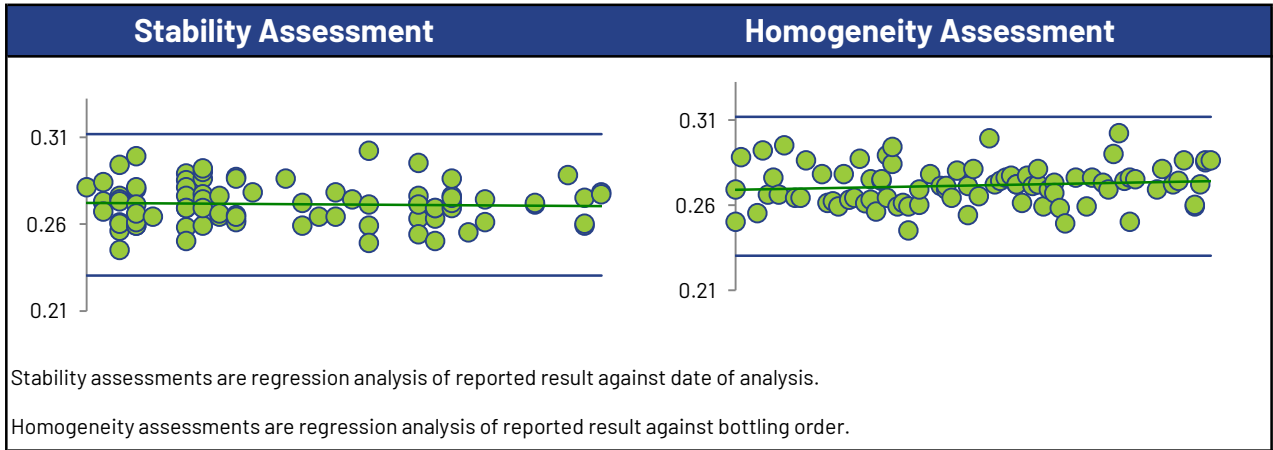


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Molybdenum



Molybdenum



Nickel

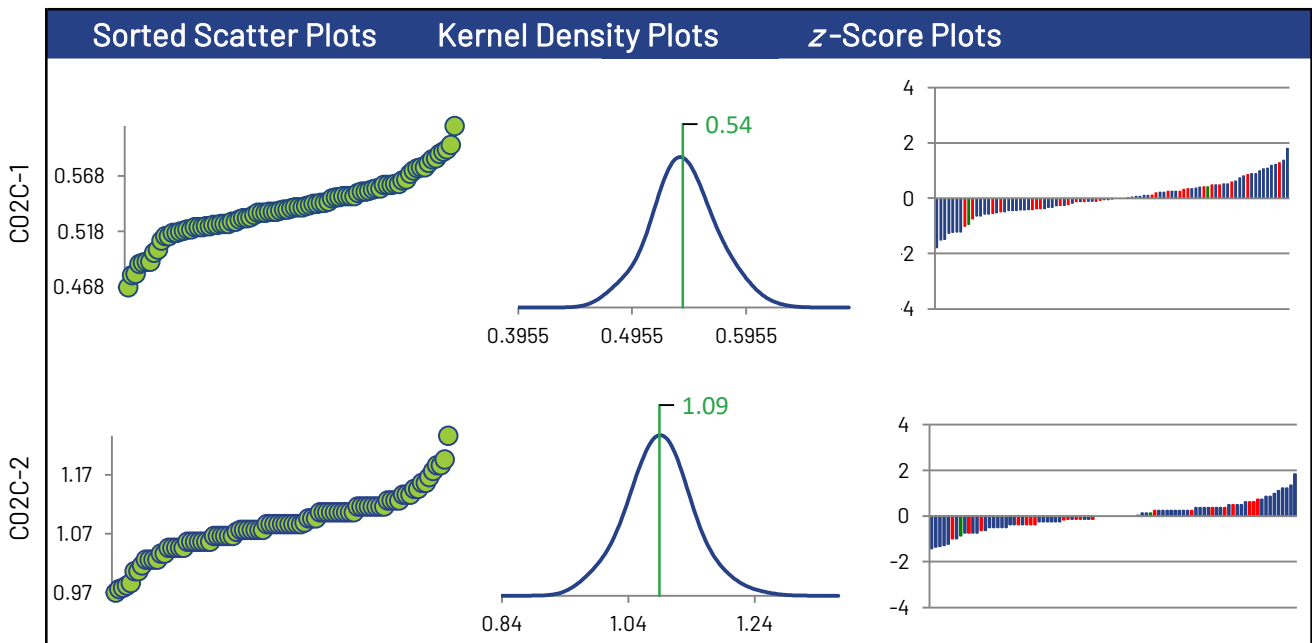
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	89	89	89	89
Median mg/L	0.539	1.09	1.24	0.543
Robust Mean mg/L	0.540	1.09	1.24	0.545
Uncertainty of the Assigned Value mg/L	0.00341	0.00612	0.00753	0.00315
Robust Standard Deviation mg/L	0.0257	0.0462	0.0568	0.0238
Regression Standard Deviation mg/L	0.0405	0.0817	0.0932	0.0409
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0405	0.0817	0.0932	0.0409
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	1	2
$2 < z < 3$	0	0	1	0
Failure Rate %*	2.2			

Methods Used

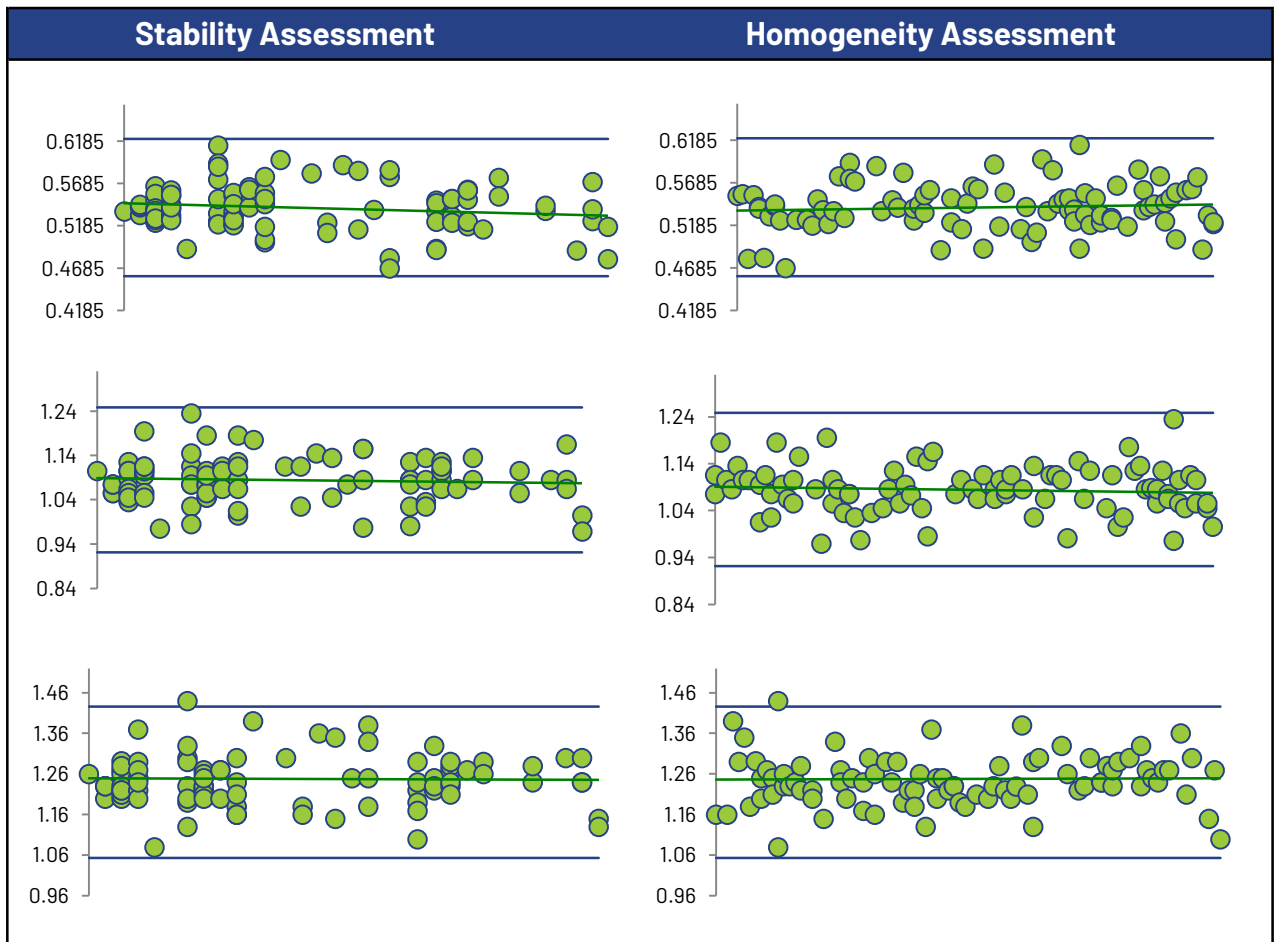
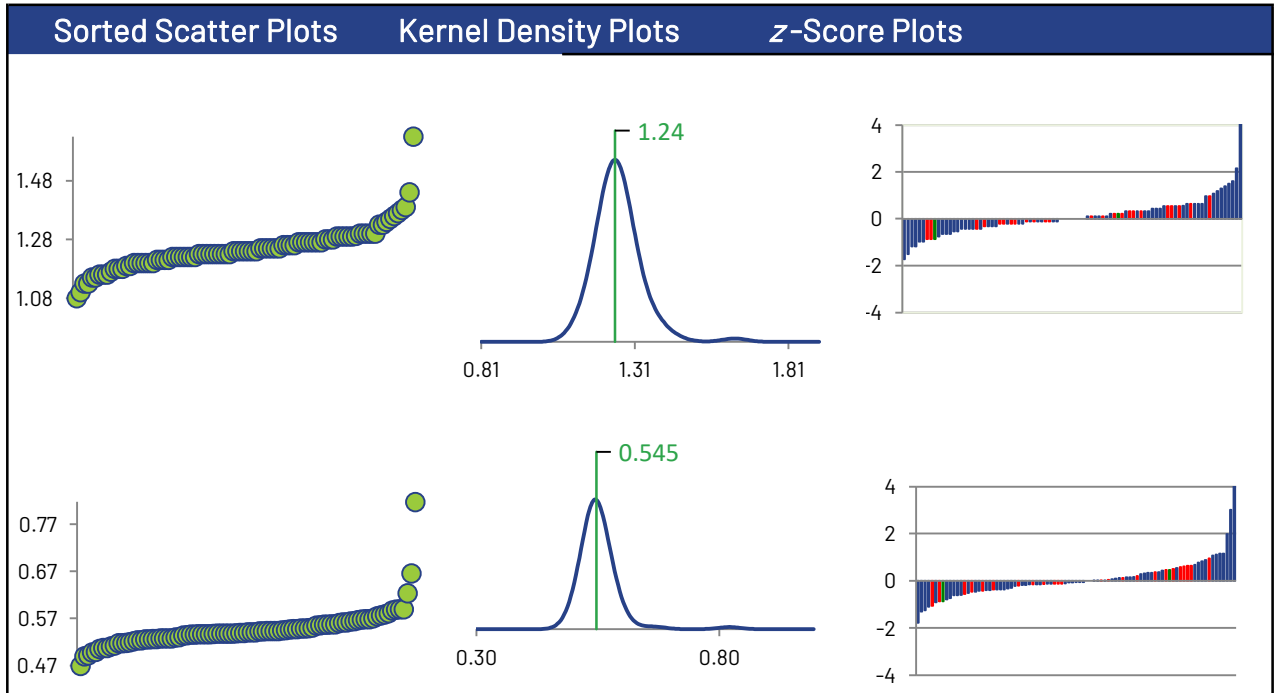
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	61	61	61	61
ICP/OES (Red)	26	26	26	26
AA FLAME (Green)	2	2	2	2

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

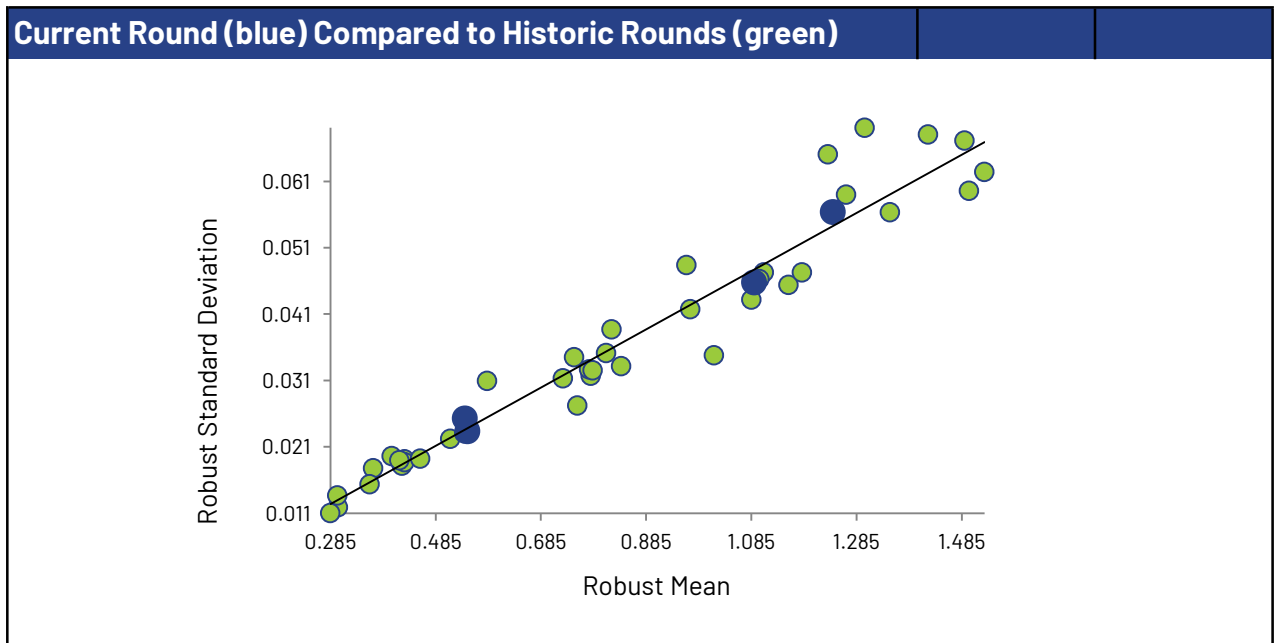
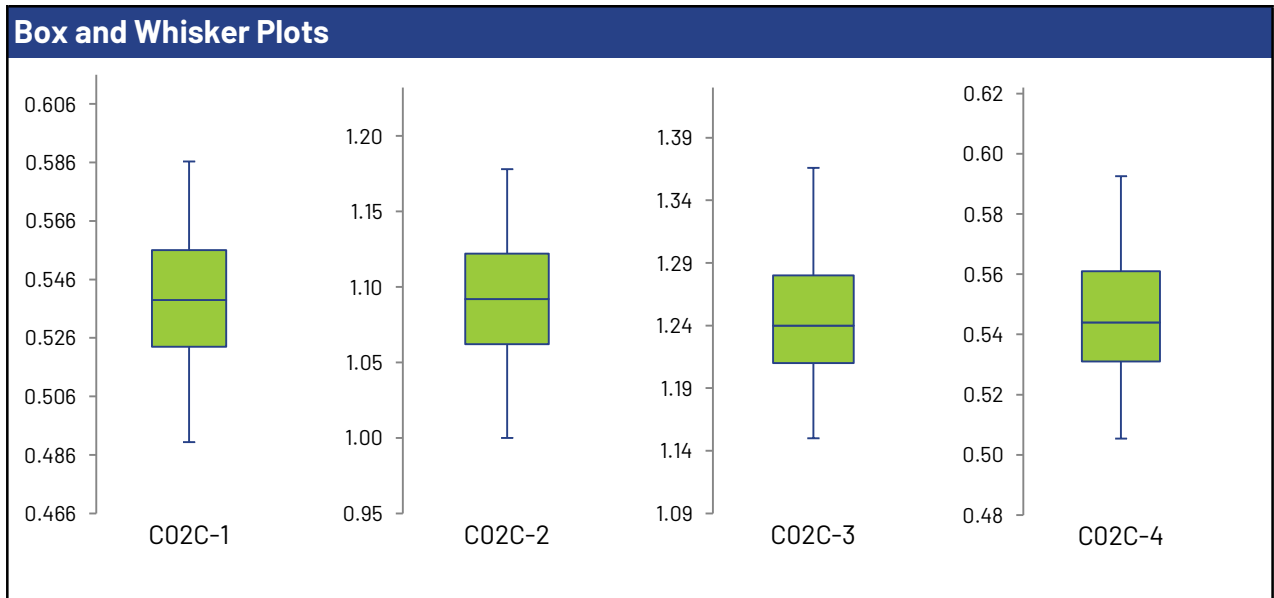
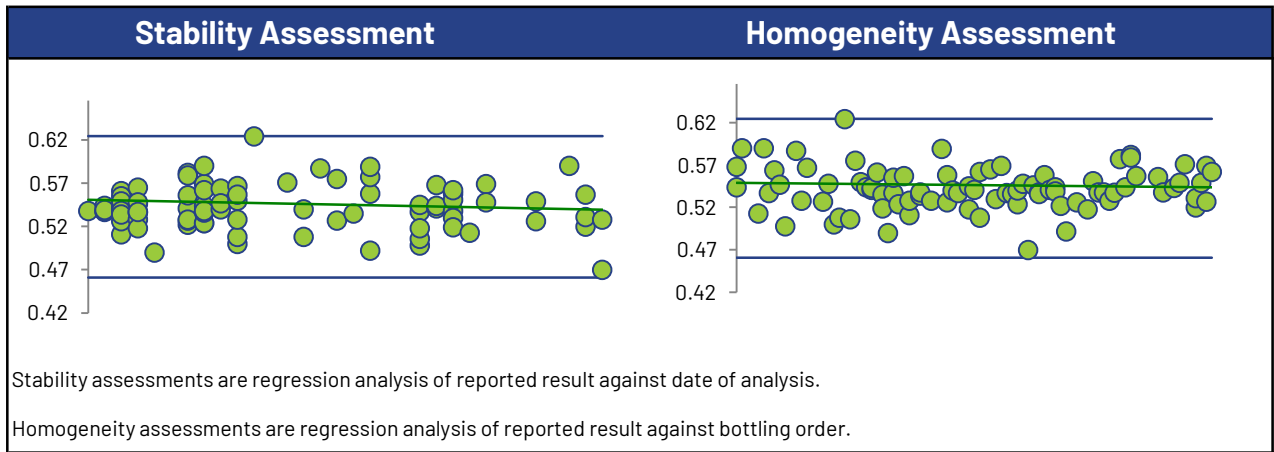


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Nickel



Nickel



Selenium

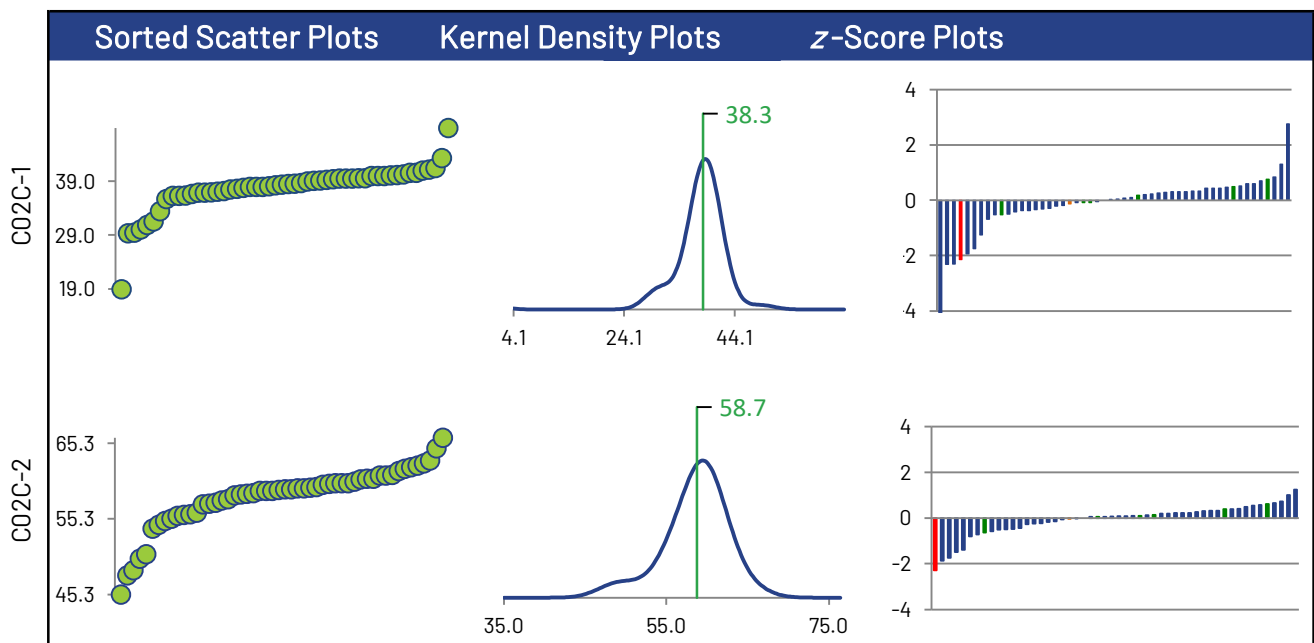
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	52	52	52	43
Median mg/L	38.5	59.2	82.0	3.96
Robust Mean mg/L	38.3	58.7	81.7	3.91
Uncertainty of the Assigned Value mg/L	0.393	0.527	0.931	0.0579
Robust Standard Deviation mg/L	2.27	3.04	5.37	0.304
Regression Standard Deviation mg/L	3.83	5.87	8.17	0.391
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	3.83	5.87	8.17	0.391
Flagged Outliers	0	1	1	1
$ z > 3.0$	1	0	0	0
$2 < z < 3$	4	1	3	4
Failure Rate %*	0.0			

