

**STATISTICAL ANALYSIS SUMMARY**  
**BOTTOM ASH POND**  
**Rockport Plant**  
**Rockport, Indiana**

*Submitted to*



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## TABLE OF CONTENTS

SECTION 1 Executive Summary .....	1
SECTION 2 Bottom Ash Pond Evaluation.....	2-1
2.1 Data Validation & QA/QC .....	2-1
2.2 Statistical Analysis.....	2-1
2.2.1 Establishment of GWPSs.....	2-2
2.2.2 Evaluation of Potential Appendix IV SSLs .....	2-2
2.2.3 Evaluation of Potential Appendix III SSIs .....	2-2
2.3 Conclusions.....	2-4
SECTION 3 References .....	3-1

## LIST OF TABLES

Table 1	Groundwater Data Summary
Table 2	Outlier Summary
Table 3	Groundwater Protection Standards
Table 4	Appendix III Data Summary

## LIST OF ATTACHMENTS

Attachment A	Certification by Qualified Professional Engineer
Attachment B	Statistical Analysis Output

## LIST OF ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	Alternative Source Demonstration
BAP	Bottom Ash Pond
CCR	Coal Combustion Residuals
CCV	Continuing Calibration Verification
CFR	Code of Federal Regulations
GWPS	Groundwater Protection Standard
LCL	Lower Confidence Limit
LFB	Laboratory Fortified Blanks
LRB	Laboratory Reagent Blanks
MCL	Maximum Contaminant Level
NELAP	National Environmental Laboratory Accreditation Program
QA	Quality Assurance
QC	Quality Control
RSL	Regional Screening Level
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
TDS	Total Dissolved Solids
UPL	Upper Prediction Limit
USEPA	United States Environmental Protection Agency
UTL	Upper Tolerance Limit

## SECTION 1

### EXECUTIVE SUMMARY

In accordance with the United States Environmental Protection Agency's (USEPA's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (40 CFR 257.90-257.98, "CCR rule"), groundwater monitoring has been conducted at the Bottom Ash Pond (BAP), an existing CCR unit at the Rockport Power Plant located in Rockport, Indiana.

Based on detection monitoring conducted in 2017 and 2018, statistically significant increases (SSIs) over background were concluded for boron, chloride, fluoride, total dissolved solids (TDS), and sulfate at the BAP. An alternate source was not identified at the time, so two assessment monitoring events were conducted at the BAP in 2018, in accordance with 40 CFR 257.95.

Groundwater data underwent several validation tests, including those for completeness, sample tracking accuracy, transcription errors, and consistent use of measurement units. No data quality issues were identified which would impact the usability of the data.

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. Groundwater protection standards (GWPSs) were established for the Appendix IV parameters. Confidence intervals were calculated for Appendix IV parameters at the compliance wells to assess whether Appendix IV parameters were present at a statistically significant level (SSL) above the GWPS. No SSLs were identified, but Appendix III concentrations for boron, calcium, chloride, fluoride, sulfate, and TDS remained above background. Thus, either the unit will remain in assessment monitoring or an alternative source demonstration (ASD) will be conducted to evaluate if the unit can return to detection monitoring. Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

## SECTION 2

### BOTTOM ASH POND EVALUATION

#### 2.1 Data Validation & QA/QC

During the assessment monitoring program, two sets of samples were collected for analysis from upgradient wells MW-1600S/I/D and MW-1601S/I/D and all downgradient wells to meet the requirements of 40 CFR 257.95(b) and 257.95(d)(1). Six samples were collected from upgradient wells MW-1701S/I/D and MW-1702S/I/D, which were added to the well network following the background monitoring period. All samples were analyzed for the Appendix III and Appendix IV parameters. A summary of data collected during assessment monitoring may be found in Table 1.

Chemical analysis was completed by an analytical laboratory certified by the National Environmental Laboratory Accreditation Program (NELAP). Quality assurance and quality control (QA/QC) samples completed by the analytical laboratory included the use of laboratory reagent blanks (LRBs), continuing calibration verification (CCV) samples, and laboratory fortified blanks (LFBs).

The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.9.5 statistics software. The export file was checked against the analytical data for transcription errors and completeness. No QA/QC issues were noted which would impact data usability.

#### 2.2 Statistical Analysis

Statistical analyses for the BAP were conducted in accordance with the January 2017 *Statistical Analysis Plan* (AEP, 2017), except where noted below. Time series plots and results for all completed statistical tests are provided in Attachment B.

The data obtained to meet the requirements of 40 CFR 257.95(b) and 257.95(d)(1) were screened for potential outliers. Outliers identified from the background and detection monitoring events conducted through January 2018 were summarized in a previous report (Geosyntec, 2018). Four values were previously identified as outliers; however, based on the recent sampling results, these values were no longer identified as outliers and were retained in the dataset. These results are summarized in Table 2.

Three outliers were identified for the data collected in 2018. The reported pH value of 7.81 SU for the June 6, 2018 sampling event at downgradient well MW-1606S was identified as an outlier. The verification sample for MW-1606S was between the calculated intrawell upper and lower prediction limits (UPL and LPL). The June 2018 result will be removed from the dataset when the background prediction limits for pH at MW-1606S are updated in the future.

The reported TDS values of 700 mg/L for the June 5, 2018 event at upgradient well MW-1701D and 760 mg/L for the June 4, 2018 sampling event at upgradient well MW-1702I were removed from the dataset. The removal of the two TDS outliers resulted in the generation of a more conservative (i.e., lower) UPL, and removing these outliers is recommended by USEPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance* (Unified Guidance; USEPA, 2009).

### **2.2.1 Establishment of GWPSs**

A GWPS was established for each Appendix IV parameter in accordance with 40 CFR 257.95(h) and the *Statistical Analysis Plan* (AEP, 2017). The established GWPS was determined to be the greater value of the background concentration and the maximum contaminant level (MCL) or regional screening level (RSL) for each Appendix IV parameter. To determine background concentrations, an upper tolerance limit (UTL) was calculated using pooled data from the background wells collected during the background monitoring and assessment monitoring events. Tolerance limits were calculated parametrically with 95% coverage and 95% confidence for lithium and molybdenum. Non-parametric tolerance limits were calculated for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium, fluoride, selenium, and thallium due to apparent non-normal distributions. A non-parametric tolerance limit was calculated for mercury due to a high non-detect frequency. Tolerance limits and the final GWPSs are summarized in Table 3.

### **2.2.2 Evaluation of Potential Appendix IV SSLs**

A confidence interval was constructed for each Appendix IV parameter at each compliance well. Confidence limits were generally calculated parametrically ( $\alpha = 0.01$ ); however, non-parametric confidence limits were calculated in some cases (e.g., when the data did not appear to be normally distributed or when the non-detect frequency was too high). An SSL was concluded if the lower confidence limit (LCL) exceeded the GWPS (i.e., if the entire confidence interval exceeded the GWPS). Calculated confidence limits are shown in Attachment B.

No SSLs were identified at the Rockport BAP.

### **2.2.3 Evaluation of Potential Appendix III SSIs**

The CCR rule allows CCR units to move from assessment monitoring to detection monitoring if all Appendix III and Appendix IV parameters were at or below background levels for two consecutive sampling events [40 CFR 257.95(e)]. Since no Appendix IV SSLs were identified, Appendix III results were analyzed to assess whether concentrations of Appendix III parameters at the compliance wells exceeded background concentrations.

Prediction limits were calculated for the Appendix III parameters to represent background values. As described in the January 2018 *Statistical Analysis Summary* report (Geosyntec, 2018), intrawell

tests were used to evaluate potential SSIs for calcium and pH, whereas interwell tests were used to evaluate potential SSIs for boron, chloride, fluoride, sulfate, and TDS.

Prediction limits for the interwell tests were recalculated using data collected during the 2018 assessment monitoring events. Forty-eight data points (i.e., two samples from six background wells and six samples from six new background wells) were added to the background dataset for each interwell test. New data were tested for outliers prior to being added to the background dataset. The updated prediction limits were calculated for a one-of-two retesting procedure, as during detection monitoring. The values of the updated prediction limits were similar to the values of the prediction limits calculated during detection monitoring. The revised prediction limits were used to evaluate potential SSIs for boron, chloride, fluoride, sulfate, and TDS.

For the intrawell tests, limited data made it possible to add only two data points (i.e., two samples from each compliance well) to each background dataset. Because two sample results are insufficient to compare against the existing background dataset, the prediction limits were not updated for the intrawell tests at this time. The prediction limits calculated during detection monitoring were used to evaluate potential SSIs for calcium and pH.

Data collected during the second assessment monitoring event from each compliance well were compared to the prediction limits to evaluate SSIs. The results from this event and the prediction limits are summarized in Table 4. The following exceedances of the UPLs were noted:

- Boron concentrations exceeded the interwell UPL of 0.141 mg/L at MW-1002 (1.66 mg/L and 1.88 mg/L), MW-1603S (1.4 mg/L and 1.7 mg/L), MW-1604I (0.188 mg/L and 0.193 mg/L), and MW-1604S (0.521 mg/L and 0.582 mg/L).
- Calcium concentrations exceeded the intrawell UPL of 76 mg/L at MW-1606I (78 mg/L and 86 mg/L).
- Chloride concentrations exceeded the interwell UPL of 46 mg/L at MW-1002 (51 mg/L and 57 mg/L), MW-1602D (93 mg/L and 131 mg/L), MW-1603S (54 mg/L and 70 mg/L), MW-1604S (54 mg/L and 73 mg/L), and MW-1605S (47 mg/L for both events).
- Fluoride concentrations exceeded the interwell UPL of 0.62 mg/L at MW-1002 (1.02 mg/L and 1.02 mg/L), and MW-1604S (1.04 mg/L and 0.90 mg/L).
- Sulfate concentrations exceeded the interwell UPL of 76 mg/L at MW-1002 (165 mg/L and 182 mg/L), MW-1603S (178 mg/L and 243 mg/L), MW-1604I (95 mg/L and 112 mg/L), MW-1604S (134 mg/L and 583 mg/L), MW-1605I (500 mg/L and 483 mg/L), and MW-1605S (592 mg/L and 573 mg/L).
- TDS concentrations exceeded the interwell UPL of 465 mg/L at MW-1603S (504 mg/L and 558 mg/L), MW-1604S (474 mg/L and 583 mg/L), MW-1605I (500 mg/L and 483 mg/L), and MW-1605S (592 mg/L and 573 mg/L).

Based on these results, concentrations of Appendix III parameters exceeded background levels at compliance wells at the Rockport BAP during assessment monitoring. As a result, the Rockport BAP CCR unit will remain in assessment monitoring.

### **2.3 Conclusions**

Two assessment monitoring events were conducted in 2018 in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC issues identified that impacted data usability. A review of outliers identified three outliers in the 2018 data which were removed from the dataset. GWPSs were established for the Appendix IV parameters. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval exceeded the GWPS. No SSLs were identified.

The Appendix III results were evaluated to assess whether concentrations of Appendix III parameters exceeded background levels. Interwell tests were used to evaluate potential SSIs for boron, chloride, fluoride, sulfate, and TDS, and intrawell tests were used to evaluate potential SSIs for calcium and pH. The prediction limits for the interwell tests were updated with additional data collected from the background wells. Prediction limits were recalculated using a one-of-two retesting procedure. The prediction limits calculated during detection monitoring were used for the intrawell tests, with a one-of-three retesting procedure. Boron, calcium, chloride, fluoride, sulfate, and TDS results exceeded background levels.

Based on this evaluation, the Rockport BAP CCR will either remain in assessment monitoring or an ASD will be conducted to evaluate if the unit can return to detection monitoring.



### **SECTION 3**

#### **REFERENCES**

American Electric Power (AEP). 2017. Statistical Analysis Plan – Rockport Plant. January 2017.

Geosyntec Consultants (Geosyntec). 2018. Statistical Analysis Summary – Bottom Ash Pond, Rockport Plant, Rockport, Indiana. January 15, 2018.

# TABLES

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1002		MW-1600S		MW-1600I		MW-1600D		MW-1601S	
		6/5/2018	8/15/2018	6/4/2018	8/15/2018	6/4/2018	8/14/2018	6/4/2018	8/14/2018	6/5/2018	8/15/2018
Antimony	µg/L	0.0700	0.0500 J	0.0300 J	0.0200 J	0.0400 J	0.0200 J	0.0200 J	0.05 U	0.0400 J	0.0300 J
Arsenic	µg/L	0.440	0.280	0.490	0.450	20.6	17.5	13.8	15.1	2.45	2.28
Barium	µg/L	12.7	13.8	22.7	23.7	820	726	766	840	44.0	38.0
Beryllium	µg/L	0.00400	0.02 U	0.00500 J	0.02 U	0.02 U	0.02 U	0.0100 J	0.02 U	0.0200 J	0.00500 J
Boron	mg/L	1.66	1.88	0.0760	0.0880	0.0460	0.0570	0.0790	0.0850	0.142	0.208
Cadmium	µg/L	0.0300	0.0300	0.0100 J	0.0100 J	0.02 U	0.02 U	0.0200 J	0.02 U	0.240	0.00900 J
Calcium	mg/L	40.8	41.3	60.9	63.7	72.8	78.6	83.5	86.6	66.5	70.8
Chloride	mg/L	51.4	57.4	36.5	44.9	25.4	25.6	32.8	31.5	34.8	33.7
Chromium	µg/L	0.0400	0.281	0.109	0.277	0.0610	0.0870	0.112	0.0730	0.579	0.114
Cobalt	µg/L	0.768	0.820	0.128	0.105	1.48	1.29	0.297	0.0790	0.615	0.557
Combined Radium	pCi/L	0.569	0.766	1.57	0.646	2.59	1.80	0.833	2.86	0.261	0.398
Fluoride	mg/L	1.02	1.02	0.560	0.510	0.240	0.250	0.230	0.240	0.410	0.420
Lead	µg/L	0.0310	0.0200 J	0.0690	0.0530	0.0200 J	0.0250	0.102	0.0230	0.349	0.141
Lithium	mg/L	0.0110	0.001 U	0.0190	0.0140	0.0120	0.00700	0.00900	0.00400	0.0120	0.00400
Mercury	µg/L	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-
Molybdenum	µg/L	6.19	7.86	0.720	0.650	1.98	1.64	1.62	1.62	1.79	1.81
Selenium	µg/L	0.0600	0.0700 J	0.500	0.400	0.10 U	0.10 U	0.10 U	0.10 U	0.500	1.10
Total Dissolved Solids	mg/L	425	453	412	416	396	426	397	400	366	374
Sulfate	mg/L	165	182	41.3	42.3	50.0	50.3	39.2	41.0	26.5	31.3
Thallium	µg/L	0.0300	0.0300 J	0.0200 J	0.0200 J	0.0300 J	0.0300 J	0.0200 J	0.05 U	0.05 U	0.0500 J
pH	SU	8.06	7.22	7.33	7.03	7.53	7.05	7.25	7.07	7.37	7.22

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1601I		MW-1601D		MW-1602I		MW-1602D		MW-1603S		MW-1603I	
		6/5/2018	8/15/2018	6/5/2018	8/15/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018
Antimony	µg/L	0.0200 J	0.0200 J	0.0300 J	0.0200 J	0.100	0.0500 J	0.0200 J	0.0100 J	0.0600	0.0400 J	0.100	0.0300 J
Arsenic	µg/L	18.6	19.1	11.4	10.3	38.6	26.9	10.0	9.28	0.360	0.200	12.7	12.4
Barium	µg/L	631	626	552	540	128	111	442	459	12.4	10.5	88.4	80.0
Beryllium	µg/L	0.00800 J	0.02 U	0.02 U	0.02 U	0.0100 J	0.00600 J	0.00600 J	0.00800 J	0.0100 J	0.0100 J	0.0100 J	0.02 U
Boron	mg/L	0.0520	0.0540	0.0750	0.122	0.0600	0.109	0.0700	0.0980	1.40	1.70	0.131	0.130
Cadmium	µg/L	0.0100 J	0.00900 J	0.02 U	0.0100 J	0.0100 J	0.00700 J	0.0100 J	0.02 U	0.0300	0.0200	0.0200 J	0.02 U
Calcium	mg/L	87.8	91.7	87.6	86.5	71.3	76.0	66.0	73.0	42.2	52.0	77.7	85.9
Chloride	mg/L	31.4	31.3	23.8	19.4	29.8	28.5	92.8	131	54.3	69.7	37.3	31.5
Chromium	µg/L	0.210	0.0740	0.0550	0.387	0.338	0.0860	0.210	0.201	0.261	0.0580	1.11	0.0810
Cobalt	µg/L	1.73	1.63	0.149	0.120	1.80	1.31	0.157	0.173	0.881	0.506	1.40	1.27
Combined Radium	pCi/L	1.54	2.27	2.10	1.19	0.968	0.900	1.86	1.02	2.06	0.762	2.35	1.15
Fluoride	mg/L	0.240	0.250	0.190	0.170	0.310	0.280	0.350	0.310	0.630	0.560	0.460	0.430
Lead	µg/L	0.201	0.0670	0.0220	0.0840	0.374	0.0920	0.103	0.113	0.339	0.0470	0.374	0.0300
Lithium	mg/L	0.0130	0.00900	0.00700	0.001 U	0.0130	0.00100	0.00800	0.00200	0.0120	0.00200	0.0120	0.00200
Mercury	µg/L	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-
Molybdenum	µg/L	2.48	2.21	3.34	3.11	2.42	2.10	3.93	3.18	2.74	1.78	7.31	7.67
Selenium	µg/L	0.0500 J	0.10 U	0.10 U	0.10 U	0.0700 J	0.10 U	0.10 U	0.0500 J	0.100	0.0400 J	0.0700 J	0.10 U
Total Dissolved Solids	mg/L	424	429	393	418	410	405	440	521	504	558	424	434
Sulfate	mg/L	50.0	49.9	25.0	19.6	77.6	75.0	21.6	18.0	178	243	62.0	66.2
Thallium	µg/L	0.0400 J	0.0200 J	0.05 U	0.0200 J	0.0300 J	0.0300 J	0.05 U	0.05 U	0.0300 J	0.0540	0.0300 J	0.0400 J
pH	SU	7.59	7.25	6.41	7.26	7.75	7.39	7.84	7.22	7.00	7.01	7.28	7.44

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1603D		MW-1604S		MW-1604I		MW-1604D		MW-1605S		MW-1605I		MW-1605D	
		6/5/2018	8/13/2018	6/6/2018	8/14/2018	6/6/2018	8/14/2018	6/6/2018	8/14/2018	6/5/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018
Antimony	µg/L	0.0200 J	0.0200 J	0.0600	0.0500 J	0.0300 J	0.0300 J	0.0400 J	0.0100 J	0.0400 J	0.0400 J	0.0300 J	0.0300 J	0.0200 J	0.0100 J
Arsenic	µg/L	12.3	12.5	0.200	0.200	18.7	18.5	22.1	16.6	0.420	0.200	17.0	18.8	18.2	20.3
Barium	µg/L	109	105	14.1	16.3	107	110	266	237	8.63	10.9	135	149	382	443
Beryllium	µg/L	0.00900 J	0.02 U	0.02 U	0.02 U	0.00400 J	0.02 U	0.00400 J	0.02 U	0.00400 J	0.02 U	0.00400 J	0.00400 J	0.0100 J	0.02 U
Boron	mg/L	0.0810	0.147	0.521	0.582	0.188	0.193	0.0370	0.0520	0.461	0.0290	0.129	0.158	0.0300	0.0240
Cadmium	µg/L	0.02 U	0.02 U	0.0200 J	0.0200 J	0.02 U	0.02 U	0.02 U	0.02 U	0.0300	0.0300	0.02 U	0.02 U	0.02 U	0.02 U
Calcium	mg/L	80.6	87.9	72.5	92.6	62.9	73.8	67.6	70.5	71.0	45.8	79.2	83.4	81.5	88.6
Chloride	mg/L	30.1	25.4	53.7	73.0	39.4	43.7	16.1	16.4	46.5	46.5	39.1	38.0	24.2	23.8
Chromium	µg/L	0.251	0.0970	0.0560	0.0880	0.0500 J	0.0750	0.0570	0.0400 J	0.0930	0.0780	0.0400 J	0.116	0.272	0.0770
Cobalt	µg/L	0.441	0.409	0.407	0.365	0.792	0.737	0.117	0.0590	0.321	0.0870	1.47	1.45	0.188	0.0790
Combined Radium	pCi/L	1.61	0.840	1.06	0.444	1.09	0.183	0.942	0.617	0.705	0.178	2.27	1.17	1.98	0.605
Fluoride	mg/L	0.300	0.270	1.04	0.900	0.370	0.330	0.280	0.260	0.580	0.590	0.160	0.230	0.160	0.230
Lead	µg/L	0.207	0.0400	0.0400	0.00900 J	0.0100 J	0.00700 J	0.0340	0.00500 J	0.0420	0.0410	0.184	0.0950	0.273	0.0350
Lithium	mg/L	0.00800	0.00500	0.0140	0.00900	0.0120	0.00400	0.00700	0.001 U	0.0160	0.00700	0.0110	0.00500	0.00700	0.00300
Mercury	µg/L	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	-
Molybdenum	µg/L	4.09	4.38	2.50	2.21	3.00	2.50	3.56	2.50	1.75	1.13	1.06	1.12	1.97	1.94
Selenium	µg/L	0.0900 J	0.10 U	0.0500 J	0.200	0.0300 J	0.10 U	0.10 U	0.10 U	0.600	5.40	0.10 U	0.10 U	0.0400 J	0.10 U
Total Dissolved Solids	mg/L	412	385	474	583	442	487	308	311	592	573	500	483	388	379
Sulfate	mg/L	40.9	39.1	134	187	95.4	112	26.3	26.2	154	153	120	114	49.2	48.7
Thallium	µg/L	0.0300 J	0.0200 J	0.0200 J	0.0300 J	0.0200 J	0.0520	0.05 U	0.0100 J	0.0500 J	0.0200 J	0.0400 J	0.0400 J	0.05 U	0.05 U
pH	SU	7.23	7.10	7.70	7.44	7.62	7.35	7.30	7.14	7.63	7.07	7.32	7.32	7.32	7.14

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1606S		MW-1606I		MW-1606D		MW-1701S					
		6/6/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018	12/12/2017	2/8/2018	6/4/2018	8/14/2018	9/25/2018	10/29/2018
Antimony	µg/L	0.0500 J	0.0400 J	0.0300 J	0.0300 J	0.05 U	0.0400 J	0.0400	0.140	0.0700	0.0400 J	0.120	0.0700 J
Arsenic	µg/L	0.200	0.440	5.69	9.11	14.7	16.9	0.360	0.390	0.380	0.370	0.380	0.390
Barium	µg/L	13.6	8.22	67.3	85.2	392	431	10.0	9.51	5.20	9.34	8.55	13.2
Beryllium	µg/L	0.00500 J	0.00400 J	0.02 U	0.02 U	0.00400 J	0.00600 J	0.00400	0.02 U	0.02 U	0.02 U	0.02 U	0.10 U
Boron	mg/L	0.0290	0.563	0.0530	0.0310	0.0440	0.0280	0.0510	0.0250	0.0320	0.0560	0.0350	0.129
Cadmium	µg/L	0.0300	0.0400	0.02 U	0.00500 J	0.02 U	0.00700 J	0.0200	0.0300	0.00900 J	0.00800 J	0.00800 J	0.0200 J
Calcium	mg/L	50.9	76.1	78.2	86.3	72.0	80.5	58.1	56.6	59.2	64.1	60.7	63.7
Chloride	mg/L	25.5	20.7	31.5	25.4	23.1	23.9	18.6	19.0	19.4	19.6	19.6	19.1
Chromium	µg/L	0.108	0.251	0.0830	0.0610	0.0400 J	0.148	0.177	0.256	0.0500 J	0.0650	0.0300 J	0.100 J
Cobalt	µg/L	0.0920	0.338	1.49	1.95	0.0700	0.117	0.134	0.198	0.0870	0.0920	0.0960	0.0910
Combined Radium	pCi/L	0.496	1.15	1.25	0.391	1.60	0.560	1.79	0.356	1.05	0.373	1.02	0.129
Fluoride	mg/L	0.460	0.470	0.200	0.210	0.190	0.200	0.350	0.360	0.380	0.360	0.370	0.380
Lead	µg/L	0.0320	0.0280	0.0260	0.0340	0.00800 J	0.141	0.0750	0.176	0.0230	0.0280	0.0210	0.0600 J
Lithium	mg/L	0.0120	0.0130	0.00700	0.00600	0.00500	0.00200	0.0100	0.00700	0.00900	0.00200	0.00200	0.03 U
Mercury	µg/L	0.005 U	-	0.005 U	-	0.005 U	-	0.005 U	0.005 U	0.005 U	-	-	-
Molybdenum	µg/L	1.19	1.89	0.980	1.34	1.77	1.77	1.61	0.850	0.680	0.690	0.690	0.700 J
Selenium	µg/L	2.70	1.60	0.10 U	0.10 U	0.10 U	0.10 U	0.300	0.400	0.600	0.400	0.400	0.400
Total Dissolved Solids	mg/L	398	316	392	387	331	329	288	334	368	329	316	312
Sulfate	mg/L	52.6	34.9	52.4	50.3	19.9	21.5	21.1	21.6	21.3	20.4	20.3	18.8
Thallium	µg/L	0.0300 J	0.0780	0.0500 J	0.0830	0.0300 J	0.0200 J	0.02 J	0.0300 J	0.0100 J	0.0200 J	0.05 U	0.5 U
pH	SU	7.81	6.89	8.09	7.26	7.96	7.27	7.47	7.84	7.40	7.25	6.59	7.22

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1701I						MW-1701D					
		12/12/2017	2/8/2018	6/5/2018	8/14/2018	9/24/2018	10/31/2018	12/12/2017	2/8/2018	6/5/2018	8/14/2018	9/24/2018	10/29/2018
Antimony	µg/L	0.0500	0.0700	0.0500	0.0400 J	0.230	0.25	0.0600	0.0300 J	0.0200 J	0.0100 J	0.05 U	0.10 U
Arsenic	µg/L	8.86	9.17	8.07	6.42	9.38	6.69	10.2	9.30	10.6	10.2	10.1	9.79
Barium	µg/L	50.9	46.8	42.7	38.3	41.2	40.7	72.9	65.0	63.7	65.2	64.0	65.9
Beryllium	µg/L	0.0100	0.02 U	0.0210	0.00400 J	0.00800 J	0.02 U	0.0430	0.02 U	0.00500 J	0.02 U	0.02 U	0.1 U
Boron	mg/L	0.0660	0.0950	0.0440	0.0520	0.0380	0.104	0.0540	0.0660	0.0410	0.0600	0.0470	0.125
Cadmium	µg/L	0.0100	0.0100 J	0.0200 J	0.0100 J	0.0200 J	0.03 J	0.0800	0.00900 J	0.0200 J	0.02 U	0.00500 J	0.05 U
Calcium	mg/L	65.4	63.7	65.5	67.9	68.9	62.4	71.8	70.8	68.1	77.0	71.6	76.5
Chloride	mg/L	13.5	14.5	14.1	14.5	14.9	14.8	20.1	19.9	13.7	14.1	15.2	15.4
Chromium	µg/L	0.505	0.184	0.446	0.0850	0.371	0.337	1.58	0.104	0.103	0.0600	0.0760	0.100 J
Cobalt	µg/L	2.14	1.34	1.87	1.10	1.62	1.12	3.34	1.75	1.56	1.68	1.71	1.66
Combined Radium	pCi/L	2.19	1.06	0.658	0.314	0.335	0.304	1.16	1.33	2.35	0.929	0.564	0.417
Fluoride	mg/L	0.330	0.380	0.440	0.390	0.410	0.4	0.280	0.300	0.340	0.360	0.330	0.320
Lead	µg/L	0.505	0.260	0.564	0.108	0.497	0.403	1.54	0.0650	0.0960	0.0210	0.0740	0.0400 J
Lithium	mg/L	0.0110	0.00700	0.0100	0.00200	0.00200	0.02 J	0.0120	0.0100	0.0120	0.00800	0.001 U	0.03 U
Mercury	µg/L	0.00200	0.005 U	0.005 U	-	-	-	0.00200	0.005 U	0.005 U	-	-	-
Molybdenum	µg/L	2.96	2.52	1.15	1.01	1.67	1 J	2.13	1.37	1.38	1.38	1.33	1.00 J
Selenium	µg/L	0.0700	0.0700 J	0.200	0.10 U	0.100	0.07 J	0.300	0.0400 J	0.10 U	0.10 U	0.10 U	0.20 U
Total Dissolved Solids	mg/L	338	363	328	352	346	338	378	402	700	369	366	362
Sulfate	mg/L	40.7	43.1	36.5	34.8	35.0	34.8	44.0	45.3	36.8	39.8	40.0	40.7
Thallium	µg/L	0.04 J	0.0300 J	0.0500 J	0.0200 J	0.0100 J	< 0.1 U	0.051	0.0300 J	0.0300 J	0.0300 J	0.0200 J	0.50 U
pH	SU	7.27	7.70	7.41	7.23	7.59	7.89	7.26	7.53	7.26	7.23	7.54	7.75

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1702S						MW-1702I					
		12/12/2017	2/9/2018	6/4/2018	8/13/2018	9/25/2018	10/30/2018	12/12/2017	2/9/2018	6/4/2018	8/13/2018	9/25/2018	10/30/2018
Antimony	µg/L	0.0800	0.0500 J	0.0500 J	0.130	0.0800	0.0500 J	0.130	0.0500 J	0.0700	0.100	0.440	0.140
Arsenic	µg/L	0.880	0.720	0.450	0.470	0.440	0.480	21.6	42.3	28.1	28.9	39.6	43.0
Barium	µg/L	12.1	9.81	7.67	7.14	5.97	5.50	116	109	109	102	114	113
Beryllium	µg/L	0.00800	0.02 U	0.02 U	0.00500 J	0.02 U	0.10 U	0.00700	0.00700 J	0.00700 J	0.00400 J	0.02 U	0.10 U
Boron	mg/L	0.0510	0.0420	0.0590	0.0570	0.0410	0.0900 J	0.0370	0.0450	0.0810	0.0510	0.0560	0.0700 J
Cadmium	µg/L	0.0100	0.00600 J	0.0400	0.0500	0.00800 J	0.110	0.0200	0.0100 J	0.0600	0.0200 J	0.0100 J	0.220
Calcium	mg/L	33.6	29.7	38.4	36.9	36.2	34.9	76.2	72.7	76.2	81.1	78.9	81.7
Chloride	mg/L	13.4	14.0	14.4	13.6	14.1	14.1	27.1	27.6	28.7	29.0	29.8	29.2
Chromium	µg/L	4.13	0.212	0.124	0.175	0.130	0.200 J	0.304	1.49	0.129	0.146	0.0500	0.100 J
Cobalt	µg/L	0.403	0.258	0.0700	0.173	0.104	0.0500 J	2.65	2.15	1.29	1.35	1.70	1.57
Combined Radium	pCi/L	0.984	0.00483	1.23	0.163	0.421	0.0859	3.20	1.32	1.97	1.24	0.385	1.36
Fluoride	mg/L	0.490	0.620	0.570	0.550	0.540	0.610	0.200	0.220	0.240	0.220	0.230	0.230
Lead	µg/L	0.324	0.223	0.0770	0.188	0.0790	0.0800 J	0.298	0.337	0.247	0.0740	0.0870	0.129
Lithium	mg/L	0.00300	0.001 U	0.00600	0.001 U	0.001 U	0.03 U	0.00900	0.00400	0.00900	0.00200	0.00300	0.03 U
Mercury	µg/L	0.00200	0.005 U	0.005 U	-	-	-	0.00200	0.005 U	0.005 U	-	-	-
Molybdenum	µg/L	2.18	1.09	1.42	1.15	1.20	1.00 J	4.09	7.90	1.91	1.89	2.04	2.00 J
Selenium	µg/L	1.10	1.10	3.80	1.80	1.20	1.00	0.100	0.100	0.0800 J	0.0500 J	0.0400 J	0.05 J
Total Dissolved Solids	mg/L	254	281	276	272	266	256	376	377	760	382	398	392
Sulfate	mg/L	22.7	22.2	26.7	22.0	20.7	17.1	45.4	46.6	43.4	41.5	41.9	41.9
Thallium	µg/L	0.01 J	0.0100 J	0.0100 J	0.0300 J	0.05 U	0.50 U	0.04 J	0.0400 J	0.0540	0.102	0.0500 J	0.50 U
pH	SU	7.33	7.89	7.00	6.29	6.55	7.47	7.24	7.79	7.10	6.64	6.82	7.80

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as the reporting limit

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled



**Table 1 – Groundwater Data Summary  
Rockport – Bottom Ash Pond**

Parameter	Unit	MW-1702D					
		12/12/2017	2/9/2018	6/4/2018	8/14/2018	9/26/2018	10/30/2018
Antimony	µg/L	0.290	0.250	0.180	0.150	0.180	0.100
Arsenic	µg/L	28.0	22.5	25.2	21.3	22.0	22.5
Barium	µg/L	233	212	208	191	211	204
Beryllium	µg/L	0.0220	0.02 U	0.00500 J	0.02 U	0.02 U	0.10 U
Boron	mg/L	0.105	0.0420	0.0240	0.0710	0.0960	0.0600 J
Cadmium	µg/L	0.0300	0.0200 J	0.0200	0.0200 J	0.0100 J	0.0100 J
Calcium	mg/L	74.3	76.1	78.5	80.7	80.0	87.2
Chloride	mg/L	30.3	30.5	31.6	30.7	31.2	30.9
Chromium	µg/L	0.572	0.389	0.105	0.0910	0.0690	0.0800 J
Cobalt	µg/L	1.45	0.877	0.698	0.590	0.564	0.581
Combined Radium	pCi/L	1.27	0.977	1.35	0.949	1.08	0.784
Fluoride	mg/L	0.190	0.190	0.240	0.200	0.200	0.200
Lead	µg/L	0.761	0.270	0.0520	0.0260	0.230	0.0200 J
Lithium	mg/L	0.00900	0.00700	0.00900	0.00200	0.00800	0.03 U
Mercury	µg/L	0.00200	0.005 U	0.005 U	-	-	-
Molybdenum	µg/L	8.67	5.91	4.18	3.68	3.38	2.77
Selenium	µg/L	0.200	0.0900 J	0.10 U	0.10 U	0.10 U	0.0300 J
Total Dissolved Solids	mg/L	362	386	372	379	392	394
Sulfate	mg/L	39.9	41.3	39.9	38.1	37.8	37.3
Thallium	µg/L	0.03 J	0.0300 J	0.0200 J	0.0300 J	0.0200 J	0.50 U
pH	SU	7.18	8.03	7.12	6.81	7.07	8.18

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Parameter was not present in concentrations above method detection limit and is reported as U

J: Estimated value. Parameter was detected in concentrations below the reporting limit

-: Not sampled

**Table 2: Outlier Analysis Summary  
Rockport Plant - Bottom Ash Pond**

Location	Well ID	Sample Date	Parameter	Reported Value	Units	Conclusions
Downgradient	MW-1603D	10/10/2016	Lead	0.00138	mg/L	This value was previously identified as an outlier; however, after the addition of new data it was no longer identified as an outlier and was retained in the dataset.
Downgradient	MW-1605D	6/7/2016	Molybdenum	0.00765	mg/L	This value was previously identified as an outlier; however, after the addition of new data it was no longer identified as an outlier and was retained in the dataset.
Downgradient	MW-1606D	6/7/2016	Molybdenum	0.00382	mg/L	This value was previously identified as an outlier; however, after the addition of new data it was no longer identified as an outlier and was retained in the dataset.
Downgradient	MW-1605I	1/10/2017	Thallium	0.000183	mg/L	This value was previously identified as an outlier; however, after the addition of new data it was no longer identified as an outlier and was retained in the dataset.
Downgradient	MW-1606S	6/6/2018	pH	7.81	SU	This value was identified as an outlier and will be removed from the dataset when background limits are updated in the future.
Upgradient	MW-1701D	6/5/2018	Total Dissolved Solids	700	mg/L	This value was conservatively removed from the dataset as an outlier per the <i>Unified Guidance</i> .
Upgradient	MW-1702I	6/4/2018	Total Dissolved Solids	760	mg/L	This value was conservatively removed from the dataset as an outlier per the <i>Unified Guidance</i> .

**Table 3: Groundwater Protection Standards  
Rockport Plant - Bottom Ash Pond**

Constituent Name	MCL	RSL	Background Limit
Antimony, Total (mg/L)	0.006		0.00044
Arsenic, Total (mg/L)	0.01		0.043
Barium, Total (mg/L)	2		1
Beryllium, Total (mg/L)	0.004		0.0001
Cadmium, Total (mg/L)	0.005		0.00024
Chromium, Total (mg/L)	0.1		0.0041
Cobalt, Total (mg/L)	n/a	0.006	0.0033
Combined Radium, Total (pCi/L)	5		7.25
Fluoride, Total (mg/L)	4		0.62
Lead, Total (mg/L)	n/a	0.015	0.0015
Lithium, Total (mg/L)	n/a	0.04	0.023
Mercury, Total (mg/L)	0.002		0.000005
Molybdenum, Total (mg/L)	n/a	0.1	0.0052
Selenium, Total (mg/L)	0.05		0.0038
Thallium, Total (mg/L)	0.002		0.0005

Notes:

Grey cell indicates calculated UTL (Upper Tolerance Limit) is higher than MCL.

MCL = Maximum Contaminant Level

RSL = Regional Screening Level

Calculated UTL represents site-specific background values.

The higher of the calculated UTL or MCL/RSL is used as the GWPS.

**Table 4: Appendix III Data Evaluation  
Rockport Plant - Bottom Ash Pond**

Parameter	Units	Description	MW-1002		MW-1602I		MW-1602D		MW-1603S		MW-1603I		MW-1603D		MW-1604S	
			6/5/2018	8/15/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/5/2018	8/13/2018	6/6/2018	8/14/2018
Boron	mg/L	Interwell Background Value (UPL)	0.141													
	mg/L	Assessment Monitoring Result	<b>1.66</b>	<b>1.88</b>	0.06	0.109	0.07	0.098	<b>1.40</b>	<b>1.70</b>	0.131	0.13	0.081	<b>0.147</b>	<b>0.521</b>	<b>0.582</b>
Calcium	mg/L	Intrawell Background Value (UPL)	94		93		84		111		109		102		118	
	mg/L	Assessment Monitoring Result	41	41	71	76	66	73	42	52	78	86	81	88	73	93
Chloride	mg/L	Interwell Background Value (UPL)	46													
	mg/L	Assessment Monitoring Result	<b>51</b>	<b>57</b>	29.8	28.5	<b>93</b>	<b>131</b>	<b>54</b>	<b>70</b>	37	32	30	25.4	<b>54</b>	<b>73</b>
Fluoride	mg/L	Interwell Background Value (UPL)	0.62													
	mg/L	Assessment Monitoring Result	<b>1.02</b>	<b>1.02</b>	0.31	0.28	0.35	0.31	<b>0.63</b>	0.56	0.46	0.43	0.3	0.27	<b>1.04</b>	<b>0.9</b>
pH	SU	Intrawell Background Value (UPL)	7.31		7.62		9.30		7.95		7.61		7.53		7.67	
	SU	Intrawell Background Value (LPL)	6.05		6.72		4.92		5.98		7.15		6.66		7.09	
	SU	Assessment Monitoring Result	<b>8.06</b>	7.22	<b>7.75</b>	7.39	7.84	7.22	7.00	7.01	7.28	7.44	7.23	7.10	<b>7.70</b>	7.44
Sulfate	mg/L	Interwell Background Value (UPL)	76													
	mg/L	Assessment Monitoring Result	<b>165</b>	<b>182</b>	<b>78</b>	75	21.6	18	<b>178</b>	<b>243</b>	62	66	41	39	<b>134</b>	<b>187</b>
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	465													
	mg/L	Assessment Monitoring Result	425	453	410	405	440	<b>521</b>	<b>504</b>	<b>558</b>	424	434	412	385	<b>474</b>	<b>583</b>

Parameter	Units	Description	MW-1604I		MW-1604D		MW-1605S		MW-1605I		MW-1605D		MW-1606S		MW-1606I		MW-1606D	
			6/6/2018	8/14/2018	6/6/2018	8/14/2018	6/5/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018	6/6/2018	8/15/2018
Boron	mg/L	Interwell Background Value (UPL)	0.141															
	mg/L	Assessment Monitoring Result	<b>0.188</b>	<b>0.193</b>	0.037	0.052	<b>0.461</b>	0.029	0.129	<b>0.158</b>	0.03	0.024	0.029	0.563	0.053	0.031	0.044	0.028
Calcium	mg/L	Intrawell Background Value (UPL)	86		78		89		110		97		60		76		82	
	mg/L	Assessment Monitoring Result	63	74	68	71	71	46	79	83	82	89	51	<b>76</b>	<b>78</b>	<b>86</b>	72	81
Chloride	mg/L	Interwell Background Value (UPL)	46															
	mg/L	Assessment Monitoring Result	39	44	16.1	16.4	<b>47</b>	<b>47</b>	39	38	24.2	23.8	25.5	20.7	32	25.4	23.1	23.9
Fluoride	mg/L	Interwell Background Value (UPL)	0.62															
	mg/L	Assessment Monitoring Result	0.37	0.33	0.28	0.26	0.58	0.59	0.16	0.23	0.16	0.23	0.46	0.47	0.2	0.21	0.19	0.2
pH	SU	Interwell Background Value (UPL)	7.73		7.48		7.33		7.52		7.46		7.31		8.01		8.79	
	SU	Interwell Background Value (LPL)	7.02		6.86		7.00		6.78		6.78		6.61		4.52		5.50	
	SU	Assessment Monitoring Result	7.62	7.35	7.30	7.14	<b>7.63</b>	7.07	7.32	7.32	7.32	7.14	<b>7.81*</b>	6.89	<b>8.09</b>	7.26	7.96	7.27
Sulfate	mg/L	Interwell Background Value (UPL)	76															
	mg/L	Assessment Monitoring Result	<b>95</b>	<b>112</b>	26.3	26.2	<b>154</b>	<b>153</b>	<b>120</b>	<b>114</b>	49	49	53	35	52	50	19.9	21.5
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	465															
	mg/L	Assessment Monitoring Result	442	<b>487</b>	308	311	<b>592</b>	<b>573</b>	<b>500</b>	<b>483</b>	388	379	398	316	392	387	331	329

Notes:

UPL: Upper prediction limit

LPL: Lower prediction limit

**Bold values exceed the background value.**

Background values are shaded gray.

\* This value was identified as an outlier and removed from the dataset.

Based on a 1-of-2 resampling, a statistically significant increase (SSI) is only identified when both samples in the detection monitoring period are above the calculated background value.

## ATTACHMENT A

Certification by Qualified Professional Engineer

**Certification by Qualified Professional Engineer**

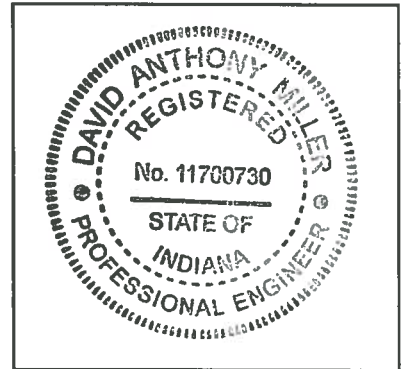
I certify that the selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Rockport Bottom Ash Pond CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



11700730

License Number

INDIANA

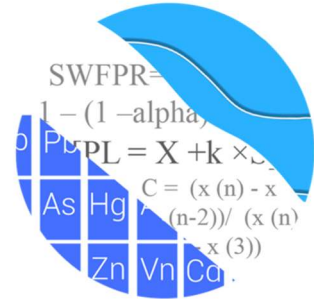
Licensing State

01.09.19

Date

**ATTACHMENT B**  
**Statistical Analysis Output**

## GROUNDWATER STATS CONSULTING



December 26, 2018

Geosyntec Consultants  
Attn: Ms. Allison Kreinberg  
941 Chatham Lane, #103  
Columbus, OH 43221

Re: Rockport Bottom Ash Pond  
Assessment Monitoring Event 2018

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of background groundwater data for American Electric Power Inc.'s Rockport Bottom Ash Pond. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the USEPA Unified Guidance (2009).

Sampling began at the site for the CCR program in 2016. The monitoring well network, as provided by Geosyntec Consultants, consists of the following:

- **Upgradient wells:** MW-1600D, MW-1600I, MW-1600S, MW-1601D, MW-1601I, MW-1601S; MW-1701S, MW-1702D, MW-1702I, MW-1702S, MW-1701D, and MW-1701I, and
- **Downgradient wells:** MW-1002, MW-1602D, MW-1602I, MW-1603D, MW-1603I, MW-1603S, MW-1604D, MW-1604I, MW-1604S, MW-1605D, MW-1605I, MW-1605S, MW-1606D, MW-1606I, and MW-1606S

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to Groundwater Stats Consulting.



The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS;
- **Appendix IV** (Assessment Monitoring) – antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium.

Time series and box plots for Appendix III and IV parameters are provided for all wells and constituents; and are used to evaluate concentrations over the entire record (Figures A and B). Since the original background screening that was performed in December 2017, upgradient wells MW-1701S, MW-1702D, MW-1702I, MW-1702S, MW-1701D, and MW-1701I were approved during 2018 for use as background wells at the Rockport BAP. Therefore, all data were screened during this analysis to determine whether any concentrations were identified as outliers (Figure C). Tukey's test identified a few outliers in upgradient wells and several in downgradient wells that were flagged. Of the outliers identified for TDS in upgradient wells, only the two highest values were flagged in the database as all other values were similar in concentration to remaining values. A summary of flagged values follows this letter and these values may also be seen in a lighter font and disconnected symbol on the time series graphs.

No true seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

While trends may be visual, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all Appendix III data at each well to identify statistically significant increasing or decreasing trends (Figure D). In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, earlier data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When the historical records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses showed several statistically significant decreasing trends, along with one statistically significant increasing trend noted for boron in upgradient well MW-1600D as may be seen on the Trend Test Summary Table that accompanies the trend tests. All of these trends are relatively low in magnitude when compared to average concentrations; therefore, no adjustments were made to the data sets.

Data were further evaluated to determine the most appropriate statistical method, as described below, with the addition of the data from these upgradient wells.

## **Determination of Statistical Method**

### Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) was used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach (Figure E). Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells would not be conservative from a regulatory perspective; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The ANOVA identified variation for all Appendix III parameters suggesting intrawell methods should be considered. These data were further evaluated as described below for the appropriateness of intrawell testing to accommodate the groundwater quality. A summary table of the ANOVA results is included with the reports.

### Appendix III – Prediction Limit Eligibility

Intrawell limits constructed from carefully screened background data from within each well serve to provide statistical limits that are conservative (i.e. lower) from a regulatory perspective, and will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation from across wells and eliminates the chance of mistaking natural spatial variation for a release from the facility. Prior to performing intrawell prediction limits, several steps are required to reasonably demonstrate downgradient water quality does not have existing impacts from the practices of the facility.

Exploratory data analysis was used as a general comparison of concentrations in downgradient wells for all Appendix III parameters to concentrations reported in the upgradient well. Upper tolerance limits are used in conjunction with confidence intervals to determine whether the estimated averages in downgradient wells are higher than observed levels upgradient of the facility. The upper tolerance limits were constructed to represent the extreme upper range of possible background levels at the site.

In cases where downgradient average concentrations are higher than observed concentrations upgradient for a given constituent, an independent study and hydrogeological investigation would be required to identify local geochemical conditions and expected groundwater quality for the region to justify an intrawell approach. Such an assessment is beyond the scope of services provided by Groundwater Stats Consulting. When there is not an obvious explanation for observed concentration differences in downgradient wells relative to reported concentrations in the upgradient well, interwell prediction limits will initially be selected for the statistical method until further evidence shows that concentrations are due to natural variation rather than a result of the facility.

Parametric tolerance limits were constructed with a target of 99% confidence and 95% coverage using upgradient well data for each of the Appendix III parameters (Figure F). The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. As more data are collected, the background population is better represented and the confidence and coverage levels increase.

Confidence intervals were constructed on downgradient wells for each of the Appendix III parameters, using the tolerance limits discussed above, to determine intrawell eligibility (Figure G). When the entire confidence interval is above a background standard for a given parameter, interwell methods are initially recommended as the statistical method. Therefore, only parameters with confidence intervals which did not exceed background standards are eligible for intrawell prediction limits.

Confidence intervals for the Appendix III parameters were found to be above their respective background limit for all parameters except calcium and pH. Therefore, intrawell methods are recommended for calcium and pH, and interwell methods are initially recommended for boron, chloride, fluoride, sulfate and TDS. As mentioned earlier, if a demonstration supports natural variation in groundwater, intrawell methods will be considered for all parameters.

All available data through June 2017 at each well were used to establish intrawell background limits for the parameters identified above based on a 1-of-3 resample plan that will be used for future comparisons (Figure H). The newer upgradient wells will be

included in the intrawell analyses when a minimum of 8 samples are available. Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed from upgradient wells MW-1600D, MW-1600I, MW-1600S, MW-1601D, MW-1601I, MW-1601S; MW-1701S, MW-1702D, MW-1702I, MW-1702S, MW-1701D, and MW-1701I (Figure I).

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits will be necessary to accommodate these types of changes. In the interwell case, newer data will be included in background when a minimum of 2 new samples are available. In the intrawell case, data for all wells and constituents are re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater quality. In some cases, the earlier portion of data are deselected prior to construction of limits in order to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

### **Prediction Limit Summary - Appendix III Parameters**

Interwell prediction limits combined with a 1-of-2 verification strategy were constructed for boron, chloride, fluoride, sulfate and TDS. Intrawell limits combined with a 1-of-3 verification strategy were constructed for calcium and pH.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample, and the 1-of-3 resample plan allows up to 2 resamples, to determine whether the initial exceedance is confirmed. When the resamples confirm the initial exceedance, a statistically significant increase (SSI) is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If one resample falls within the statistical limit, the initial exceedance is considered a false positive result and, therefore, no further action is necessary.

Several exceedances were noted for the Appendix III parameters. The results of those findings may be found in the Prediction Limit Summary tables following this letter.

### **Evaluation of Appendix IV Parameters**

Parametric tolerance limits were used to calculate background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and

95% coverage to determine the Alternate Contaminant Level (ACL) (Figure J). The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. These limits were compared to the Maximum Contaminant Levels (MCLs) and Regional Screening Levels (RSLs) in the Groundwater Protection Standard (GWPS) table following this letter to determine the highest limit for use as the GWPS in the Confidence Interval comparisons (Figure K).

Confidence intervals were then constructed on downgradient wells for each of the Appendix IV parameters using the highest limit of either the MCL, RSL, or ACL as discussed above (Figure L). Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. No confidence intervals exceedances were found for any of the downgradient wells. A summary of the confidence interval results follows this letter.

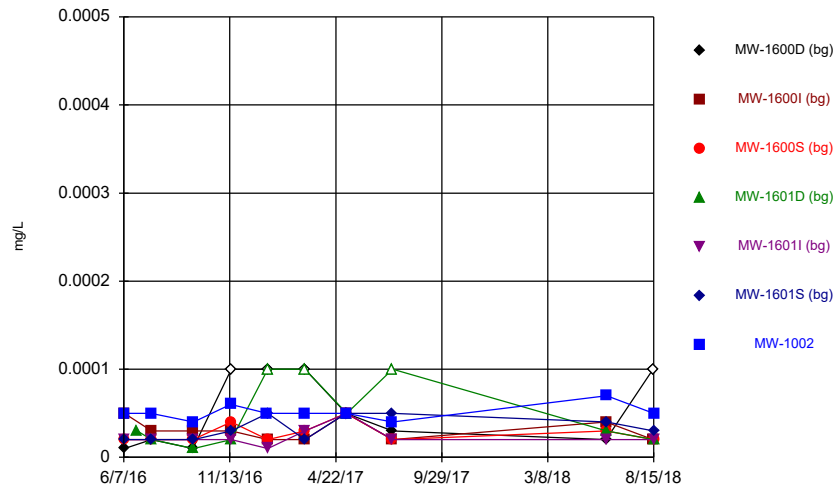
Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Rockport Bottom Ash Pond. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,

A handwritten signature in cursive script that reads "Kristina Rayner".

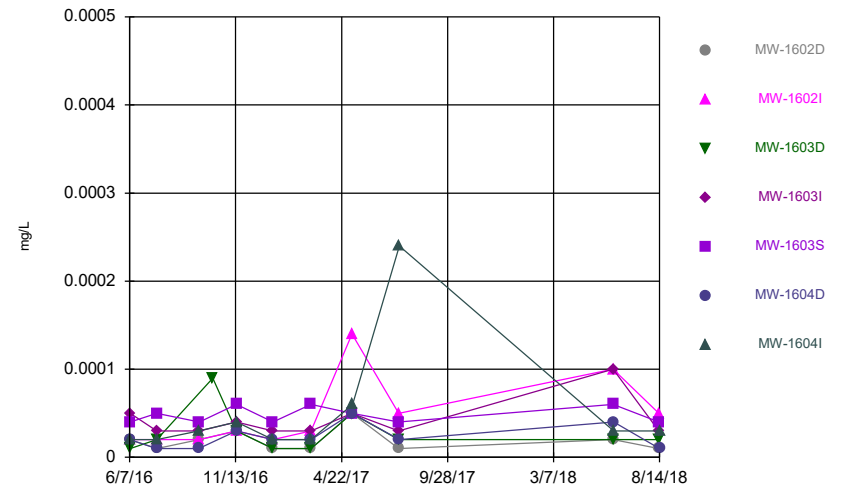
Kristina L. Rayner  
Groundwater Statistician

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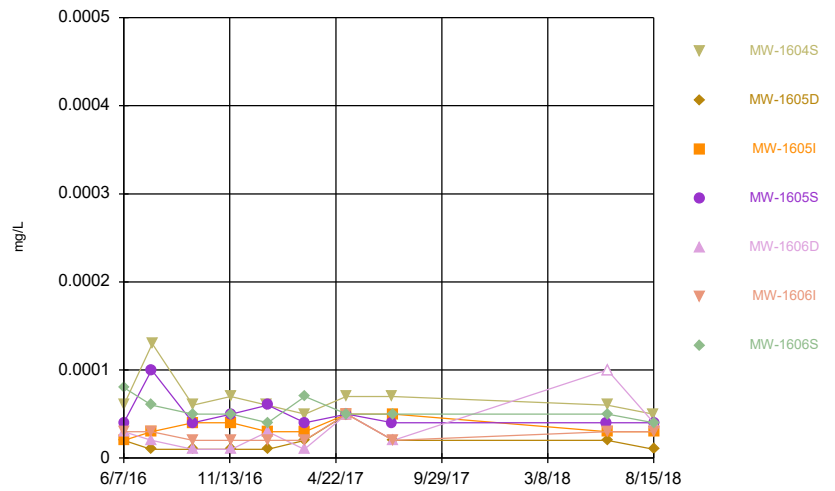
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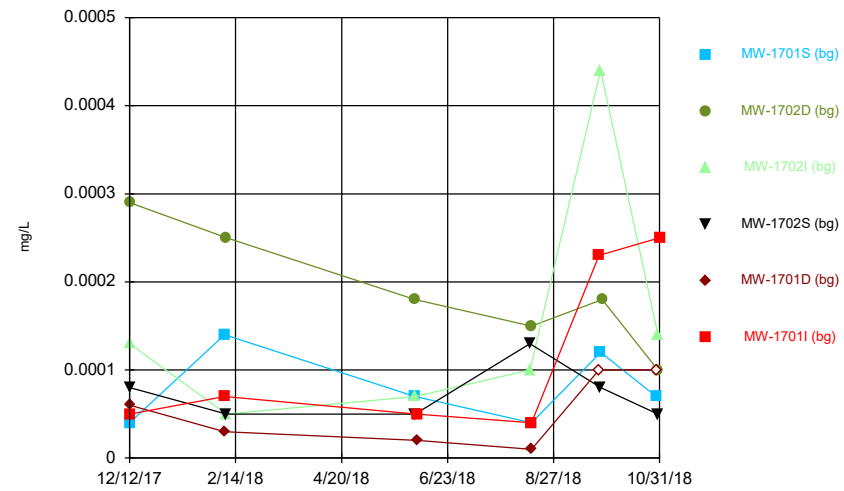
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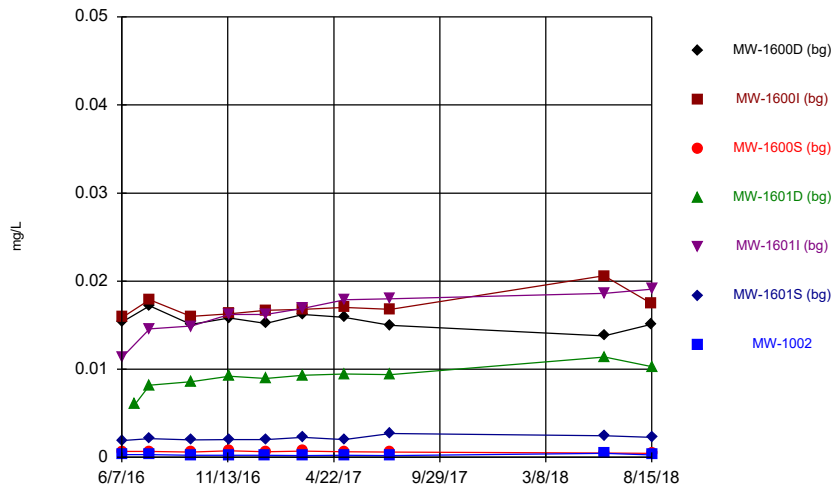
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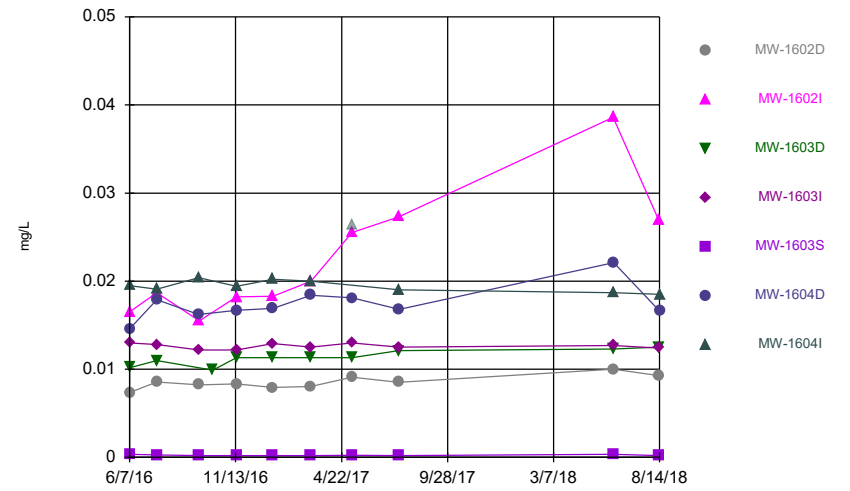
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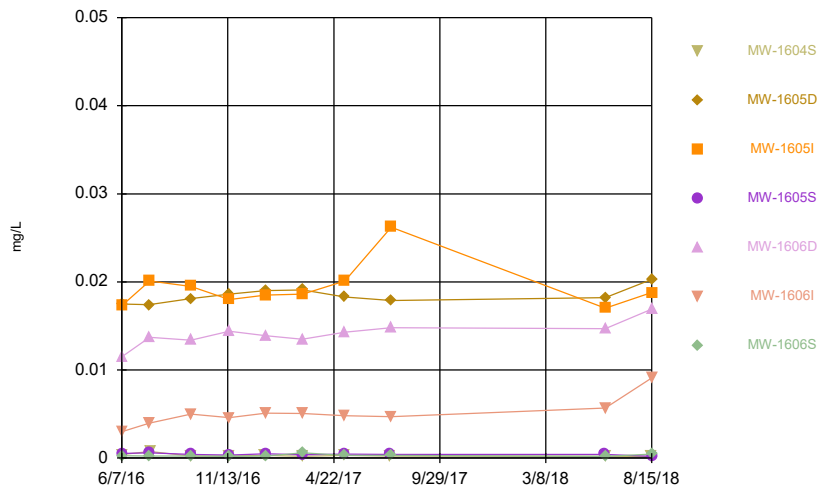
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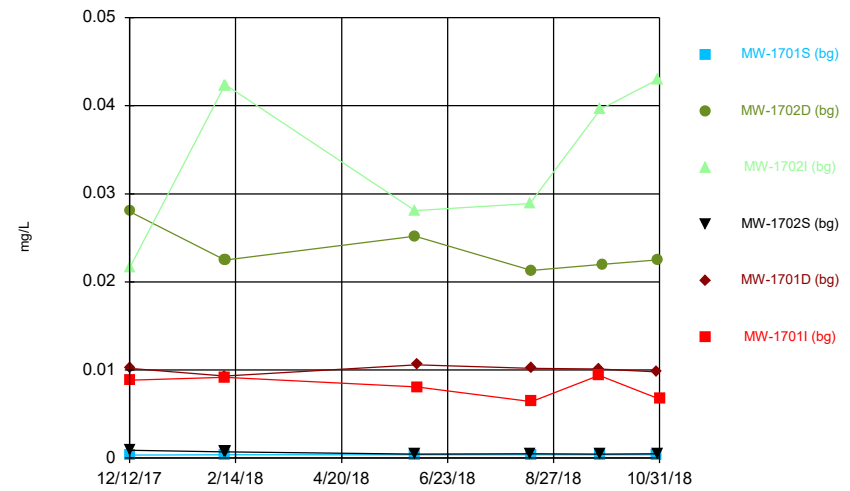
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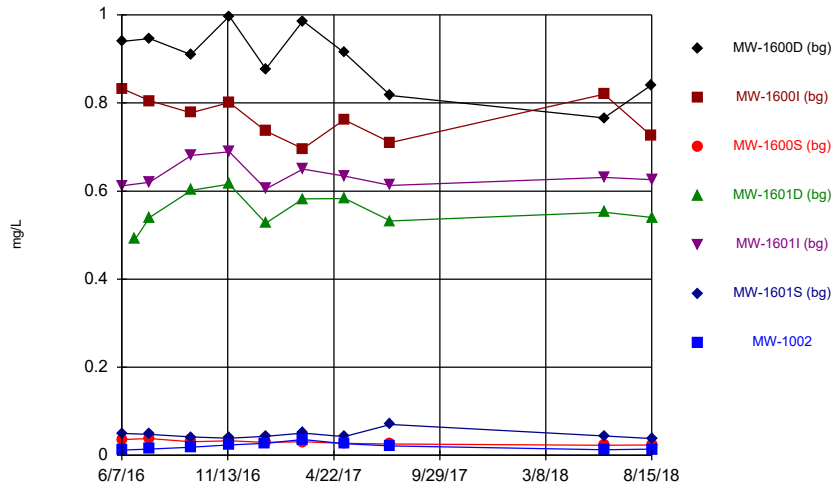
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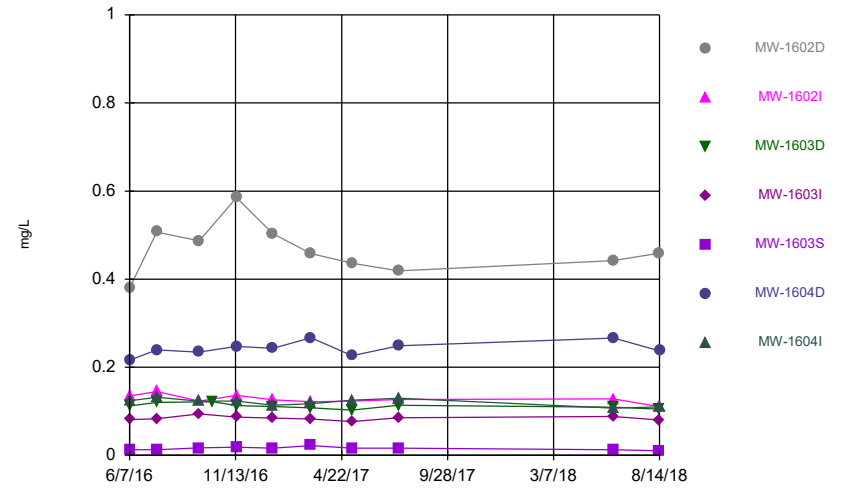
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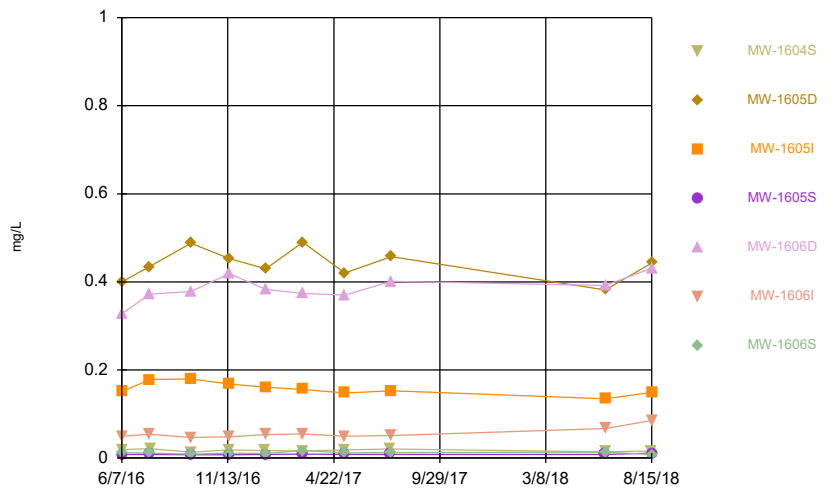
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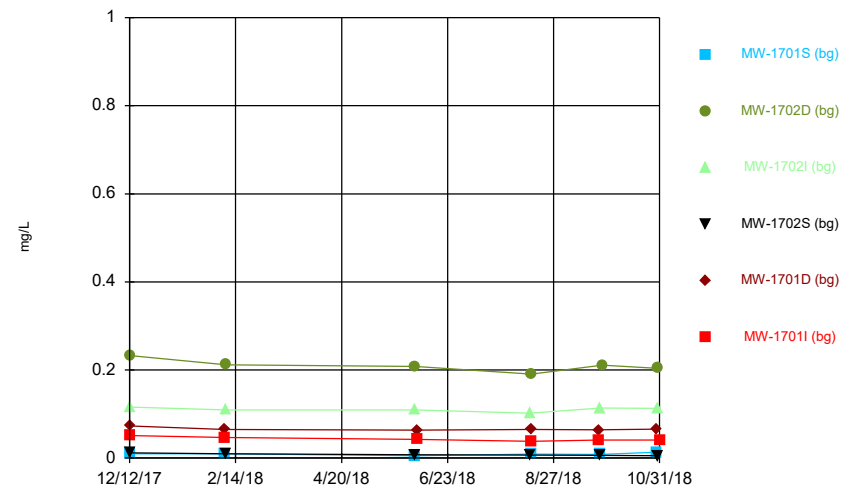
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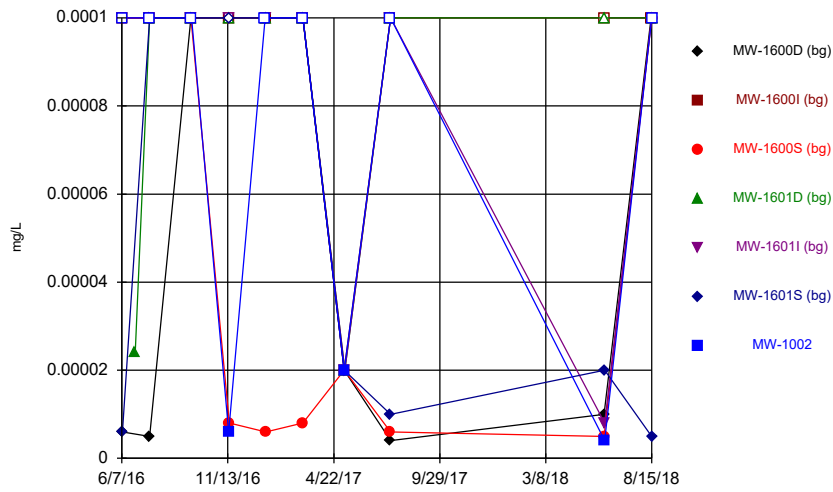
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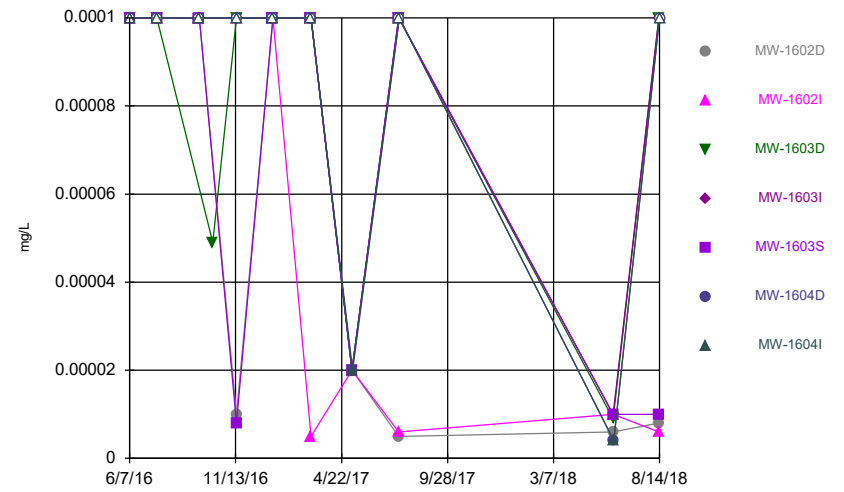


