

Test Group Summary Report

C01A Major Ions in Water

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.

Alkalinity (pH 4.5)

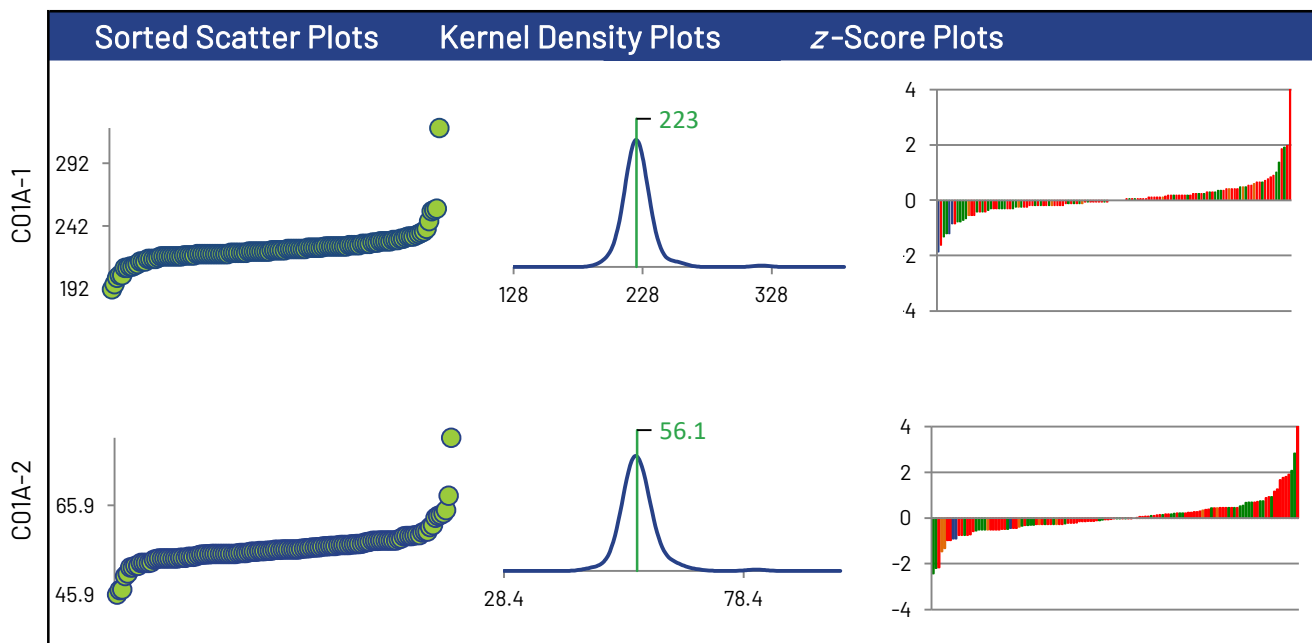
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	128	128	128	128
Median mg/L	223	56.0	147	148
Robust Mean mg/L	223	56.1	148	148
Uncertainty of the Assigned Value mg/L	0.746	0.253	0.475	0.486
Robust Standard Deviation mg/L	6.75	2.29	4.30	4.40
Regression Standard Deviation mg/L	16.7	4.21	11.1	11.1
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	16.7	4.21	11.1	11.1
Flagged Outliers	0	0	0	0
$ z > 3.0$	1	1	1	2
$2 < z < 3$	0	5	1	2
Failure Rate %*	1.6			

Methods Used

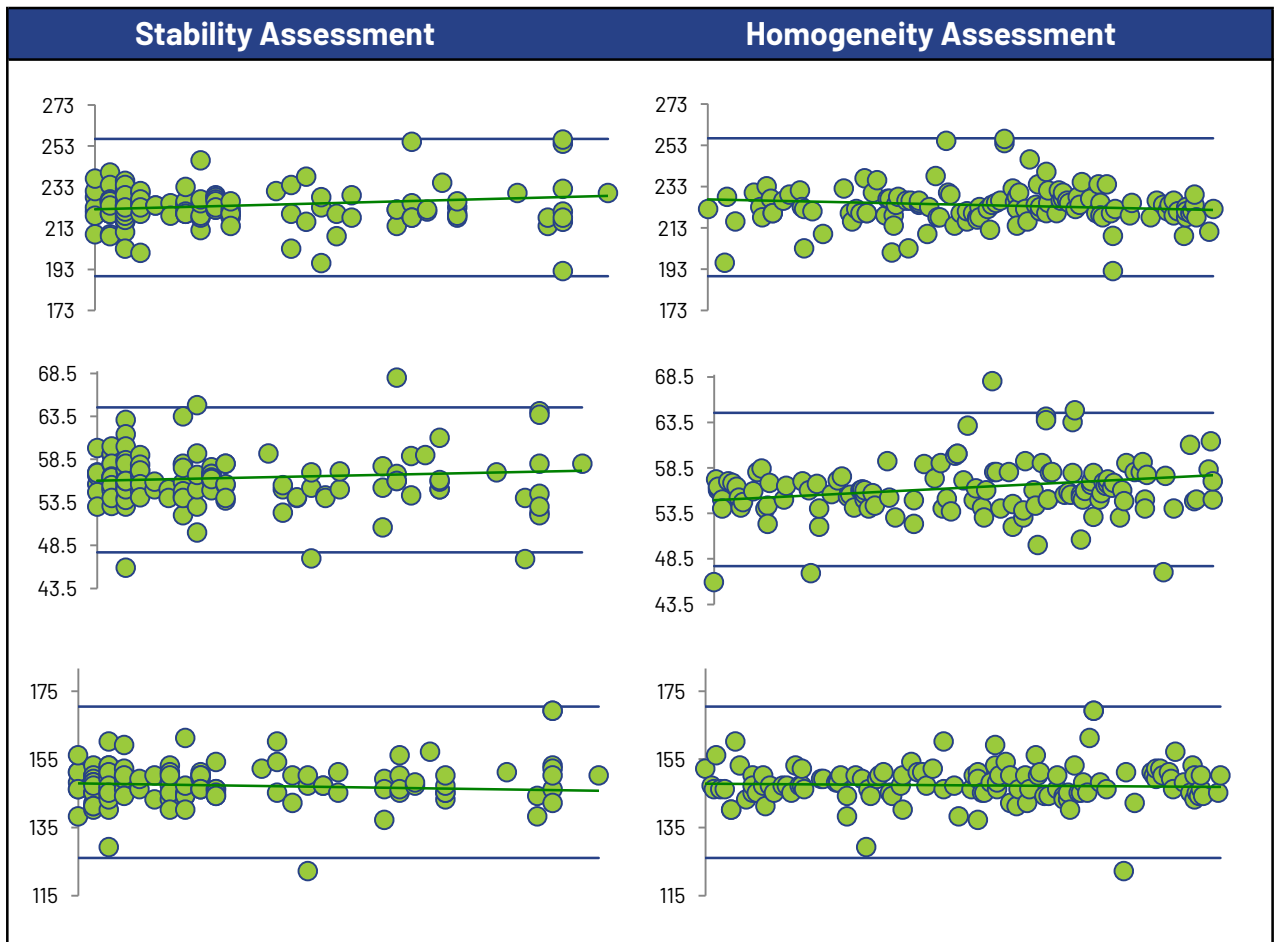
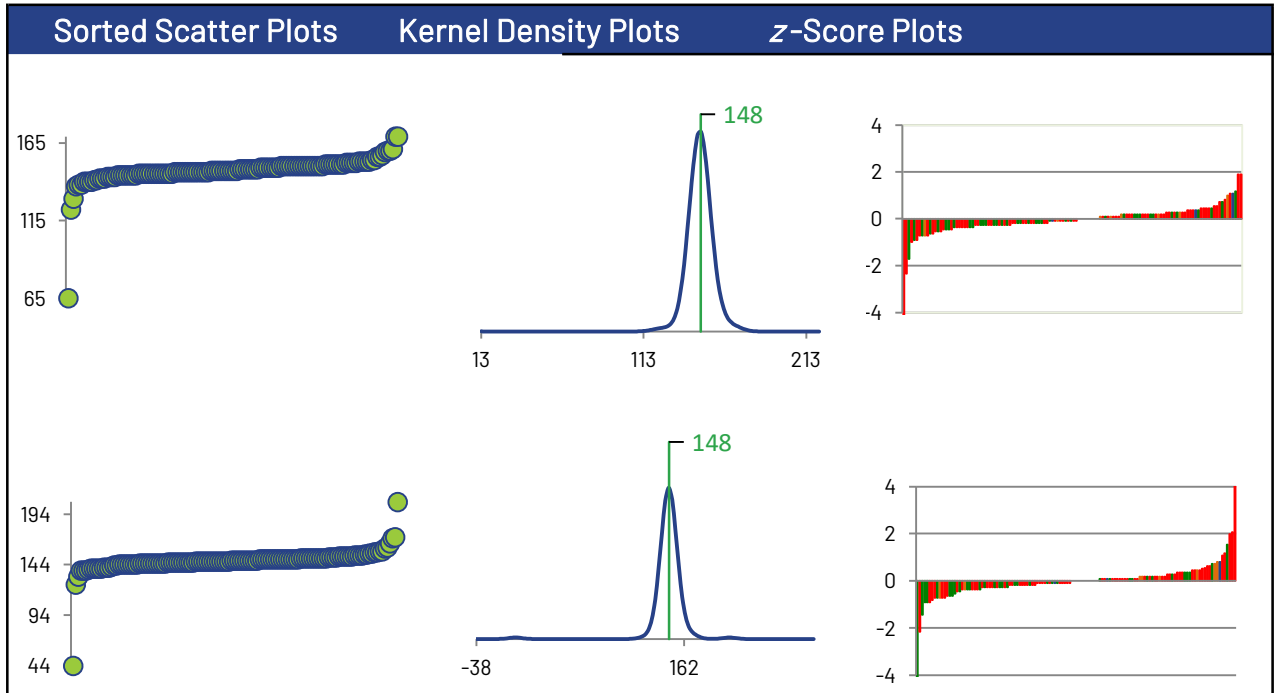
Method	C01A-1	C01A-2	C01A-3	C01A-4
AUTO COLOR (Blue)	3	3	3	3
TITRIMETRIC (Red)	77	77	77	77
AUTO TITRIMETRIC (Green)	40	40	40	40
COLORIMETRIC (Orange)	8	8	8	8

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

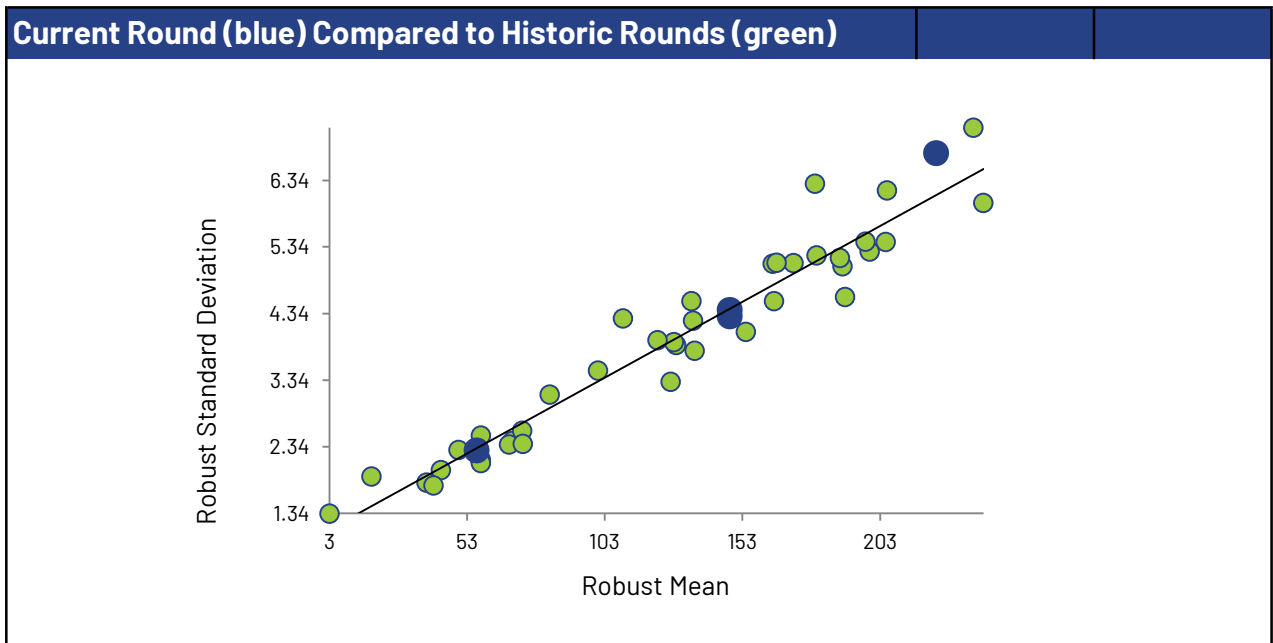
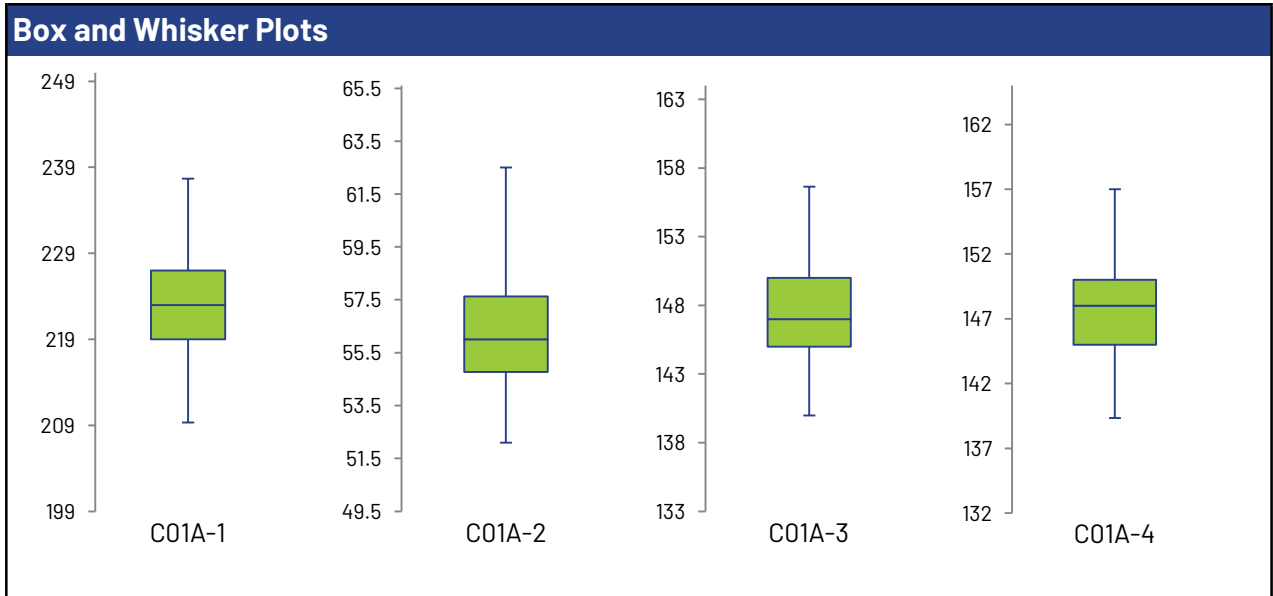
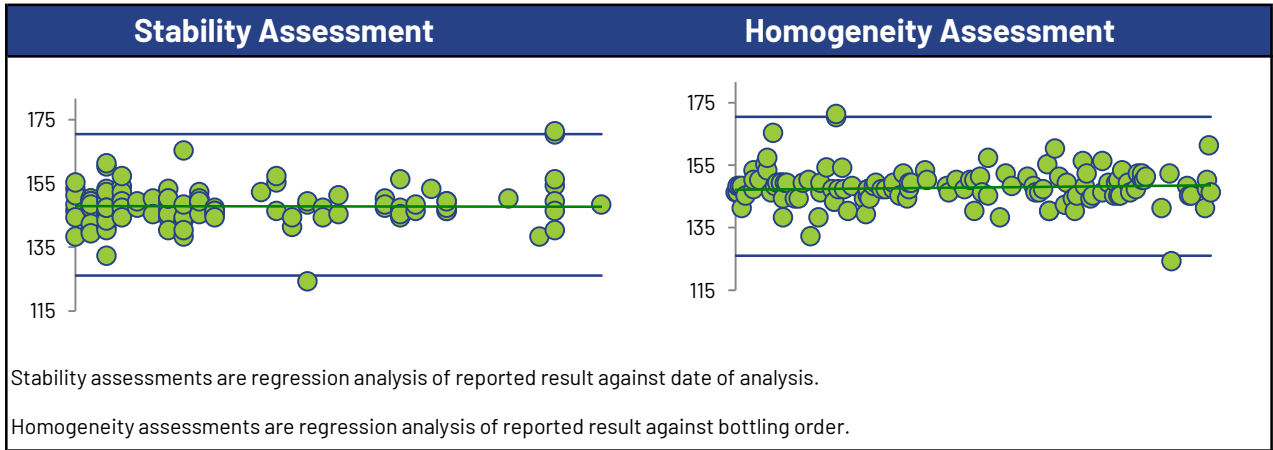


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Alkalinity (pH 4.5)



Alkalinity (pH 4.5)



Calcium

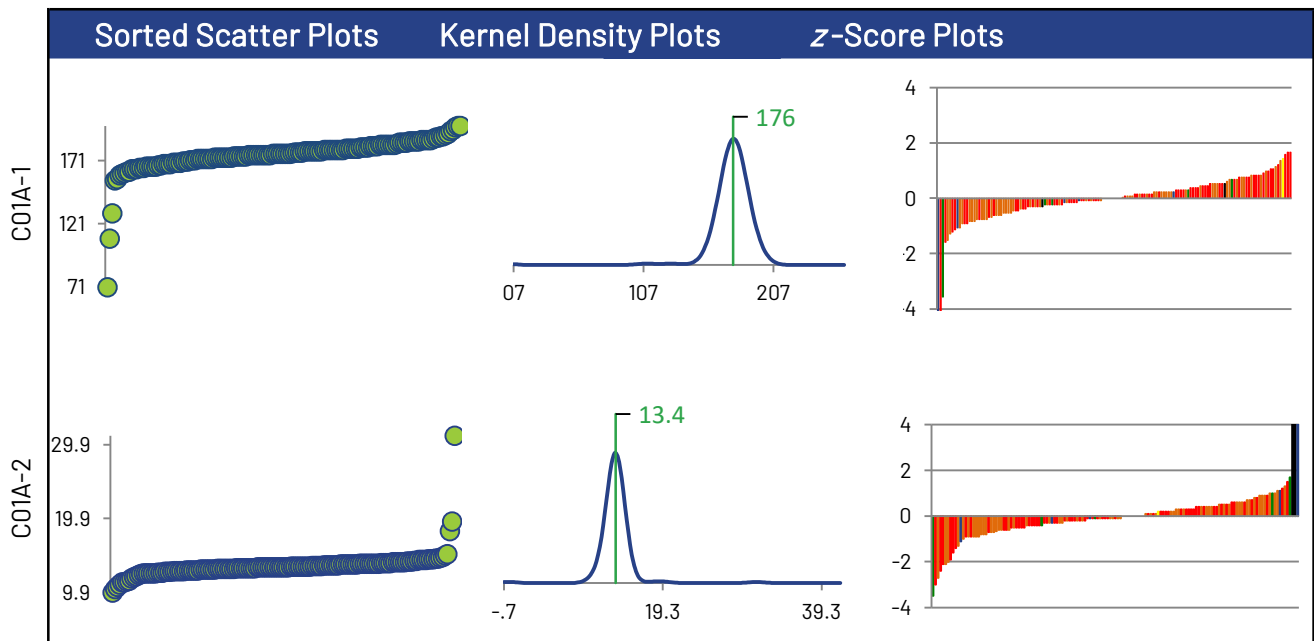
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	146	145	145	145
Median mg/L	176	13.3	29.7	29.6
Robust Mean mg/L	176	13.4	29.6	29.5
Uncertainty of the Assigned Value mg/L	0.879	0.0708	0.131	0.132
Robust Standard Deviation mg/L	8.50	0.682	1.26	1.27
Regression Standard Deviation mg/L	13.2	1.00	2.22	2.21
Stability Flag				Stability
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	13.2	1.00	2.22	4.19
Flagged Outliers	1	2	2	2
$ z > 3.0$	3	4	5	2
$2 < z < 3$	0	5	1	1
Failure Rate %*	0.0			

Methods Used

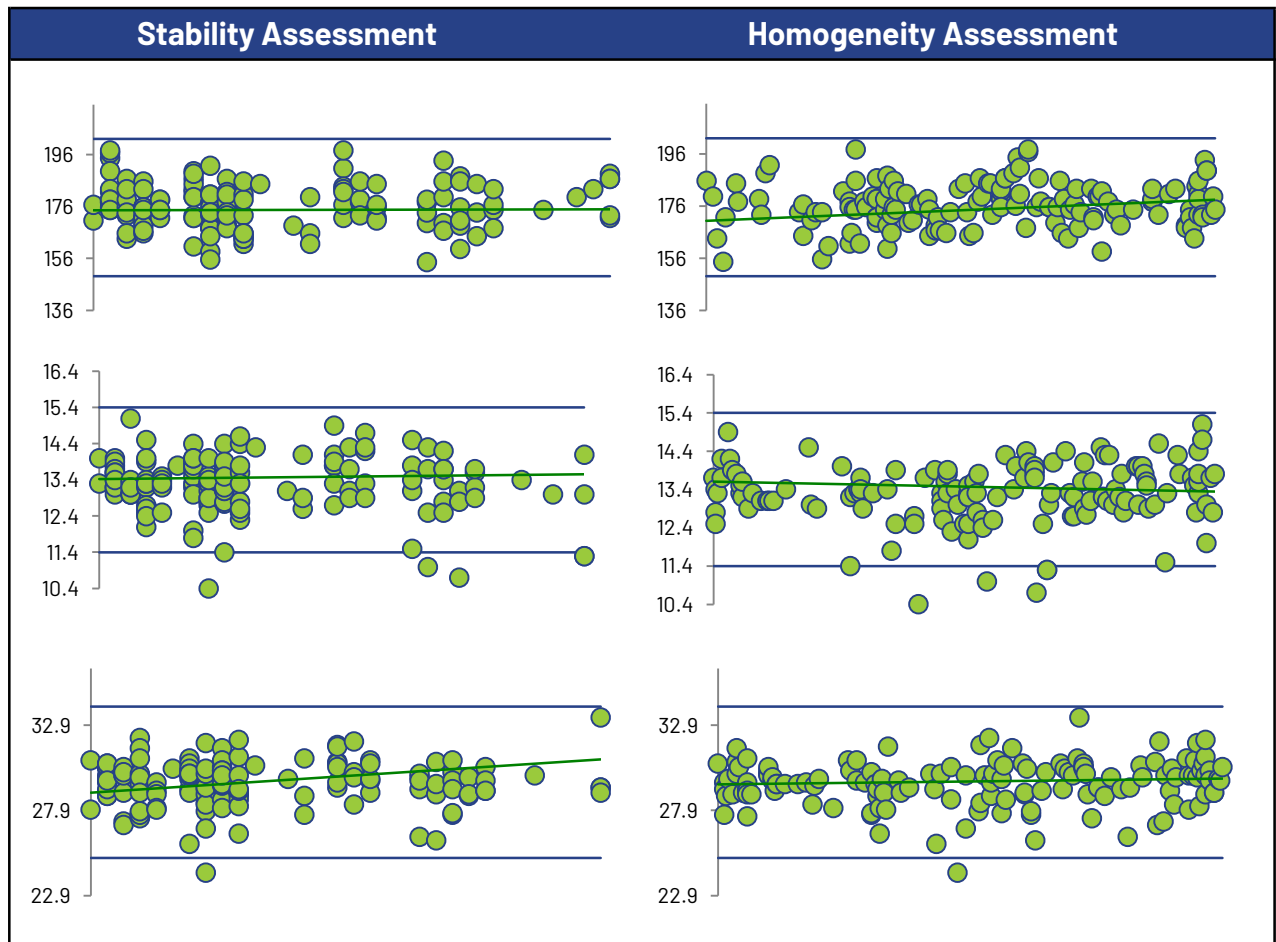
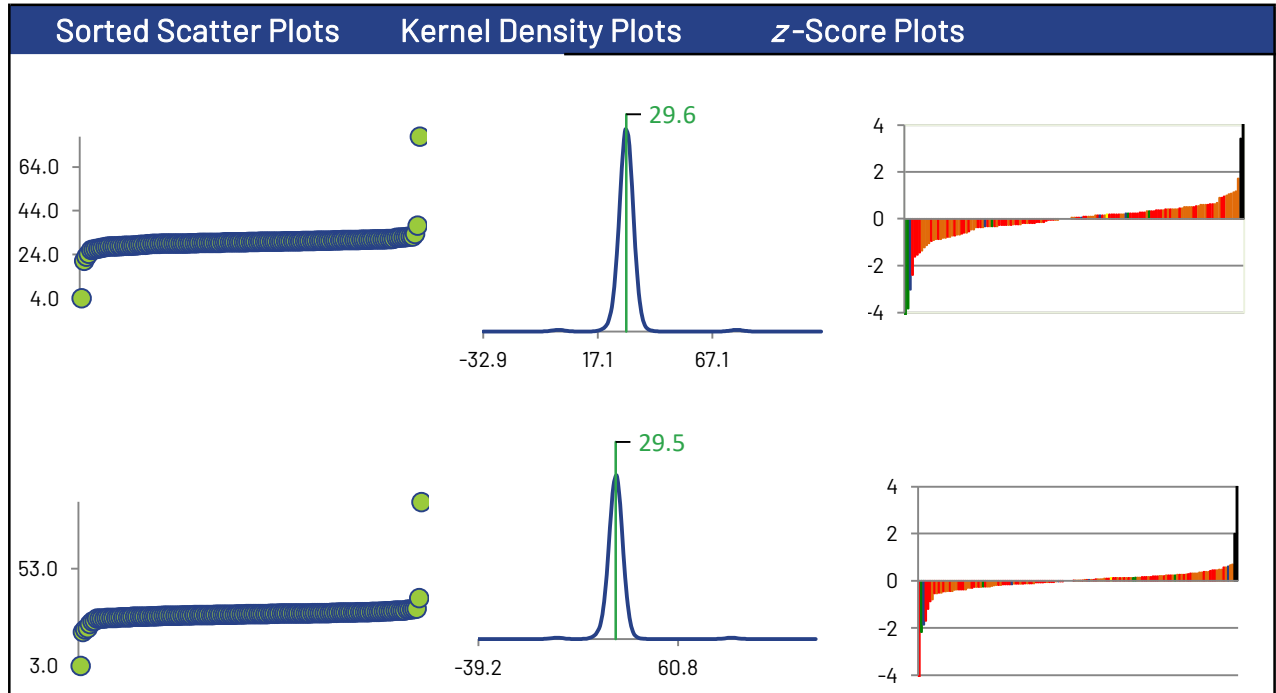
Method	C01A-1	C01A-2	C01A-3	C01A-4
AA FLAME (Blue)	5	5	5	5
ICP/OES (Red)	70	70	70	70
ION CHROMATOGRAPHY (Green)	5	5	5	5
ICP/MS (Orange)	63	62	62	62
COLORIMETRIC (Black)	2	2	2	2
SELECTIVE ION ELECTRODE (Yellow)	1	1	1	1