Methods Used

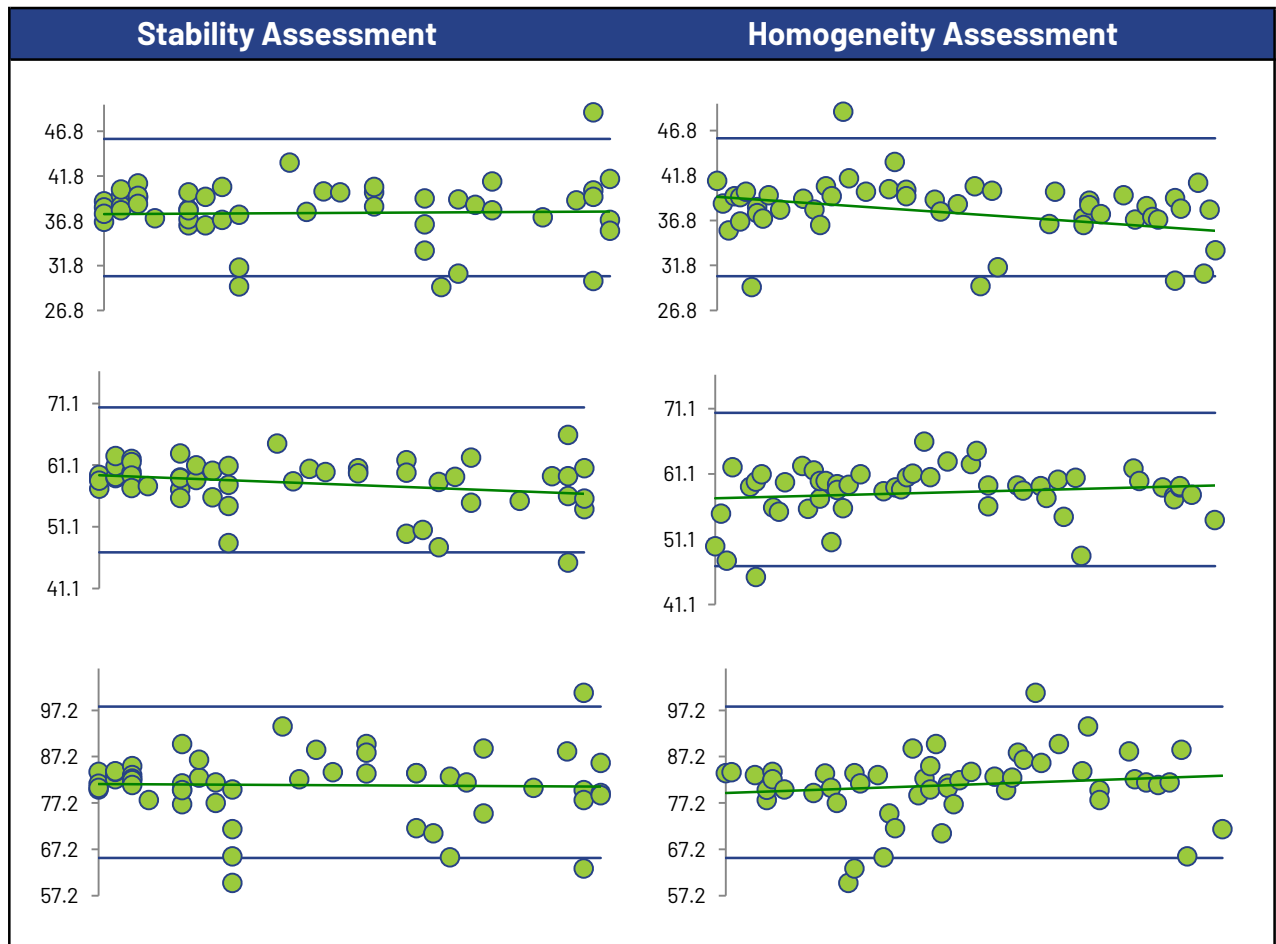
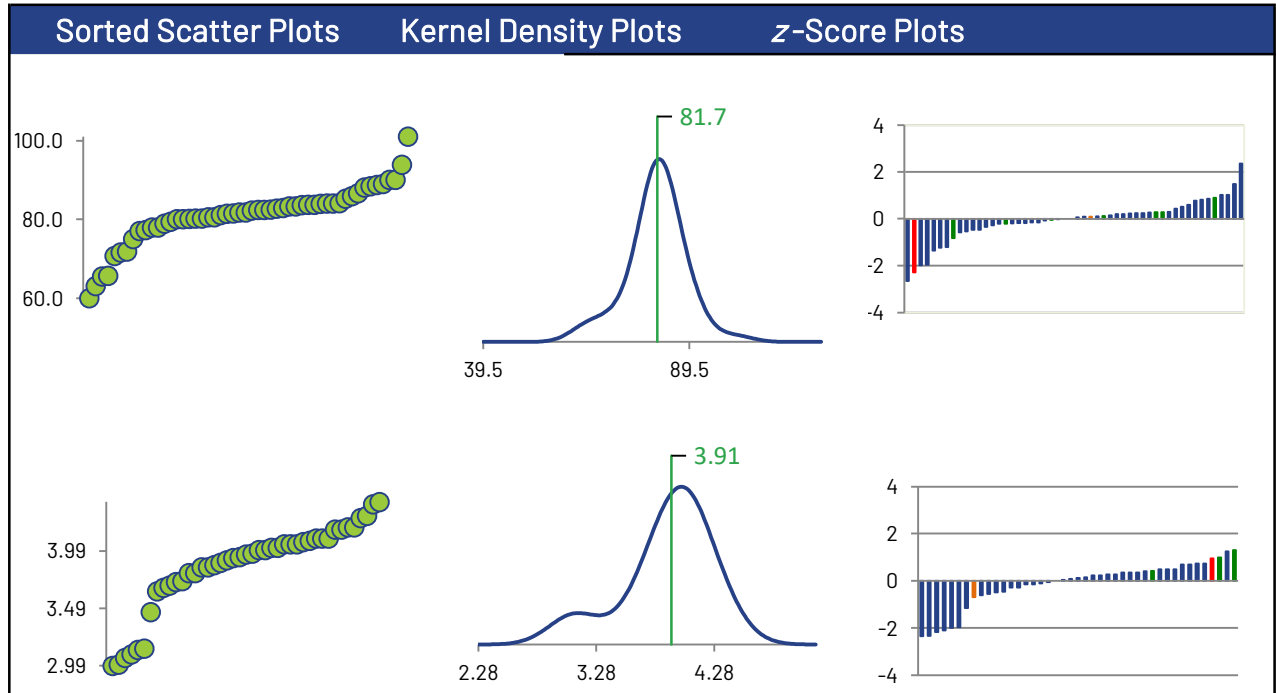
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	43	43	43	38
JR ATOMIC FLUORESCENCE SPECTROPHOTOMETRY (Red)	1	1	1	1
ICP/OES (Green)	7	7	7	3
ATOMIC FLUORESCENCE SPECTROMETER (Orange)	1	1	1	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

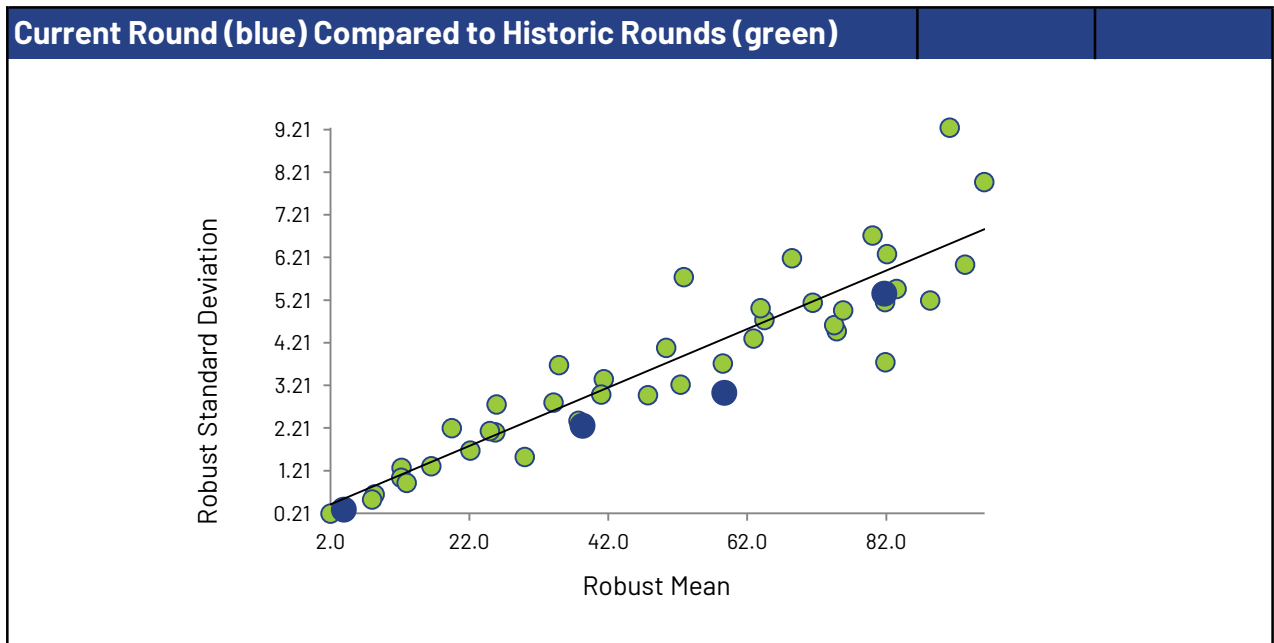
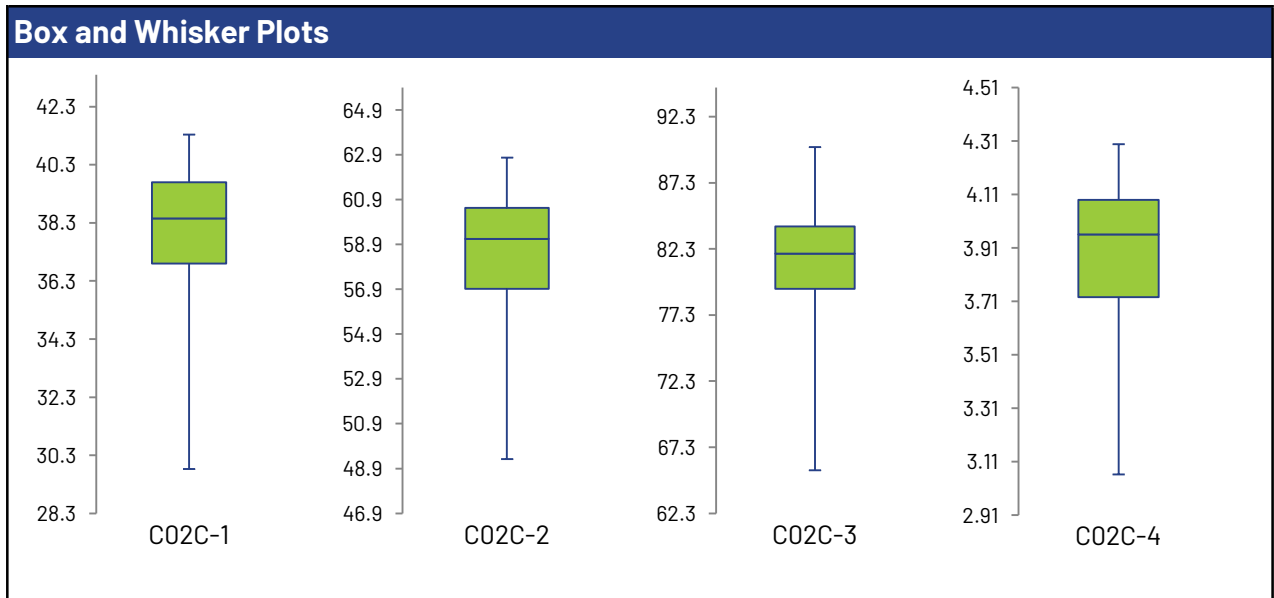
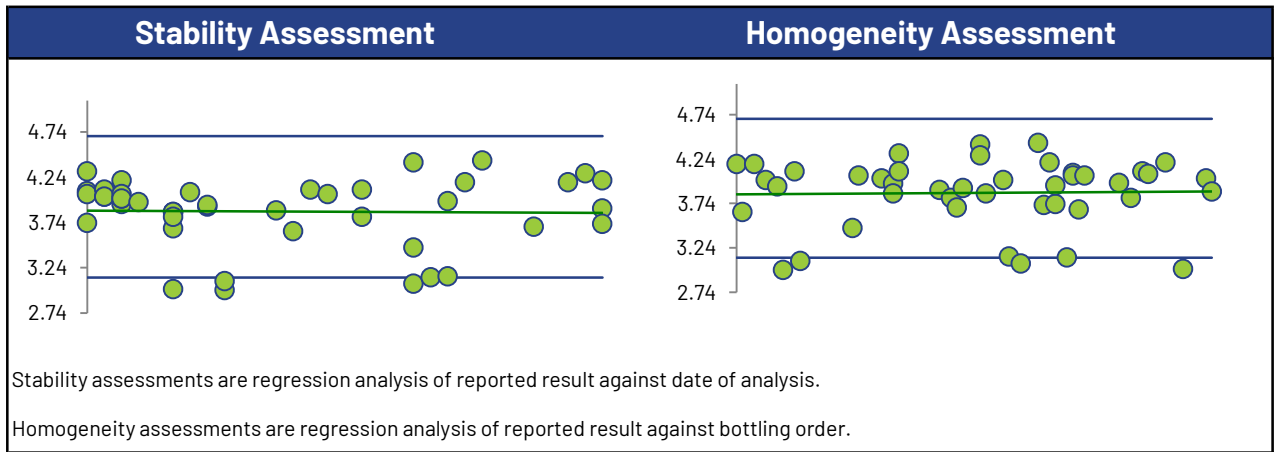


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Selenium



Selenium



Silver

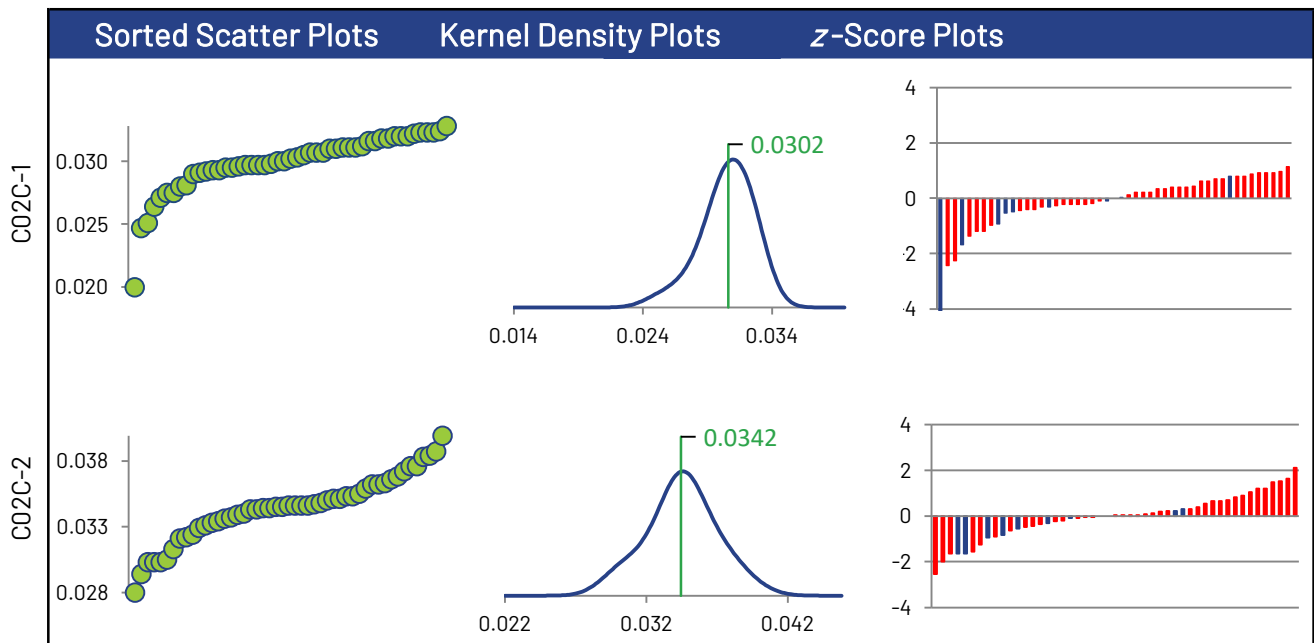
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	49	49	49	47
Median mg/L	0.0302	0.0343	0.0475	0.0286
Robust Mean mg/L	0.0302	0.0342	0.0471	0.0283
Uncertainty of the Assigned Value mg/L	0.000323	0.000430	0.000570	0.000303
Robust Standard Deviation mg/L	0.00181	0.00241	0.00319	0.00166
Regression Standard Deviation mg/L	0.00226	0.00256	0.00353	0.00212
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.00226	0.00256	0.00353	0.00212
Flagged Outliers	1	1	1	2
$ z > 3.0$	1	0	0	0
$2 < z < 3$	2	2	3	1
Failure Rate %*	2.0			