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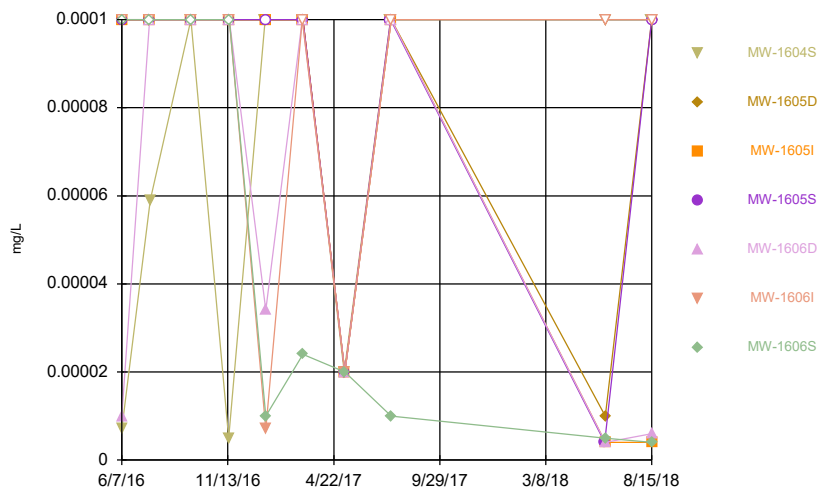
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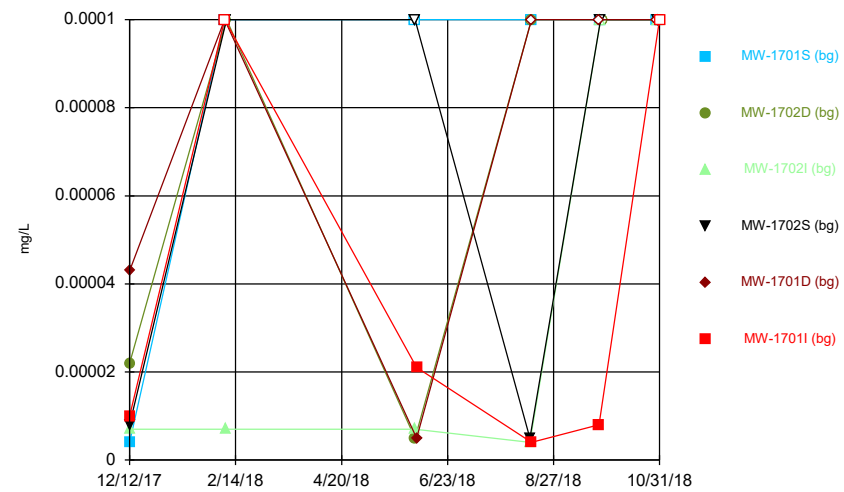
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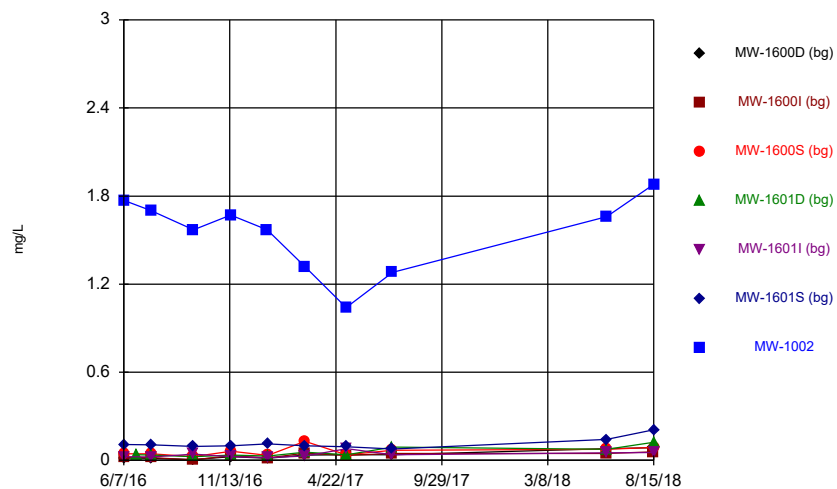
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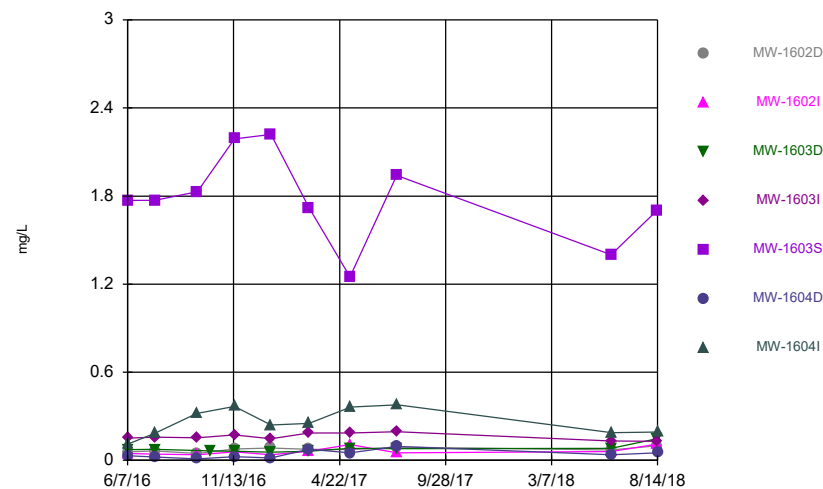
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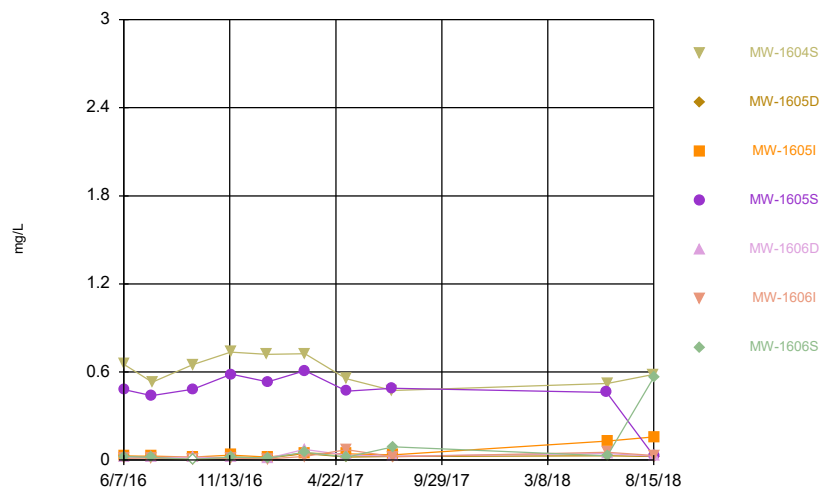
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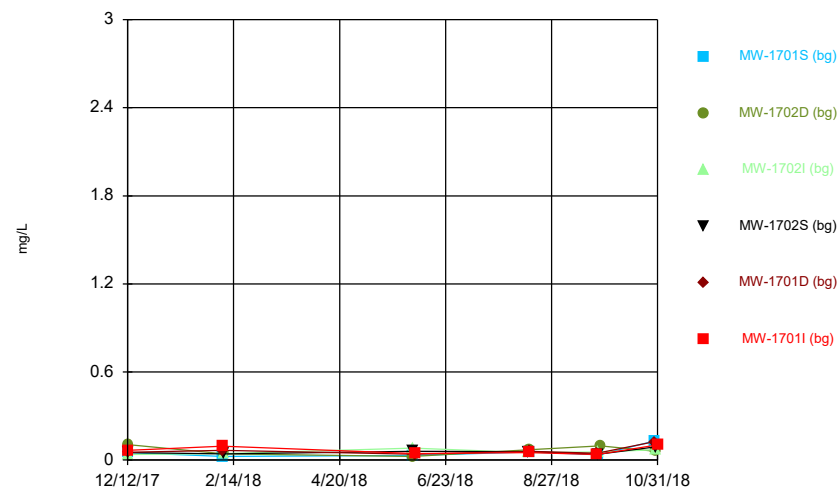
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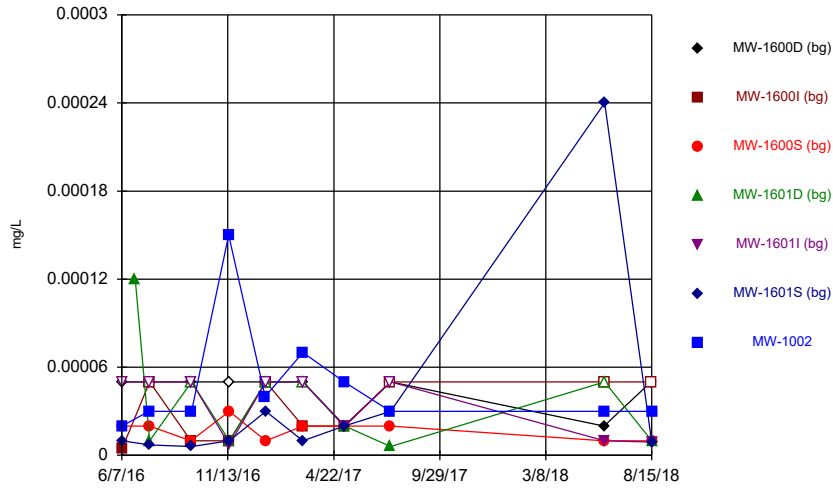
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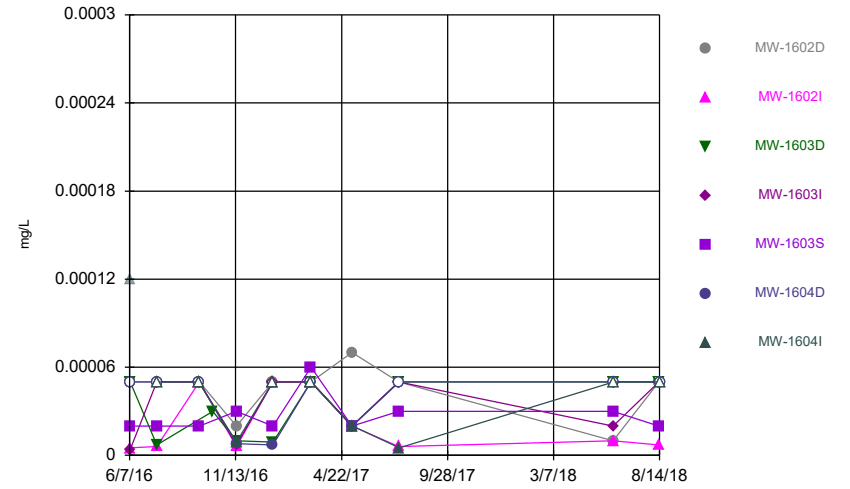
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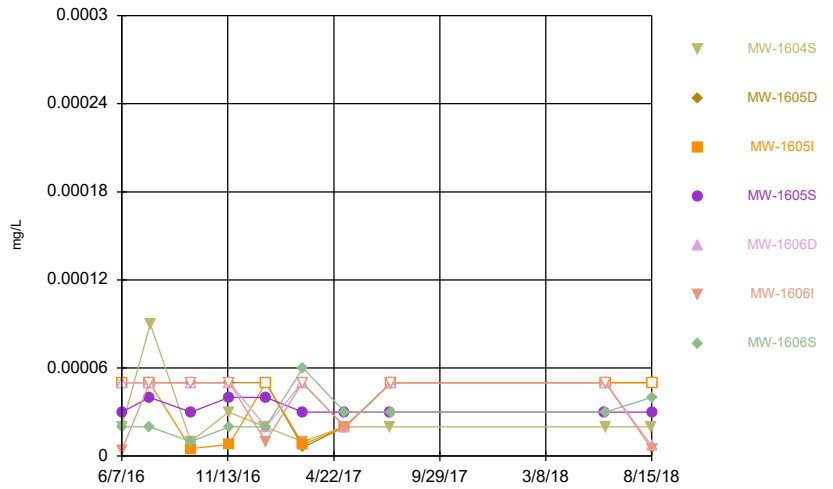
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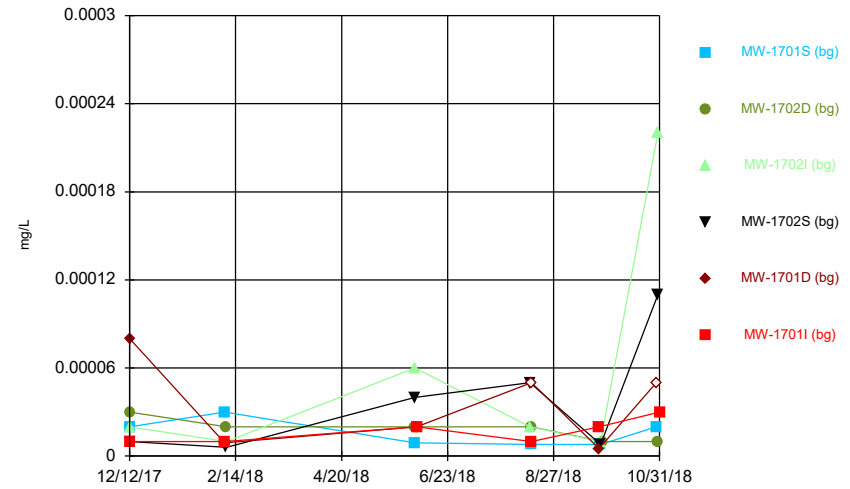
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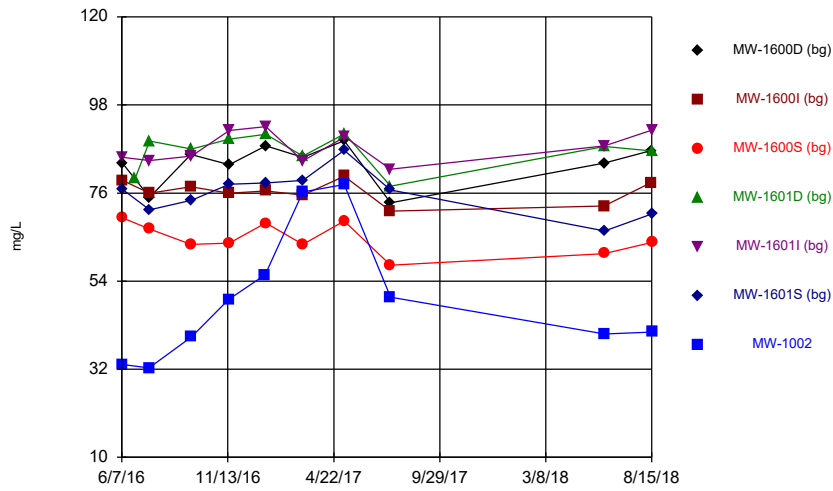
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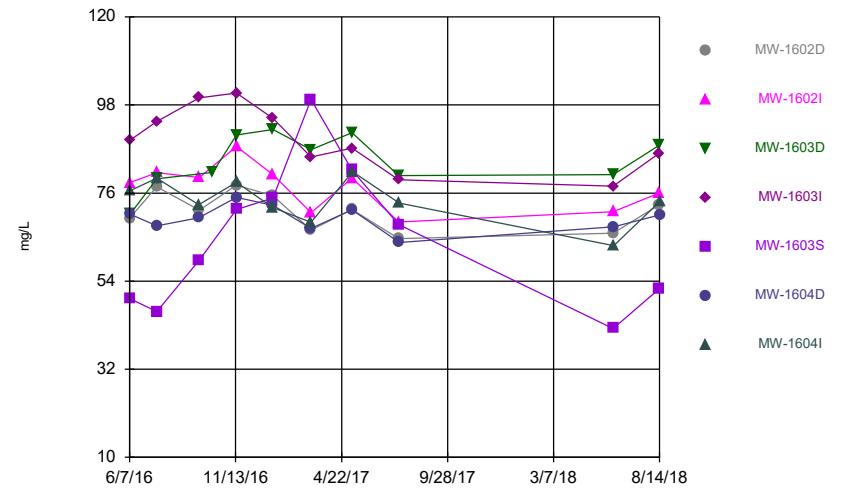
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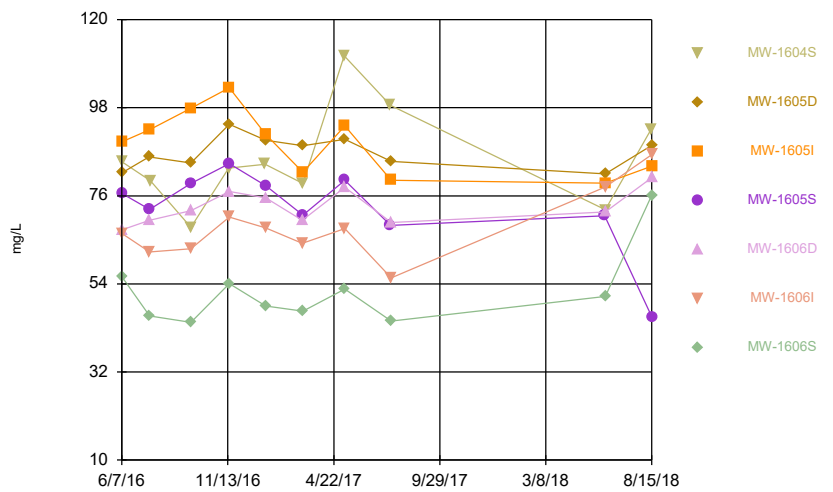
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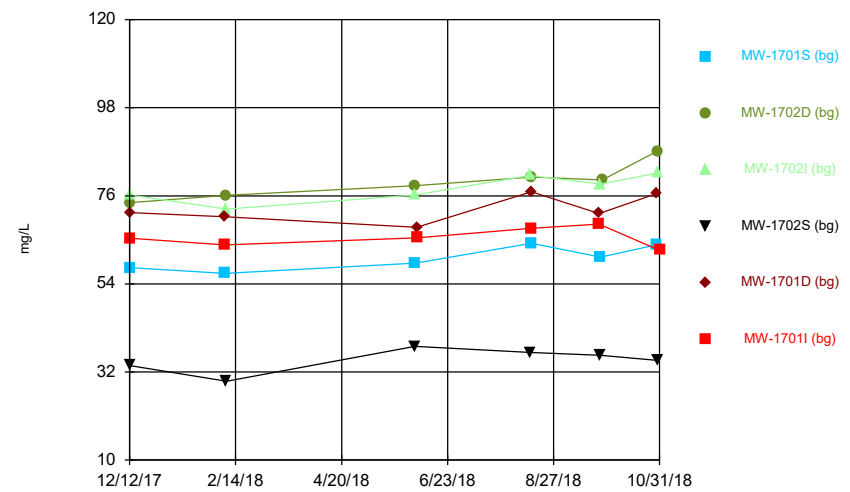
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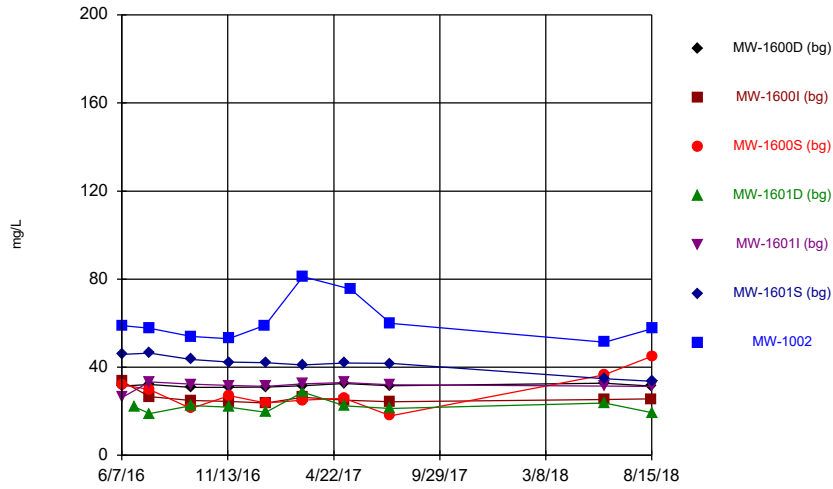
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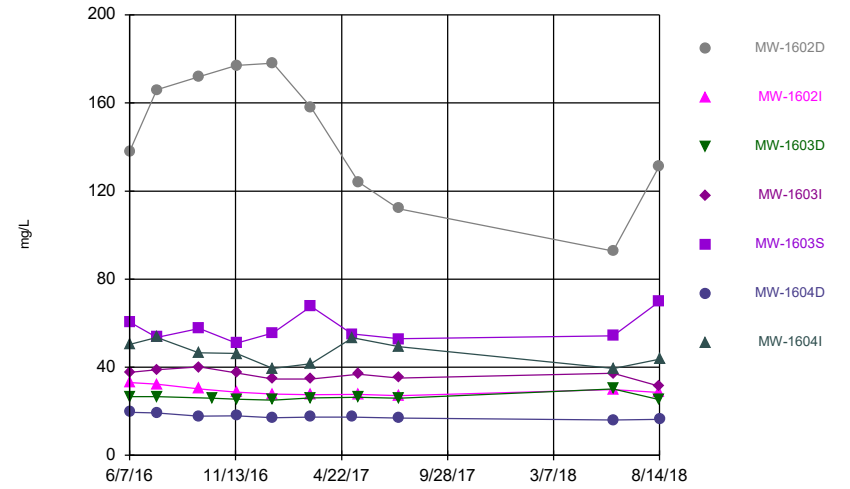
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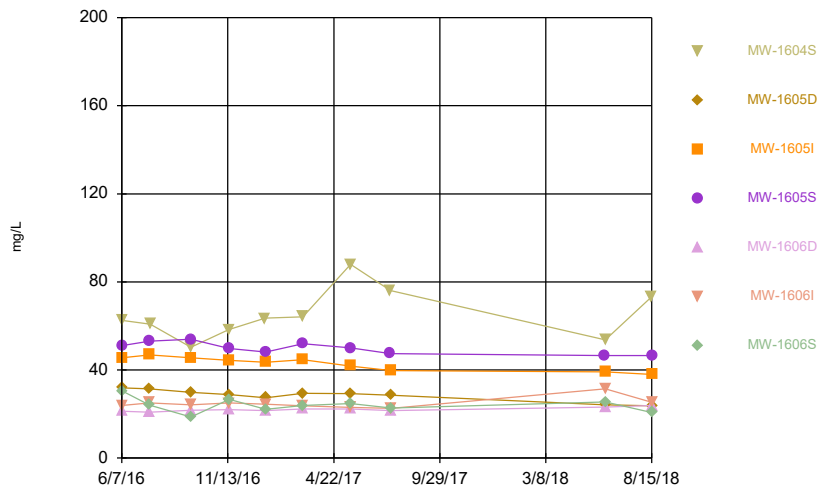
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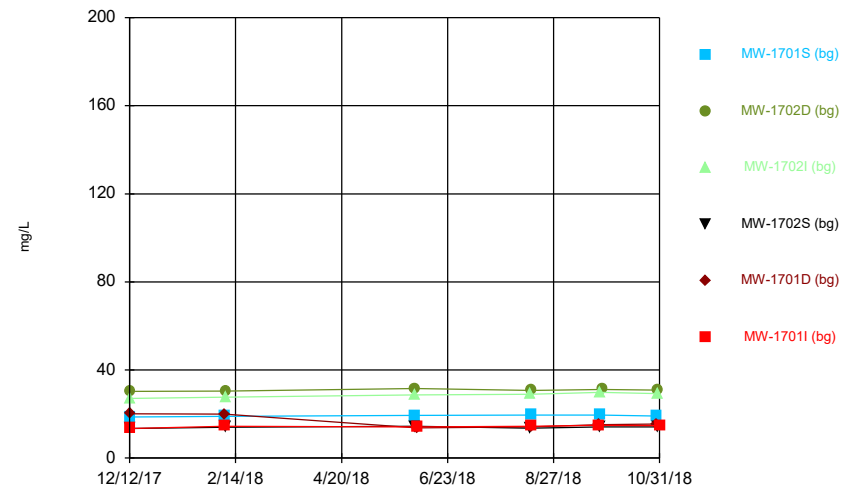
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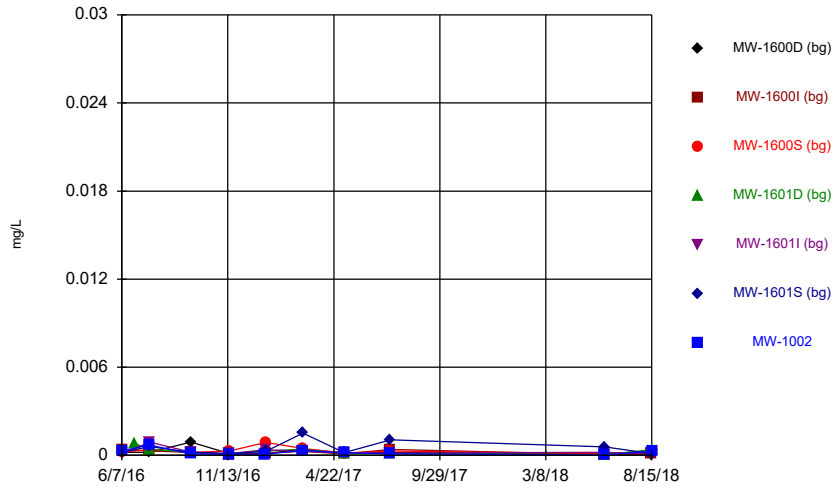
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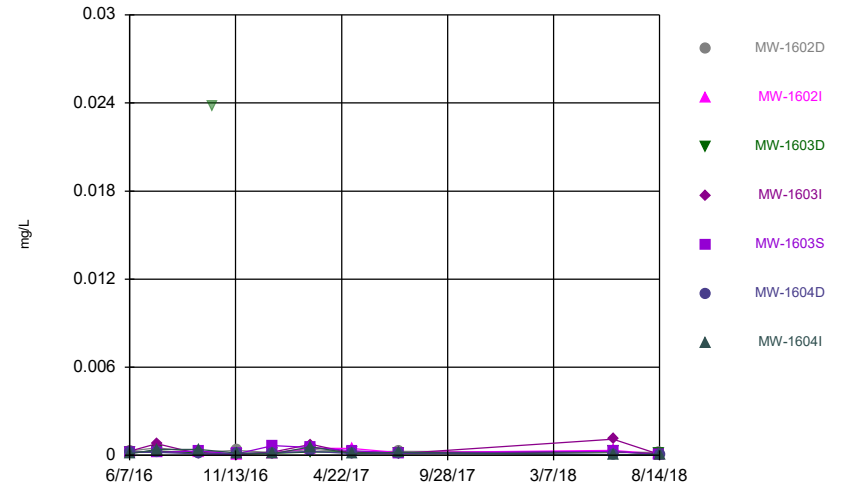
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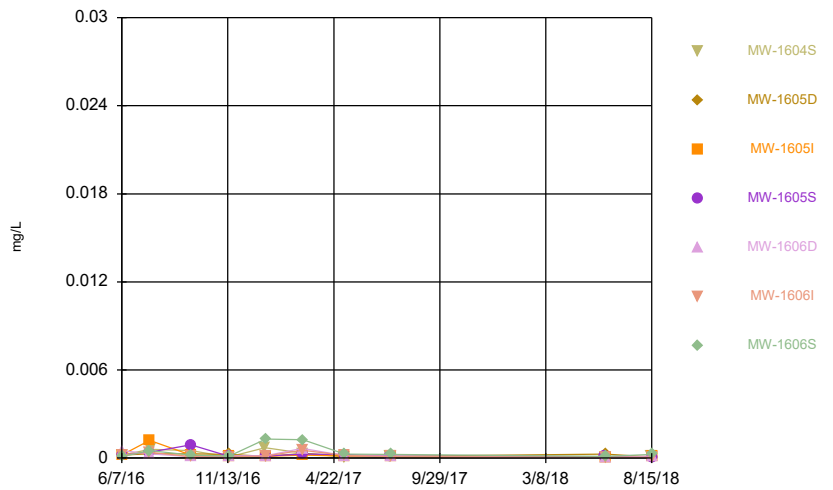
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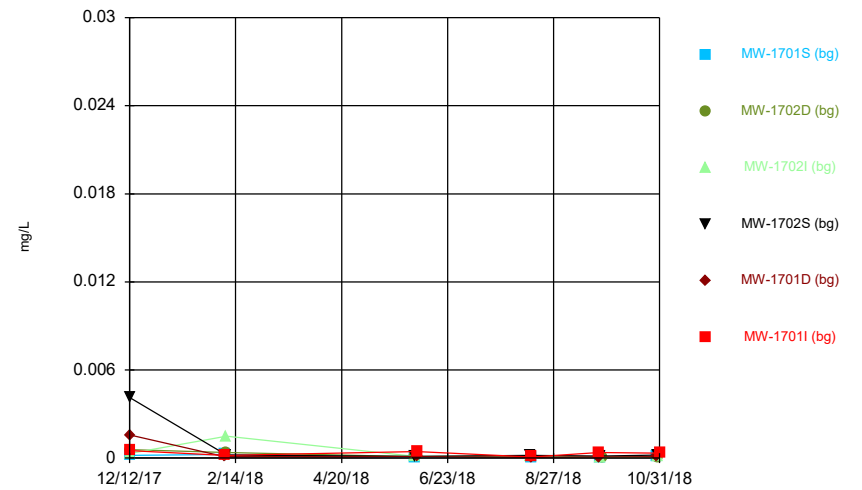
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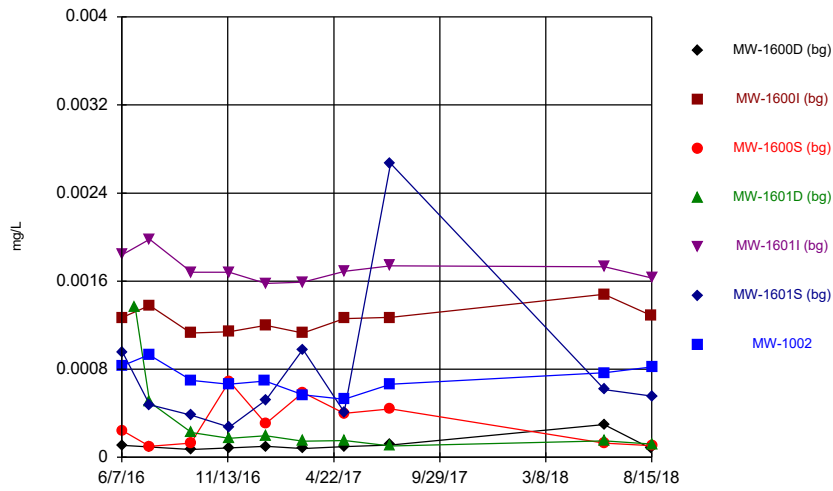
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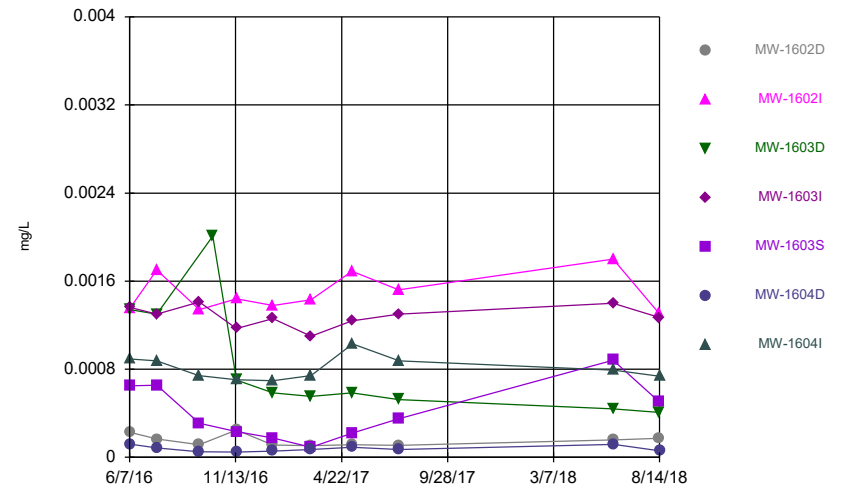
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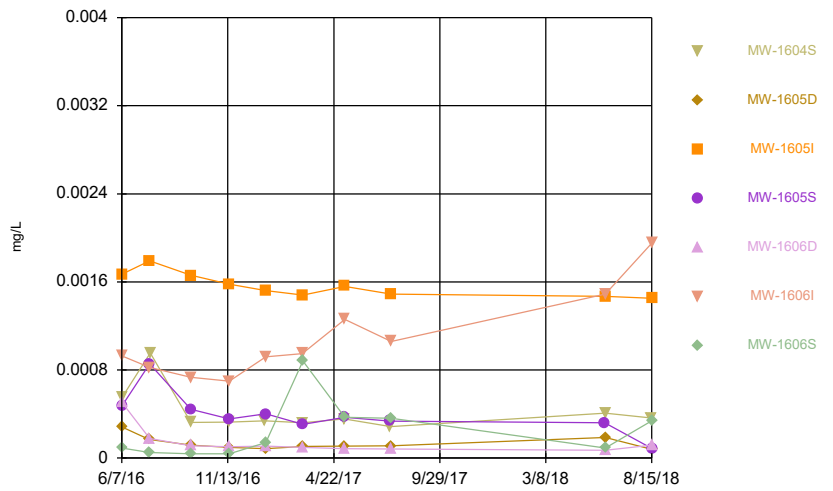
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 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Time Series



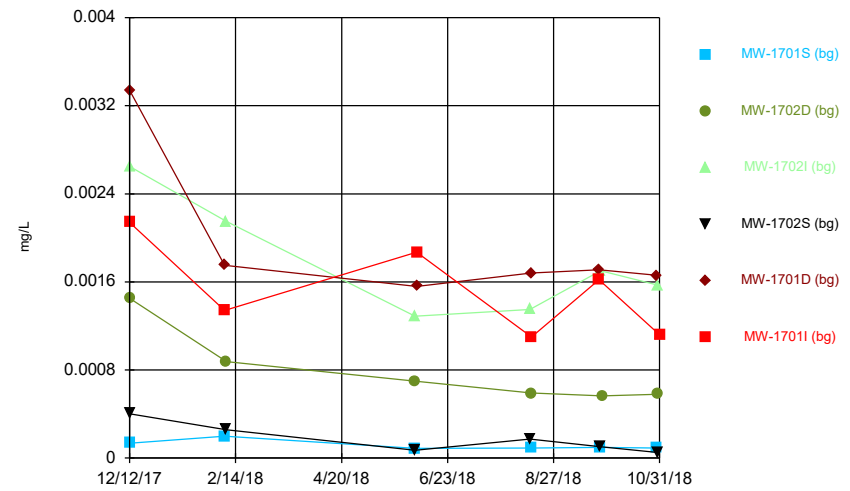
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Time Series



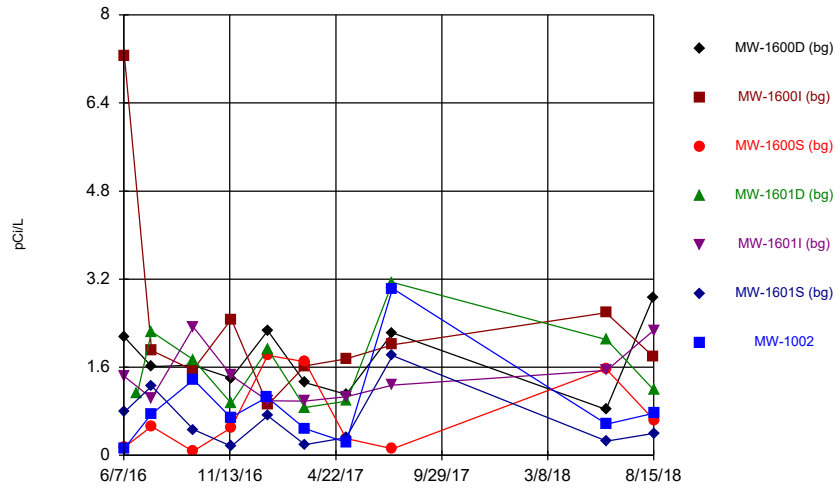
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Time Series



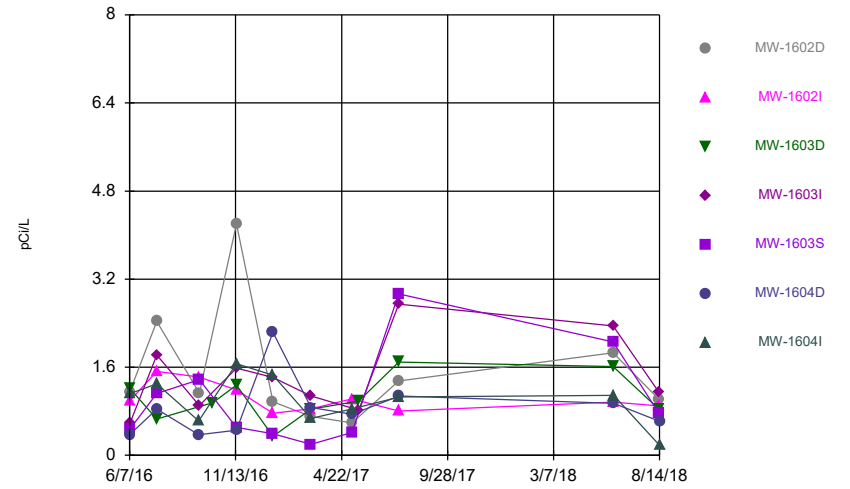
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Time Series



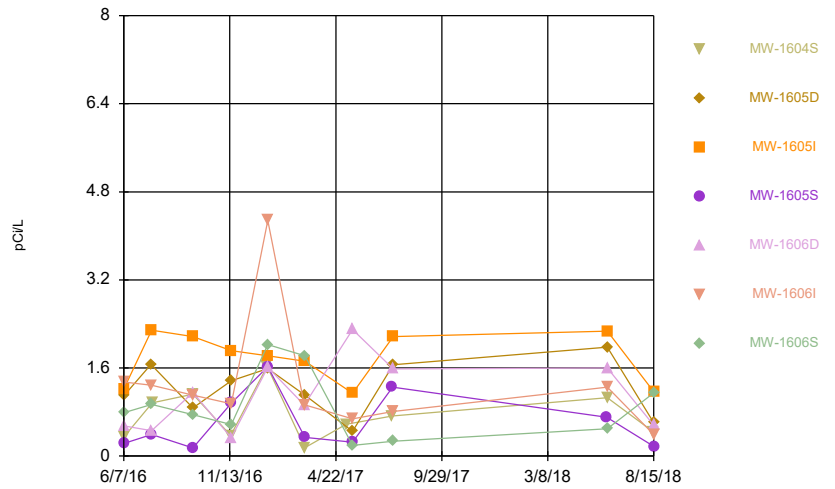
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Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Time Series



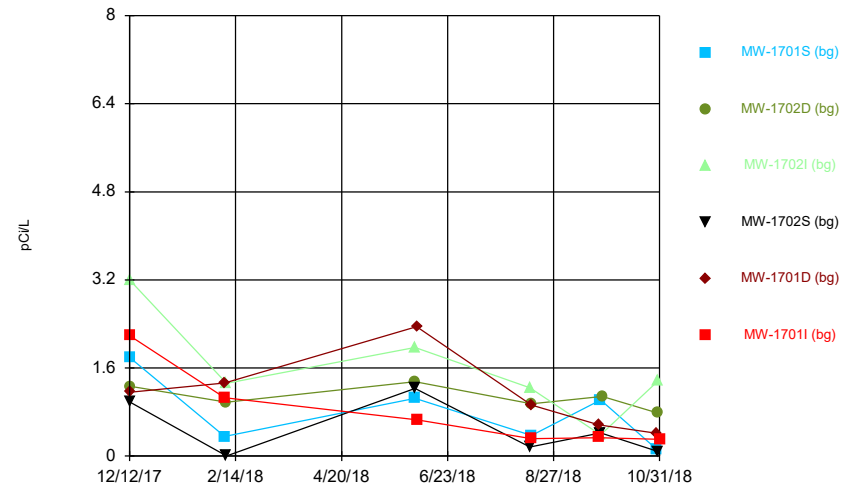
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Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/3/2019 9:39 PM View: Descriptive  
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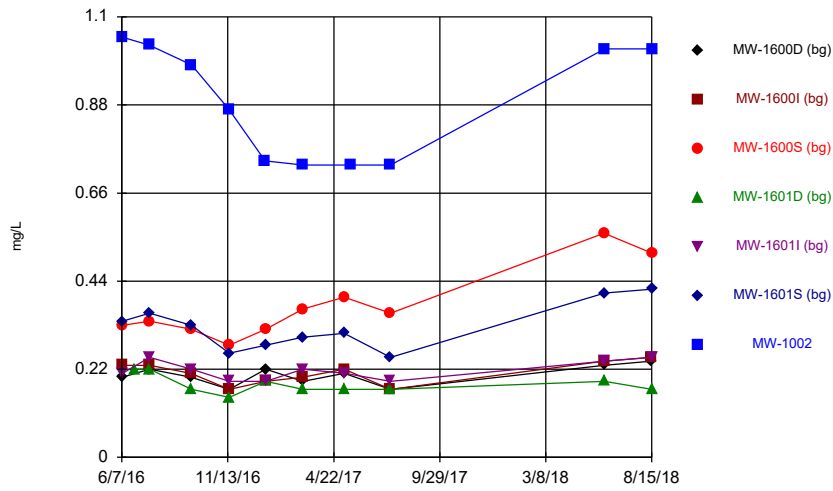
Time Series



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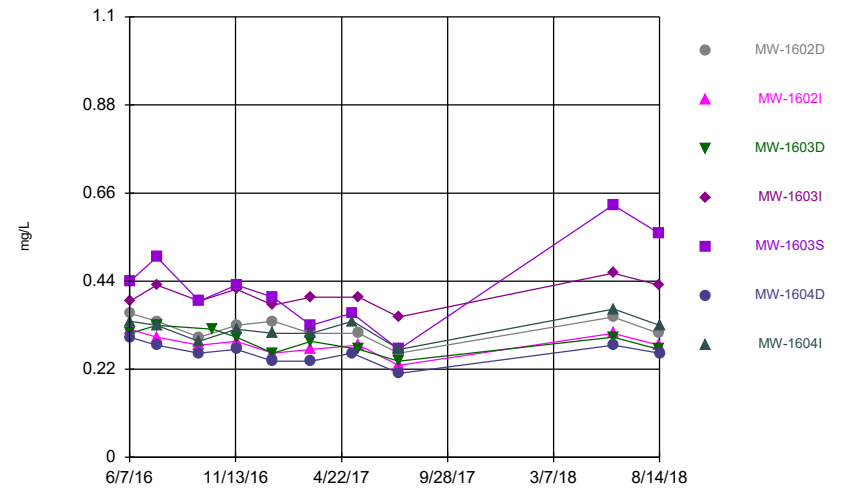


Time Series



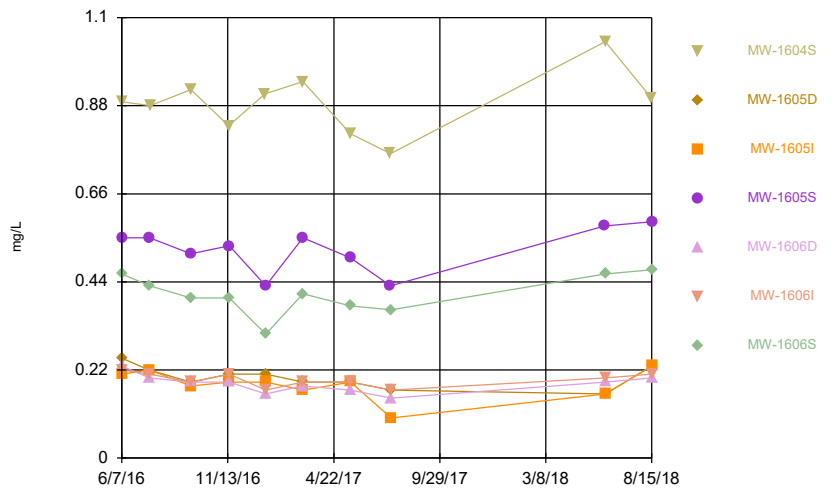
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Time Series



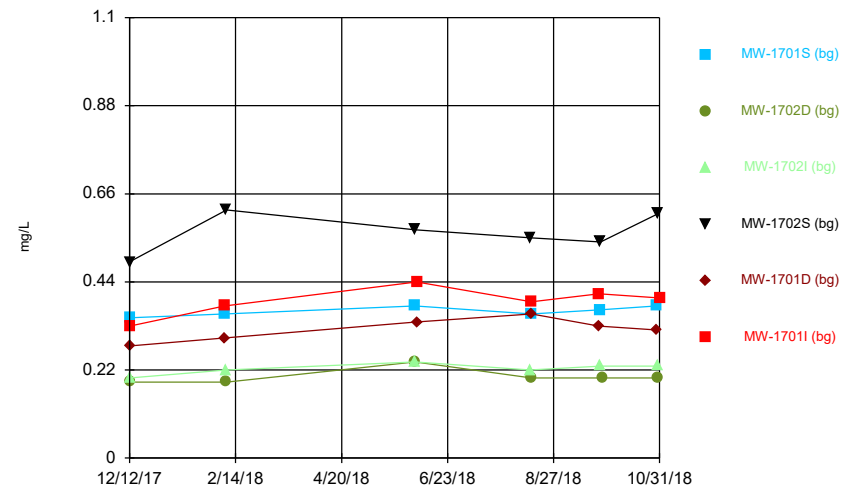
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Time Series



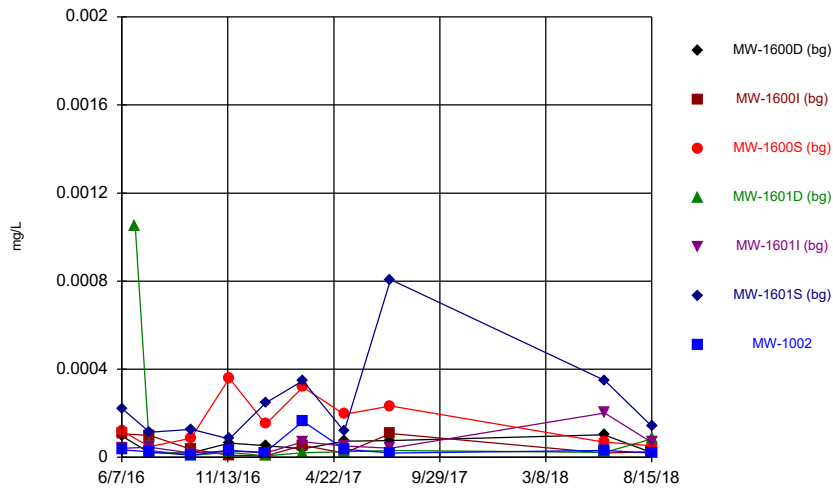
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Time Series



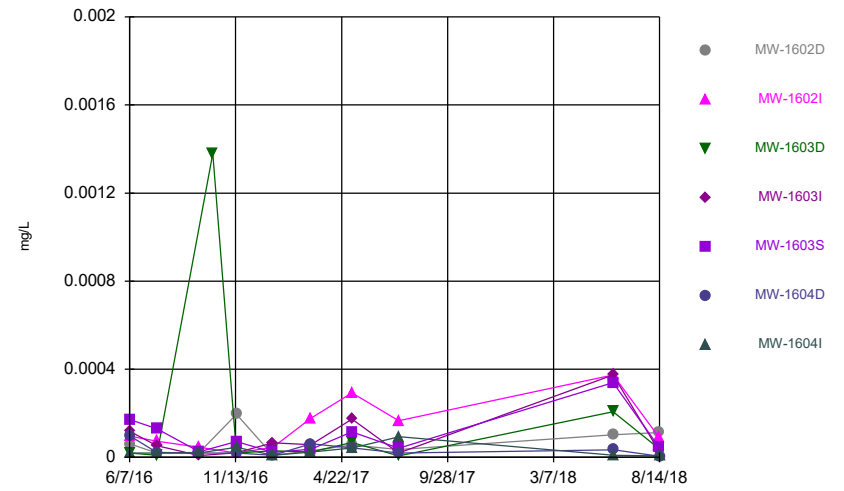
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Time Series



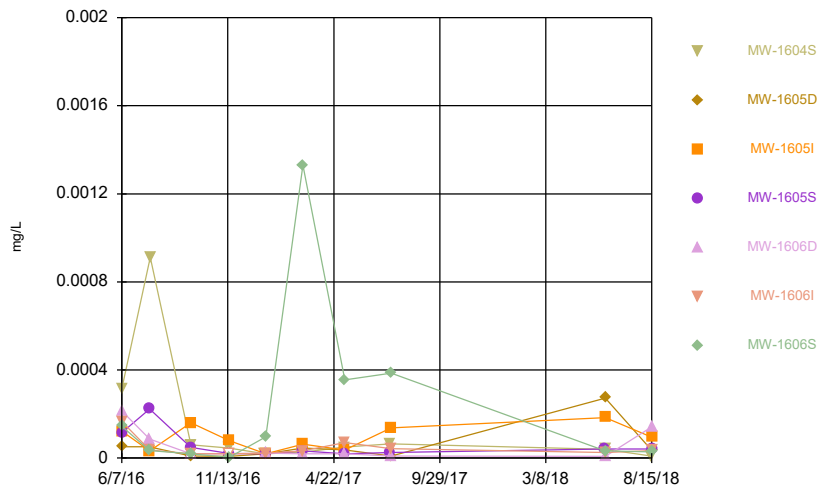
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Time Series



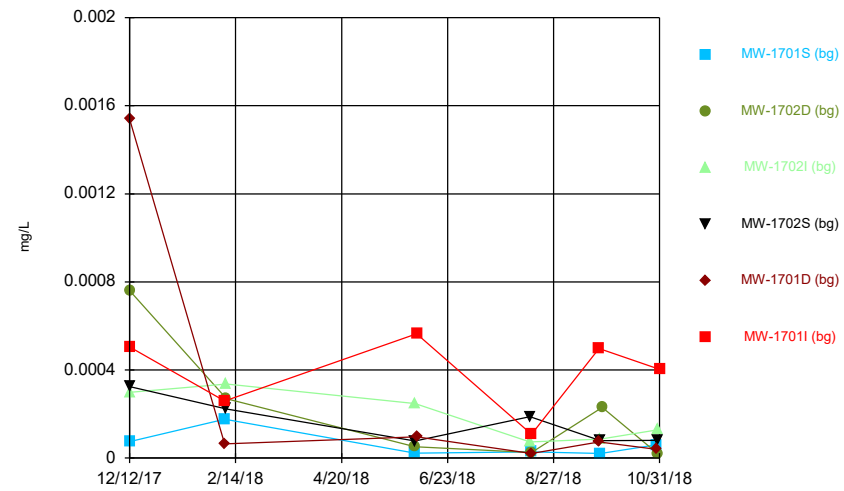
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Time Series



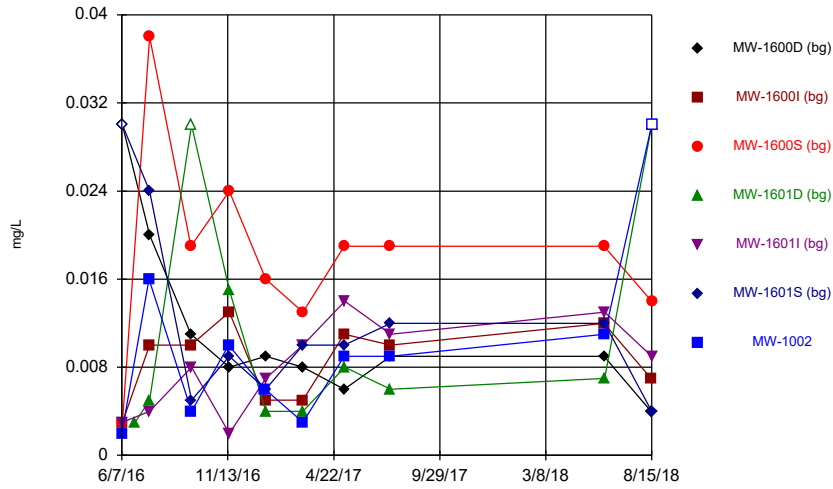
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Time Series



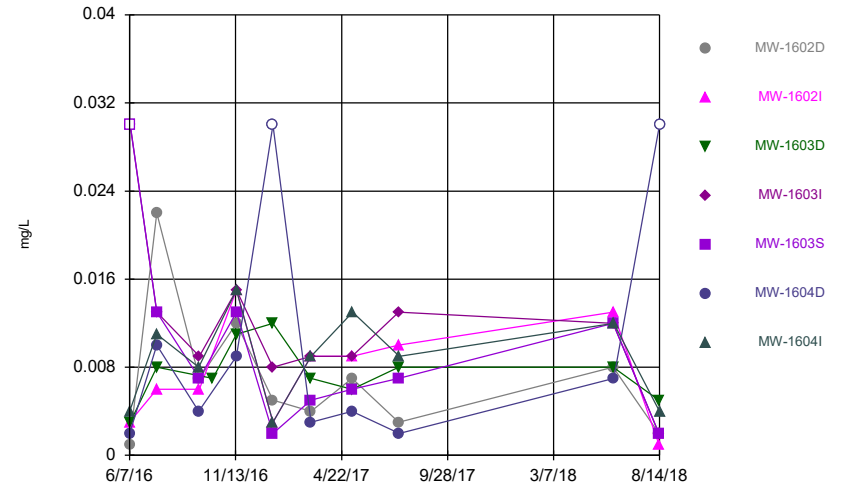
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Time Series



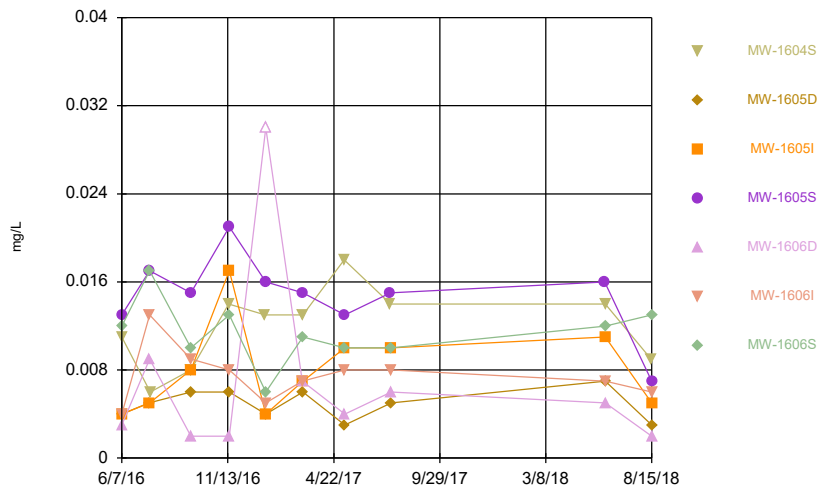
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Time Series



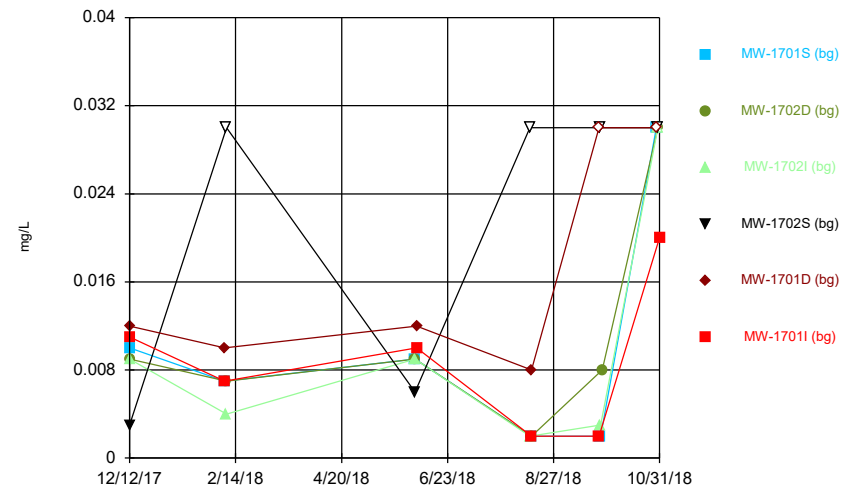
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Time Series



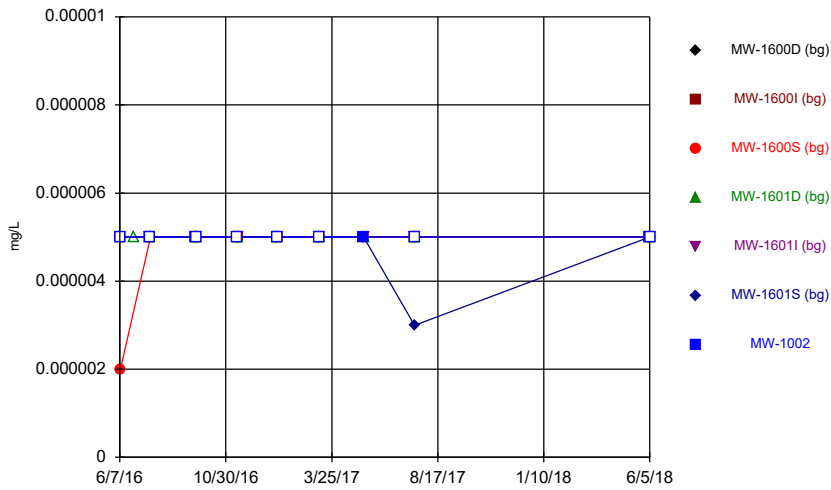
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Time Series



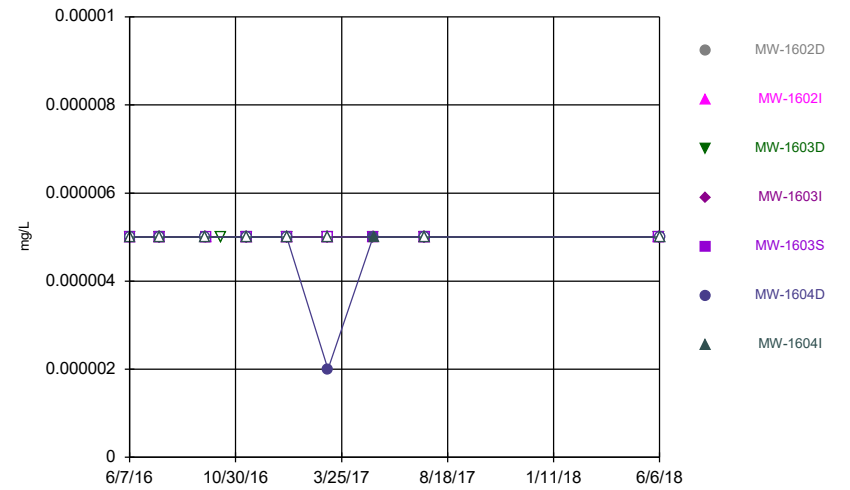
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Time Series



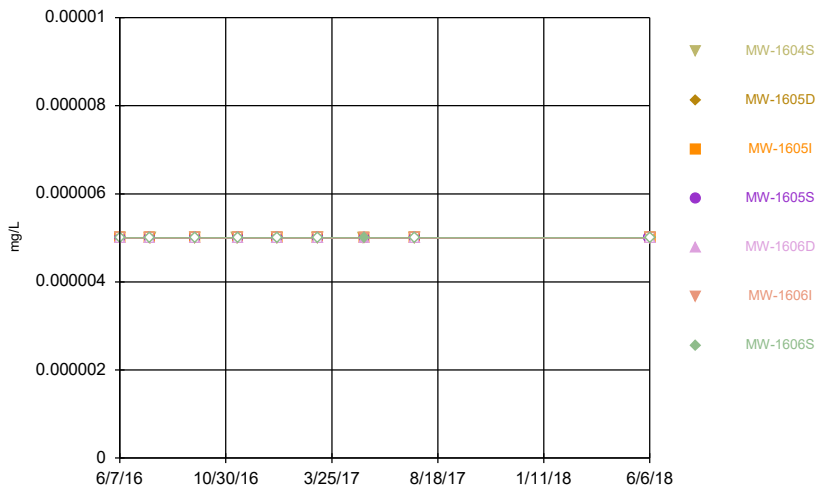
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Time Series



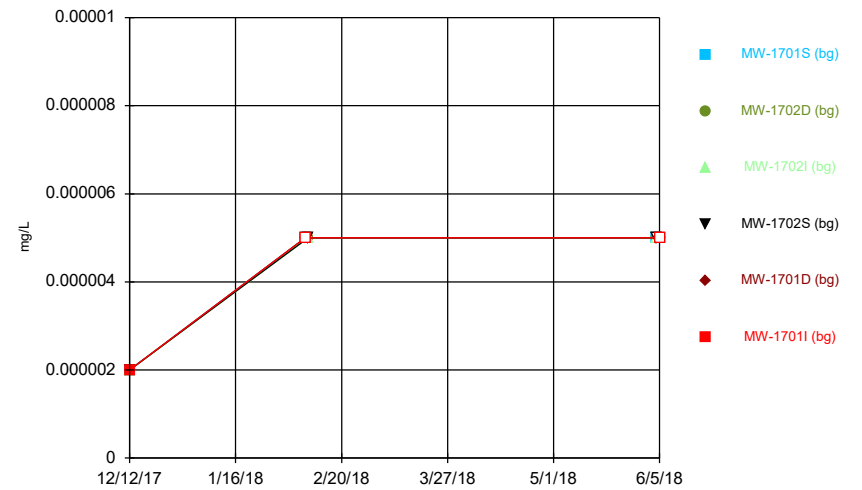
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Time Series



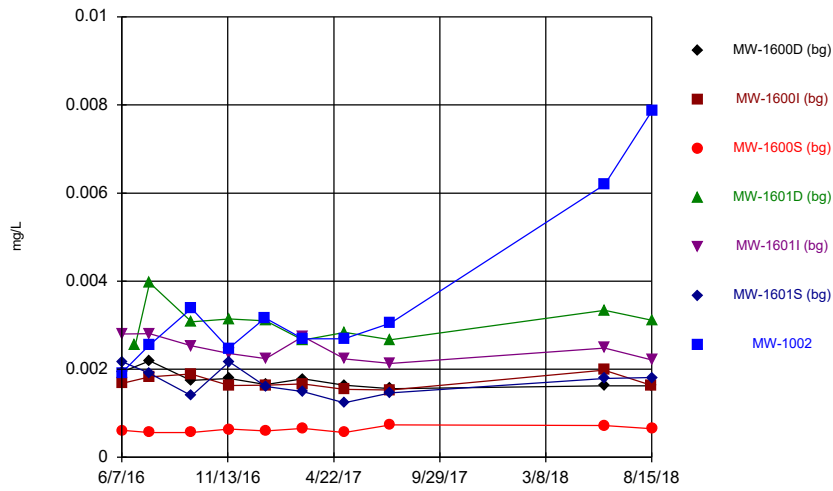
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Time Series



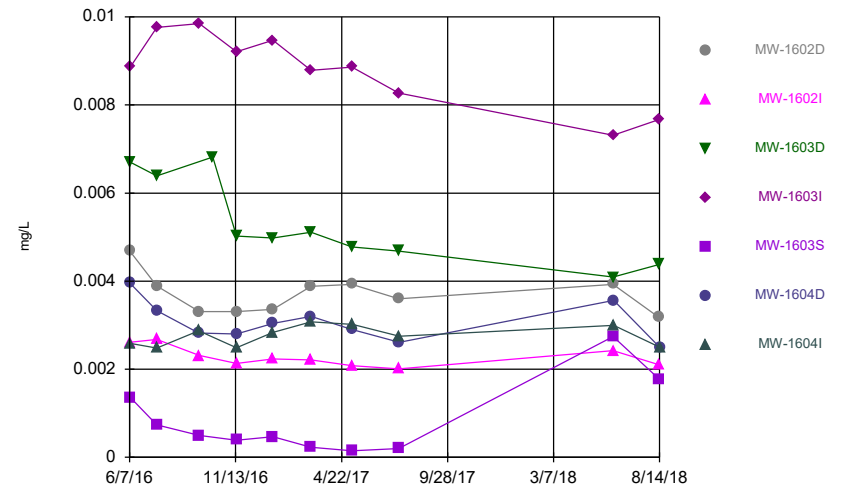
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Time Series