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

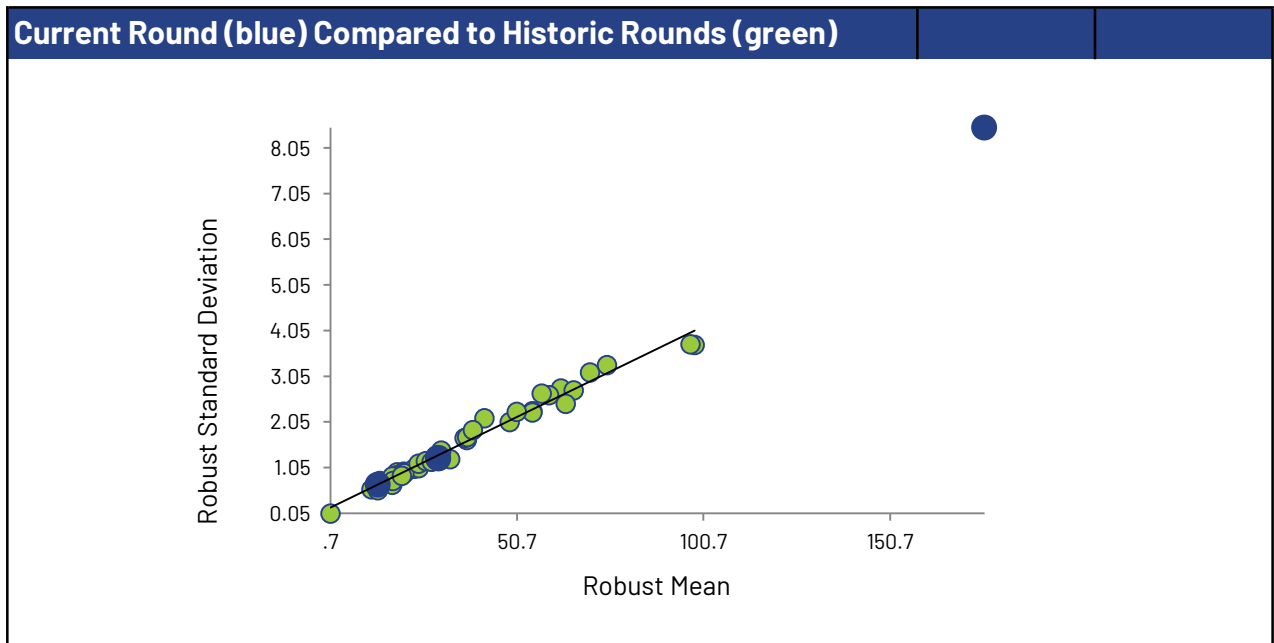
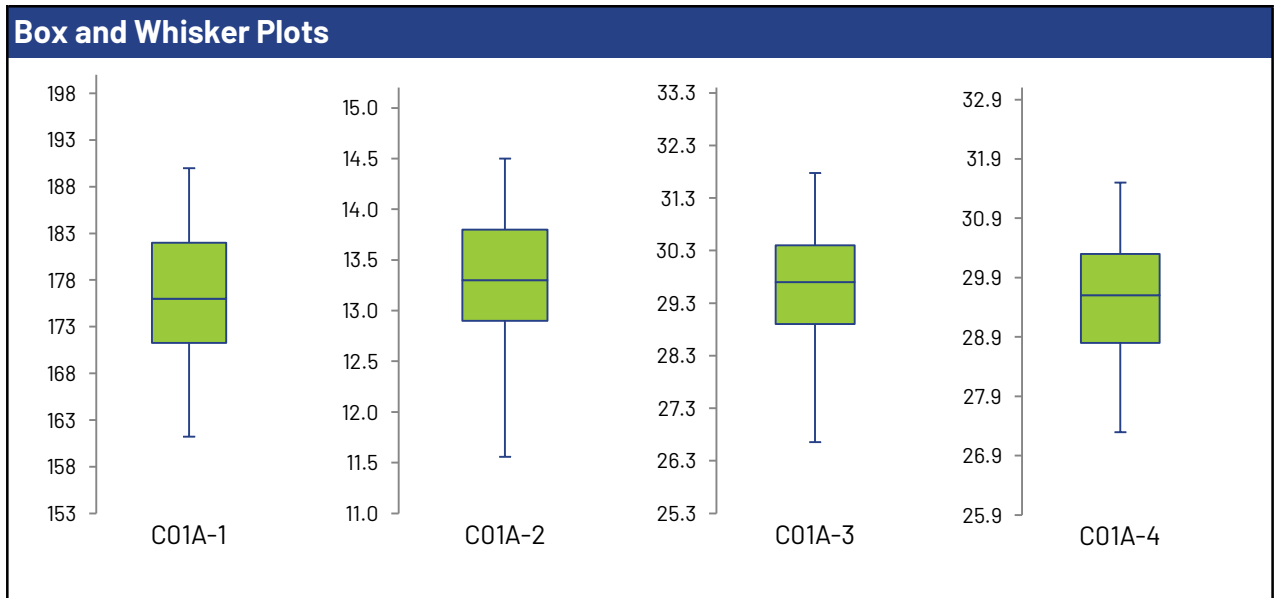
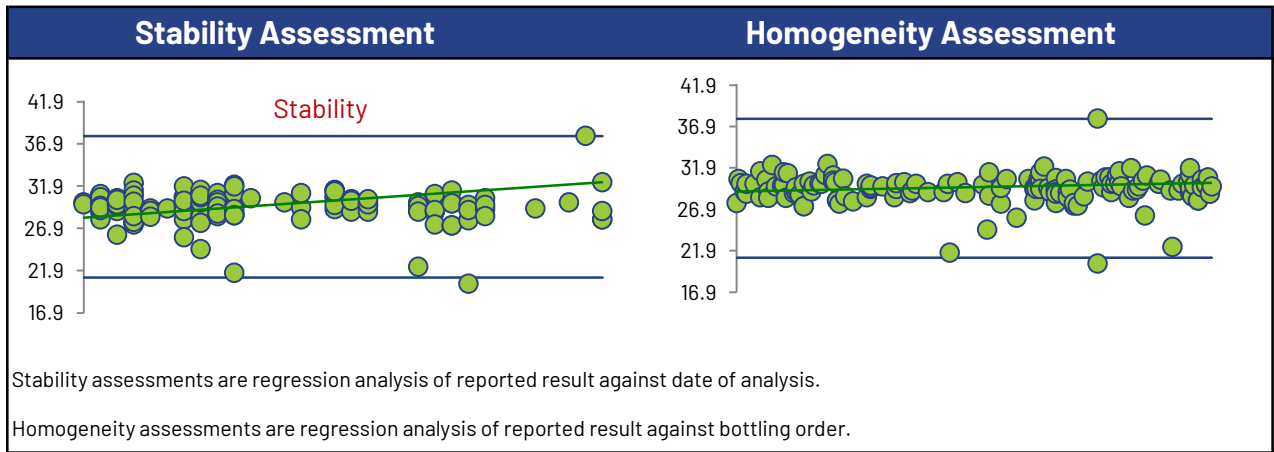


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Calcium



Calcium



Chloride

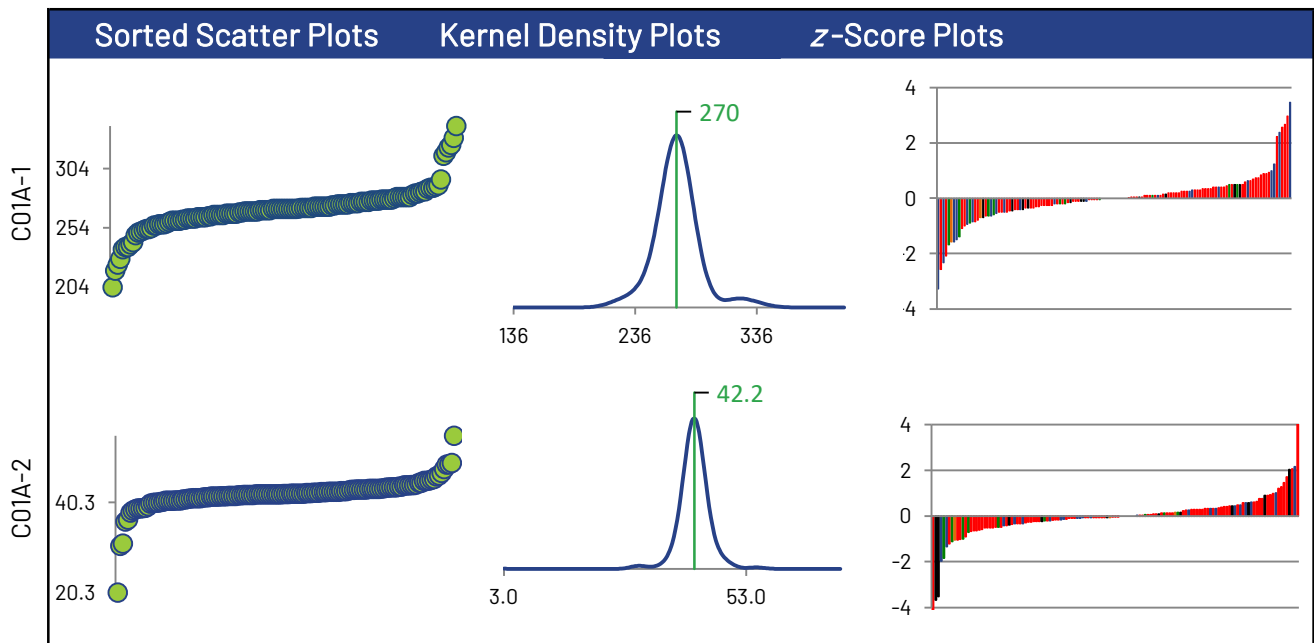
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	134	135	135	134
Median mg/L	270	42.1	20.2	39.2
Robust Mean mg/L	270	42.2	20.3	39.2
Uncertainty of the Assigned Value mg/L	1.22	0.174	0.109	0.167
Robust Standard Deviation mg/L	11.3	1.62	1.01	1.55
Regression Standard Deviation mg/L	20.2	3.16	1.52	2.94
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	20.2	3.16	1.52	2.94
Flagged Outliers	1	0	0	1
$ z > 3.0$	2	4	4	2
$2 < z < 3$	8	3	4	4
Failure Rate %*	4.4			

Methods Used

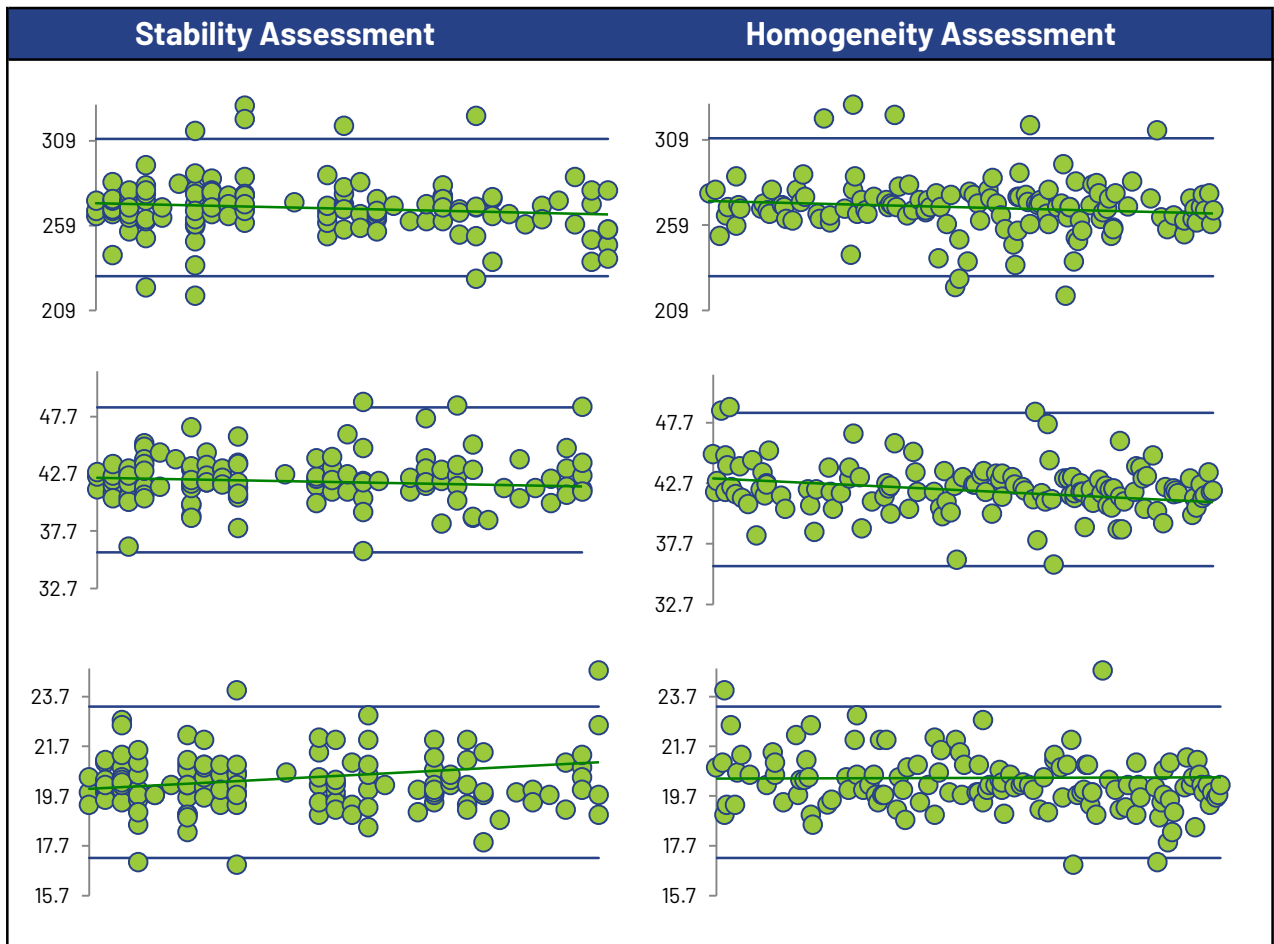
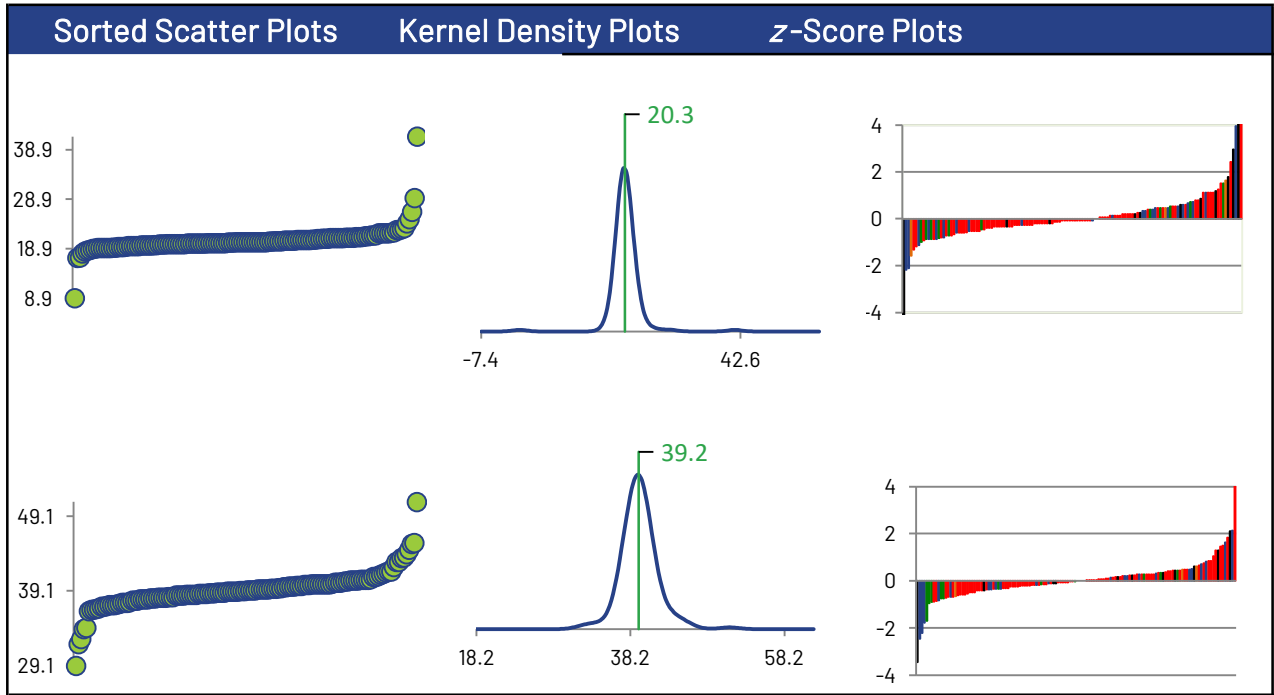
Method	C01A-1	C01A-2	C01A-3	C01A-4
COLORIMETRIC (Blue)	22	22	22	22
ION CHROMATOGRAPHY (Red)	87	88	88	87
AUTO COLOR (Green)	11	11	11	11
SELECTIVE ION ELECTRODE (Orange)	3	3	3	3
TITRIMETRIC (Black)	11	11	11	11

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

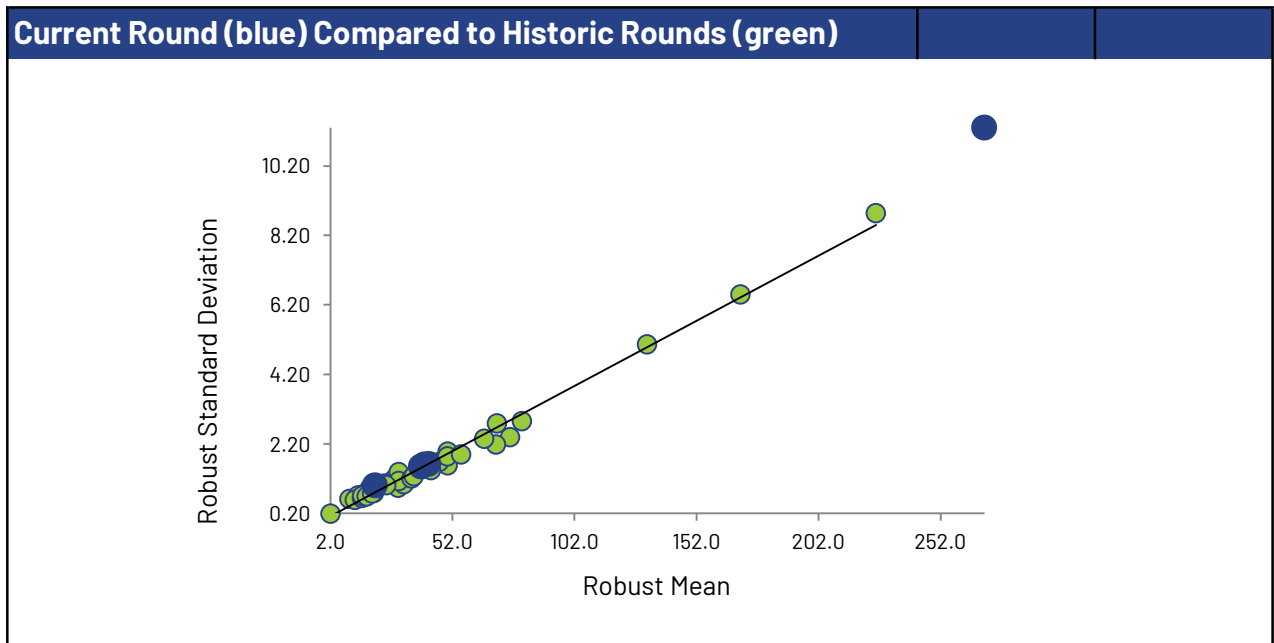
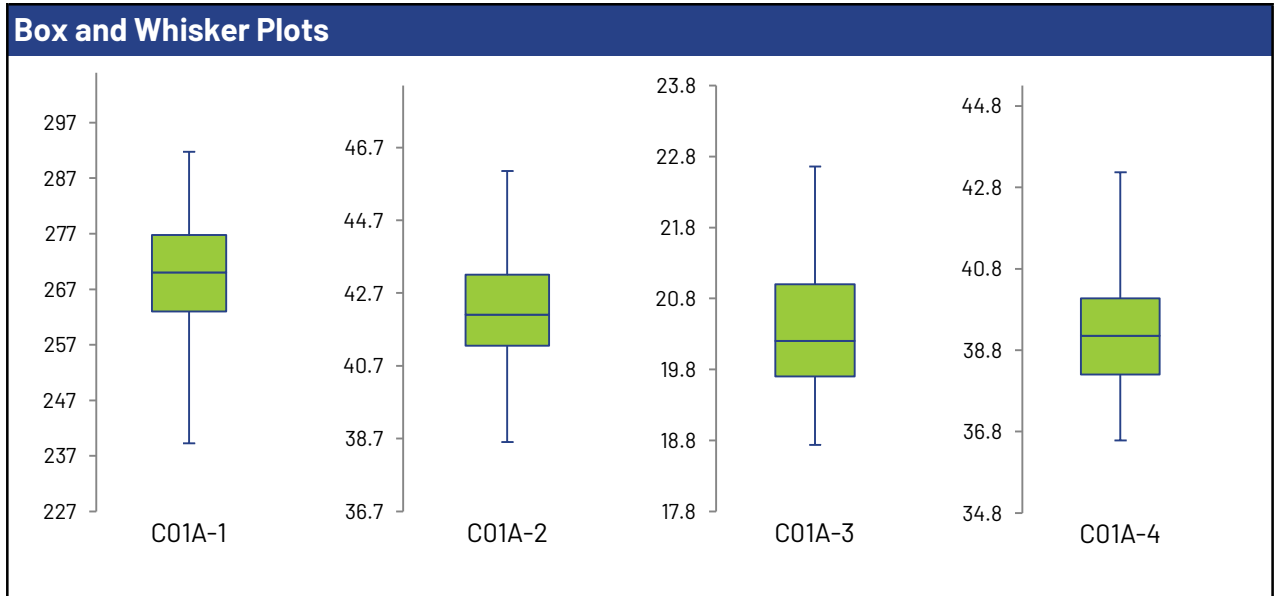
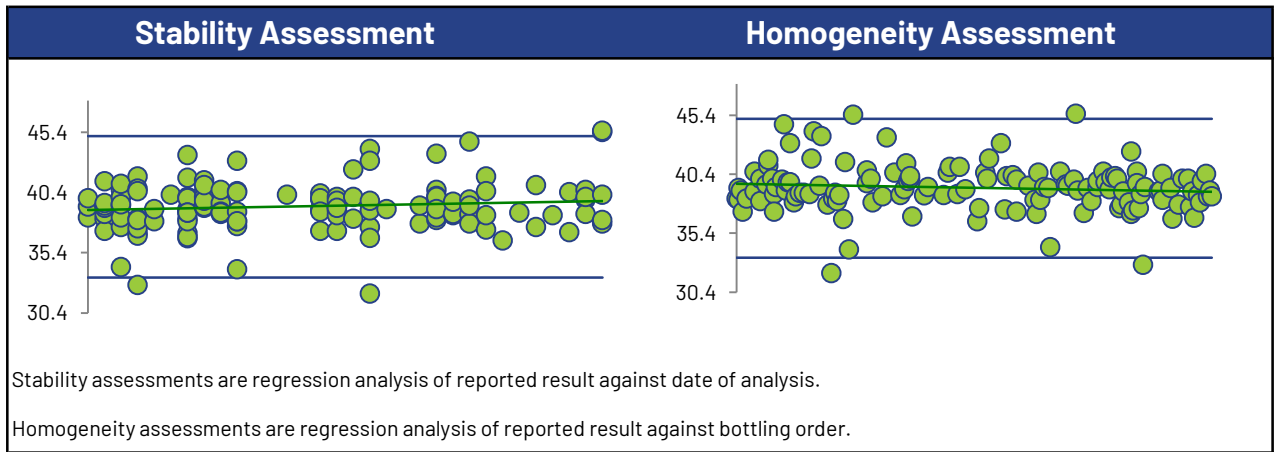


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Chloride



Chloride



Conductivity (25°C)

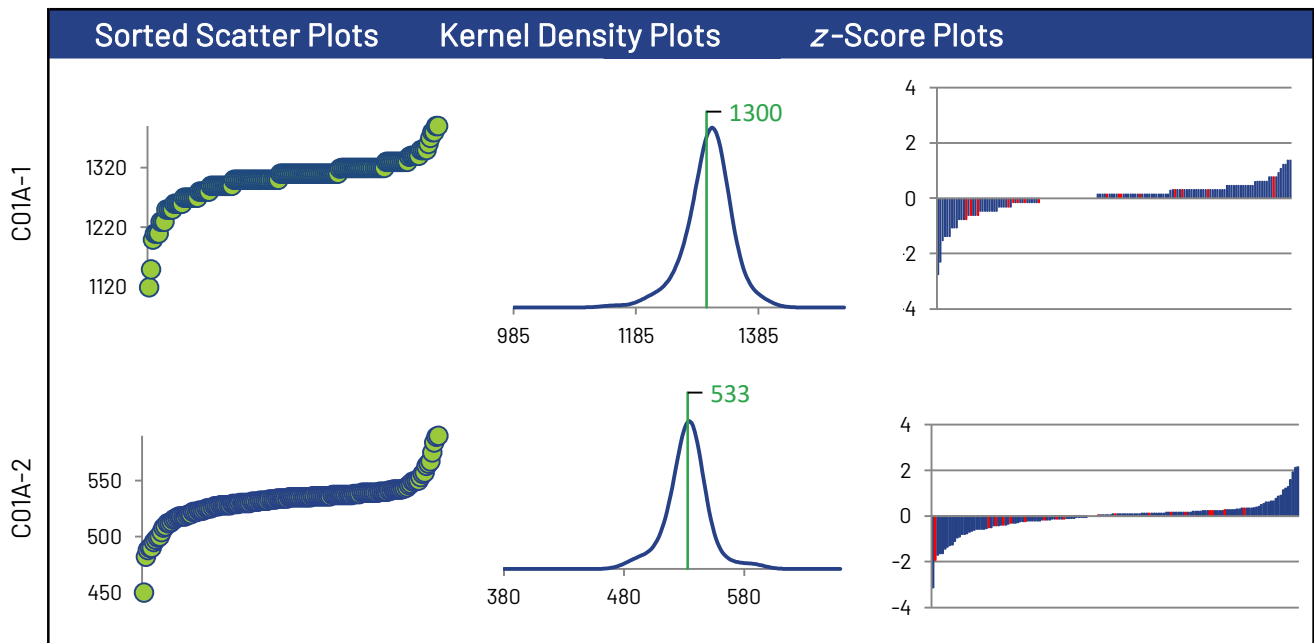
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	151	151	150	151
Median mg/L	1310	535	812	868
Robust Mean mg/L	1300	533	810	865
Uncertainty of the Assigned Value mg/L	2.71	1.08	1.66	1.58
Robust Standard Deviation mg/L	26.6	10.6	16.3	15.5
Regression Standard Deviation mg/L	65.2	26.6	40.5	43.3
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	65.2	26.6	40.5	43.3
Flagged Outliers	2	2	3	2
$ z > 3.0$	0	1	0	1
$2 < z < 3$	2	2	2	1
Failure Rate %*	2.0			

Methods Used

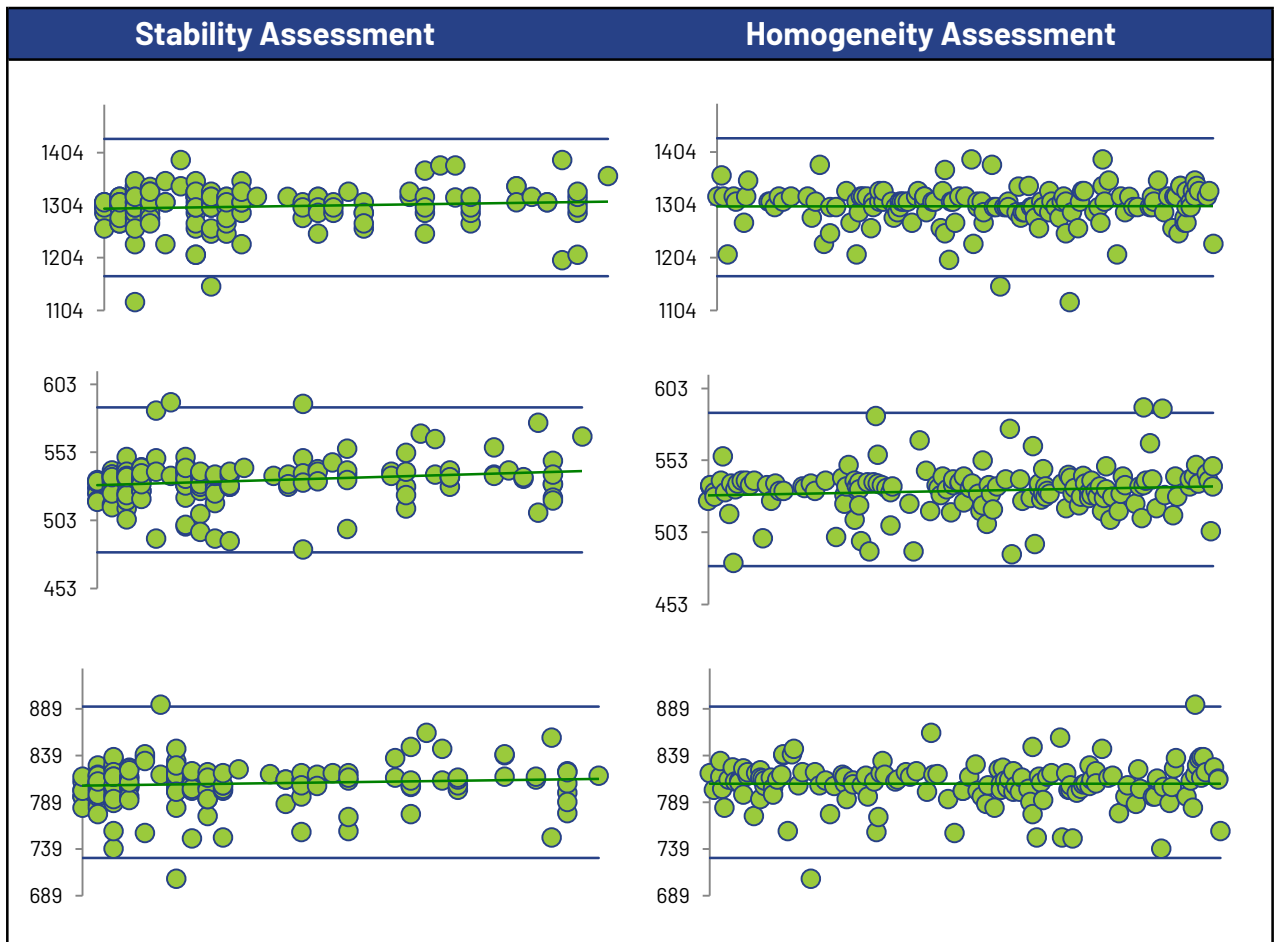
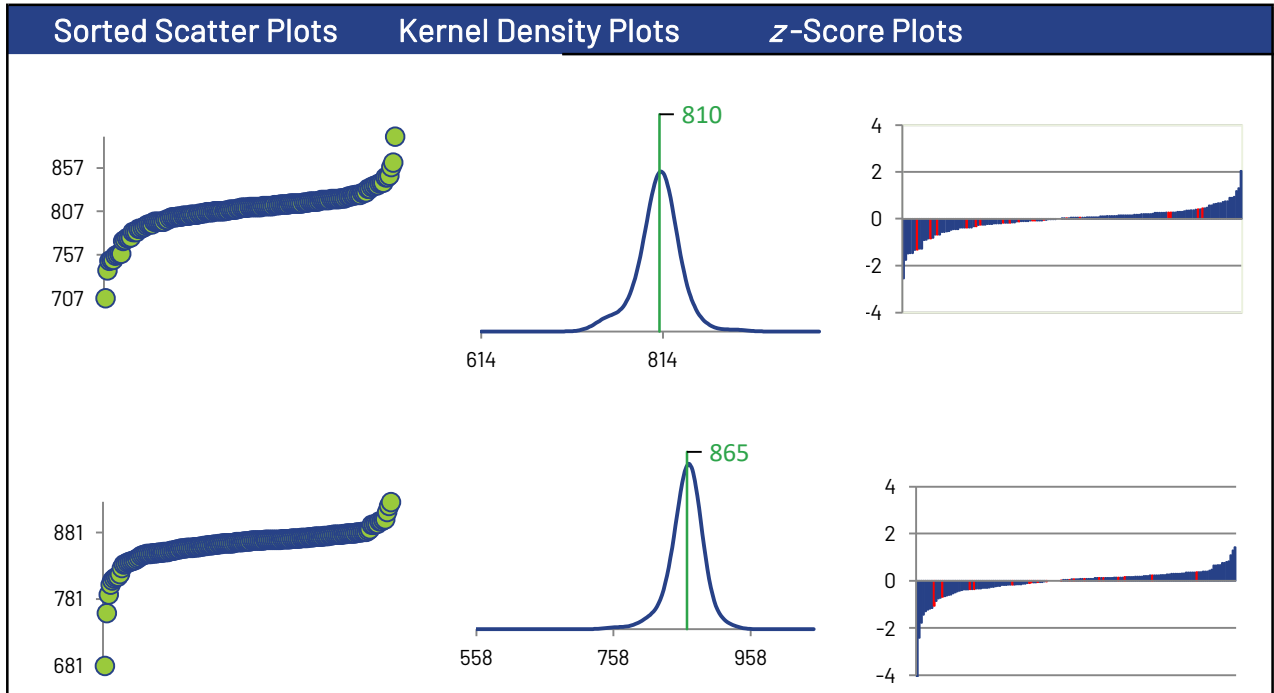
Method	C01A-1	C01A-2	C01A-3	C01A-4
CONDUCTIVITY METER (Blue)	132	132	131	132
AUTO CONDUCTIVITY METER (Red)	19	19	19	19