Methods Used

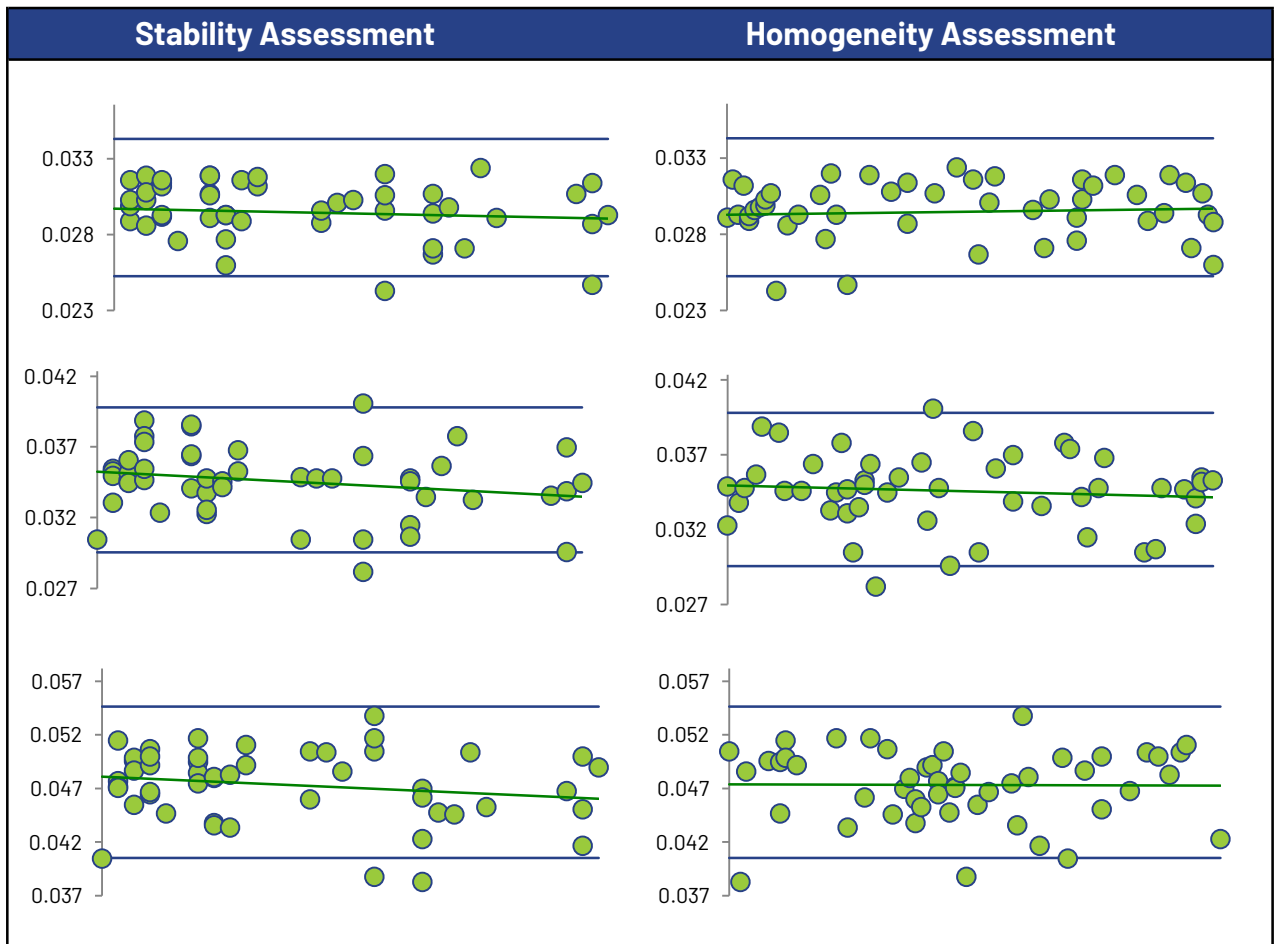
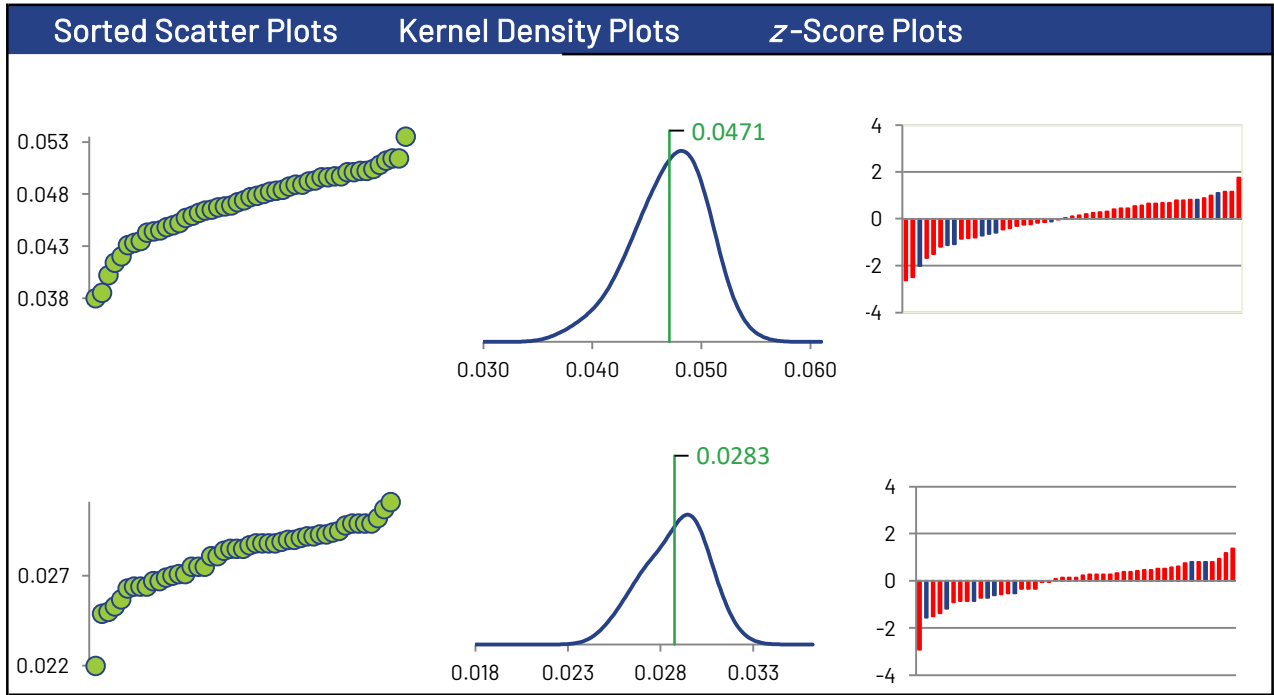
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/OES (Blue)	9	9	9	8
ICP/MS (Red)	40	40	40	39

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

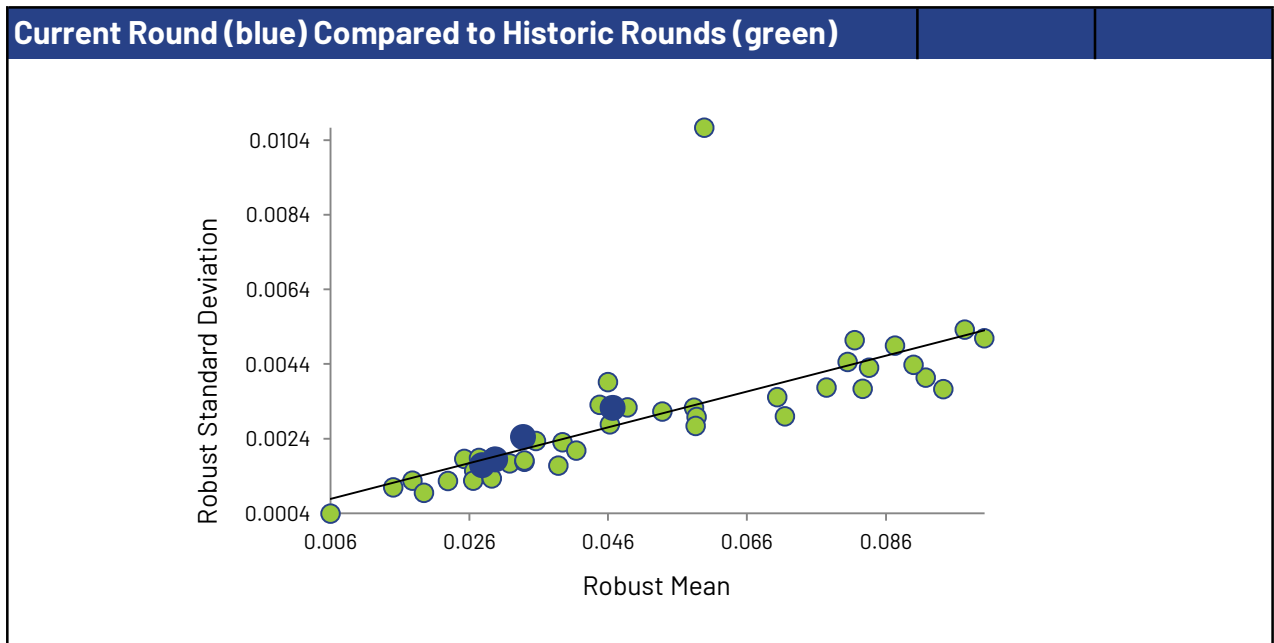
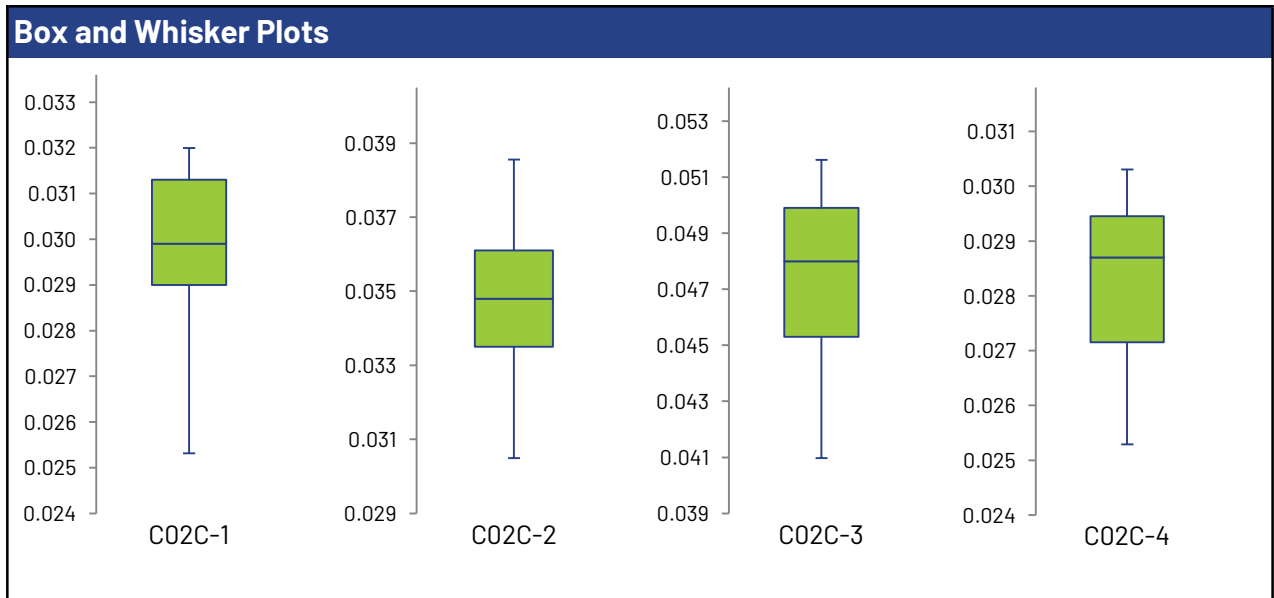
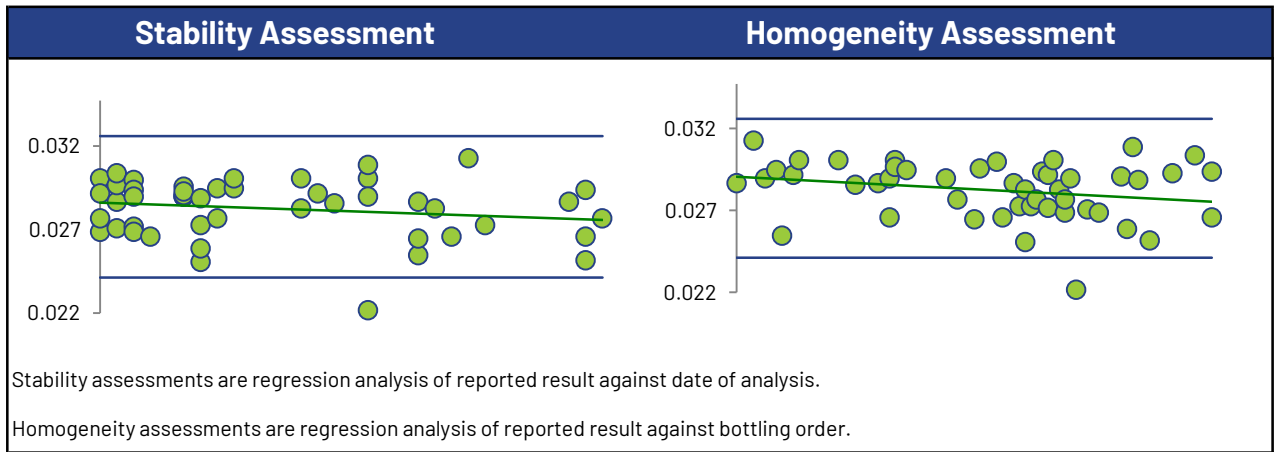


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Silver



Silver



Strontium

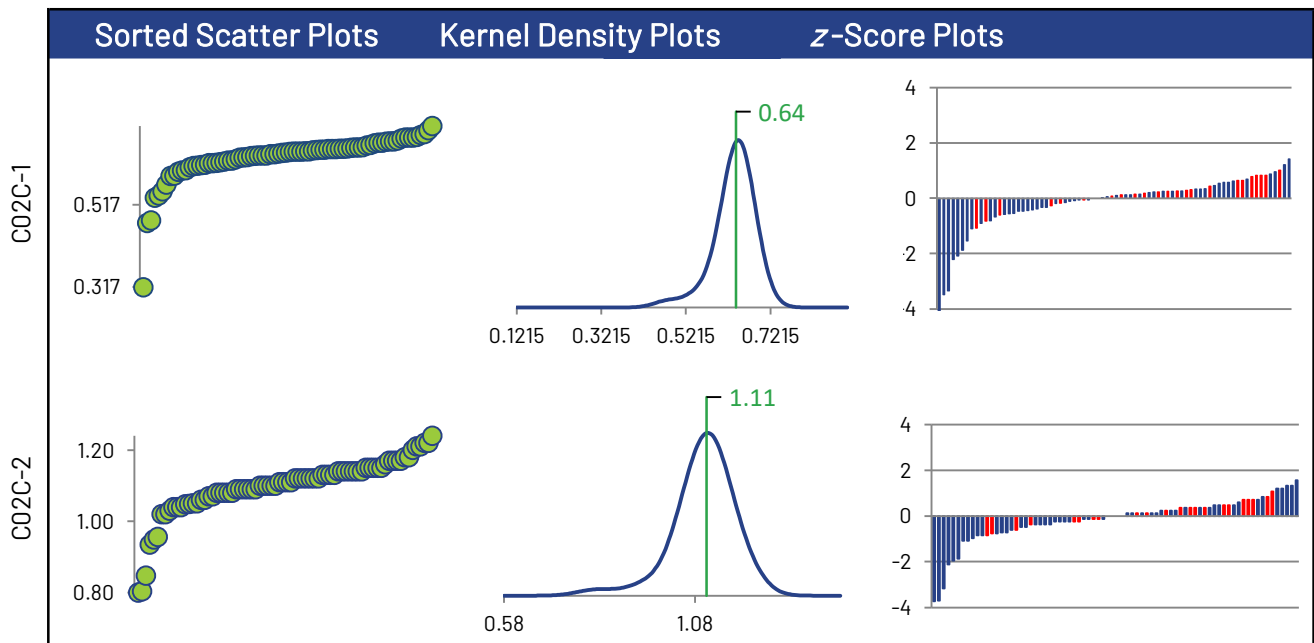
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	76	76	76	76
Median mg/L	0.645	1.11	1.13	0.335
Robust Mean mg/L	0.640	1.11	1.12	0.334
Uncertainty of the Assigned Value mg/L	0.00459	0.00850	0.00787	0.00228
Robust Standard Deviation mg/L	0.0320	0.0593	0.0549	0.0159
Regression Standard Deviation mg/L	0.0480	0.0830	0.0839	0.0250
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0480	0.0830	0.0839	0.0250
Flagged Outliers	0	0	0	0
$ z > 3.0$	3	3	2	3
$2 < z < 3$	2	1	3	1
Failure Rate %*	5.3			

Methods Used

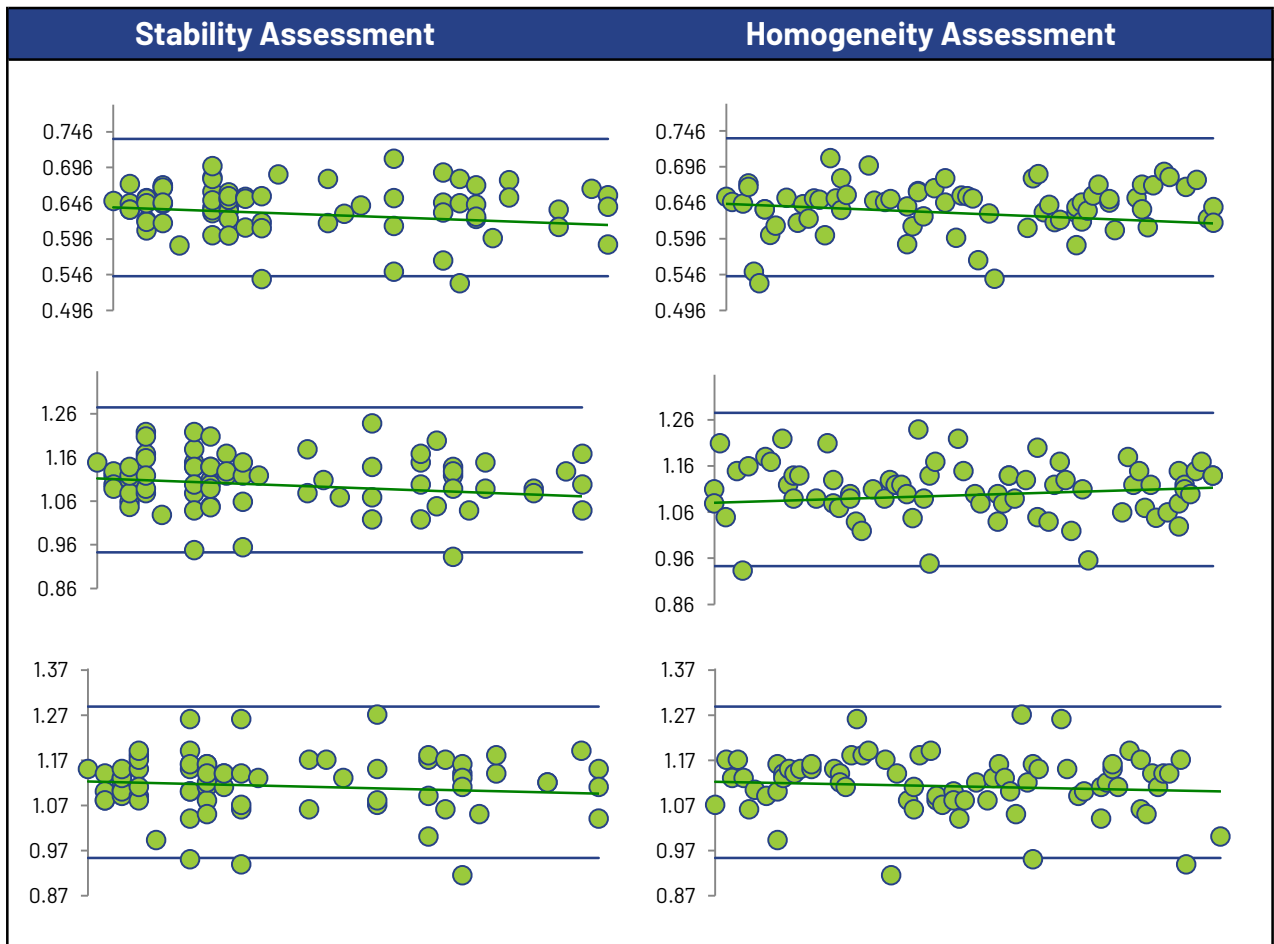
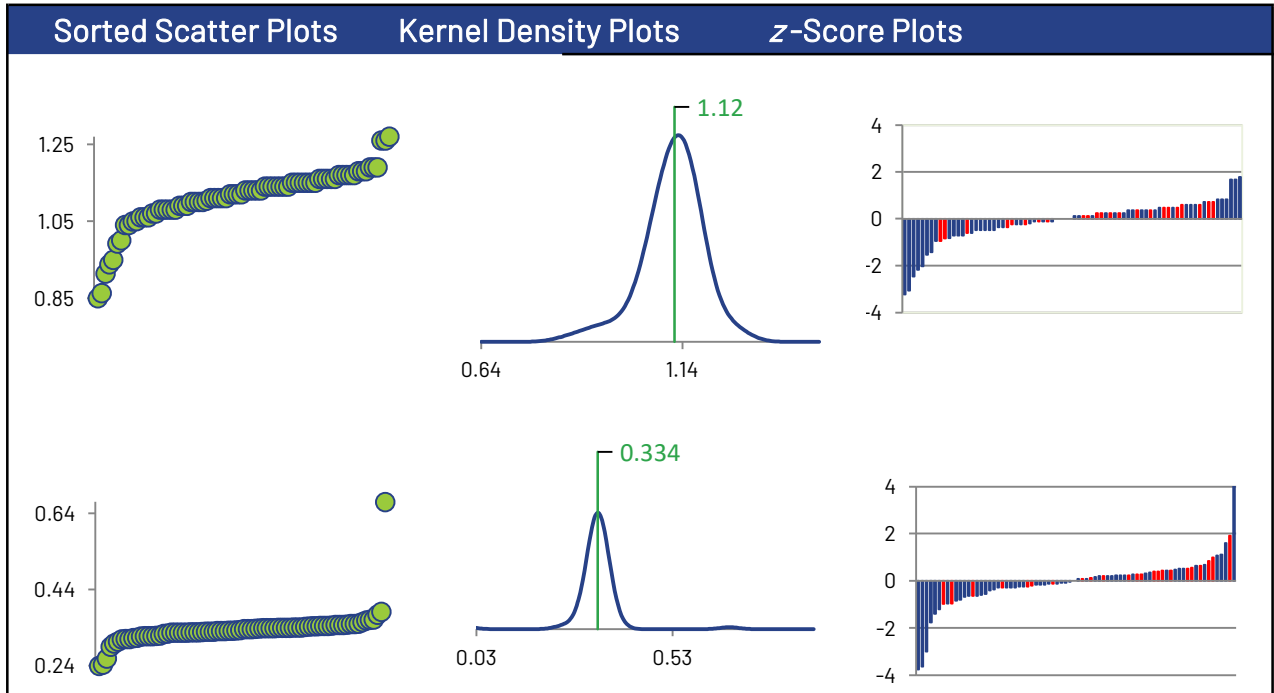
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	52	52	52	52
ICP/OES (Red)	24	24	24	24