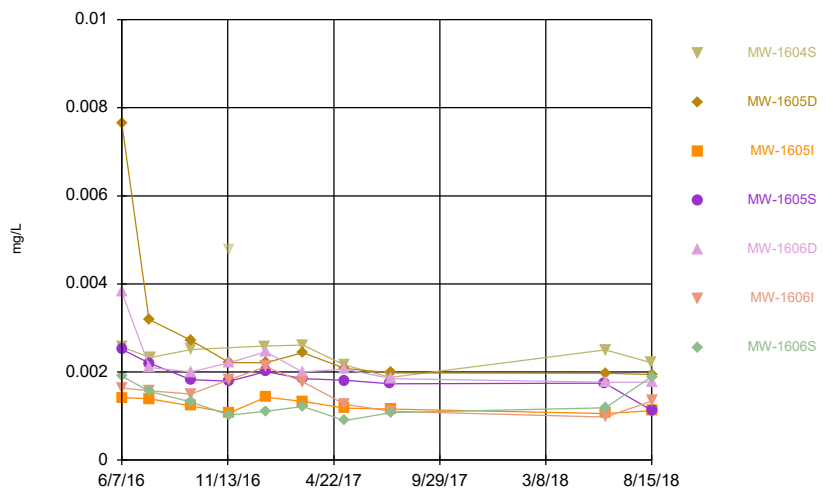
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Time Series



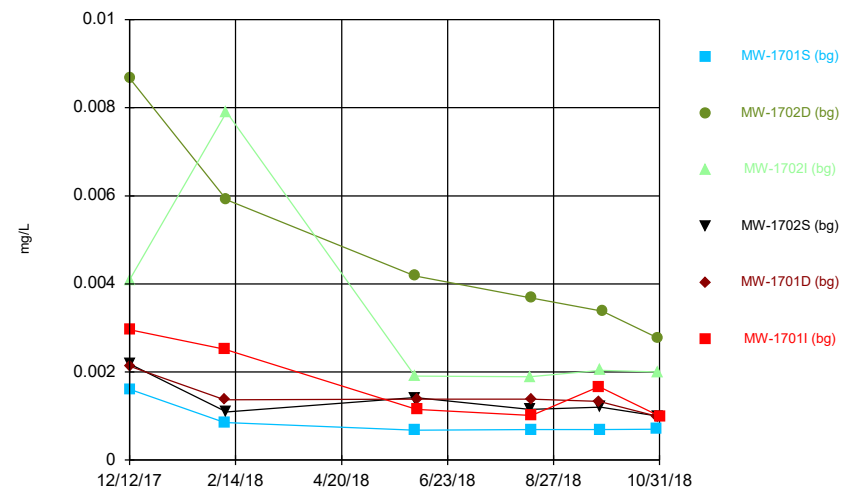
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Time Series



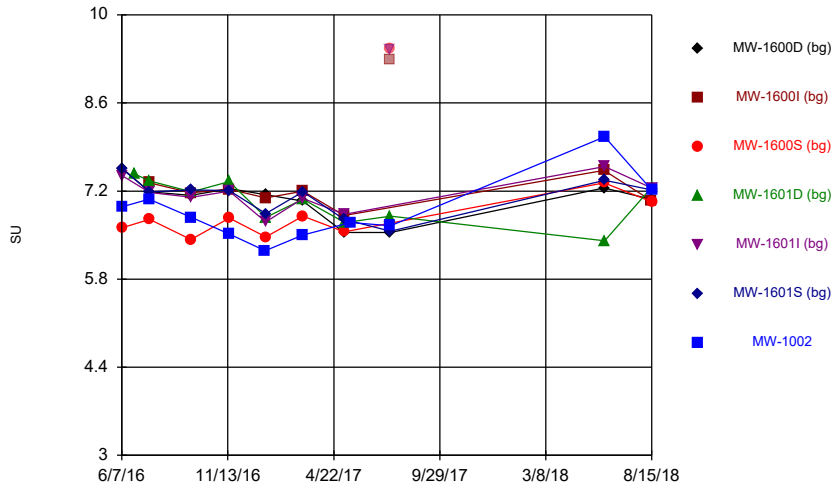
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Time Series



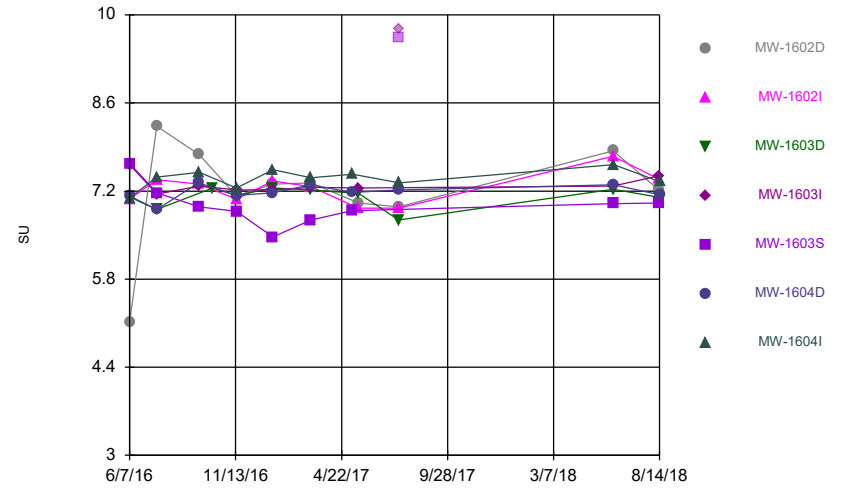
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Time Series



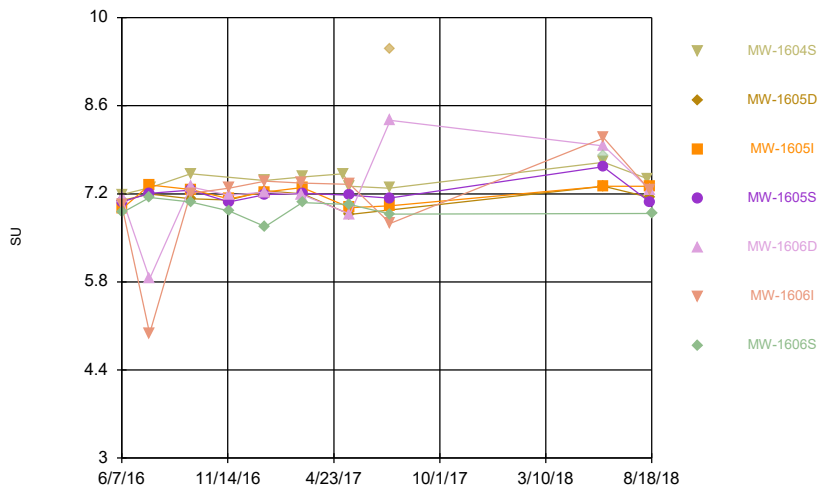
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Time Series



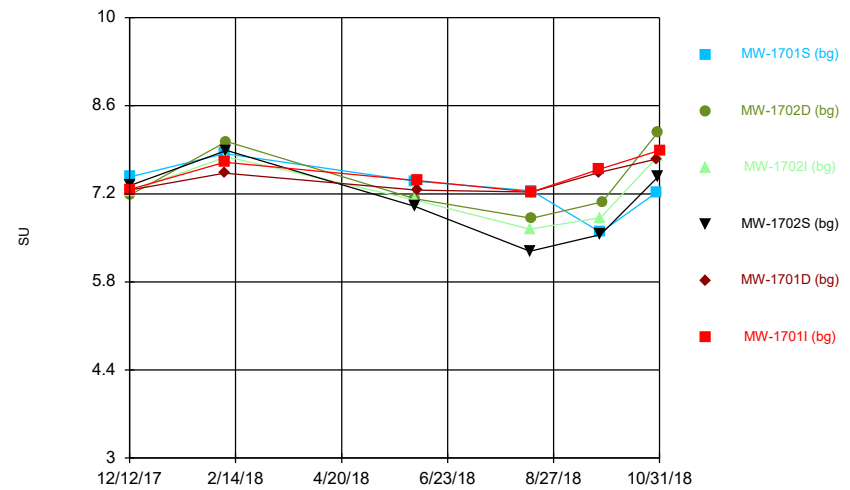
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Time Series



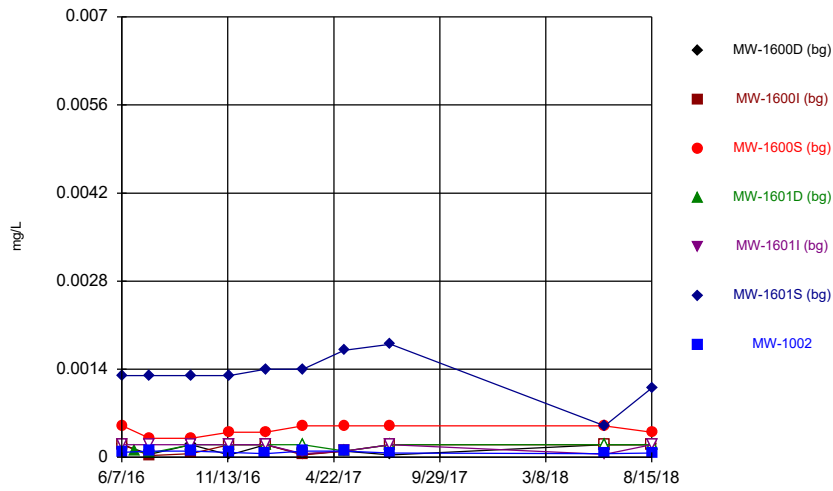
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Time Series



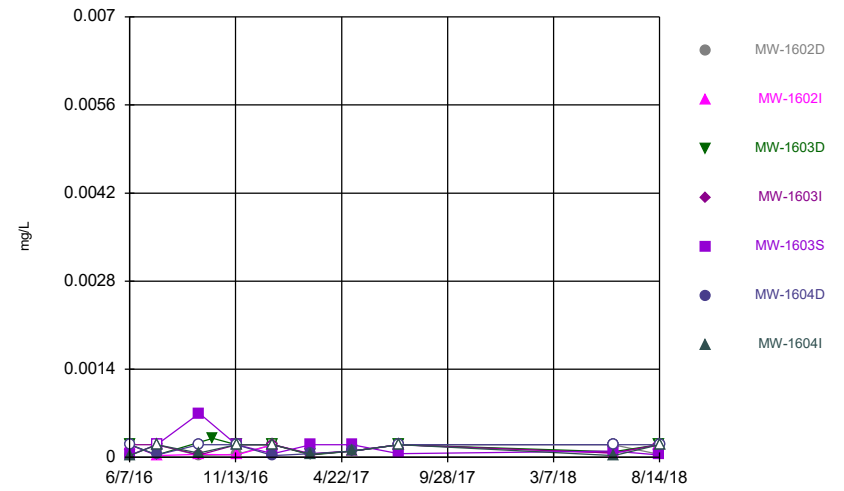
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Time Series



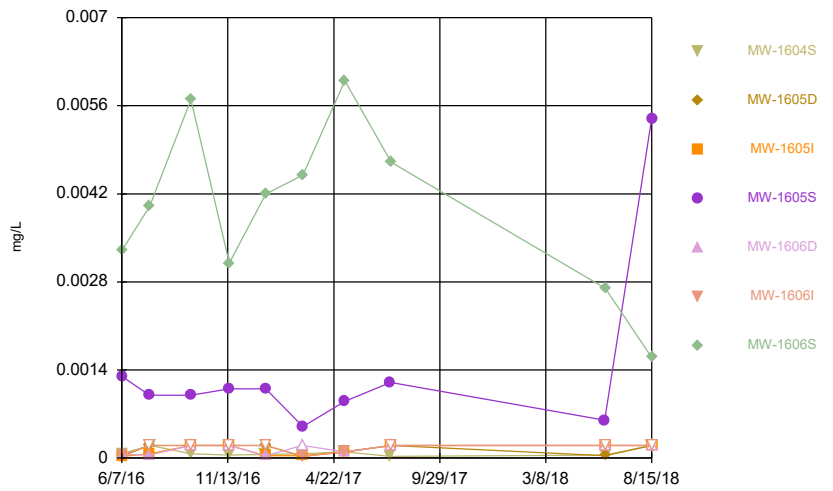
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Time Series



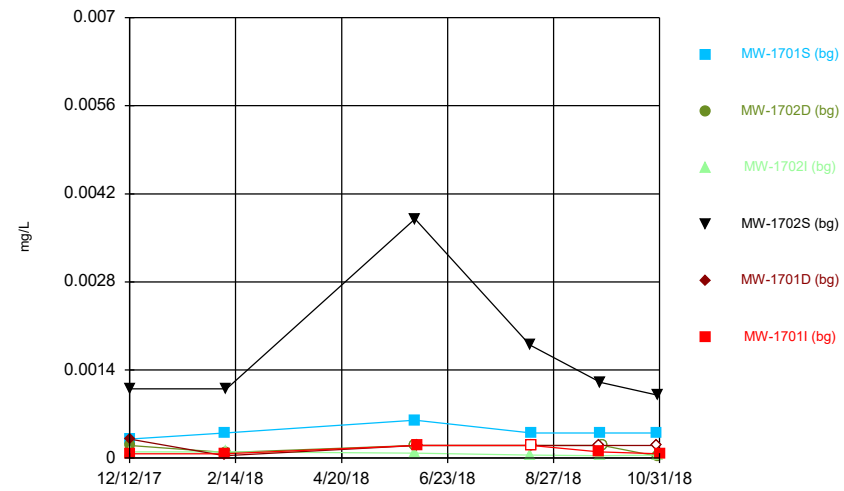
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Time Series



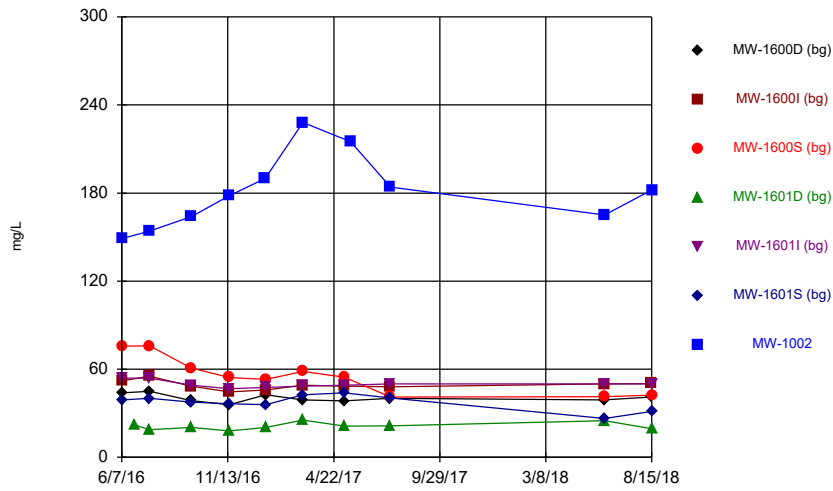
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Time Series



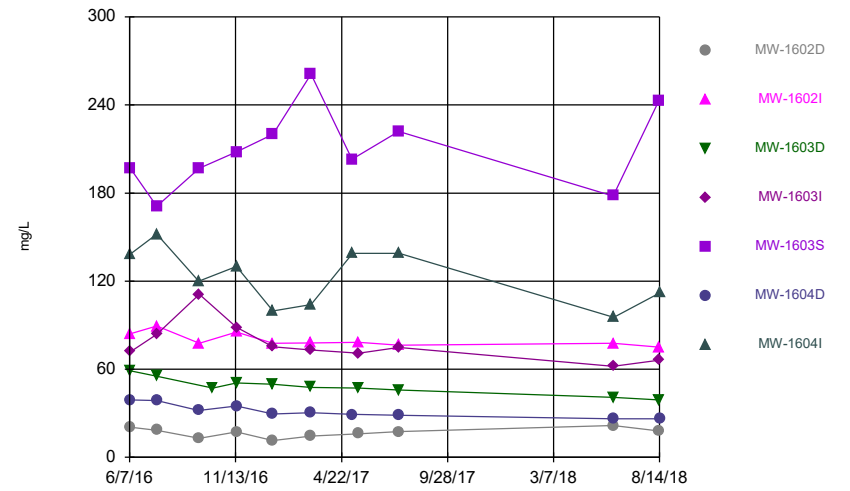
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Time Series



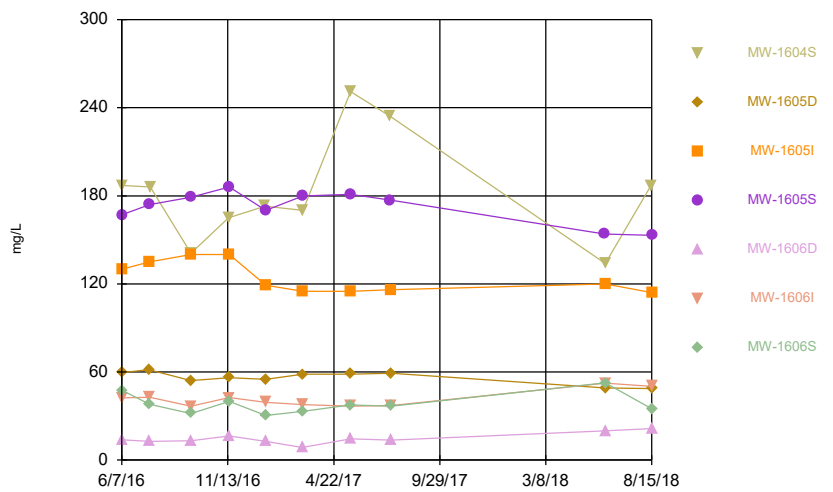
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Time Series



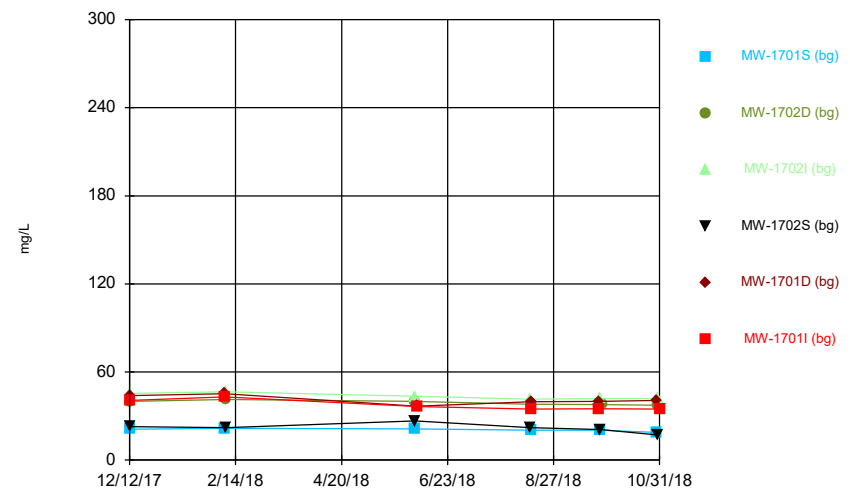
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Time Series



Constituent: Sulfate, total Analysis Run 1/3/2019 9:39 PM View: Descriptive  
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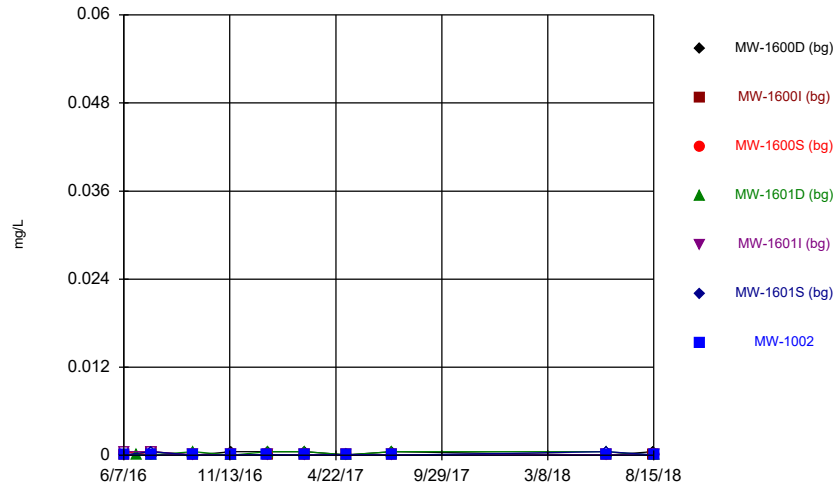
Time Series



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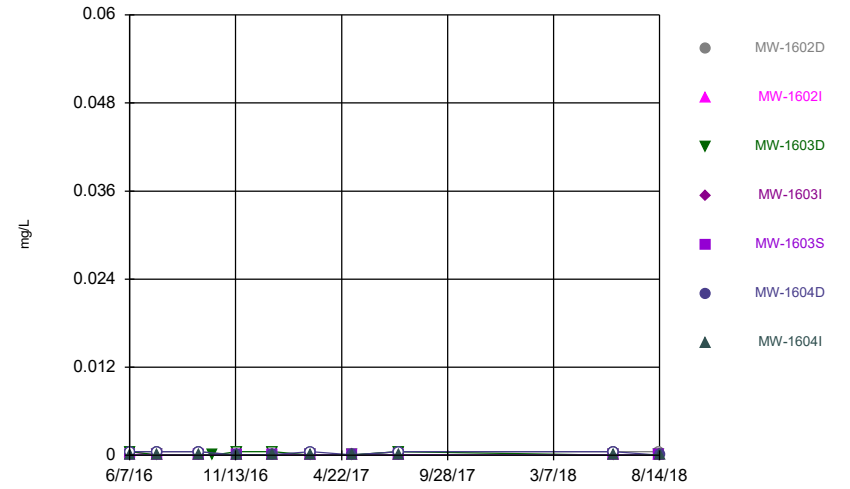


Time Series



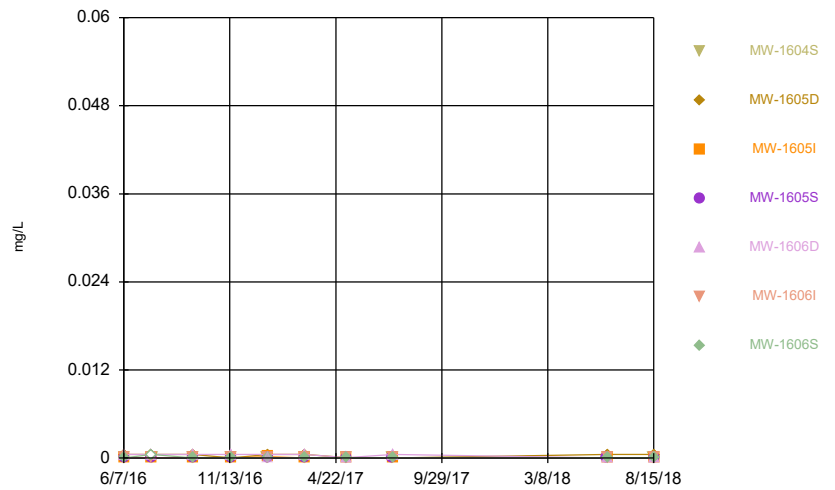
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Time Series



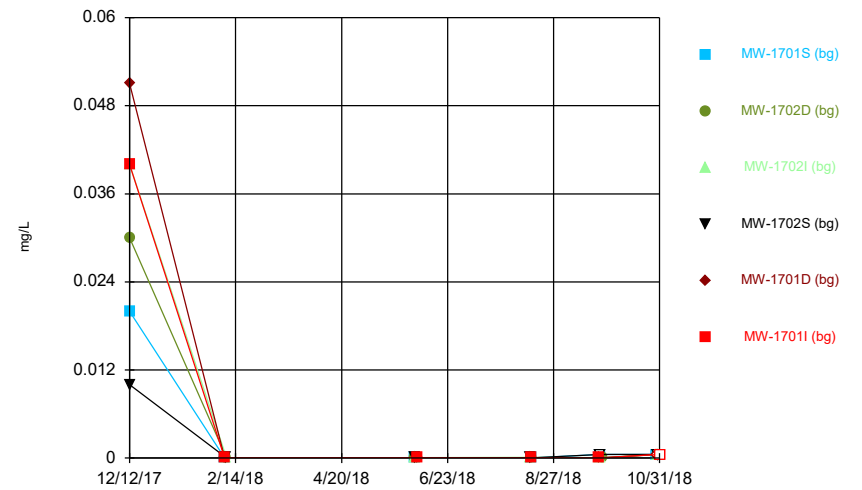
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Time Series



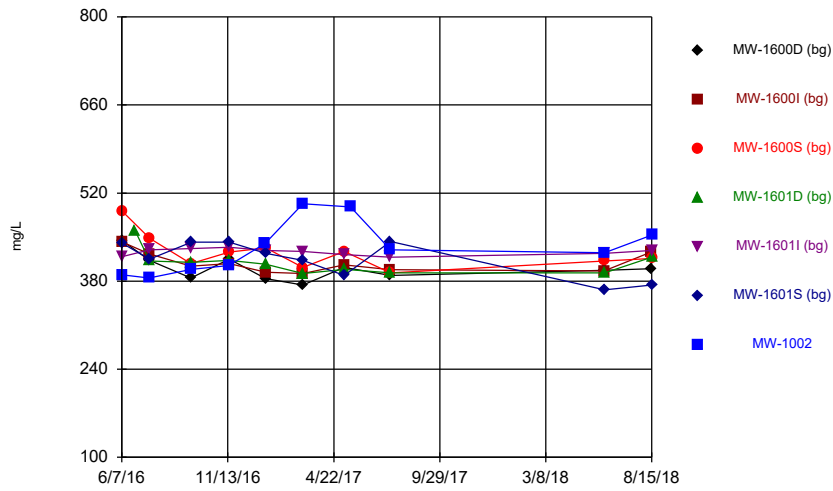
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Time Series



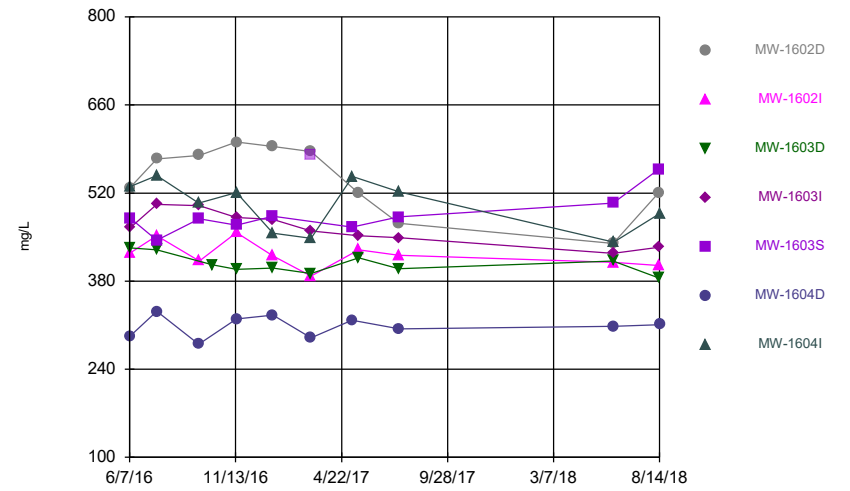
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Time Series



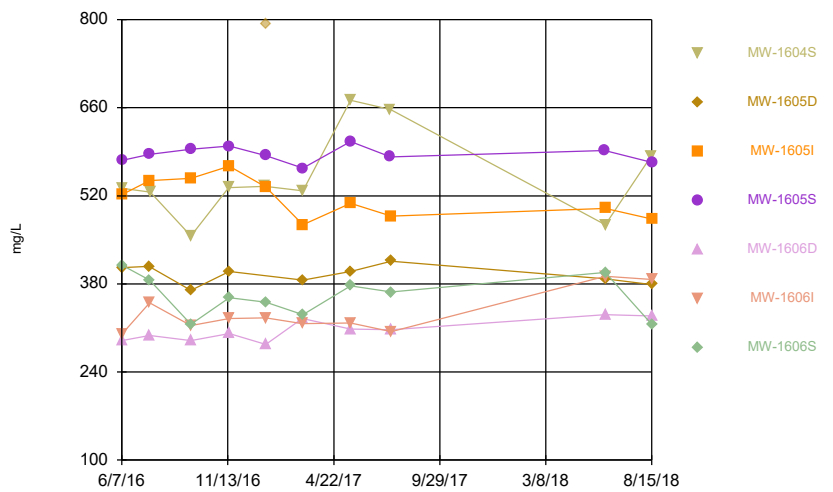
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Time Series



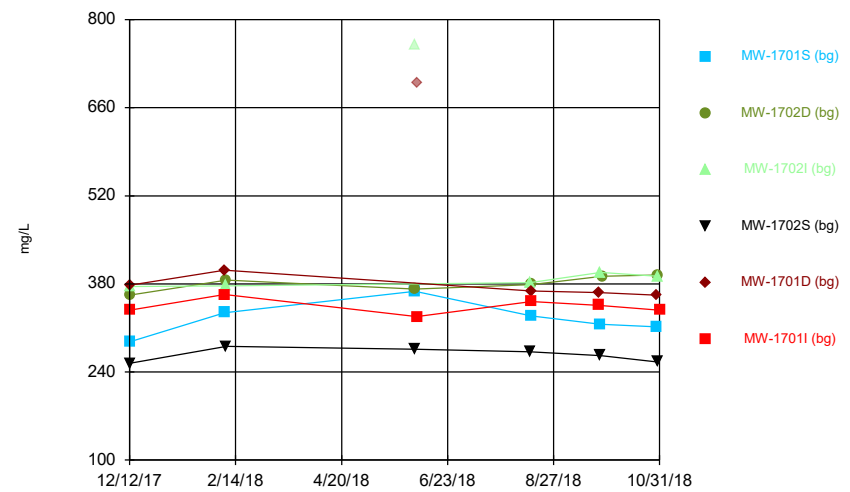
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Time Series



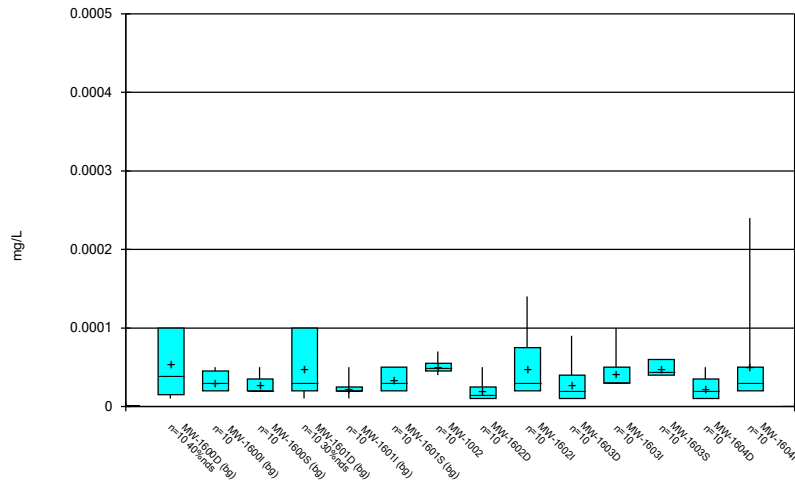
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Time Series



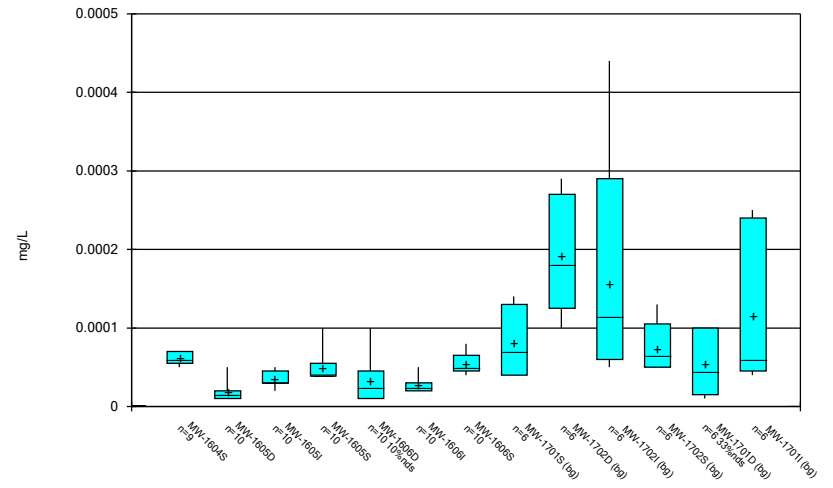
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Box & Whiskers Plot



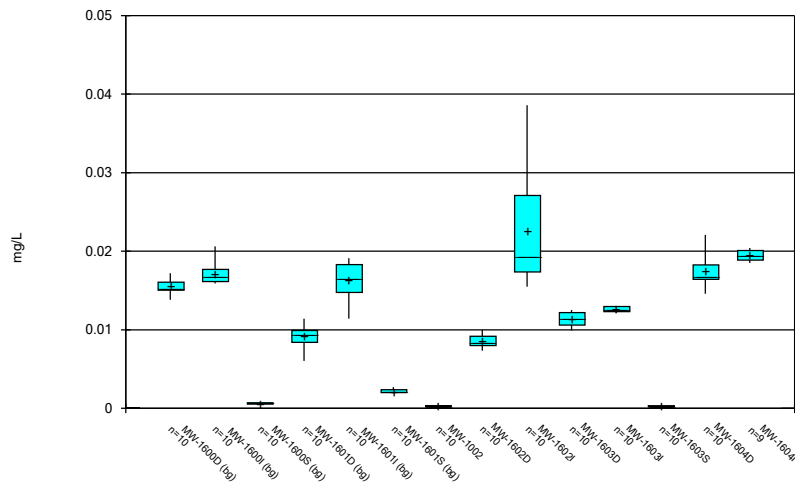
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Box & Whiskers Plot



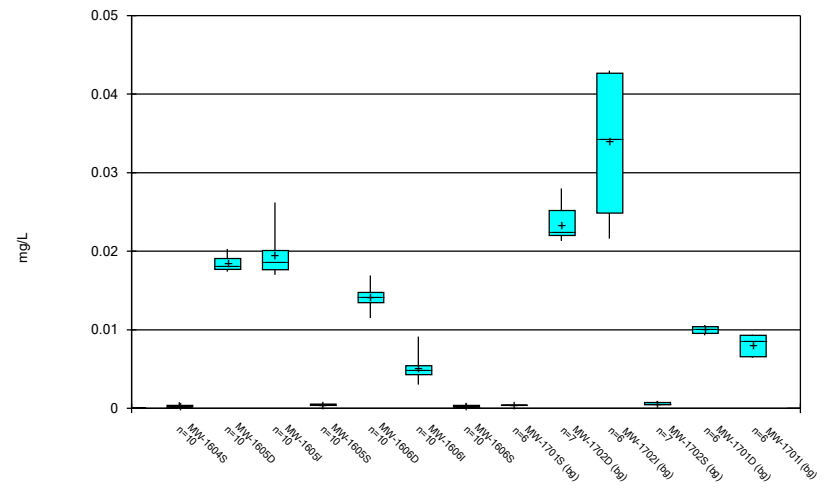
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Box & Whiskers Plot



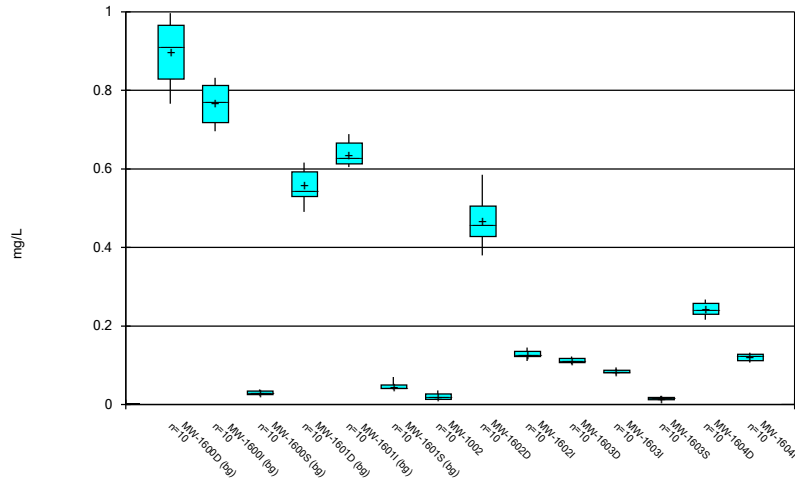
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Box & Whiskers Plot



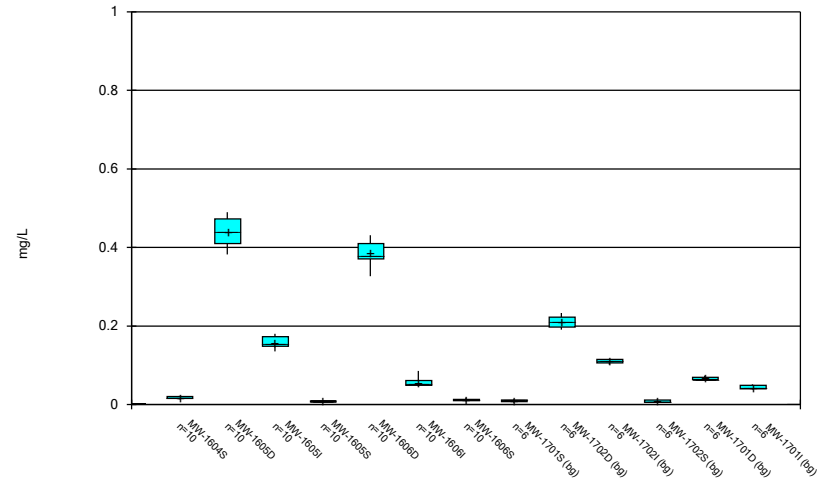
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Box & Whiskers Plot



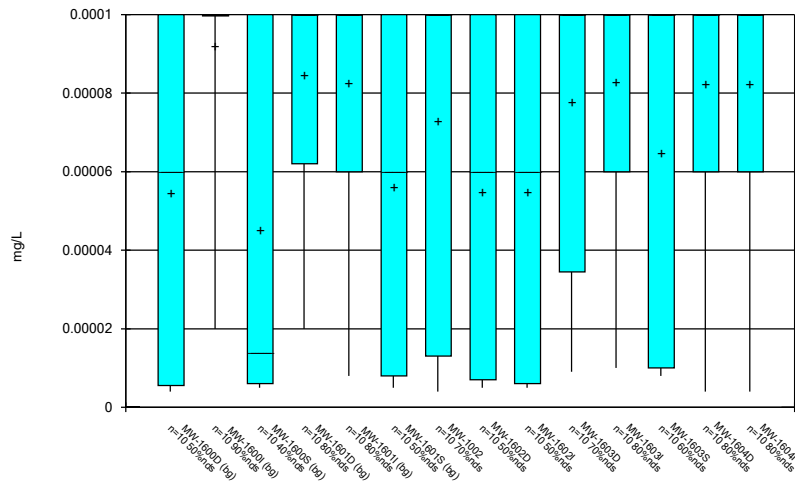
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Box & Whiskers Plot



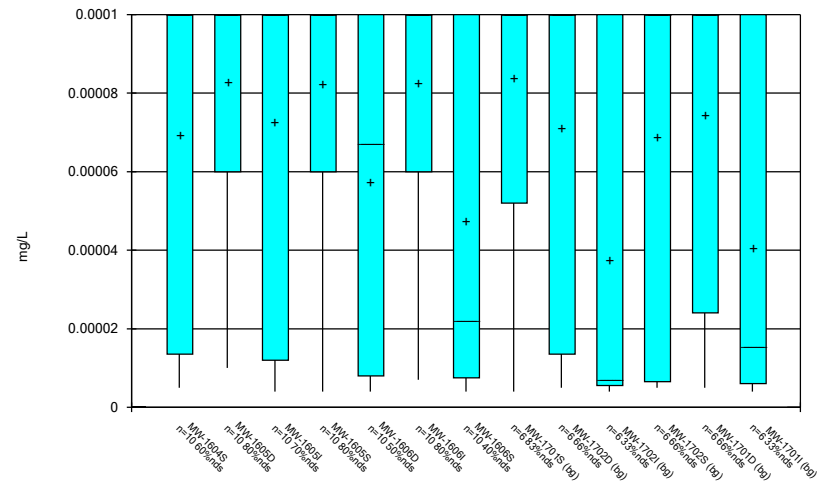
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Box & Whiskers Plot



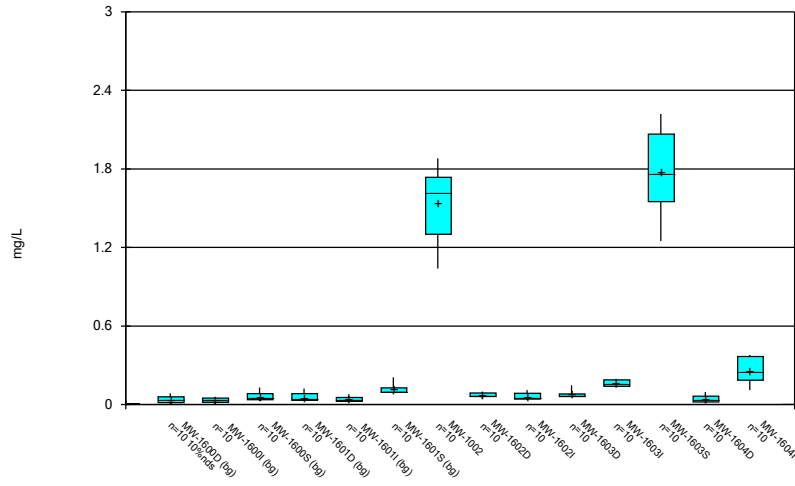
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Box & Whiskers Plot



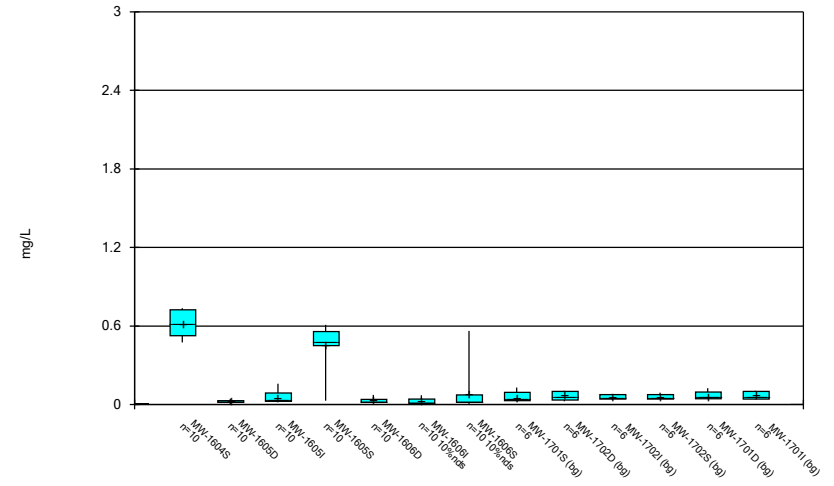
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### Box & Whiskers Plot



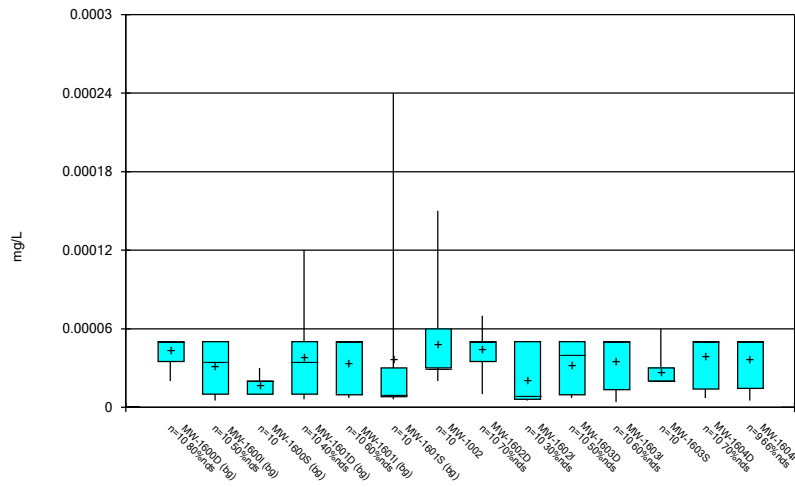
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### Box & Whiskers Plot



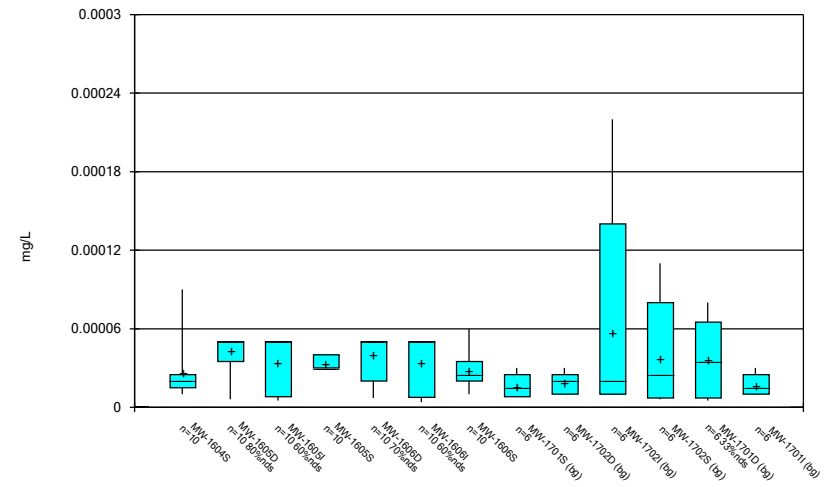
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### Box & Whiskers Plot



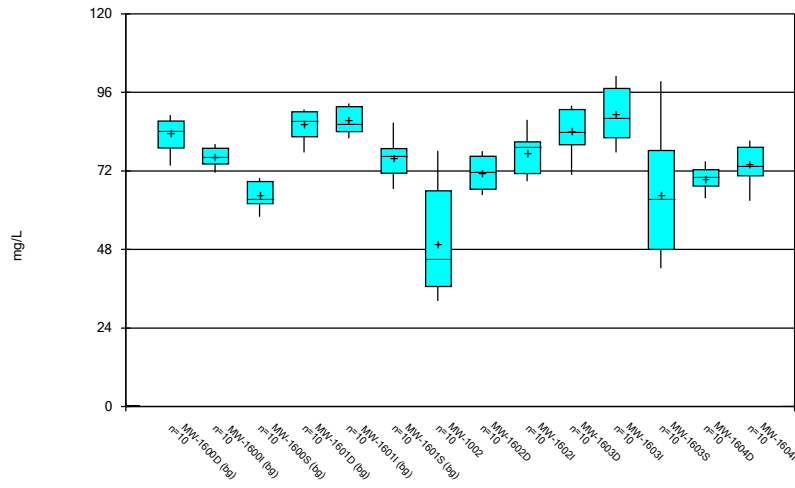
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### Box & Whiskers Plot



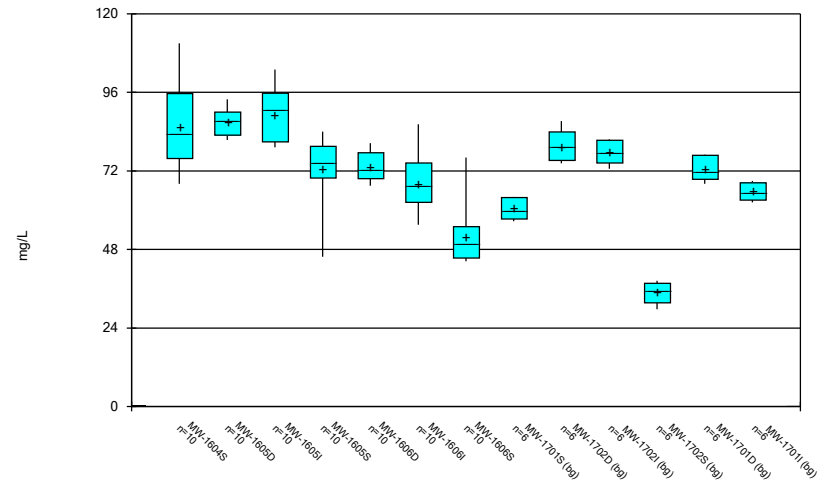
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Box & Whiskers Plot



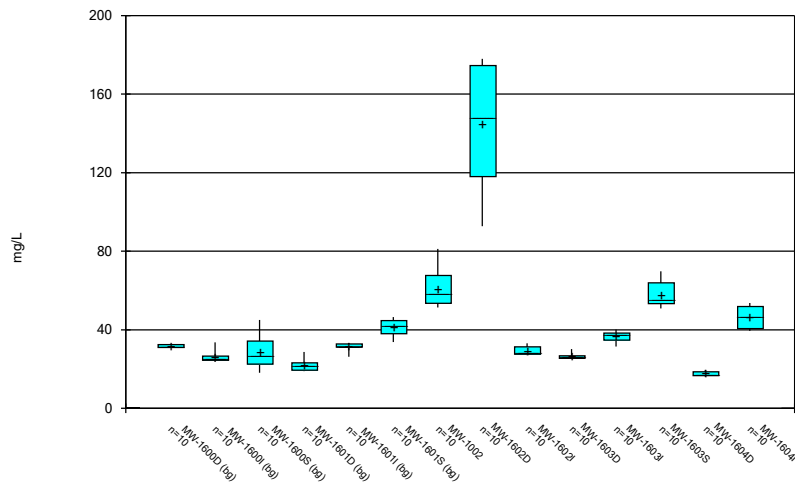
Constituent: Calcium, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



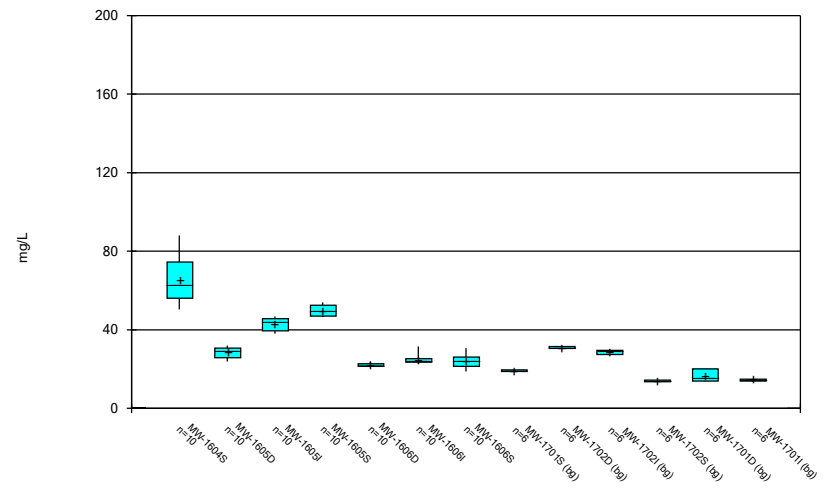
Constituent: Calcium, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



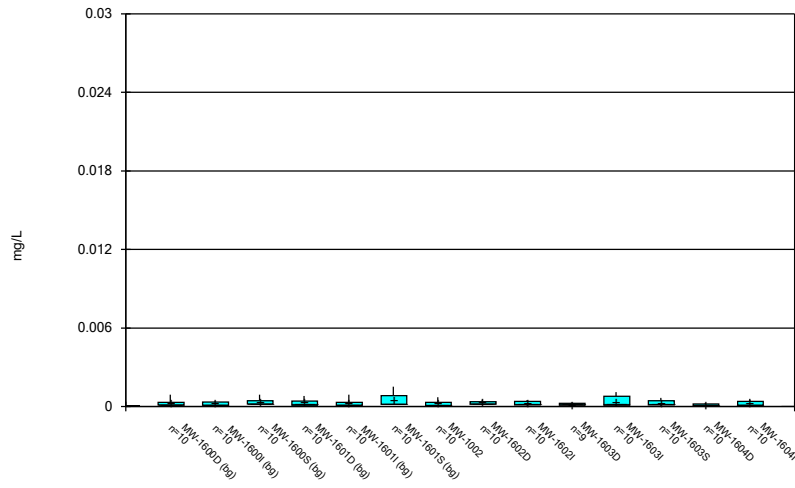
Constituent: Chloride, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



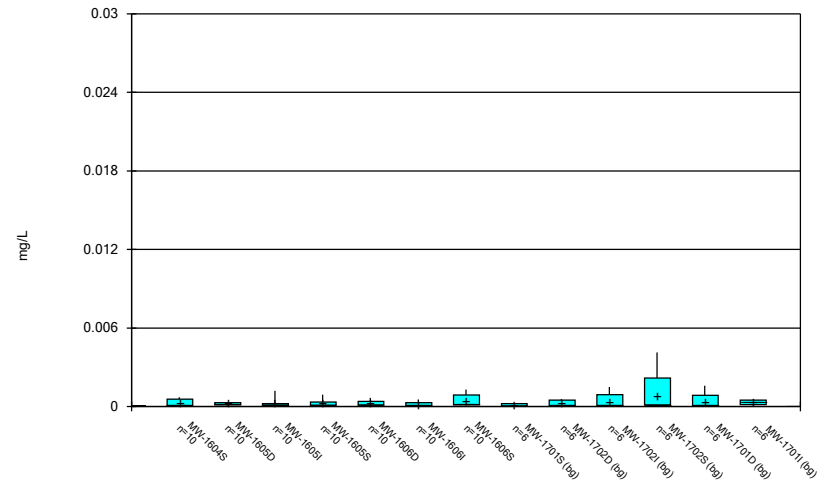
Constituent: Chloride, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



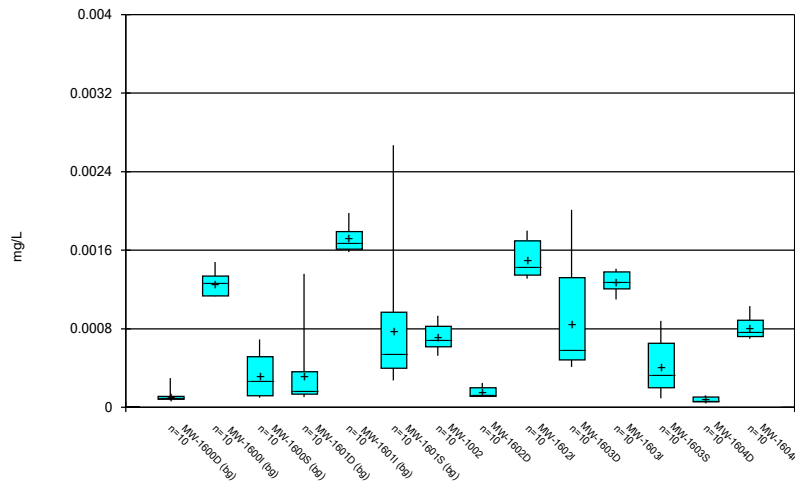
Constituent: Chromium, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



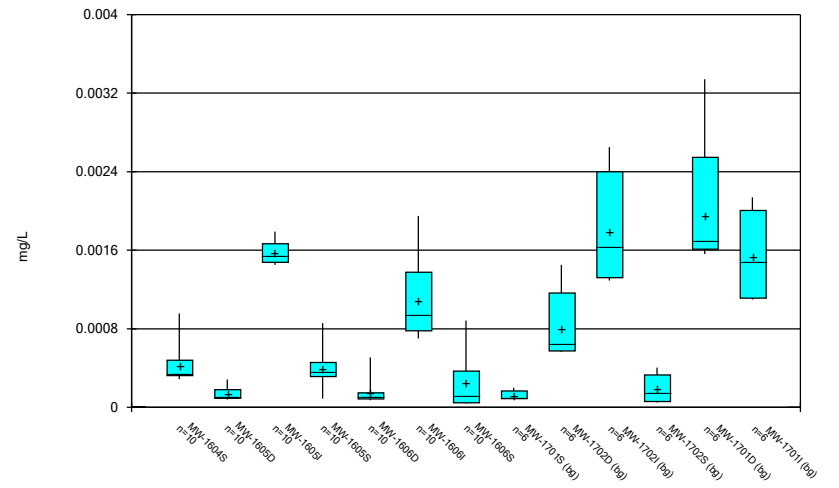
Constituent: Chromium, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



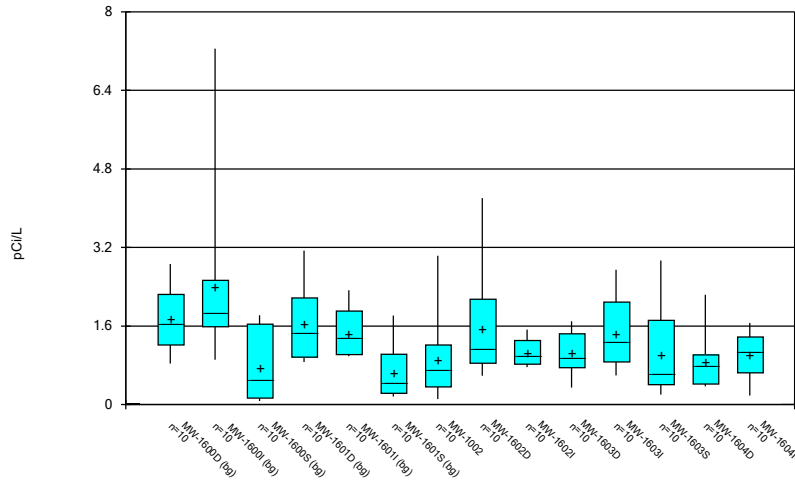
Constituent: Cobalt, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



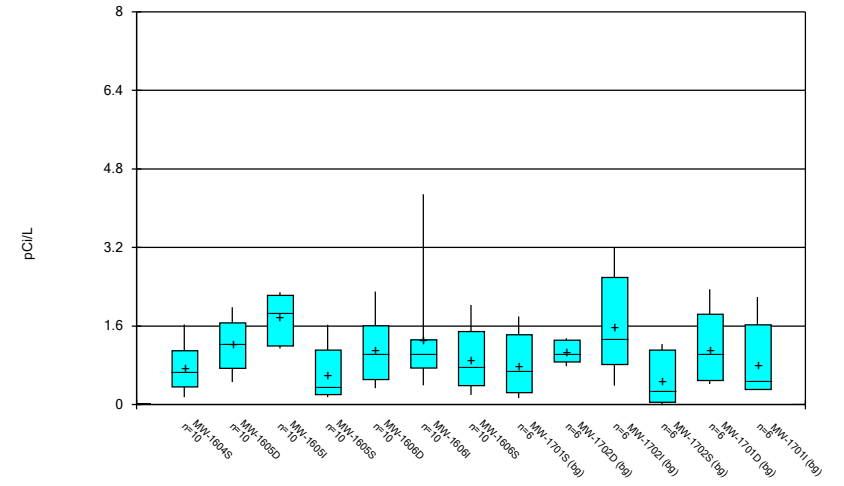
Constituent: Cobalt, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



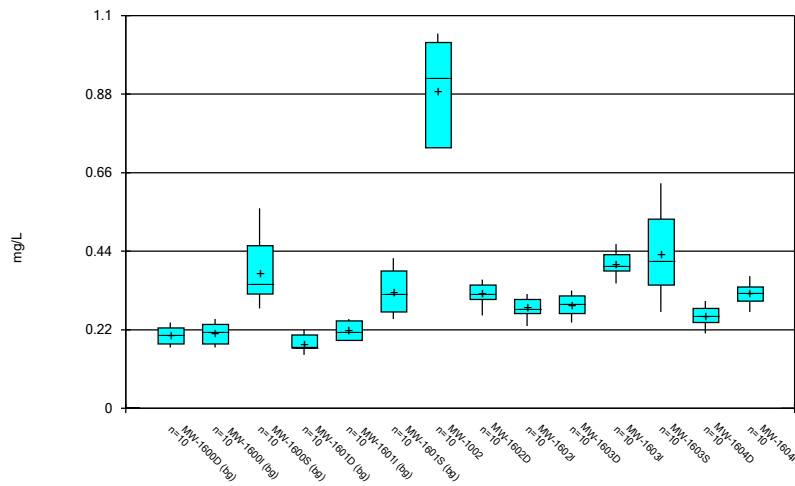
Constituent: Combined Radium 226 + 228 Analysis Run 12/24/2018 6:44 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



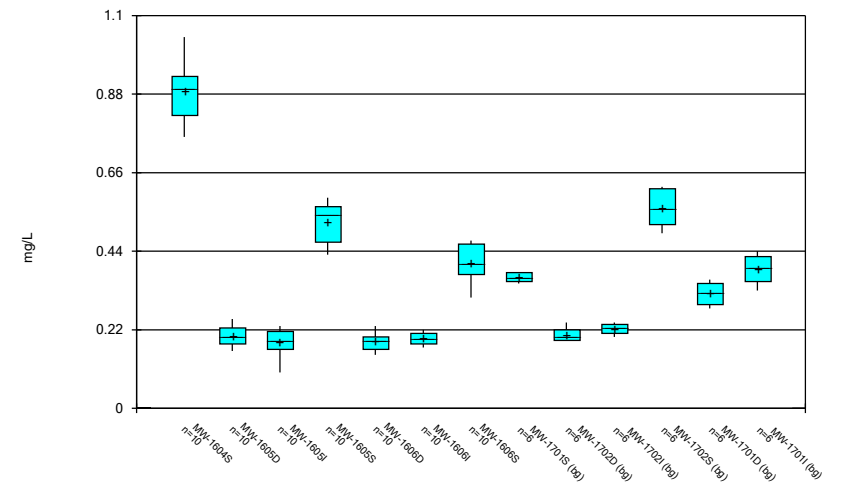
Constituent: Combined Radium 226 + 228 Analysis Run 12/24/2018 6:44 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



Constituent: Fluoride, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

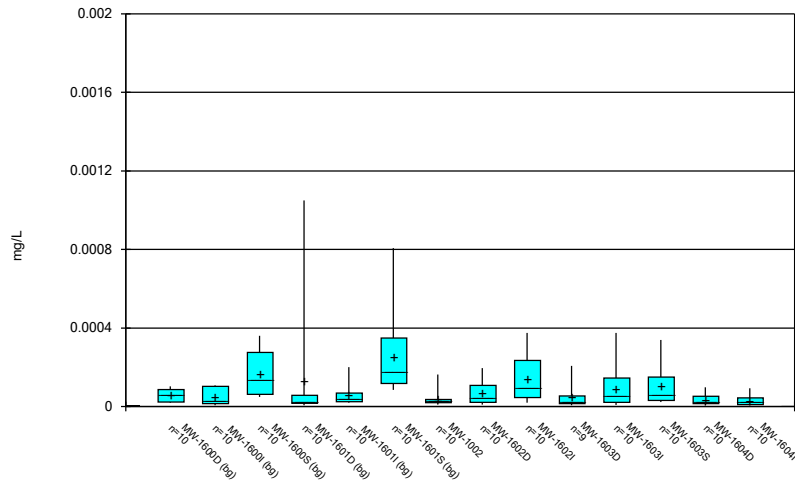
### Box & Whiskers Plot



Constituent: Fluoride, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

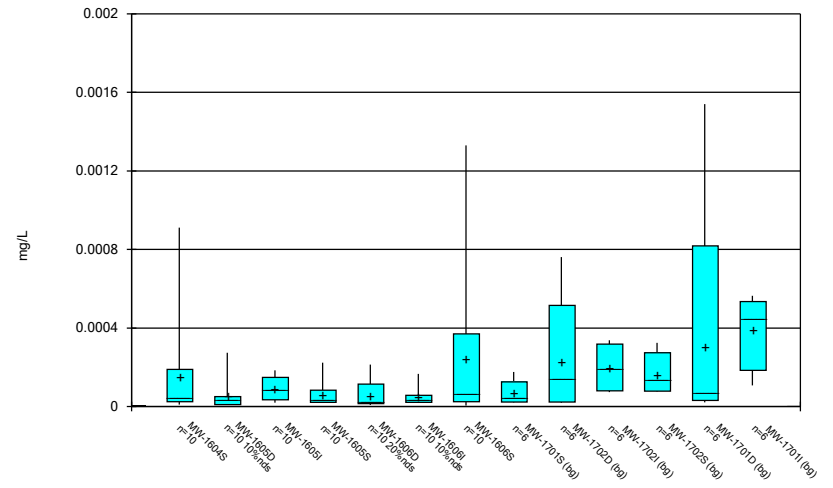


### Box & Whiskers Plot



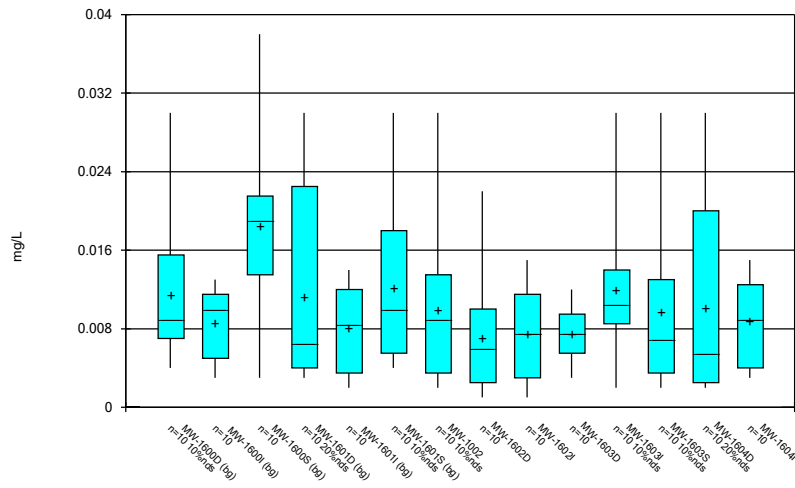
Constituent: Lead, total Analysis Run 12/24/2018 6:44 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