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

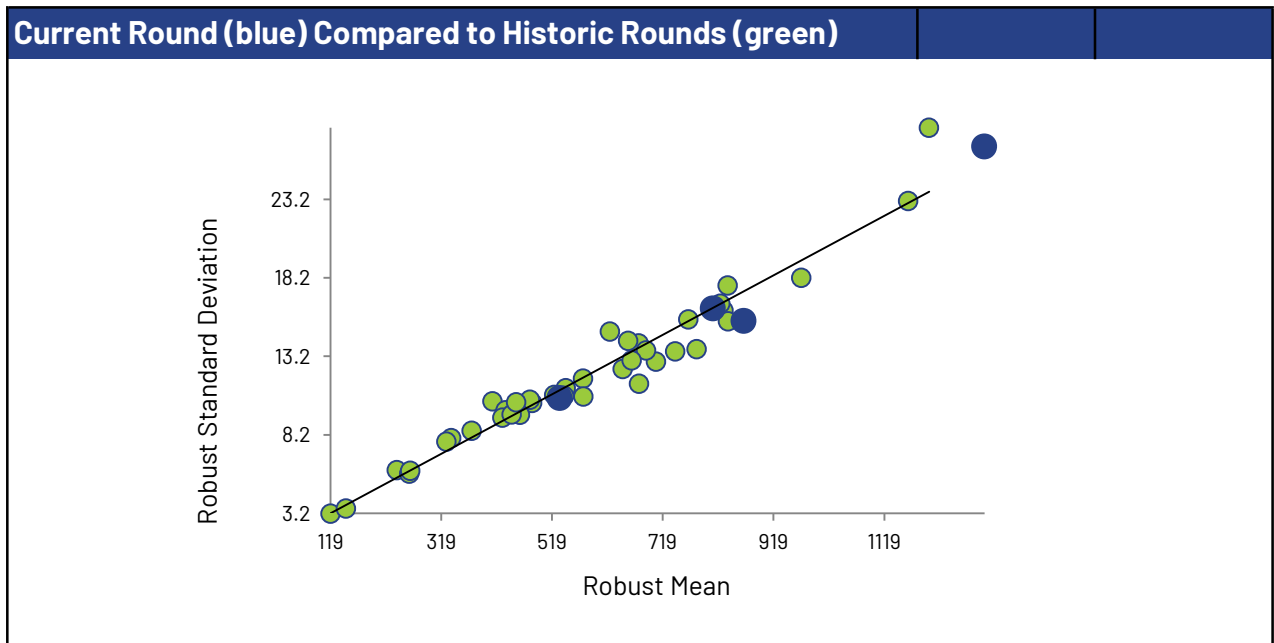
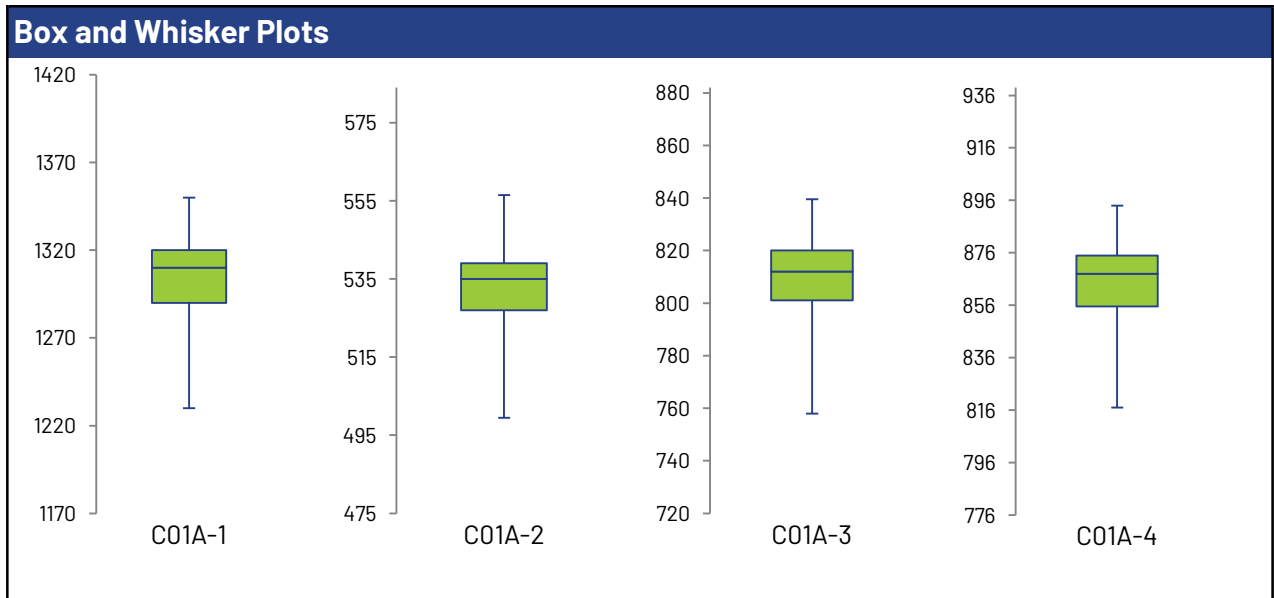
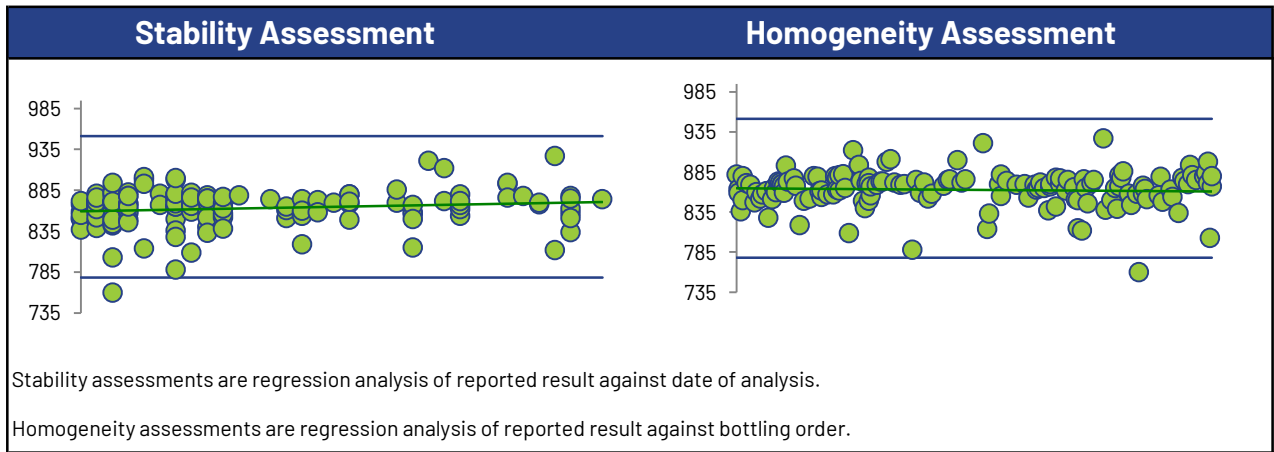


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Conductivity (25°C)



Conductivity (25°C)



Fluoride

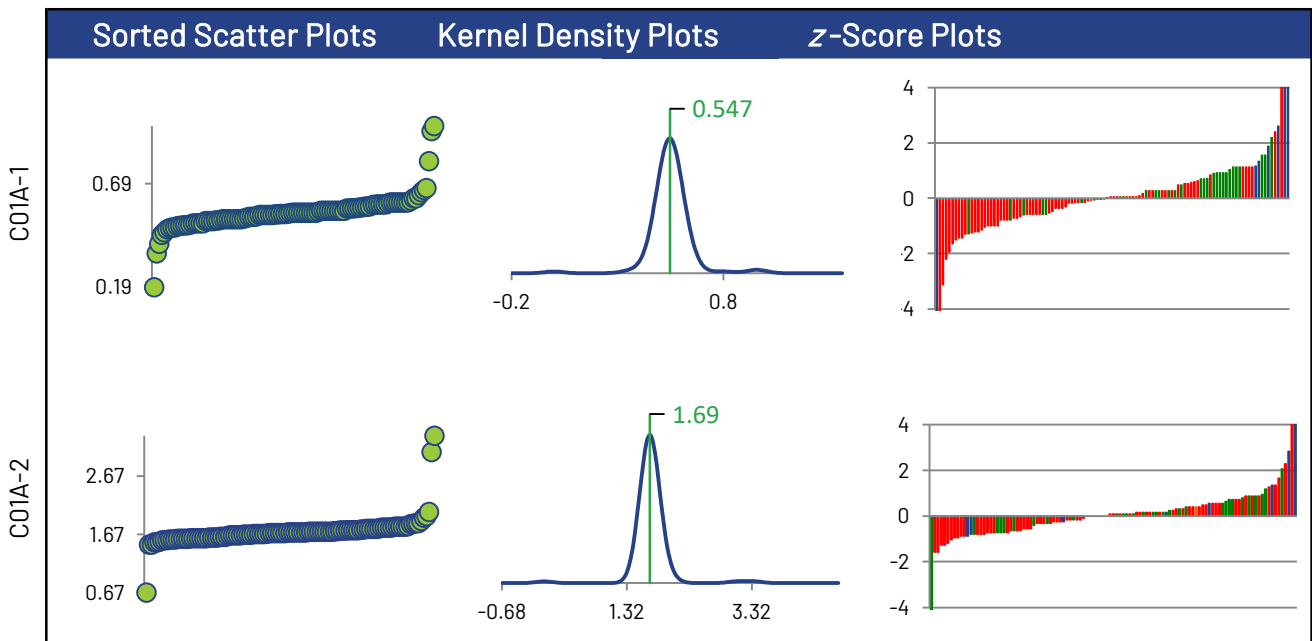
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	110	111	111	111
Median mg/L	0.550	1.70	3.20	3.42
Robust Mean mg/L	0.547	1.69	3.19	3.42
Uncertainty of the Assigned Value mg/L	0.00559	0.0110	0.0201	0.0204
Robust Standard Deviation mg/L	0.0469	0.0927	0.169	0.172
Regression Standard Deviation mg/L	0.0410	0.127	0.240	0.256
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0469	0.127	0.240	0.256
Flagged Outliers	2	1	1	1
$ z > 3.0$	6	3	6	5
$2 < z < 3$	4	3	1	2
Failure Rate %*	7.1			

Methods Used

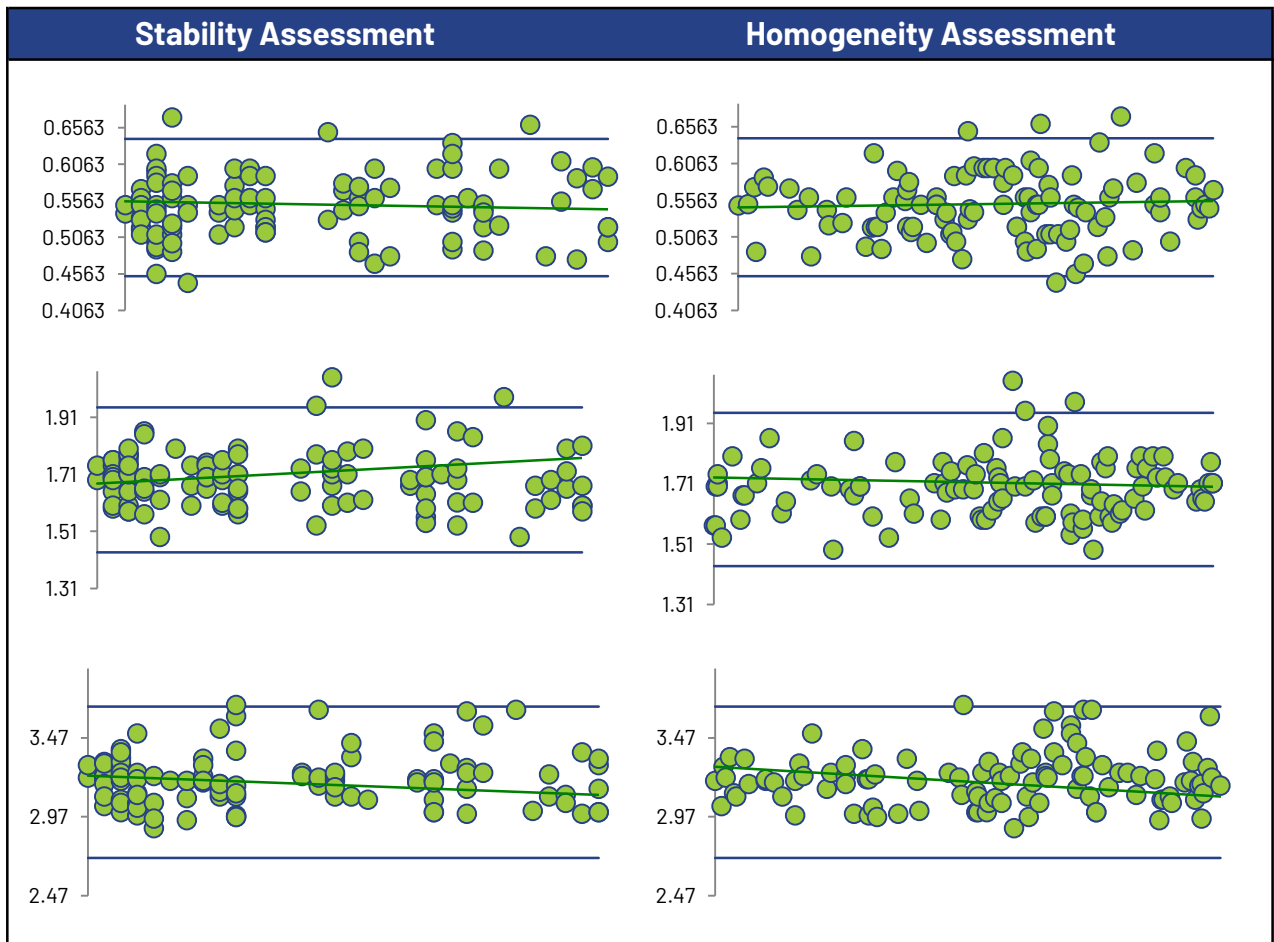
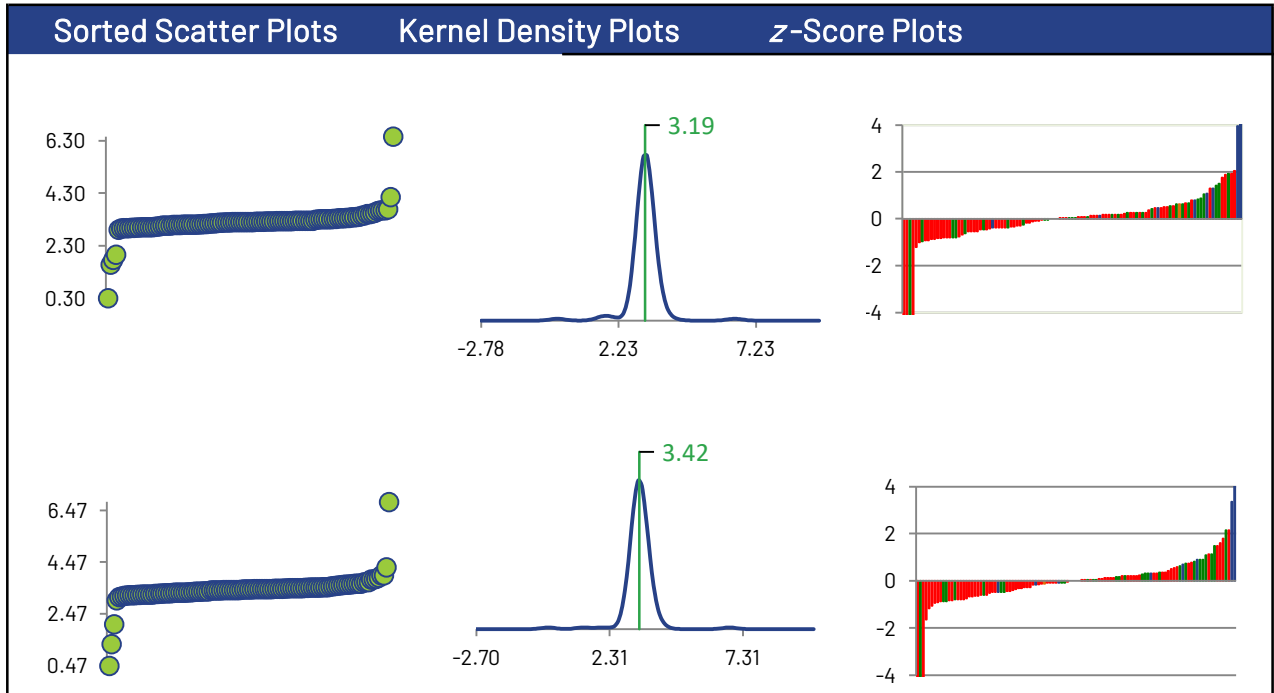
Method	C01A-1	C01A-2	C01A-3	C01A-4
COLORIMETRIC (Blue)	8	8	8	8
ION CHROMATOGRAPHY (Red)	71	72	72	72
SELECTIVE ION ELECTRODE (Green)	30	30	30	30
AUTO COLOR (Orange)	1	1	1	1

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

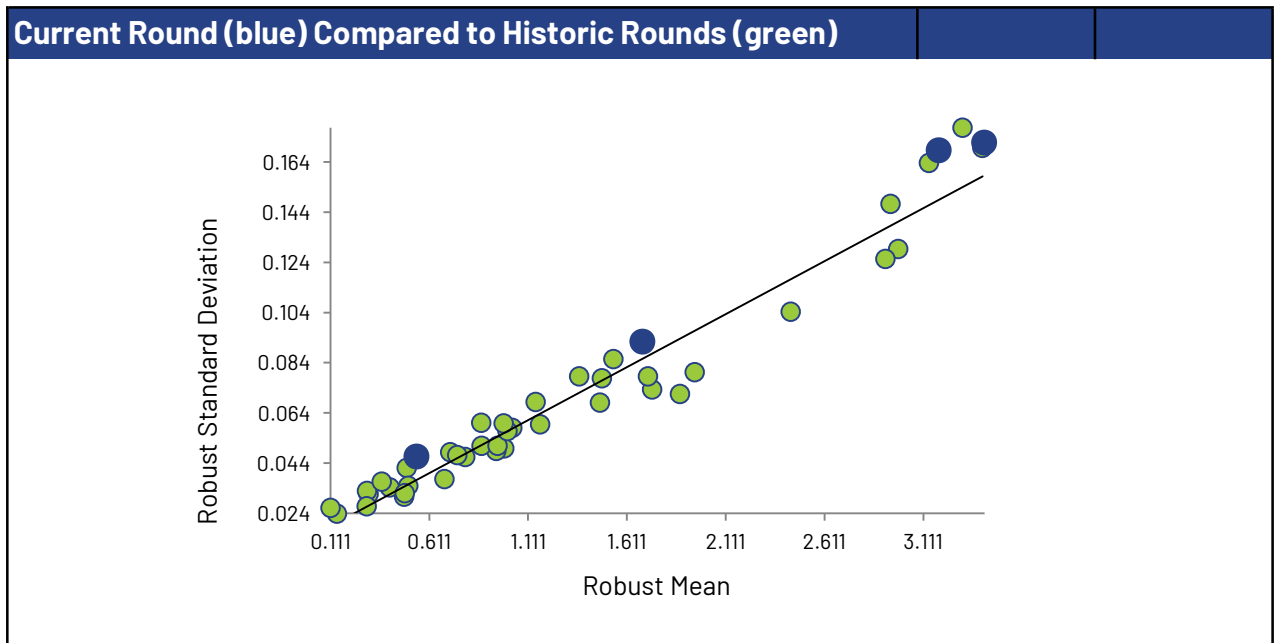
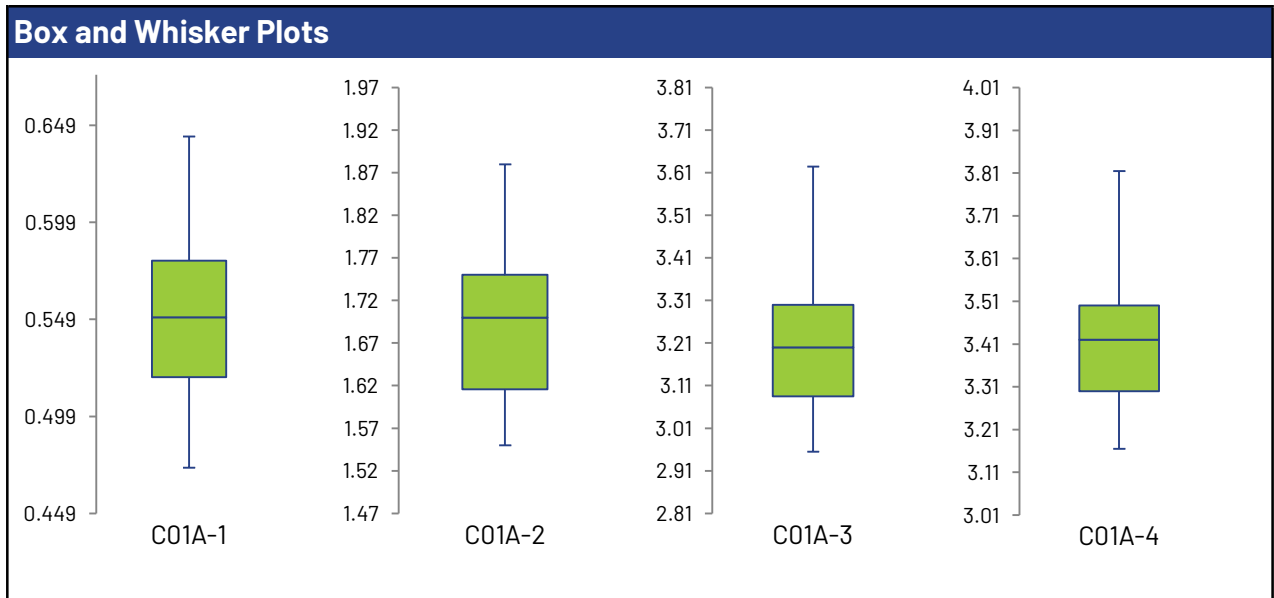
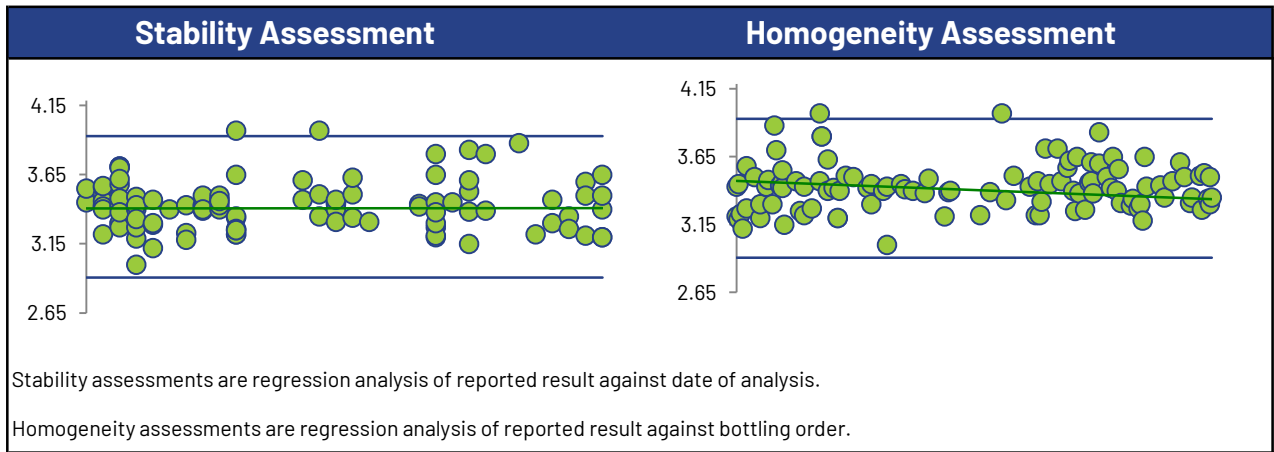


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Fluoride



Fluoride



Hardness (as CaCO3)

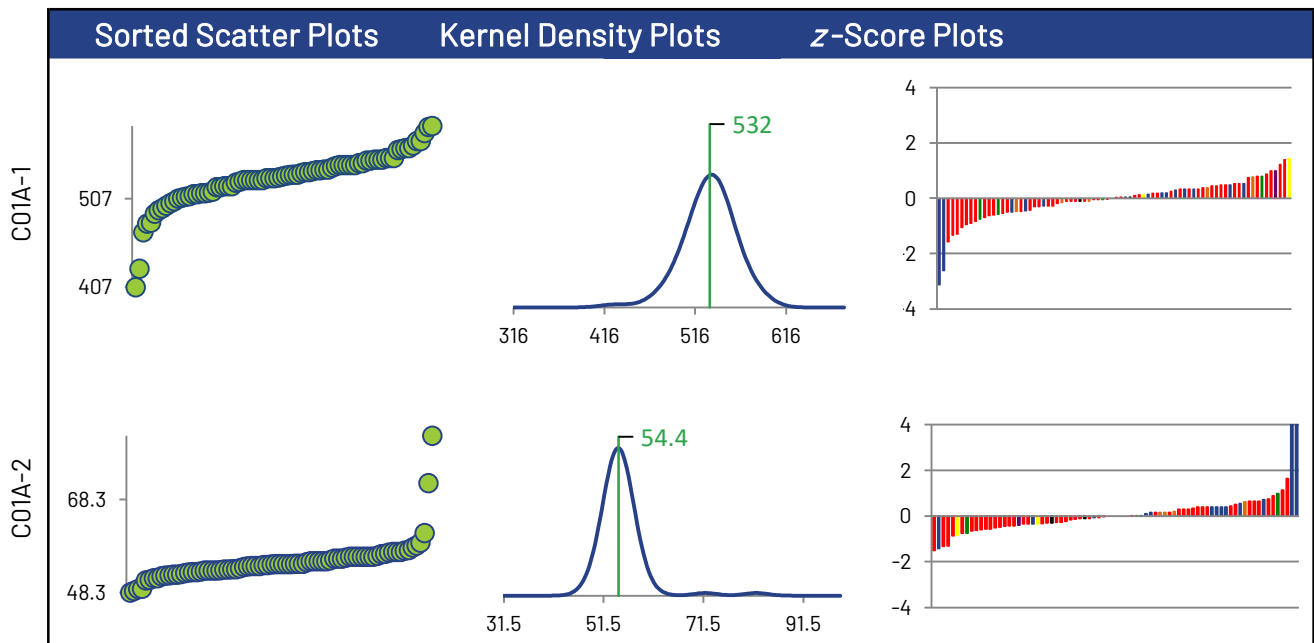
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	78	78	77	78
Median mg/L	533	54.4	208	235
Robust Mean mg/L	532	54.4	208	235
Uncertainty of the Assigned Value mg/L	3.44	0.318	1.05	1.13
Robust Standard Deviation mg/L	24.3	2.25	7.36	7.95
Regression Standard Deviation mg/L	39.9	4.08	15.6	17.6
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	39.9	4.08	15.6	17.6
Flagged Outliers	0	0	1	0
$ z > 3.0$	1	2	0	0
$2 < z < 3$	1	0	0	1
Failure Rate %*	2.6			