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

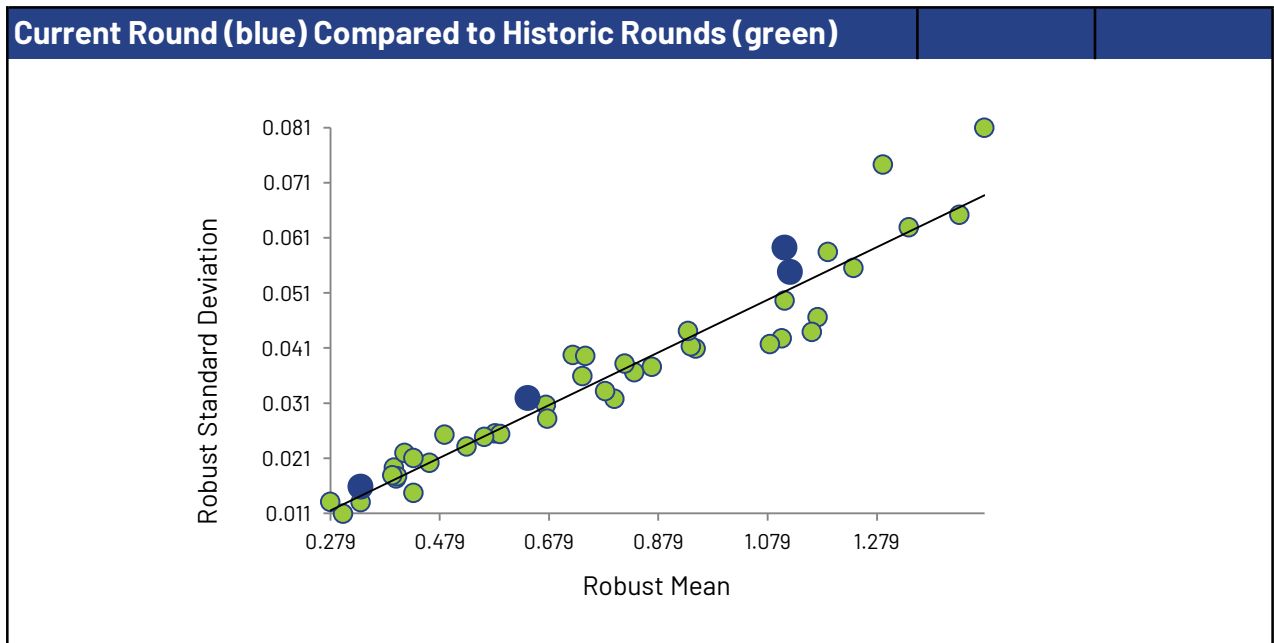
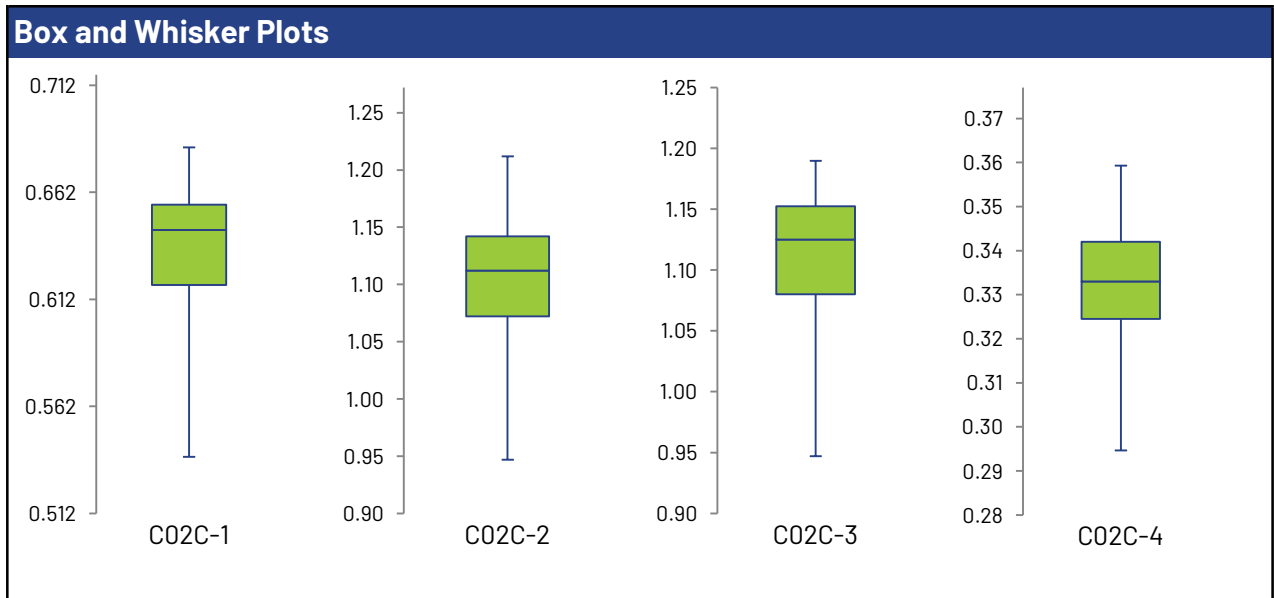
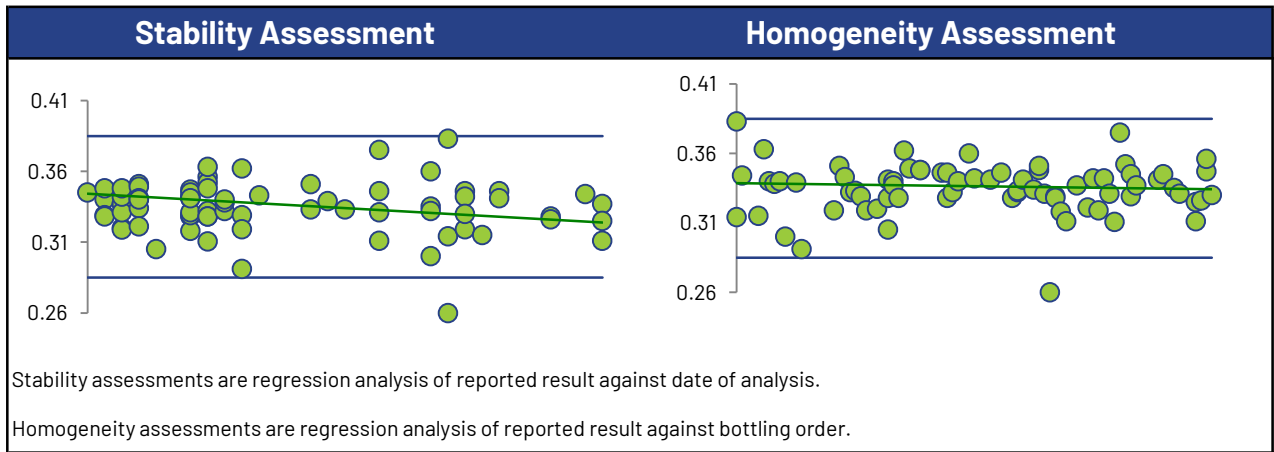


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Strontium



Strontium



Thallium

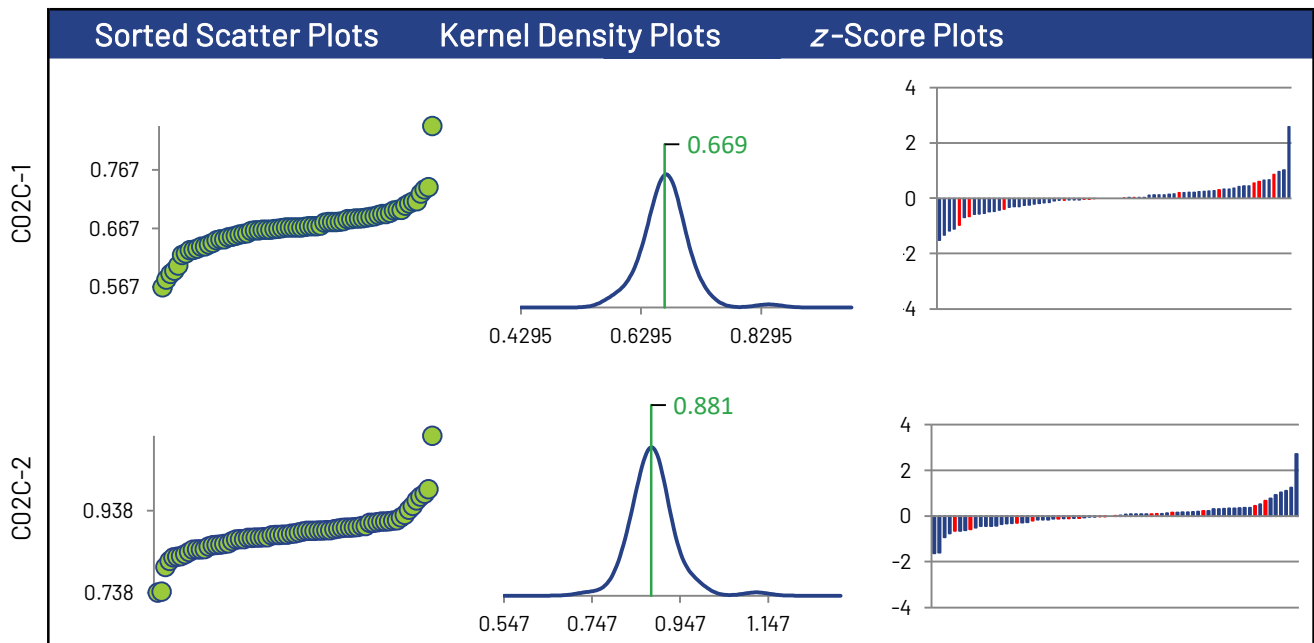
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	71	71	71	71
Median mg/L	0.669	0.882	1.49	0.570
Robust Mean mg/L	0.669	0.881	1.48	0.568
Uncertainty of the Assigned Value mg/L	0.00411	0.00531	0.00902	0.00383
Robust Standard Deviation mg/L	0.0277	0.0358	0.0608	0.0258
Regression Standard Deviation mg/L	0.0669	0.0881	0.148	0.0568
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0669	0.0881	0.148	0.0568
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	1
$2 < z < 3$	1	1	2	0
Failure Rate %*	1.4			

Methods Used

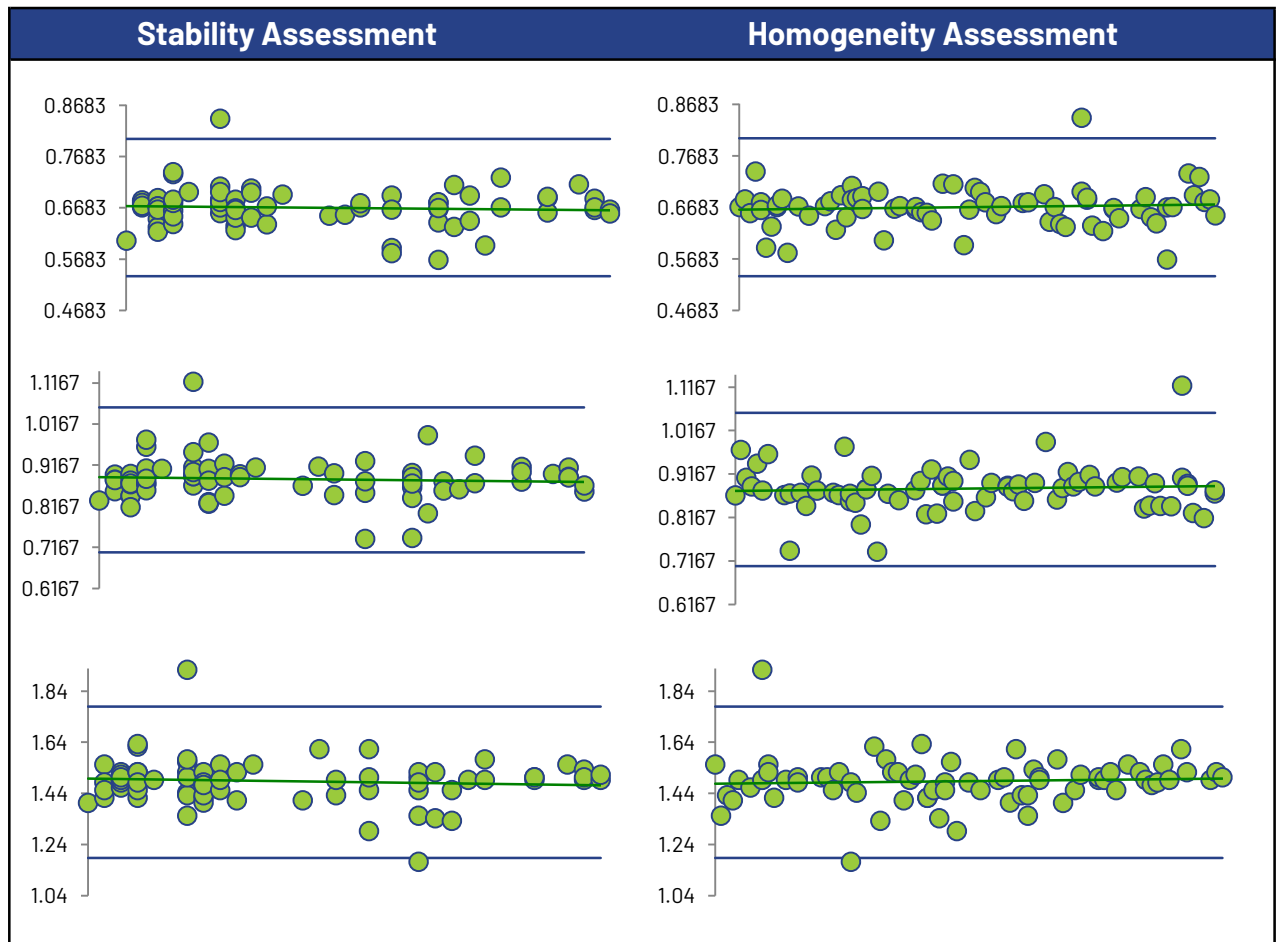
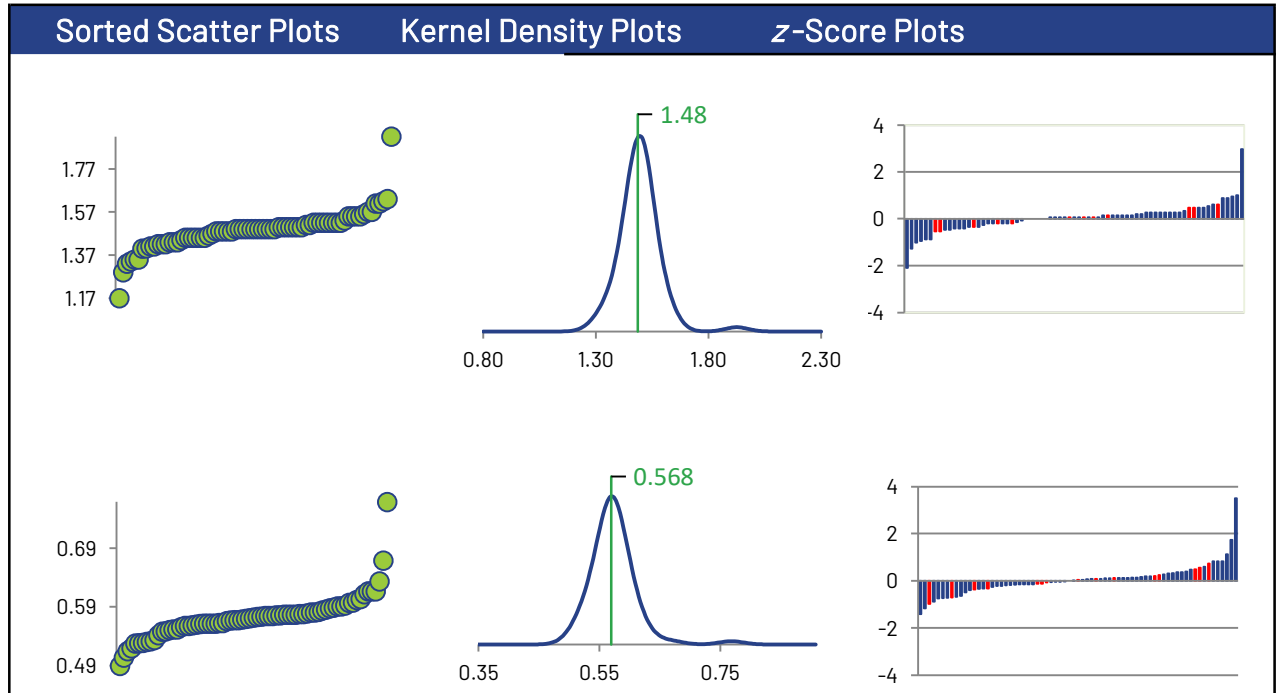
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	55	55	55	55
ICP/OES (Red)	16	16	16	16