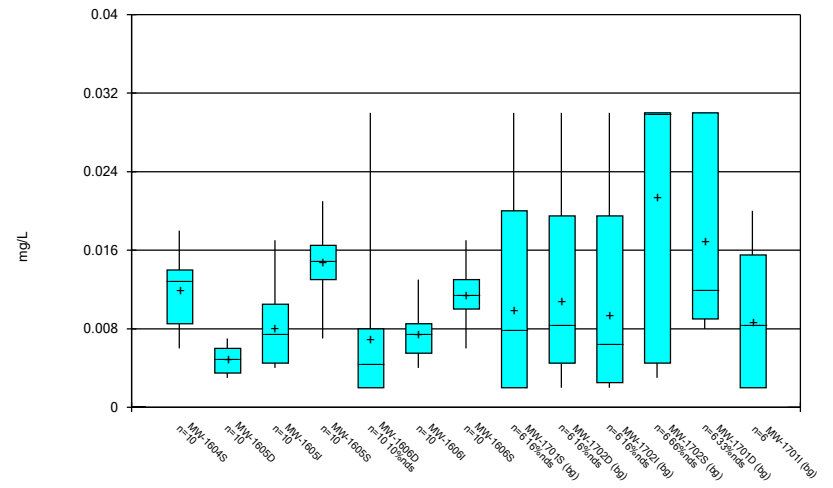
Constituent: Lead, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



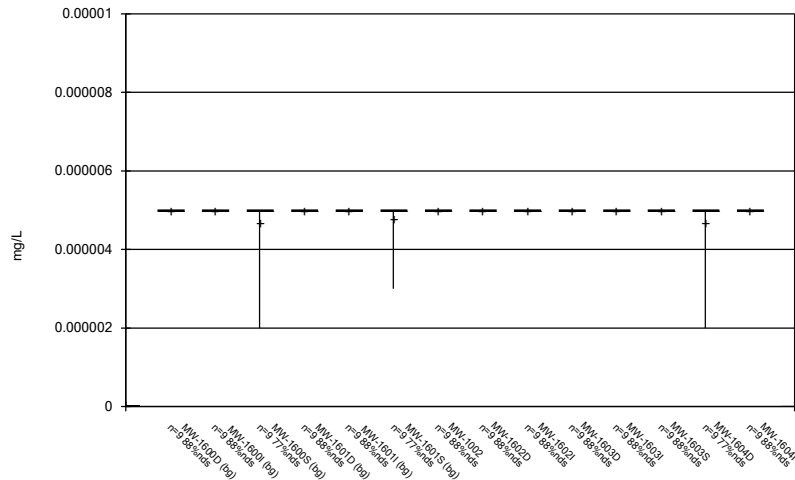
Constituent: Lithium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



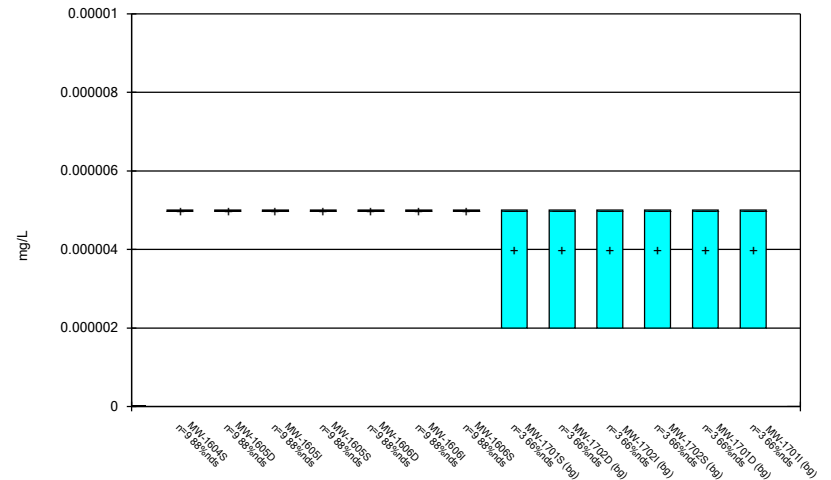
Constituent: Lithium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



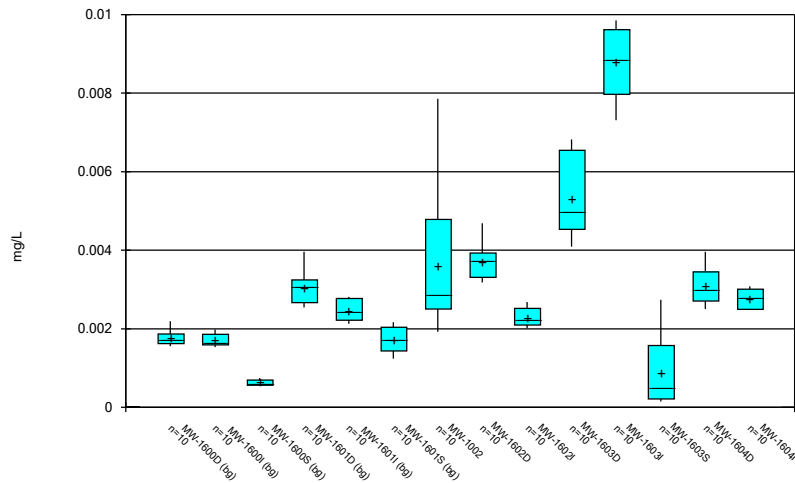
Constituent: Mercury, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



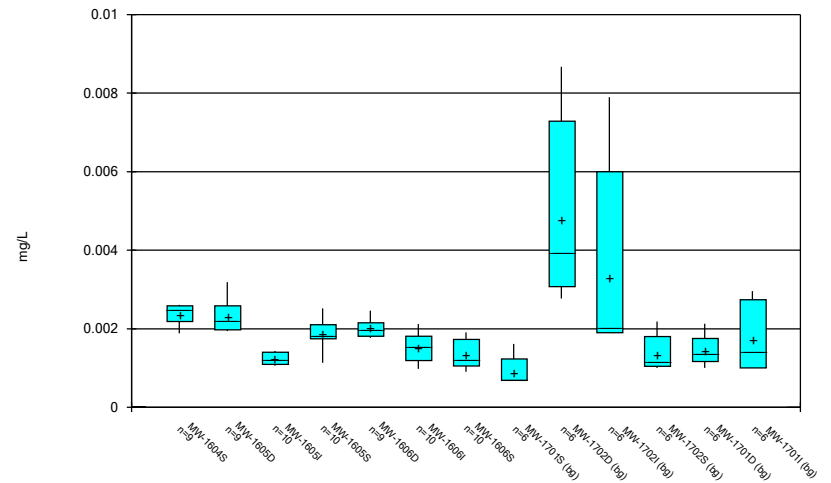
Constituent: Mercury, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



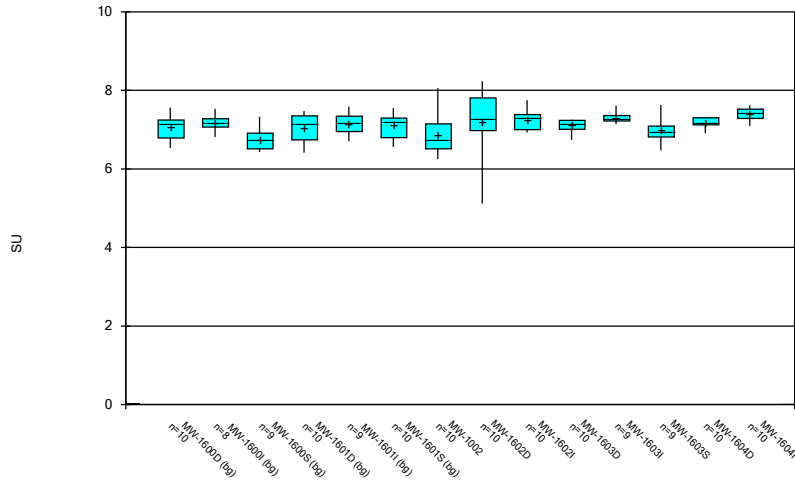
Constituent: Molybdenum, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



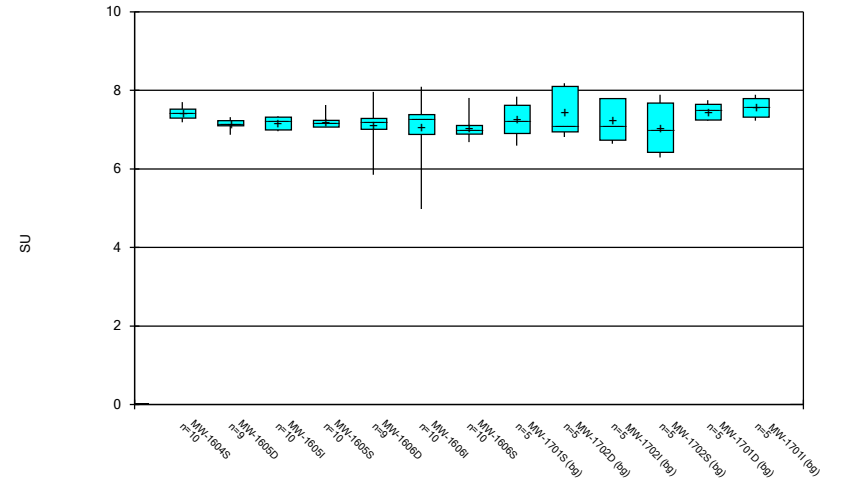
Constituent: Molybdenum, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



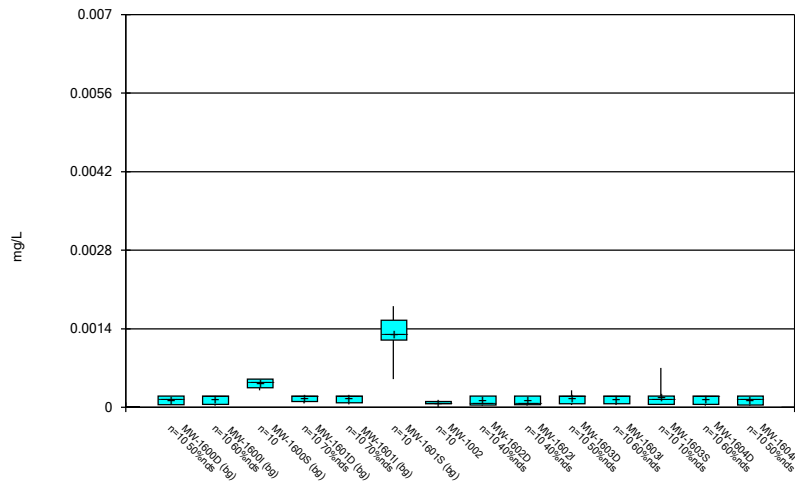
Constituent: pH, field Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



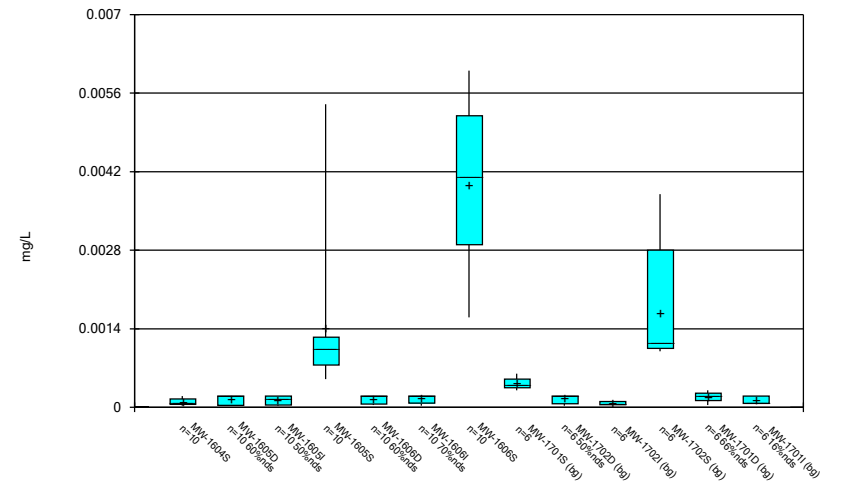
Constituent: pH, field Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



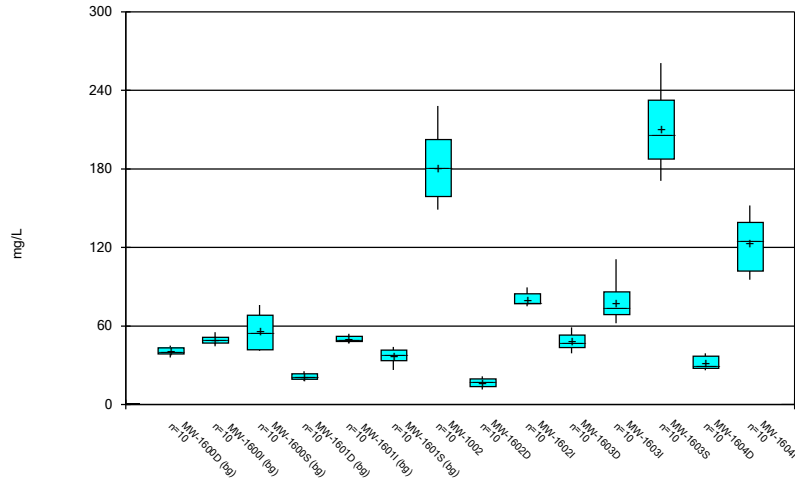
Constituent: Selenium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



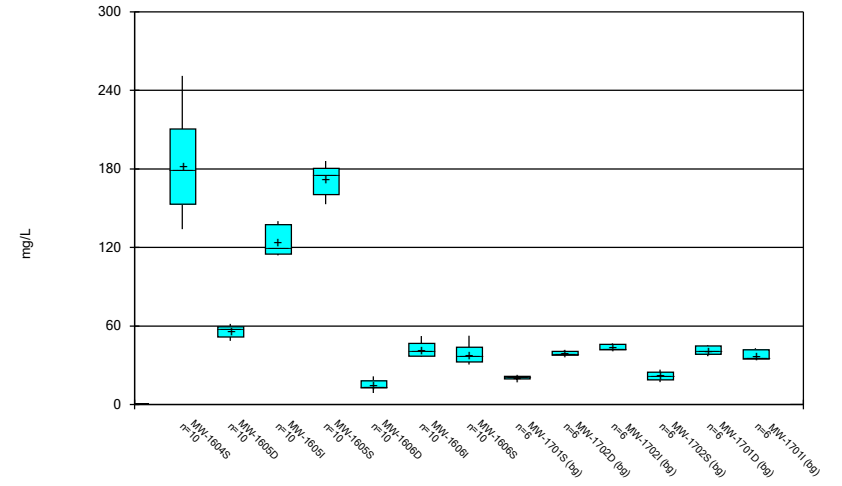
Constituent: Selenium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



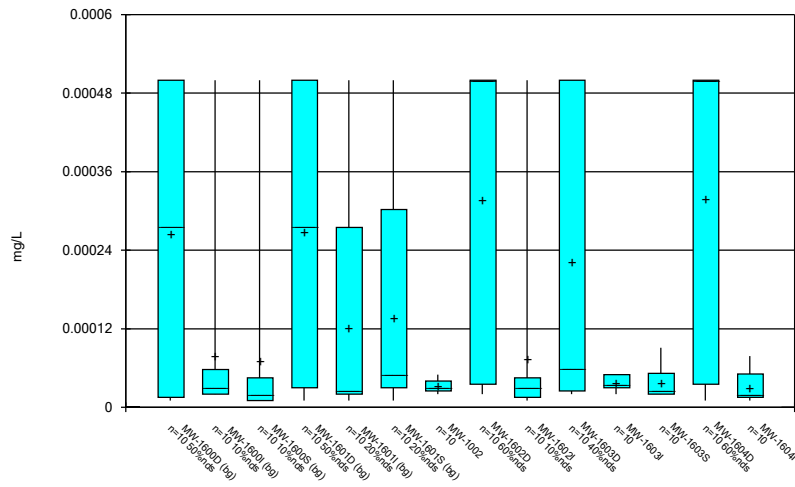
Constituent: Sulfate, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



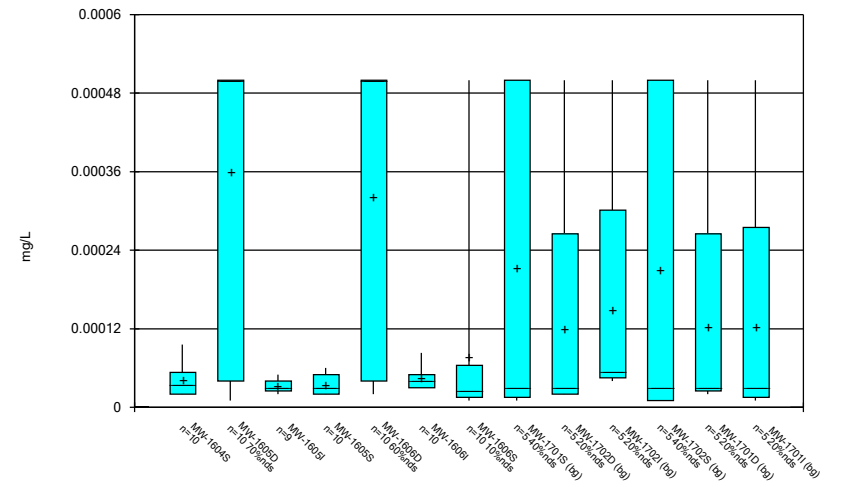
Constituent: Sulfate, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



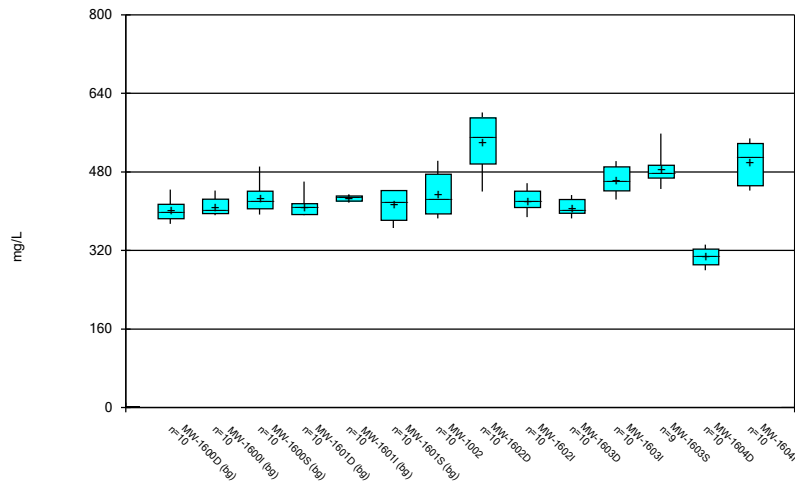
Constituent: Thallium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Box & Whiskers Plot



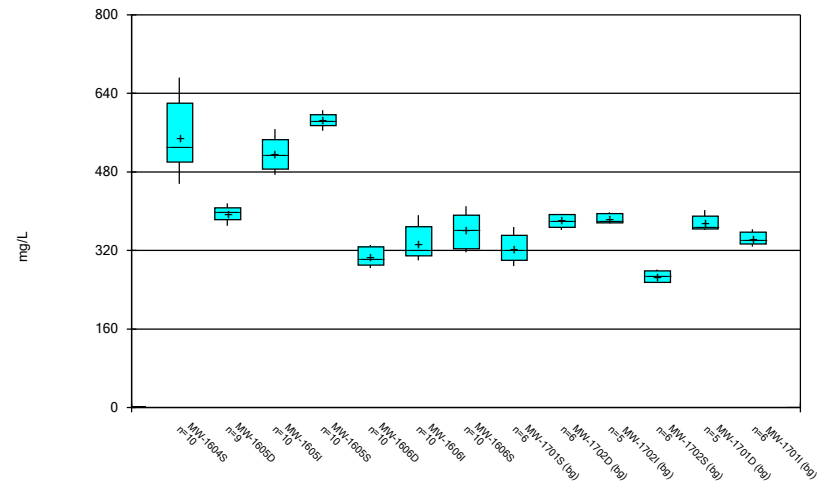
Constituent: Thallium, total Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/24/2018 6:45 PM View: Descriptive  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

# Outlier Summary

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 10:03 PM

MW-1604I Arsenic, total (mg/L) MW-1604I Cadmium, total (mg/L) MW-1603D Chromium, total (mg/L) MW-1604S Molybdenum, total (mg/L) MW-1600I pH, field (SU) MW-1600S pH, field (SU) MW-1601I pH, field (SU) MW-1603I pH, field (SU) MW-1603S pH, field (SU) MW-1605D pH, field (SU)

Date	MW-1604I Arsenic, total (mg/L)	MW-1604I Cadmium, total (mg/L)	MW-1603D Chromium, total (mg/L)	MW-1604S Molybdenum, total (mg/L)	MW-1600I pH, field (SU)	MW-1600S pH, field (SU)	MW-1601I pH, field (SU)	MW-1603I pH, field (SU)	MW-1603S pH, field (SU)	MW-1605D pH, field (SU)
6/7/2016	0.00012 (o)									
10/10/2016		0.0238 (o)								
11/15/2016			0.00479 (o)							
1/10/2017										
3/7/2017										
5/9/2017	0.0264 (o)									
7/17/2017				9.29 (o)	9.46 (o)	9.45 (o)	9.78 (o)	9.63 (o)		
7/18/2017									9.51 (o)	
6/4/2018										
6/5/2018										
6/6/2018										

MW-1606S pH, field (SU) MW-1606D Thallium, total (mg/L) MW-1603S Total Dissolved Solids [TDS] (mg/L) MW-1605D Total Dissolved Solids [TDS] (mg/L) MW-1702I Total Dissolved Solids [TDS] (mg/L) MW-1701D Total Dissolved Solids [TDS] (mg/L)

Date	MW-1606S pH, field (SU)	MW-1606D Thallium, total (mg/L)	MW-1603S Total Dissolved Solids [TDS] (mg/L)	MW-1605D Total Dissolved Solids [TDS] (mg/L)	MW-1702I Total Dissolved Solids [TDS] (mg/L)	MW-1701D Total Dissolved Solids [TDS] (mg/L)
6/7/2016						
10/10/2016						
11/15/2016						
1/10/2017	0.000124 (o)	794 (o)				
3/7/2017		581 (o)				
5/9/2017						
7/17/2017						
7/18/2017						
6/4/2018			760 (o)			
6/5/2018				700 (o)		
6/6/2018	7.81 (o)					

# Upgradient Wells Outlier Analysis - Significant Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/11/2018, 7:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Outlier/Value(s)</u>	<u>Date(s)</u>	<u>Method</u>	<u>Alpha N</u>	<u>Mean Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Total Dissolved Solids [TDS] (mg/L)	MW-1600D,MW-1600I...	Yes 760,254,256,700	n/a w/combined bg	NP	NaN 96	396.1 67.42	In(x)	ShapiroFrancia

# Upgradient Wells Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/11/2018, 7:19 AM

Constituent	Well	Outlier/Value(s)	Date(s)	Method	Alpha	Mean	Std. Dev.	Distribution	Normality Test
Antimony, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.00005958	0.00006784	ln(x)	ShapiroFrancia
Arsenic, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 98	0.01114	0.009638	sqrt(x)	ShapiroFrancia
Barium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.3337	0.339	ln(x)	ShapiroFrancia
Beryllium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.00006678	0.00004342	ln(x)	ShapiroFrancia
Boron, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.05774	0.03476	x^(1/3)	ShapiroFrancia
Cadmium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.00003231	0.00003641	ln(x)	ShapiroFrancia
Calcium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	73.81	13.56	x^4	ShapiroFrancia
Chloride, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	26.56	8.456	sqrt(x)	ShapiroFrancia
Chromium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.0003258	0.0004962	ln(x)	ShapiroFrancia
Cobalt, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.0008649	0.0007493	x^(1/3)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	1.258	0.9679	x^(1/3)	ShapiroFrancia
Fluoride, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.2877	0.1109	ln(x)	ShapiroFrancia
Lead, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.0001582	0.0002296	ln(x)	ShapiroFrancia
Lithium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.01009	0.005963	x^(1/3)	ShapiroFrancia
Mercury, total (mg/L)	MW-1600D,MW-1600I...	n/a n/a	n/a w/combined bg	NP	NaN 72	0.000004681	9.2e-7	unknown	ShapiroFrancia
Molybdenum, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.002015	0.001319	ln(x)	ShapiroFrancia
pH, field (SU)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 86	7.148	0.3999	x^(1/3)	ShapiroFrancia
Selenium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	0.0004071	0.0005576	ln(x)	ShapiroFrancia
Sulfate, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 96	39.17	12.3	normal	ShapiroFrancia
Thallium, total (mg/L)	MW-1600D,MW-1600I...	No n/a	n/a w/combined bg	NP	NaN 90	0.0001562	0.0002092	ln(x)	ShapiroFrancia
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1600D,MW-1600I...</b>	<b>Yes 760,254,256,700</b>	<b>n/a w/combined bg</b>	<b>NP</b>	<b>NaN 96</b>	<b>396.1</b>	<b>67.42</b>	<b>ln(x)</b>	<b>ShapiroFrancia</b>



# Intrawell Outlier Analysis - Significant Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:01 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic, total (mg/L)	MW-1604I	Yes 0.0264	NP	NaN	10	0.02012	0.002294	In(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1604I	Yes 0.00012	NP	NaN	10	0.0000274	0.000033	In(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1603D	Yes 0.0238	NP	NaN	10	0.002544	0.007469	In(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1604S	Yes 0.00479	NP	NaN	10	0.002615	0.0007993	In(x)	ShapiroWilk
pH, field (SU)	MW-1600I (bg)	Yes 9.29	NP	NaN	9	7.411	0.7315	In(x)	ShapiroWilk
pH, field (SU)	MW-1603I	Yes 9.78	NP	NaN	10	7.549	0.7949	In(x)	ShapiroWilk
pH, field (SU)	MW-1603S	Yes 9.63	NP	NaN	10	7.237	0.8919	In(x)	ShapiroWilk
pH, field (SU)	MW-1605D	Yes 9.51	NP	NaN	10	7.38	0.7579	In(x)	ShapiroWilk
pH, field (SU)	MW-1606S	Yes 7.81	NP	NaN	10	7.039	0.3007	In(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1606D	Yes 0.000124	NP	NaN	10	0.0000524	0.00002732	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1605D	Yes 794	NP	NaN	10	434.7	127	In(x)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:01 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.000051	0.000008756	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.000019	0.00001287	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.000048	0.00004077	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.000028	0.00002486	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.000042	0.00002201	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.000048	0.000009189	x^(1/3)	ShapiroWilk
Antimony, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.000023	0.00001337	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.000051	0.00006757	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.000068	0.000023	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.000018	0.00001229	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.000035	0.000009718	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.00005	0.00001886	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.000027	0.00001567	sqrt(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.000027	0.000009487	ln(x)	ShapiroWilk
Antimony, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.000054	0.00001265	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.000271	0.00006951	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.008528	0.0007571	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.02255	0.00709	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.01132	0.0008372	x^3	ShapiroWilk
Arsenic, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.01262	0.0003048	x^4	ShapiroWilk
Arsenic, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.000239	0.00006871	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.01743	0.001968	ln(x)	ShapiroWilk
<b>Arsenic, total (mg/L)</b>	<b>MW-1604I</b>	<b>Yes 0.0264</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>0.02012</b>	<b>0.002294</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Arsenic, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.00031	0.0001711	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.01844	0.0008618	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.01941	0.002607	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.000428	0.0001064	x^2	ShapiroWilk
Arsenic, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.01411	0.001359	sqrt(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.005108	0.001584	ln(x)	ShapiroWilk
Arsenic, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0003	0.0001276	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.02057	0.007711	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.4676	0.05659	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.1276	0.009312	x^(1/3)	ShapiroWilk
Barium, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.1117	0.006001	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.08426	0.00484	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.01545	0.003457	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.2424	0.016	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.1205	0.008263	x^4	ShapiroWilk
Barium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.01759	0.002714	x^2	ShapiroWilk
Barium, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.4397	0.03459	sqrt(x)	ShapiroWilk
Barium, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.1579	0.01407	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.008563	0.0009051	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.3847	0.02888	x^3	ShapiroWilk
Barium, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.056	0.01176	ln(x)	ShapiroWilk
Barium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.01183	0.002335	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.000017	0.000006342	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.0000149	0.000006707	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.0000147	0.000006961	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1603D	n/a n/a	NP	NaN	10	0.0000218	0.00001016	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1603I	n/a n/a	NP	NaN	10	0.000019	0.000003162	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.0000168	0.000005181	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1604D	n/a n/a	NP	NaN	10	0.0000184	0.00000506	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1604I	n/a n/a	NP	NaN	10	0.0000184	0.00000506	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.0000211	0.00001454	ln(x)	ShapiroWilk
Beryllium, total (mg/L)	MW-1605D	n/a n/a	NP	NaN	10	0.000019	0.000003162	unknown	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:01 AM

Constituent	Well	Outlier Value(s)		Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Beryllium, total (mg/L)	MW-1605I	n/a	n/a	NP	NaN	10	0.0000168	0.000006746	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1605S	n/a	n/a	NP	NaN	10	0.0000184	0.00000506	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1606D	No	n/a	NP	NaN	10	0.0000174	0.000008695	normal	ShapiroWilk
Beryllium, total (mg/L)	MW-1606I	n/a	n/a	NP	NaN	10	0.0000187	0.000004111	unknown	ShapiroWilk
Beryllium, total (mg/L)	MW-1606S	No	n/a	NP	NaN	10	0.0000153	0.000007273	x^2	ShapiroWilk
Boron, total (mg/L)	MW-1002	No	n/a	NP	NaN	10	1.546	0.2567	x^4	ShapiroWilk
Boron, total (mg/L)	MW-1602D	No	n/a	NP	NaN	10	0.074	0.01516	normal	ShapiroWilk
Boron, total (mg/L)	MW-1602I	No	n/a	NP	NaN	10	0.0613	0.02623	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1603D	No	n/a	NP	NaN	10	0.078	0.02598	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1603I	No	n/a	NP	NaN	10	0.1612	0.02347	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1603S	No	n/a	NP	NaN	10	1.779	0.3028	normal	ShapiroWilk
Boron, total (mg/L)	MW-1604D	No	n/a	NP	NaN	10	0.0414	0.02702	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1604I	No	n/a	NP	NaN	10	0.26	0.09307	sqrt(x)	ShapiroWilk
Boron, total (mg/L)	MW-1604S	No	n/a	NP	NaN	10	0.6145	0.09526	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1605D	No	n/a	NP	NaN	10	0.023	0.01099	normal	ShapiroWilk
Boron, total (mg/L)	MW-1605I	No	n/a	NP	NaN	10	0.054	0.04844	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1605S	No	n/a	NP	NaN	10	0.4575	0.1601	x^3	ShapiroWilk
Boron, total (mg/L)	MW-1606D	No	n/a	NP	NaN	10	0.0294	0.01796	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1606I	No	n/a	NP	NaN	10	0.0252	0.02117	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-1606S	No	n/a	NP	NaN	10	0.0838	0.1702	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1002	No	n/a	NP	NaN	10	0.000048	0.00003853	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1602D	n/a	n/a	NP	NaN	10	0.000024	0.00001647	unknown	ShapiroWilk
Cadmium, total (mg/L)	MW-1602I	No	n/a	NP	NaN	10	0.000012	0.000007008	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1603D	No	n/a	NP	NaN	10	0.0000176	0.000006931	normal	ShapiroWilk
Cadmium, total (mg/L)	MW-1603I	No	n/a	NP	NaN	10	0.0000171	0.000006154	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1603S	No	n/a	NP	NaN	10	0.000027	0.00001252	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1604D	No	n/a	NP	NaN	10	0.0000175	0.000005276	ln(x)	ShapiroWilk
<b>Cadmium, total (mg/L)</b>	<b>MW-1604I</b>	<b>Yes</b>	<b>0.00012</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>0.0000274</b>	<b>0.000033</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Cadmium, total (mg/L)	MW-1604S	No	n/a	NP	NaN	10	0.000026	0.00002319	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1605D	n/a	n/a	NP	NaN	10	0.0000186	0.000004427	unknown	ShapiroWilk
Cadmium, total (mg/L)	MW-1605I	No	n/a	NP	NaN	10	0.0000161	0.000006332	ln(x)	ShapiroWilk
Cadmium, total (mg/L)	MW-1605S	No	n/a	NP	NaN	10	0.000033	0.00000483	x^2	ShapiroWilk
Cadmium, total (mg/L)	MW-1606D	n/a	n/a	NP	NaN	10	0.0000187	0.000004111	unknown	ShapiroWilk
Cadmium, total (mg/L)	MW-1606I	No	n/a	NP	NaN	10	0.0000159	0.000006773	x^(1/3)	ShapiroWilk
Cadmium, total (mg/L)	MW-1606S	No	n/a	NP	NaN	10	0.000028	0.00001398	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1600D (bg)	No	n/a	NP	NaN	10	83.26	5.136	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-1600I (bg)	No	n/a	NP	NaN	10	76.39	2.722	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-1600S (bg)	No	n/a	NP	NaN	10	64.68	3.808	normal	ShapiroWilk
Calcium, total (mg/L)	MW-1601D (bg)	No	n/a	NP	NaN	10	86.37	4.448	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-1601I (bg)	No	n/a	NP	NaN	10	87.39	3.841	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1601S (bg)	No	n/a	NP	NaN	10	75.96	5.532	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1002	No	n/a	NP	NaN	10	49.71	16.21	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1602D	No	n/a	NP	NaN	10	71.46	4.708	normal	ShapiroWilk
Calcium, total (mg/L)	MW-1602I	No	n/a	NP	NaN	10	77.47	5.713	normal	ShapiroWilk
Calcium, total (mg/L)	MW-1603D	No	n/a	NP	NaN	10	84.08	6.7	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-1603I	No	n/a	NP	NaN	10	89.37	7.933	x^(1/3)	ShapiroWilk
Calcium, total (mg/L)	MW-1603S	No	n/a	NP	NaN	10	64.54	18.01	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1604D	No	n/a	NP	NaN	10	69.7	3.229	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-1604I	No	n/a	NP	NaN	10	74.06	5.468	x^5	ShapiroWilk
Calcium, total (mg/L)	MW-1604S	No	n/a	NP	NaN	10	85.3	12.59	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1605D	No	n/a	NP	NaN	10	86.87	3.999	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1605I	No	n/a	NP	NaN	10	89.21	7.982	x^(1/3)	ShapiroWilk
Calcium, total (mg/L)	MW-1605S	No	n/a	NP	NaN	10	72.73	10.62	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-1606D	No	n/a	NP	NaN	10	73.21	4.34	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1606I	No	n/a	NP	NaN	10	68.2	8.707	ln(x)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:02 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Calcium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	52.04	9.331	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1701S (bg)	No n/a	NP	NaN	6	60.4	3.028	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1702D (bg)	No n/a	NP	NaN	6	79.47	4.485	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1702I (bg)	No n/a	NP	NaN	6	77.8	3.419	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-1702S (bg)	No n/a	NP	NaN	6	34.95	3.055	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-1701D (bg)	No n/a	NP	NaN	6	72.63	3.455	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-1701I (bg)	No n/a	NP	NaN	6	65.63	2.452	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1002	No n/a	NP	NaN	10	60.8	9.729	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	144.9	29.72	x^2	ShapiroWilk
Chloride, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	29.25	2.053	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	26.38	1.409	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	36.4	2.471	x^4	ShapiroWilk
Chloride, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	57.76	6.303	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	17.59	1.138	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	46.36	5.294	normal	ShapiroWilk
Chloride, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	65.03	11.2	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	28.46	2.696	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	42.92	3.083	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	49.86	2.677	normal	ShapiroWilk
Chloride, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	22.06	0.9009	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	24.9	2.486	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	23.96	3.284	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.0002189	0.0001987	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.0002831	0.0001022	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.0002396	0.0001419	ln(x)	ShapiroWilk
<b>Chromium, total (mg/L)</b>	<b>MW-1603D</b>	<b>Yes 0.0238</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>0.002544</b>	<b>0.007469</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Chromium, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.0003694	0.0003739	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.0002785	0.0001866	x^(1/3)	ShapiroWilk
Chromium, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.0001432	0.00006939	normal	ShapiroWilk
Chromium, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.0002185	0.0001768	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.0002767	0.0002413	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.0002108	0.00009069	normal	ShapiroWilk
Chromium, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.0002412	0.0003414	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.0002553	0.0002482	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.0002337	0.0001993	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.0001852	0.0001555	ln(x)	ShapiroWilk
Chromium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0004383	0.0004529	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.0007163	0.0001233	sqrt(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.000153	0.00005125	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.001496	0.0001743	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.0008451	0.0005276	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.001281	0.00009723	x^3	ShapiroWilk
Cobalt, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.000407	0.0002551	x^(1/3)	ShapiroWilk
Cobalt, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.000077	0.00002574	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.0008089	0.000107	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.0004225	0.0002007	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.0001348	0.00006289	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.001567	0.0001095	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.0003947	0.0001928	sqrt(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.0001465	0.0001303	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.001082	0.0003878	ln(x)	ShapiroWilk
Cobalt, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0002406	0.0002638	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1002	No n/a	NP	NaN	10	0.9048	0.8314	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1602D	No n/a	NP	NaN	10	1.541	1.082	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1602I	No n/a	NP	NaN	10	1.042	0.2586	ln(x)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:02 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Combined Radium 226 + 228 (pCi/L)	MW-1603D	No n/a	NP	NaN	10	1.04	0.4163	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1603I	No n/a	NP	NaN	10	1.446	0.6912	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1603S	No n/a	NP	NaN	10	1.025	0.8767	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1604D	No n/a	NP	NaN	10	0.8532	0.5428	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1604I	No n/a	NP	NaN	10	1.001	0.4352	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1604S	No n/a	NP	NaN	10	0.741	0.4526	x^(1/3)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1605D	No n/a	NP	NaN	10	1.239	0.4988	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1605I	No n/a	NP	NaN	10	1.789	0.4625	x^3	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1605S	No n/a	NP	NaN	10	0.6091	0.513	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1606D	No n/a	NP	NaN	10	1.108	0.6502	x^(1/3)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1606I	No n/a	NP	NaN	10	1.304	1.088	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-1606S	No n/a	NP	NaN	10	0.9005	0.6132	x^(1/3)	ShapiroWilk
Fluoride, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.89	0.1441	x^6	ShapiroWilk
Fluoride, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.321	0.02923	x^5	ShapiroWilk
Fluoride, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.282	0.02573	x^3	ShapiroWilk
Fluoride, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.289	0.02846	x^3	ShapiroWilk
Fluoride, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.405	0.031	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.431	0.108	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.26	0.02539	x^3	ShapiroWilk
Fluoride, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.321	0.02807	x^2	ShapiroWilk
Fluoride, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.888	0.077	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.202	0.02741	sqrt(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.184	0.03658	x^3	ShapiroWilk
Fluoride, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.522	0.05574	x^6	ShapiroWilk
Fluoride, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.186	0.02271	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.196	0.01713	x^5	ShapiroWilk
Fluoride, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.409	0.04909	x^3	ShapiroWilk
Lead, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.0000394	0.00004416	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.0000645	0.00005752	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.0001383	0.000116	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.0001804	0.0004256	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.000092	0.0001113	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.0001002	0.00009764	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.0000333	0.00002799	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.0000292	0.00002587	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.0001541	0.0002802	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.0000538	0.0000789	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.0000929	0.0000566	sqrt(x)	ShapiroWilk
Lead, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.0000591	0.00006421	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.0000562	0.00006975	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.0000471	0.00004444	ln(x)	ShapiroWilk
Lead, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0002431	0.0004064	ln(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.0071	0.004725	sqrt(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.0071	0.006154	ln(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.0075	0.004528	normal	ShapiroWilk
Lithium, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.0075	0.002635	normal	ShapiroWilk
Lithium, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.0091	0.004606	x^2	ShapiroWilk
Lithium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.0068	0.004566	sqrt(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.0043	0.003268	ln(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.0088	0.004104	normal	ShapiroWilk
Lithium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.012	0.003528	normal	ShapiroWilk
Lithium, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.0049	0.00137	normal	ShapiroWilk
Lithium, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.0081	0.004067	ln(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.0148	0.003553	x^2	ShapiroWilk
Lithium, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.0041	0.002601	x^(1/3)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:02 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Lithium, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.0075	0.002461	ln(x)	ShapiroWilk
Lithium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0114	0.002836	normal	ShapiroWilk
Mercury, total (mg/L)	MW-1002	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1602D	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1602I	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1603D	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1603I	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1603S	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1604D	n/a n/a	NP	NaN	9	0.000004667	1.0e-6	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1604I	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1604S	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1605D	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1605I	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1605S	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1606D	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1606I	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Mercury, total (mg/L)	MW-1606S	n/a n/a	NP	NaN	9	0.000005	4.2e-14	unknown	ShapiroWilk
Molybdenum, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.003595	0.001894	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.003708	0.0004539	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.002278	0.0002272	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.005295	0.0009798	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.008805	0.000845	x^4	ShapiroWilk
Molybdenum, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.000856	0.0008488	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.003072	0.0004495	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.002762	0.0002343	x^4	ShapiroWilk
<b>Molybdenum, total (mg/L)</b>	<b>MW-1604S</b>	<b>Yes 0.00479</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>0.002615</b>	<b>0.0007993</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Molybdenum, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.002839	0.001736	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.001239	0.0001433	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.001862	0.0003565	normal	ShapiroWilk
Molybdenum, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.002205	0.0006047	ln(x)	ShapiroWilk
Molybdenum, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.001514	0.0003488	normal	ShapiroWilk
Molybdenum, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.00132	0.0003536	ln(x)	ShapiroWilk
pH, field (SU)	MW-1600D (bg)	No n/a	NP	NaN	10	7.07	0.3139	x^6	ShapiroWilk
<b>pH, field (SU)</b>	<b>MW-1600I (bg)</b>	<b>Yes 9.29</b>	<b>NP</b>	<b>NaN</b>	<b>9</b>	<b>7.411</b>	<b>0.7315</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
pH, field (SU)	MW-1600S (bg)	No n/a	NP	NaN	10	7.021	0.8985	ln(x)	ShapiroWilk
pH, field (SU)	MW-1601D (bg)	No n/a	NP	NaN	10	7.039	0.3485	x^6	ShapiroWilk
pH, field (SU)	MW-1601I (bg)	No n/a	NP	NaN	10	7.383	0.7704	ln(x)	ShapiroWilk
pH, field (SU)	MW-1601S (bg)	No n/a	NP	NaN	10	7.11	0.3006	x^6	ShapiroWilk
pH, field (SU)	MW-1002	No n/a	NP	NaN	10	6.87	0.5071	ln(x)	ShapiroWilk
pH, field (SU)	MW-1602D	No n/a	NP	NaN	10	7.191	0.8345	x^6	ShapiroWilk
pH, field (SU)	MW-1602I	No n/a	NP	NaN	10	7.246	0.2521	ln(x)	ShapiroWilk
pH, field (SU)	MW-1603D	No n/a	NP	NaN	10	7.109	0.1652	x^6	ShapiroWilk
<b>pH, field (SU)</b>	<b>MW-1603I</b>	<b>Yes 9.78</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>7.549</b>	<b>0.7949</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
<b>pH, field (SU)</b>	<b>MW-1603S</b>	<b>Yes 9.63</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>7.237</b>	<b>0.8919</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
pH, field (SU)	MW-1604D	No n/a	NP	NaN	10	7.18	0.1218	x^6	ShapiroWilk
pH, field (SU)	MW-1604I	No n/a	NP	NaN	10	7.398	0.1525	x^6	ShapiroWilk
pH, field (SU)	MW-1604S	No n/a	NP	NaN	10	7.416	0.1474	ln(x)	ShapiroWilk
<b>pH, field (SU)</b>	<b>MW-1605D</b>	<b>Yes 9.51</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>7.38</b>	<b>0.7579</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
pH, field (SU)	MW-1605I	No n/a	NP	NaN	10	7.185	0.1529	x^6	ShapiroWilk
pH, field (SU)	MW-1605S	No n/a	NP	NaN	10	7.202	0.1649	ln(x)	ShapiroWilk
pH, field (SU)	MW-1606D	No n/a	NP	NaN	10	7.238	0.6565	x^2	ShapiroWilk
pH, field (SU)	MW-1606I	No n/a	NP	NaN	10	7.07	0.8102	x^6	ShapiroWilk
<b>pH, field (SU)</b>	<b>MW-1606S</b>	<b>Yes 7.81</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>7.039</b>	<b>0.3007</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
pH, field (SU)	MW-1701S (bg)	No n/a	NP	NaN	5	7.26	0.4491	x^4	ShapiroWilk
pH, field (SU)	MW-1702D (bg)	No n/a	NP	NaN	5	7.442	0.6188	ln(x)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:02 AM

Constituent	Well	Outlier Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
pH, field (SU)	MW-17021 (bg)	No n/a	NP	NaN	5	7.23	0.5412	ln(x)	ShapiroWilk
pH, field (SU)	MW-1702S (bg)	No n/a	NP	NaN	5	7.04	0.6541	ln(x)	ShapiroWilk
pH, field (SU)	MW-1701D (bg)	No n/a	NP	NaN	5	7.462	0.217	x^5	ShapiroWilk
pH, field (SU)	MW-17011 (bg)	No n/a	NP	NaN	5	7.564	0.2553	x^3	ShapiroWilk
Selenium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.000082	0.00001687	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.000071	0.00003143	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.000075	0.00002838	x^(1/3)	ShapiroWilk
Selenium, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.000107	0.00007212	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.000086	0.00002366	sqrt(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.00017	0.0001976	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.000083	0.0000283	x^(1/3)	ShapiroWilk
Selenium, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.000078	0.00003048	normal	ShapiroWilk
Selenium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.00009	0.00006074	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.00008	0.00003232	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.000078	0.00003011	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.00141	0.001424	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	0.000085	0.00002461	ln(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.000088	0.00002573	sqrt(x)	ShapiroWilk
Selenium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.00398	0.001351	normal	ShapiroWilk
Sulfate, total (mg/L)	MW-1002	No n/a	NP	NaN	10	180.9	25.3	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	16.84	3.198	x^2	ShapiroWilk
Sulfate, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	79.92	4.668	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	48.25	5.952	x^(1/3)	ShapiroWilk
Sulfate, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	77.78	13.96	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	210	27.63	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	31.5	4.639	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	122.9	19.49	x^2	ShapiroWilk
Sulfate, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	182.8	36.55	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	56.06	4.354	x^6	ShapiroWilk
Sulfate, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	124.4	10.72	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	172.1	11.22	x^6	ShapiroWilk
Sulfate, total (mg/L)	MW-1606D	No n/a	NP	NaN	10	14.71	3.709	x^(1/3)	ShapiroWilk
Sulfate, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	41.82	5.598	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	38.3	6.972	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1002	No n/a	NP	NaN	10	0.000033	0.000009487	normal	ShapiroWilk
Thallium, total (mg/L)	MW-1602D	No n/a	NP	NaN	10	0.0000456	0.00001439	x^2	ShapiroWilk
Thallium, total (mg/L)	MW-1602I	No n/a	NP	NaN	10	0.000029	0.00001449	sqrt(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1603D	No n/a	NP	NaN	10	0.0000428	0.0000153	normal	ShapiroWilk
Thallium, total (mg/L)	MW-1603I	No n/a	NP	NaN	10	0.000037	0.00001059	x^(1/3)	ShapiroWilk
Thallium, total (mg/L)	MW-1603S	No n/a	NP	NaN	10	0.0000365	0.00002327	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1604D	No n/a	NP	NaN	10	0.0000475	0.00002227	sqrt(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1604I	No n/a	NP	NaN	10	0.00003	0.00002233	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1604S	No n/a	NP	NaN	10	0.0000413	0.00002359	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1605D	No n/a	NP	NaN	10	0.000044	0.0000135	x^2	ShapiroWilk
Thallium, total (mg/L)	MW-1605I	No n/a	NP	NaN	10	0.0000473	0.00004855	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1605S	No n/a	NP	NaN	10	0.000034	0.0000143	ln(x)	ShapiroWilk
<b>Thallium, total (mg/L)</b>	<b>MW-1606D</b>	<b>Yes 0.000124</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>0.0000524</b>	<b>0.00002732</b>	<b>ln(x)</b>	<b>ShapiroWilk</b>
Thallium, total (mg/L)	MW-1606I	No n/a	NP	NaN	10	0.0000443	0.00001586	ln(x)	ShapiroWilk
Thallium, total (mg/L)	MW-1606S	No n/a	NP	NaN	10	0.0000318	0.00002153	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1002	No n/a	NP	NaN	10	432.8	41.82	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1602D	No n/a	NP	NaN	10	541.6	54.78	x^5	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1602I	No n/a	NP	NaN	10	421.9	20.78	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1603D	No n/a	NP	NaN	10	407.5	15.59	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1603I	No n/a	NP	NaN	10	464.5	26.05	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1603S	No n/a	NP	NaN	10	494.7	42.5	ln(x)	ShapiroWilk

# Intrawell Outlier Analysis - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:02 AM

<u>Constituent</u>	<u>Well</u>	<u>Outlier Value(s)</u>	<u>Method</u>	<u>Alpha</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Total Dissolved Solids [TDS] (mg/L)	MW-1604D	No n/a	NP	NaN	10	308.1	16.78	x^5	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1604I	No n/a	NP	NaN	10	500.4	40.04	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1604S	No n/a	NP	NaN	10	549.6	69.87	In(x)	ShapiroWilk
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1605D</b>	<b>Yes 794</b>	<b>NP</b>	<b>NaN</b>	<b>10</b>	<b>434.7</b>	<b>127</b>	<b>In(x)</b>	<b>ShapiroWilk</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1605I	No n/a	NP	NaN	10	516.8	31.13	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1605S	No n/a	NP	NaN	10	585.6	12.65	x^3	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1606D	No n/a	NP	NaN	10	306.3	17.01	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1606I	No n/a	NP	NaN	10	333.3	32.61	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-1606S	No n/a	NP	NaN	10	361	32.91	x^3	ShapiroWilk



# Trend Test Summary Table - Significant Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:49 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron, total (mg/L)	MW-1600D (bg)	0.03318	33	30	Yes	10	10	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1601S (bg)	-5.154	-39	-30	Yes	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1604D	-1.398	-37	-30	Yes	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1605D	-3.304	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1605I	-4.091	-38	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1603D	-7.3	-39	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1604D	-5.591	-41	-30	Yes	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1603I	-32.83	-35	-30	Yes	10	0	n/a	n/a	0.01	NP

# Trend Test Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:49 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
<b>Boron, total (mg/L)</b>	<b>MW-1600D (bg)</b>	<b>0.03318</b>	<b>33</b>	<b>30</b>	<b>Yes</b>	<b>10</b>	<b>10</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Boron, total (mg/L)	MW-1600I (bg)	0.01892	27	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1600S (bg)	0.02054	20	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1601D (bg)	0.02964	25	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1601I (bg)	0.01406	23	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1601S (bg)	0.008449	1	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1002	-0.2267	-12	-30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1602D	0.01634	21	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1602I	0.01825	23	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1603D	0.009835	15	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1603I	0	0	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1603S	-0.06857	-10	-30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1604D	0.01577	19	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1604I	0.03855	11	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1604S	-0.03585	-11	-30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1605D	0.002365	10	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1605I	0.03619	27	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1605S	-0.01228	-7	-30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1606D	0.009288	13	30	No	10	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1606I	0.01505	25	30	No	10	10	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1606S	0.02907	22	30	No	10	10	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1701S (bg)	0.02203	7	14	No	6	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1702D (bg)	-0.01141	-1	-14	No	6	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1702I (bg)	0.0347	9	14	No	6	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1702S (bg)	0.01678	3	14	No	6	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1701D (bg)	0.01973	3	14	No	6	0	n/a	n/a	0.01	NP
Boron, total (mg/L)	MW-1701I (bg)	-0.01973	-1	-14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1600D (bg)	1.42	8	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1600I (bg)	-1.705	-10	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1600S (bg)	-2.197	-14	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1601D (bg)	0.3067	1	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1601I (bg)	1.456	7	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1601S (bg)	-0.09035	-1	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1002	10.6	17	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1602D	-3.339	-11	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1602I	-2.923	-17	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1603D	4.007	13	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1603I	-8.318	-21	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1603S	10.71	5	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1604D	-1.285	-9	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1604I	-3.042	-11	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1604S	5.558	7	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1605D	0.4834	3	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1605I	-6.922	-17	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1605S	-7.21	-19	-30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1606D	3.051	16	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1606I	7.201	15	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1606S	1.896	5	30	No	10	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1701S (bg)	6.535	9	14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1702D (bg)	9.535	13	14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1702I (bg)	8.721	10	14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1702S (bg)	1.474	1	14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1701D (bg)	5.344	3	14	No	6	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	MW-1701I (bg)	3.724	3	14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1600D (bg)	0.3197	14	30	No	10	0	n/a	n/a	0.01	NP

# Trend Test Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:49 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Chloride, total (mg/L)	MW-1600I (bg)	-0.6063	-9	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1600S (bg)	3.517	3	30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1601D (bg)	0.2411	2	30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1601I (bg)	-0.2483	-6	-30	No	10	0	n/a	n/a	0.01	NP
<b>Chloride, total (mg/L)</b>	<b>MW-1601S (bg)</b>	<b>-5.154</b>	<b>-39</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride, total (mg/L)	MW-1002	-0.1926	-1	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1602D	-23.43	-17	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1602I	-2.393	-25	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1603D	-0.4244	-8	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1603I	-2.401	-21	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1603S	0.3719	1	30	No	10	0	n/a	n/a	0.01	NP
<b>Chloride, total (mg/L)</b>	<b>MW-1604D</b>	<b>-1.398</b>	<b>-37</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride, total (mg/L)	MW-1604I	-4.146	-17	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1604S	5.898	15	30	No	10	0	n/a	n/a	0.01	NP
<b>Chloride, total (mg/L)</b>	<b>MW-1605D</b>	<b>-3.304</b>	<b>-35</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Chloride, total (mg/L)</b>	<b>MW-1605I</b>	<b>-4.091</b>	<b>-38</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Chloride, total (mg/L)	MW-1605S	-3.154	-28	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1606D	1.089	29	30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1606I	-0.1342	-1	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1606S	-1.591	-9	-30	No	10	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1701S (bg)	0.9563	8	14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1702D (bg)	0.6801	7	14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1702I (bg)	2.842	13	14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1702S (bg)	0.2992	6	14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1701D (bg)	-5.344	-3	-14	No	6	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	MW-1701I (bg)	1.469	10	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1600D (bg)	0.01093	10	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1600I (bg)	0.005328	5	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1600S (bg)	0.08902	24	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1601D (bg)	0	-11	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1601I (bg)	0	5	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1601S (bg)	0.02893	3	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1002	-0.06404	-17	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1602D	-0.0229	-13	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1602I	-0.02173	-14	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1603D	-0.03259	-23	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1603I	0.01061	6	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1603S	-0.06791	-5	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1604D	-0.02483	-16	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1604I	0	0	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1604S	0.004574	1	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1605D	-0.03183	-21	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1605I	-0.02139	-12	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1605S	0	3	30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1606D	-0.03029	-15	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1606I	-0.005313	-10	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1606S	0	-1	-30	No	10	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1701S (bg)	0.02776	9	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1702D (bg)	0.01134	5	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1702I (bg)	0.02992	7	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1702S (bg)	0.06359	1	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1701D (bg)	0.04803	5	14	No	6	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	MW-1701I (bg)	0.04803	7	14	No	6	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1600D (bg)	-0.237	-18	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1600I (bg)	-0.08088	-4	-25	No	9	0	n/a	n/a	0.01	NP

# Trend Test Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:49 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
pH, field (SU)	MW-1600S (bg)	0.2475	21	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1601D (bg)	-0.4745	-25	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1601I (bg)	0.03375	3	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1601S (bg)	-0.1509	-11	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1002	0.1233	3	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1602D	-0.07662	-3	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1602I	0.004828	3	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1603D	0	-1	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1603I	0.06907	13	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1603S	-0.07725	-1	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1604D	0.0899	14	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1604I	0.07019	9	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1604S	0.1051	12	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1605D	0.06366	12	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1605I	0.02626	8	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1605S	0	-1	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1606D	0.3135	17	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1606I	0.4697	15	30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1606S	-0.0216	-5	-30	No	10	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1701S (bg)	-1.006	-8	-12	No	5	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1702D (bg)	0.02404	0	12	No	5	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1702I (bg)	-0.4453	0	12	No	5	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1702S (bg)	-1.018	-2	-12	No	5	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1701D (bg)	0.613	4	12	No	5	0	n/a	n/a	0.01	NP
pH, field (SU)	MW-1701I (bg)	0.4268	2	12	No	5	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1600D (bg)	-1.02	-6	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1600I (bg)	0.158	1	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1600S (bg)	-16.25	-29	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1601D (bg)	1.217	7	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1601I (bg)	0	2	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1601S (bg)	-3.613	-9	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1002	30.08	19	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1602D	0.4656	5	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1602I	-4.148	-26	-30	No	10	0	n/a	n/a	0.01	NP
<b>Sulfate, total (mg/L)</b>	<b>MW-1603D</b>	<b>-7.3</b>	<b>-39</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Sulfate, total (mg/L)	MW-1603I	-8.985	-23	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1603S	21.09	18	30	No	10	0	n/a	n/a	0.01	NP
<b>Sulfate, total (mg/L)</b>	<b>MW-1604D</b>	<b>-5.591</b>	<b>-41</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Sulfate, total (mg/L)	MW-1604I	-13	-12	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1604S	0.4834	2	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1605D	-3.722	-15	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1605I	-11.41	-21	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1605S	-6.518	-7	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1606D	2.355	16	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1606I	0.4834	3	30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1606S	-1.304	-3	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1701S (bg)	-2.342	-11	-14	No	6	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1702D (bg)	-4.443	-12	-14	No	6	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1702I (bg)	-4.451	-8	-14	No	6	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1702S (bg)	-6.348	-11	-14	No	6	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1701D (bg)	-3.752	-1	-14	No	6	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	MW-1701I (bg)	-7.274	-10	-14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1600D (bg)	-8.608	-11	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1600I (bg)	-9.311	-13	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1600S (bg)	-18.56	-19	-30	No	10	0	n/a	n/a	0.01	NP

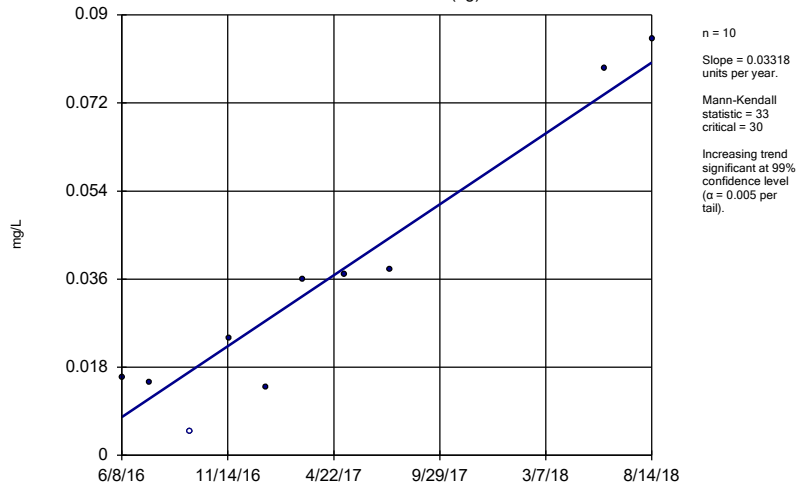
# Trend Test Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 7:49 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Total Dissolved Solids [TDS] (mg/L)	MW-1601D (bg)	-16.14	-18	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1601I (bg)	-2.407	-10	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1601S (bg)	-31.36	-18	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1002	34.01	23	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1602D	-45.86	-15	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1602I	-12.43	-17	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1603D	-15.61	-21	-30	No	10	0	n/a	n/a	0.01	NP
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1603I</b>	<b>-32.83</b>	<b>-35</b>	<b>-30</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1603S	24.86	19	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1604D	-2.674	-1	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1604I	-26	-17	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1604S	21.65	13	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1605D	-9.012	-8	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1605I	-29.41	-21	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1605S	-1.37	-3	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1606D	17.82	26	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1606I	19.04	13	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1606S	-19.05	-8	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1701S (bg)	-28.69	-3	-14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1702D (bg)	35.99	11	14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1702I (bg)	18.14	7	14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1702S (bg)	-20.86	-5	-14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1701D (bg)	-33.62	-9	-14	No	6	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MW-1701I (bg)	-20.86	-2	-14	No	6	0	n/a	n/a	0.01	NP

### Sen's Slope Estimator

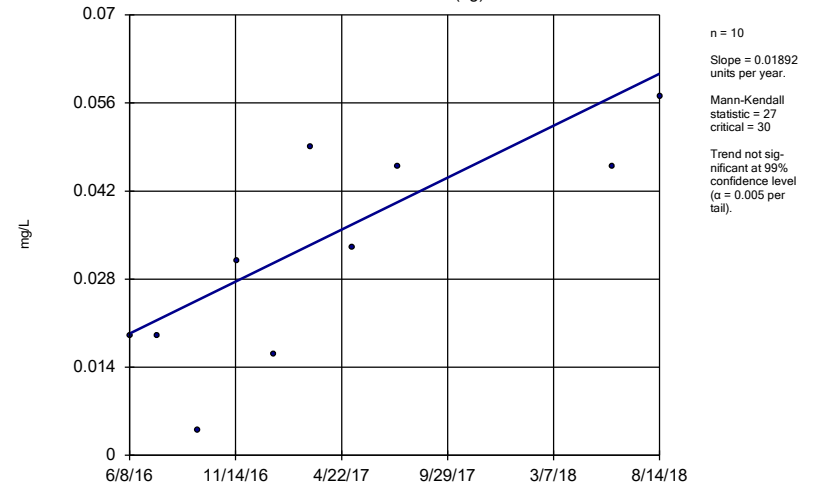
MW-1600D (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

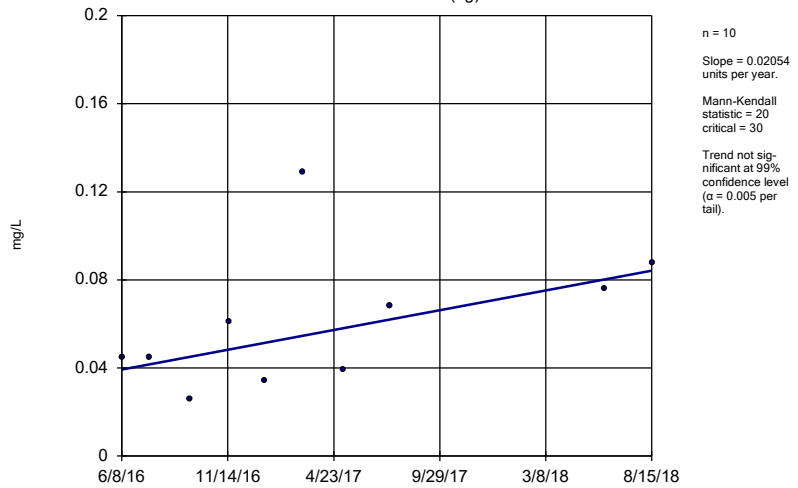
MW-1600I (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

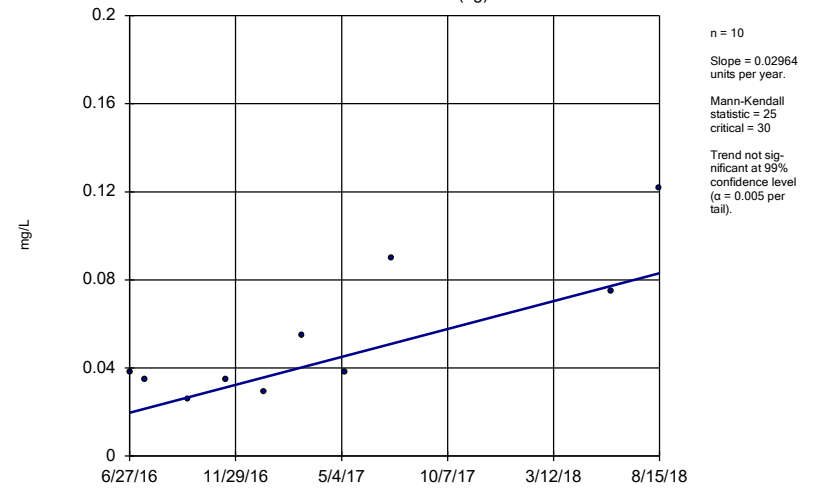
MW-1600S (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

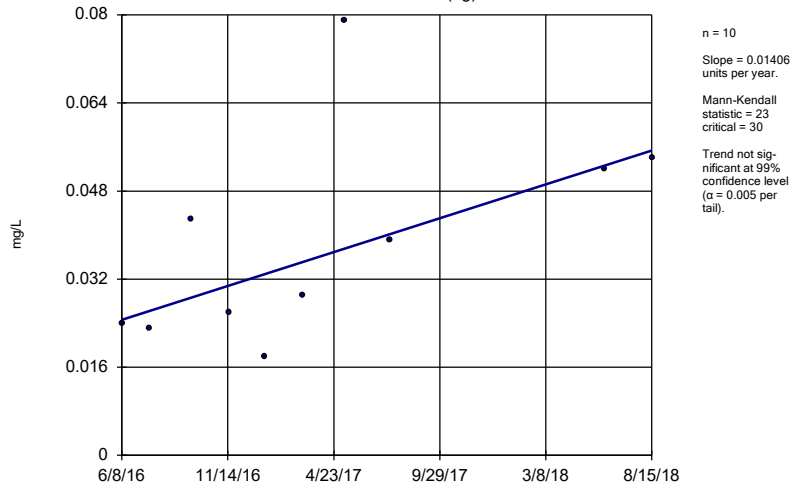
MW-1601D (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

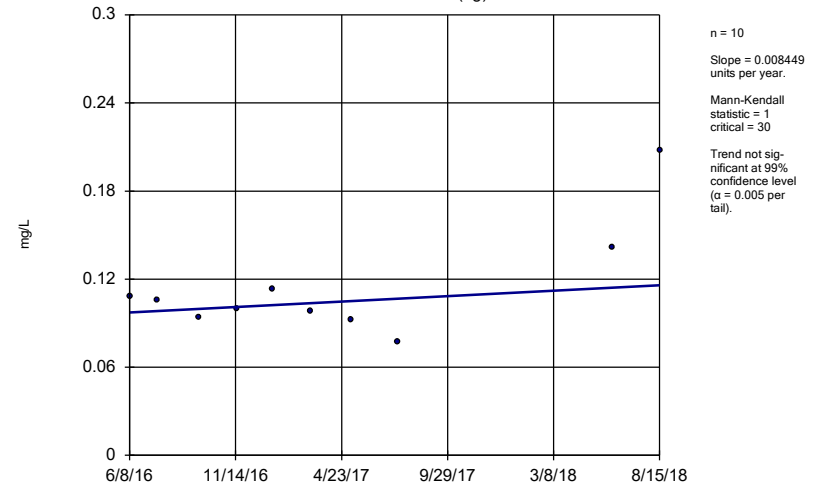
MW-16011 (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