Methods Used

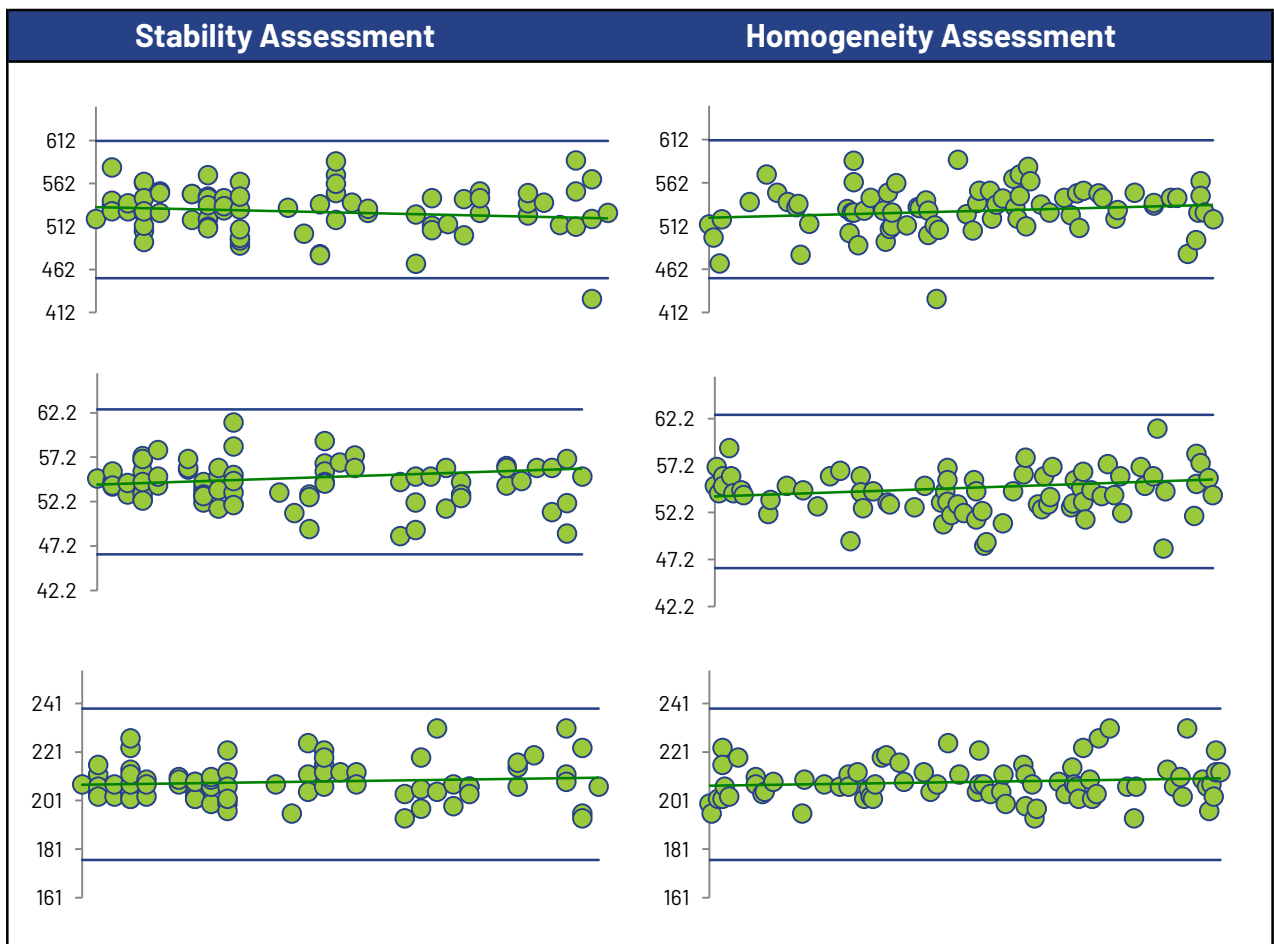
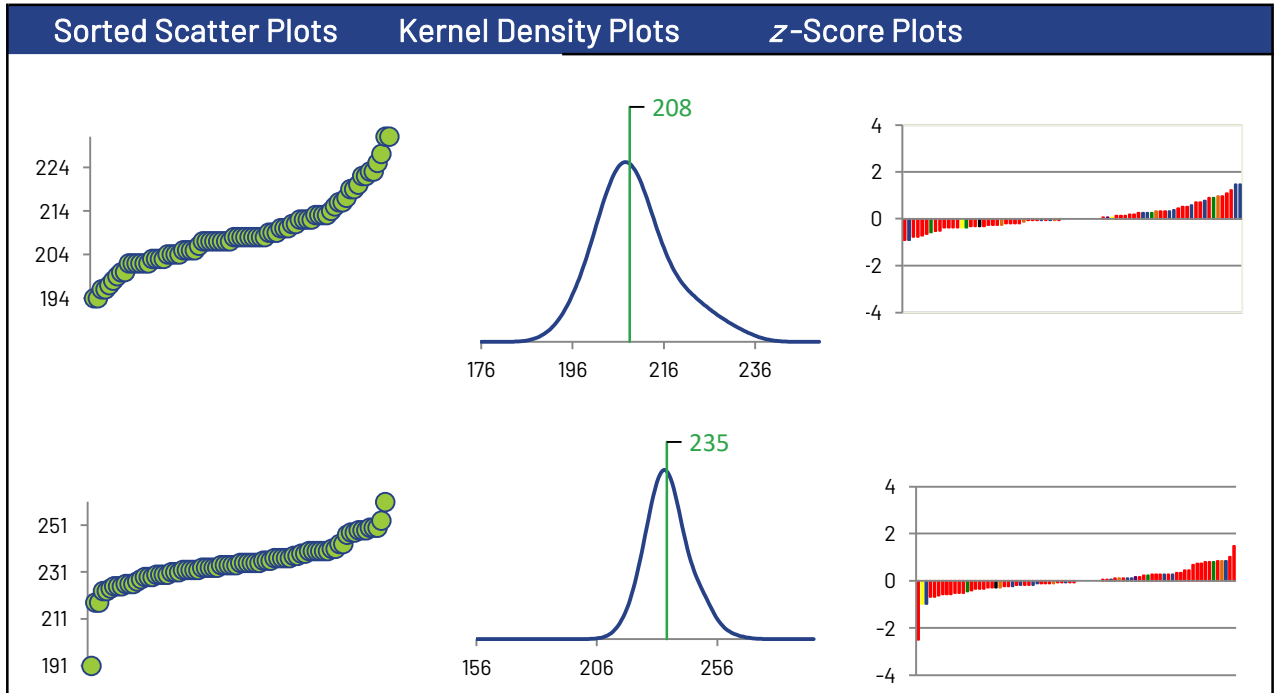
Method	C01A-1	C01A-2	C01A-3	C01A-4
TITRIMETRIC (Blue)	14	14	13	14
CALCULATED (Red)	50	50	50	50
CALCULATED (ICP/MS) (Green)	4	4	4	4
CALCULATED (ICP) (Orange)	5	5	5	5
AUTO TITRIMETRIC (Black)	2	2	2	2
COLORIMETRIC (Yellow)	2	2	2	2
AUTO COLOR (Purple)	1	1	1	1

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

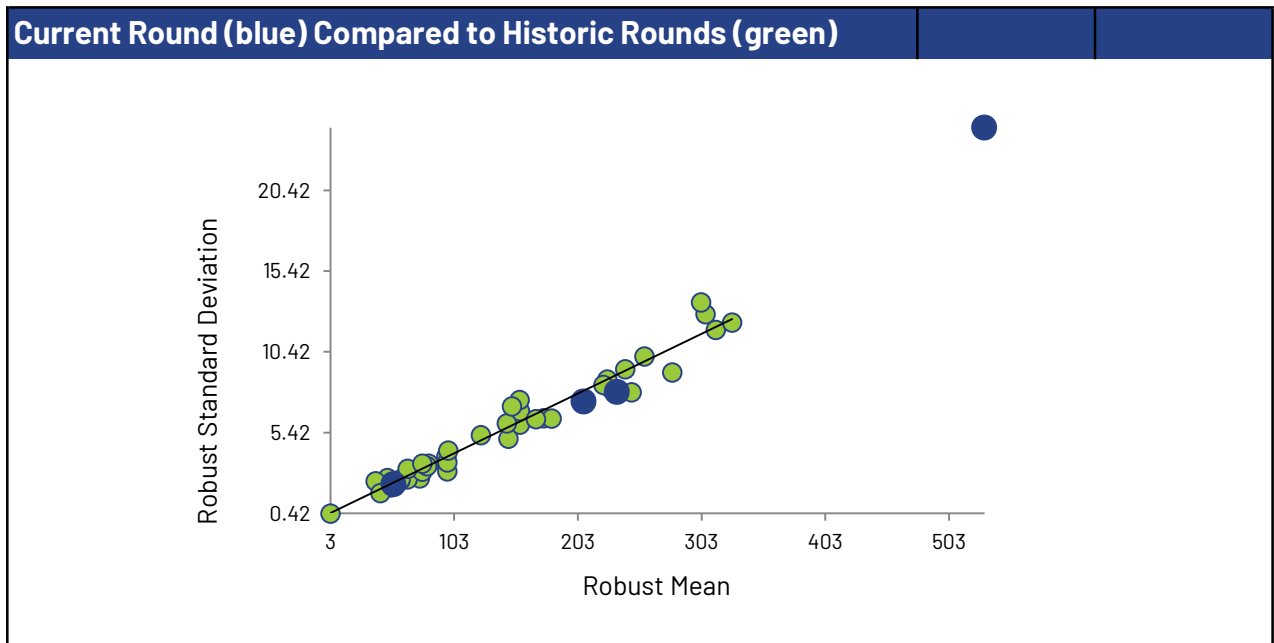
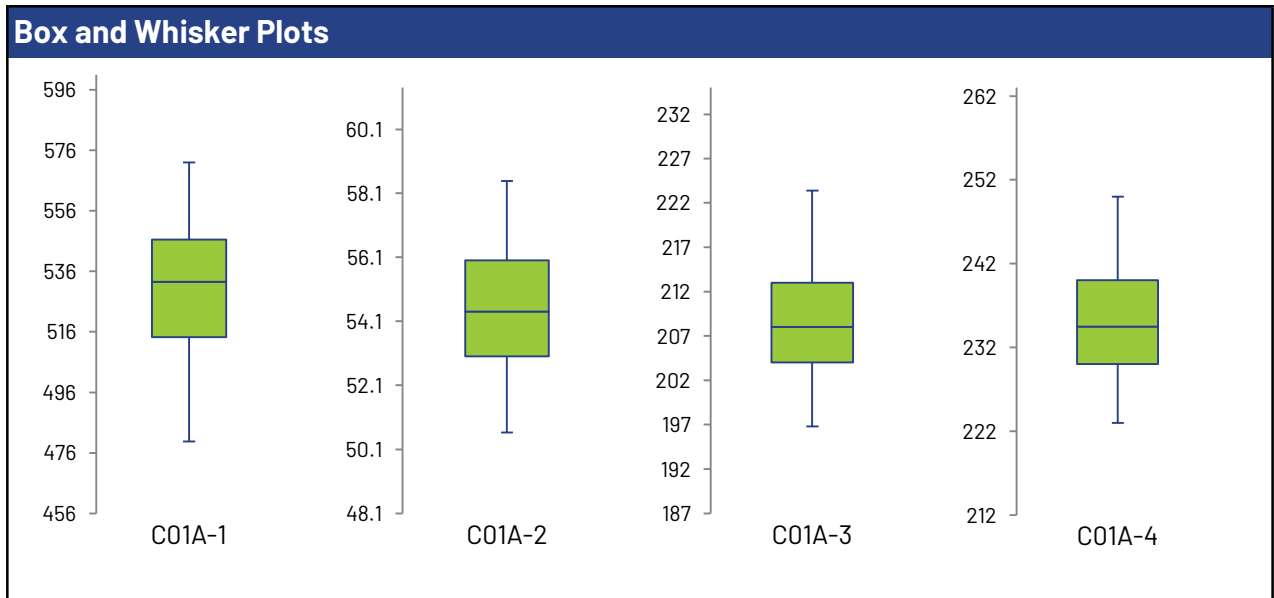
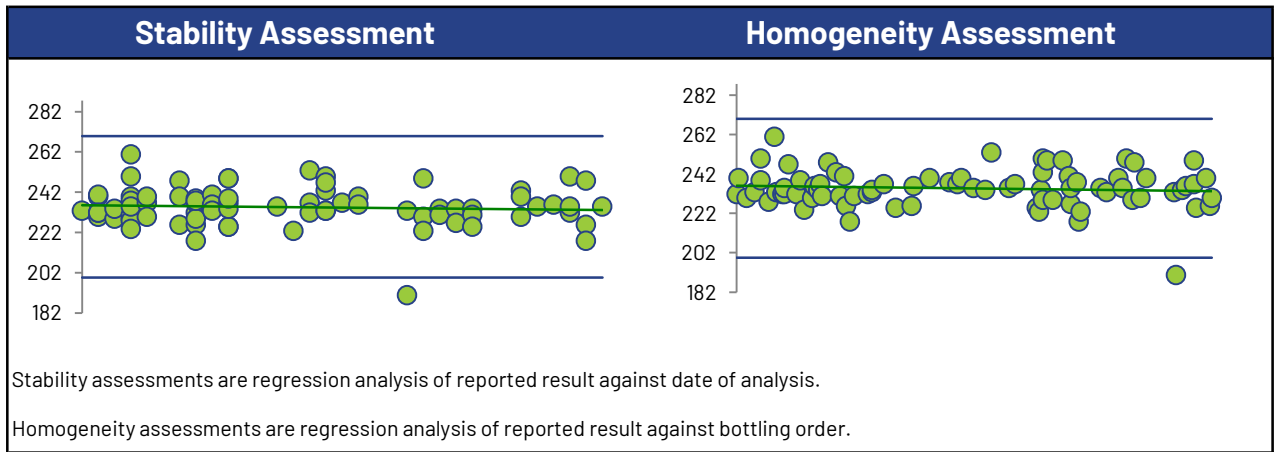


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Hardness (as CaCO3)



Hardness (as CaCO3)



Inorganic Carbon

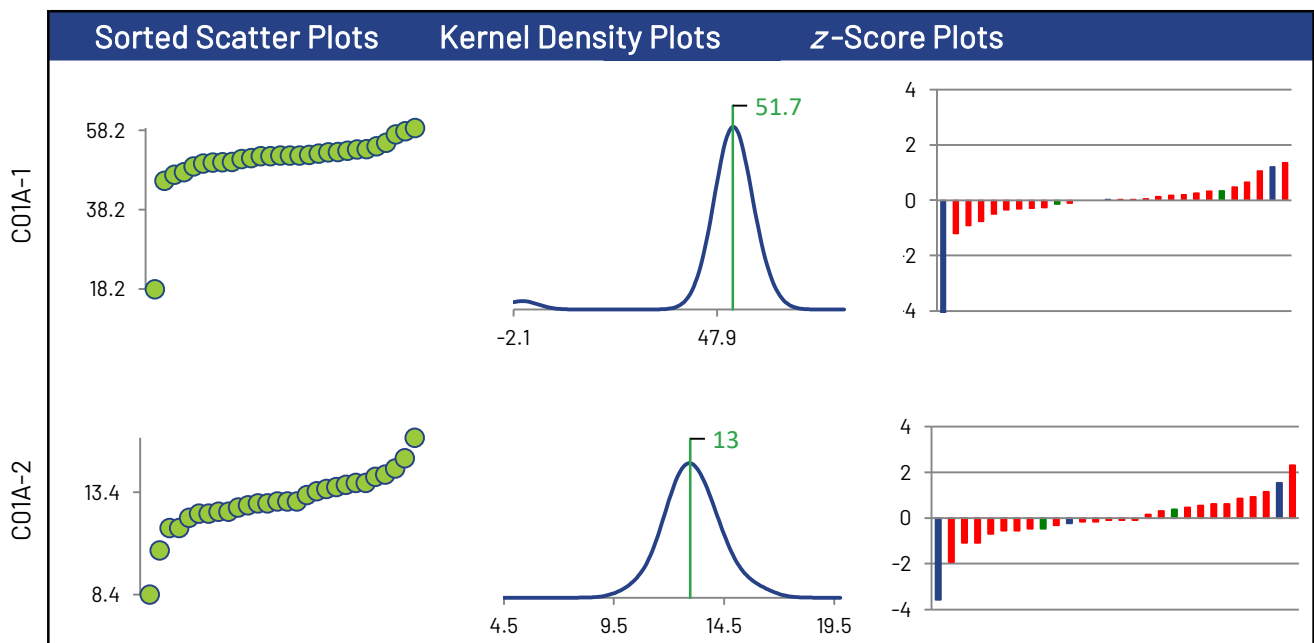
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	28	28	28	28
Median mg/L	51.9	12.9	34.0	33.4
Robust Mean mg/L	51.7	13.0	33.8	33.4
Uncertainty of the Assigned Value mg/L	0.678	0.257	0.503	0.539
Robust Standard Deviation mg/L	2.87	1.09	2.13	2.28
Regression Standard Deviation mg/L	5.17	1.30	3.38	3.34
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	5.17	1.30	3.38	3.34
Flagged Outliers	0	0	0	0
$ z > 3.0$	1	1	1	2
$2 < z < 3$	0	1	0	0
Failure Rate %*	3.6			

Methods Used

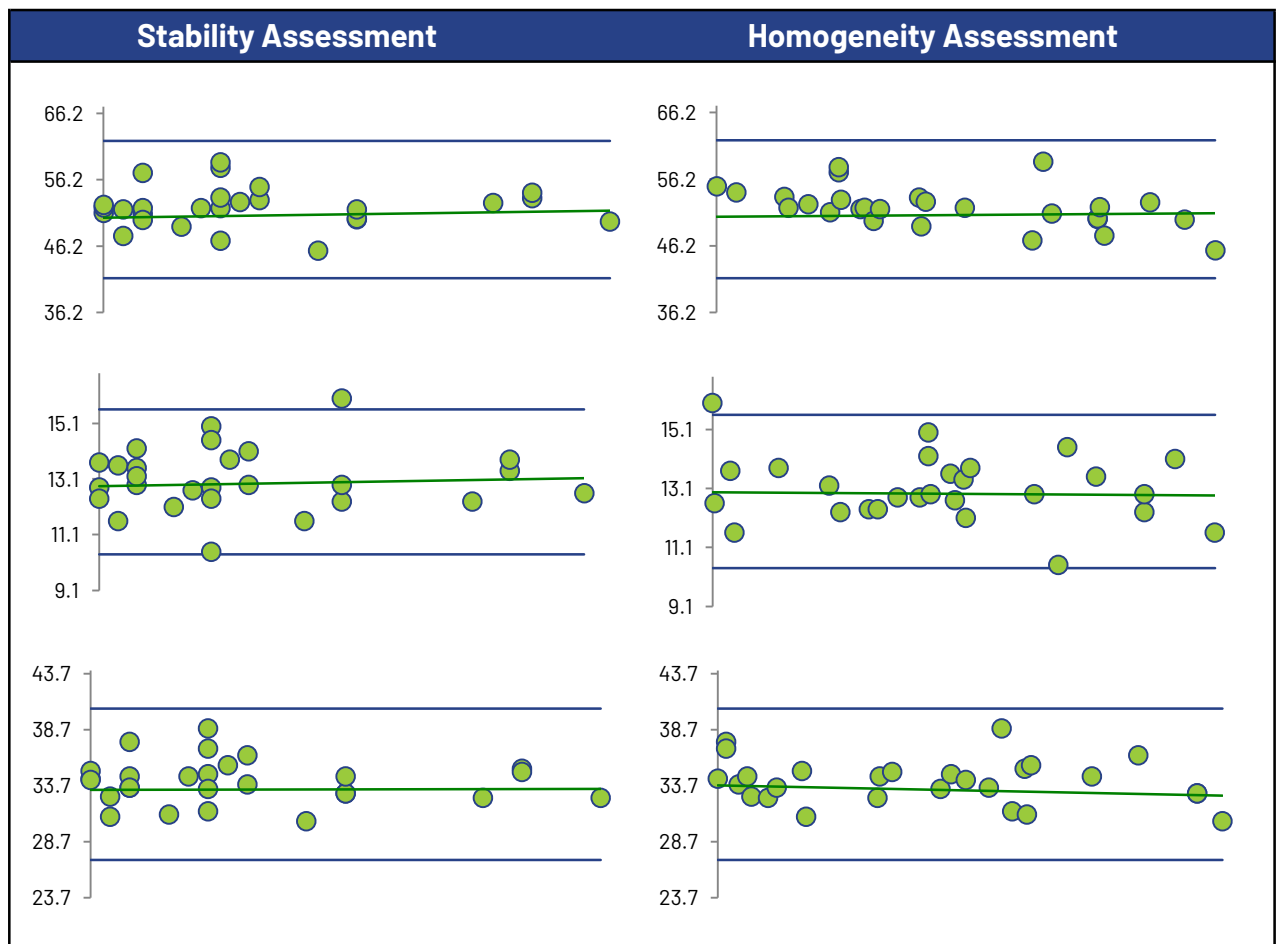
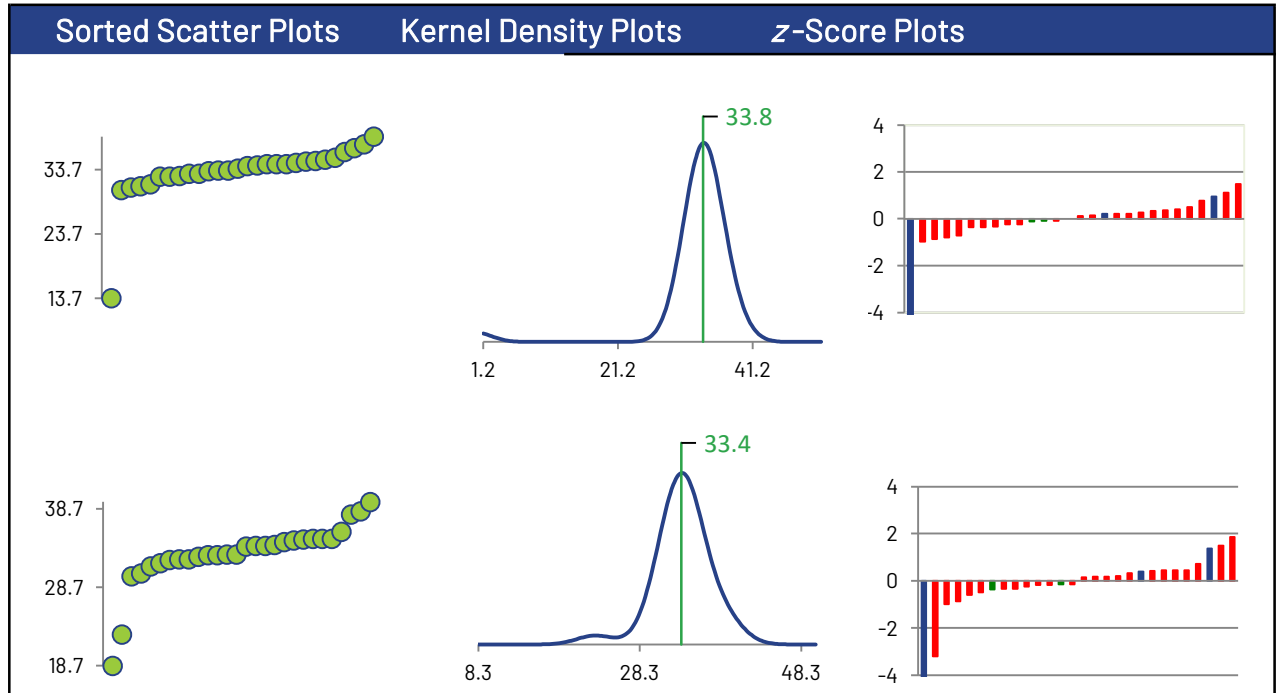
Method	C01A-1	C01A-2	C01A-3	C01A-4
AUTO COLOR (Blue)	3	3	3	3
INFRARED (Red)	23	23	23	23
CALCULATED (Green)	2	2	2	2

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

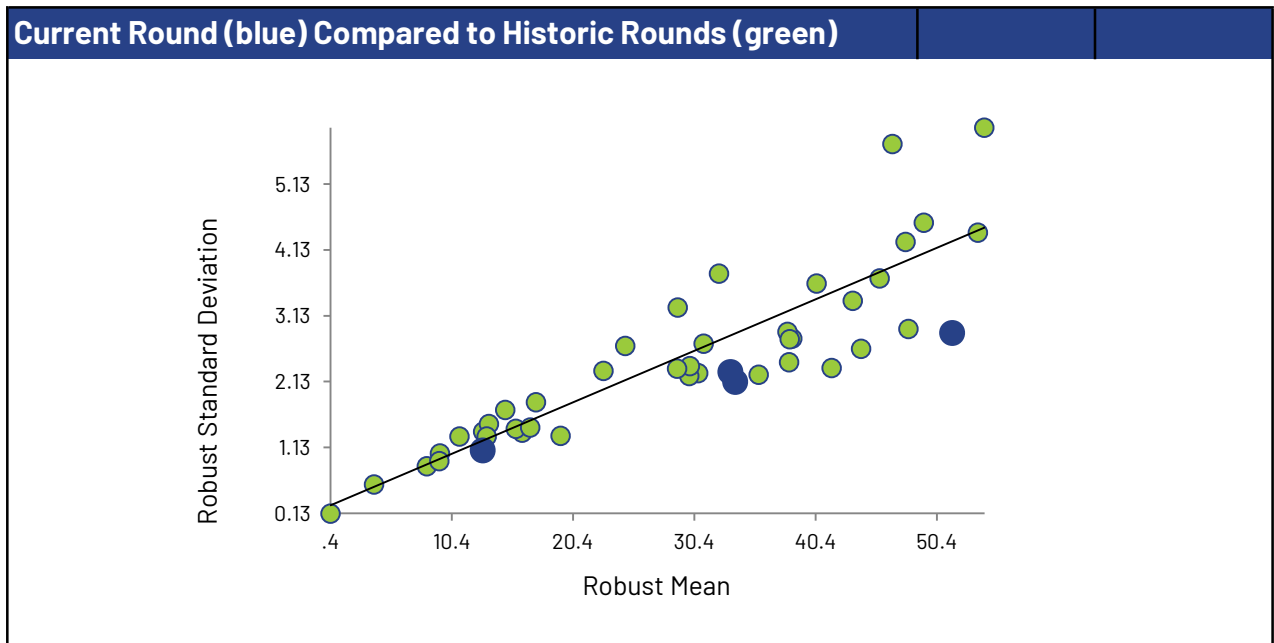
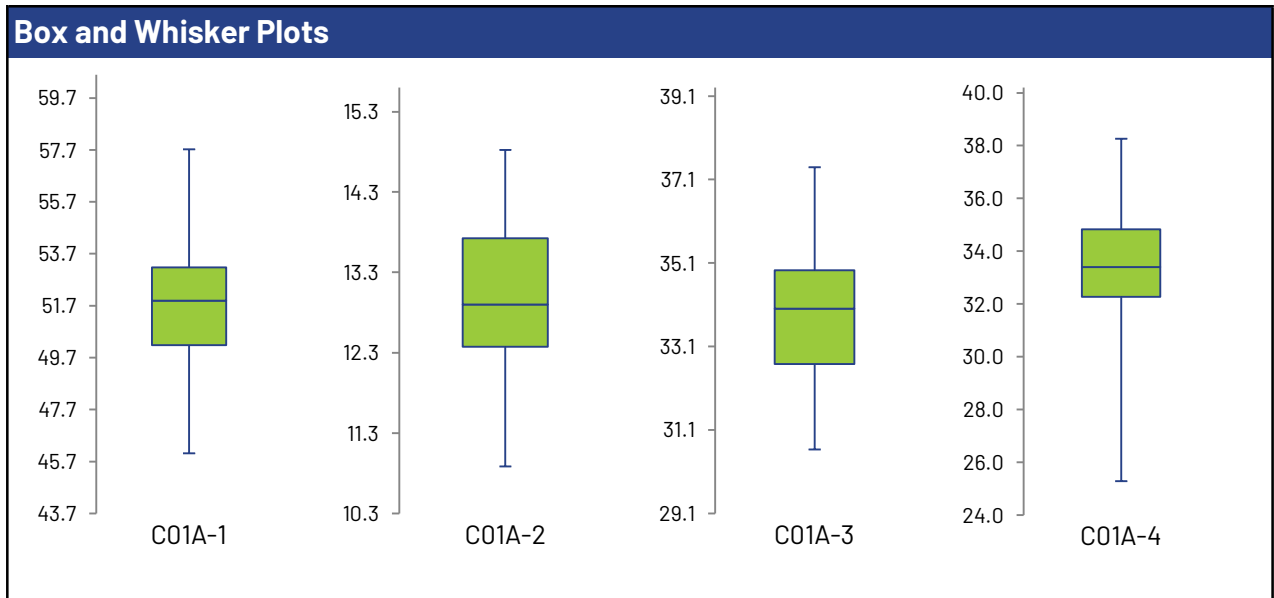
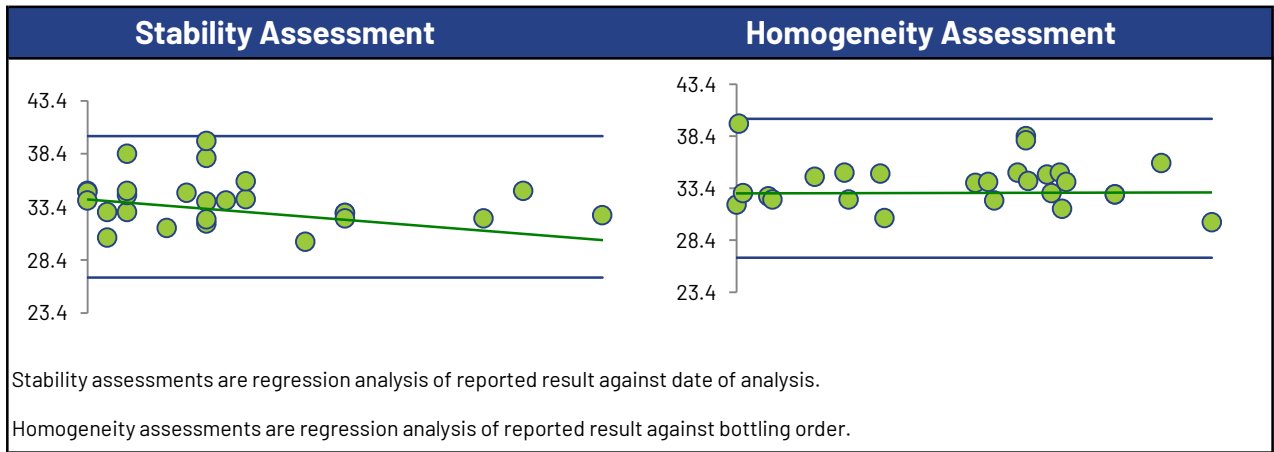