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

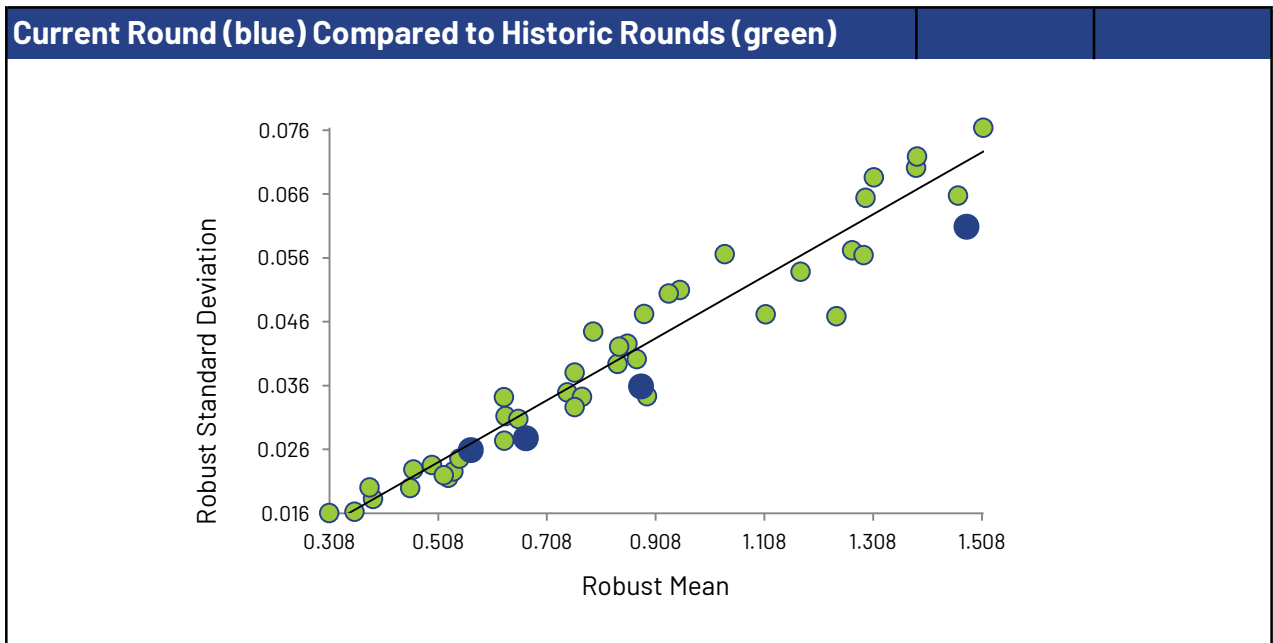
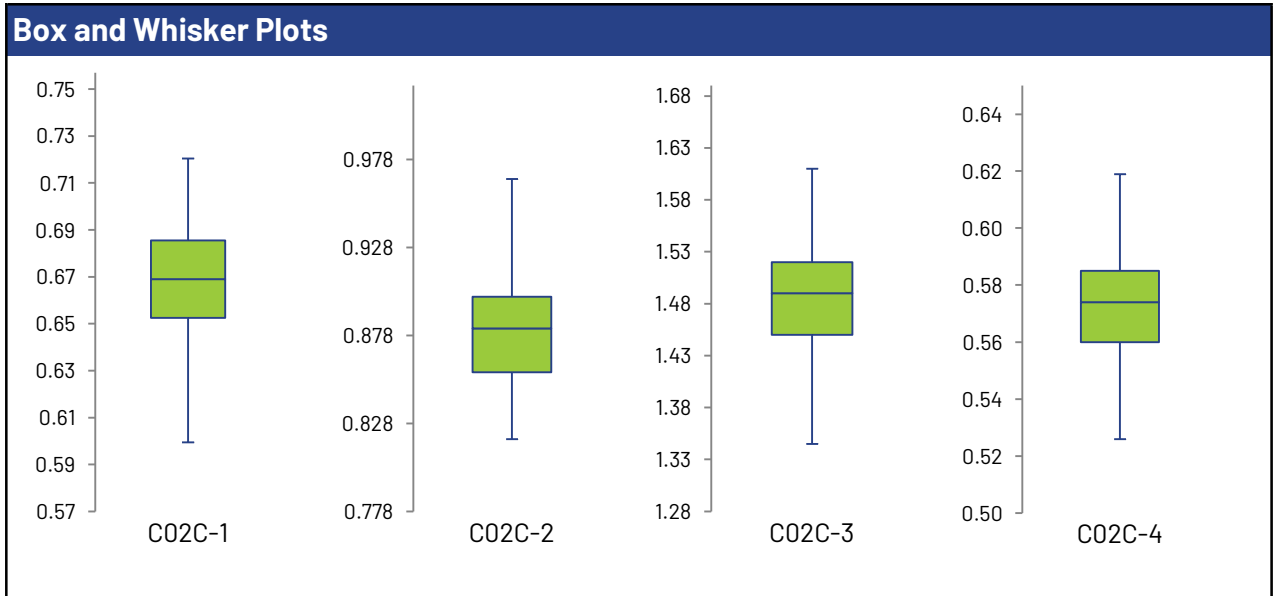
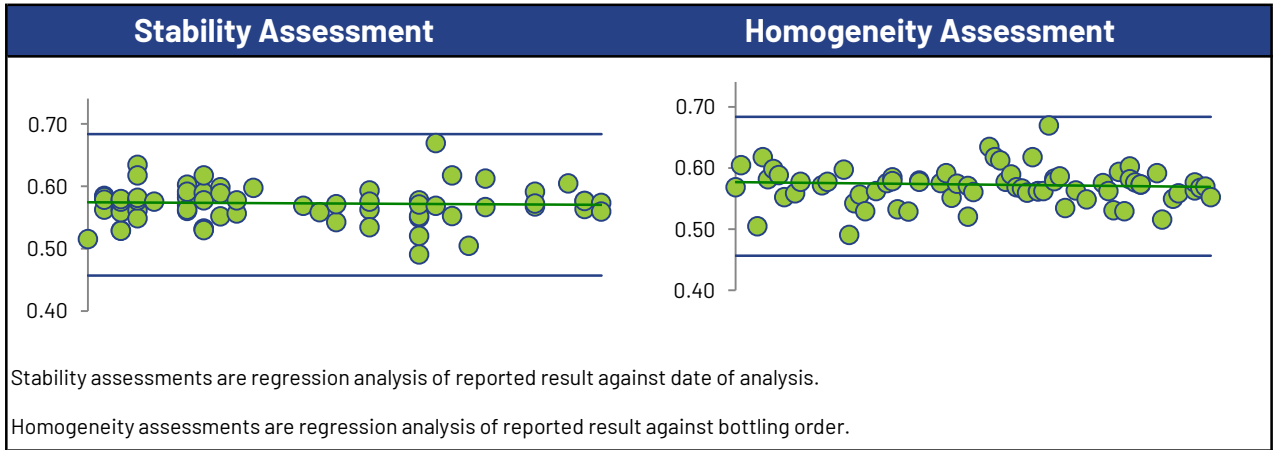


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Thallium



Thallium



Tin

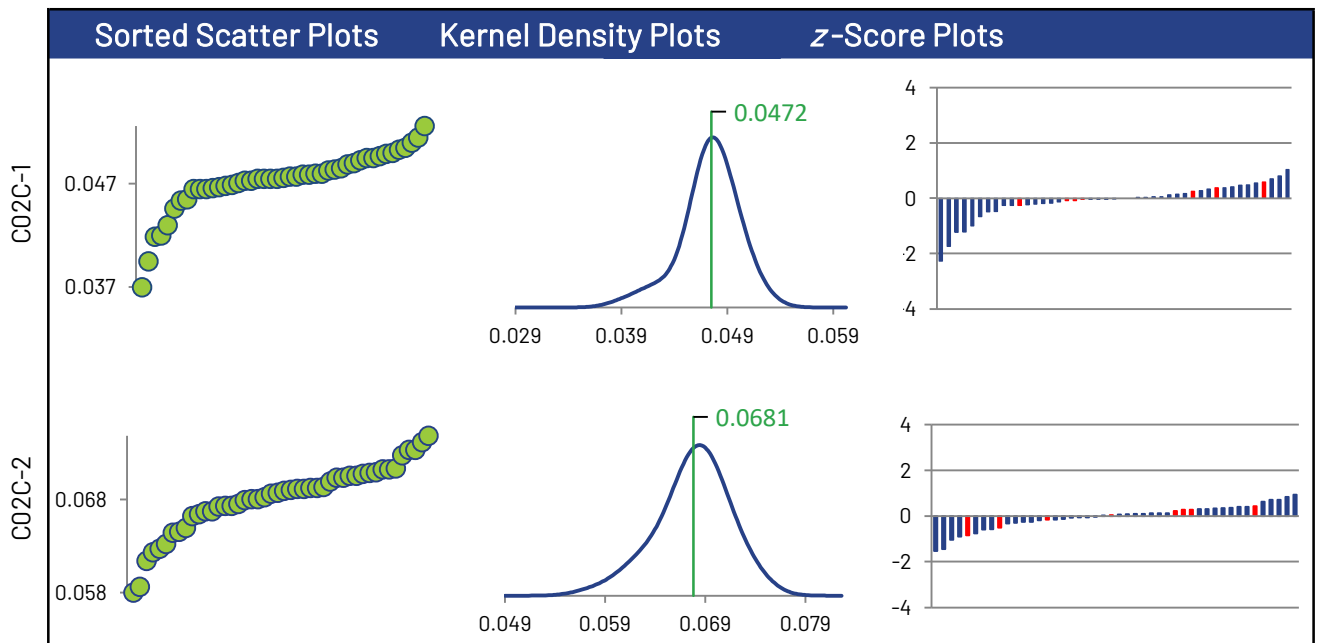
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	45	46	46	44
Median mg/L	0.0471	0.0685	0.0863	0.0361
Robust Mean mg/L	0.0472	0.0681	0.0861	0.0361
Uncertainty of the Assigned Value mg/L	0.000391	0.000623	0.000772	0.000390
Robust Standard Deviation mg/L	0.00210	0.00338	0.00419	0.00207
Regression Standard Deviation mg/L	0.00472	0.00681	0.00861	0.00361
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.00472	0.00681	0.00861	0.00361
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	1	0	0	1
Failure Rate %*	0.0			

Methods Used

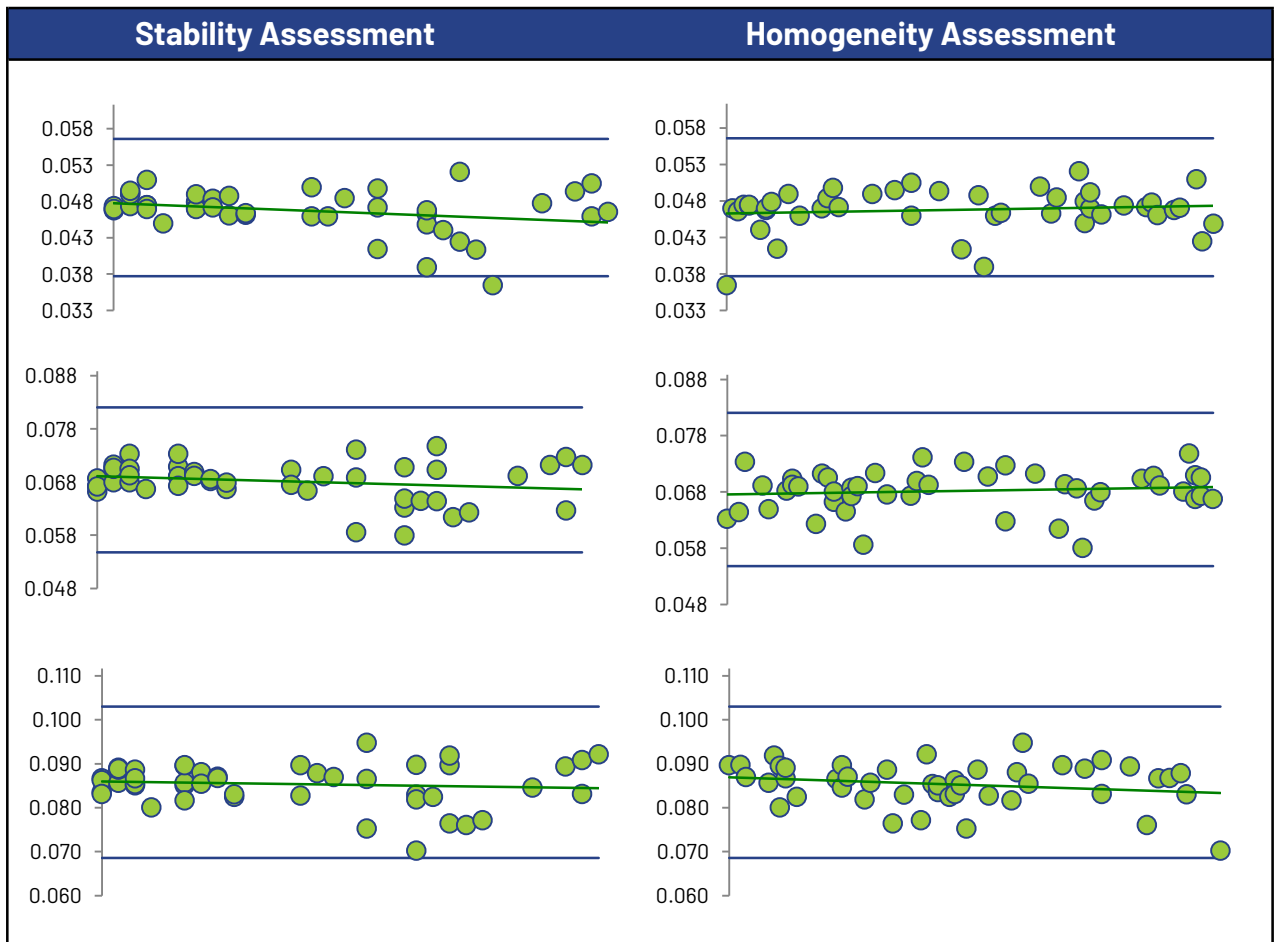
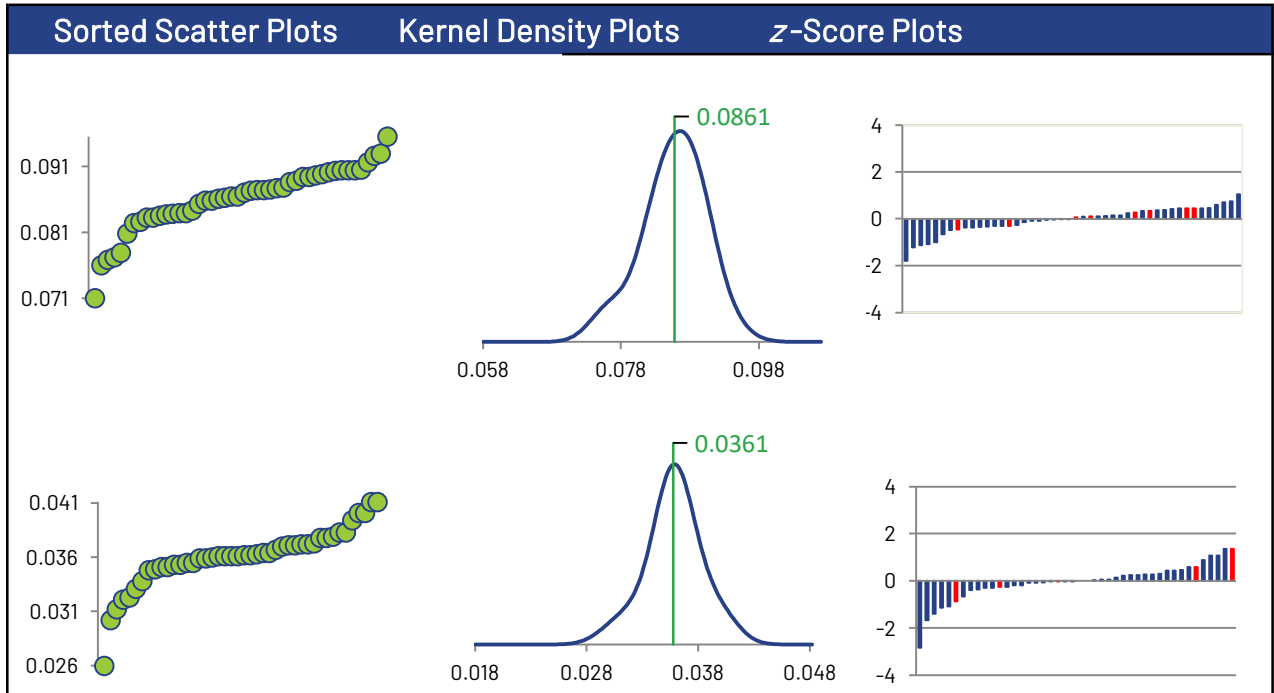
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	38	38	38	38
ICP/OES (Red)	7	8	8	6

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

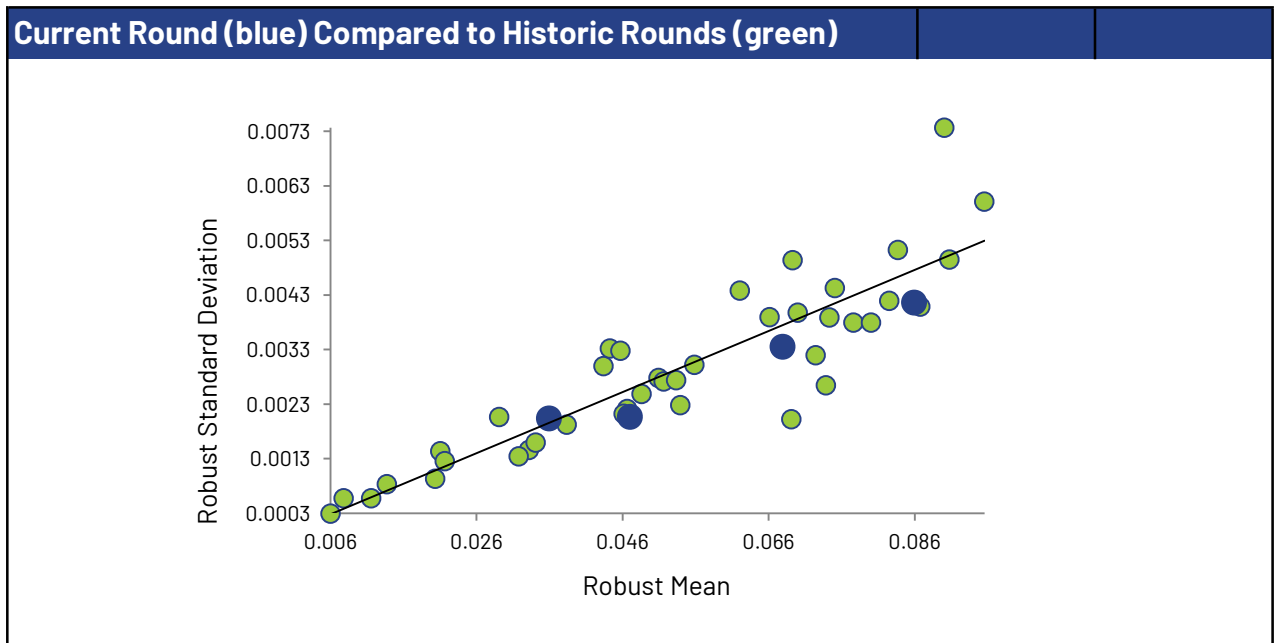
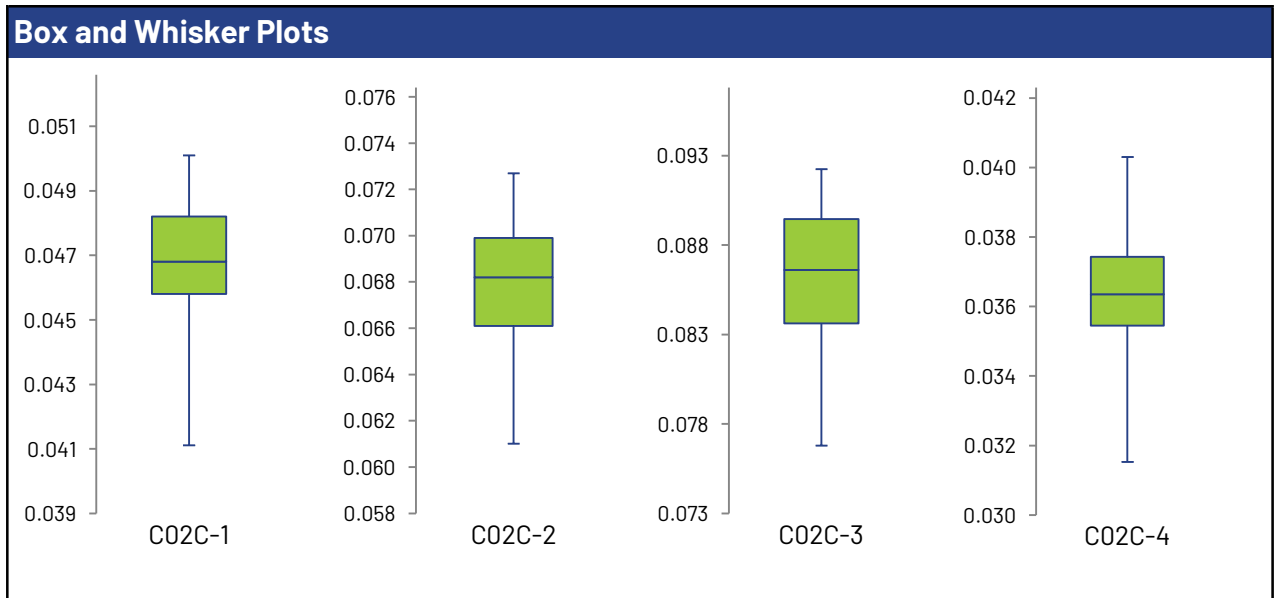
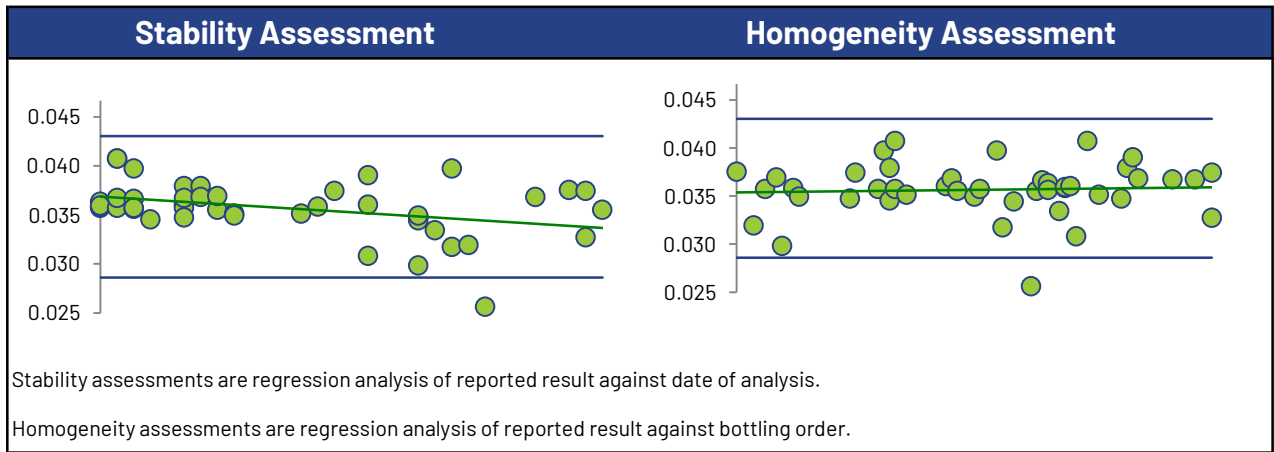