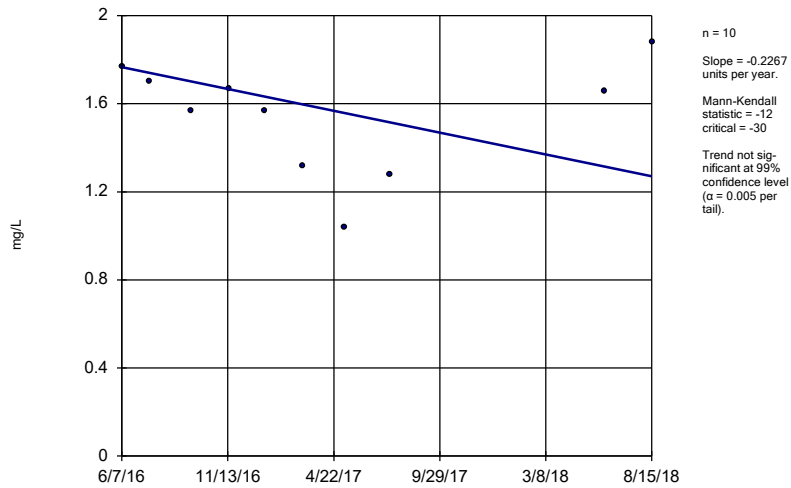
MW-1601S (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

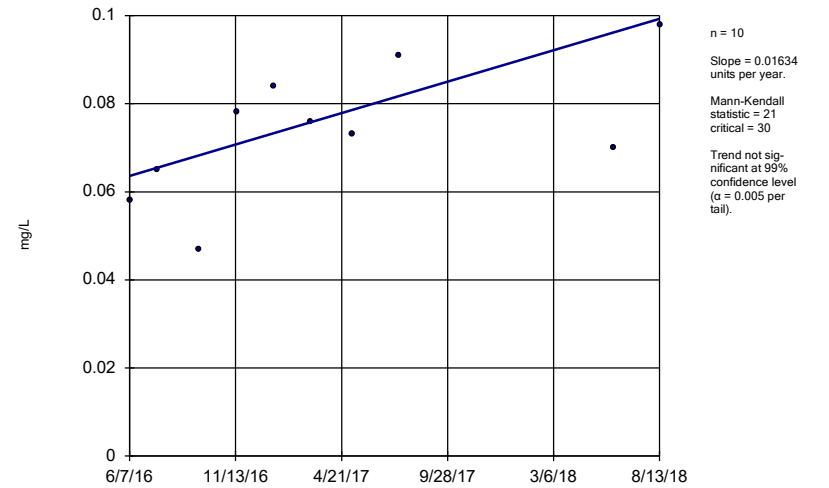
MW-1002



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

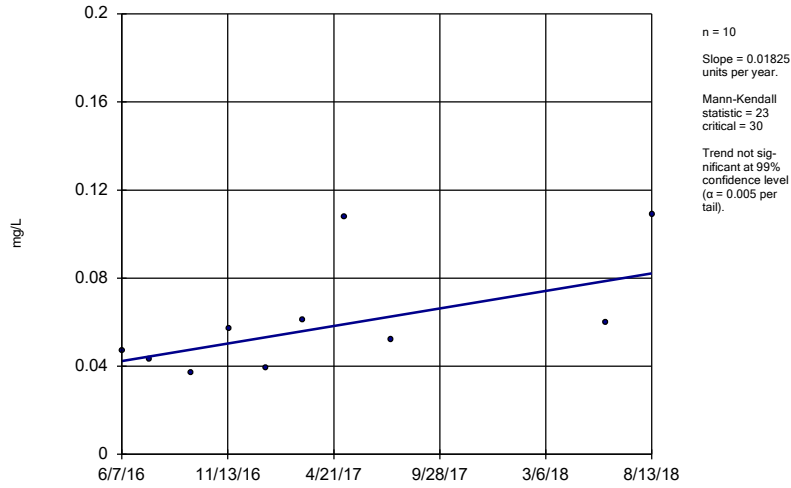
MW-1602D



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

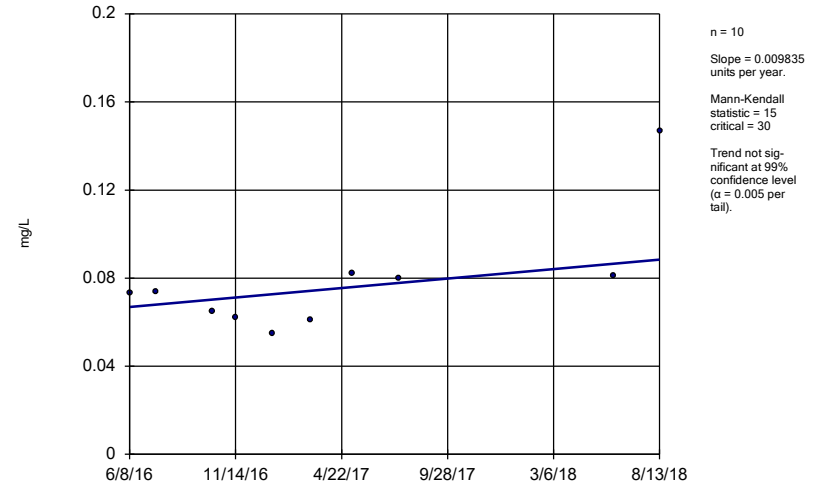
MW-1602I



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

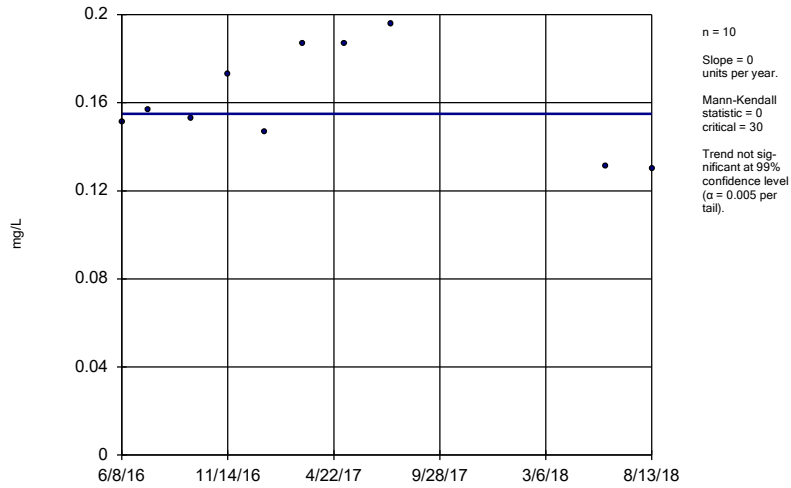
MW-1603D



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

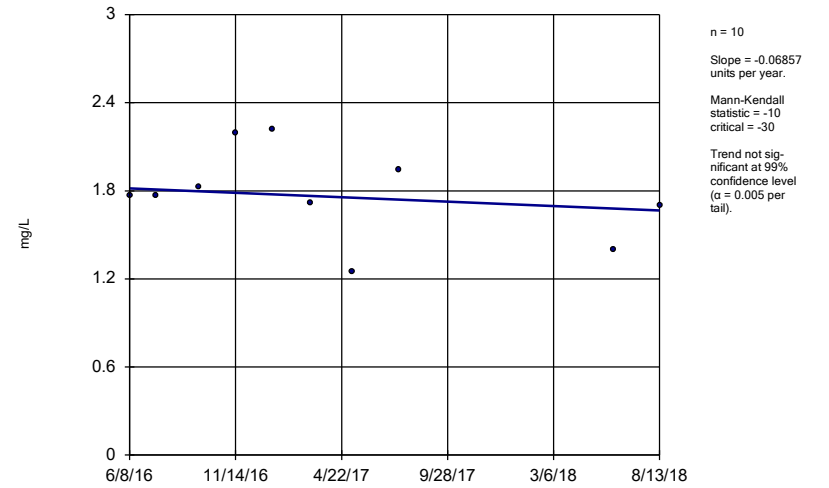
MW-1603I



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1603S

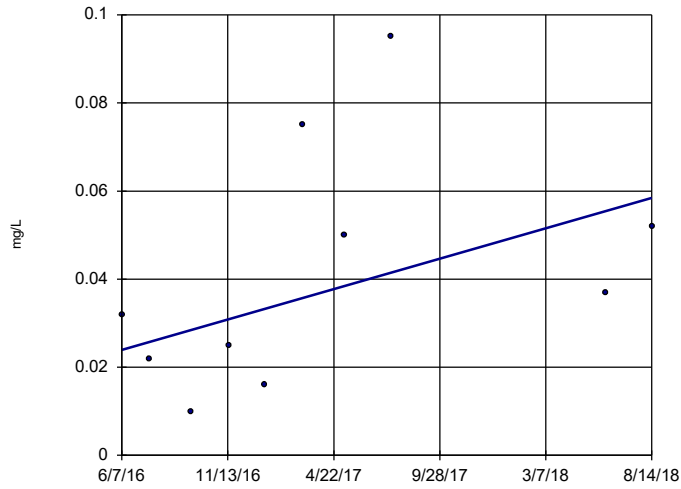


Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Sen's Slope Estimator

MW-1604D

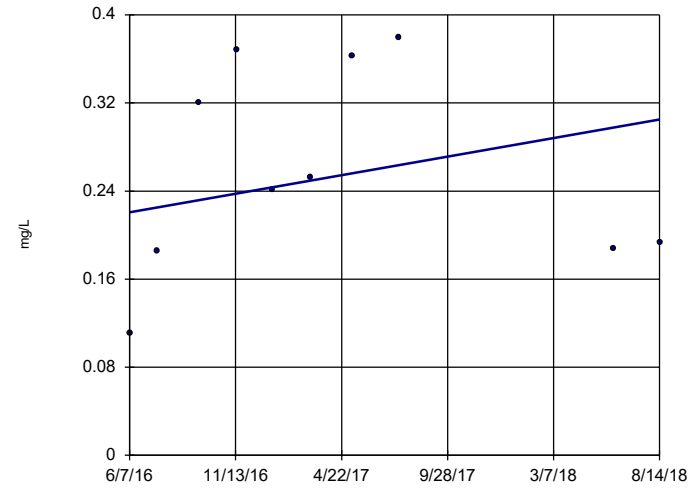


n = 10  
 Slope = 0.01577  
 units per year.  
 Mann-Kendall  
 statistic = 19  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1604I

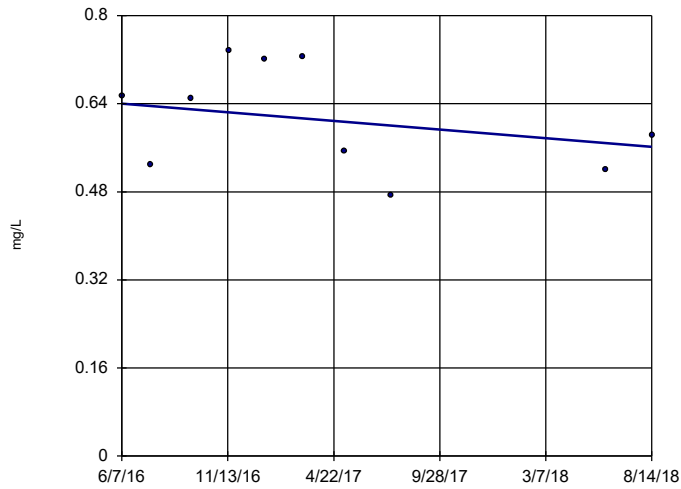


n = 10  
 Slope = 0.03855  
 units per year.  
 Mann-Kendall  
 statistic = 11  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1604S

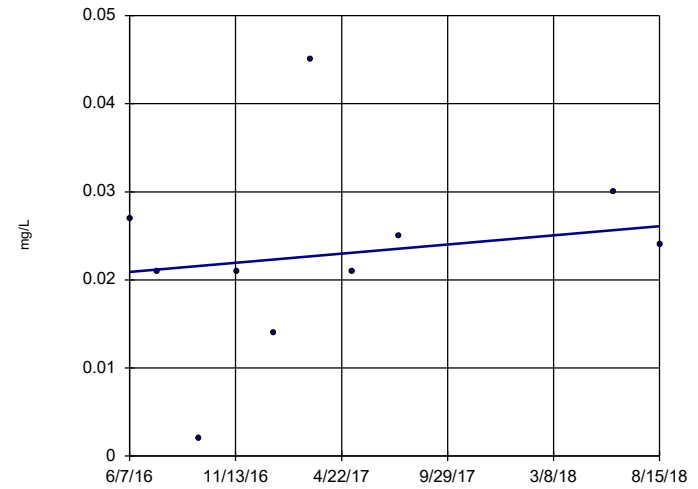


n = 10  
 Slope = -0.03585  
 units per year.  
 Mann-Kendall  
 statistic = -11  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605D

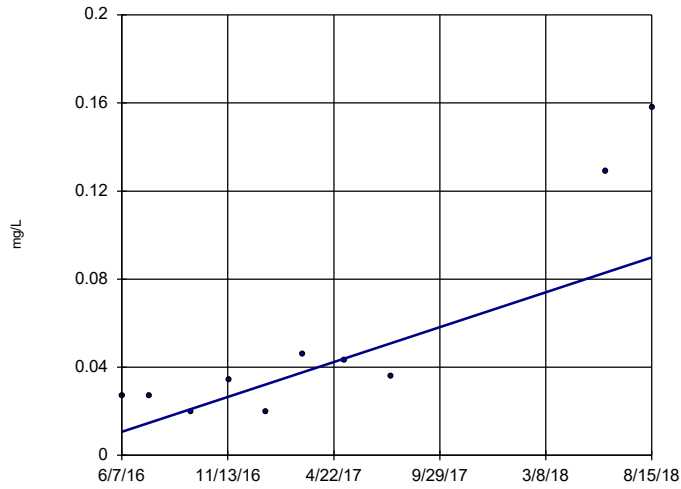


n = 10  
 Slope = 0.002365  
 units per year.  
 Mann-Kendall  
 statistic = 10  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

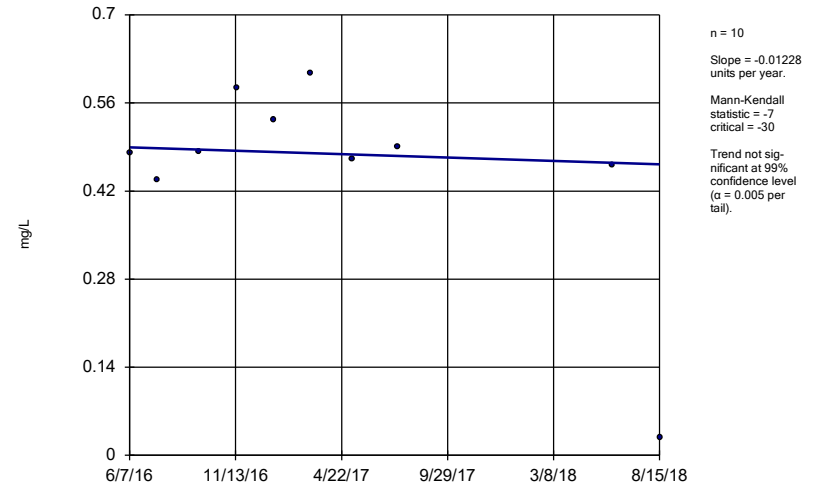
MW-1605I



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

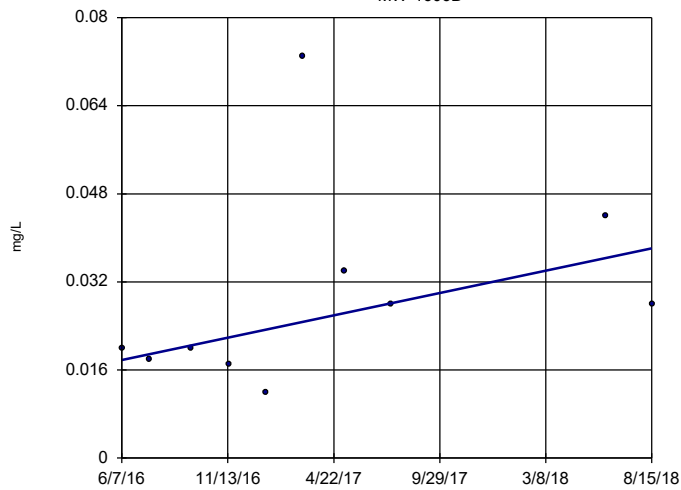
MW-1605S



Constituent: Boron, total Analysis Run 12/26/2018 7:42 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606D

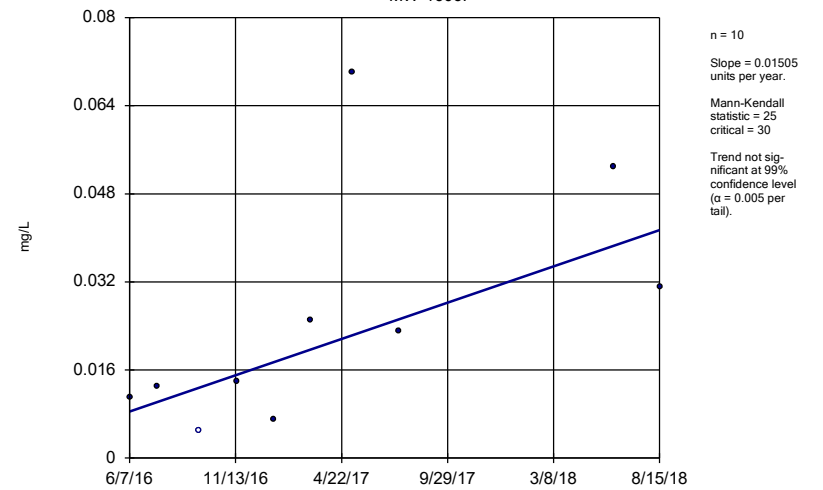


Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Hollow symbols indicate censored values.

### Sen's Slope Estimator

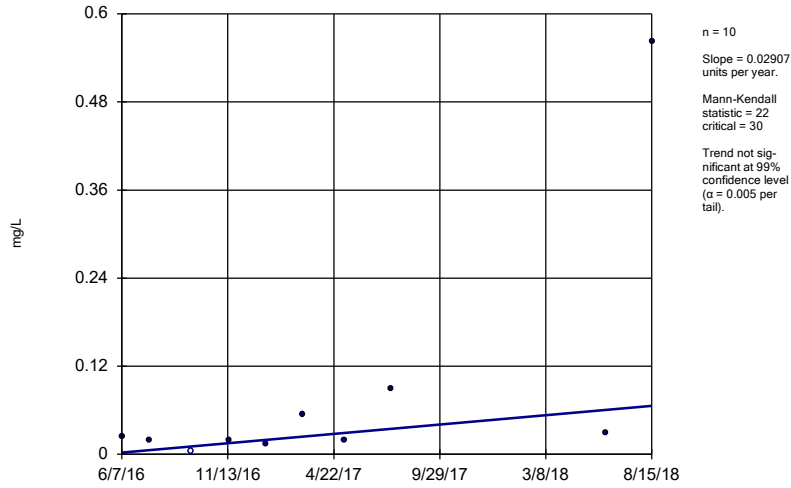
MW-1606I



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

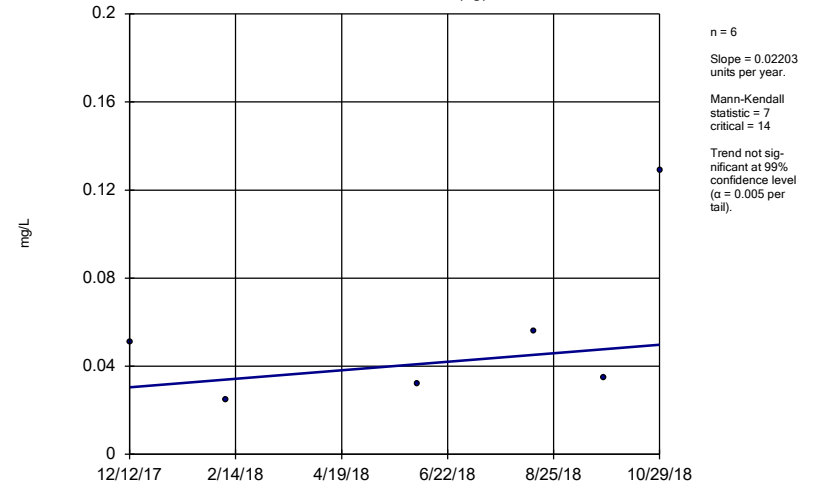
MW-1606S



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

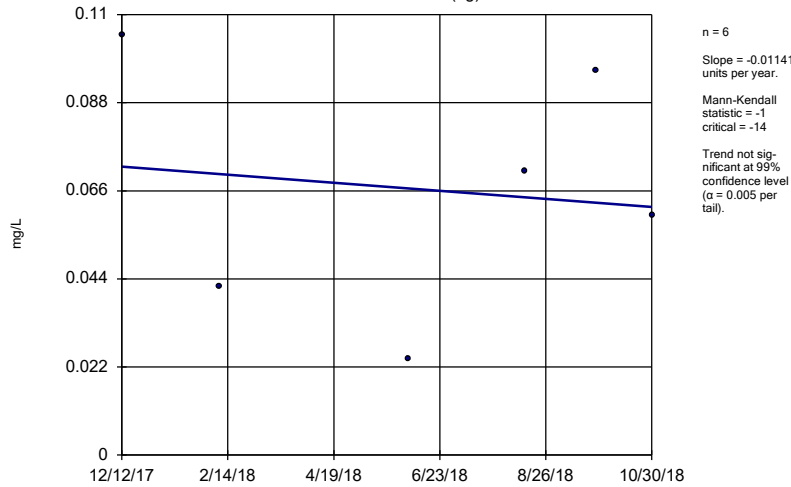
MW-1701S (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

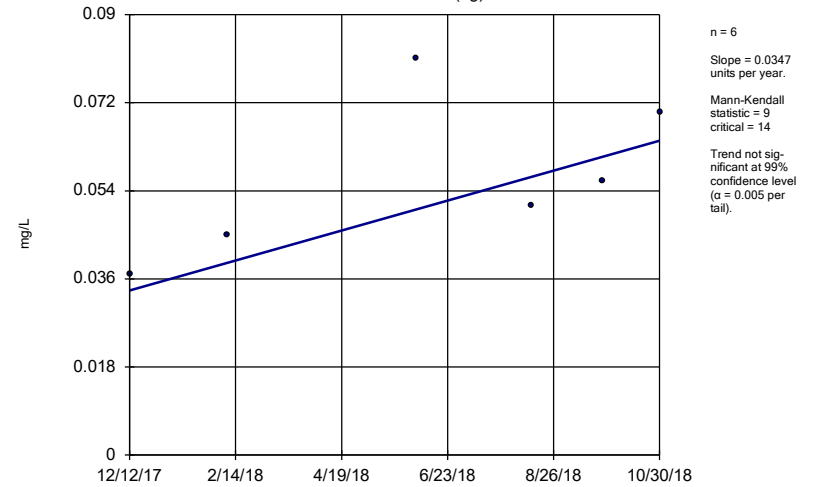
MW-1702D (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

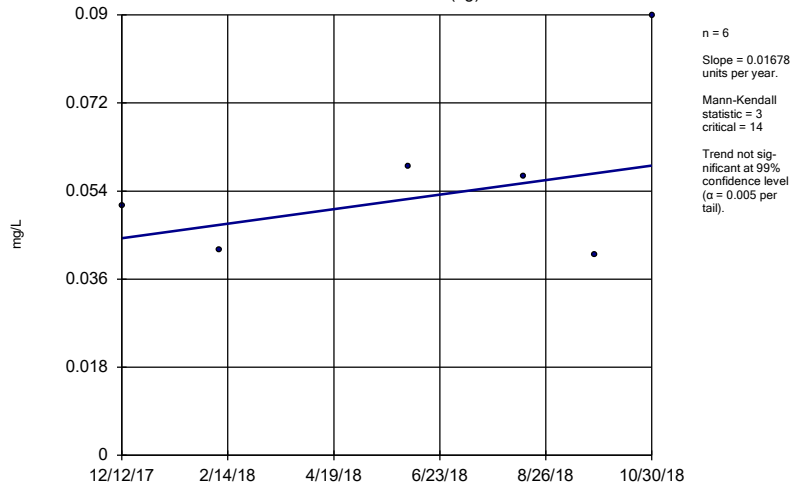
MW-1702I (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

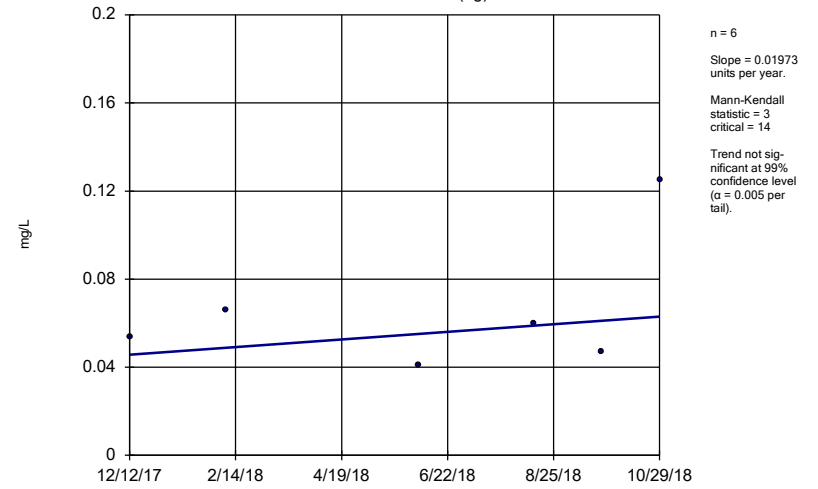
MW-1702S (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

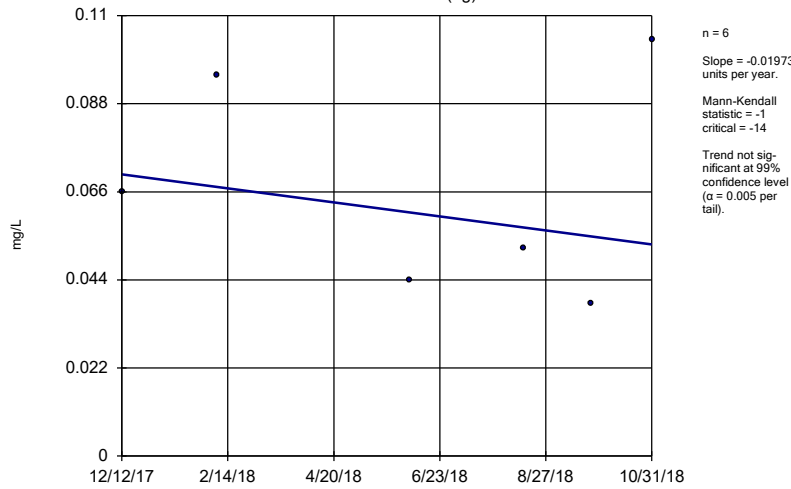
MW-1701D (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

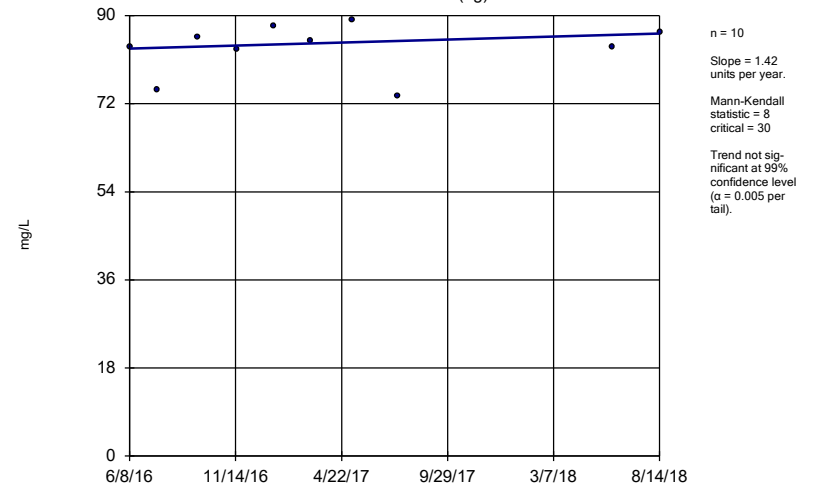
MW-1701I (bg)



Constituent: Boron, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

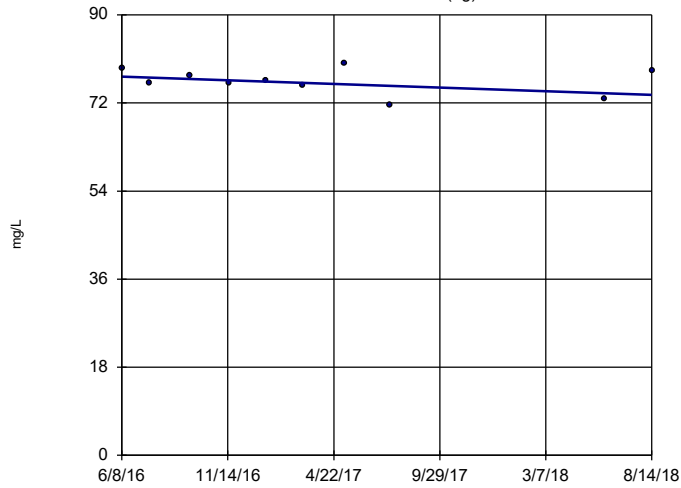
MW-1600D (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1600I (bg)

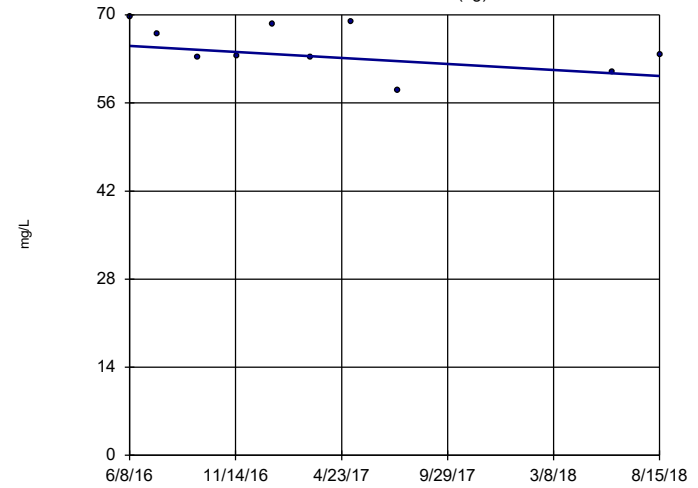


n = 10  
 Slope = -1.705 units per year.  
 Mann-Kendall statistic = -10  
 critical = -30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1600S (bg)

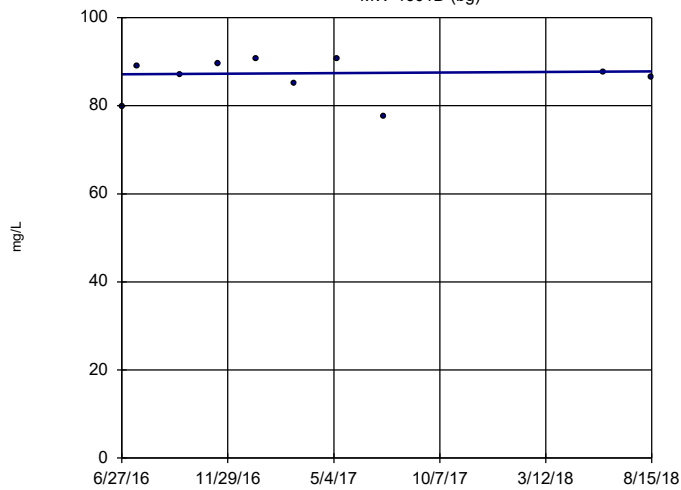


n = 10  
 Slope = -2.197 units per year.  
 Mann-Kendall statistic = -14  
 critical = -30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601D (bg)

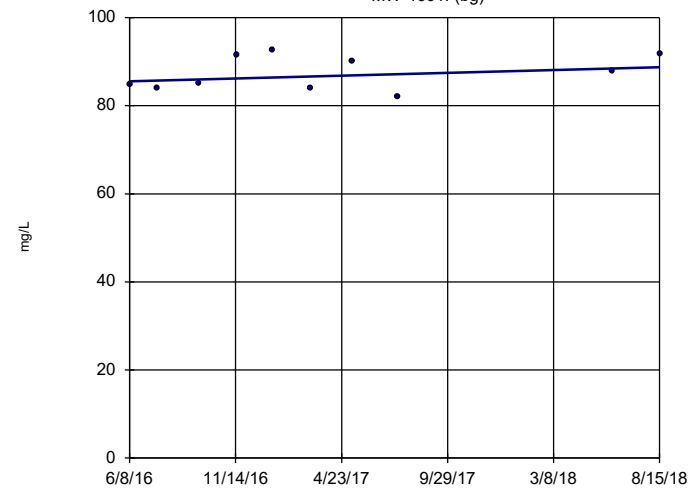


n = 10  
 Slope = 0.3067 units per year.  
 Mann-Kendall statistic = 1  
 critical = 30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601I (bg)

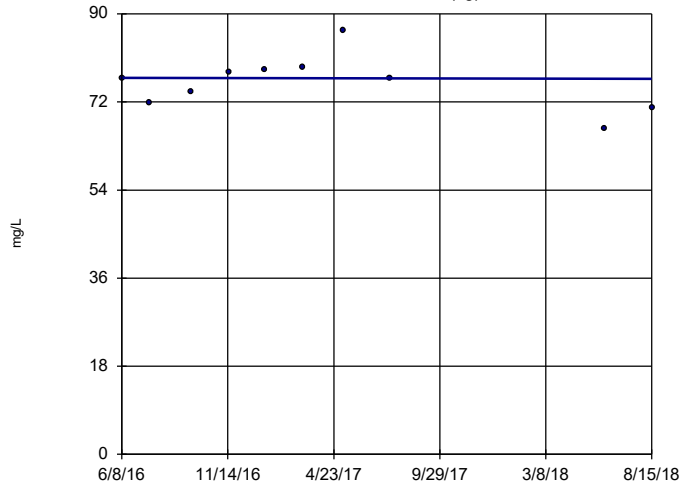


n = 10  
 Slope = 1.456 units per year.  
 Mann-Kendall statistic = 7  
 critical = 30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601S (bg)

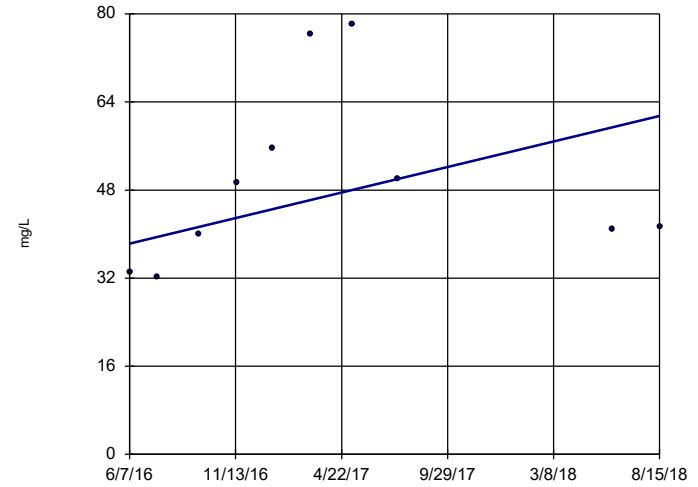


n = 10  
 Slope = -0.09035 units per year.  
 Mann-Kendall statistic = -1  
 critical = -30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1002

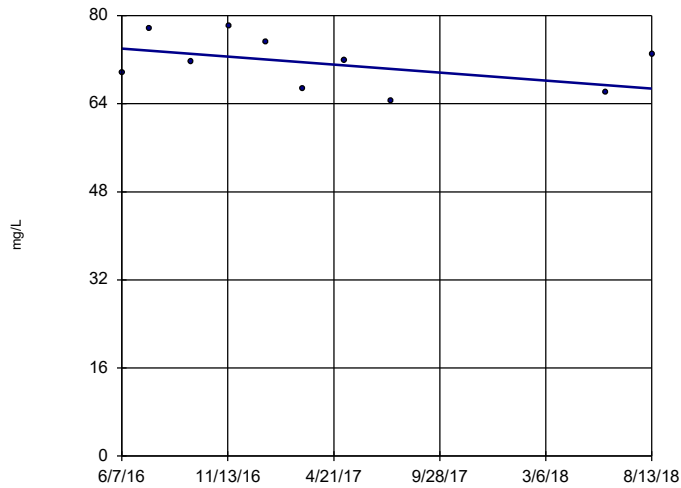


n = 10  
 Slope = 10.6 units per year.  
 Mann-Kendall statistic = 17  
 critical = 30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1602D

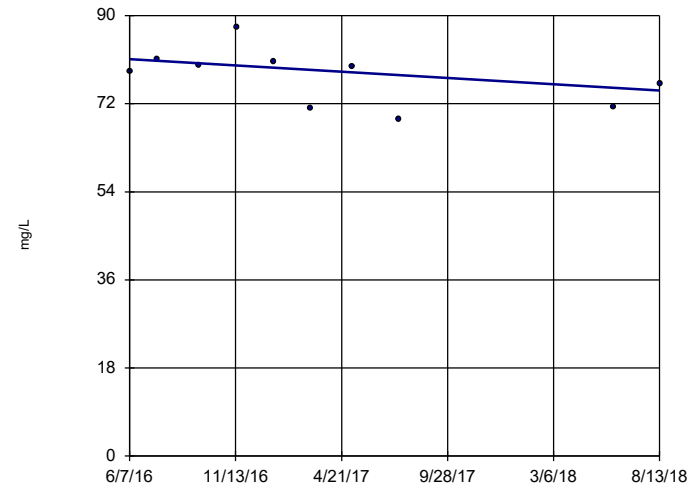


n = 10  
 Slope = -3.339 units per year.  
 Mann-Kendall statistic = -11  
 critical = -30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1602I

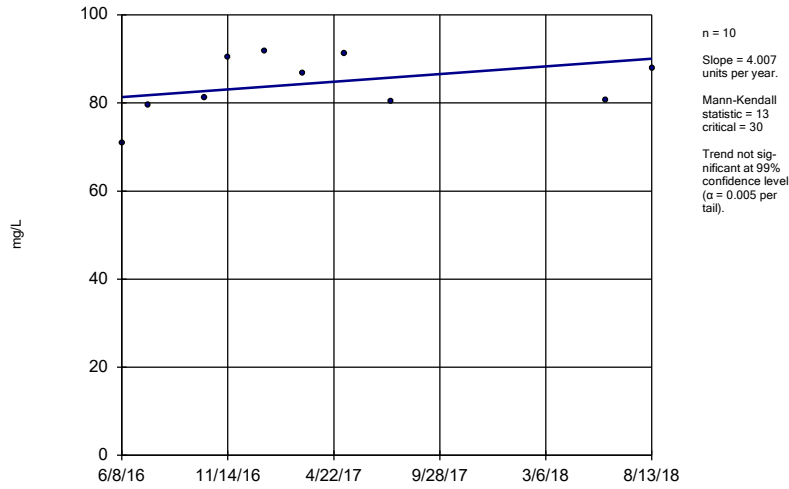


n = 10  
 Slope = -2.923 units per year.  
 Mann-Kendall statistic = -17  
 critical = -30  
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

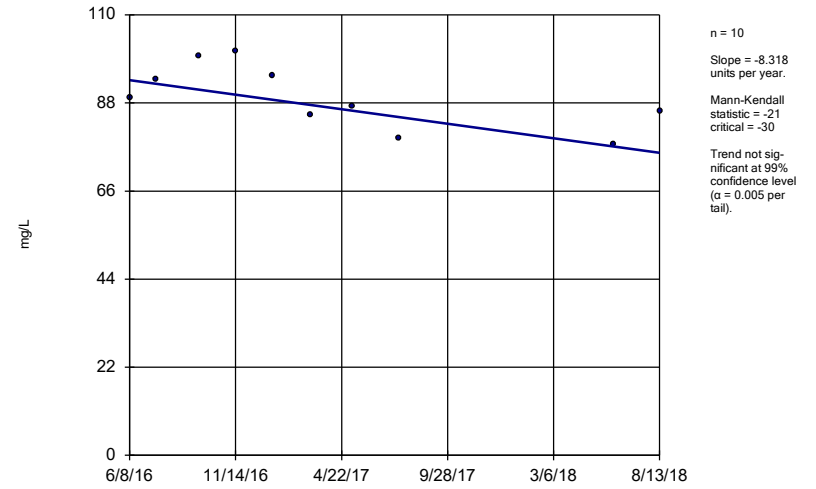
MW-1603D



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

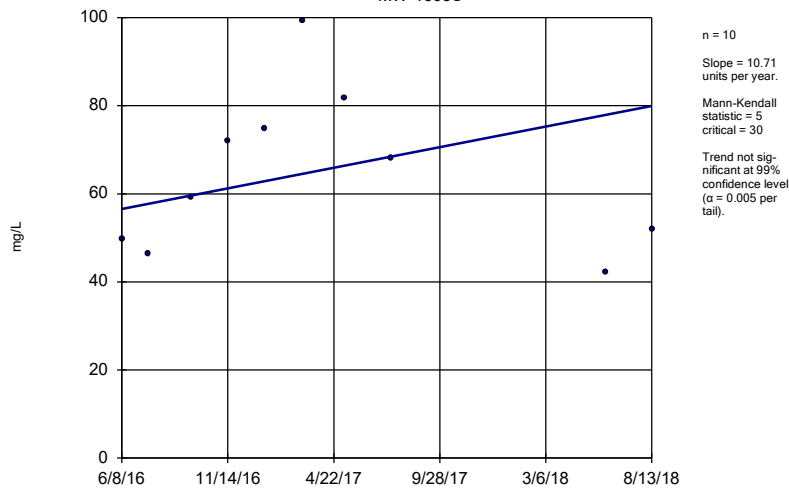
MW-1603I



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

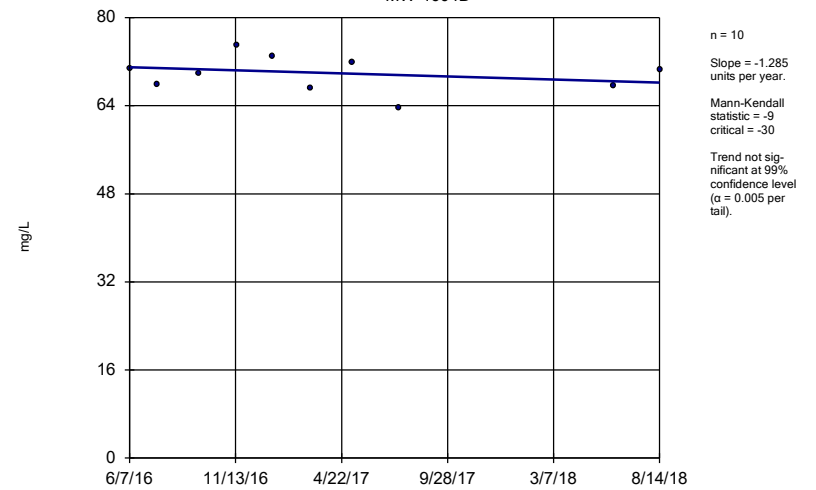
MW-1603S



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

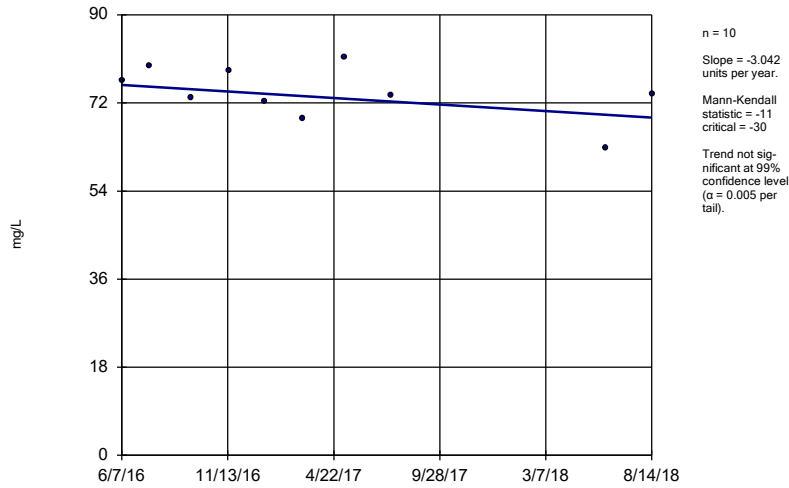
MW-1604D



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Sen's Slope Estimator

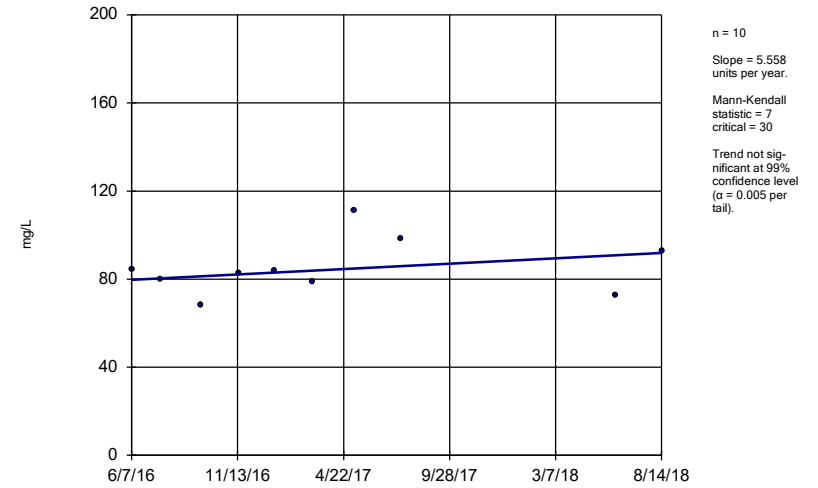
MW-1604I



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Sen's Slope Estimator

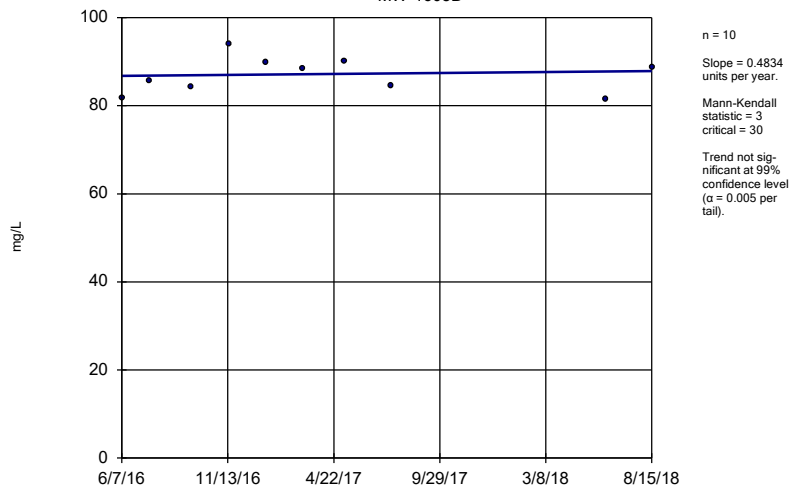
MW-1604S



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Sen's Slope Estimator

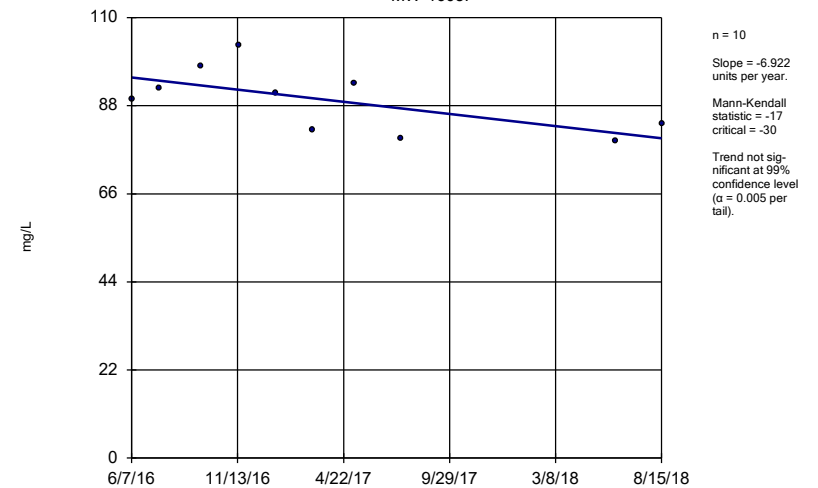
MW-1605D



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Sen's Slope Estimator

MW-1605I

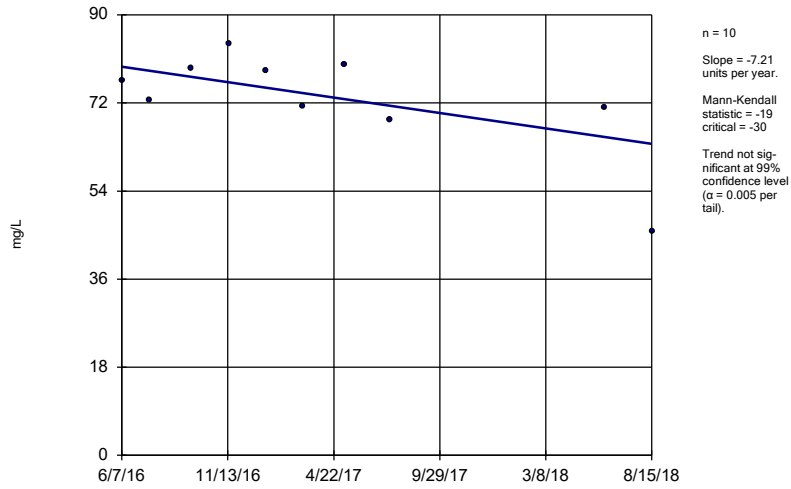


Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Sen's Slope Estimator

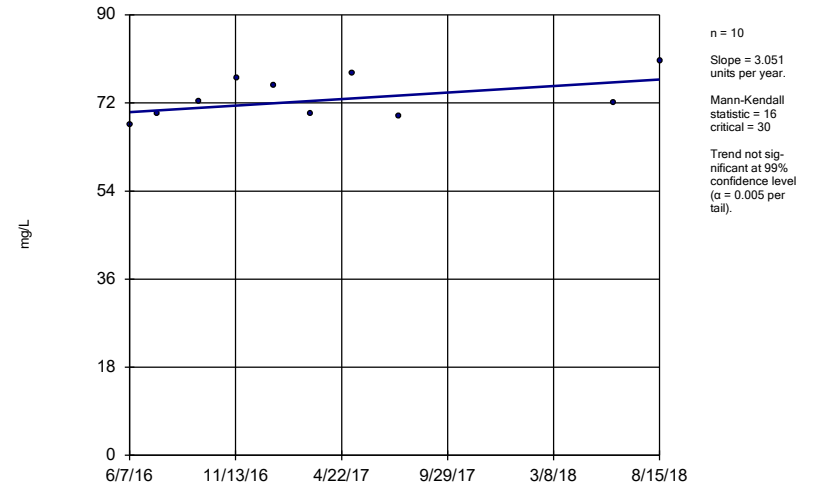
MW-1605S



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

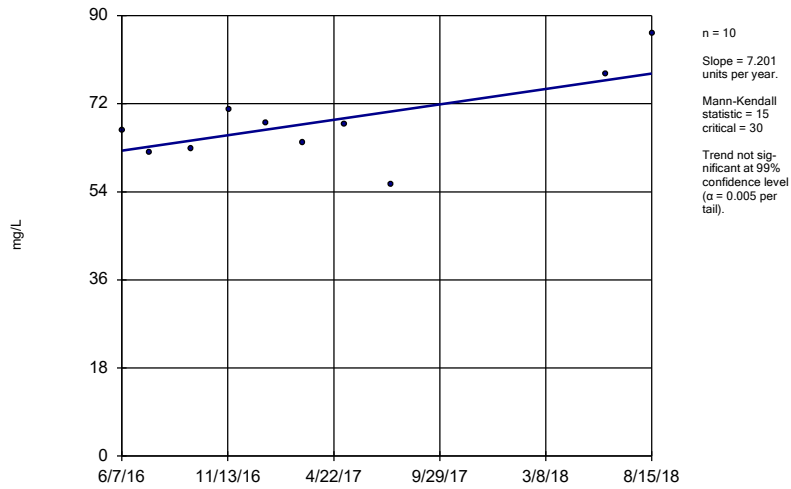
MW-1606D



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

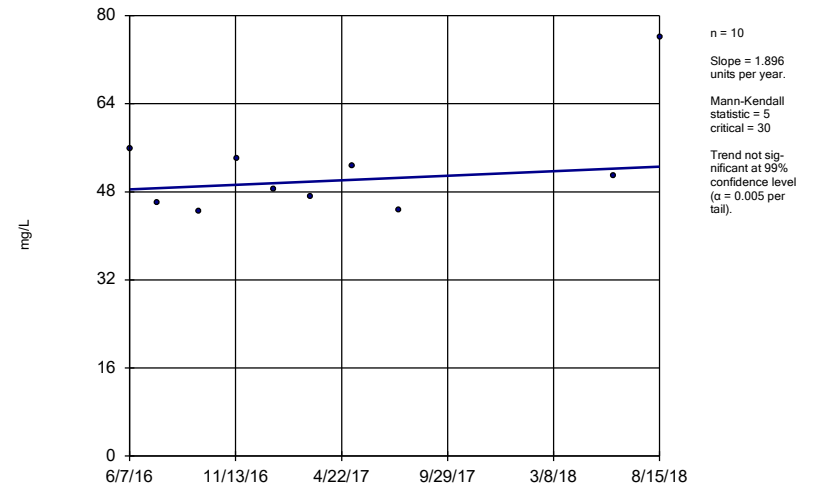
MW-1606I



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

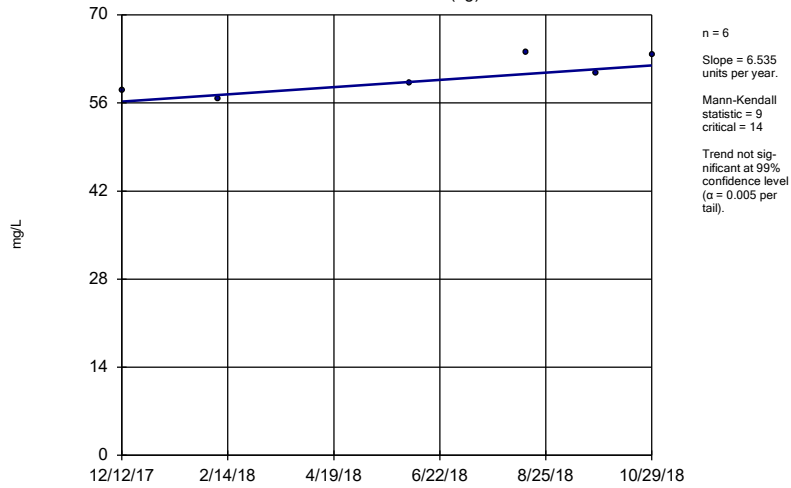
MW-1606S



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

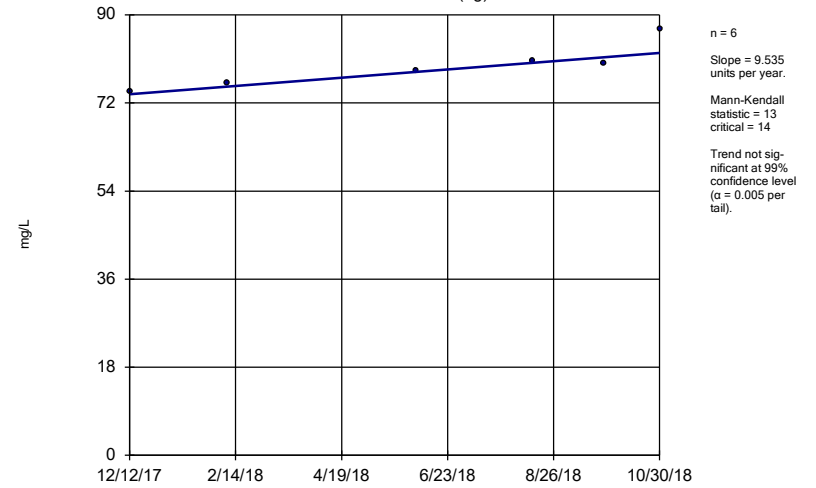
MW-1701S (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

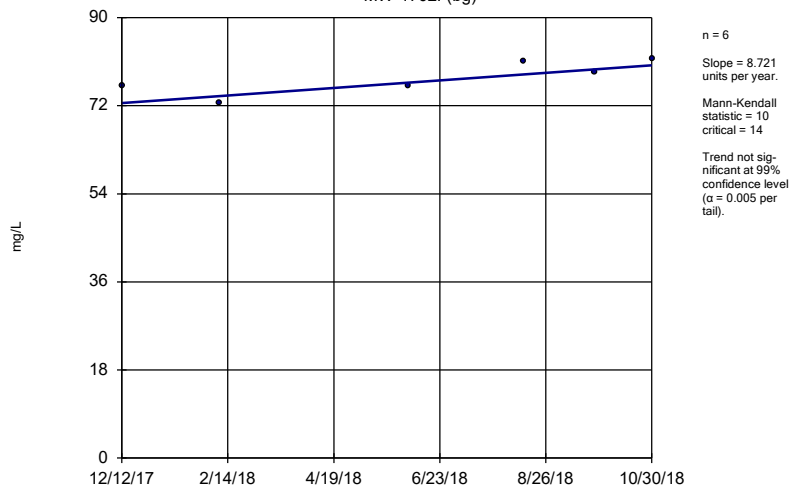
MW-1702D (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

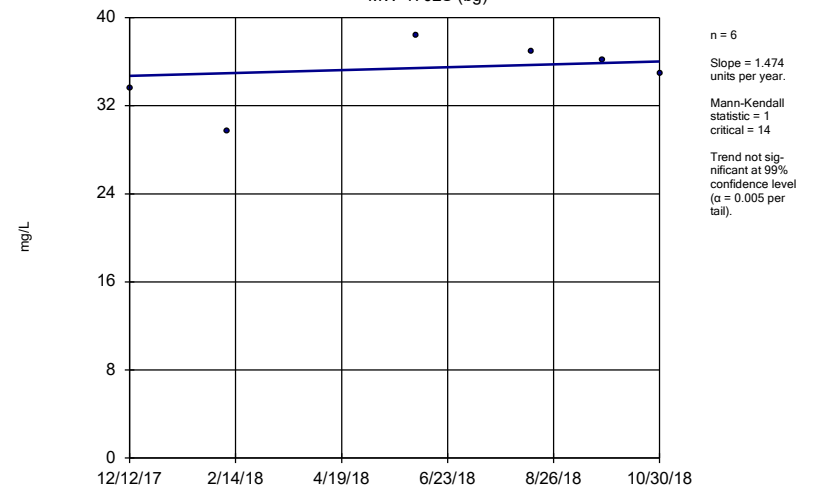
MW-1702I (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

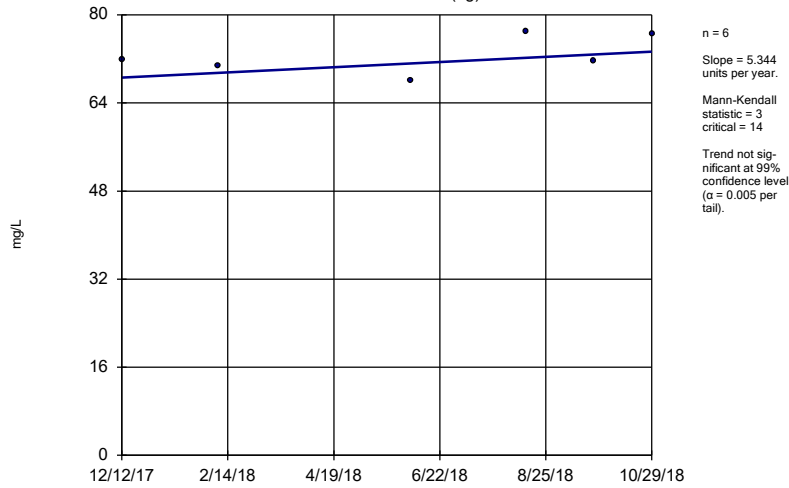
MW-1702S (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

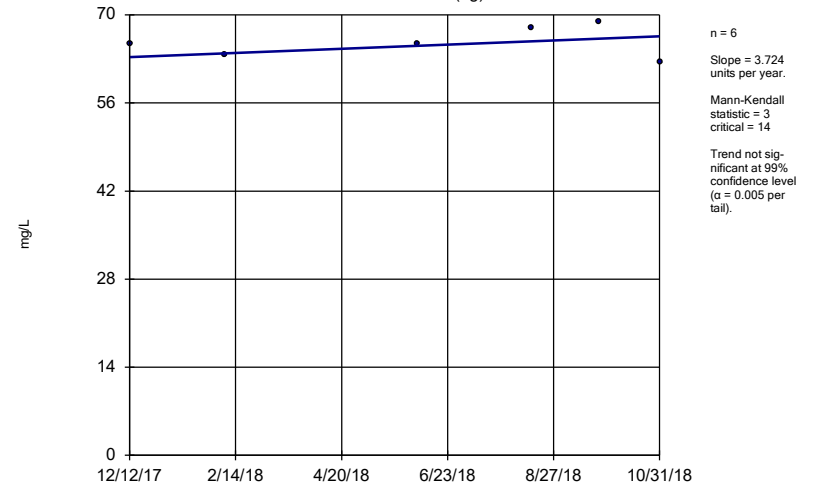
MW-1701D (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

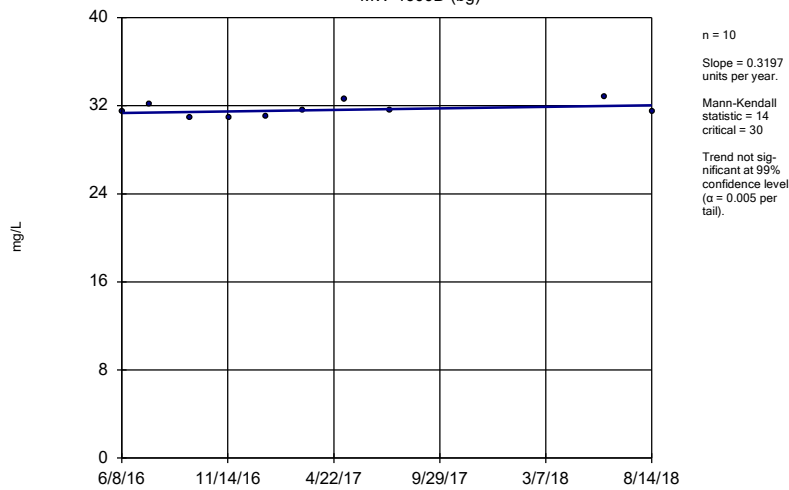
MW-1701I (bg)



Constituent: Calcium, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

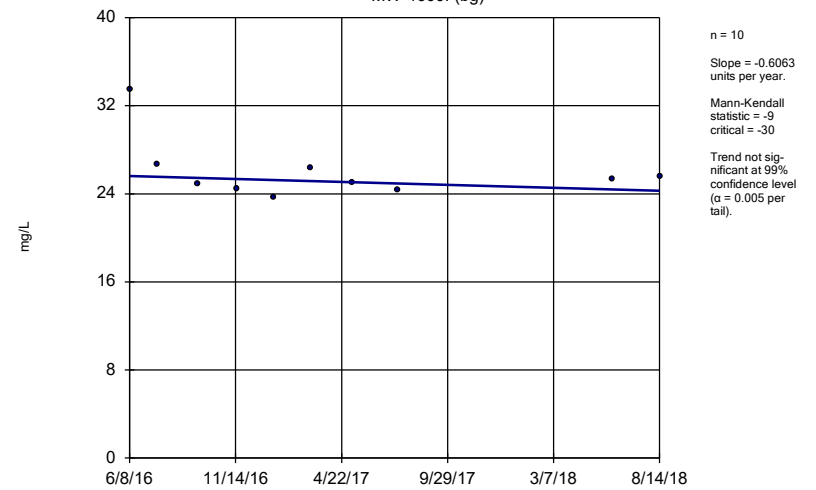
MW-1600D (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:43 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

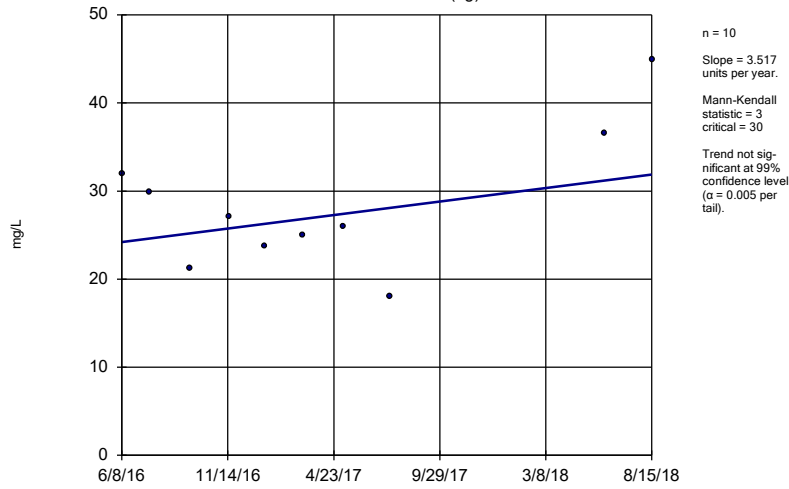
MW-1600I (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

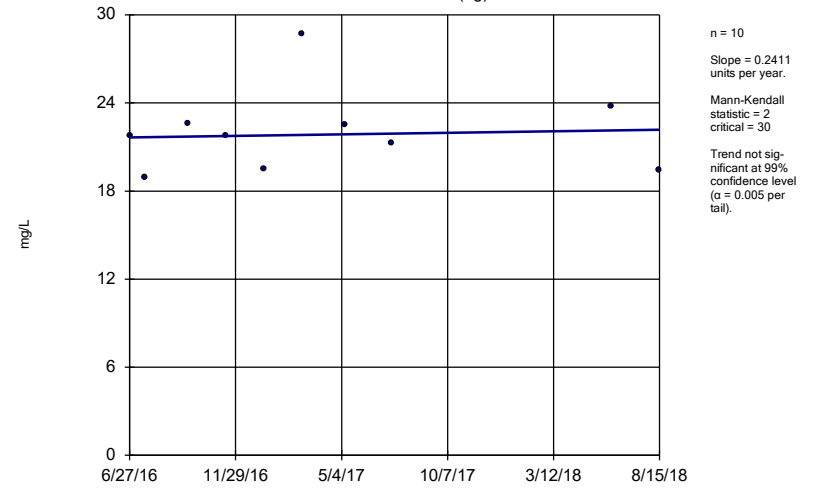
MW-1600S (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