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Inorganic Carbon



Inorganic Carbon



Magnesium

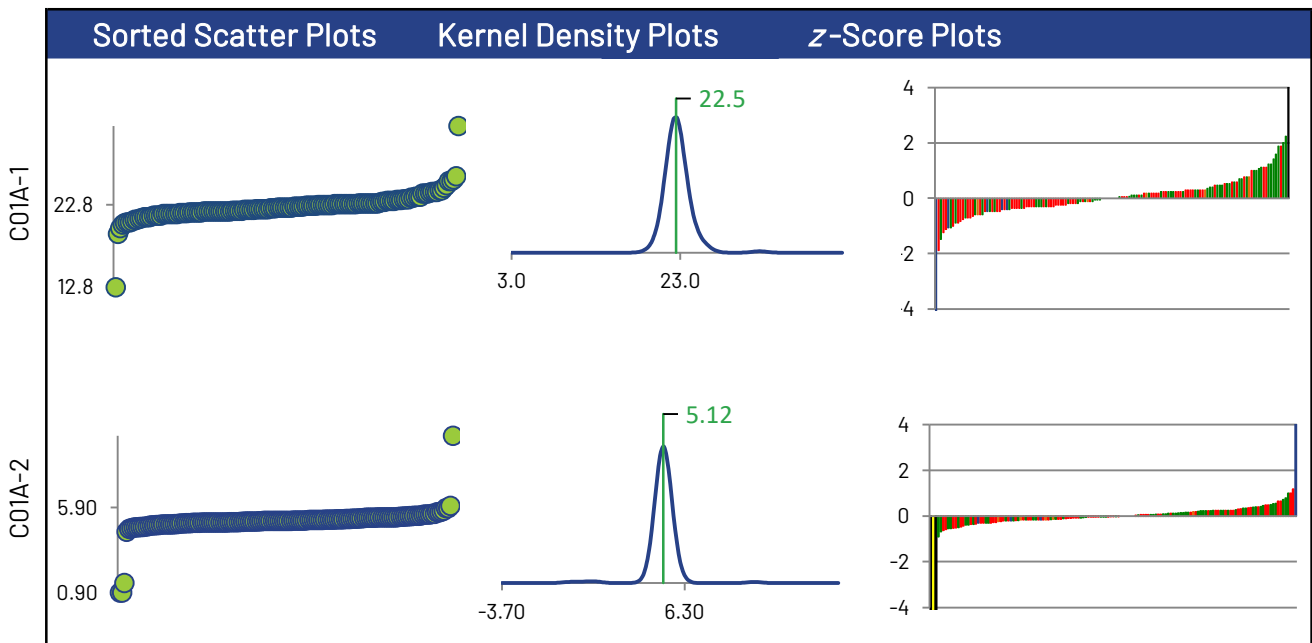
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	145	147	145	147
Median mg/L	22.5	5.11	32.6	39.1
Robust Mean mg/L	22.5	5.12	32.7	39.2
Uncertainty of the Assigned Value mg/L	0.0990	0.0229	0.162	0.189
Robust Standard Deviation mg/L	0.954	0.222	1.56	1.83
Regression Standard Deviation mg/L	1.69	0.384	2.46	2.94
Stability Flag		Stability		
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	1.69	0.736	2.46	2.94
Flagged Outliers	3	1	3	1
$ z > 3.0$	2	4	2	4
$2 < z < 3$	2	0	2	4
Failure Rate %*	3.4			

Methods Used

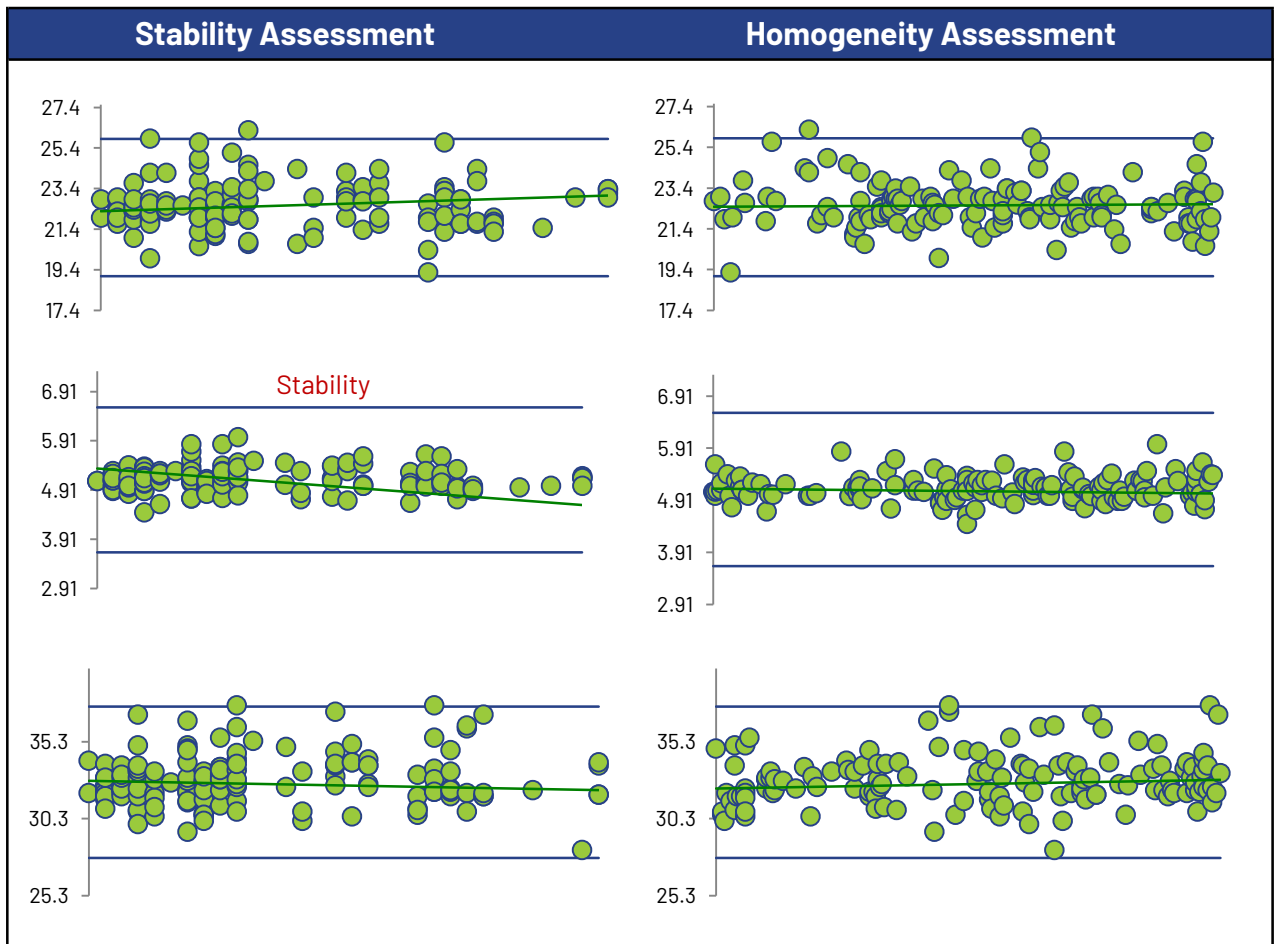
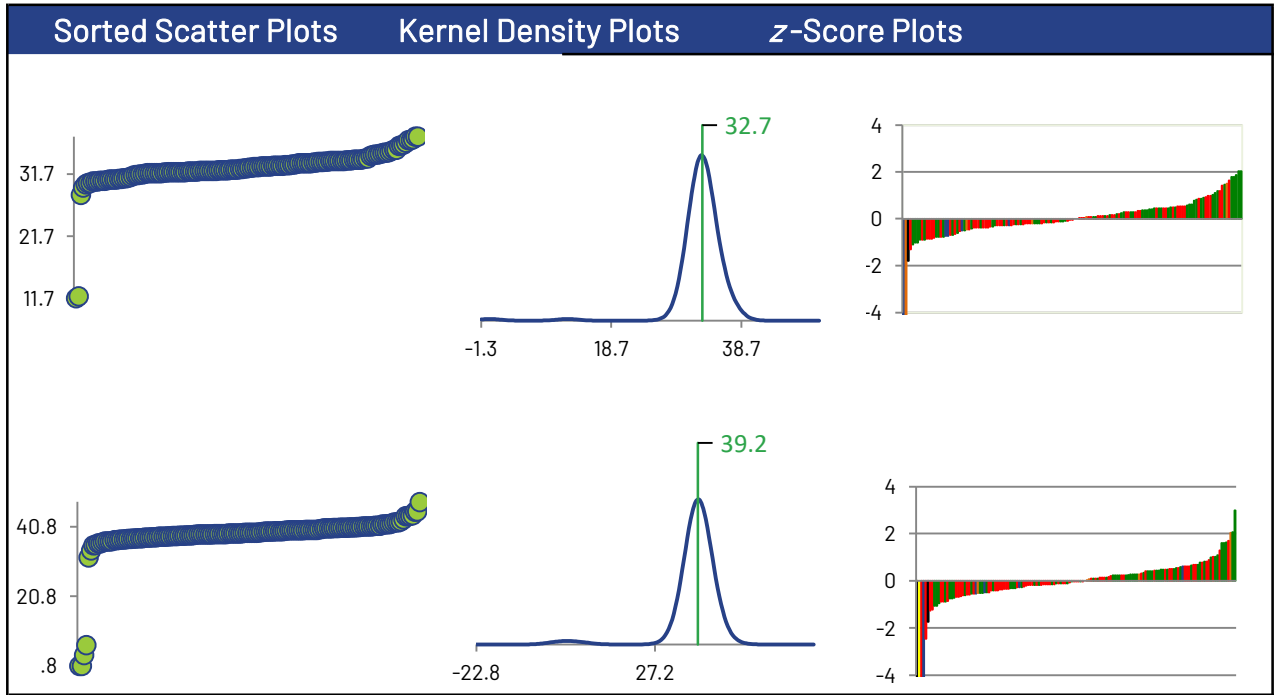
Method	C01A-1	C01A-2	C01A-3	C01A-4
AA FLAME (Blue)	5	5	5	5
ICP/OES (Red)	71	71	71	71
ICP/MS (Green)	63	63	63	63
ION CHROMATOGRAPHY (Orange)	5	5	5	5
COLORIMETRIC (Black)	1	2	1	2
CALCULATED (Yellow)	0	1	0	1

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

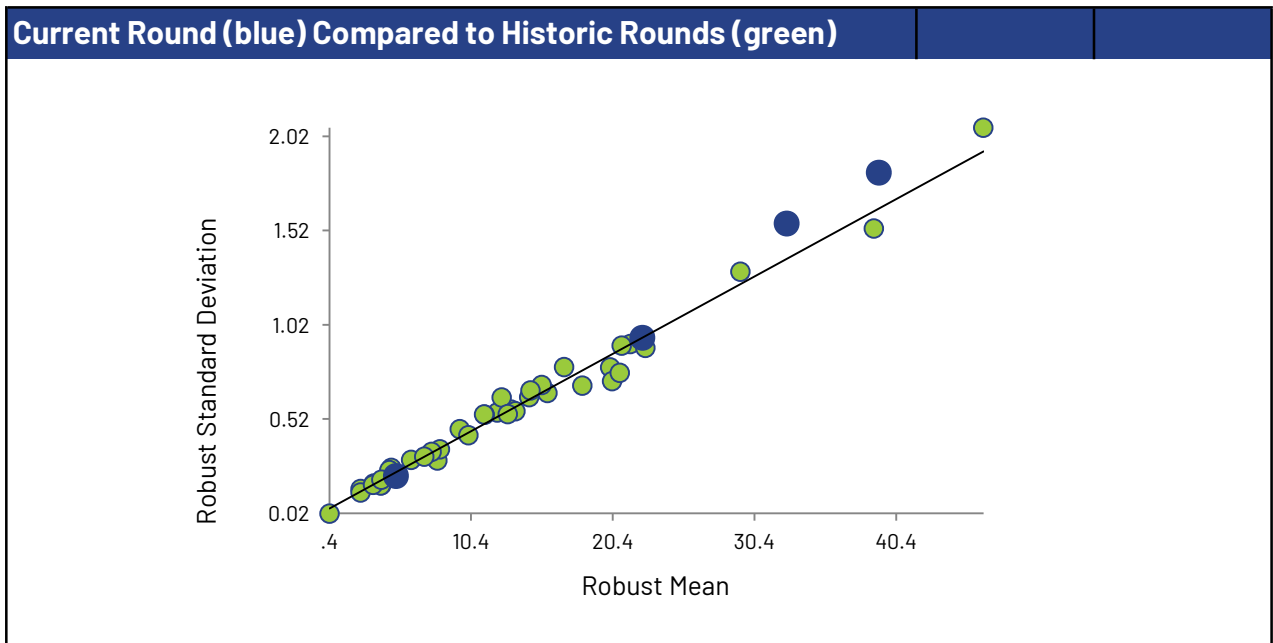
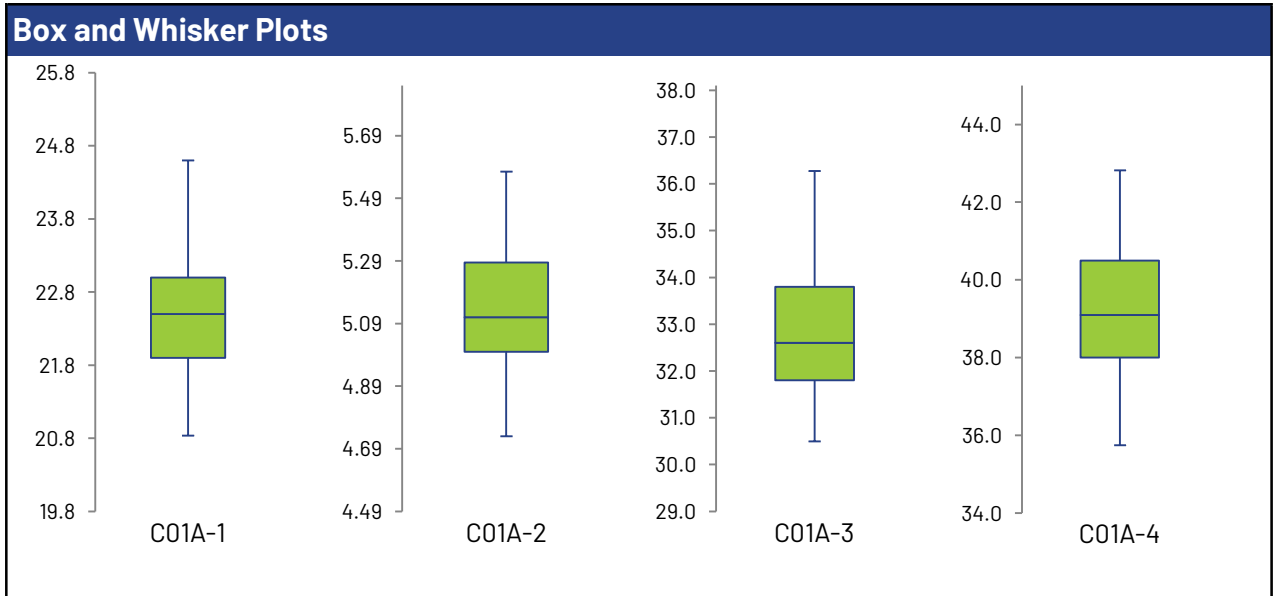
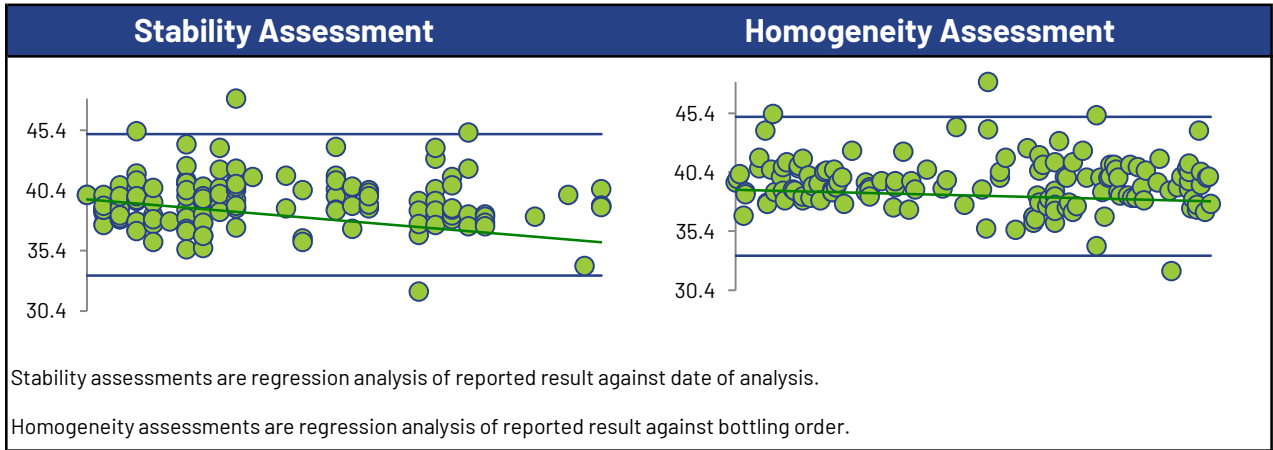


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Magnesium



Magnesium



Nitrate

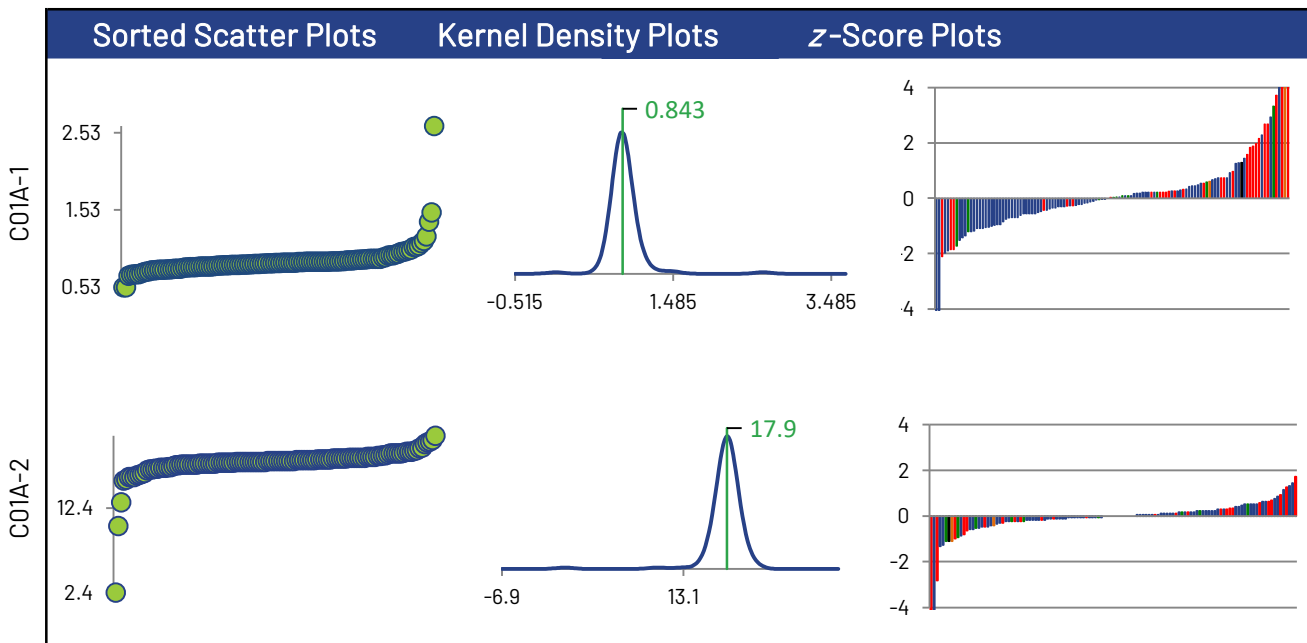
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	122	123	123	122
Median mg/L	0.846	17.9	9.98	10.0
Robust Mean mg/L	0.843	17.9	9.94	9.96
Uncertainty of the Assigned Value mg/L	0.00874	0.0808	0.0495	0.0515
Robust Standard Deviation mg/L	0.0772	0.717	0.439	0.455
Regression Standard Deviation mg/L	0.0632	1.34	0.746	0.747
Stability Flag		Stability		Stability
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.0772	1.74	0.746	0.920
Flagged Outliers	2	1	1	2
$ z > 3.0$	8	2	5	3
$2 < z < 3$	6	1	3	0
Failure Rate %*	4.0			

Methods Used

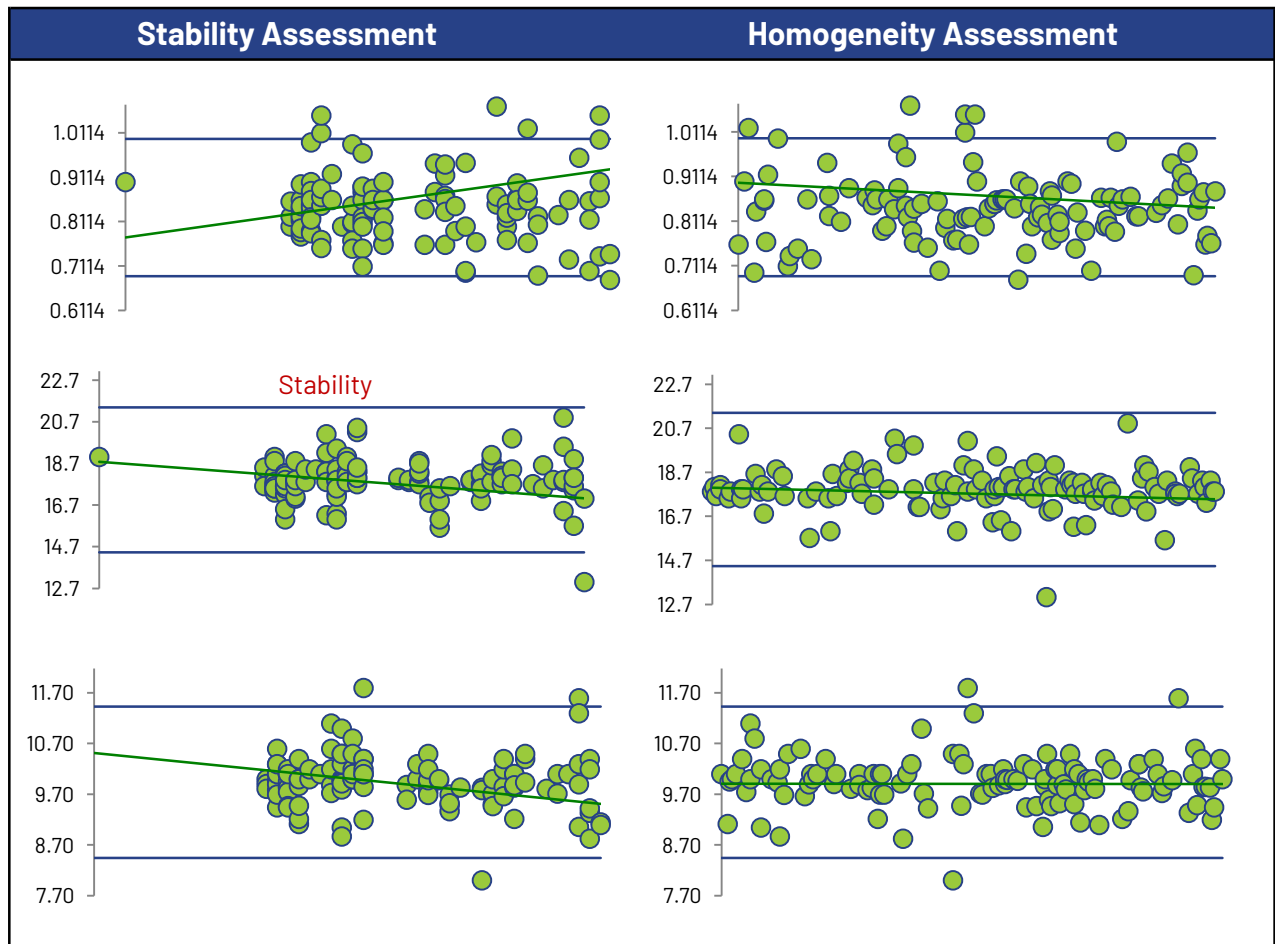
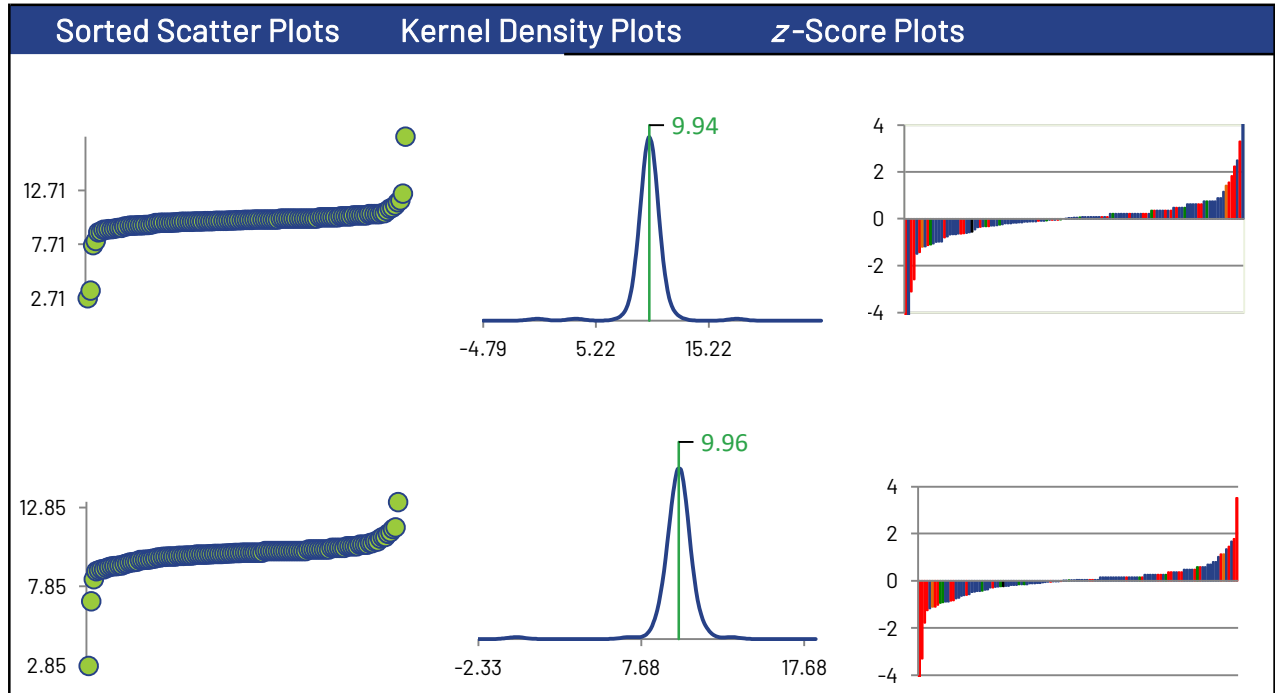
Method	C01A-1	C01A-2	C01A-3	C01A-4
ION CHROMATOGRAPHY (Blue)	81	82	82	81
COLORIMETRIC (Red)	28	28	28	28
AUTO COLOR (Green)	10	10	10	10
SELECTIVE ION ELECTRODE (Orange)	2	2	2	2
CALCULATED (Black)	1	1	1	1