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Tin



Tin



Titanium

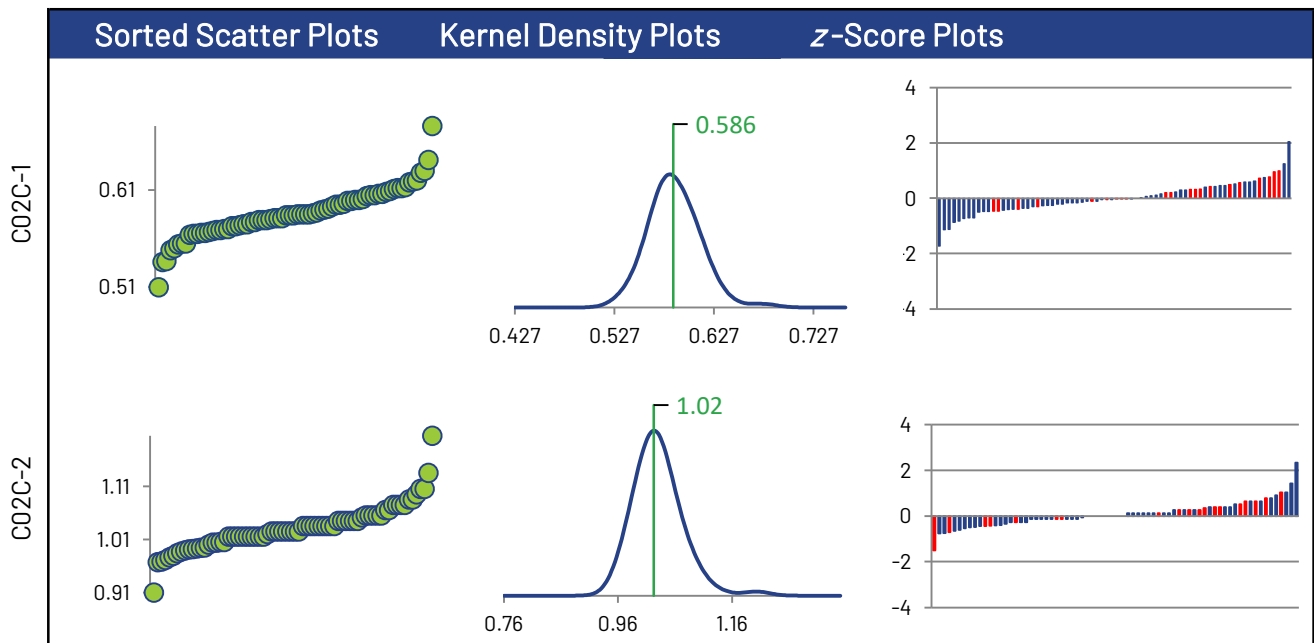
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	72	72	72	72
Median mg/L	0.585	1.02	1.30	0.390
Robust Mean mg/L	0.586	1.02	1.30	0.390
Uncertainty of the Assigned Value mg/L	0.00336	0.00530	0.00785	0.00224
Robust Standard Deviation mg/L	0.0228	0.0360	0.0533	0.0152
Regression Standard Deviation mg/L	0.0439	0.0768	0.0975	0.0292
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0439	0.0768	0.0975	0.0292
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	0
$2 < z < 3$	1	1	1	0
Failure Rate %*	0.0			

Methods Used

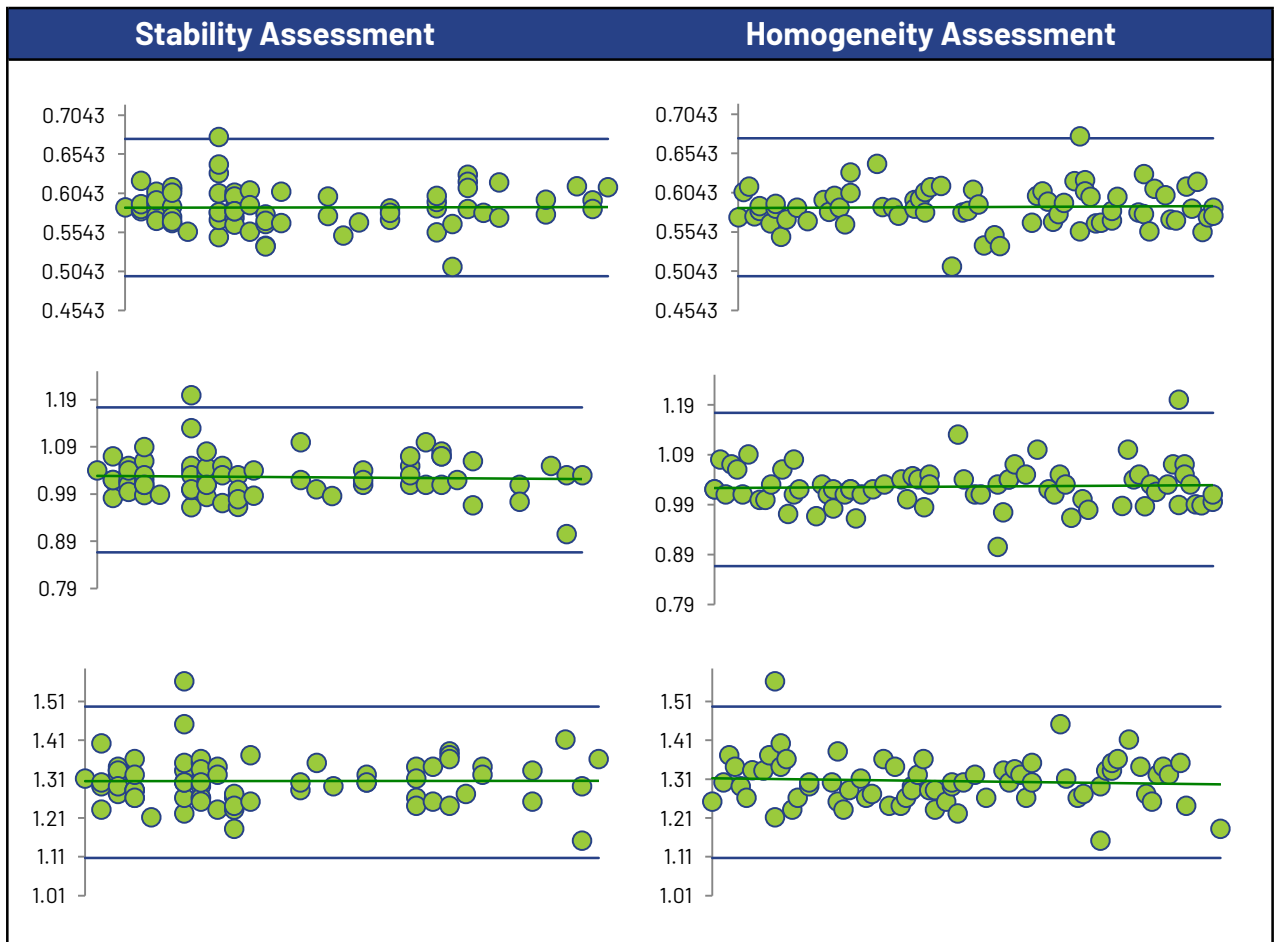
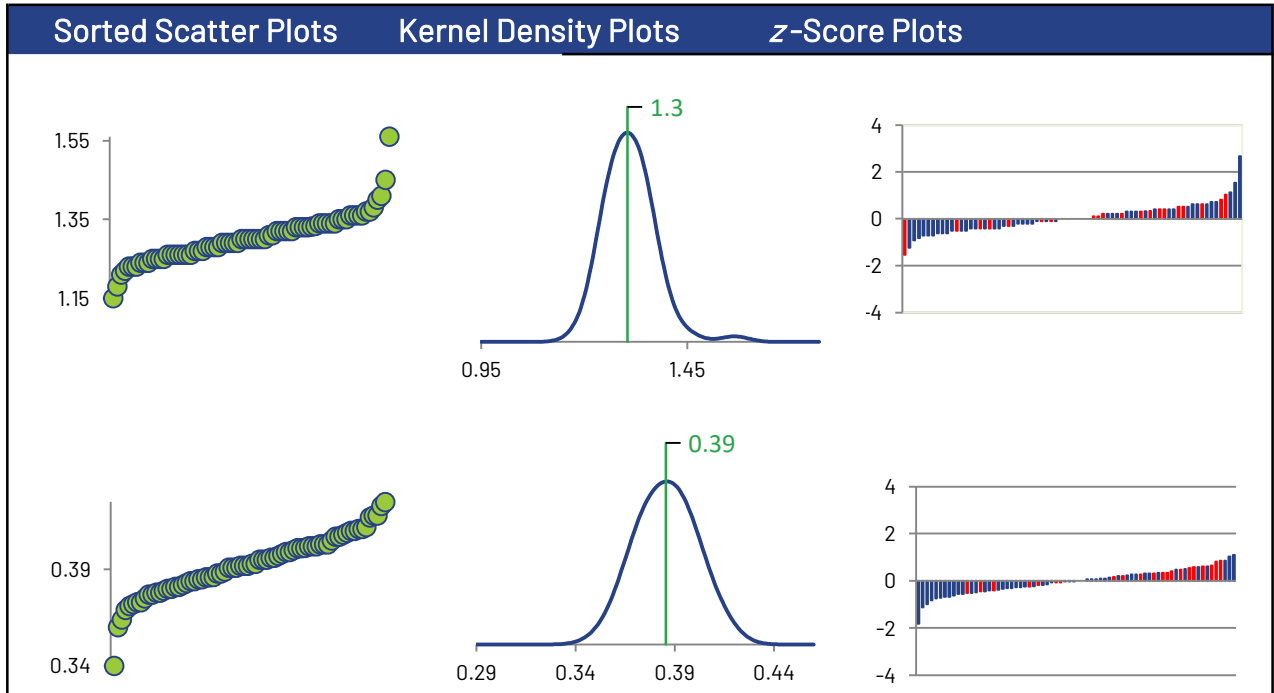
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	50	50	50	50
ICP/OES (Red)	22	22	22	22

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

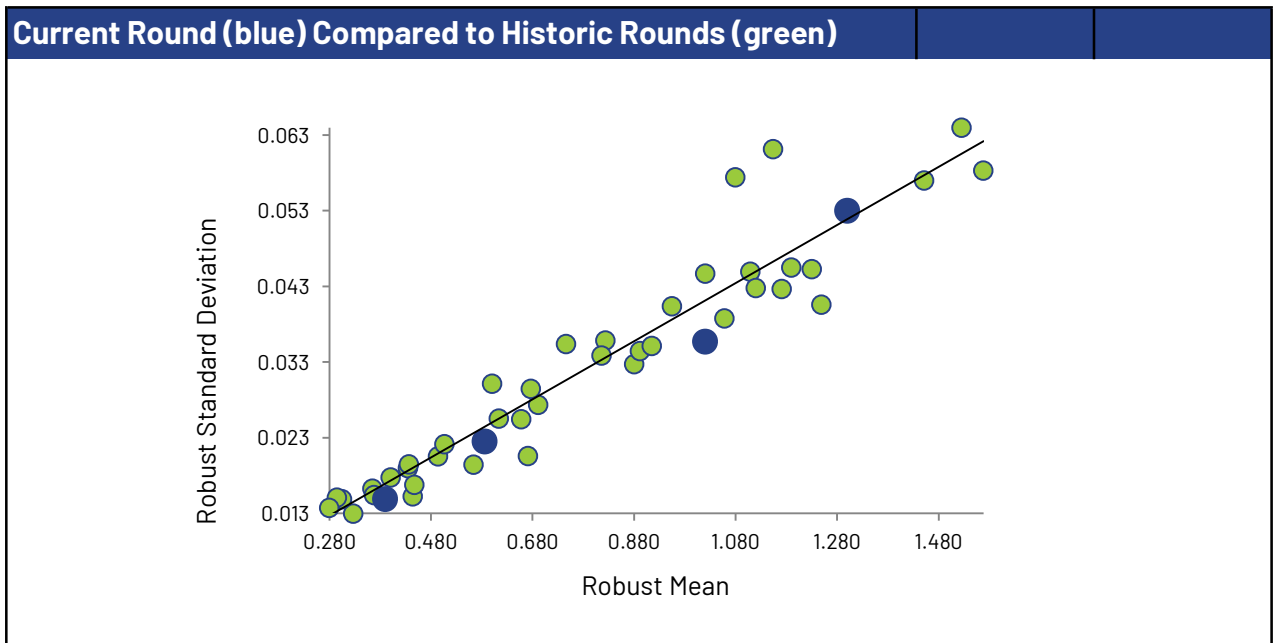
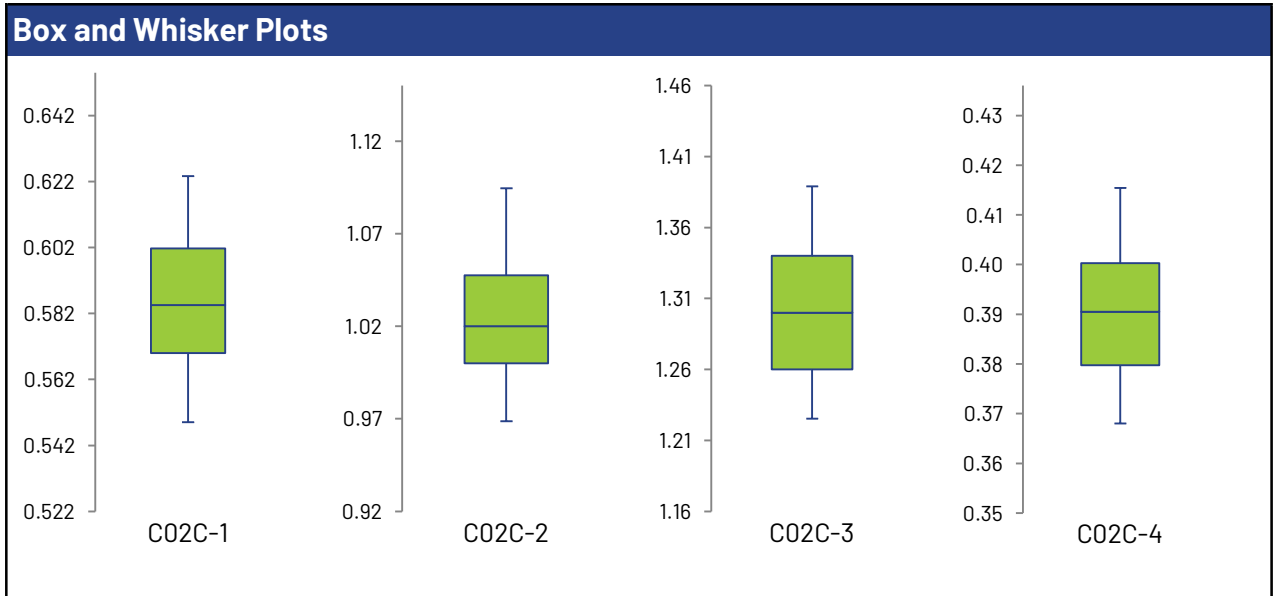
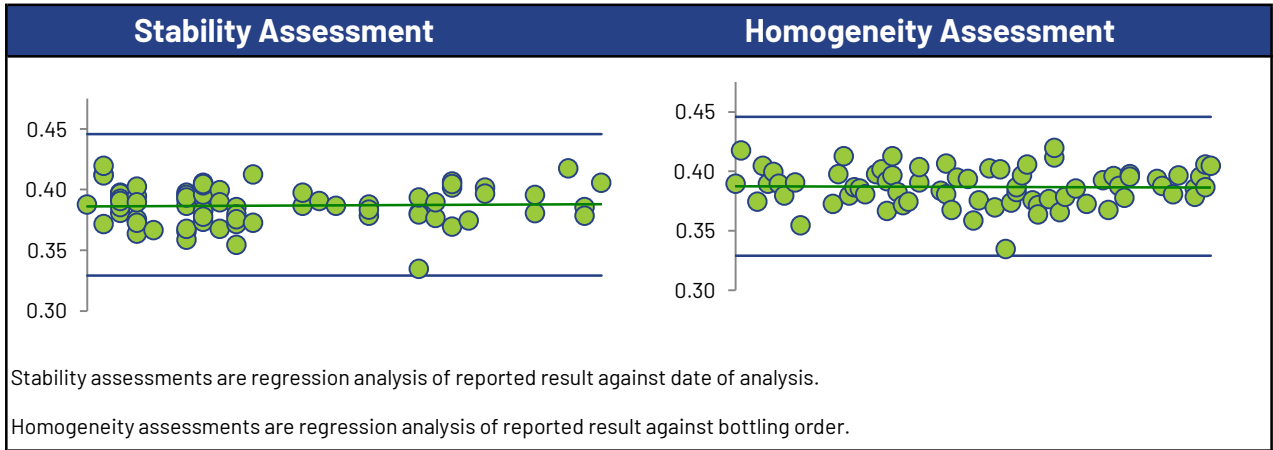


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Titanium



Titanium



Uranium

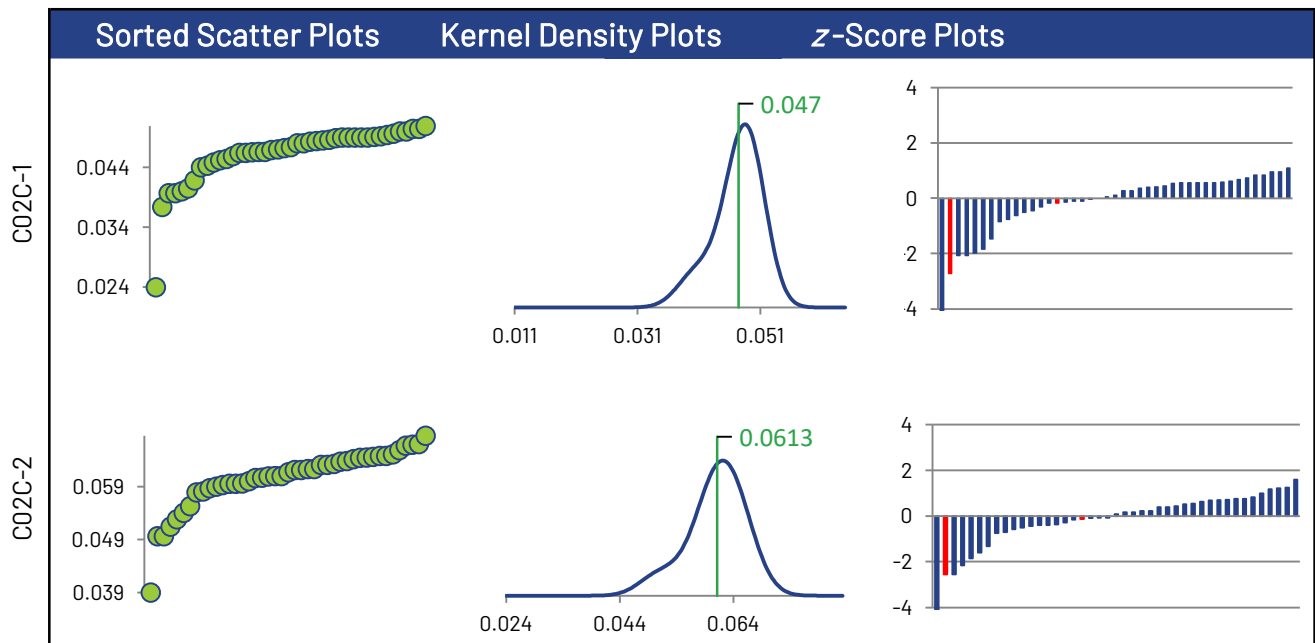
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	43	43	43	39
Median mg/L	0.0474	0.0617	0.0831	0.00445
Robust Mean mg/L	0.0470	0.0613	0.0825	0.00444
Uncertainty of the Assigned Value mg/L	0.000549	0.000812	0.00107	0.0000687
Robust Standard Deviation mg/L	0.00288	0.00426	0.00560	0.000343
Regression Standard Deviation mg/L	0.00353	0.00459	0.00619	0.000333
Stability Flag				Stability
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.00353	0.00459	0.00619	0.000559
Flagged Outliers	0	0	0	1
$ z > 3.0$	1	1	0	1
$2 < z < 3$	3	3	5	0
Failure Rate %*	0.0			