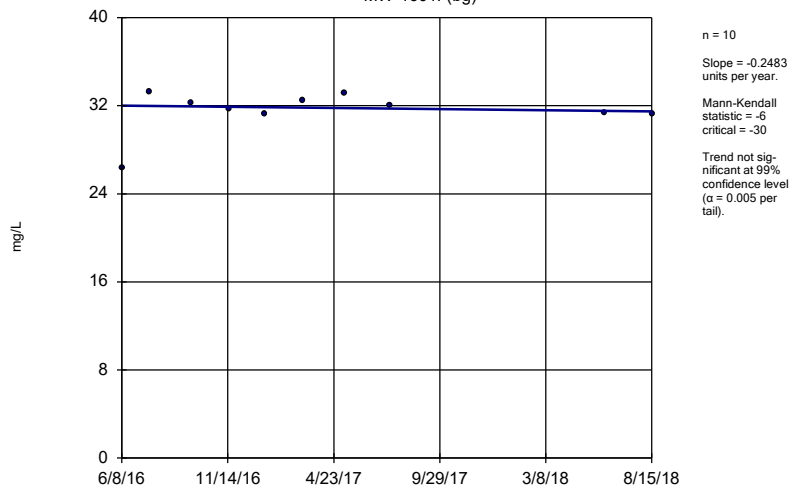
MW-1601D (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

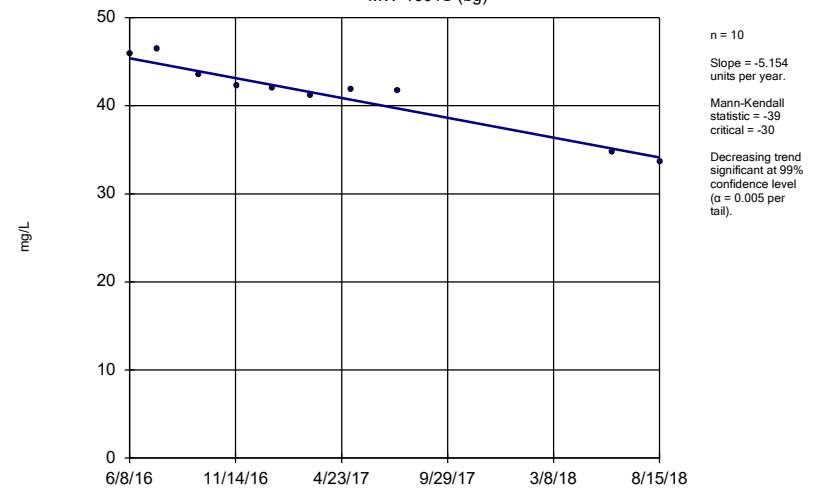
MW-1601I (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

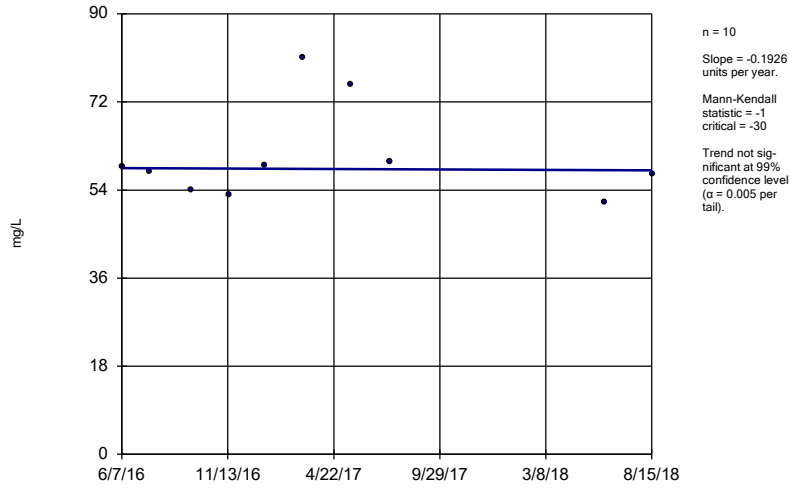
MW-1601S (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

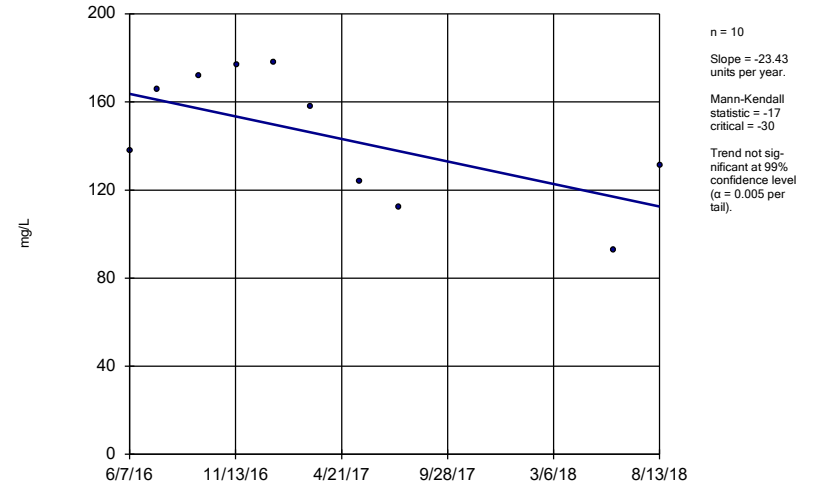
MW-1002



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

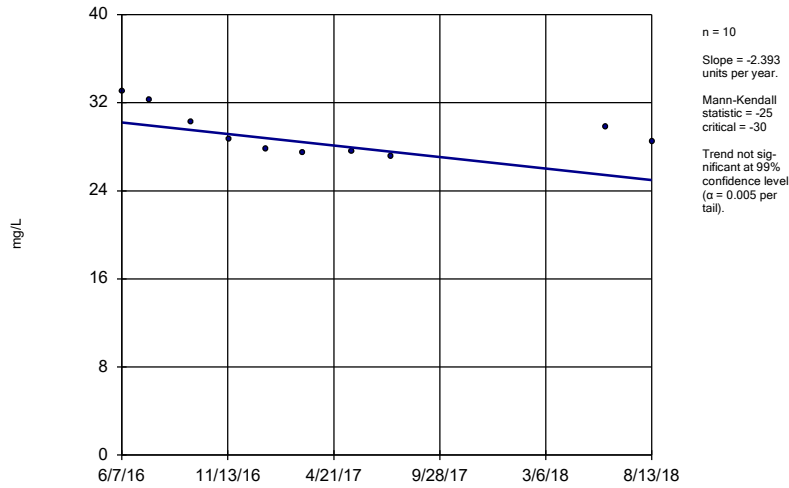
MW-1602D



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

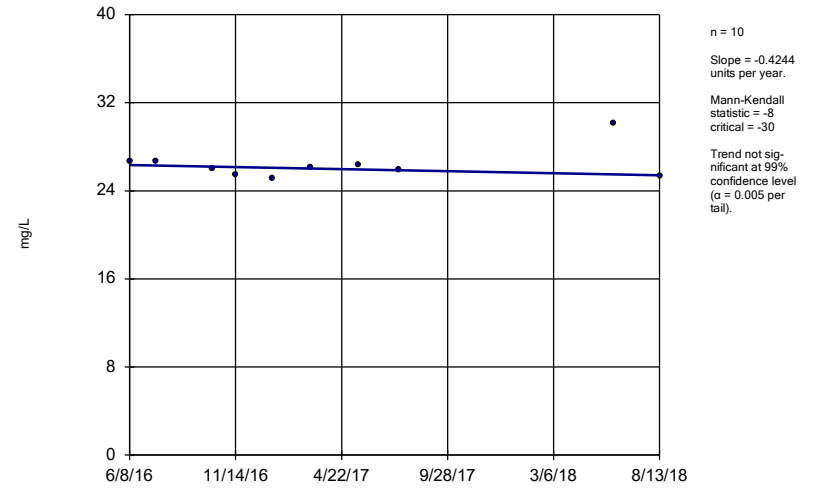
MW-1602I



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

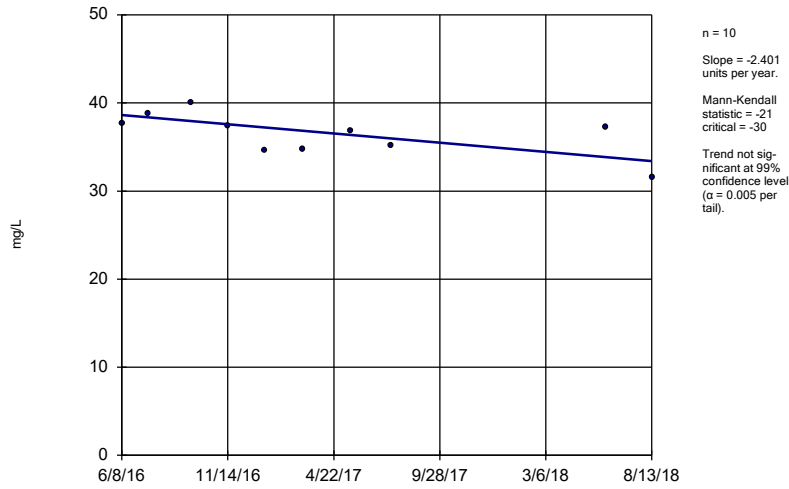
MW-1603D



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

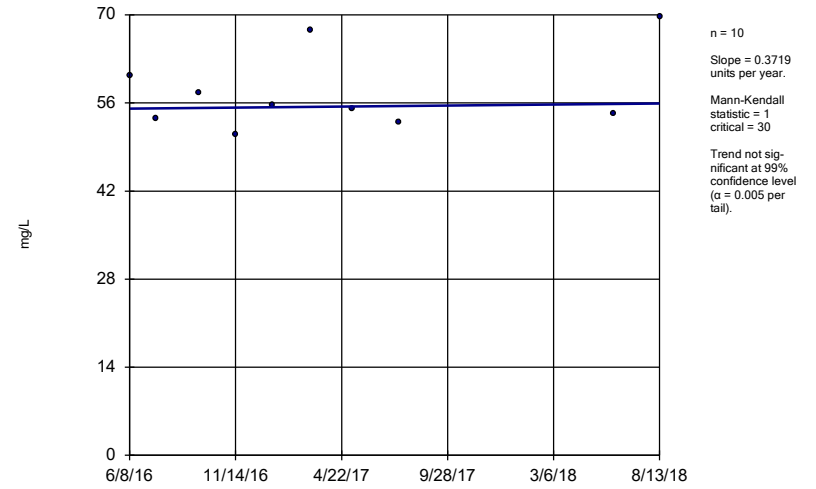
MW-1603I



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

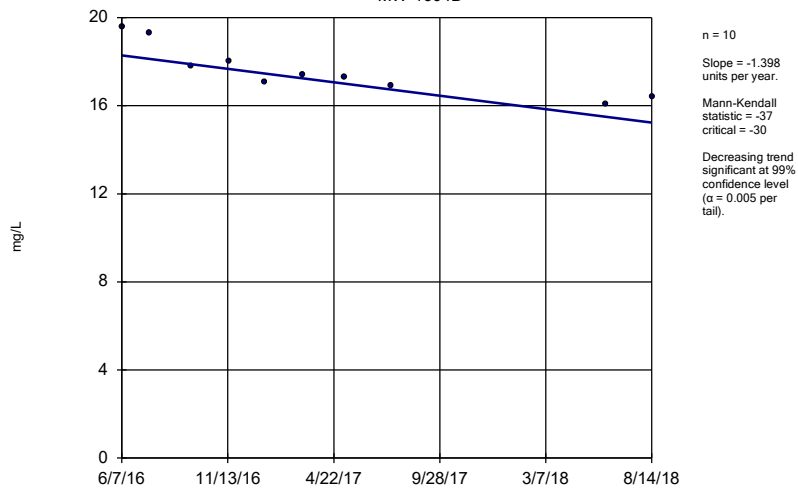
MW-1603S



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

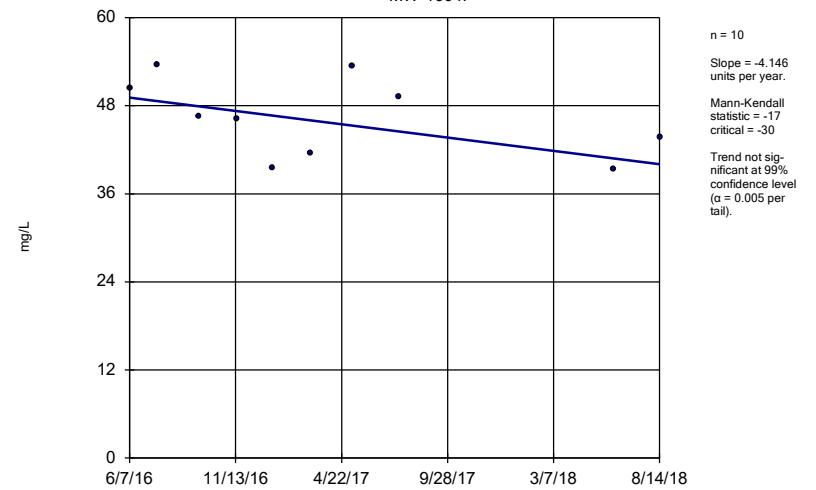
MW-1604D



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

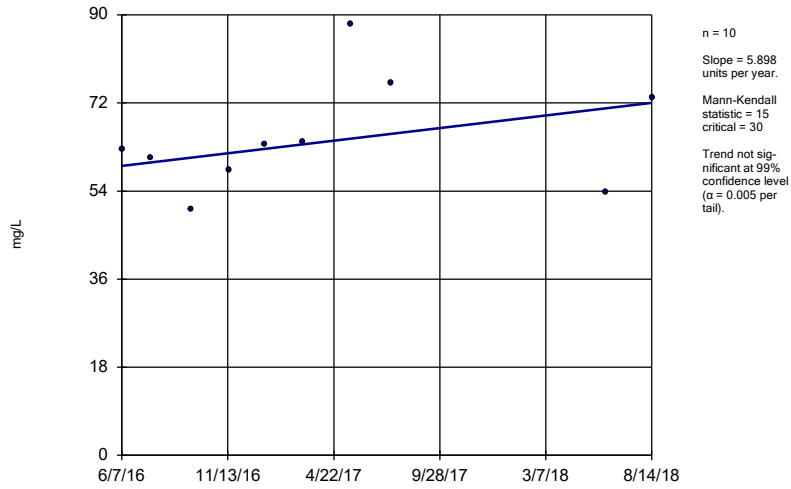
MW-1604I



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

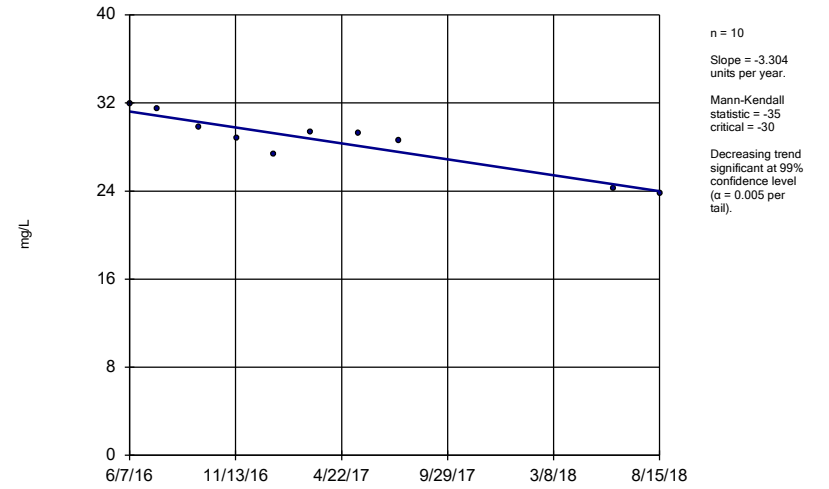
MW-1604S



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

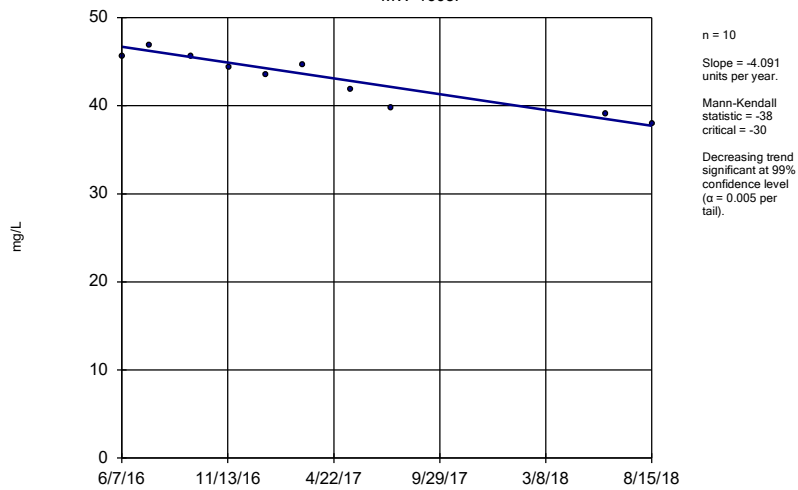
MW-1605D



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

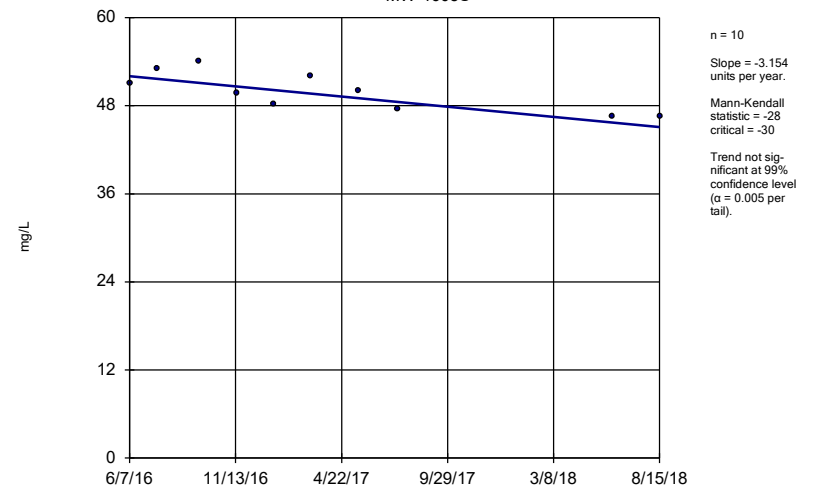
MW-1605I



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

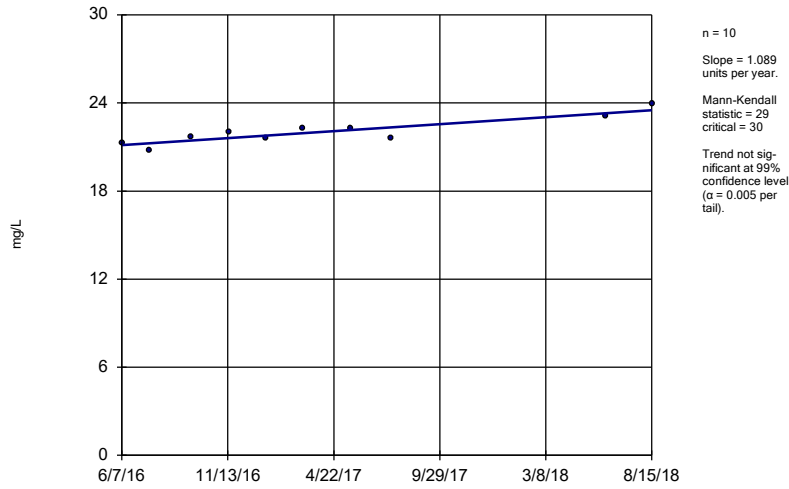
MW-1605S



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

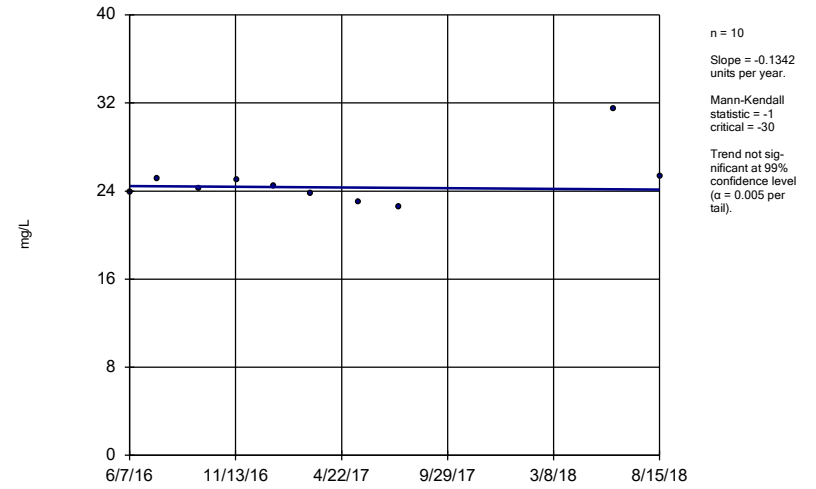
MW-1606D



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

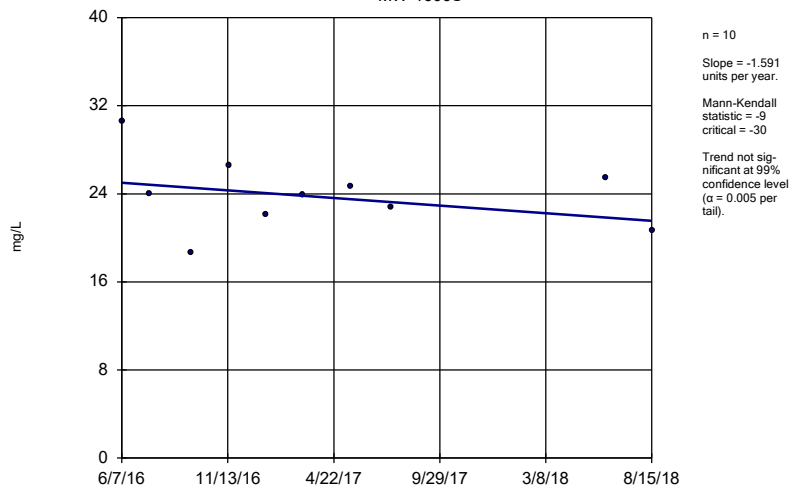
MW-1606I



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

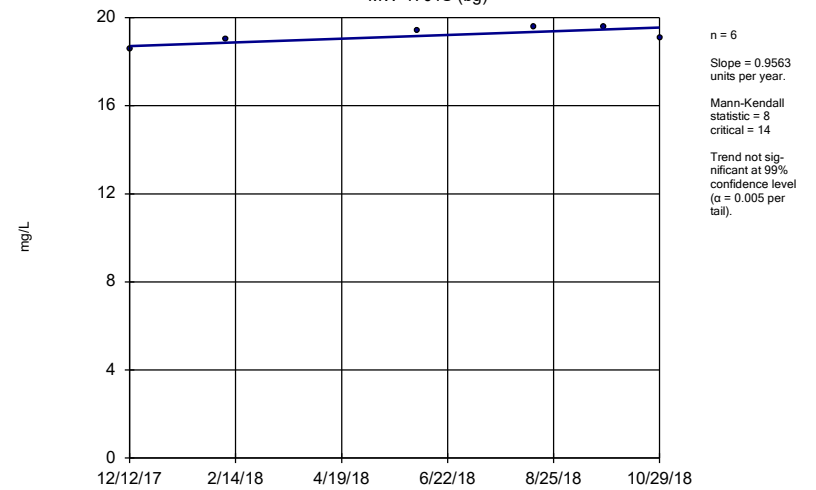
MW-1606S



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1701S (bg)

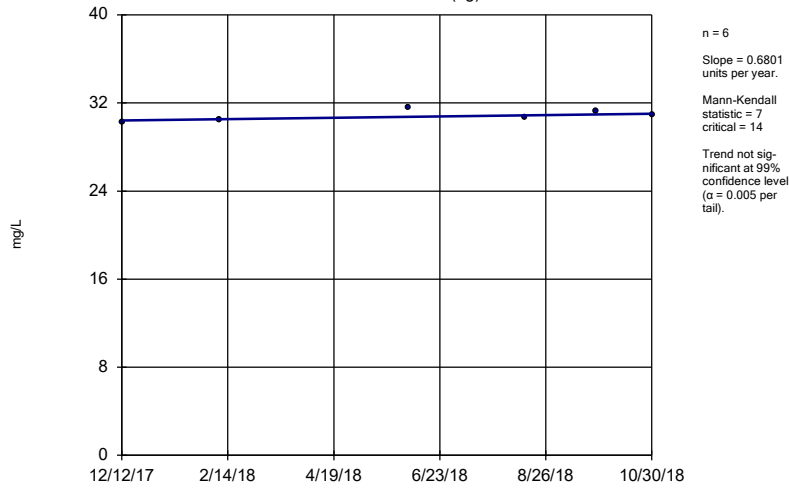


Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Sen's Slope Estimator

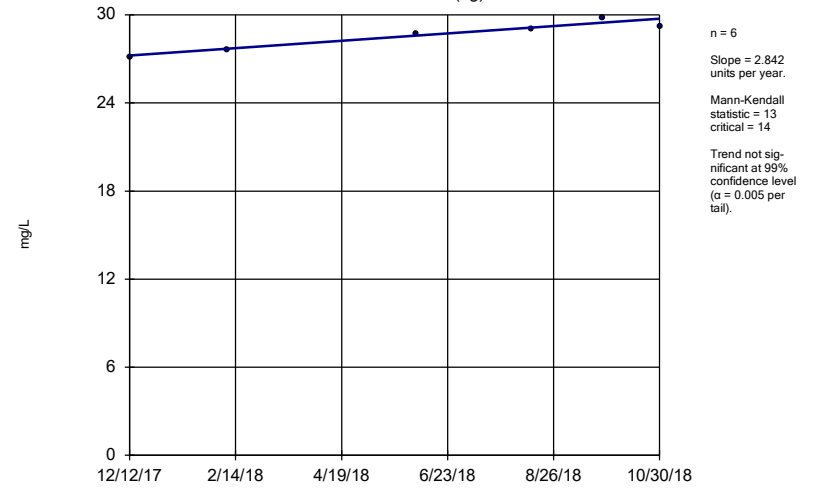
MW-1702D (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

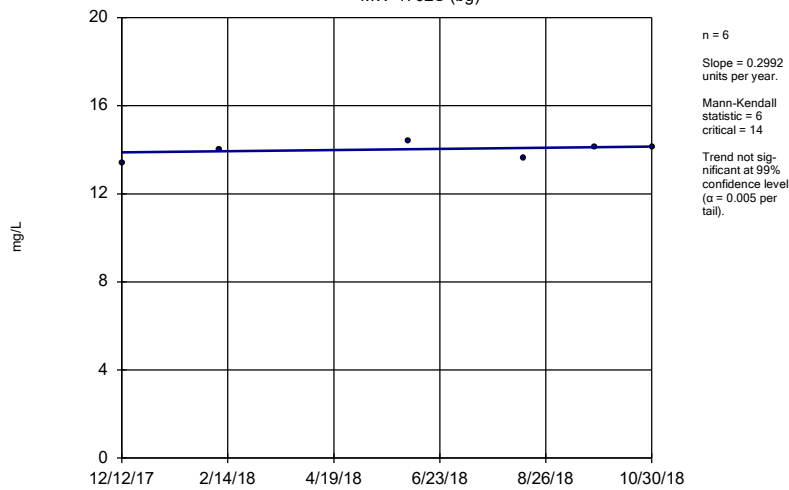
MW-1702I (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

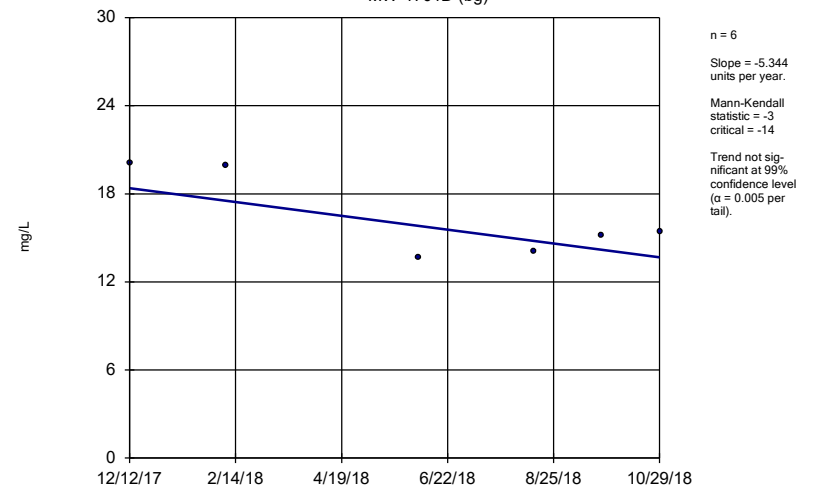
MW-1702S (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

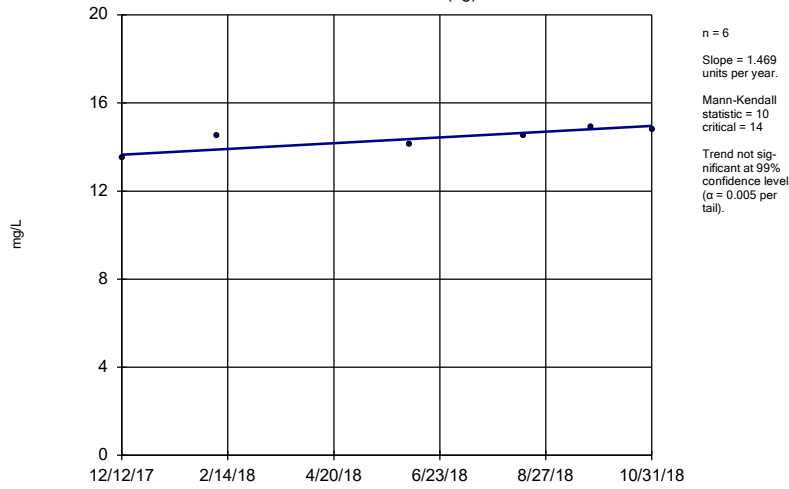
MW-1701D (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

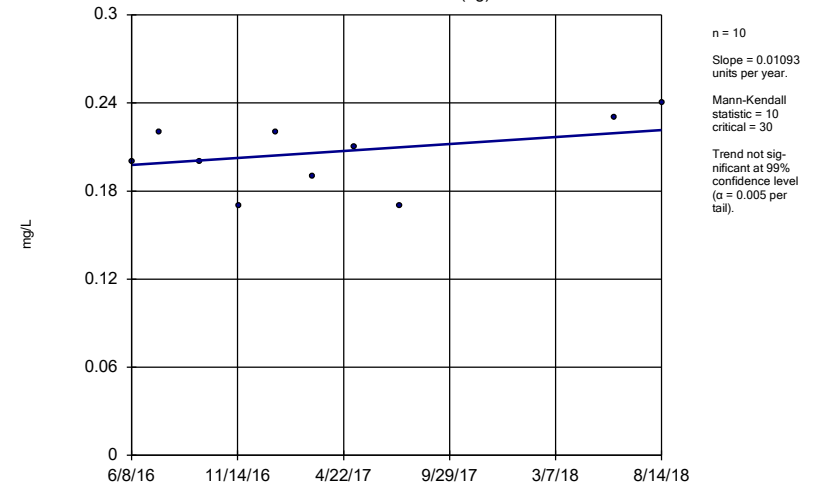
MW-17011 (bg)



Constituent: Chloride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

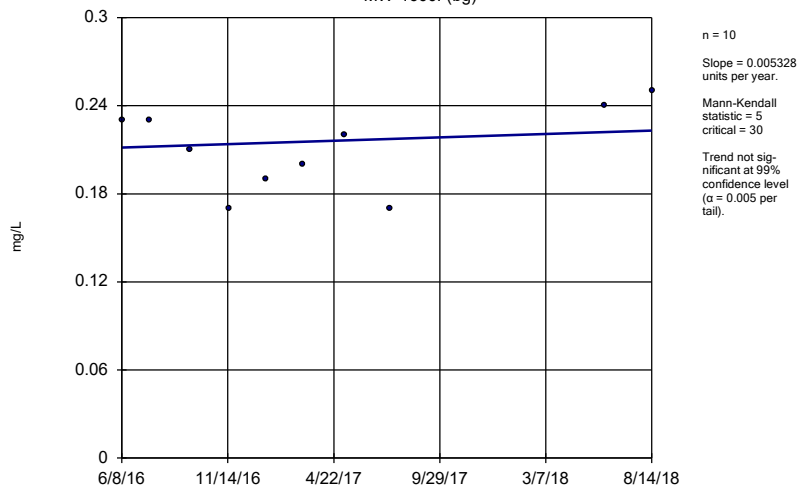
MW-1600D (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

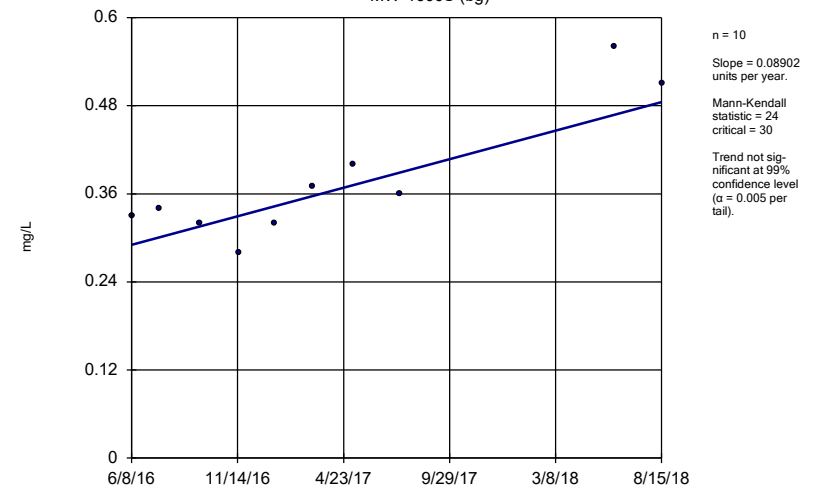
MW-1600I (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

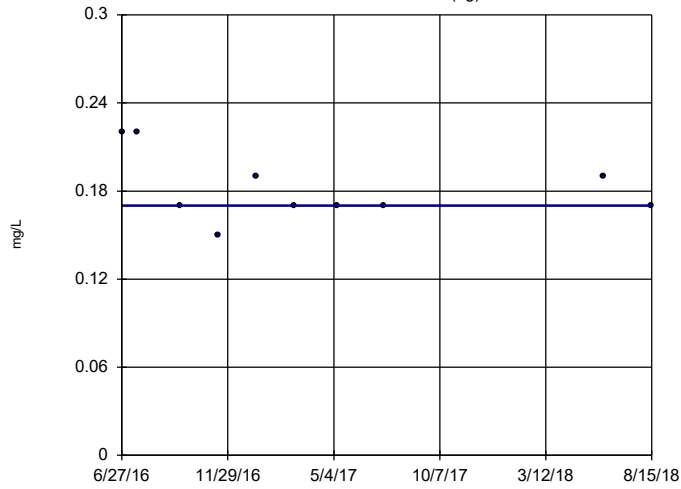
MW-1600S (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601D (bg)

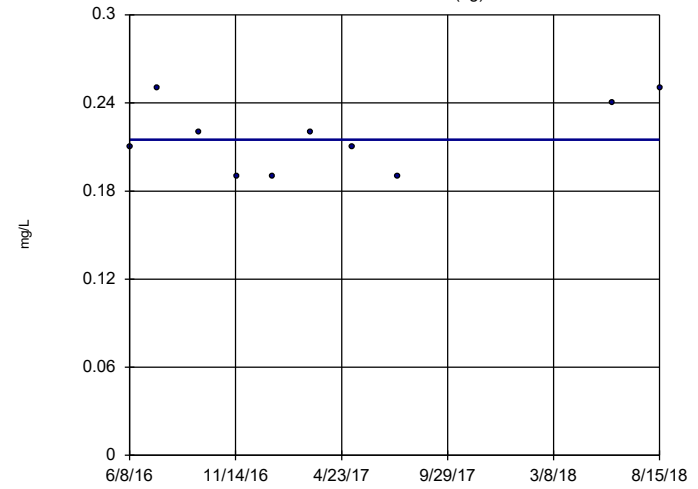


n = 10  
Slope = 0  
units per year.  
Mann-Kendall  
statistic = -11  
critical = -30  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601I (bg)

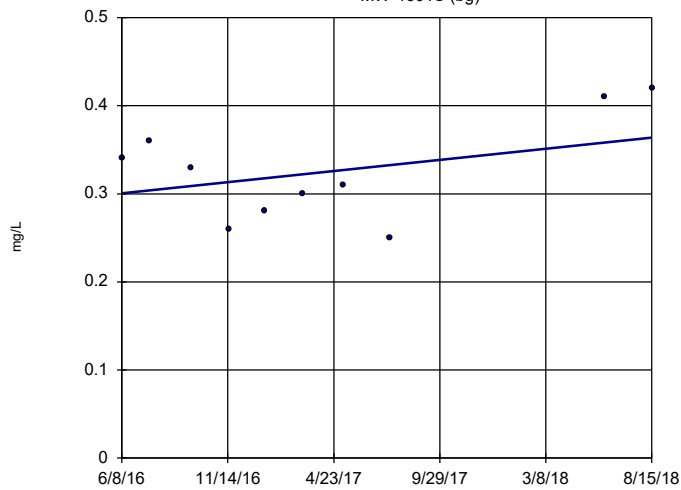


n = 10  
Slope = 0  
units per year.  
Mann-Kendall  
statistic = 5  
critical = 30  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1601S (bg)

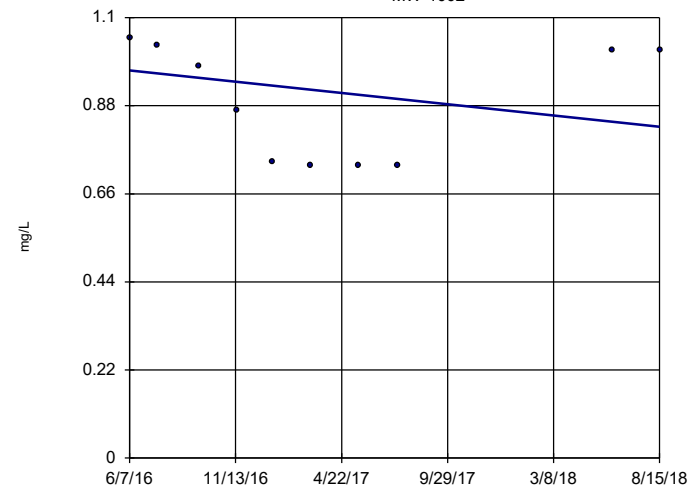


n = 10  
Slope = 0.02893  
units per year.  
Mann-Kendall  
statistic = 3  
critical = 30  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1002

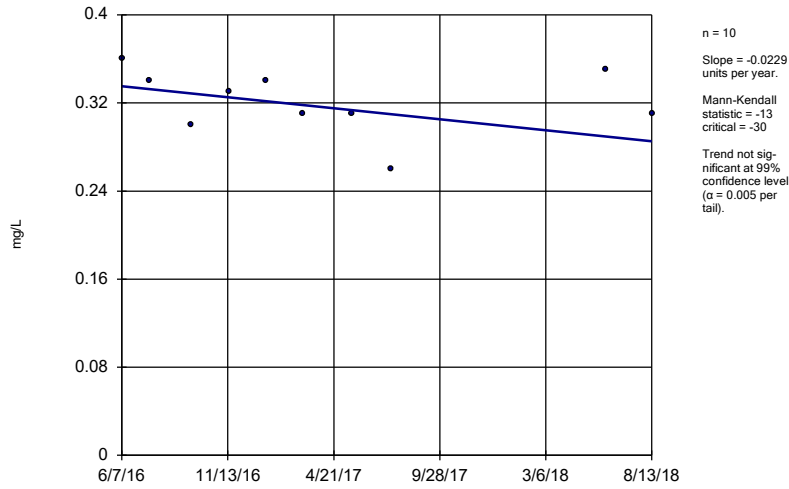


n = 10  
Slope = -0.06404  
units per year.  
Mann-Kendall  
statistic = -17  
critical = -30  
Trend not sig-  
nificant at 99%  
confidence level  
( $\alpha = 0.005$  per  
tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

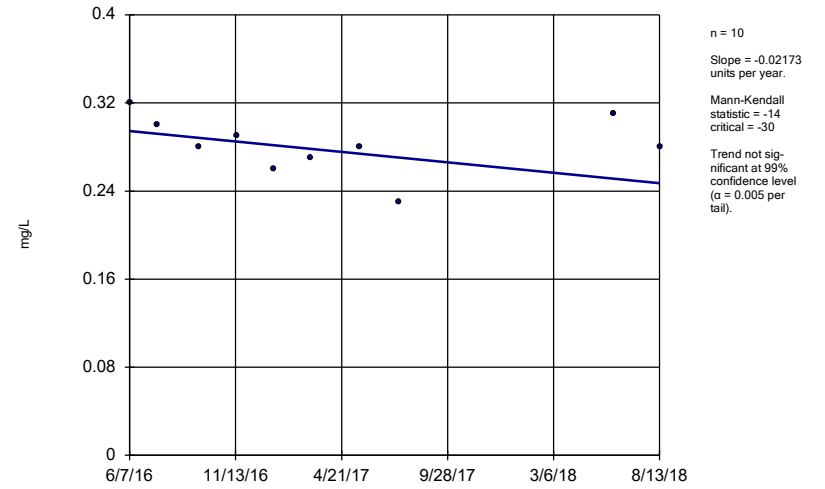
MW-1602D



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

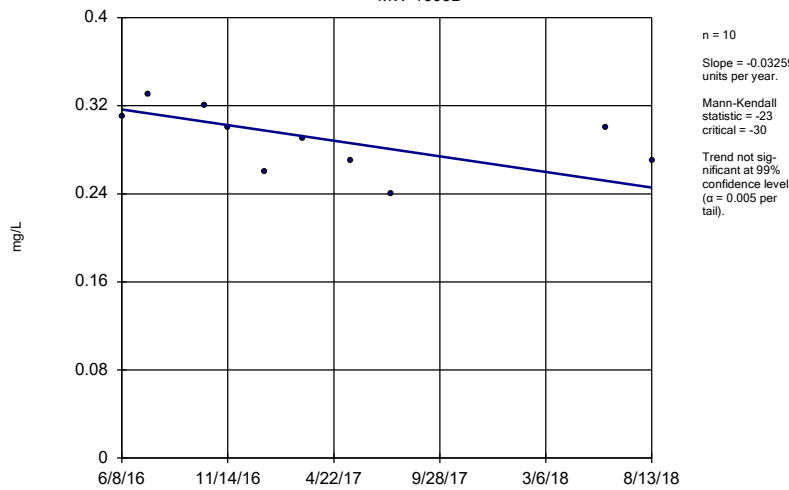
MW-1602I



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

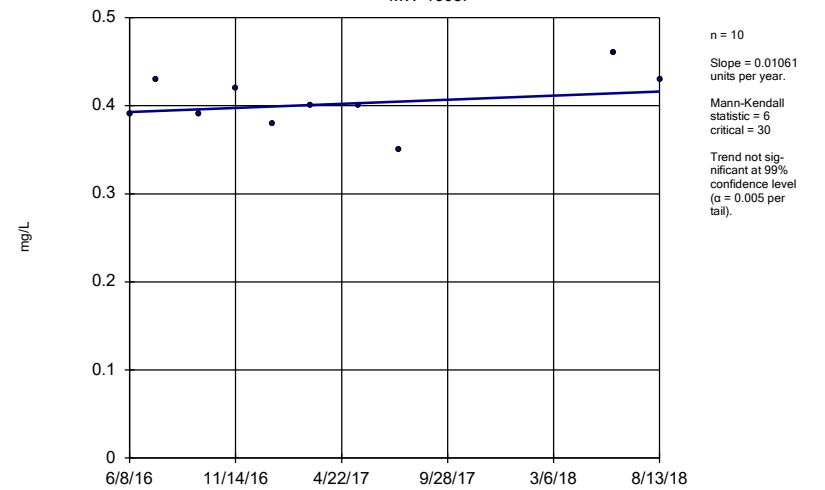
MW-1603D



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

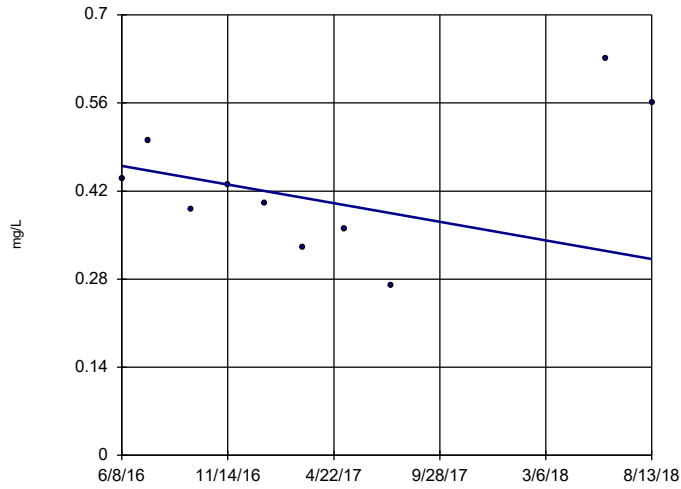
MW-1603I



Constituent: Fluoride, total Analysis Run 12/26/2018 7:44 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1603S

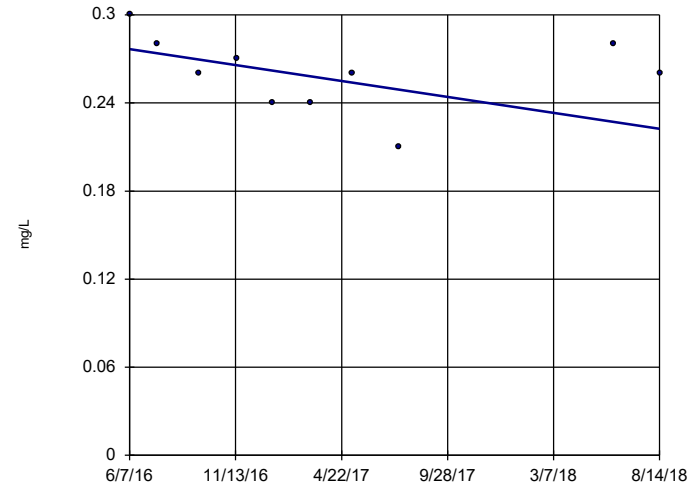


n = 10  
 Slope = -0.06791  
 units per year.  
 Mann-Kendall  
 statistic = -5  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1604D

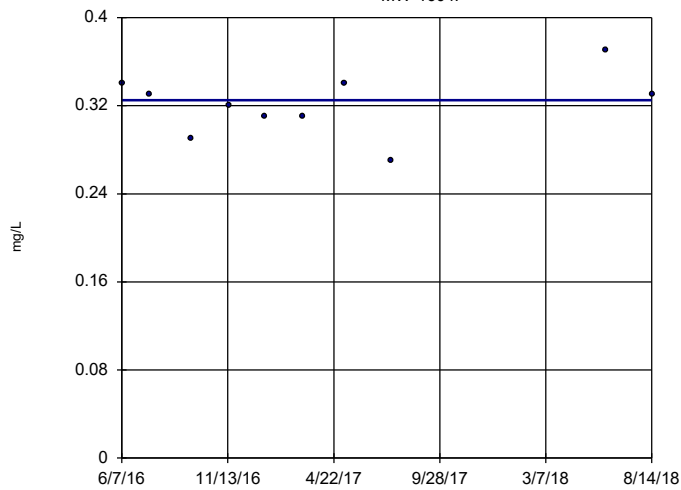


n = 10  
 Slope = -0.02483  
 units per year.  
 Mann-Kendall  
 statistic = -16  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1604I

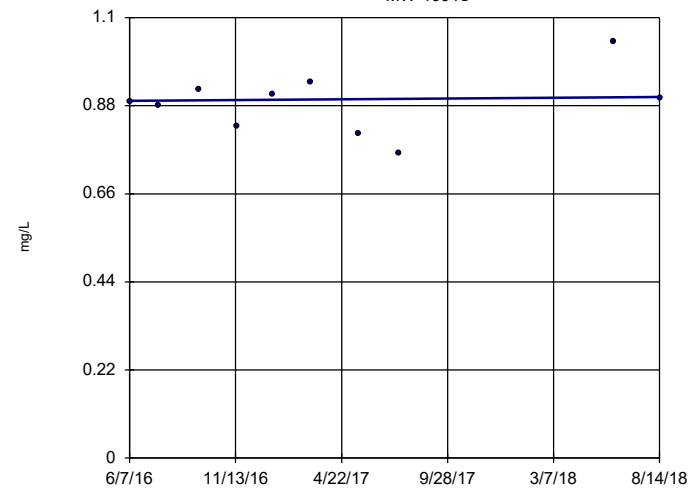


n = 10  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = 0  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1604S

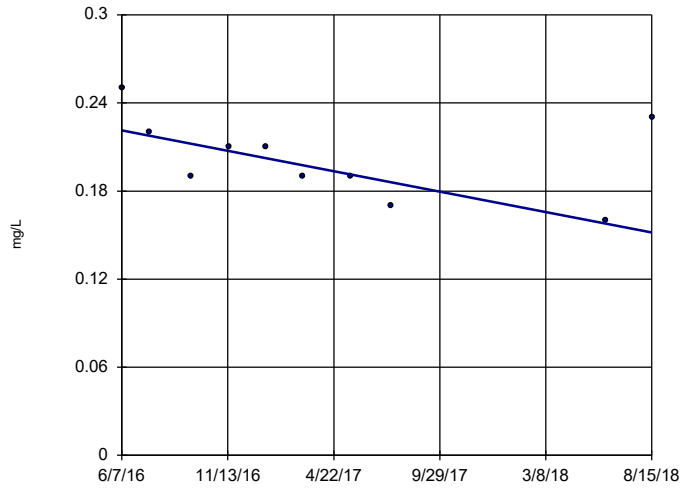


n = 10  
 Slope = 0.004574  
 units per year.  
 Mann-Kendall  
 statistic = 1  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 (α = 0.005 per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605D

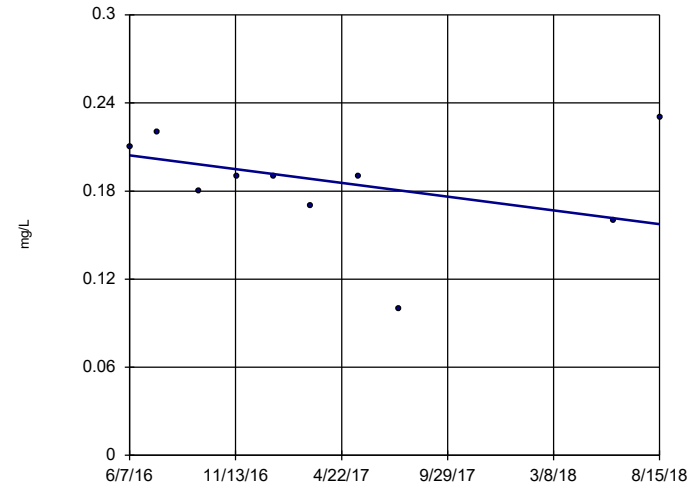


n = 10  
 Slope = -0.03183  
 units per year.  
 Mann-Kendall  
 statistic = -21  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605I

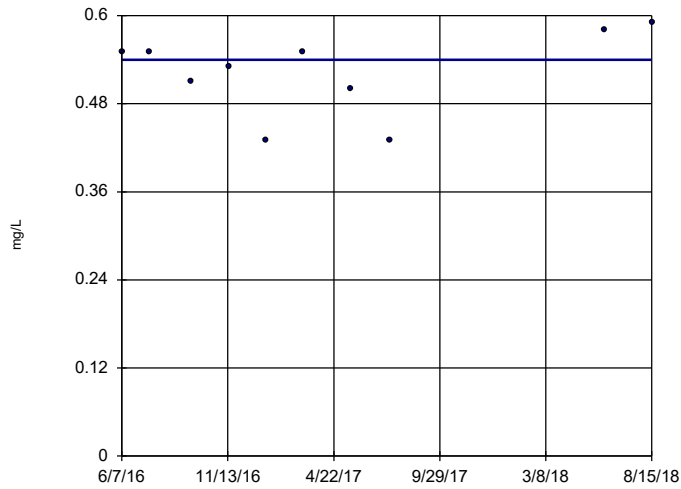


n = 10  
 Slope = -0.02139  
 units per year.  
 Mann-Kendall  
 statistic = -12  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605S

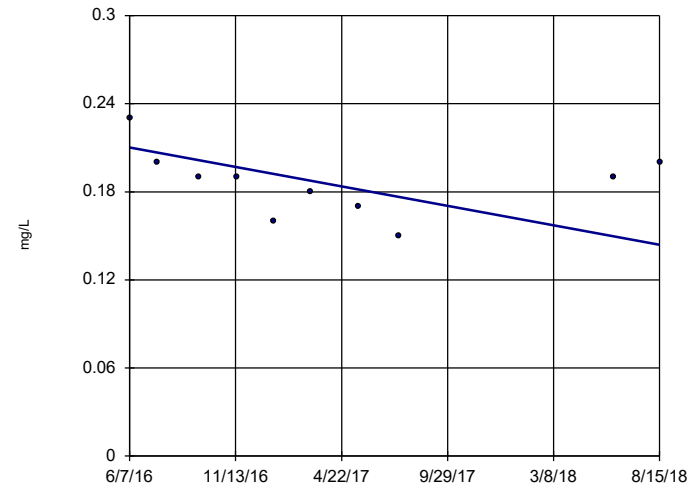


n = 10  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = 3  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606D

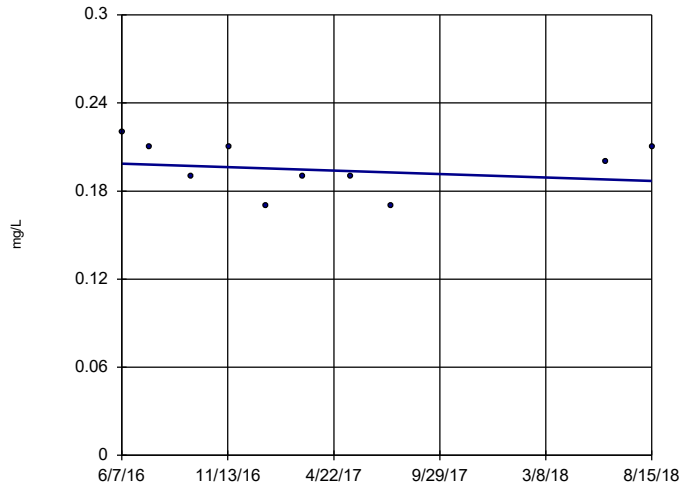


n = 10  
 Slope = -0.03029  
 units per year.  
 Mann-Kendall  
 statistic = -15  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606I

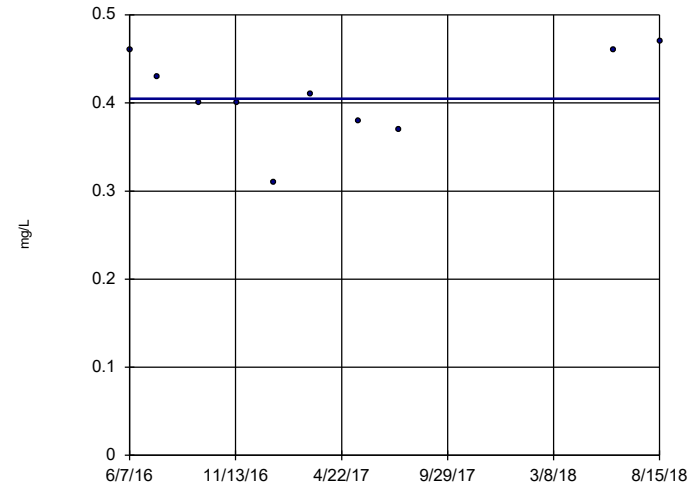


n = 10  
 Slope = -0.005313  
 units per year.  
 Mann-Kendall  
 statistic = -10  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606S

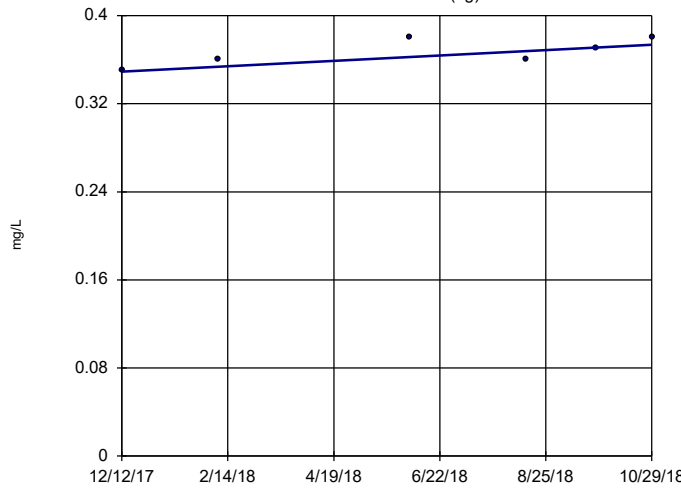


n = 10  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = -1  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1701S (bg)

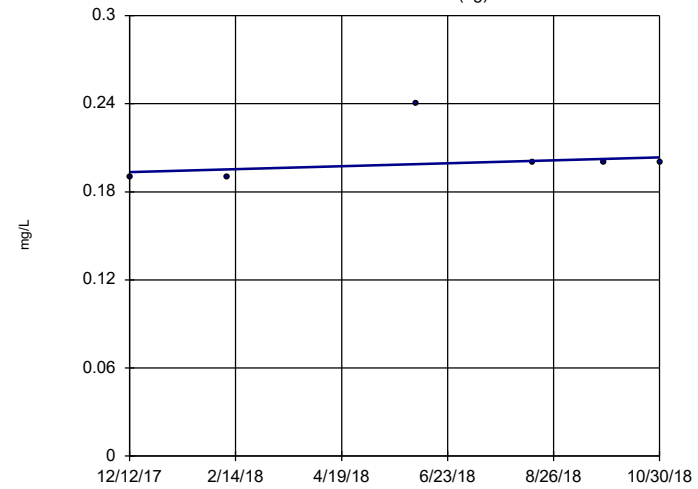


n = 6  
 Slope = 0.02776  
 units per year.  
 Mann-Kendall  
 statistic = 9  
 critical = 14  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1702D (bg)

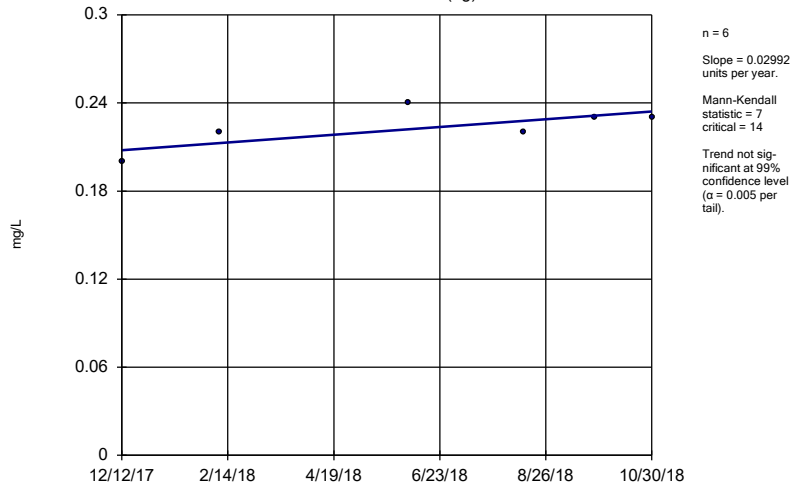


n = 6  
 Slope = 0.01134  
 units per year.  
 Mann-Kendall  
 statistic = 5  
 critical = 14  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

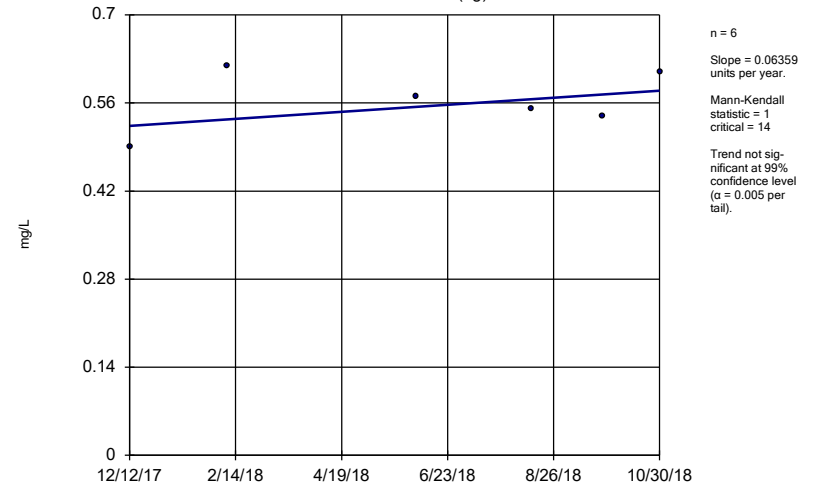
MW-1702I (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

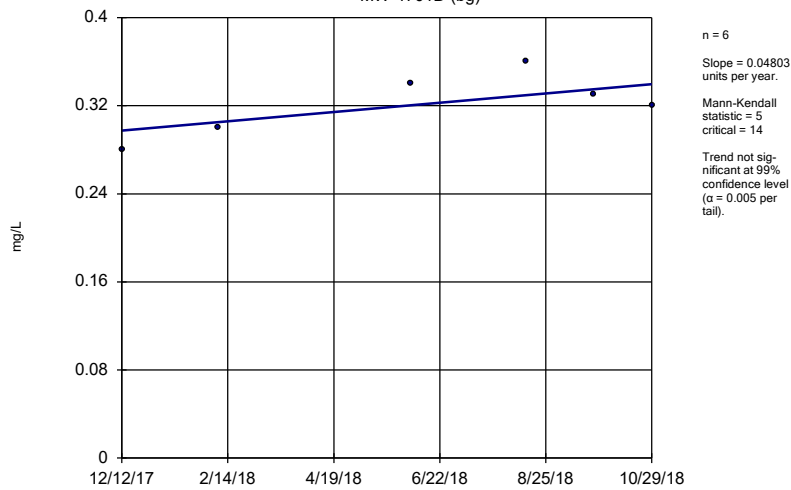
MW-1702S (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

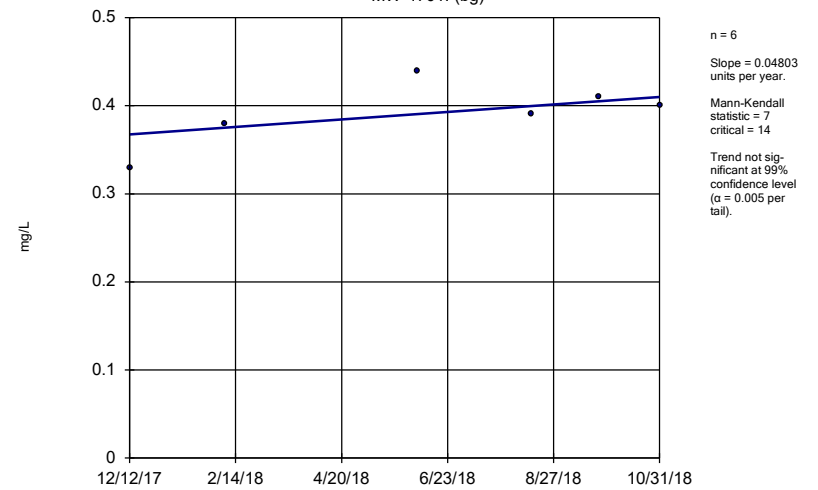
MW-1701D (bg)



Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1701I (bg)

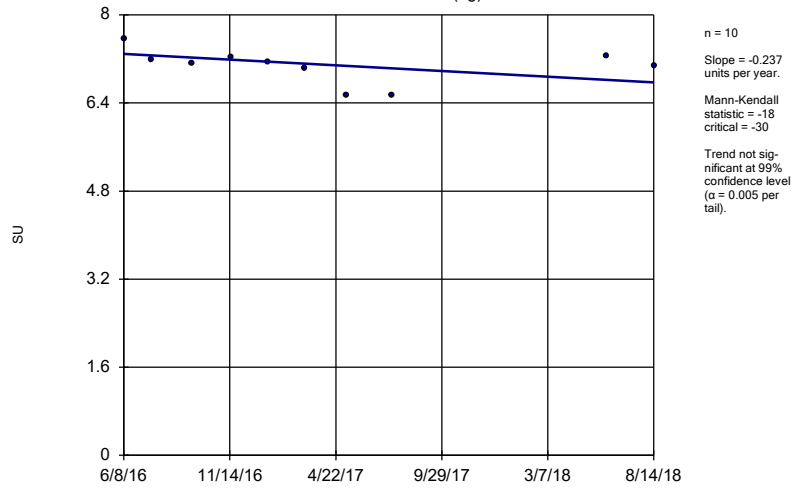


Constituent: Fluoride, total Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Sen's Slope Estimator

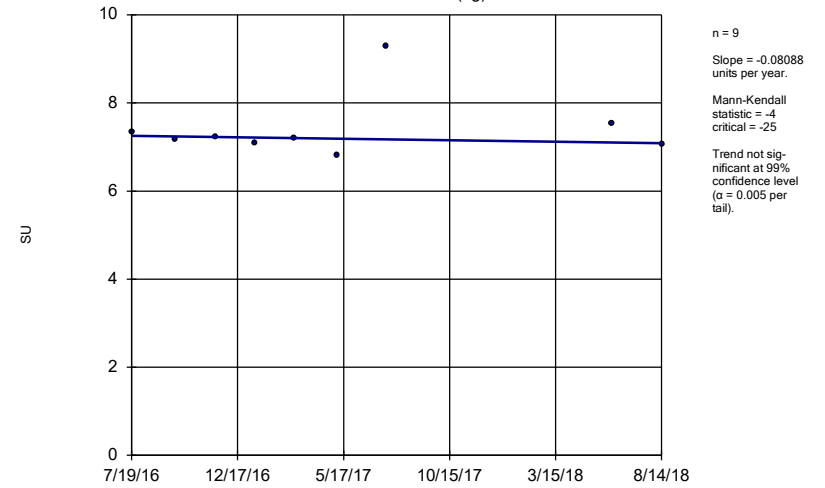
MW-1600D (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