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

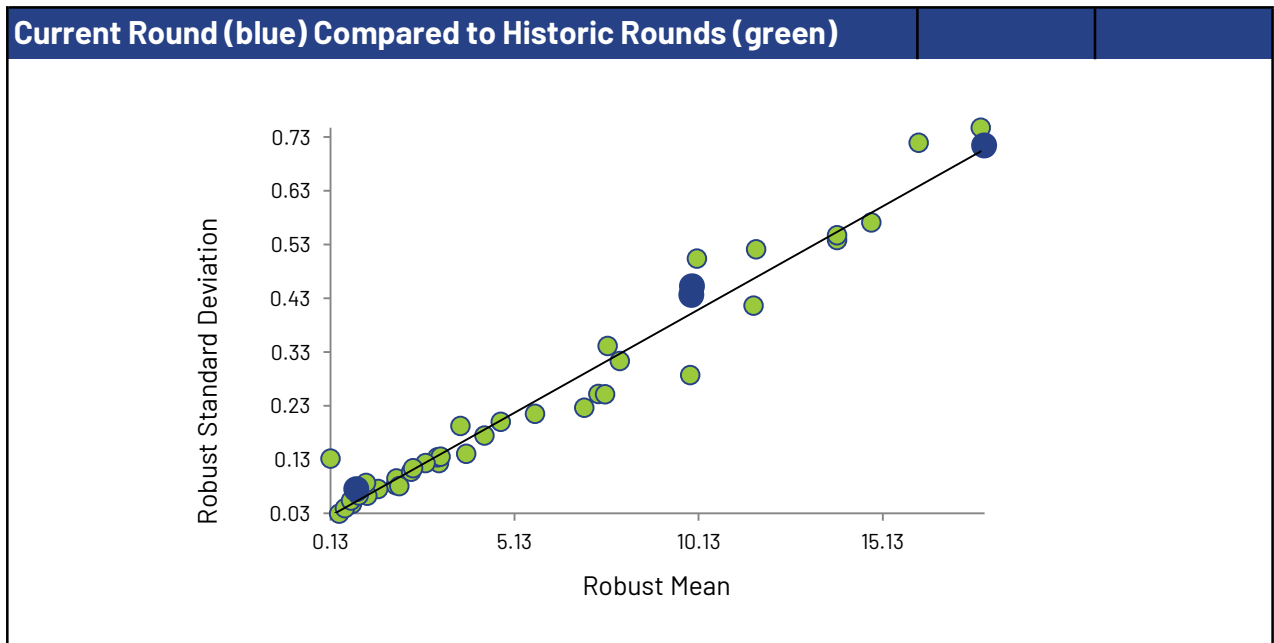
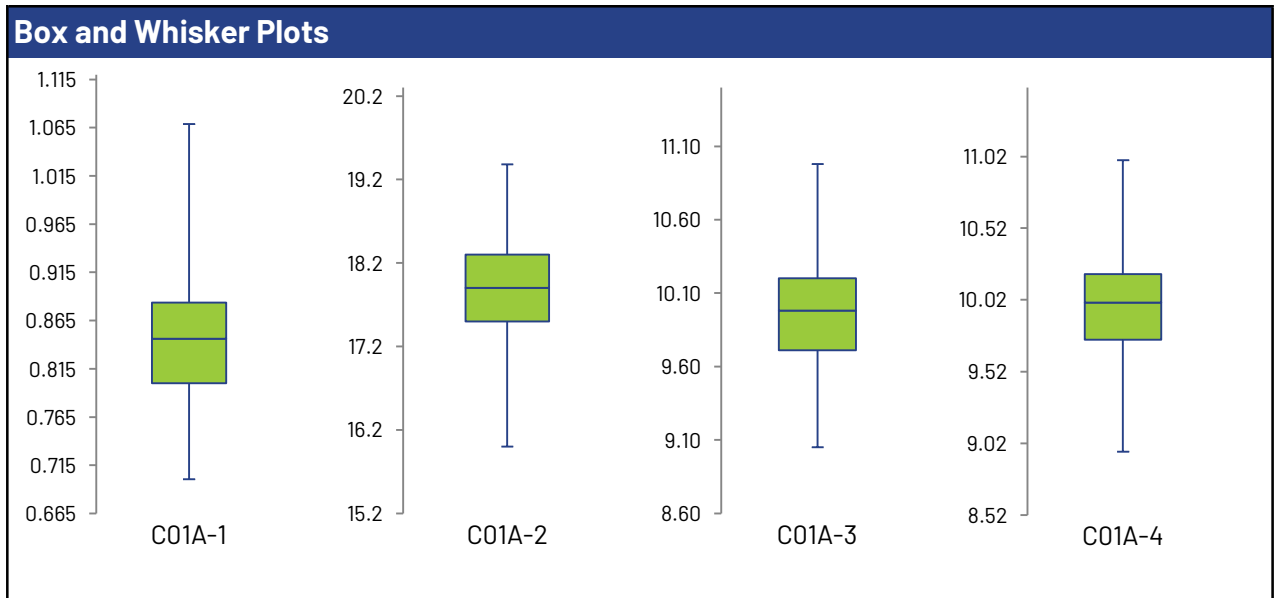
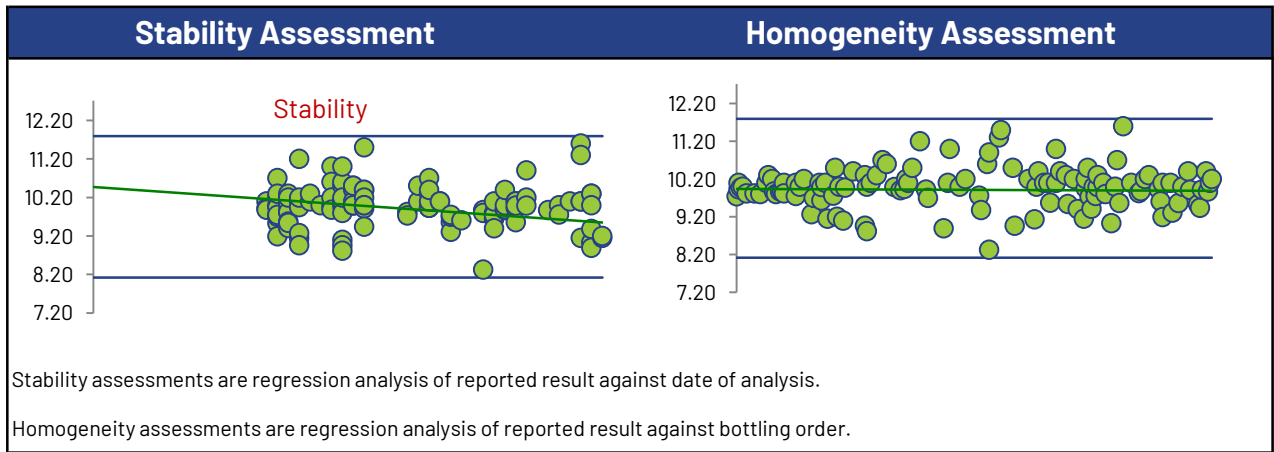


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Nitrate



Nitrate



Nitrate plus Nitrite

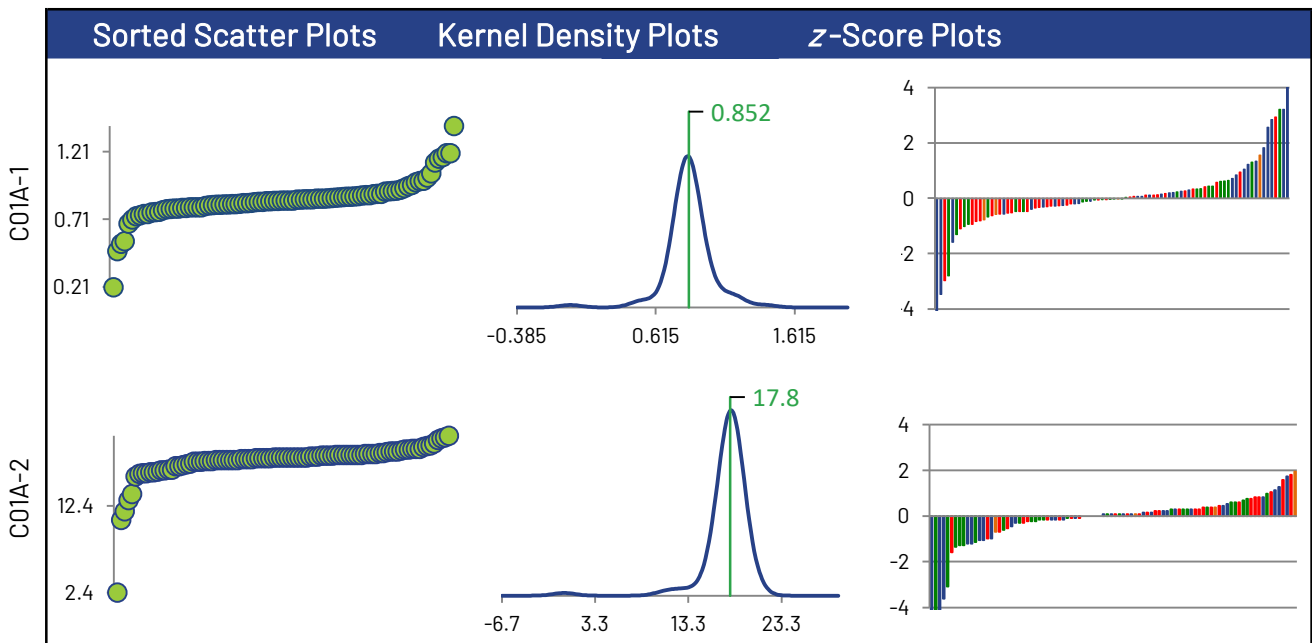
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	90	92	92	92
Median mg/L	0.850	17.9	9.93	9.95
Robust Mean mg/L	0.852	17.8	9.89	9.87
Uncertainty of the Assigned Value mg/L	0.0104	0.125	0.0609	0.0696
Robust Standard Deviation mg/L	0.0788	0.957	0.467	0.534
Regression Standard Deviation mg/L	0.0639	1.33	0.742	0.740
Stability Flag	Stability			
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.108	1.33	0.742	0.740
Flagged Outliers	1	0	0	0
$ z > 3.0$	5	5	2	3
$2 < z < 3$	5	0	3	3
Failure Rate %*	5.4			

Methods Used

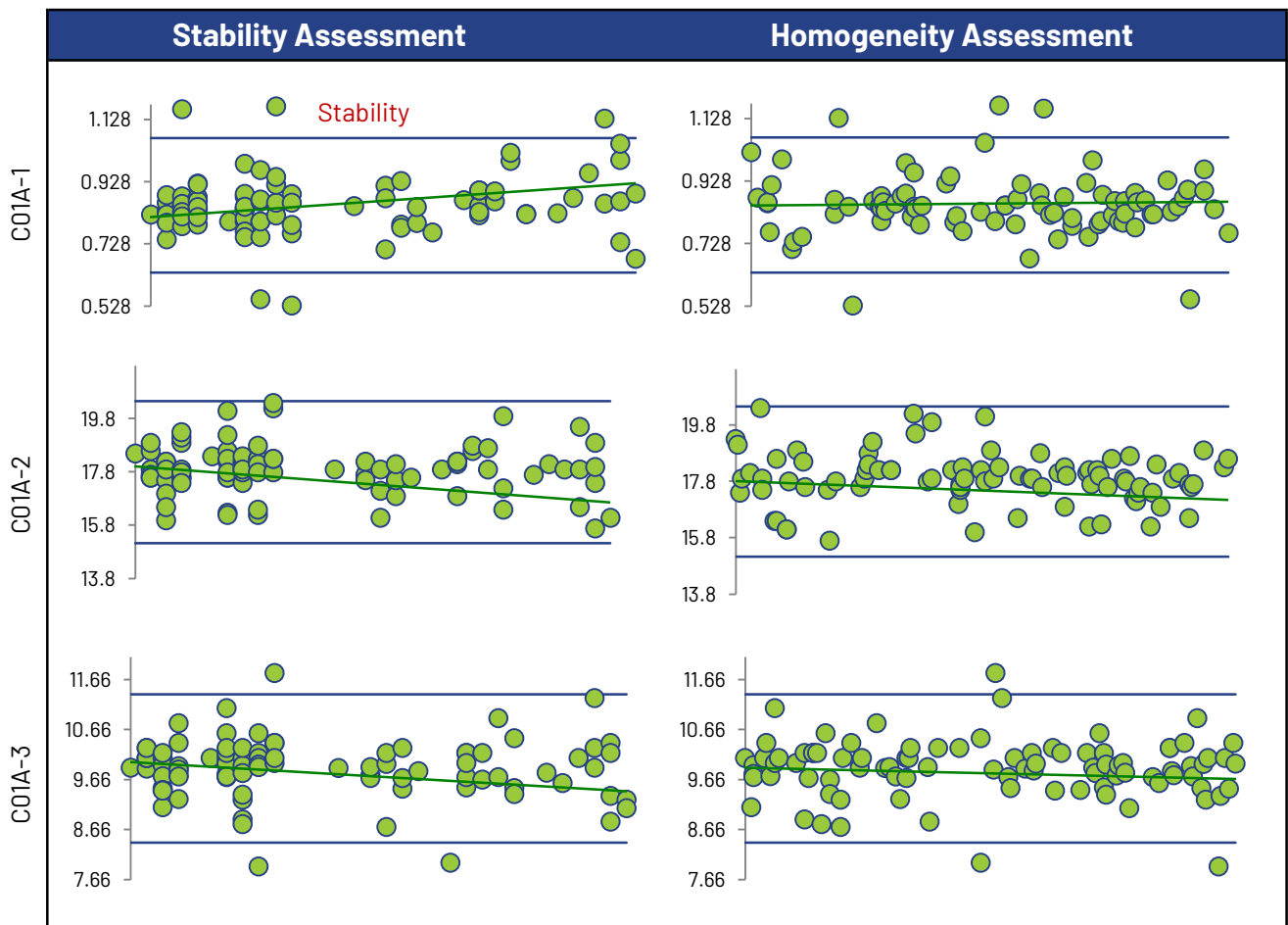
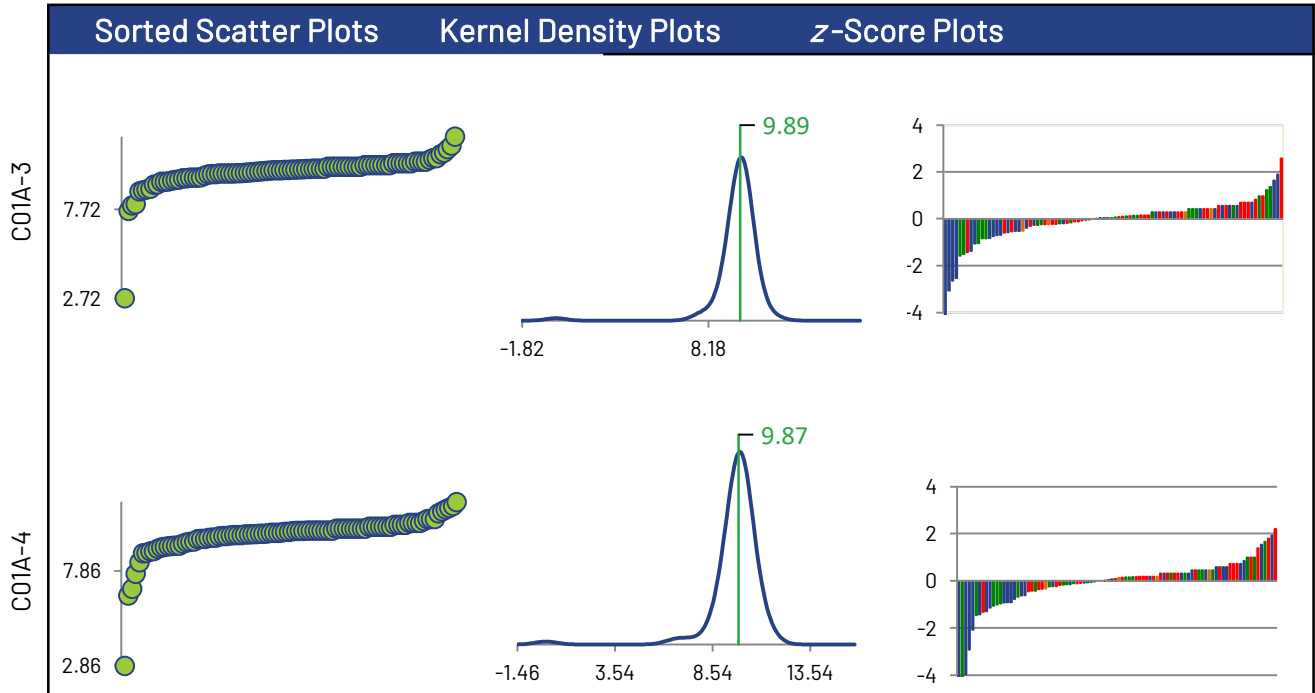
Method	C01A-1	C01A-2	C01A-3	C01A-4
COLORIMETRIC (Blue)	29	31	31	31
ION CHROMATOGRAPHY (Red)	32	32	32	32
AUTO COLOR (Green)	25	25	25	25
CALCULATED (Orange)	4	4	4	4

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

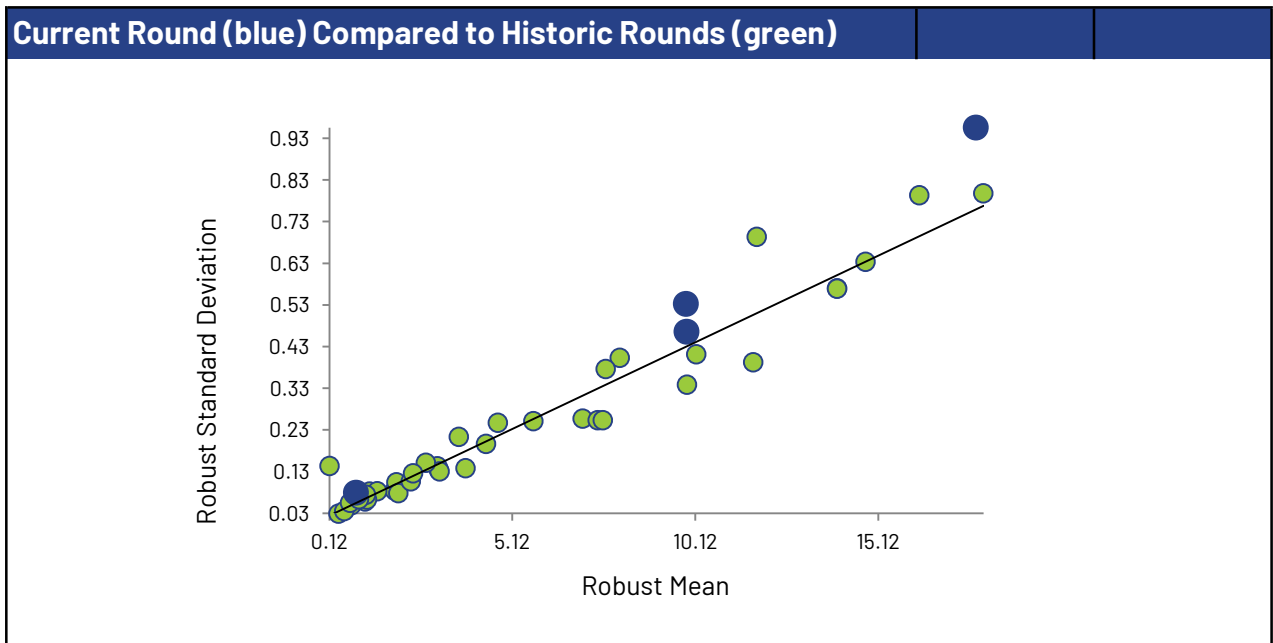
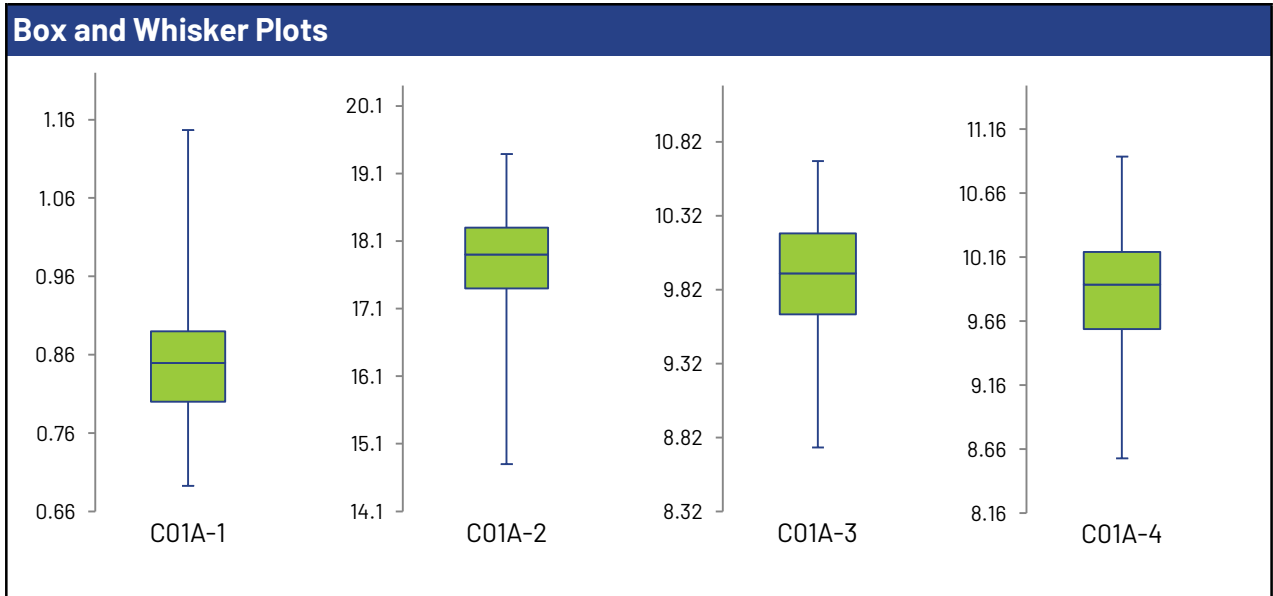
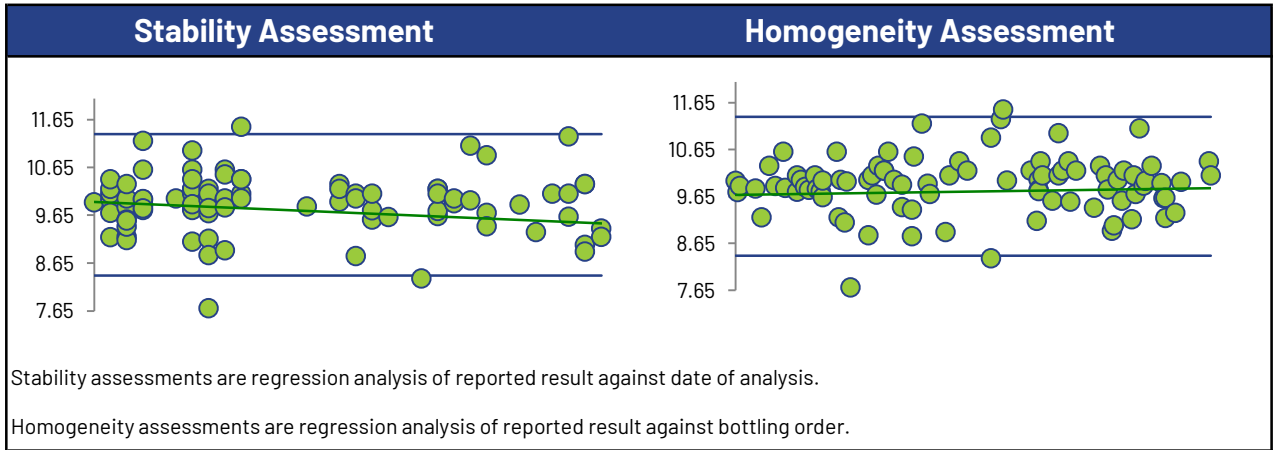


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Nitrate plus Nitrite



Nitrate plus Nitrite



Potassium

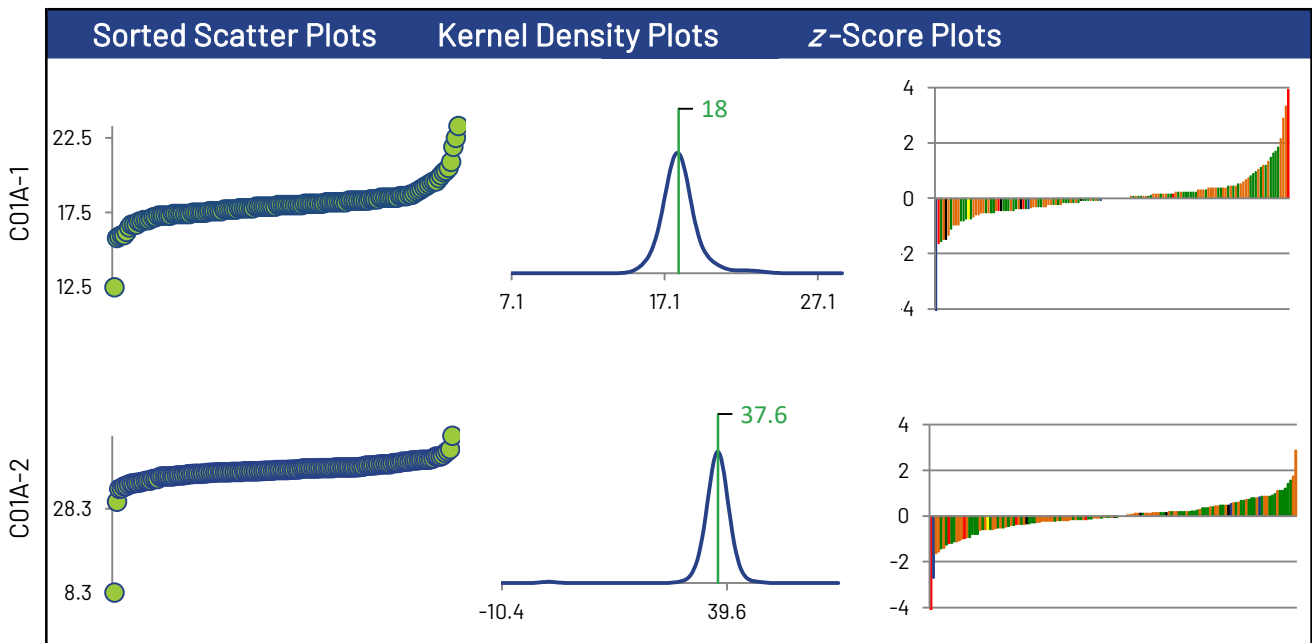
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	142	142	142	141
Median mg/L	18.0	37.5	8.57	8.52
Robust Mean mg/L	18.0	37.6	8.59	8.55
Uncertainty of the Assigned Value mg/L	0.0736	0.177	0.0433	0.0394
Robust Standard Deviation mg/L	0.702	1.69	0.413	0.374
Regression Standard Deviation mg/L	1.35	2.82	0.644	0.641
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	1.35	2.82	0.644	0.641
Flagged Outliers	1	2	2	3
$ z > 3.0$	3	1	4	4
$2 < z < 3$	2	2	4	1
Failure Rate %*	4.2			