Methods Used

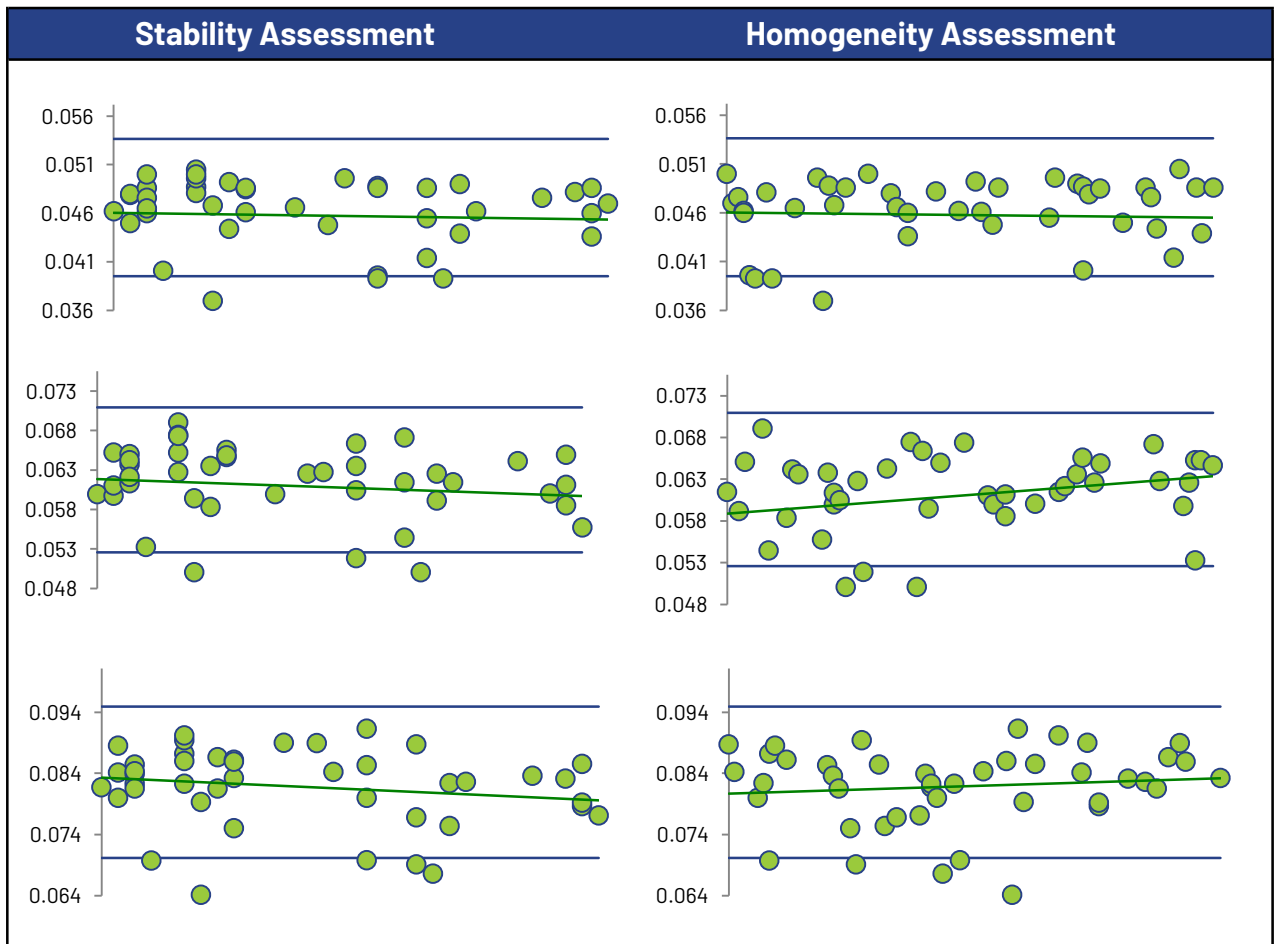
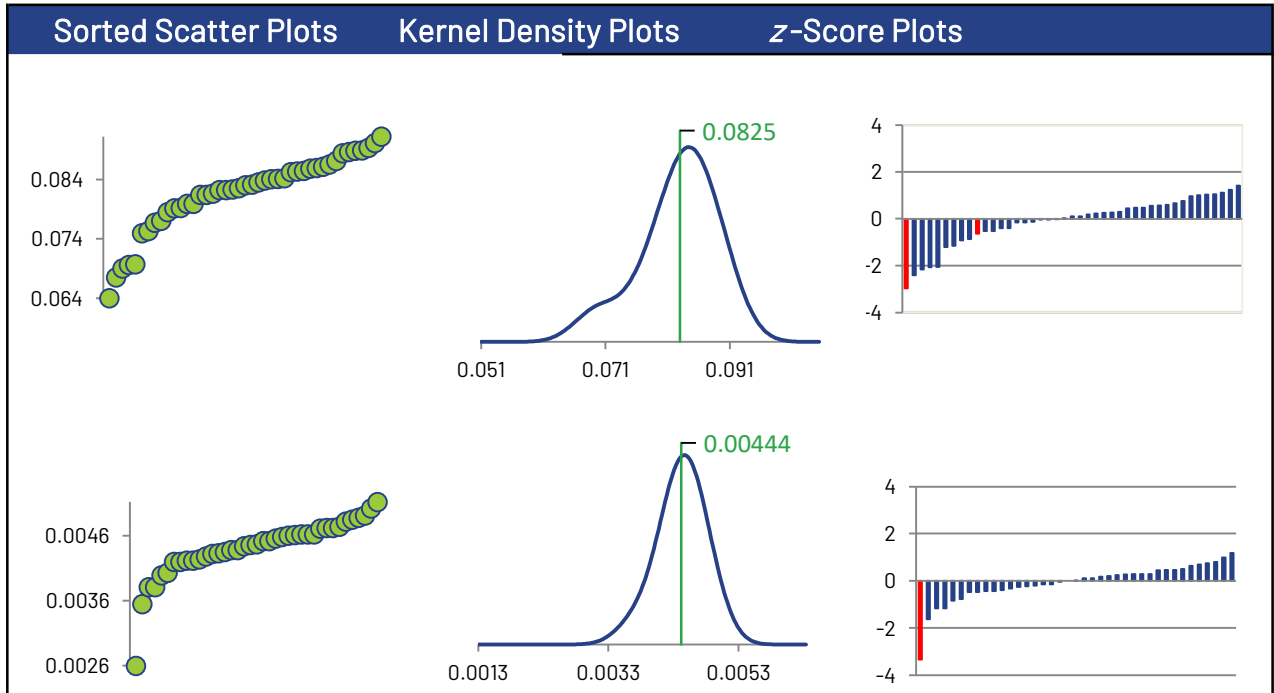
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	41	41	41	38
ICP/OES (Red)	2	2	2	1

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

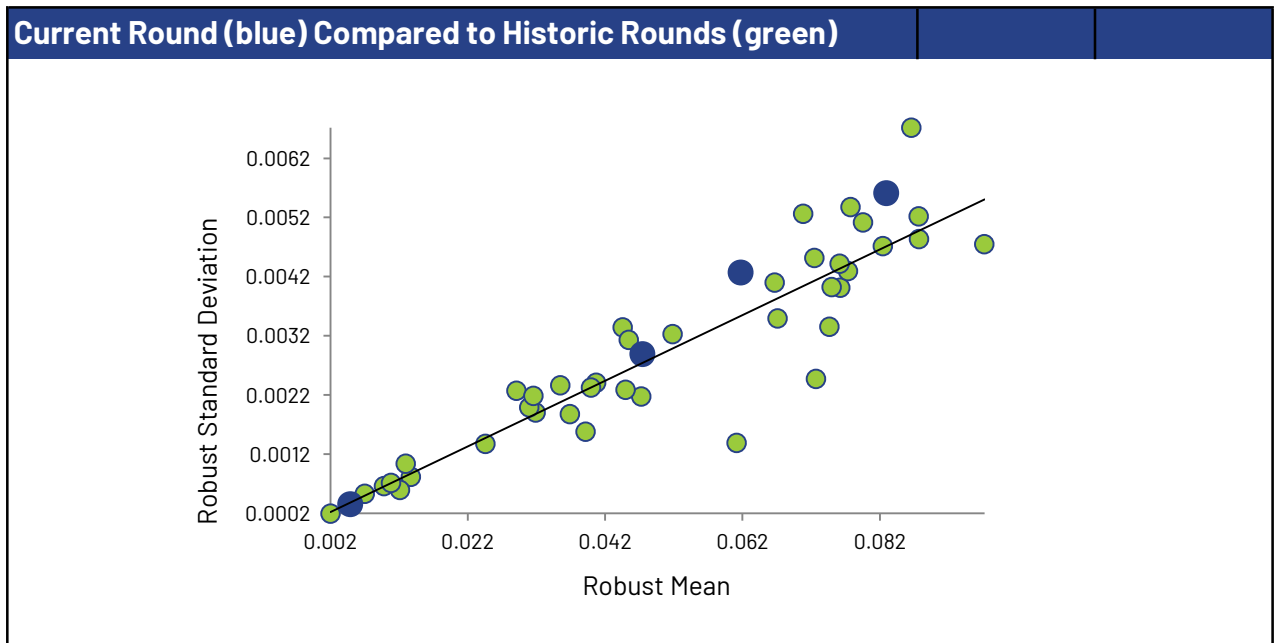
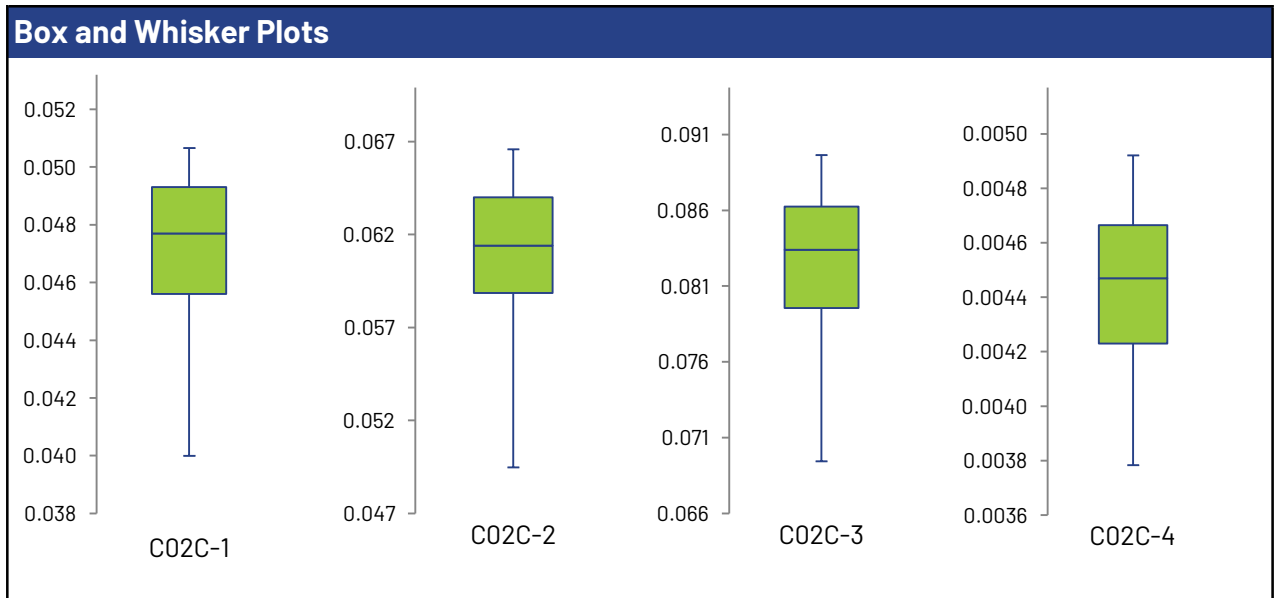
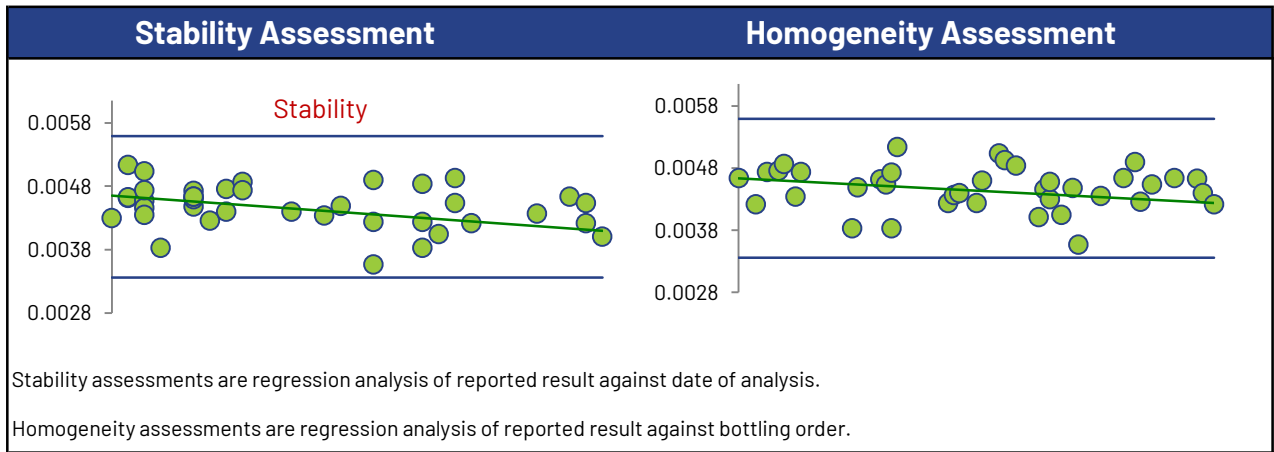


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Uranium



Uranium



Vanadium

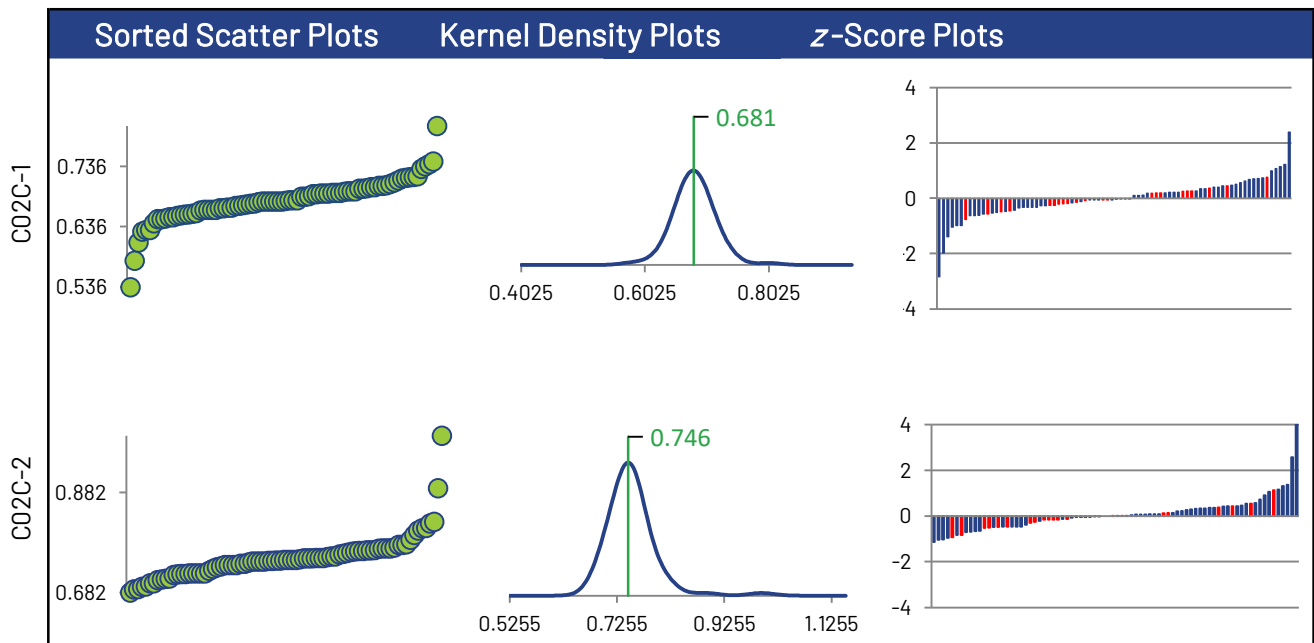
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	80	80	80	80
Median mg/L	0.679	0.747	1.45	0.496
Robust Mean mg/L	0.681	0.746	1.45	0.492
Uncertainty of the Assigned Value mg/L	0.00380	0.00416	0.00887	0.00238
Robust Standard Deviation mg/L	0.0272	0.0298	0.0635	0.0170
Regression Standard Deviation mg/L	0.0511	0.0560	0.109	0.0369
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0511	0.0560	0.109	0.0369
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	1	0	1
$2 < z < 3$	2	1	2	1
Failure Rate %*	2.5			

Methods Used

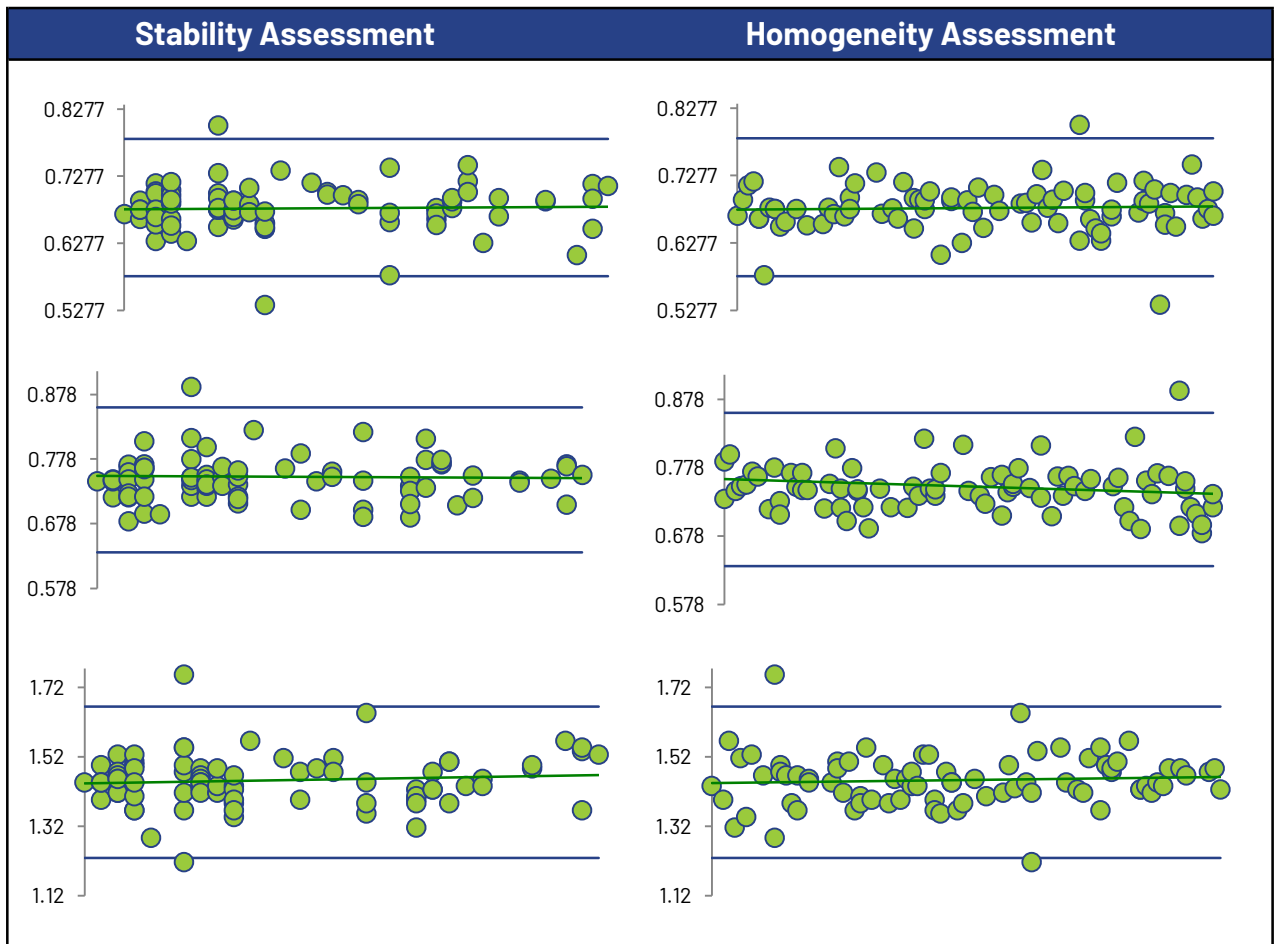
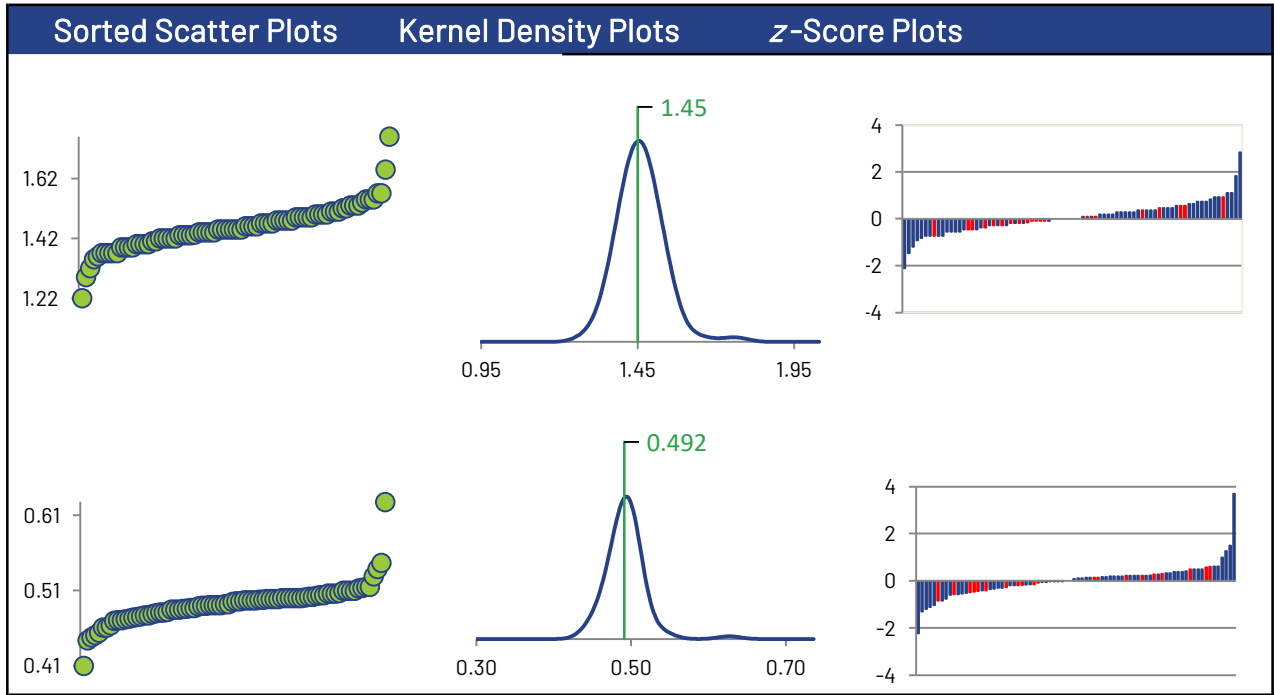
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	57	57	57	57
ICP/OES (Red)	23	23	23	23