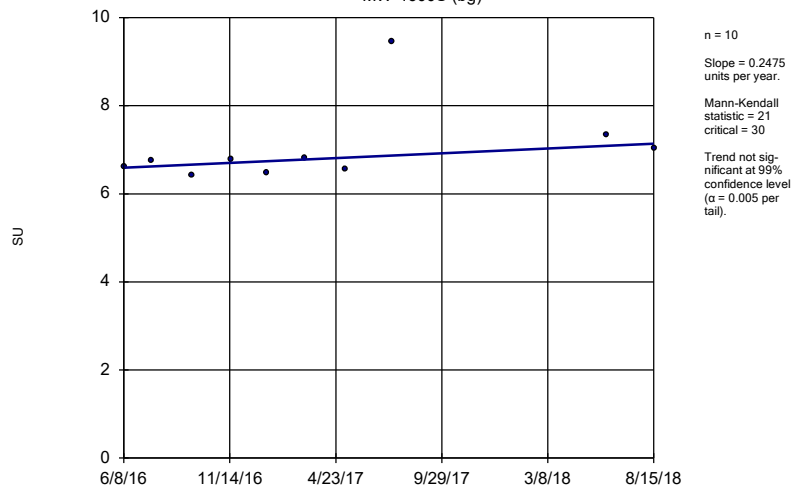
MW-1600I (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

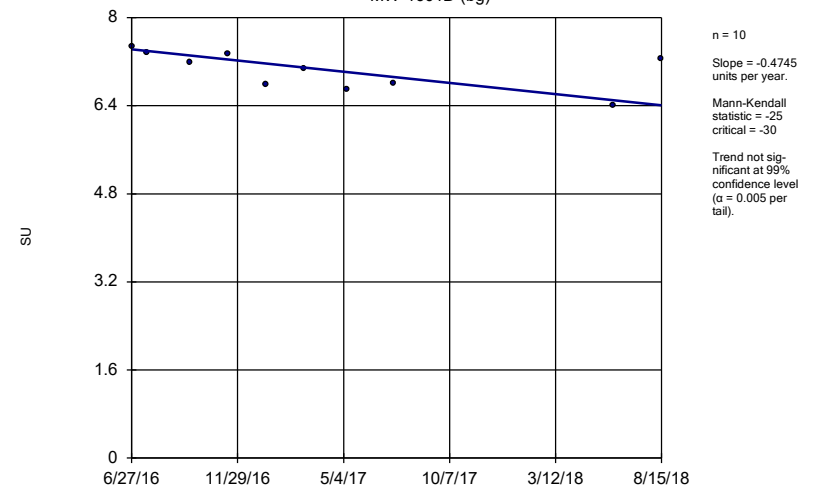
MW-1600S (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

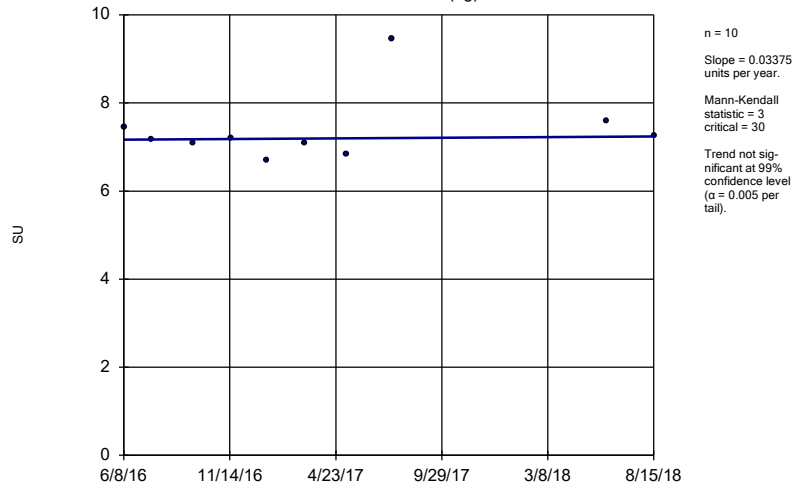
MW-1601D (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

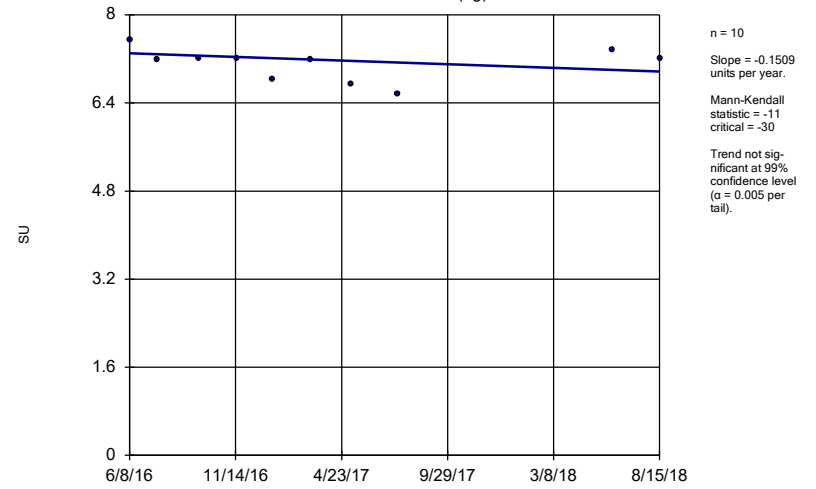
MW-16011 (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

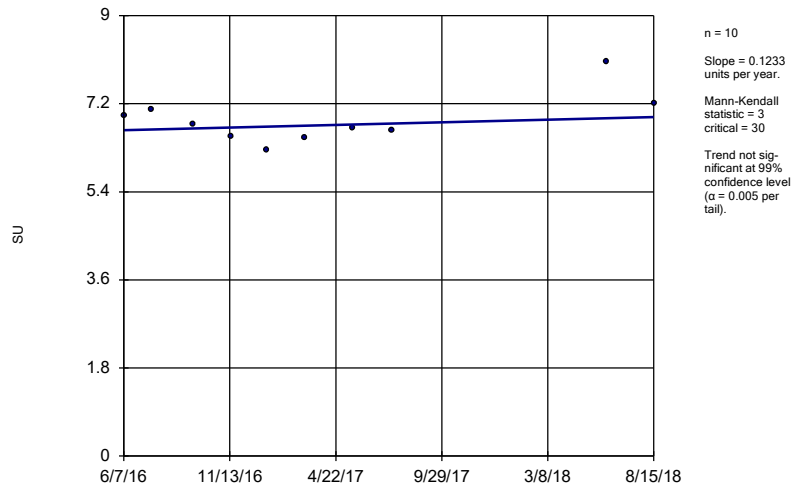
MW-1601S (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

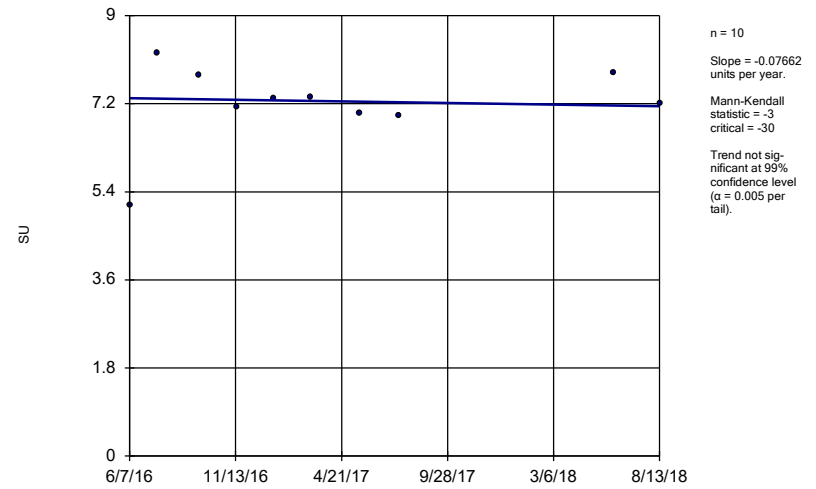
MW-1002



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

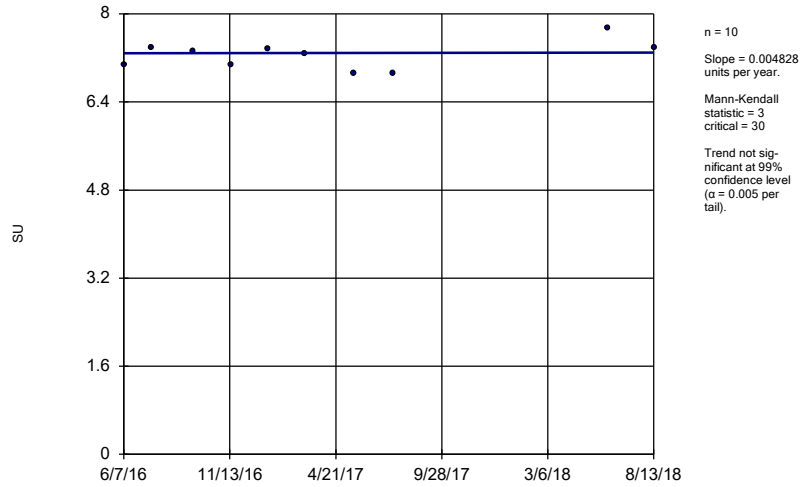
MW-1602D



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

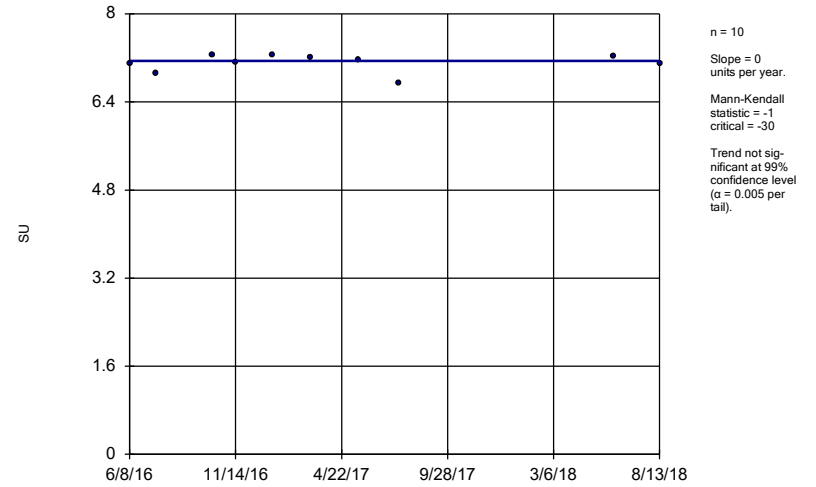
MW-1602I



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

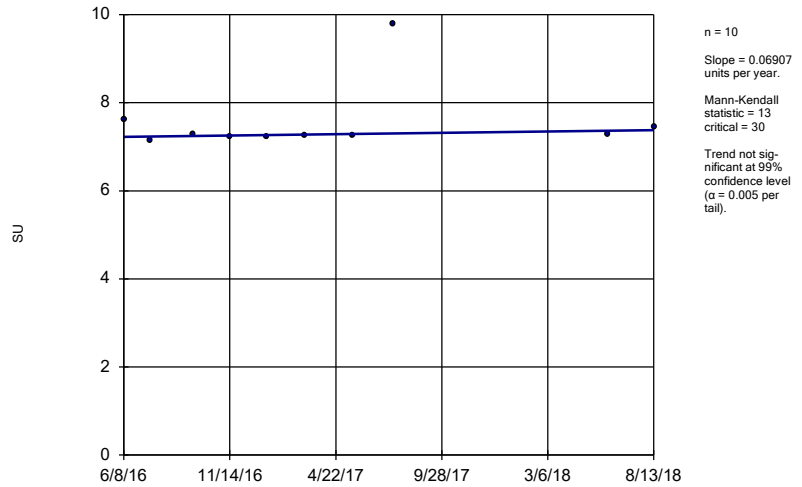
MW-1603D



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

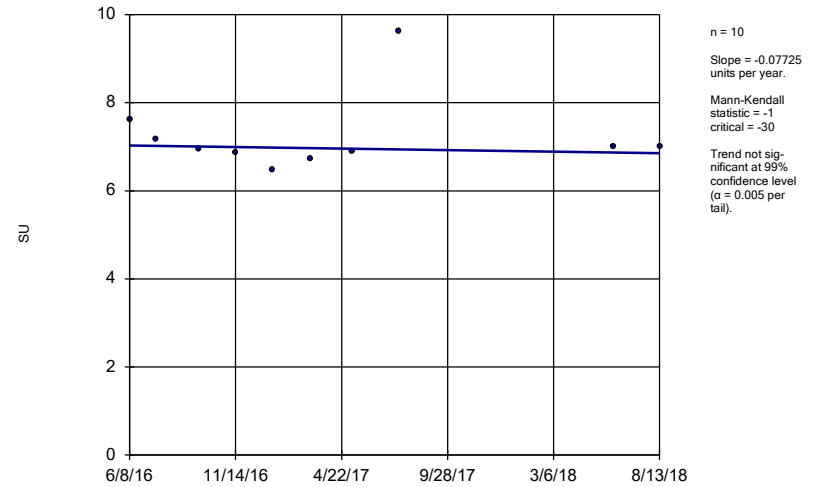
MW-1603I



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

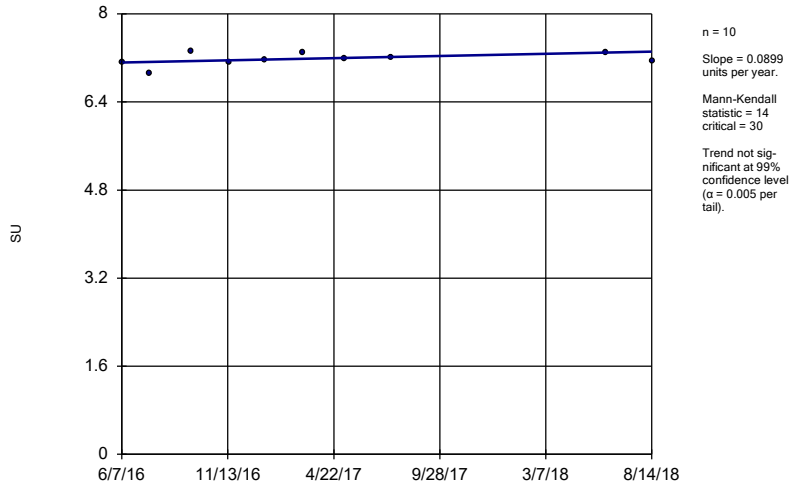
MW-1603S



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

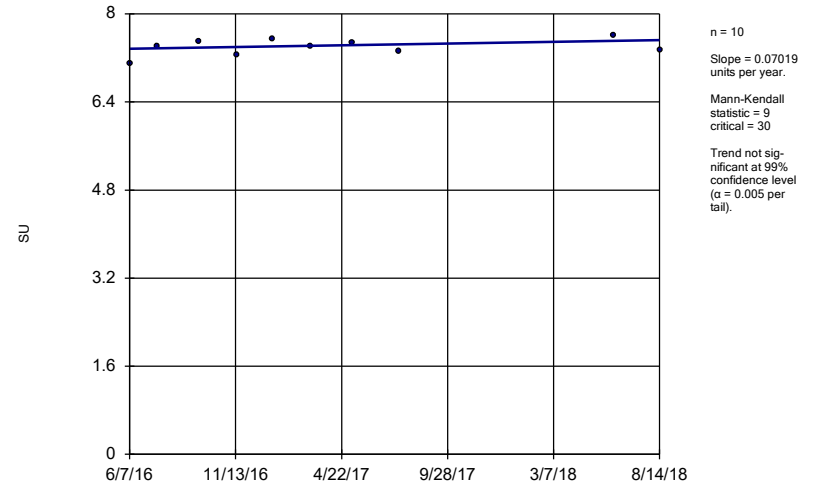
MW-1604D



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

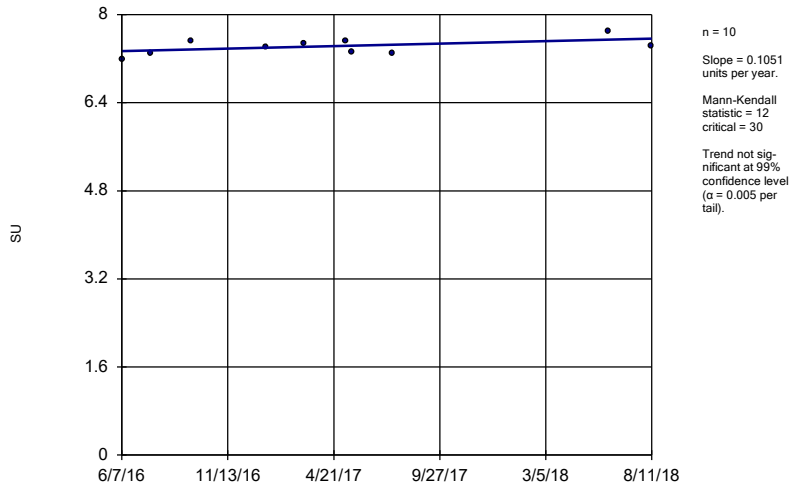
MW-1604I



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

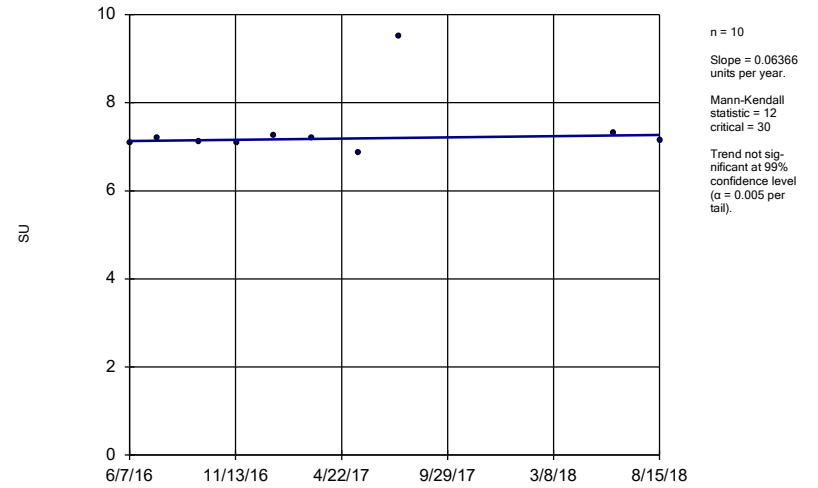
MW-1604S



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

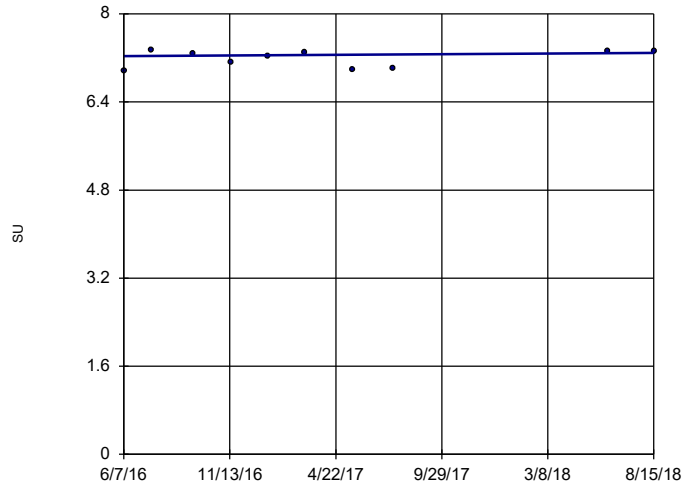
MW-1605D



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605I

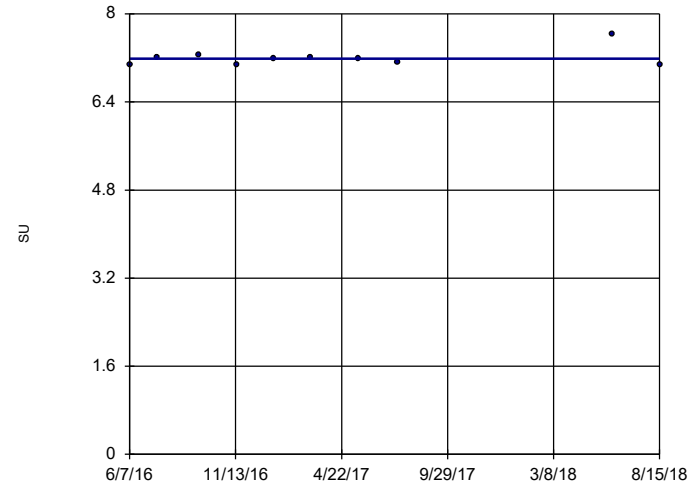


n = 10  
 Slope = 0.02626  
 units per year.  
 Mann-Kendall  
 statistic = 8  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1605S

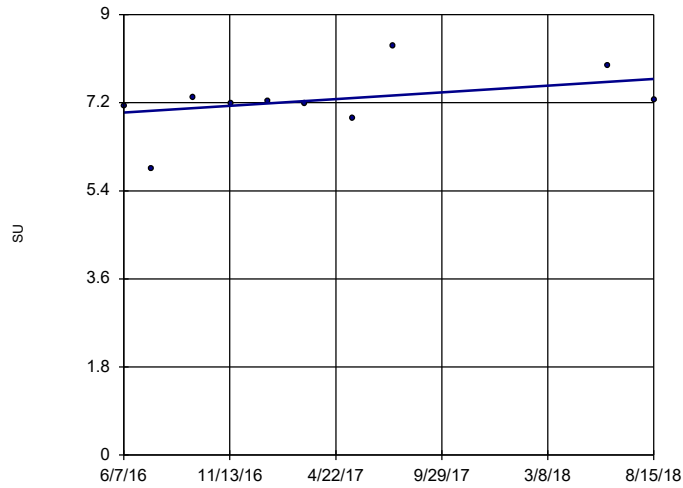


n = 10  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = -1  
 critical = -30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606D

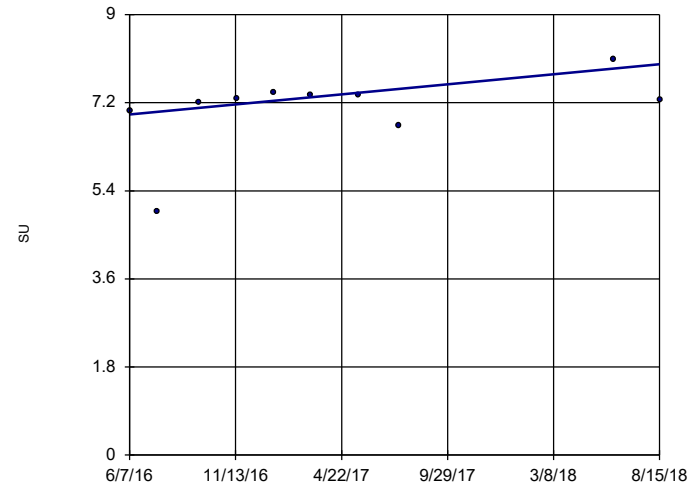


n = 10  
 Slope = 0.3135  
 units per year.  
 Mann-Kendall  
 statistic = 17  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1606I

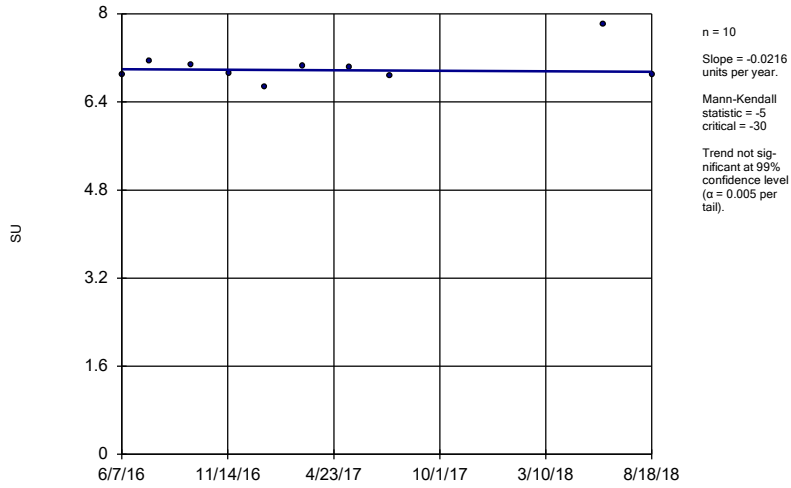


n = 10  
 Slope = 0.4697  
 units per year.  
 Mann-Kendall  
 statistic = 15  
 critical = 30  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

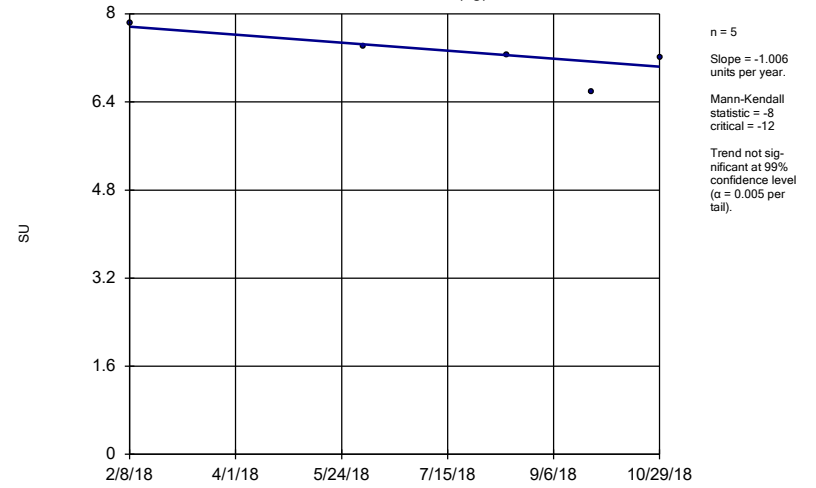
MW-1606S



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

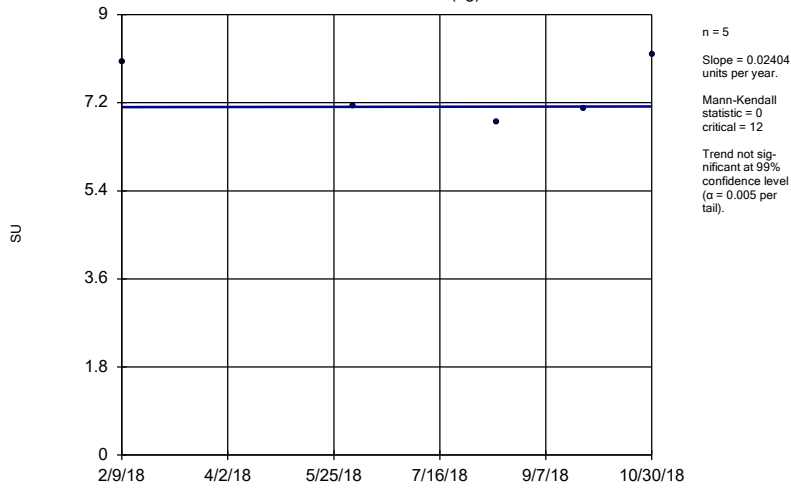
MW-1701S (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

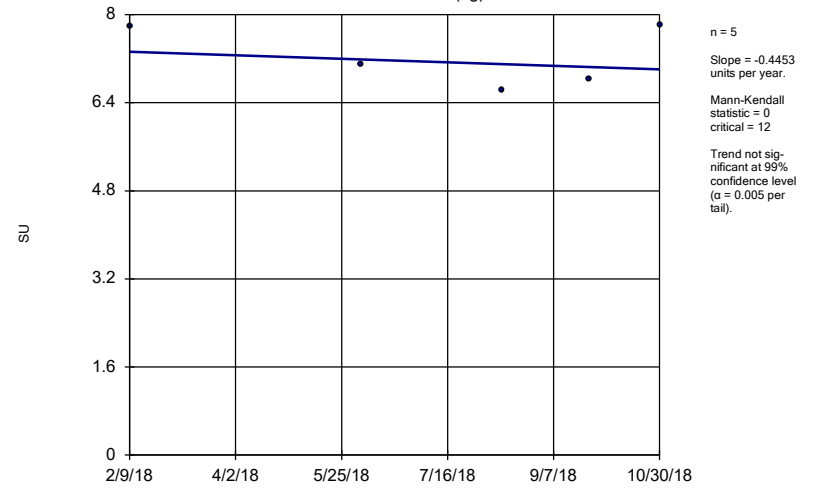
MW-1702D (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:45 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

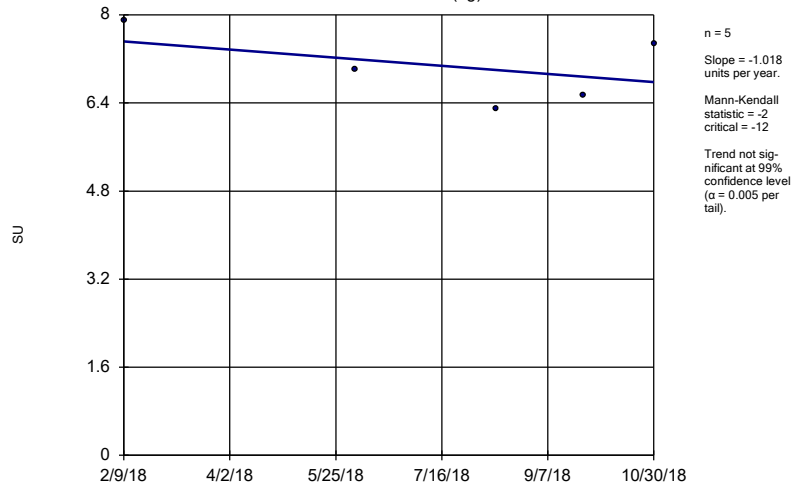
MW-1702I (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

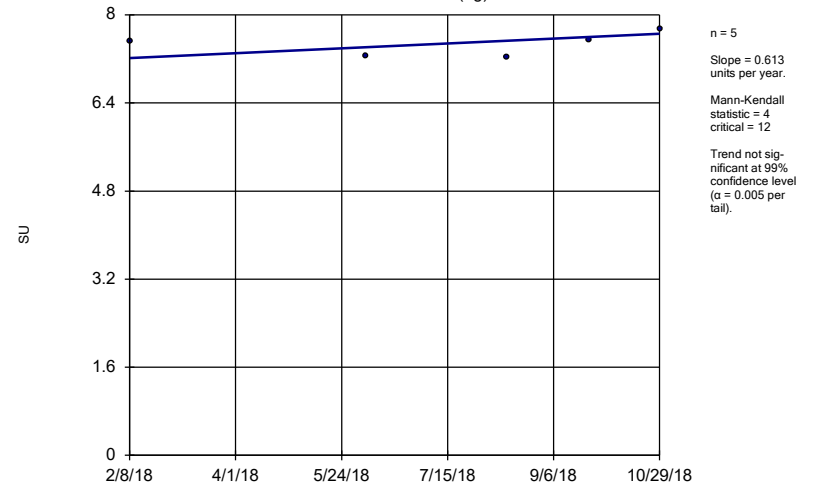
MW-1702S (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

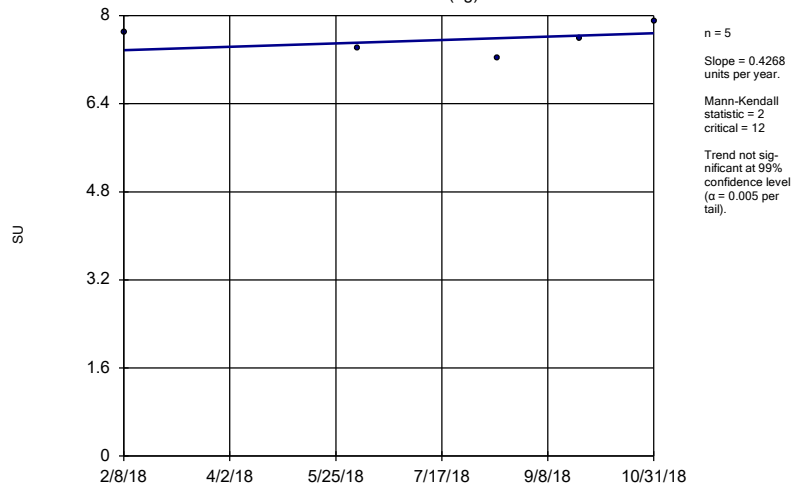
MW-1701D (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

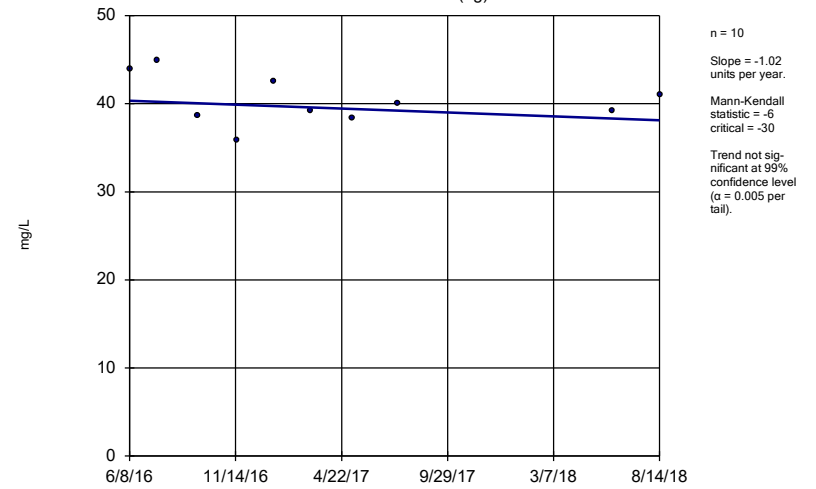
MW-1701I (bg)



Constituent: pH, field Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

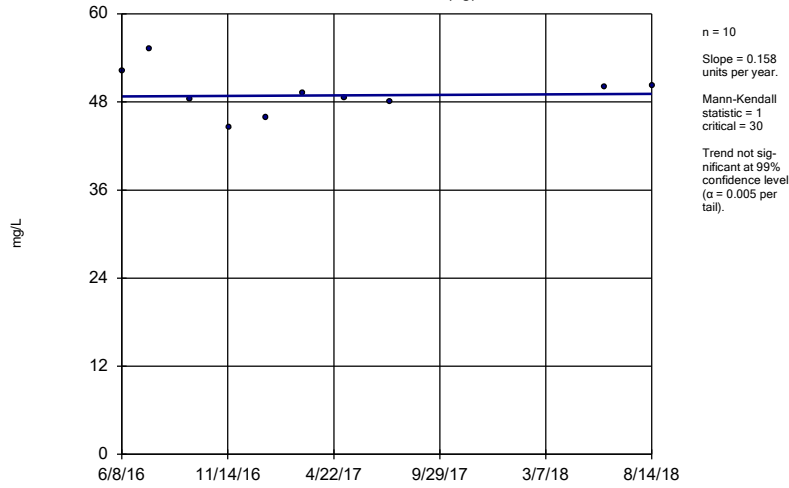
MW-1600D (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

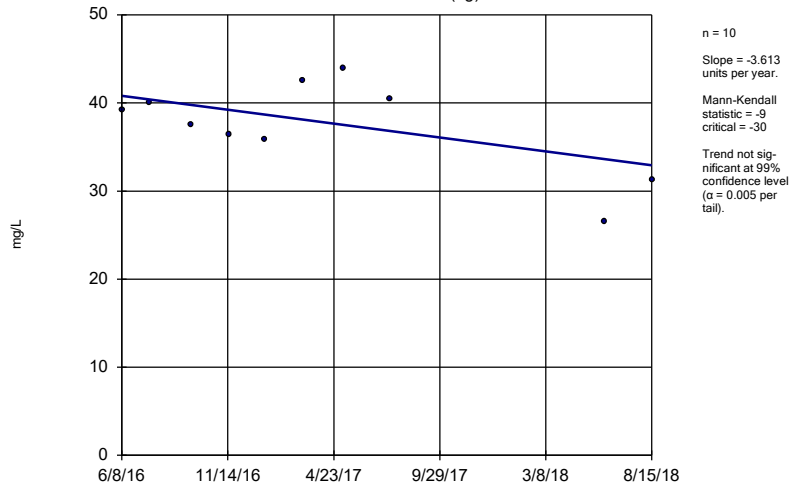
MW-1600I (bg)





### Sen's Slope Estimator

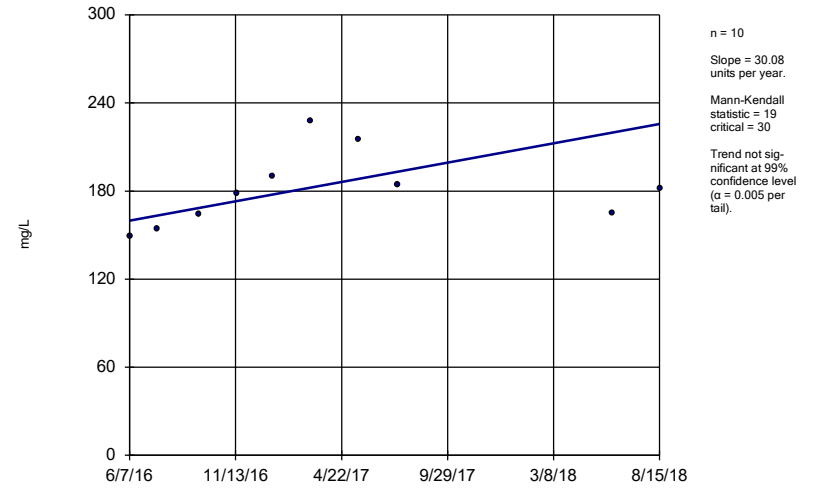
MW-1601S (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

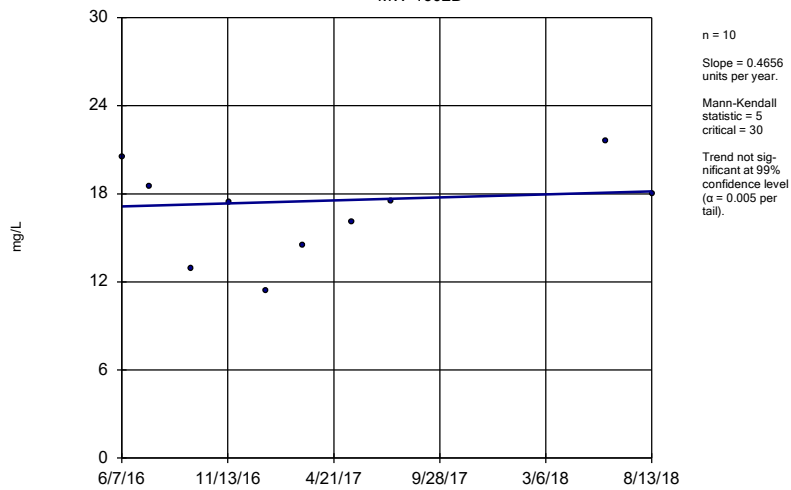
MW-1002



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

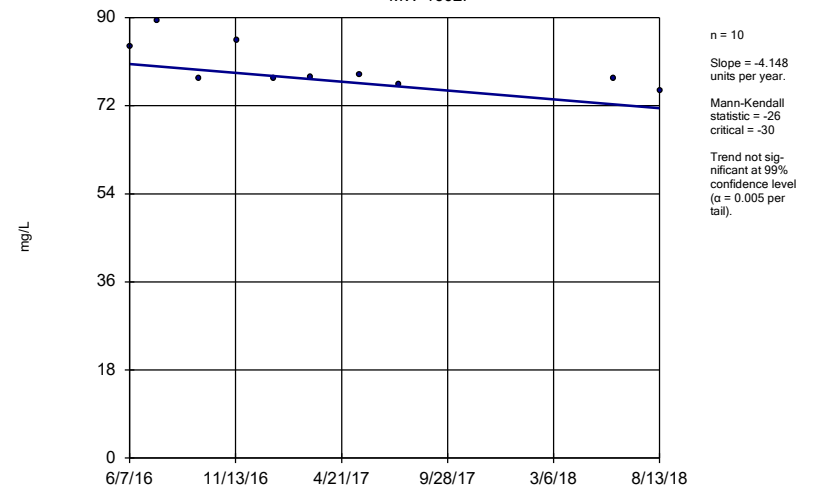
MW-1602D



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

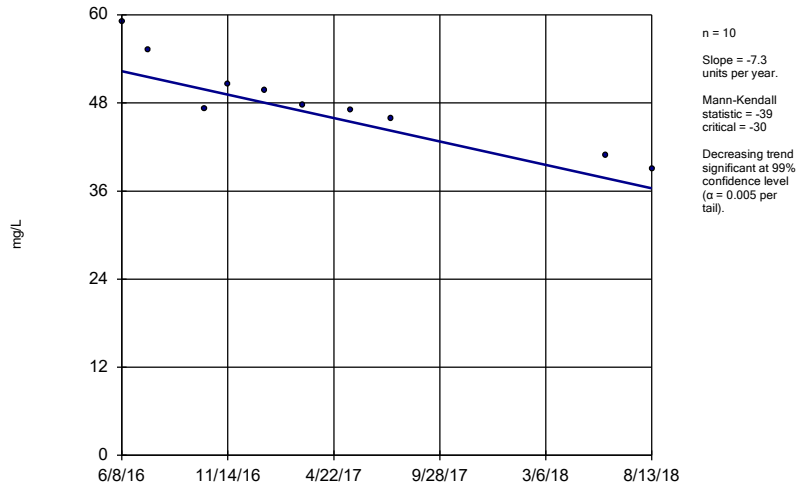
MW-1602I



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

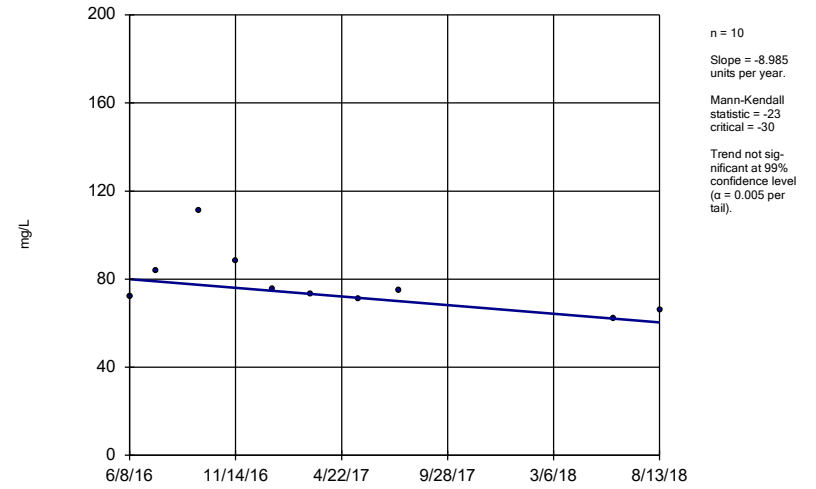
MW-1603D



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

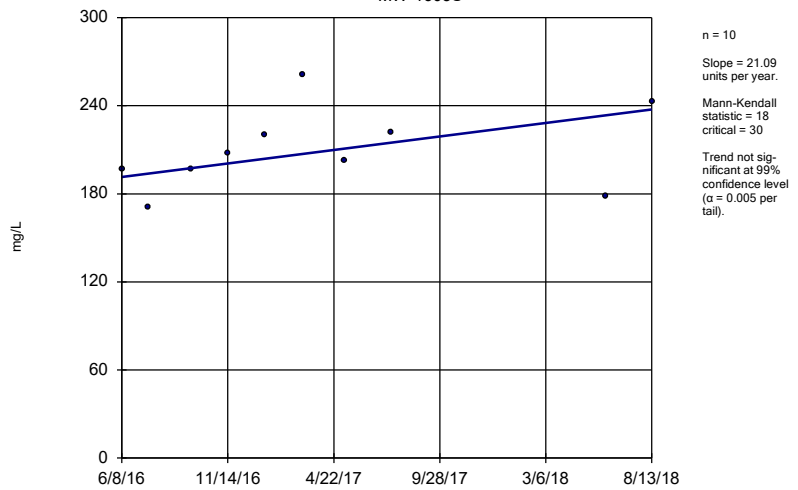
MW-1603I



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

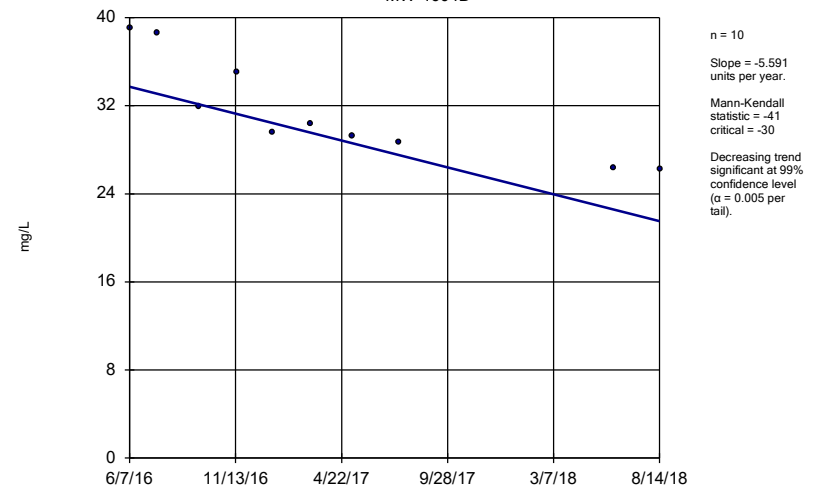
MW-1603S



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

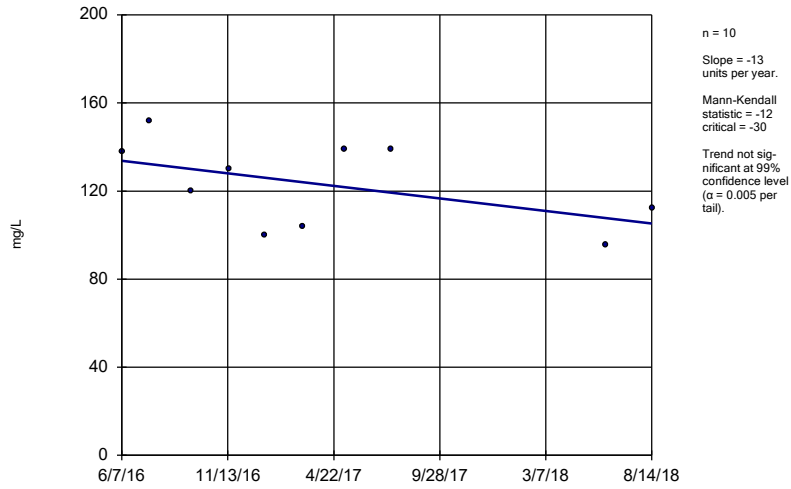
MW-1604D



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

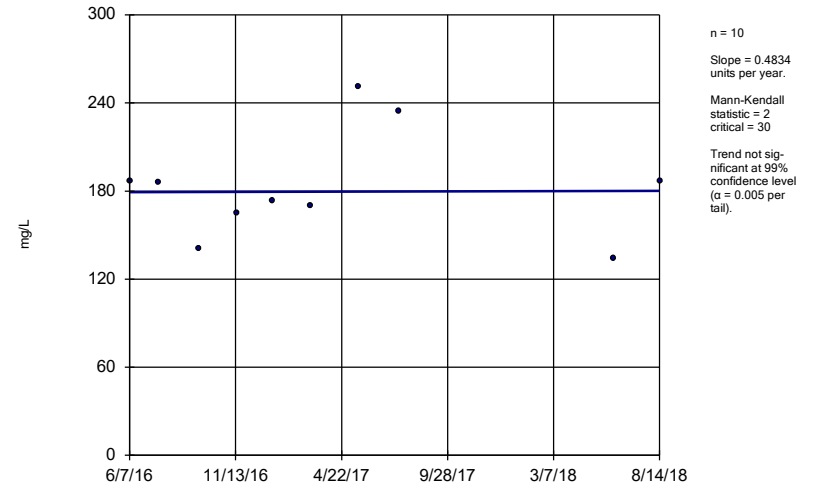
MW-1604I



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

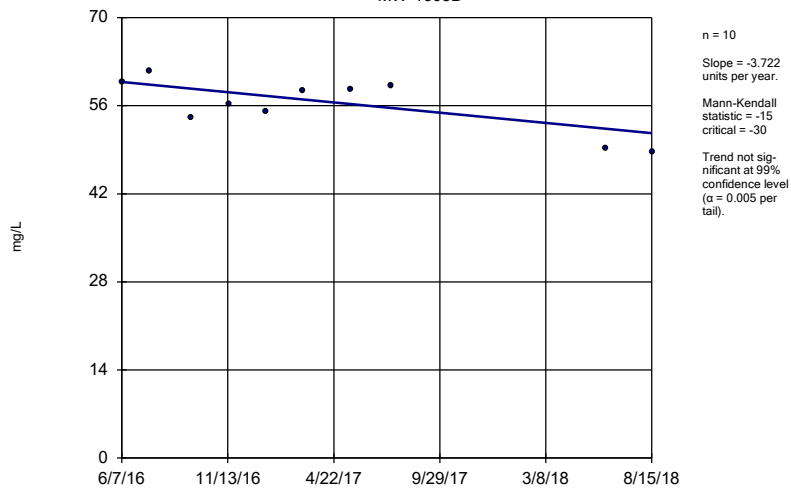
MW-1604S



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

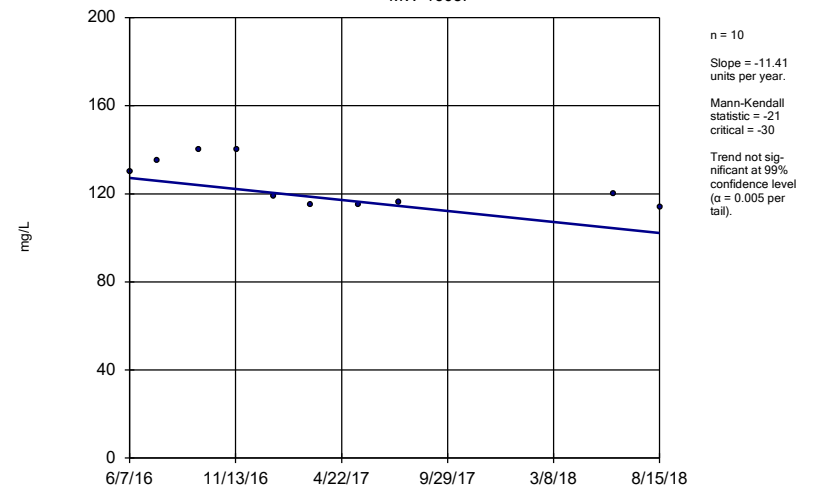
MW-1605D



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

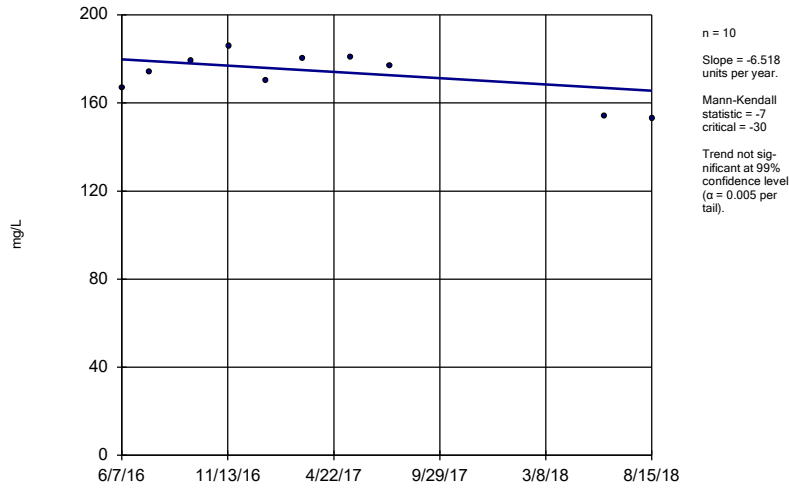
MW-1605I



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

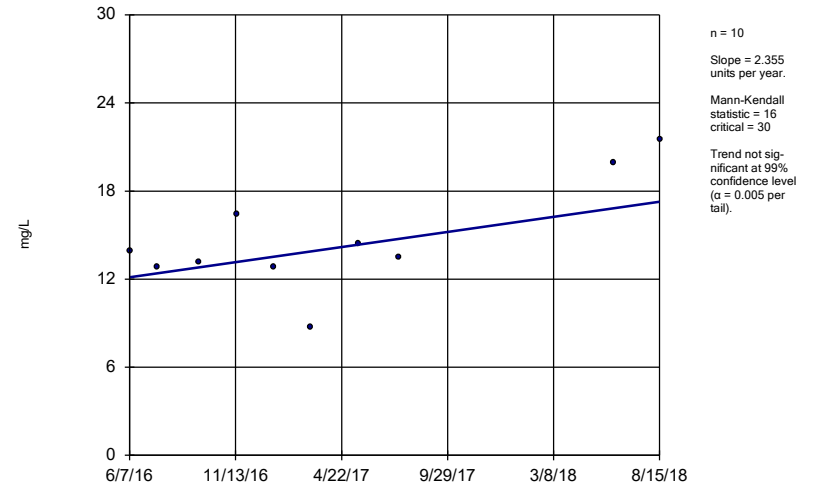
MW-1605S



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

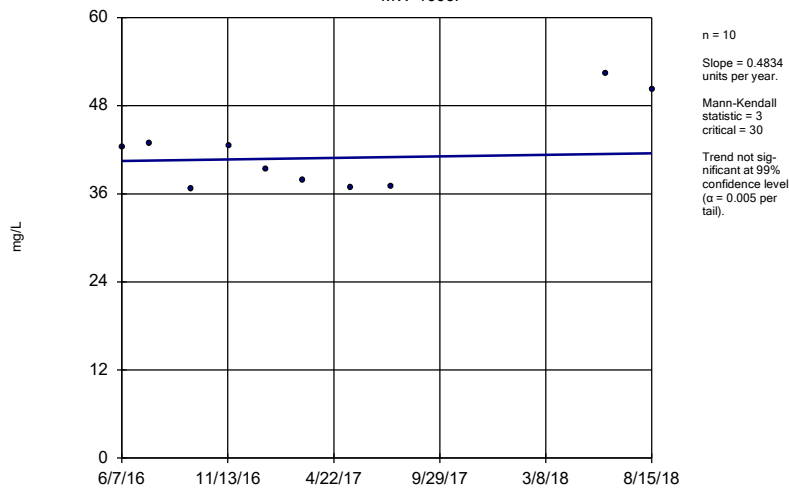
MW-1606D



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

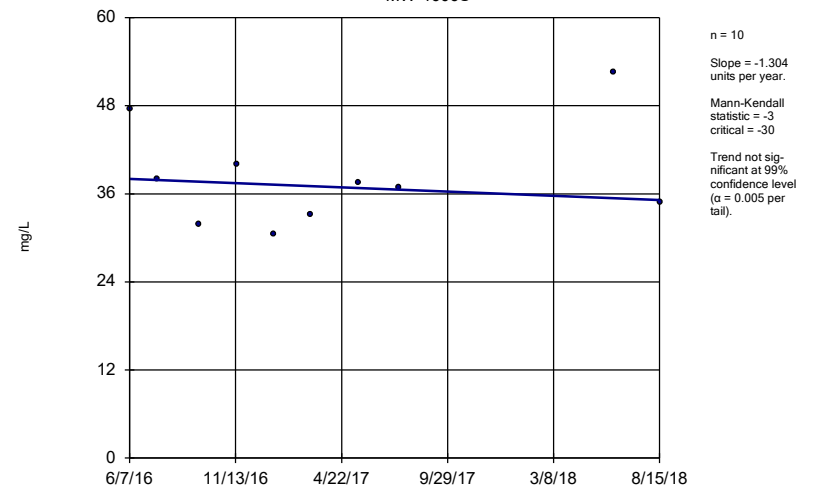
MW-1606I



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

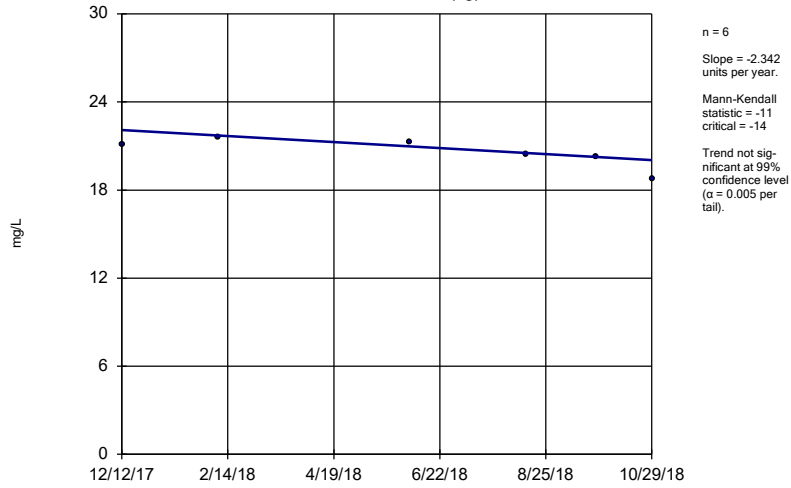
MW-1606S



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

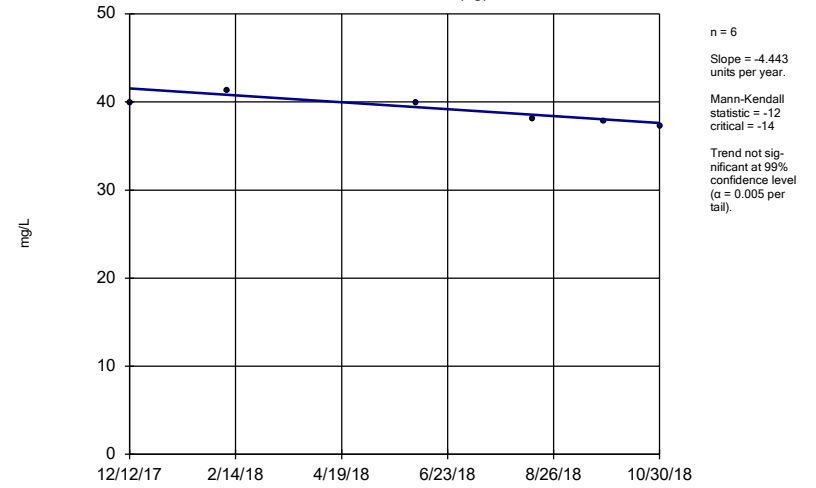
MW-1701S (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

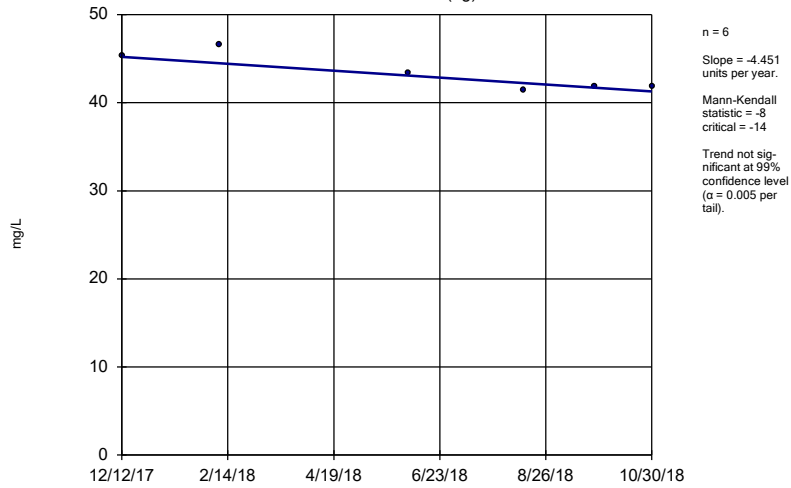
MW-1702D (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

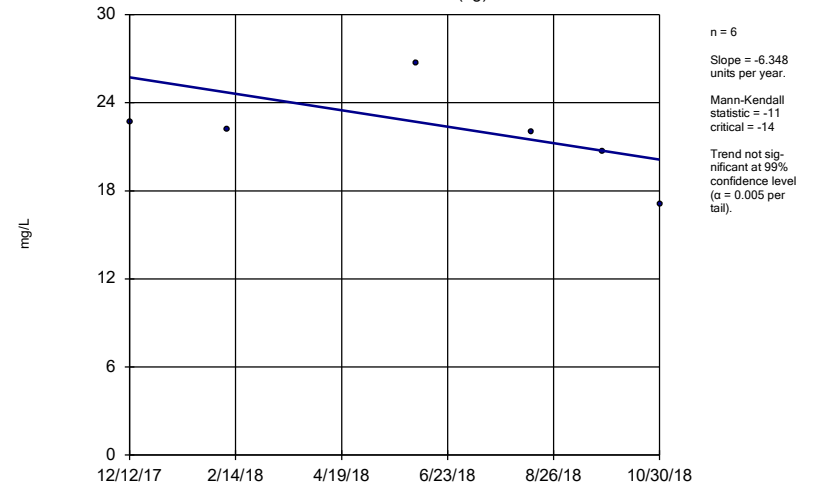
MW-1702I (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

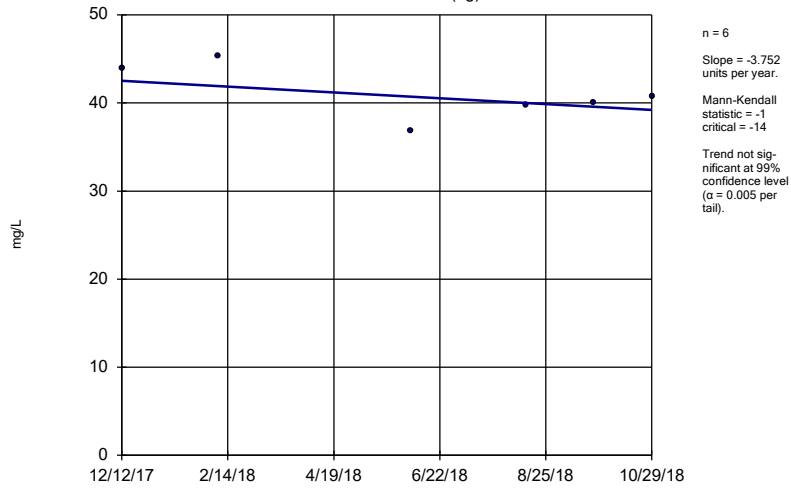
MW-1702S (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

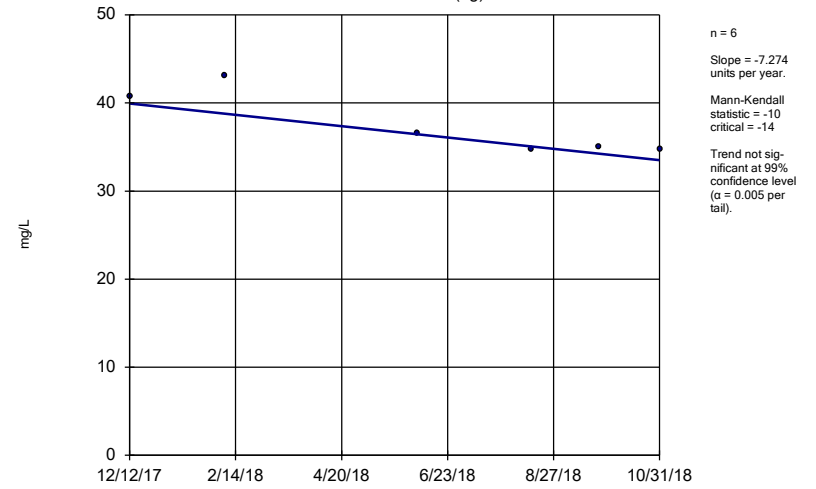
MW-1701D (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

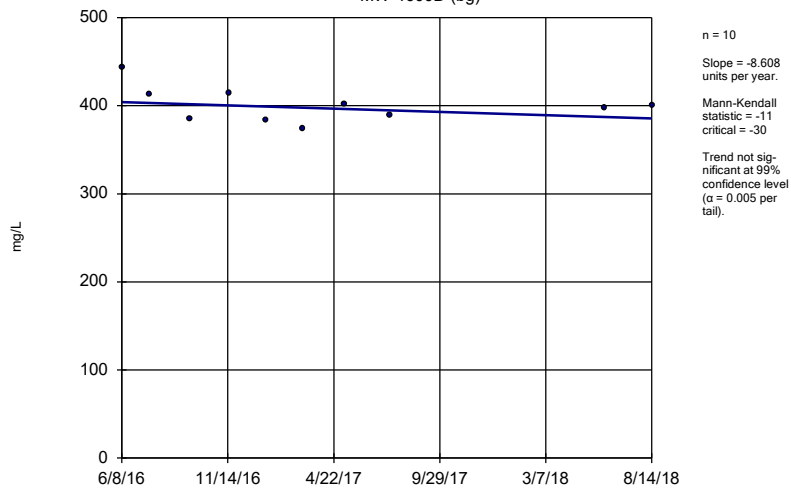
MW-1701I (bg)



Constituent: Sulfate, total Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

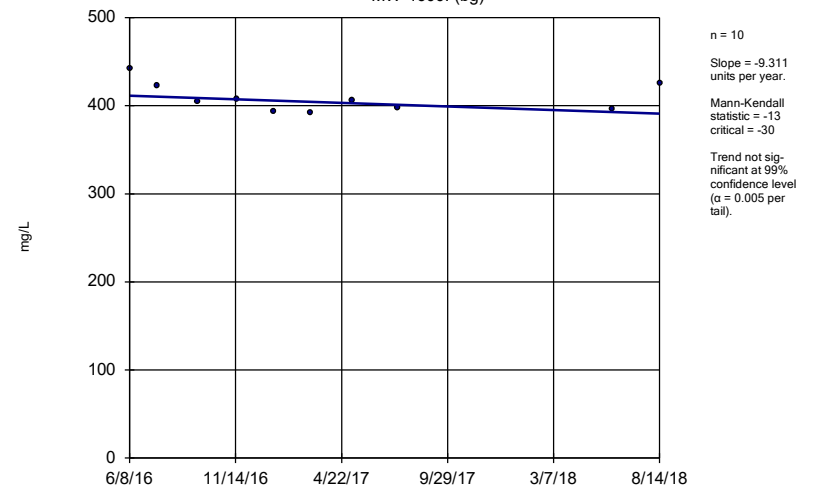
MW-1600D (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