Methods Used

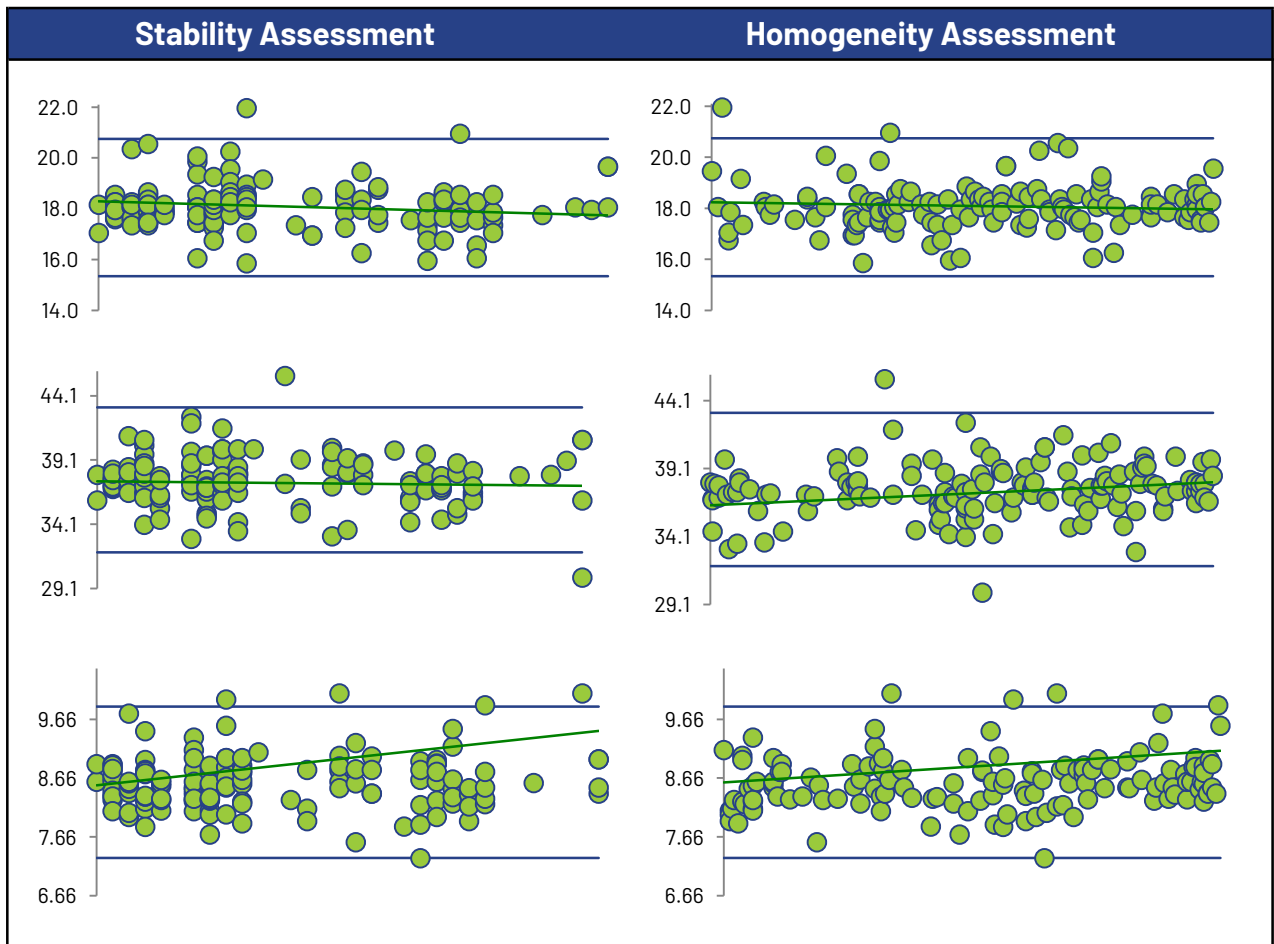
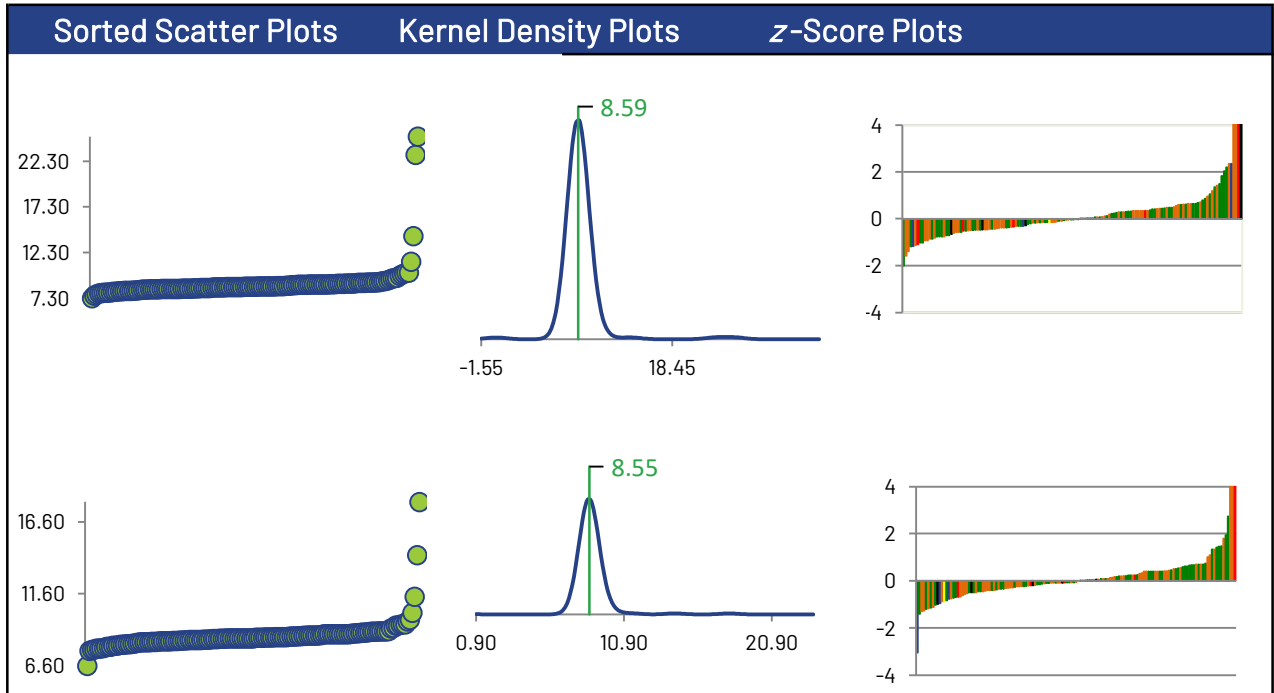
Method	C01A-1	C01A-2	C01A-3	C01A-4
COLORIMETRIC (Blue)	3	3	3	3
AA FLAME (Red)	5	5	5	5
ICP/MS (Green)	63	63	63	63
ICP/OES (Orange)	65	65	65	64
ION CHROMATOGRAPHY (Black)	5	5	5	5
FLAME PHOTOMETRIC (Yellow)	1	1	1	1

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

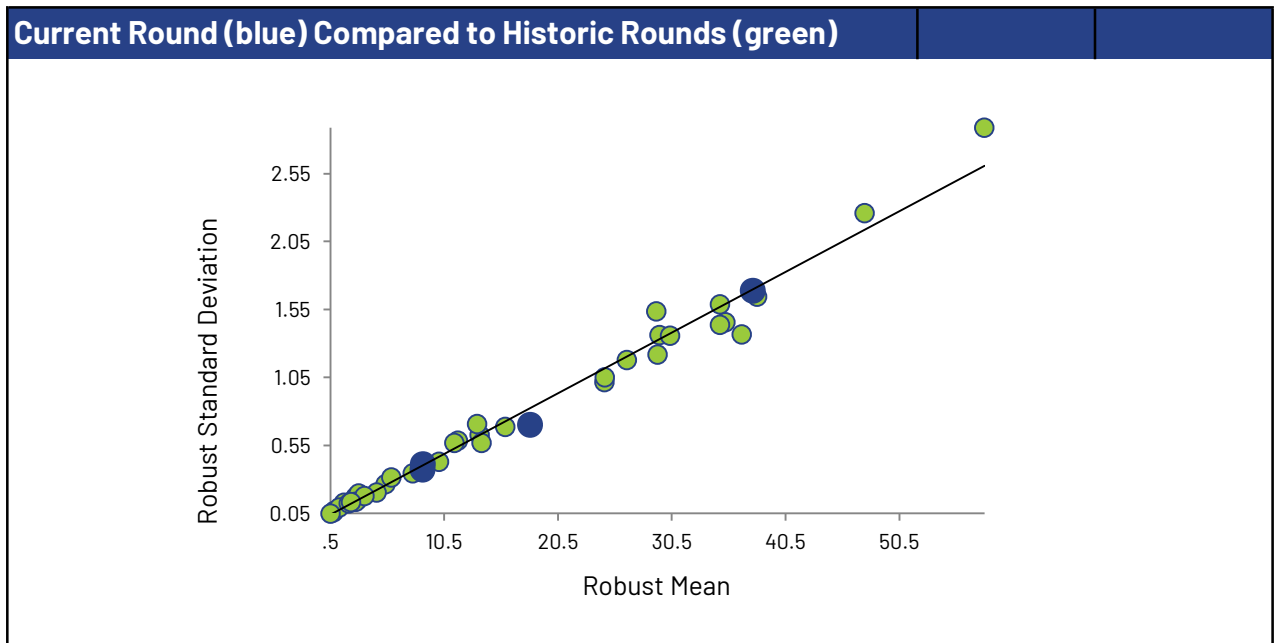
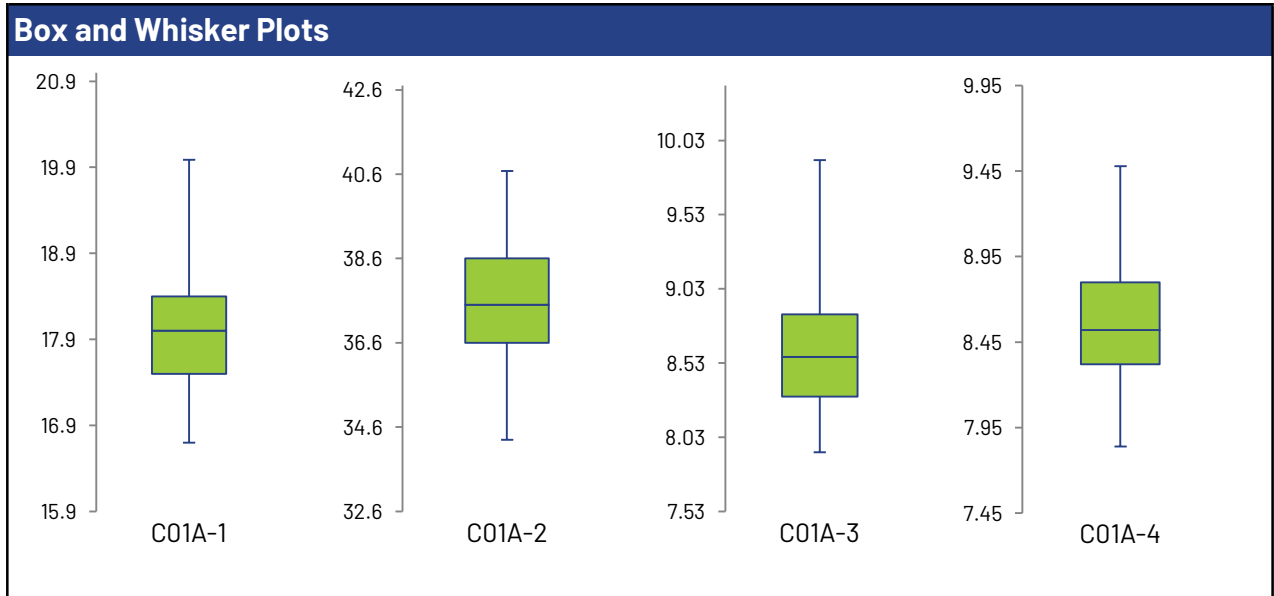
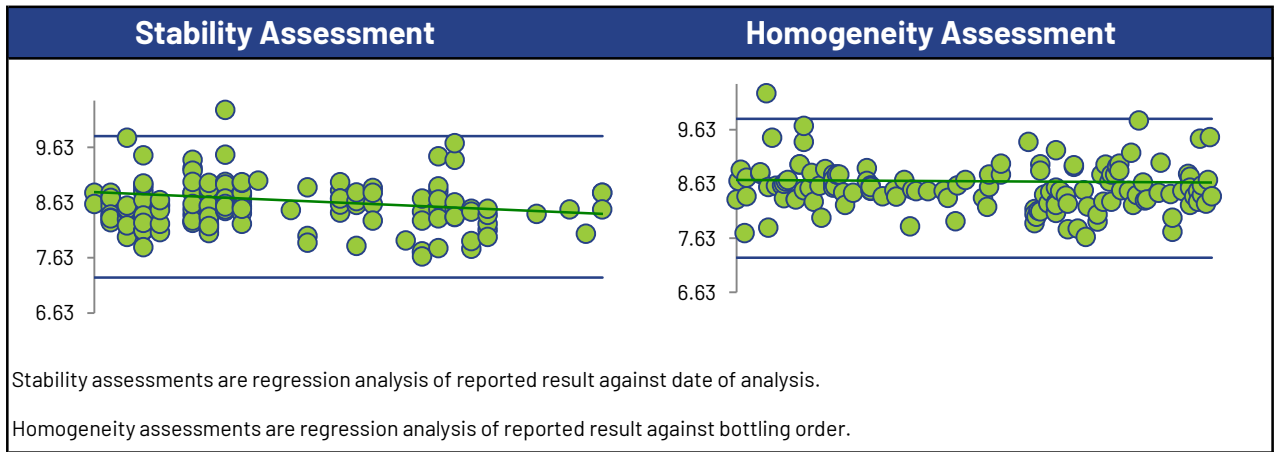


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Potassium



Potassium



Reactive Silica

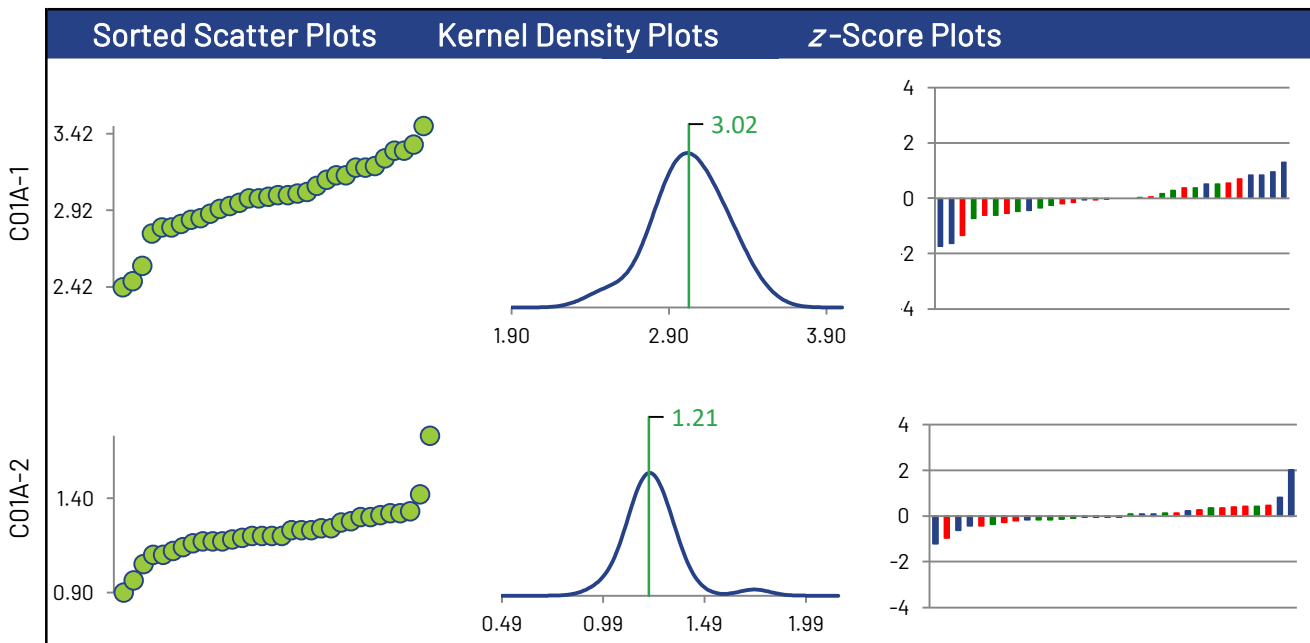
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	32	32	20	21
Median mg/L	3.02	1.20	0.0795	0.0800
Robust Mean mg/L	3.02	1.21	0.0967	0.0948
Uncertainty of the Assigned Value mg/L	0.0493	0.0214	0.0126	0.0122
Robust Standard Deviation mg/L	0.223	0.0970	0.0451	0.0446
Regression Standard Deviation mg/L	0.302	0.121	0.00967	0.00948
Stability Flag	Stability	Stability		
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	0.344	0.259	0.0451	0.0446
Flagged Outliers	1	1	1	1
$ z > 3.0$	0	0	2	2
$2 < z < 3$	0	1	1	0
Failure Rate %*	9.1			

Methods Used

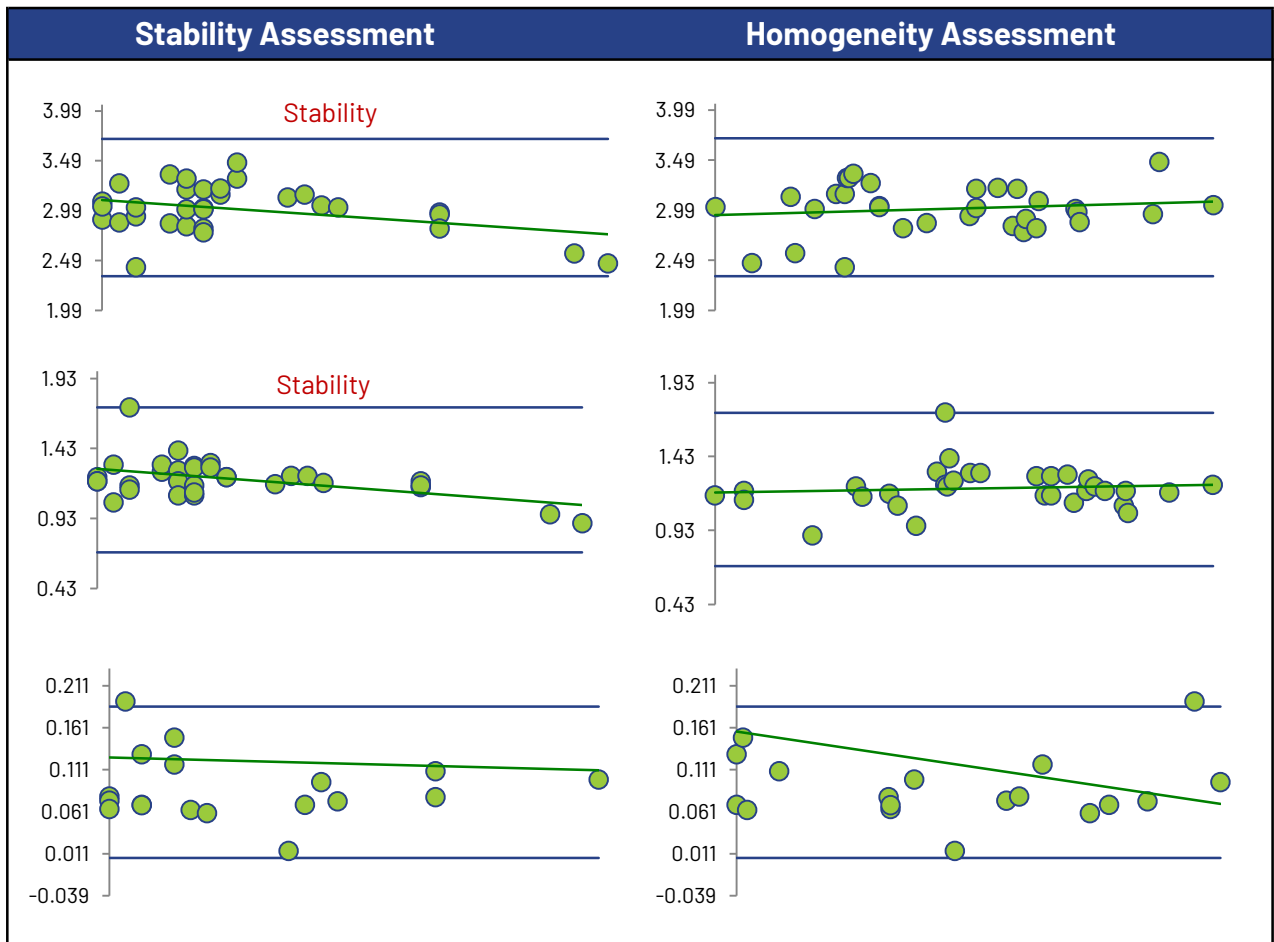
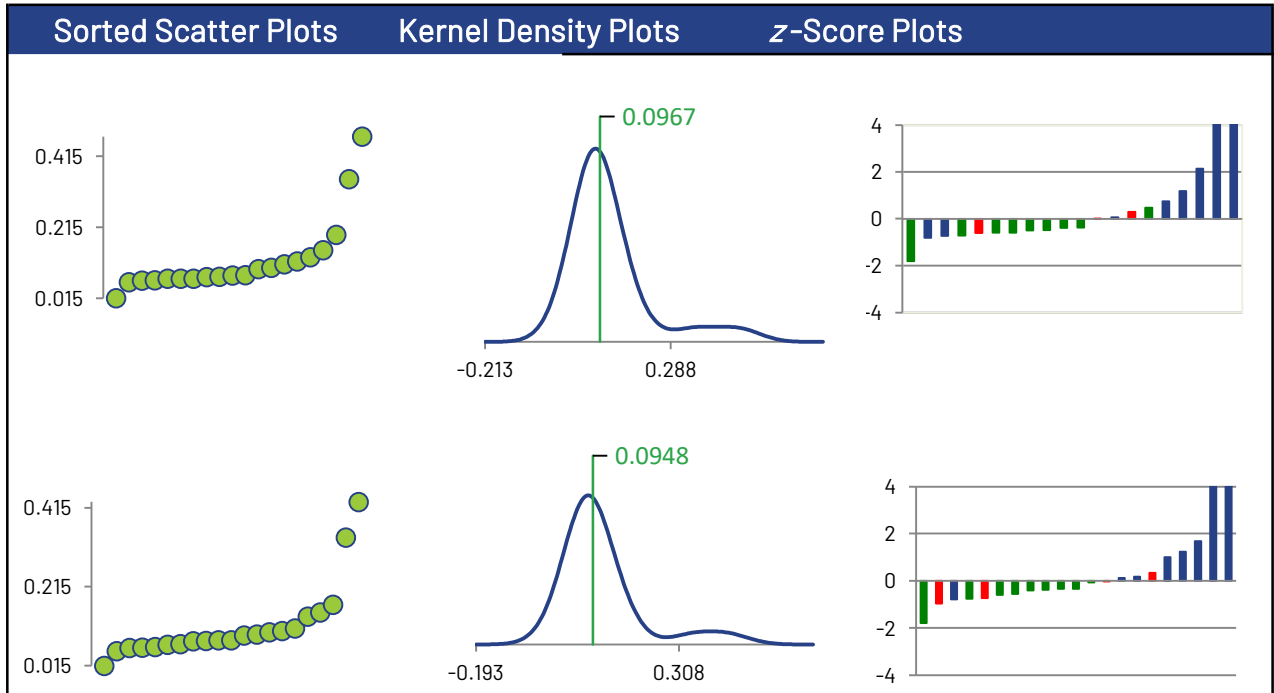
Method	C01A-1	C01A-2	C01A-3	C01A-4
COLORIMETRIC (Blue)	10	10	8	8
AUTO COLOR (Red)	11	11	3	4
CALCULATED (Green)	11	11	9	9

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

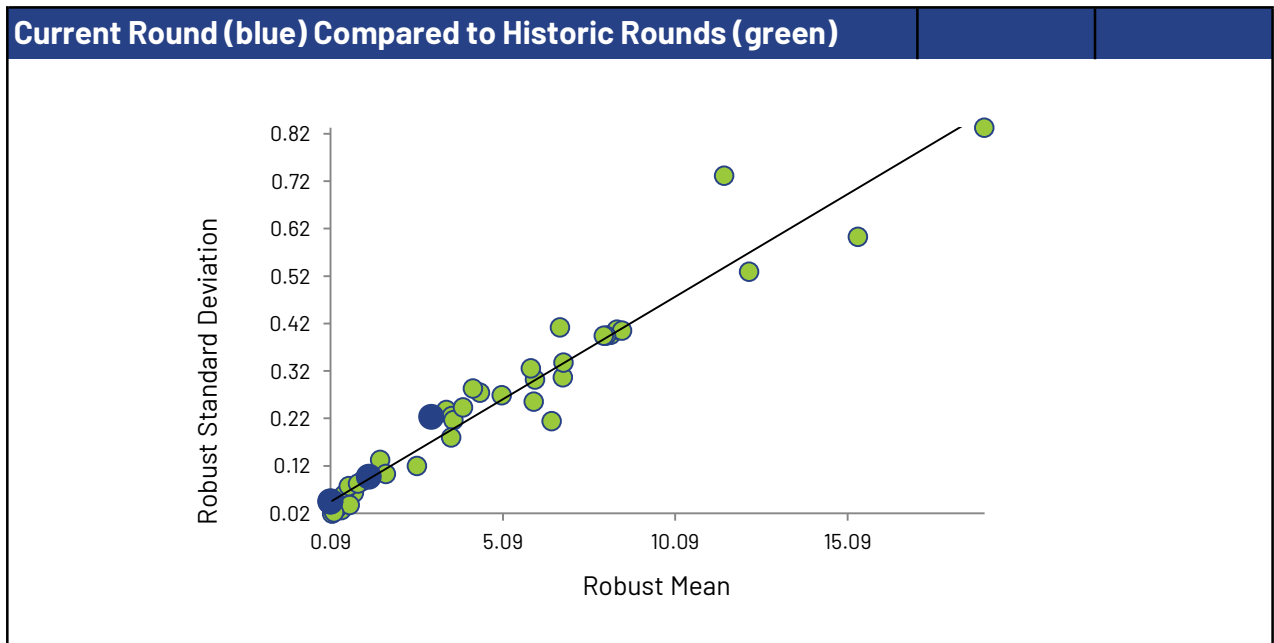
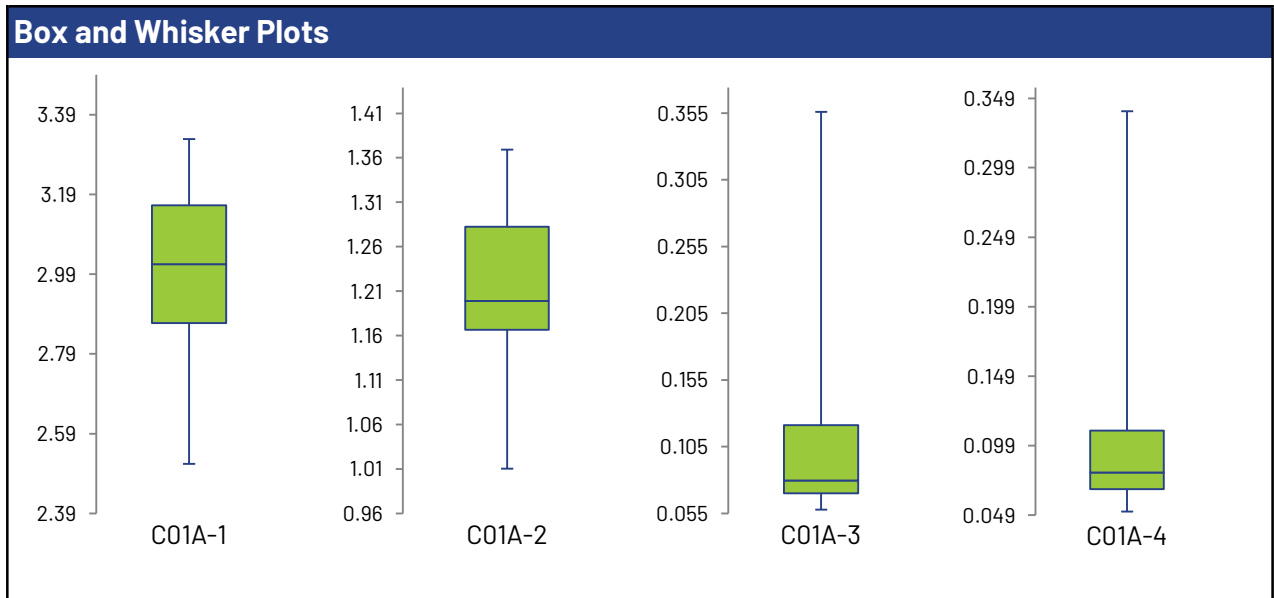
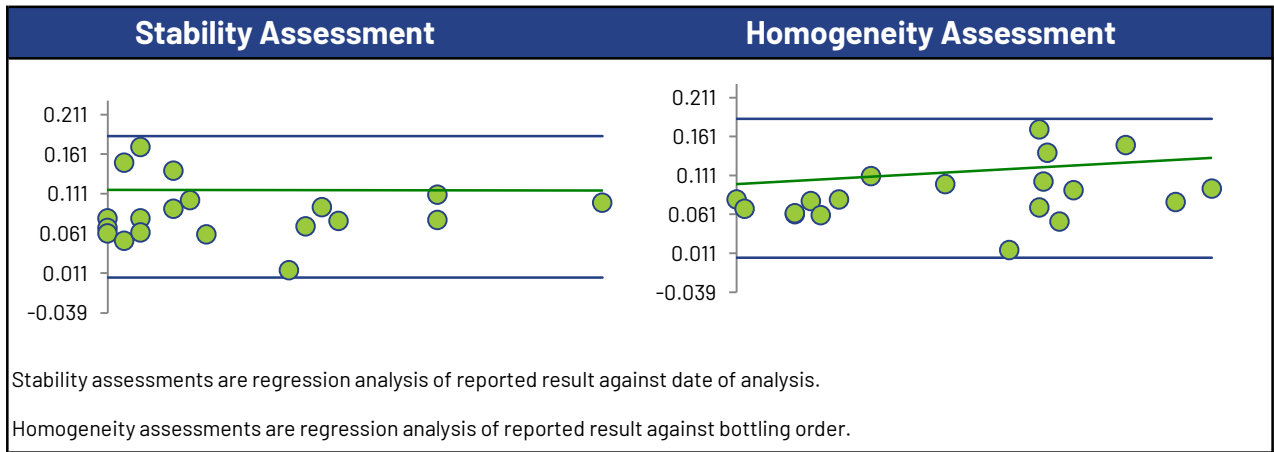