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers

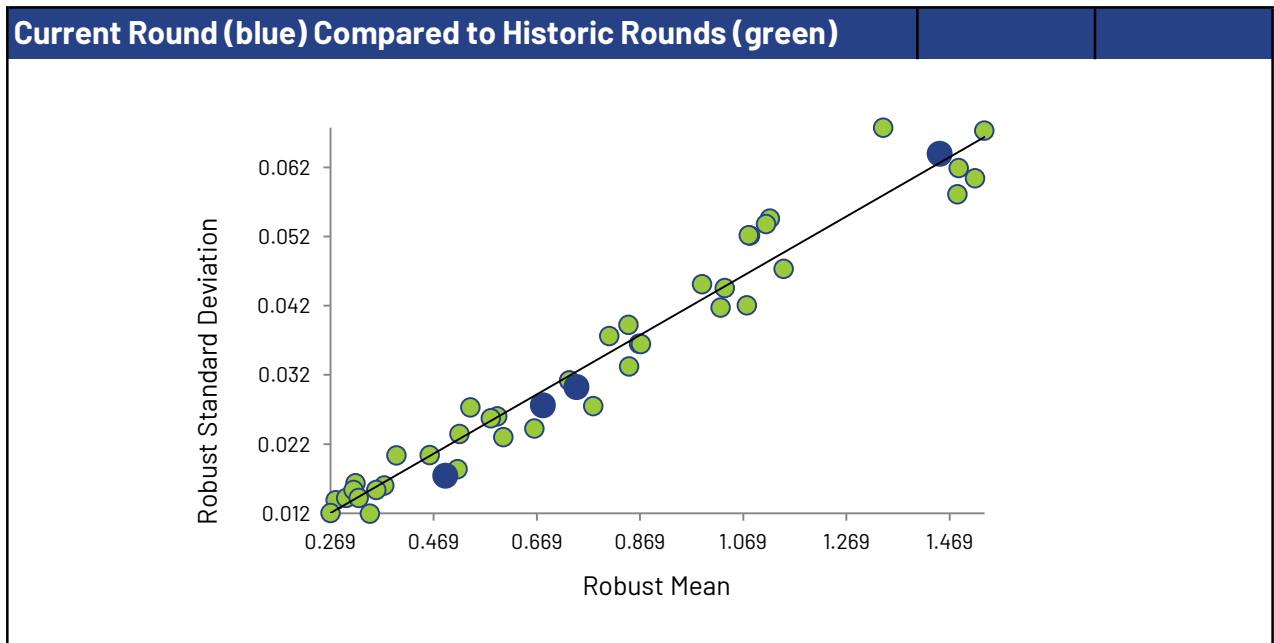
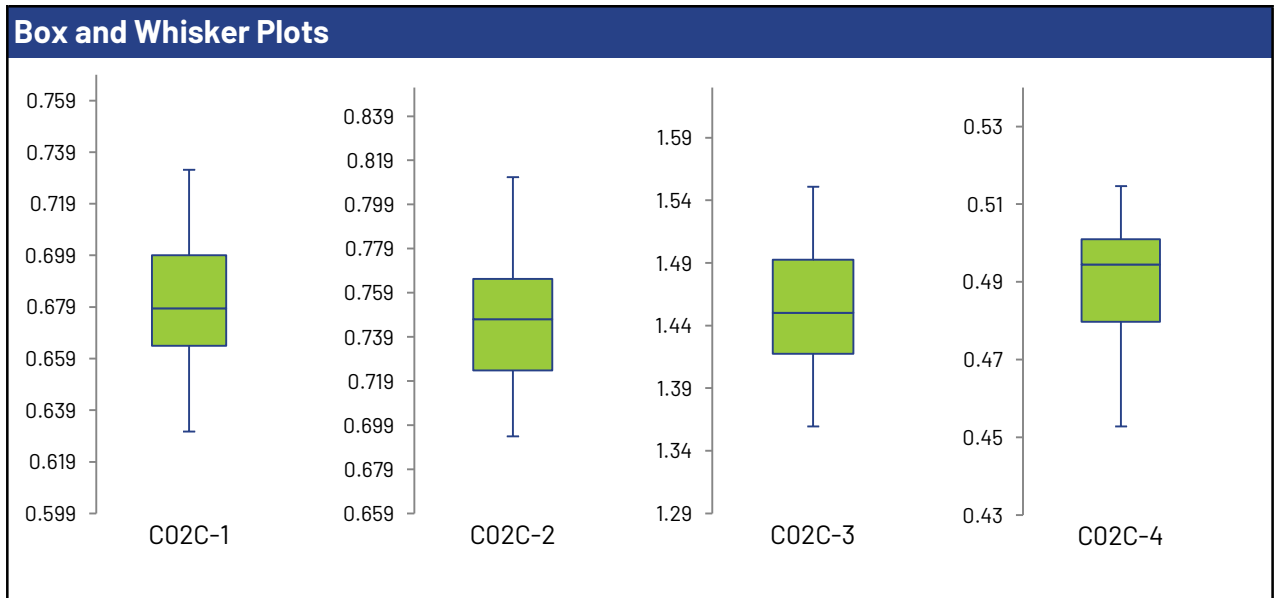
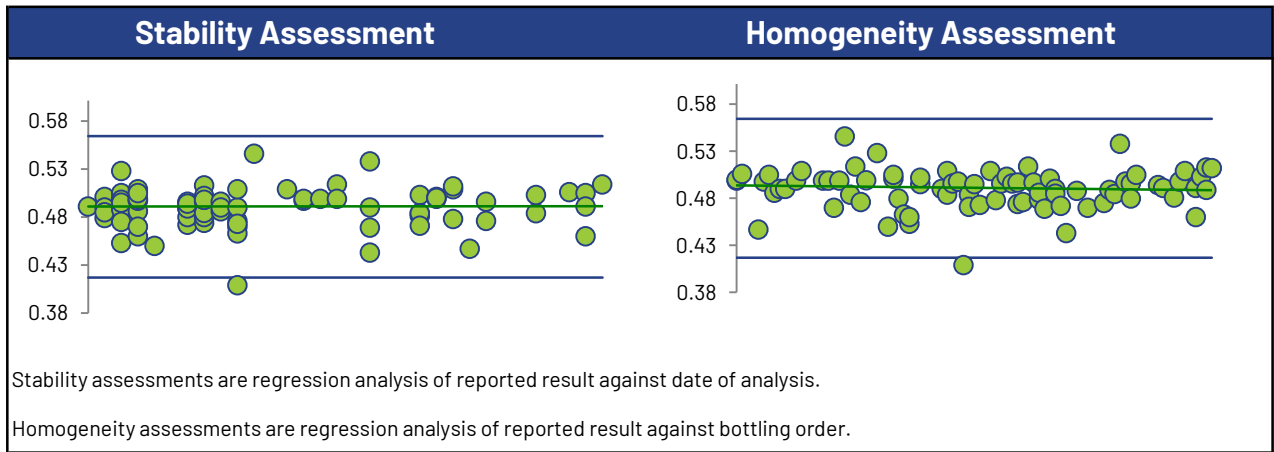


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Vanadium



Vanadium



Zinc

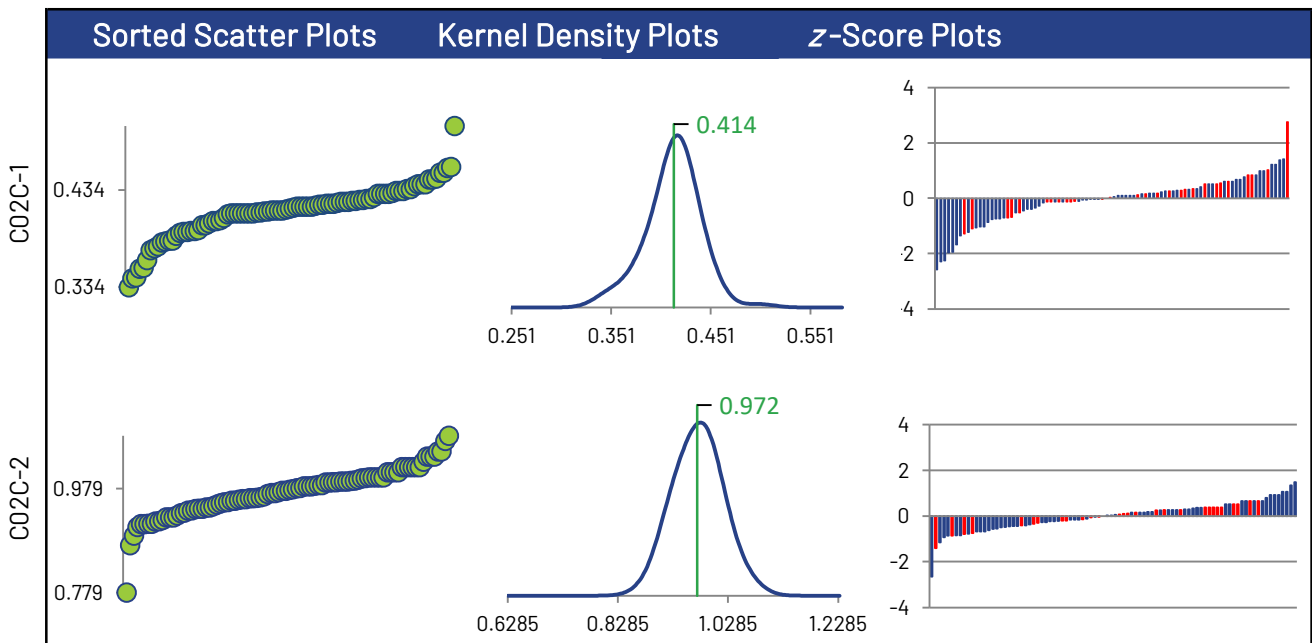
Summary Statistics

Statistic	C02C-1	C02C-2	C02C-3	C02C-4
No. of results used for summary statistics	90	90	90	90
Median mg/L	0.416	0.975	1.19	0.439
Robust Mean mg/L	0.414	0.972	1.19	0.439
Uncertainty of the Assigned Value mg/L	0.00300	0.00567	0.00730	0.00303
Robust Standard Deviation mg/L	0.0228	0.0430	0.0554	0.0230
Regression Standard Deviation mg/L	0.0310	0.0729	0.0892	0.0330
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0310	0.0729	0.0892	0.0330
Flagged Outliers	0	0	0	0
$ z > 3.0$	0	0	0	2
$2 < z < 3$	4	1	2	4
Failure Rate %*	2.2			

Methods Used

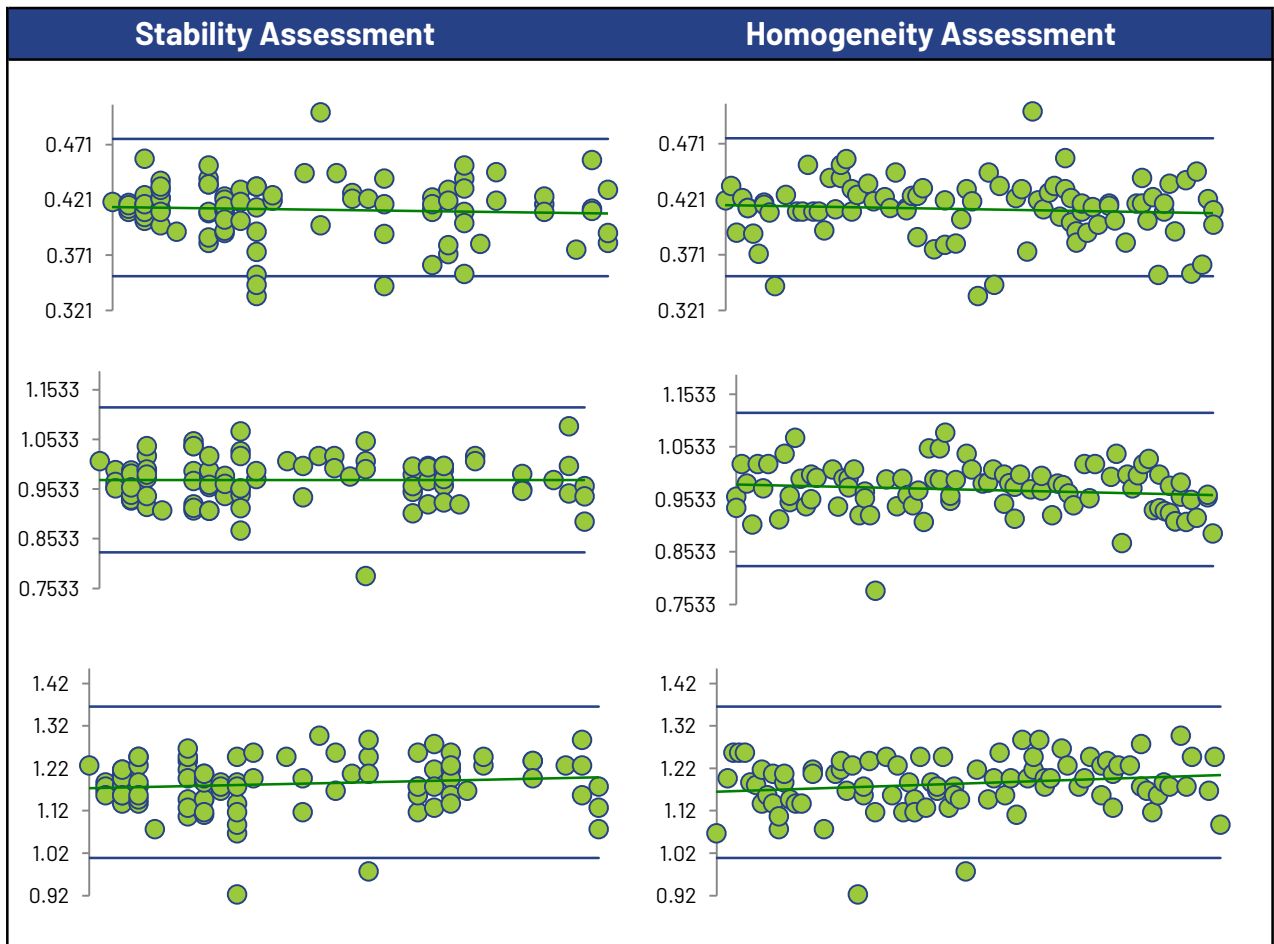
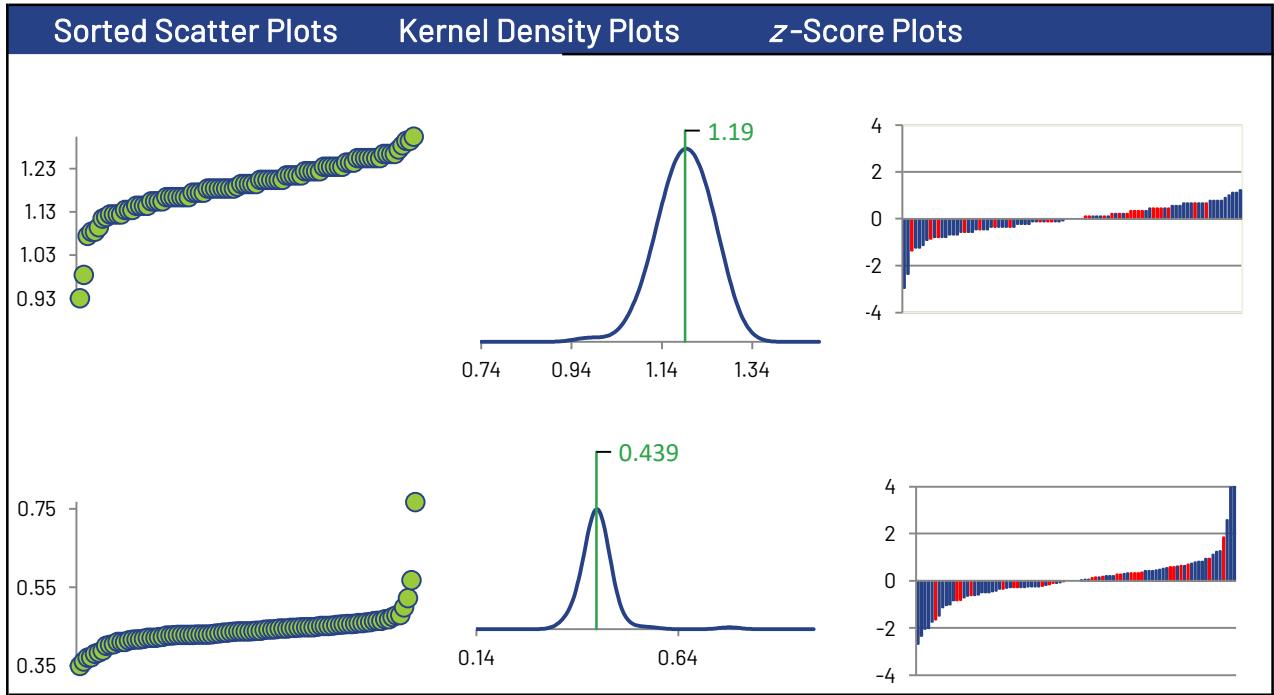
Method	C02C-1	C02C-2	C02C-3	C02C-4
ICP/MS (Blue)	62	62	62	62
ICP/OES (Red)	28	28	28	28

All summary stats, except the failure rate, and the plots below are based on the data excluding any flagged outliers



* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Zinc



Zinc