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Reactive Silica



Reactive Silica



Sodium

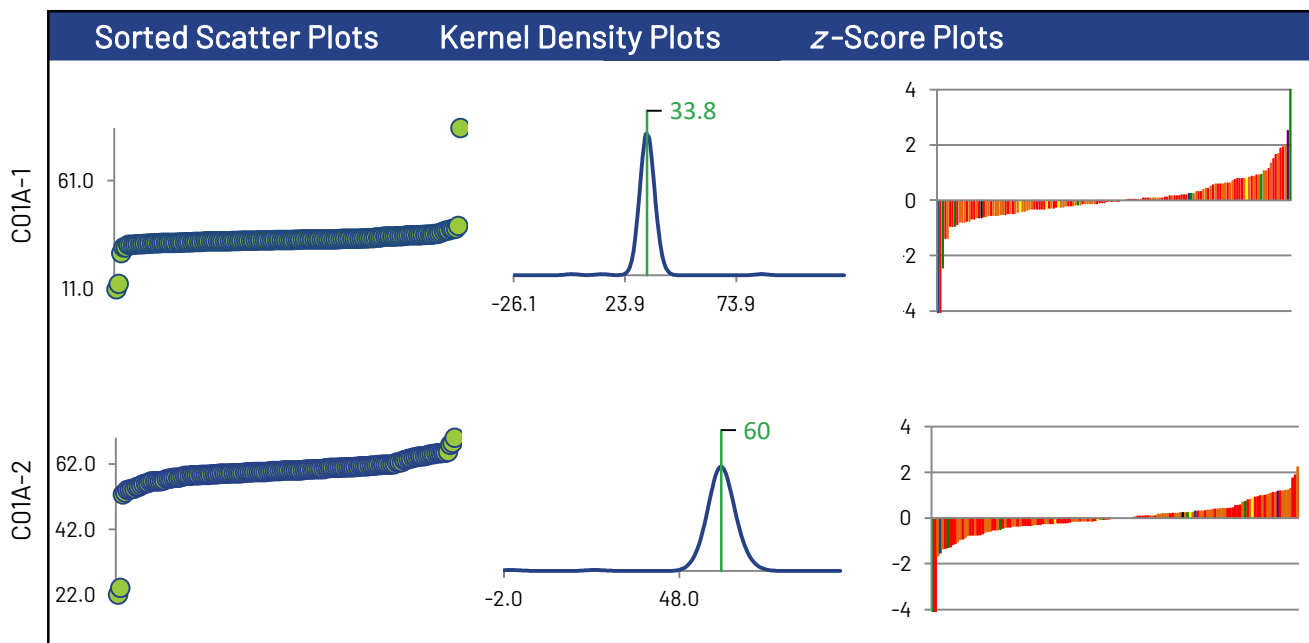
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	147	147	147	147
Median mg/L	33.7	60.0	92.5	93.0
Robust Mean mg/L	33.8	60.0	92.6	93.0
Uncertainty of the Assigned Value mg/L	0.160	0.275	0.446	0.447
Robust Standard Deviation mg/L	1.55	2.67	4.33	4.34
Regression Standard Deviation mg/L	2.54	4.50	6.95	6.98
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	2.54	4.50	6.95	6.98
Flagged Outliers	1	1	1	1
$ z > 3.0$	3	2	2	4
$2 < z < 3$	3	1	2	1
Failure Rate %*	0.0			

Methods Used

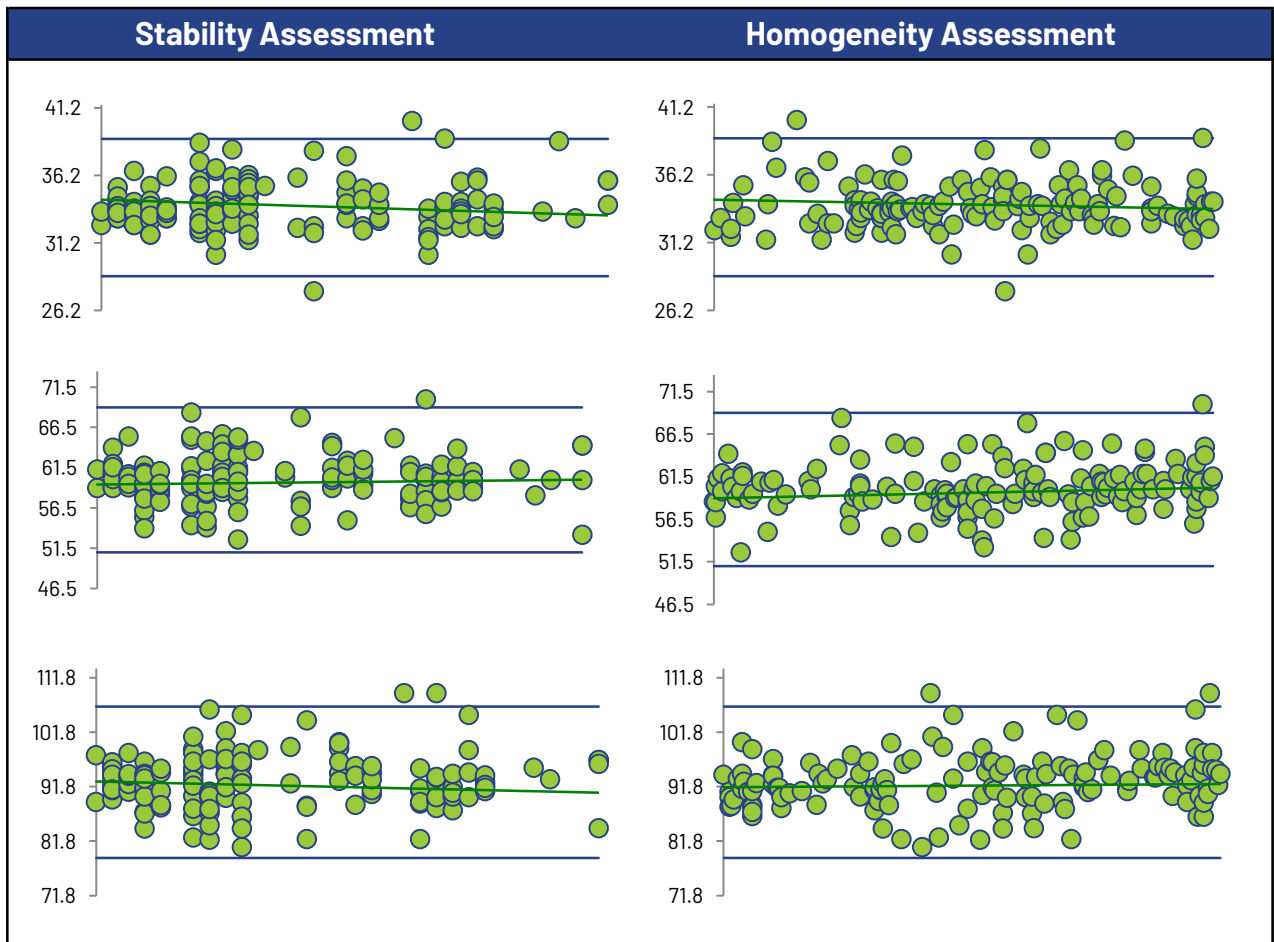
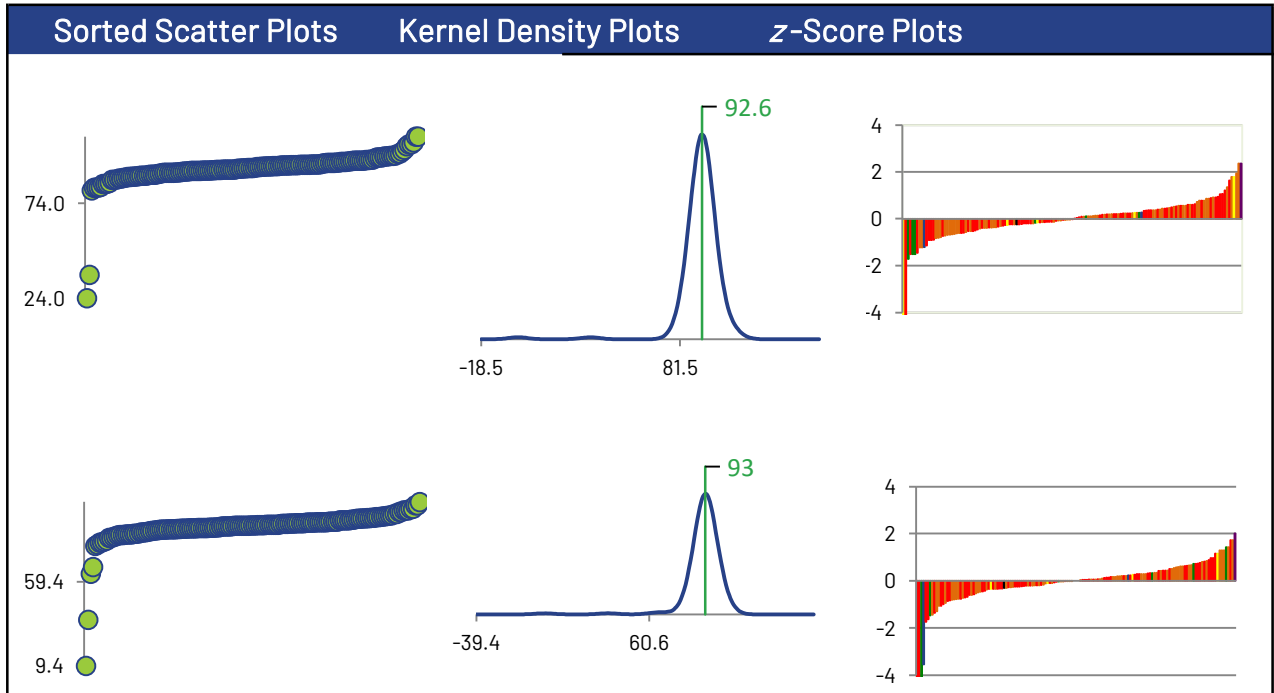
Method	C01A-1	C01A-2	C01A-3	C01A-4
ION SELECTIVE ELECTRODE (Blue)	2	2	2	2
ICP/OES (Red)	69	69	69	69
AA FLAME (Green)	6	6	6	6
ICP/MS (Orange)	63	63	63	63
FLAME PHOTOMETRIC (Black)	1	1	1	1
ION CHROMATOGRAPHY (Yellow)	5	5	5	5
COLORIMETRIC (Purple)	1	1	1	1

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

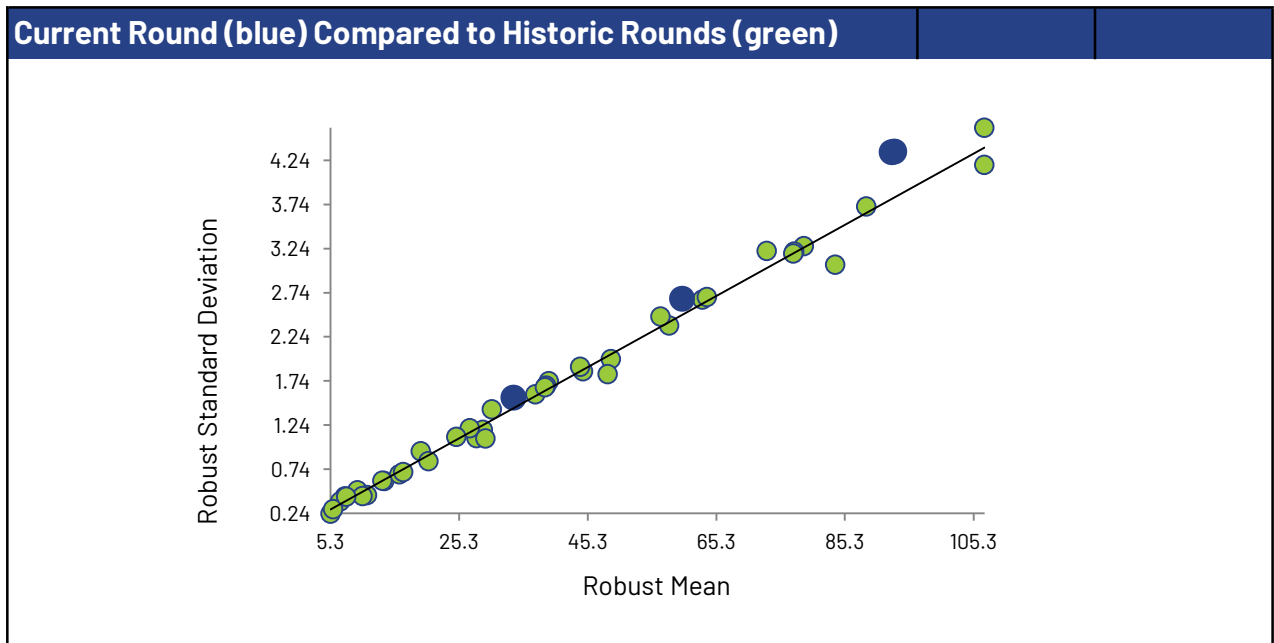
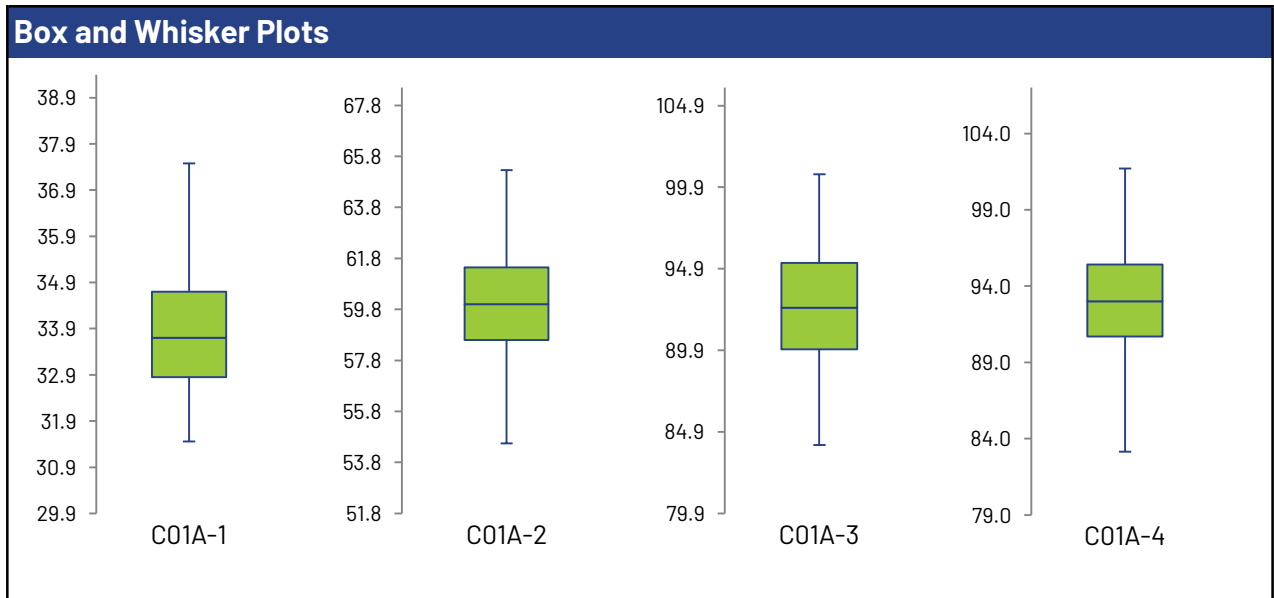
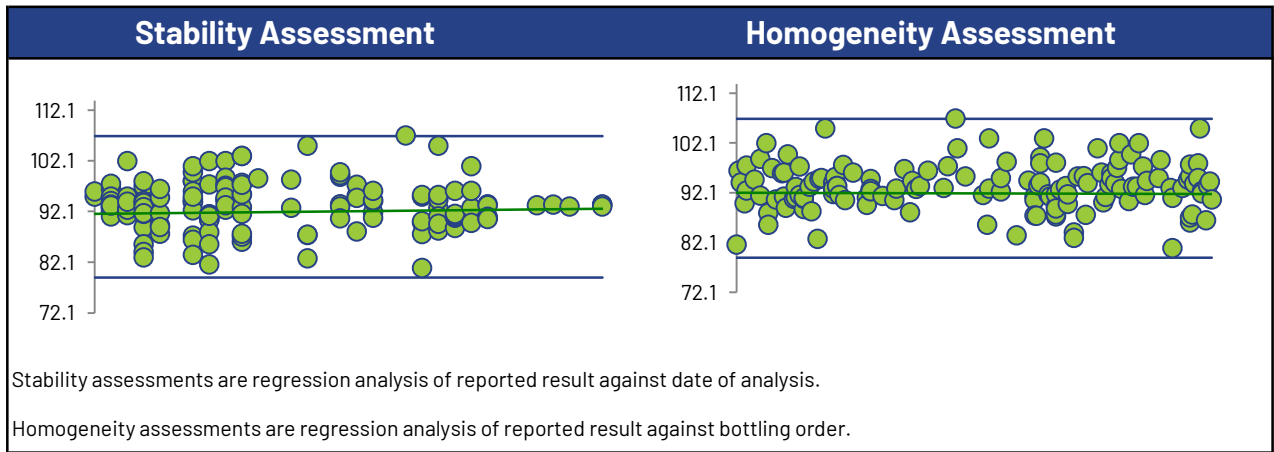


* Displayed failure rate does not account for the RDL modified z-Scores or inaccurately reported non-detects.

Sodium



Sodium



Sulfate

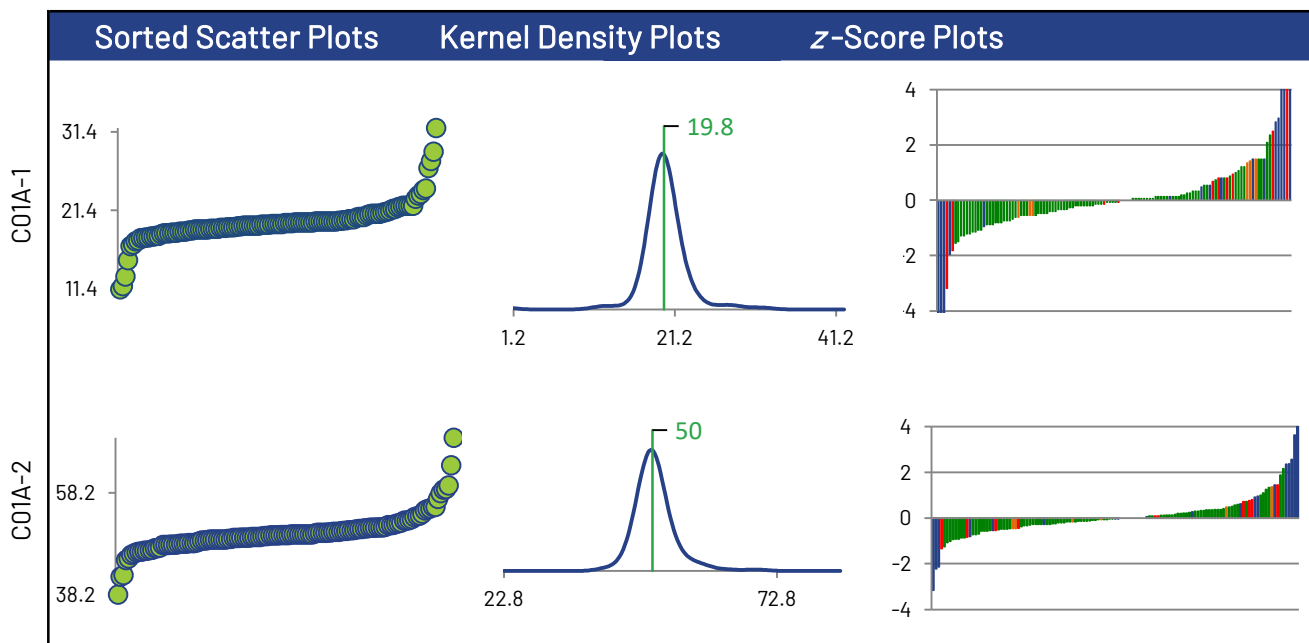
Summary Statistics

Statistic	C01A-1	C01A-2	C01A-3	C01A-4
No. of results used for summary statistics	124	129	130	129
Median mg/L	19.7	49.9	190	189
Robust Mean mg/L	19.8	50.0	190	190
Uncertainty of the Assigned Value mg/L	0.153	0.249	0.820	0.923
Robust Standard Deviation mg/L	1.36	2.26	7.48	8.39
Regression Standard Deviation mg/L	1.48	3.75	14.2	14.2
Stability Flag				
Homogeneity Flag				
Standard Deviation Used (SDPA) mg/L	1.48	3.75	14.2	14.2
Flagged Outliers	2	1	0	1
$ z > 3.0$	8	3	8	6
$2 < z < 3$	5	6	3	3
Failure Rate %*	8.5			

Methods Used

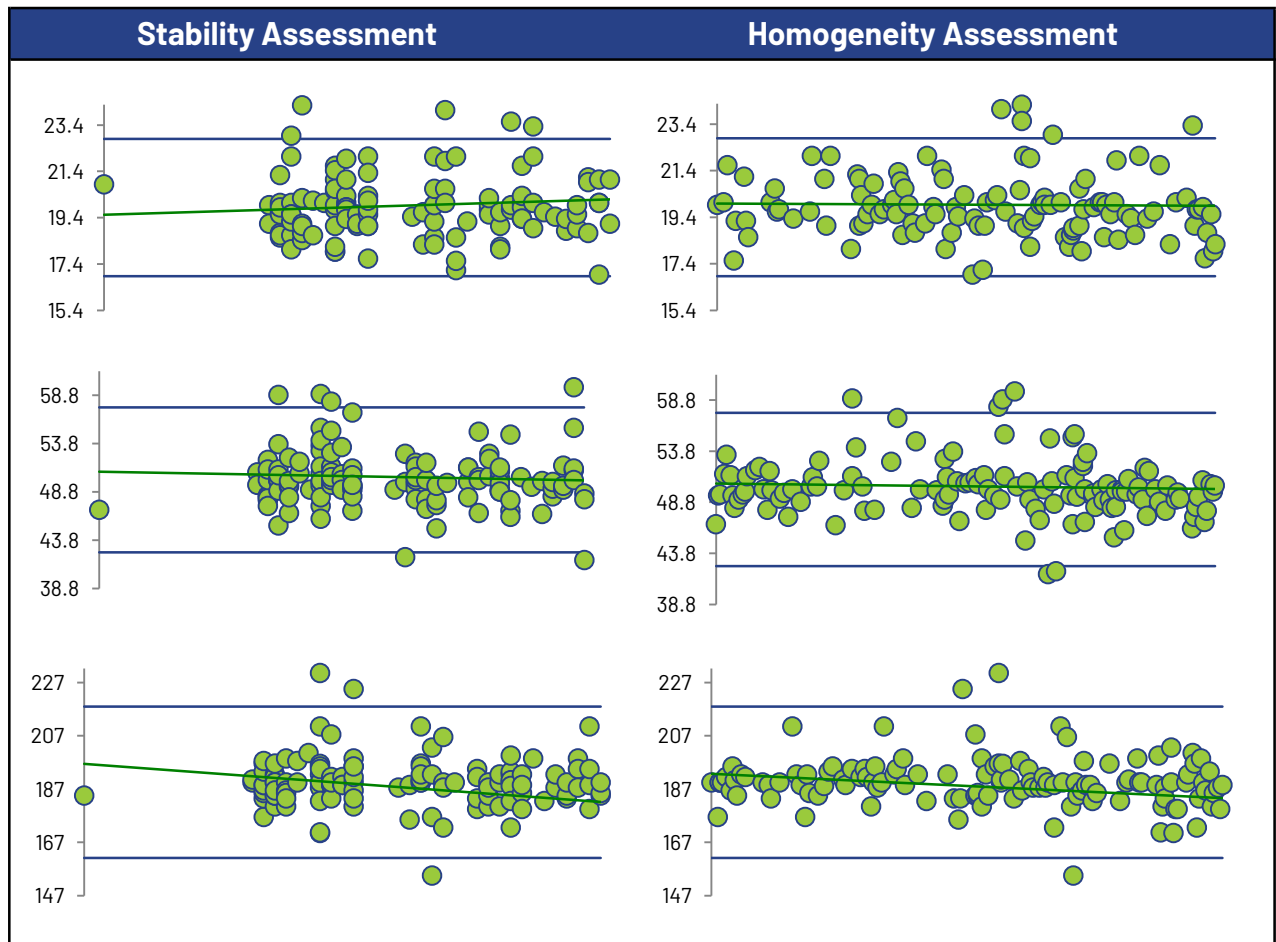
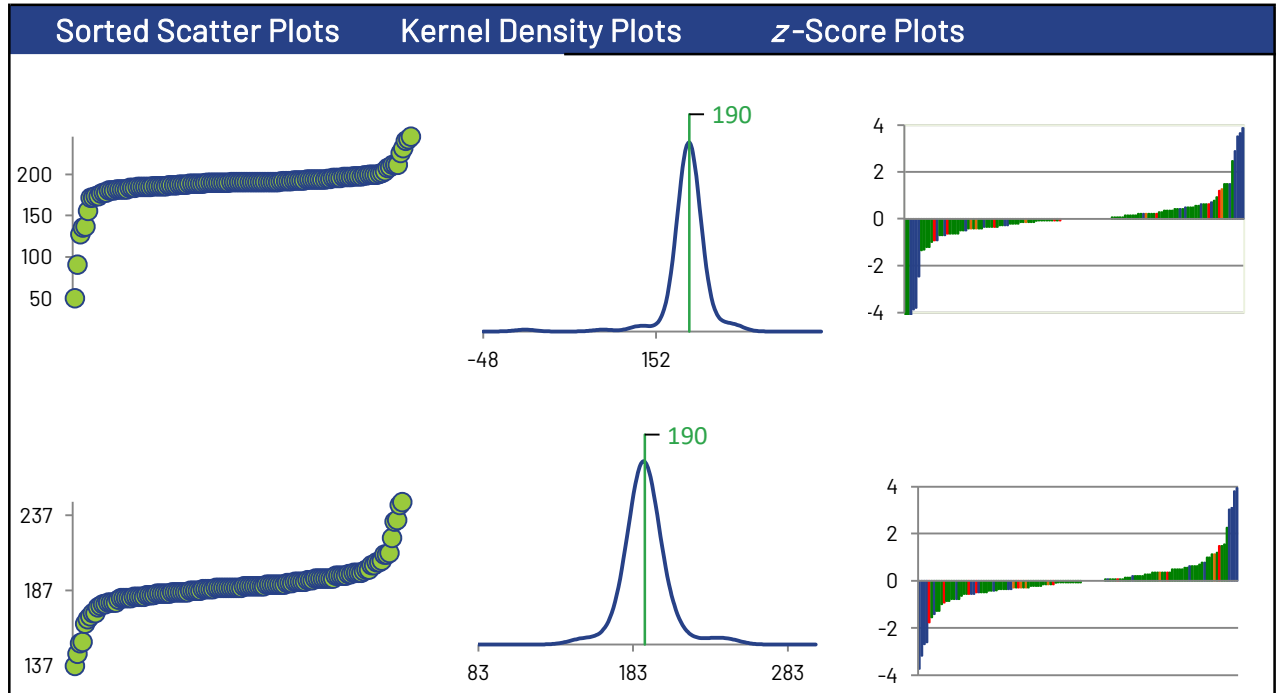
Method	C01A-1	C01A-2	C01A-3	C01A-4
TURBIDIMETRIC (Blue)	16	21	21	21
AUTO COLOR (Red)	10	10	10	10
ION CHROMATOGRAPHY (Green)	92	92	93	92
CALCULATED (Orange)	6	6	6	6

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.

Sulfate



Sulfate