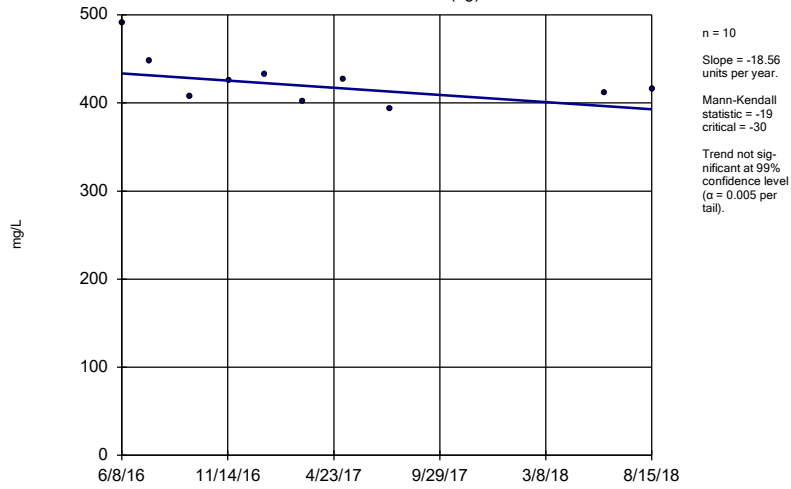
MW-1600I (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

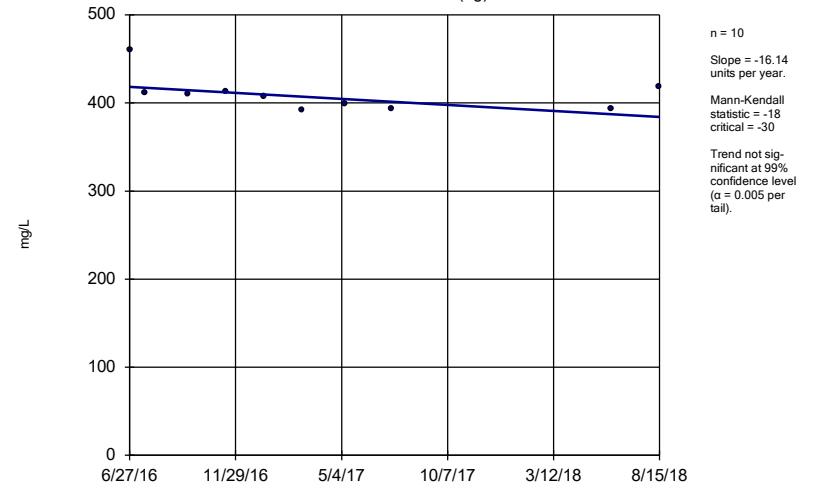
MW-1600S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

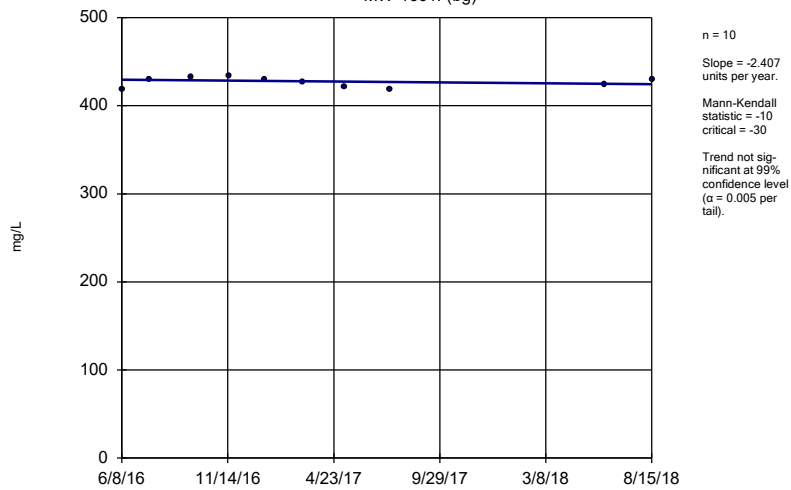
MW-1601D (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

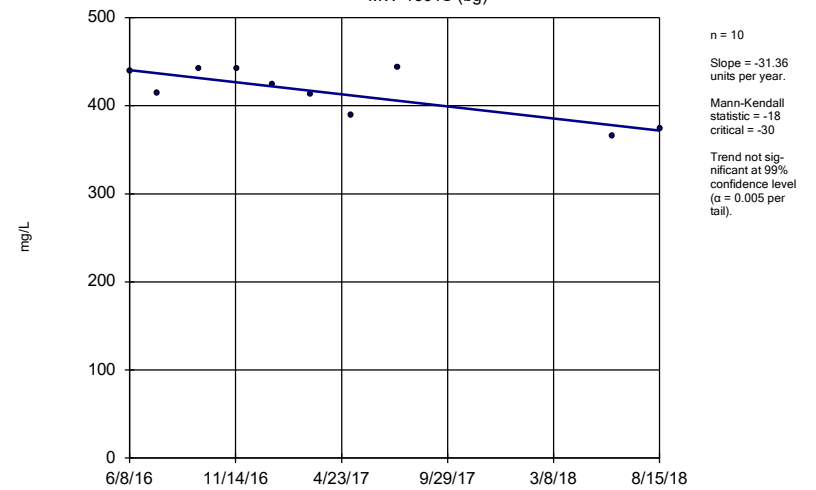
MW-1601I (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

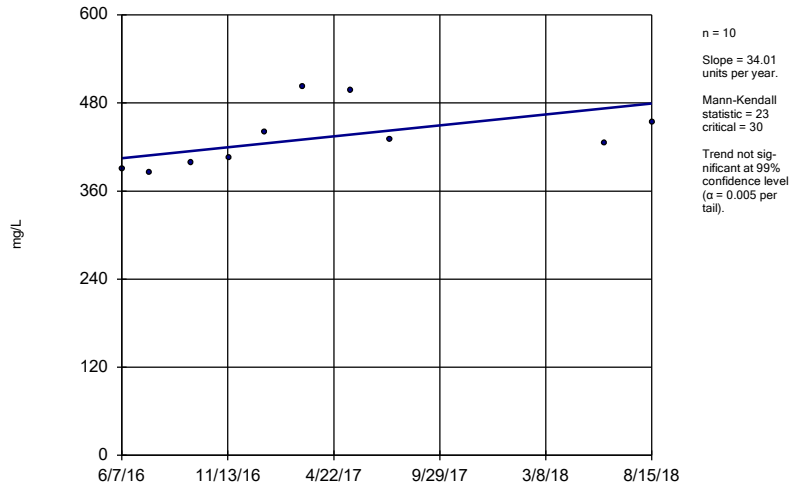
MW-1601S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:46 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

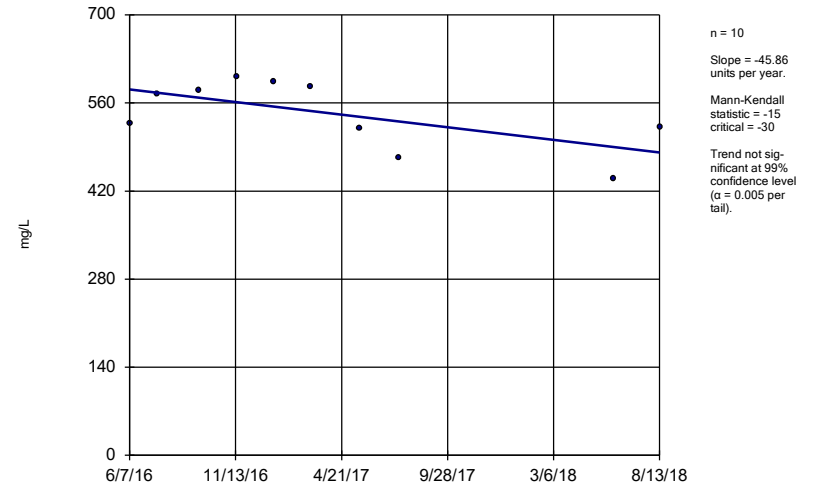
MW-1002



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

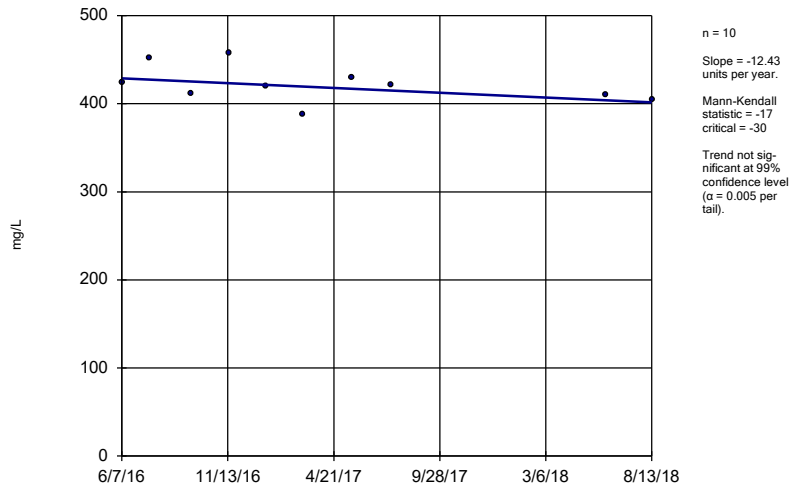
MW-1602D



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

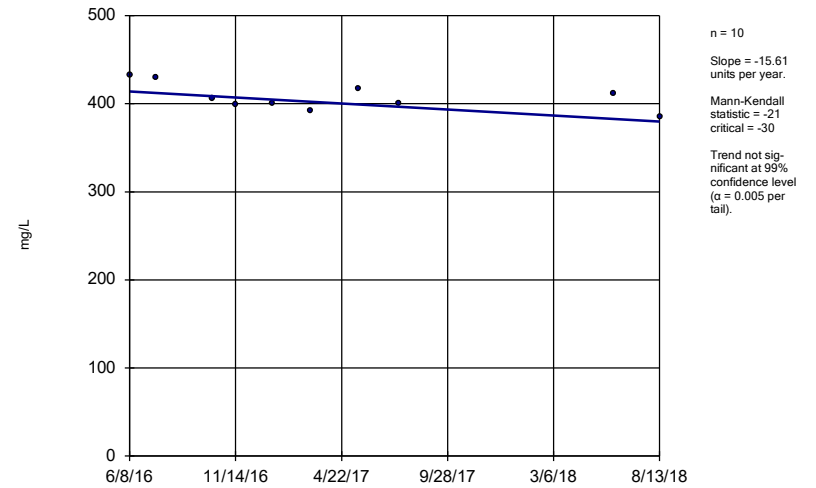
MW-1602I



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-1603D

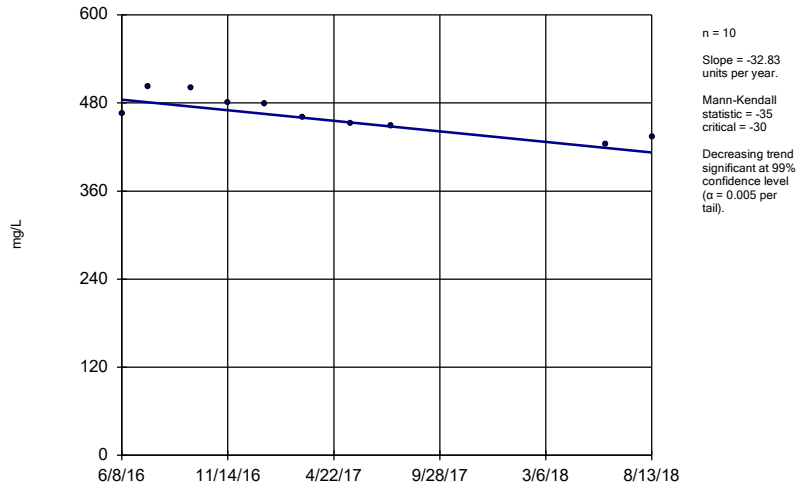


Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Sen's Slope Estimator

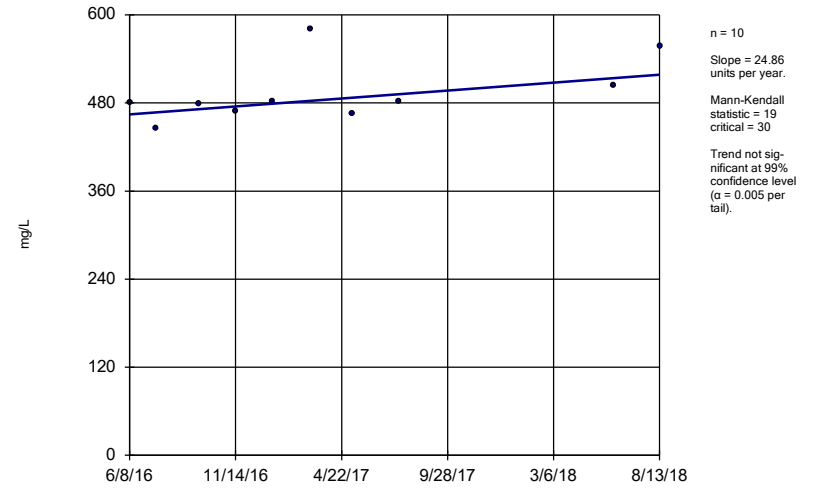
MW-1603I



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

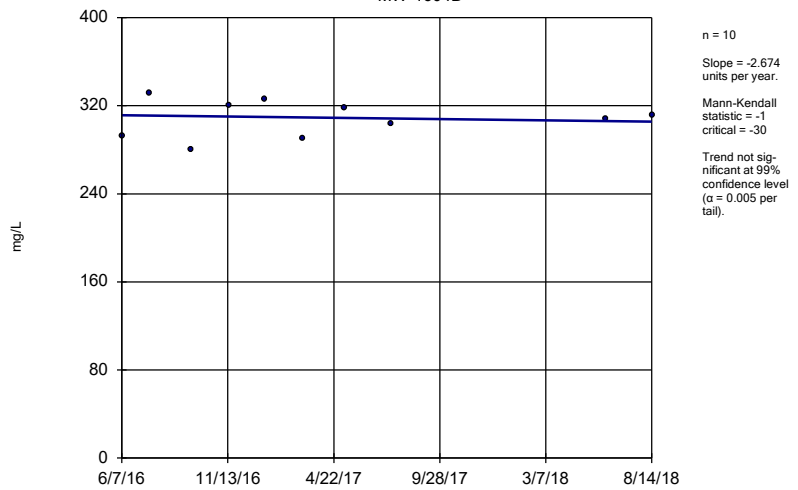
MW-1603S



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

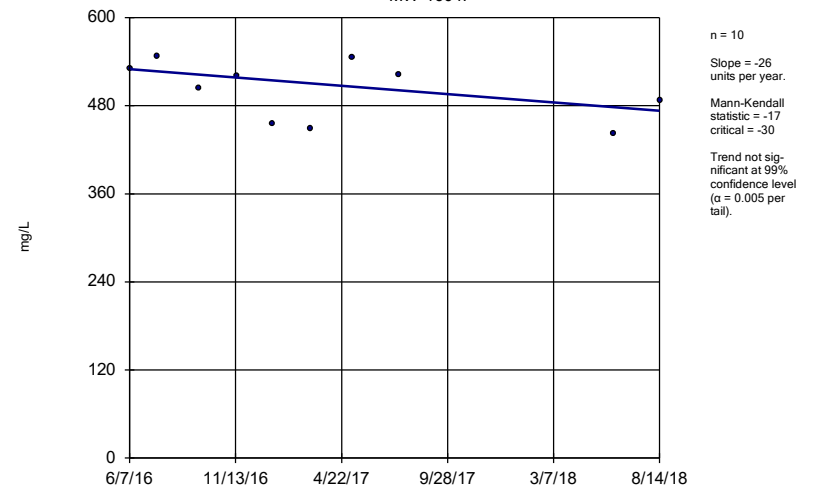
MW-1604D



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

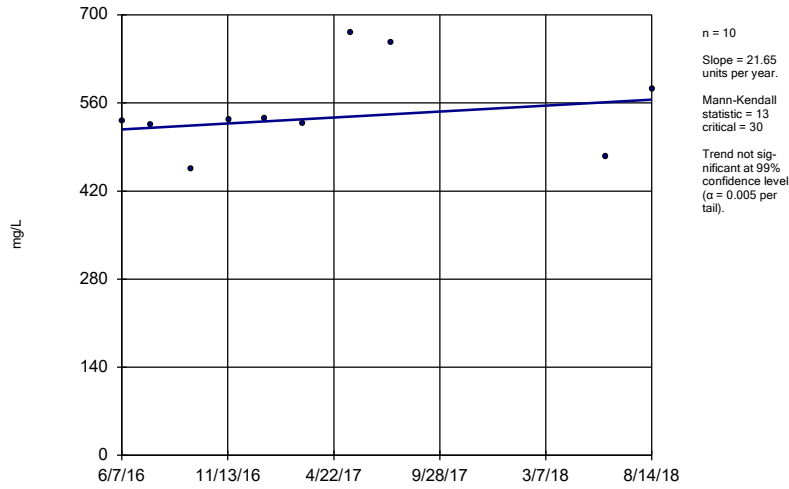
MW-1604I



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

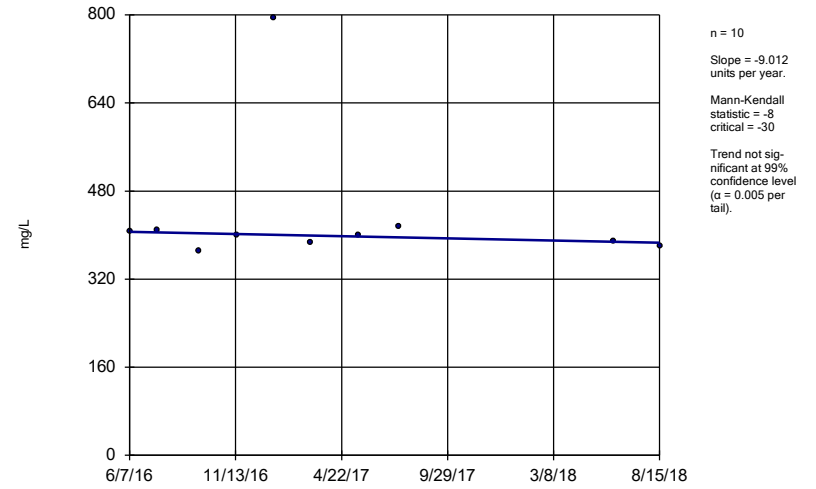
MW-1604S



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

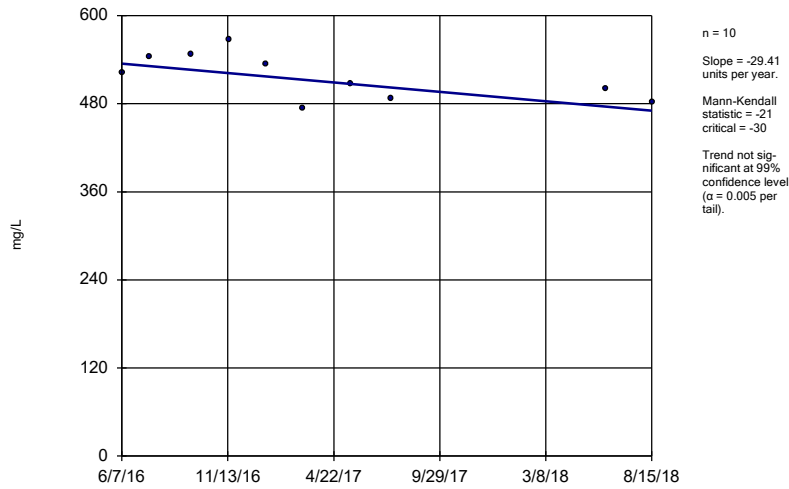
MW-1605D



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

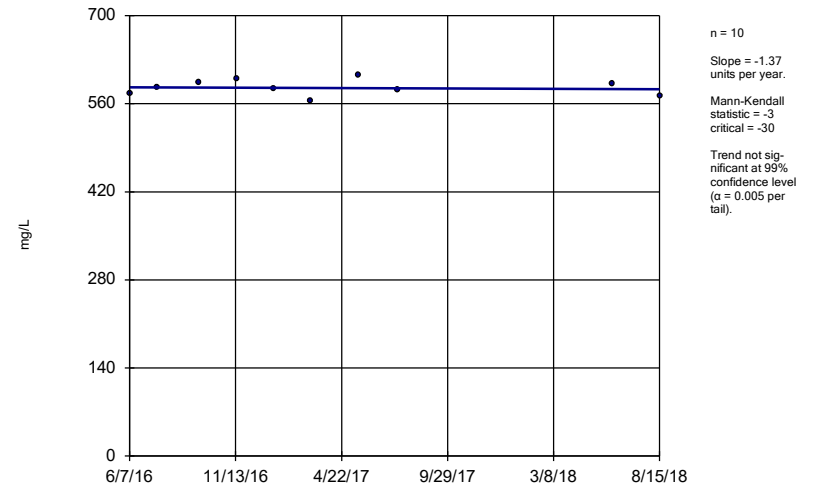
MW-1605I



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

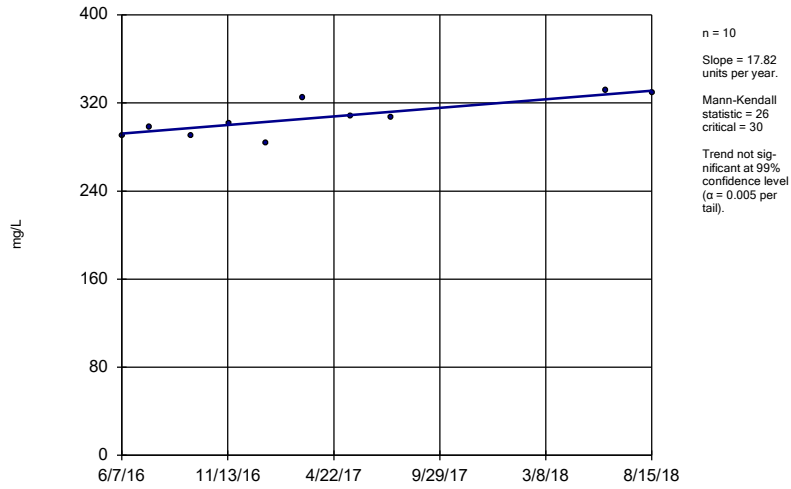
MW-1605S



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

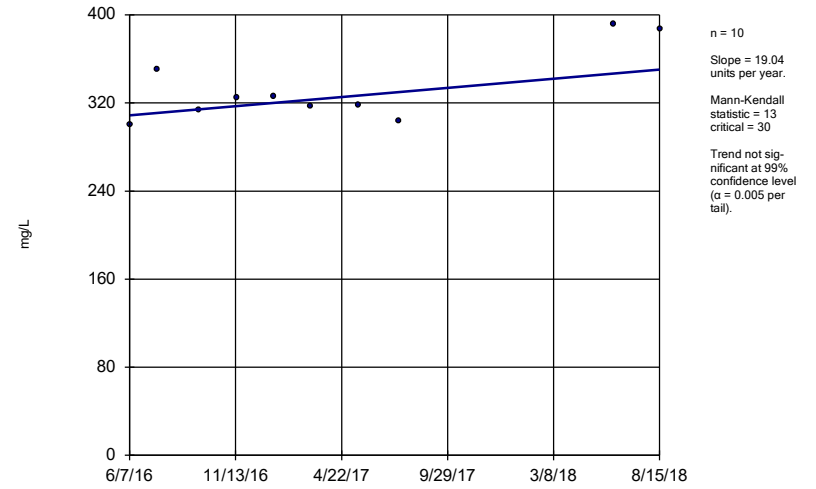
MW-1606D



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

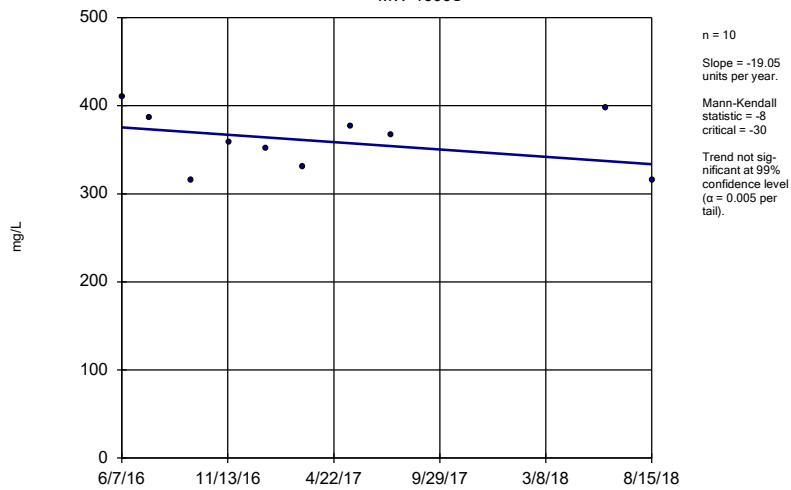
MW-1606I



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

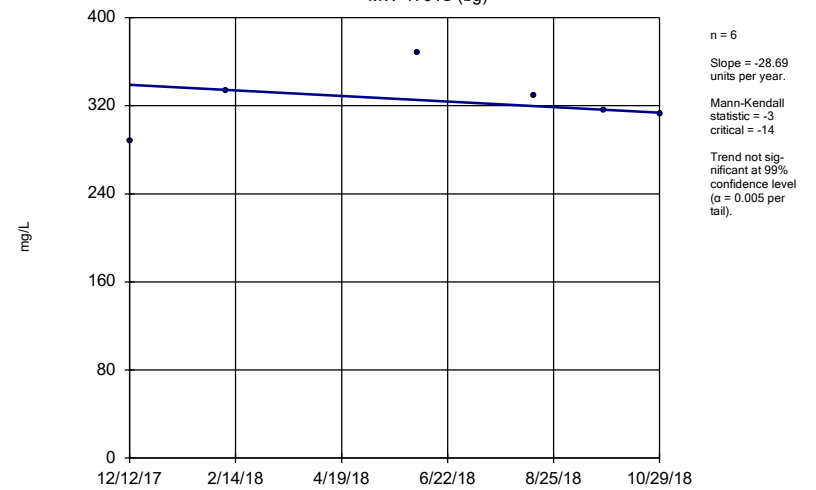
MW-1606S



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

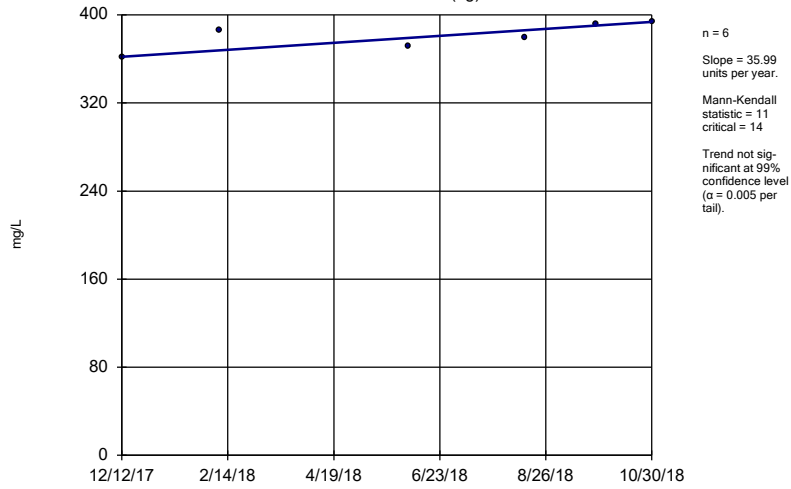
MW-1701S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

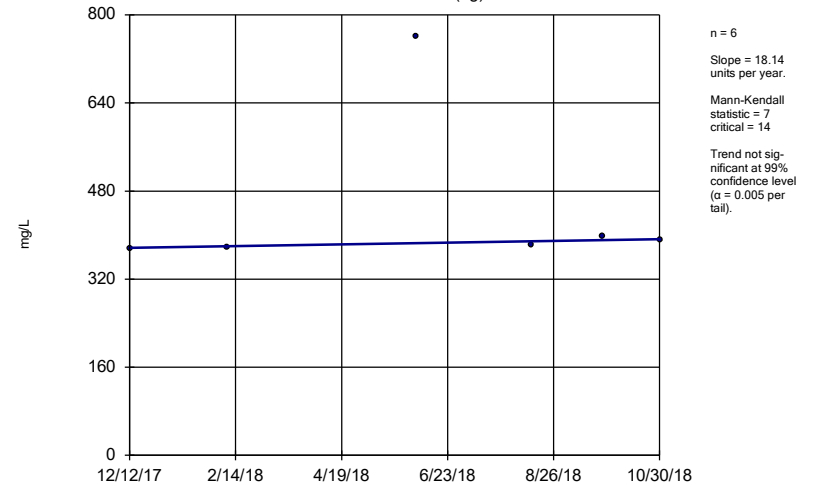
MW-1702D (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

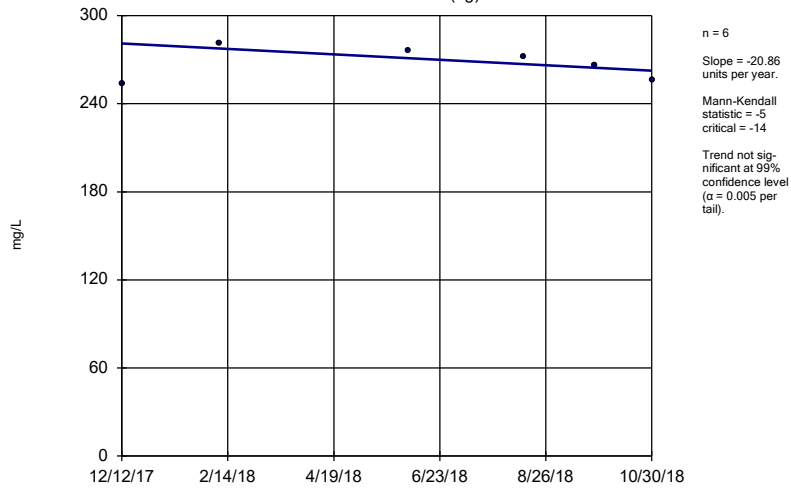
MW-1702I (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

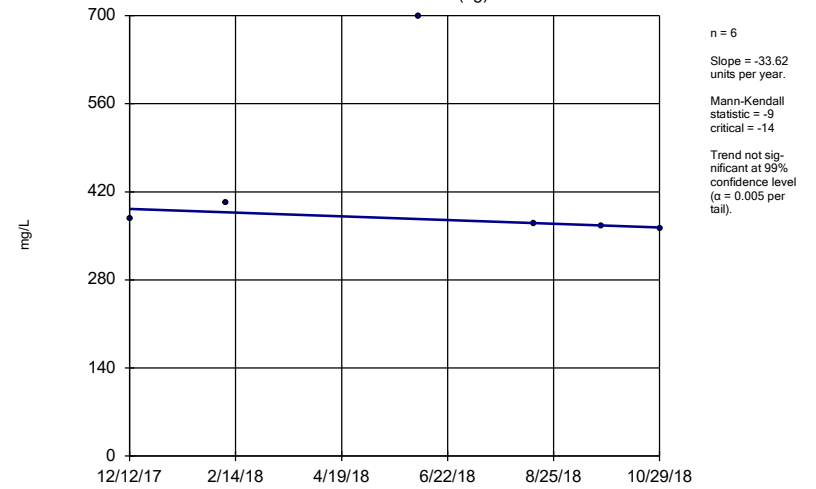
MW-1702S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

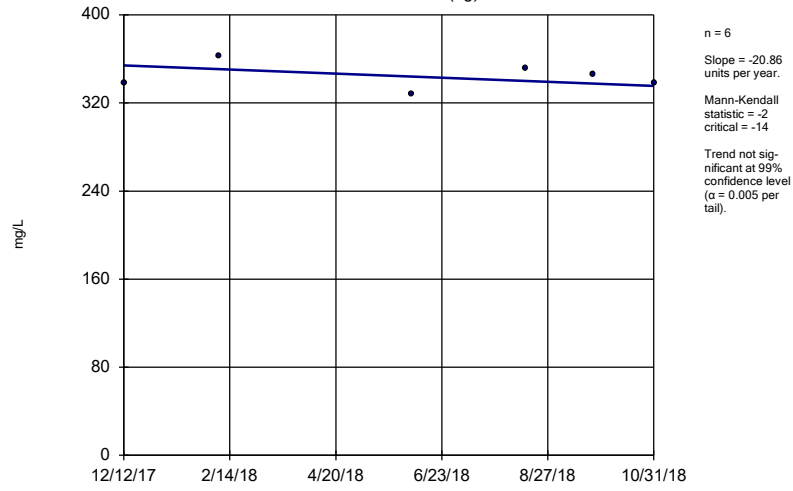
MW-1701D (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Sen's Slope Estimator

MW-17011 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 7:47 AM View: Trend Tests  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

# Analysis of Variance

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/13/2018, 6:49 PM

<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>Crit.</u>	<u>Sig.</u>	<u>Alpha</u>	<u>Transform</u>	<u>ANOVA Sig.</u>	<u>Alpha</u>	<u>Method</u>
Boron, total (mg/L)	n/a	n/a	n/a	n/a	n/a	x <sup>(1/3)</sup>	Yes	0.05	Param.
Calcium, total (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Chloride, total (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Fluoride, total (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)
pH, field (SU)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)
Sulfate, total (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)
Total Dissolved Solids [TDS] (m...	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)

# Parametric ANOVA

Constituent: Boron, total Analysis Run 12/13/2018 6:49 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

For observations made between 6/8/2016 and 10/31/2018 the parametric analysis of variance test (after cube root transformation) indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 5.501

Tabulated F statistic = 1.921 with 11 and 84 degrees of freedom at the 5% significance level.

## ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	2.4e10	11	2.2e9	4.856
Error Within Groups	3.4e10	74	4.6e8	
Total	5.8e10	85		

The Shapiro Francia normality test on the residuals passed after cube root transformation. Alpha = 0.01, calculated = 0.971, critical = 0.965. Levene's Equality of Variance test passed. Calculated = 1.084, tabulated = 1.921.

# Parametric ANOVA

Constituent: Calcium, total Analysis Run 12/13/2018 6:49 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

For observations made between 6/8/2016 and 10/31/2018 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 90.25

Tabulated F statistic = 1.921 with 11 and 84 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	2.4e10	11	2.2e9	4.856
Error Within Groups	3.4e10	74	4.6e8	
Total	5.8e10	85		

The Shapiro Francia normality test on the residuals passed on the raw data. Alpha = 0.01, calculated = 0.9781, critical = 0.965. Levene's Equality of Variance test passed. Calculated = 0.6979, tabulated = 1.921.



## Non-Parametric ANOVA

Constituent: Chloride, total    Analysis Run 12/13/2018 6:49 PM    View: UTLs - App III  
Rockport BAP    Client: Geosyntec    Data: Rockport\_BAP

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For observations made between 6/8/2016 and 10/31/2018, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 81.19

Tabulated Chi-Squared value = 19.675 with 11 degrees of freedom at the 5% significance level.

There were 15 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.

Kruskal-Wallis statistic (H) = 81.17

Adjusted Kruskal-Wallis statistic (H') = 81.19

## Non-Parametric ANOVA

Constituent: Fluoride, total    Analysis Run 12/13/2018 6:49 PM    View: UTLs - App III  
Rockport BAP    Client: Geosyntec    Data: Rockport\_BAP

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For observations made between 6/8/2016 and 10/31/2018, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 79.34

Tabulated Chi-Squared value = 19.675 with 11 degrees of freedom at the 5% significance level.

There were 18 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.

Kruskal-Wallis statistic (H) = 79.06

Adjusted Kruskal-Wallis statistic (H') = 79.34

## Non-Parametric ANOVA

Constituent: pH, field Analysis Run 12/13/2018 6:49 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

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For observations made between 6/8/2016 and 10/31/2018, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 22.58

Tabulated Chi-Squared value = 19.675 with 11 degrees of freedom at the 5% significance level.

There were 18 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.

Kruskal-Wallis statistic (H) = 22.57

Adjusted Kruskal-Wallis statistic (H') = 22.58

## Non-Parametric ANOVA

Constituent: Sulfate, total Analysis Run 12/13/2018 6:49 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

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For observations made between 6/8/2016 and 10/31/2018, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 81.1

Tabulated Chi-Squared value = 19.675 with 11 degrees of freedom at the 5% significance level.

There were 19 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.

Kruskal-Wallis statistic (H) = 81.09

Adjusted Kruskal-Wallis statistic (H') = 81.1

## Non-Parametric ANOVA

Constituent: Total Dissolved Solids [TDS] Analysis Run 12/13/2018 6:49 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

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For observations made between 6/8/2016 and 10/31/2018, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 60.96

Tabulated Chi-Squared value = 19.675 with 11 degrees of freedom at the 5% significance level.

There were 20 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.

Kruskal-Wallis statistic (H) = 60.94

Adjusted Kruskal-Wallis statistic (H') = 60.96

# Upper Tolerance Limits - Appendix III Parameters

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:32 PM

Constituent	Upper Lim.	Lower Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	0.208	n/a	60	n/a	n/a	1.667	n/a	n/a	0.04607	NP Inter(n>table)
Calcium, total (mg/L)	92.6	n/a	60	n/a	n/a	0	n/a	n/a	0.04607	NP Inter(n>table)
Chloride, total (mg/L)	46.4	n/a	60	n/a	n/a	0	n/a	n/a	0.04607	NP Inter(n>table)
Fluoride, total (mg/L)	0.56	n/a	60	n/a	n/a	0	n/a	n/a	0.04607	NP Inter(normality)
pH, field (SU)	7.59	6.41	56	n/a	n/a	0	n/a	n/a	0.2233	NP Inter(n>table)
Sulfate, total (mg/L)	76	n/a	60	n/a	n/a	0	n/a	n/a	0.04607	NP Inter(normality)
Total Dissolved Solids [TDS] (mg/L)	491	n/a	60	n/a	n/a	0	n/a	n/a	0.04607	NP Inter(n>table)

# Confidence Interval Summary Table - Significant Appendix III

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Boron, total (mg/L)	MW-1002	1.775	1.317	0.21	Yes	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1603S	2.049	1.509	0.21	Yes	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1604S	0.6995	0.5295	0.21	Yes	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1605S	0.5667	0.3789	0.21	Yes	10	0	x^2	0.01	Param.
Chloride, total (mg/L)	MW-1002	75.5	51.4	46.4	Yes	10	0	No	0.011	NP (normality)
Chloride, total (mg/L)	MW-1602D	171.4	118.4	46.4	Yes	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1603S	63.38	52.14	46.4	Yes	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1604S	75.02	55.04	46.4	Yes	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1605S	52.25	47.47	46.4	Yes	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1002	203.5	158.3	76	Yes	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1603S	234.7	185.3	76	Yes	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1604I	140.3	105.5	76	Yes	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1604S	215.4	150.2	76	Yes	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1605I	140	114	76	Yes	10	0	No	0.011	NP (normality)
Sulfate, total (mg/L)	MW-1605S	182.1	162.1	76	Yes	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1602D	590.5	492.7	491	Yes	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1605S	596.9	574.3	491	Yes	10	0	No	0.01	Param.

# Confidence Interval Summary Table - All Appendix III

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
<b>Boron, total (mg/L)</b>	<b>MW-1002</b>	<b>1.775</b>	<b>1.317</b>	<b>0.21</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Boron, total (mg/L)	MW-1602D	0.08752	0.06048	0.21	No	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1602I	0.08163	0.04012	0.21	No	10	0	x^(1/3)	0.01	Param.
Boron, total (mg/L)	MW-1603D	0.082	0.055	0.21	No	10	0	No	0.011	NP (normality)
Boron, total (mg/L)	MW-1603I	0.1821	0.1403	0.21	No	10	0	No	0.01	Param.
<b>Boron, total (mg/L)</b>	<b>MW-1603S</b>	<b>2.049</b>	<b>1.509</b>	<b>0.21</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Boron, total (mg/L)	MW-1604D	0.06551	0.01729	0.21	No	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1604I	0.343	0.177	0.21	No	10	0	No	0.01	Param.
<b>Boron, total (mg/L)</b>	<b>MW-1604S</b>	<b>0.6995</b>	<b>0.5295</b>	<b>0.21</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Boron, total (mg/L)	MW-1605D	0.03281	0.01319	0.21	No	10	0	No	0.01	Param.
Boron, total (mg/L)	MW-1605I	0.07802	0.02185	0.21	No	10	0	ln(x)	0.01	Param.
<b>Boron, total (mg/L)</b>	<b>MW-1605S</b>	<b>0.5667</b>	<b>0.3789</b>	<b>0.21</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>x^2</b>	<b>0.01</b>	<b>Param.</b>
Boron, total (mg/L)	MW-1606D	0.04303	0.01532	0.21	No	10	0	sqrt(x)	0.01	Param.
Boron, total (mg/L)	MW-1606I	0.04409	0.006312	0.21	No	10	10	No	0.01	Param.
Boron, total (mg/L)	MW-1606S	0.09827	0.0102	0.21	No	10	10	ln(x)	0.01	Param.
Boron, total (mg/L)	MW-1701S ...	0.1048	0.0156	0.21	No	6	0	sqrt(x)	0.01	Param.
Boron, total (mg/L)	MW-1702D ...	0.109	0.02368	0.21	No	6	0	No	0.01	Param.
Boron, total (mg/L)	MW-1702I ...	0.07903	0.0343	0.21	No	6	0	No	0.01	Param.
Boron, total (mg/L)	MW-1702S ...	0.08131	0.03202	0.21	No	6	0	No	0.01	Param.
Boron, total (mg/L)	MW-1701D ...	0.1057	0.03144	0.21	No	6	0	sqrt(x)	0.01	Param.
Boron, total (mg/L)	MW-1701I ...	0.1041	0.02889	0.21	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1002	64.18	35.24	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1602D	75.66	67.26	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1602I	82.57	72.37	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1603D	90.06	78.1	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1603I	96.45	82.29	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1603S	80.61	48.47	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1604D	72.58	66.82	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1604I	78.94	69.18	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1604S	96.54	74.06	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1605D	90.44	83.3	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1605I	96.33	82.09	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1605S	81.32	64.57	92.6	No	10	0	x^2	0.01	Param.
Calcium, total (mg/L)	MW-1606D	77.08	69.34	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1606I	75.97	60.43	92.6	No	10	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1606S	55.8	44.4	92.6	No	10	0	No	0.011	NP (normality)
Calcium, total (mg/L)	MW-1701S ...	64.56	56.24	92.6	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1702D ...	85.63	73.31	92.6	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1702I ...	82.5	73.1	92.6	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1702S ...	39.15	30.75	92.6	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1701D ...	77.38	67.89	92.6	No	6	0	No	0.01	Param.
Calcium, total (mg/L)	MW-1701I ...	69	62.26	92.6	No	6	0	No	0.01	Param.
<b>Chloride, total (mg/L)</b>	<b>MW-1002</b>	<b>75.5</b>	<b>51.4</b>	<b>46.4</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.011</b>	<b>NP (normality)</b>
<b>Chloride, total (mg/L)</b>	<b>MW-1602D</b>	<b>171.4</b>	<b>118.4</b>	<b>46.4</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Chloride, total (mg/L)	MW-1602I	31.08	27.42	46.4	No	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1603D	26.7	25.1	46.4	No	10	0	No	0.011	NP (normality)
Chloride, total (mg/L)	MW-1603I	38.6	34.2	46.4	No	10	0	No	0.01	Param.
<b>Chloride, total (mg/L)</b>	<b>MW-1603S</b>	<b>63.38</b>	<b>52.14</b>	<b>46.4</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Chloride, total (mg/L)	MW-1604D	18.61	16.57	46.4	No	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1604I	51.08	41.64	46.4	No	10	0	No	0.01	Param.
<b>Chloride, total (mg/L)</b>	<b>MW-1604S</b>	<b>75.02</b>	<b>55.04</b>	<b>46.4</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Chloride, total (mg/L)	MW-1605D	30.87	26.05	46.4	No	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1605I	45.67	40.17	46.4	No	10	0	No	0.01	Param.
<b>Chloride, total (mg/L)</b>	<b>MW-1605S</b>	<b>52.25</b>	<b>47.47</b>	<b>46.4</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Chloride, total (mg/L)	MW-1606D	22.86	21.26	46.4	No	10	0	No	0.01	Param.



# Confidence Interval Summary Table - All Appendix III

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Chloride, total (mg/L)	MW-1606I	25.4	22.6	46.4	No	10	0	No	0.011	NP (normality)
Chloride, total (mg/L)	MW-1606S	26.89	21.03	46.4	No	10	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1701S ...	19.76	18.68	46.4	No	6	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1702D ...	31.52	30.21	46.4	No	6	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1702I ...	29.97	27.16	46.4	No	6	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1702S ...	14.44	13.43	46.4	No	6	0	No	0.01	Param.
Chloride, total (mg/L)	MW-1701D ...	20.44	12.84	46.4	No	6	0	ln(x)	0.01	Param.
Chloride, total (mg/L)	MW-1701I ...	15.09	13.68	46.4	No	6	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1002	1.03	0.73	4	No	10	0	No	0.011	NP (normality)
Fluoride, total (mg/L)	MW-1602D	0.3471	0.2949	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1602I	0.305	0.259	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603D	0.3144	0.2636	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603I	0.4327	0.3773	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603S	0.5273	0.3347	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604D	0.2826	0.2374	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604I	0.346	0.296	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604S	0.9567	0.8193	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605D	0.2265	0.1775	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605I	0.2166	0.1514	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605S	0.5717	0.4723	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606D	0.2063	0.1657	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606I	0.2113	0.1807	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606S	0.4528	0.3652	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1701S ...	0.3833	0.35	4	No	6	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1702D ...	0.24	0.19	4	No	6	0	No	0.0155	NP (normality)
Fluoride, total (mg/L)	MW-1702I ...	0.2421	0.2046	4	No	6	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1702S ...	0.6293	0.4974	4	No	6	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1701D ...	0.3609	0.2824	4	No	6	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1701I ...	0.4419	0.3414	4	No	6	0	No	0.01	Param.
pH, field (SU)	MW-1002	7.391	6.349	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1602D	7.982	6.4	7.59	No	10	0	x^2	0.005	Param.
pH, field (SU)	MW-1602I	7.505	6.987	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1603D	7.267	6.95	7.59	No	10	0	x^6	0.005	Param.
pH, field (SU)	MW-1603I	7.61	7.15	7.59	No	9	0	No	0.002	NP (normality)
pH, field (SU)	MW-1603S	7.324	6.618	7.59	No	9	0	No	0.005	Param.
pH, field (SU)	MW-1604D	7.305	7.055	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1604I	7.555	7.241	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1604S	7.567	7.265	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1605D	7.285	7.001	7.59	No	9	0	No	0.005	Param.
pH, field (SU)	MW-1605I	7.339	7.029	7.59	No	10	0	x^4	0.005	Param.
pH, field (SU)	MW-1605S	7.26	7.07	7.59	No	10	0	No	0.011	NP (normality)
pH, field (SU)	MW-1606D	7.913	6.563	7.59	No	10	0	No	0.005	Param.
pH, field (SU)	MW-1606I	7.744	6.434	7.59	No	10	0	x^4	0.005	Param.
pH, field (SU)	MW-1606S	7.108	6.799	7.59	No	9	0	No	0.005	Param.
pH, field (SU)	MW-1701S ...	7.971	6.619	7.59	No	6	0	No	0.005	Param.
pH, field (SU)	MW-1702D ...	8.326	6.47	7.59	No	6	0	No	0.005	Param.
pH, field (SU)	MW-1702I ...	8.029	6.435	7.59	No	6	0	No	0.005	Param.
pH, field (SU)	MW-1702S ...	8.071	6.106	7.59	No	6	0	No	0.005	Param.
pH, field (SU)	MW-1701D ...	7.775	7.081	7.59	No	6	0	No	0.005	Param.
pH, field (SU)	MW-1701I ...	7.94	7.09	7.59	No	6	0	No	0.005	Param.
<b>Sulfate, total (mg/L)</b>	<b>MW-1002</b>	<b>203.5</b>	<b>158.3</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Sulfate, total (mg/L)	MW-1602D	19.69	13.99	76	No	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1602I	85.3	75	76	No	10	0	No	0.011	NP (normality)
Sulfate, total (mg/L)	MW-1603D	53.56	42.94	76	No	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1603I	90.23	65.33	76	No	10	0	No	0.01	Param.

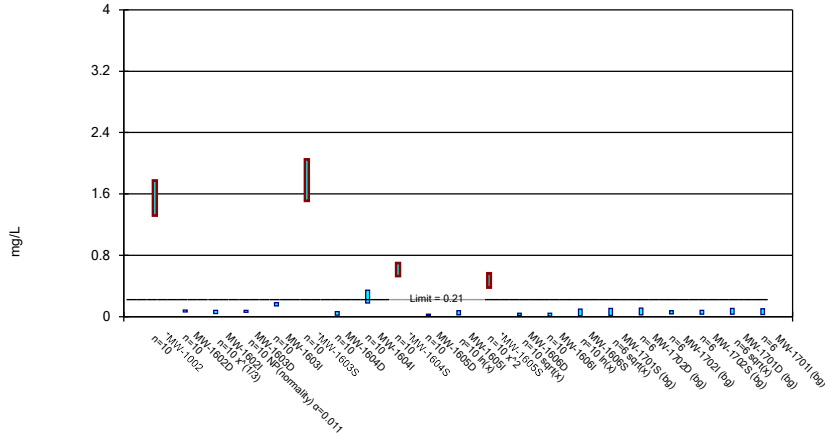
# Confidence Interval Summary Table - All Appendix III

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
<b>Sulfate, total (mg/L)</b>	<b>MW-1603S</b>	<b>234.7</b>	<b>185.3</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Sulfate, total (mg/L)	MW-1604D	35.64	27.36	76	No	10	0	No	0.01	Param.
<b>Sulfate, total (mg/L)</b>	<b>MW-1604I</b>	<b>140.3</b>	<b>105.5</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Sulfate, total (mg/L)</b>	<b>MW-1604S</b>	<b>215.4</b>	<b>150.2</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Sulfate, total (mg/L)	MW-1605D	59.94	52.18	76	No	10	0	No	0.01	Param.
<b>Sulfate, total (mg/L)</b>	<b>MW-1605I</b>	<b>140</b>	<b>114</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.011</b>	<b>NP (normality)</b>
<b>Sulfate, total (mg/L)</b>	<b>MW-1605S</b>	<b>182.1</b>	<b>162.1</b>	<b>76</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Sulfate, total (mg/L)	MW-1606D	18.02	11.4	76	No	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1606I	46.67	36.93	76	No	10	0	sqrt(x)	0.01	Param.
Sulfate, total (mg/L)	MW-1606S	44.52	32.08	76	No	10	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1701S ...	21.97	19.19	76	No	6	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1702D ...	41.18	36.92	76	No	6	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1702I ...	46.35	40.55	76	No	6	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1702S ...	26.17	17.63	76	No	6	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1701D ...	45.34	36.86	76	No	6	0	No	0.01	Param.
Sulfate, total (mg/L)	MW-1701I ...	43.1	34.8	76	No	6	0	No	0.0155	NP (normality)
Total Dissolved Solids [TDS] (mg/L)	MW-1002	470.1	395.5	491	No	10	0	No	0.01	Param.
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1602D</b>	<b>590.5</b>	<b>492.7</b>	<b>491</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1602I	440.4	403.4	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1603D	421.4	393.6	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1603I	487.7	441.3	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1603S	514.5	455.7	491	No	9	0	ln(x)	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1604D	323.1	293.1	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1604I	536.1	464.7	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1604S	611.9	487.3	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1605D	409.2	380.3	491	No	9	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1605I	544.6	489	491	No	10	0	No	0.01	Param.
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1605S</b>	<b>596.9</b>	<b>574.3</b>	<b>491</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1606D	321.5	291.1	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1606I	361.5	304.9	491	No	10	0	x^(1/3)	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1606S	390.4	331.6	491	No	10	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1701S ...	361.2	287.8	491	No	6	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1702D ...	397.8	363.9	491	No	6	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1702I ...	401.2	368.8	491	No	5	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1702S ...	282.4	252.6	491	No	6	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1701D ...	402.2	348.6	491	No	5	0	No	0.01	Param.
Total Dissolved Solids [TDS] (mg/L)	MW-1701I ...	361.1	327.3	491	No	6	0	No	0.01	Param.

### Parametric and Non-Parametric (NP) Confidence Interval

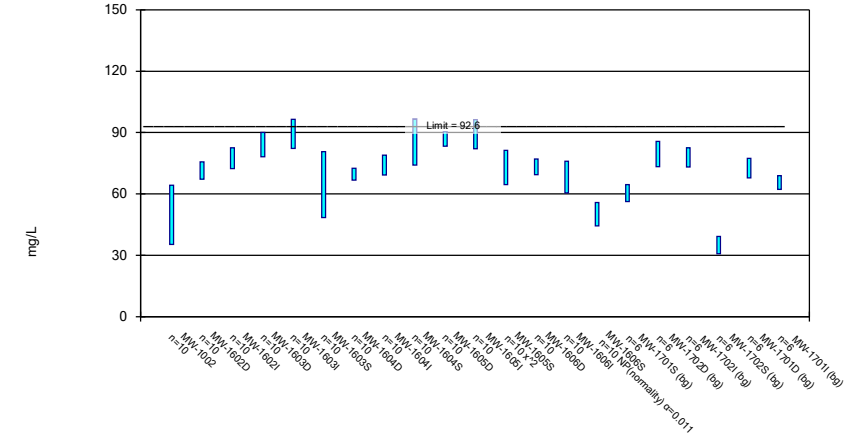
Compliance limit is exceeded.\* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron, total Analysis Run 1/3/2019 9:33 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

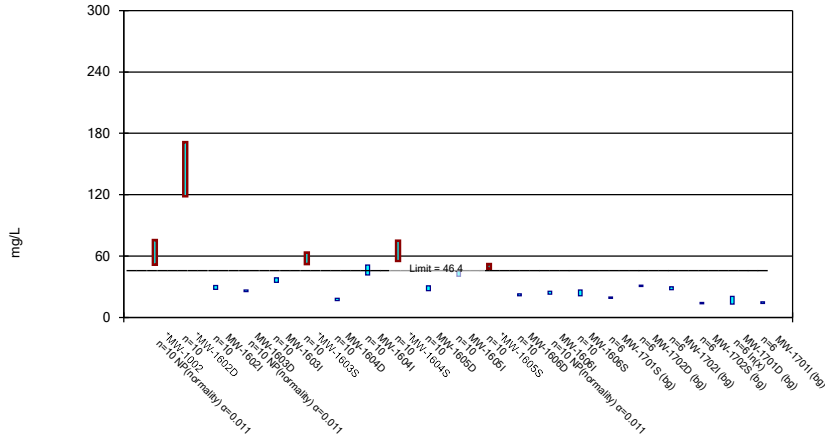
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Calcium, total Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

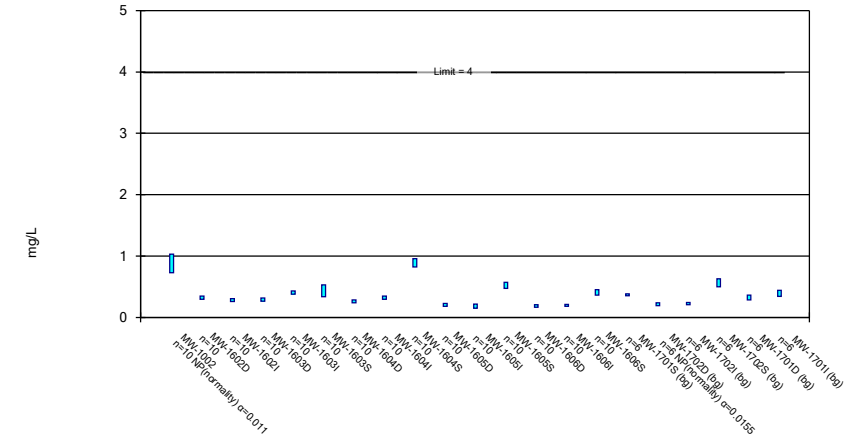
Compliance limit is exceeded.\* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chloride, total Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

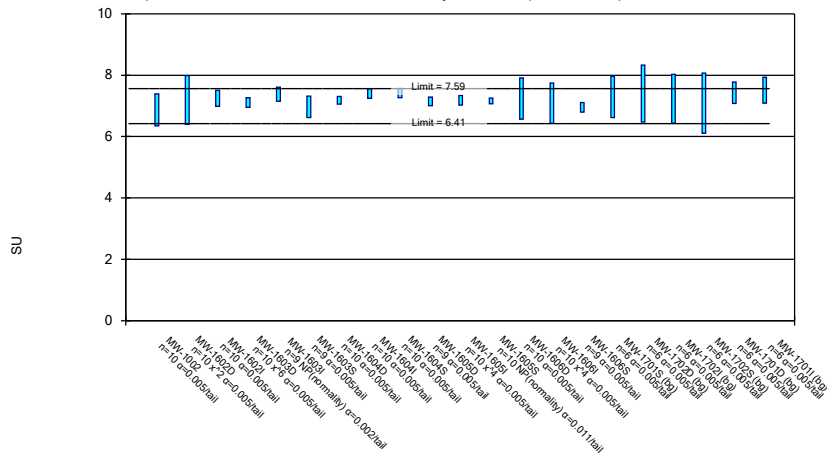
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

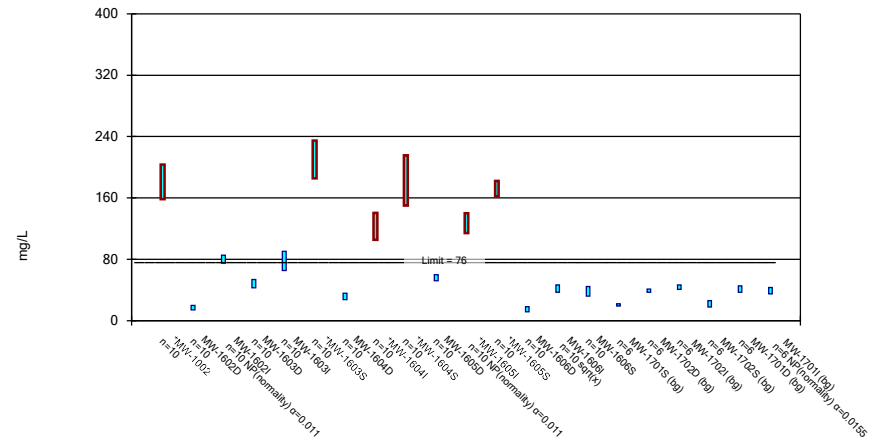
Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: pH, field Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

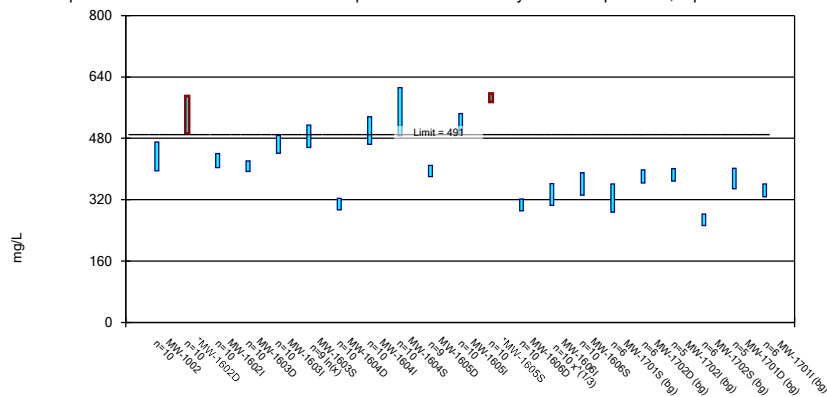
Compliance limit is exceeded.\* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Sulfate, total Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric Confidence Interval

Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/3/2019 9:34 PM View: UTLs - App III  
 Rockport BAP Client: Geosyntec Data: Rockport\_BAP

# Intrawell Prediction Limit Summary Table - Significant Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:59 PM

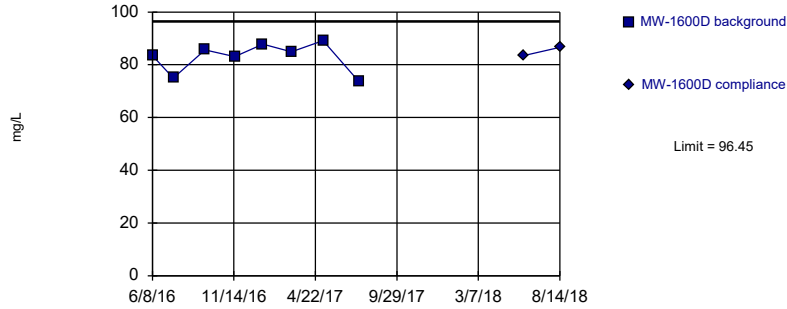
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig. Bg.N	Bg Mean	Std. Dev.	%NDs	ND Adj Transform	Alpha	Method
Calcium, total (mg/L)	MW-1606I	76.05	n/a	8/15/2018	86.3	Yes 8	64.69	4.721	0	None No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1606S	59.86	n/a	8/15/2018	76.1	Yes 8	49.18	4.437	0	None No	0.0005016	Param Intra 1 of 3

# Intrawell Prediction Limit Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/3/2019, 9:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig. Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Calcium, total (mg/L)	MW-1600D	96.45	n/a	8/14/2018	86.6	No 8	82.81	5.664	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1600I	82.91	n/a	8/14/2018	78.6	No 8	76.56	2.637	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1600S	74.92	n/a	8/15/2018	63.7	No 8	65.28	4.007	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1601D	98.28	n/a	8/15/2018	86.5	No 8	86.2	5.018	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1601I	96.4	n/a	8/15/2018	91.7	No 8	86.8	3.987	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1601S	88.26	n/a	8/15/2018	70.8	No 8	77.79	4.352	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1002	94.34	n/a	8/15/2018	41.3	No 8	51.88	17.64	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1602D	83.65	n/a	8/13/2018	73	No 8	71.95	4.861	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1602I	92.7	n/a	8/13/2018	76	No 8	78.43	5.93	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1603D	101.7	n/a	8/13/2018	87.9	No 8	84.04	7.342	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1603I	109.2	n/a	8/13/2018	85.9	No 8	91.26	7.46	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1603S	110.7	n/a	8/13/2018	52	No 8	68.9	17.36	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1604D	78.42	n/a	8/14/2018	70.5	No 8	69.86	3.557	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1604I	85.79	n/a	8/14/2018	73.8	No 8	75.49	4.278	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1604S	117.6	n/a	8/14/2018	92.6	No 8	85.99	13.13	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1605D	96.88	n/a	8/15/2018	88.6	No 8	87.33	3.972	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1605I	109.6	n/a	8/15/2018	83.4	No 8	91.19	7.636	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1605S	88.65	n/a	8/15/2018	45.8	No 8	76.31	5.127	0	None	No	0.0005016	Param Intra 1 of 3
Calcium, total (mg/L)	MW-1606D	82	n/a	8/15/2018	80.5	No 8	72.45	3.97	0	None	No	0.0005016	Param Intra 1 of 3
<b>Calcium, total (mg/L)</b>	<b>MW-1606I</b>	<b>76.05</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>86.3</b>	<b>Yes 8</b>	<b>64.69</b>	<b>4.721</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.0005016</b>	<b>Param Intra 1 of 3</b>
<b>Calcium, total (mg/L)</b>	<b>MW-1606S</b>	<b>59.86</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>76.1</b>	<b>Yes 8</b>	<b>49.18</b>	<b>4.437</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.0005016</b>	<b>Param Intra 1 of 3</b>
pH, field (SU)	MW-1600D	7.887	6.208	8/14/2018	7.07	No 8	7.048	0.3486	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1600I	7.679	6.598	8/14/2018	7.05	No 6	7.138	0.1789	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1600S	7.034	6.22	8/15/2018	7.03	No 7	6.627	0.15	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1601D	7.811	6.369	8/15/2018	7.26	No 8	7.09	0.2994	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1601I	7.736	6.418	8/15/2018	7.25	No 7	7.077	0.2428	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1601S	7.834	6.294	8/15/2018	7.22	No 8	7.064	0.3199	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1002	7.307	6.048	8/15/2018	7.22	No 8	6.678	0.2616	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1602D	9.295	4.918	8/13/2018	7.22	No 8	7.106	0.9093	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1602I	7.615	6.715	8/13/2018	7.39	No 8	7.165	0.187	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1603D	7.531	6.659	8/13/2018	7.1	No 8	7.095	0.181	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1603I	7.61	7.15	8/13/2018	7.44	No 7	n/a	n/a	0	n/a	n/a	0.01734	NP Intra (normality) ...
pH, field (SU)	MW-1603S	7.948	5.975	8/13/2018	7.01	No 7	6.961	0.3635	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1604D	7.481	6.859	8/14/2018	7.14	No 8	7.17	0.1292	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1604I	7.733	7.019	8/14/2018	7.35	No 8	7.376	0.1483	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1604S	7.669	7.086	8/11/2018	7.44	No 8	7.378	0.1209	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1605D	7.457	6.78	8/15/2018	7.14	No 7	7.119	0.1248	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1605I	7.521	6.782	8/15/2018	7.32	No 8	7.151	0.1535	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1605S	7.331	6.999	8/15/2018	7.07	No 8	7.165	0.06887	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1606D	8.793	5.495	8/15/2018	7.27	No 8	7.144	0.6851	0	None	No	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1606I	8.009	4.524	8/15/2018	7.26	No 8	17422	6451	0	None	x*5	0.0002508	Param Intra 1 of 3
pH, field (SU)	MW-1606S	7.312	6.61	8/18/2018	6.89	No 8	6.961	0.1457	0	None	No	0.0002508	Param Intra 1 of 3

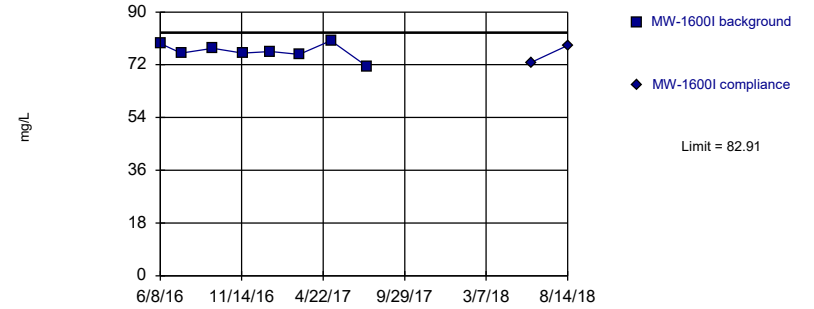
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=82.81, Std. Dev.=5.664, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8699, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:56 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

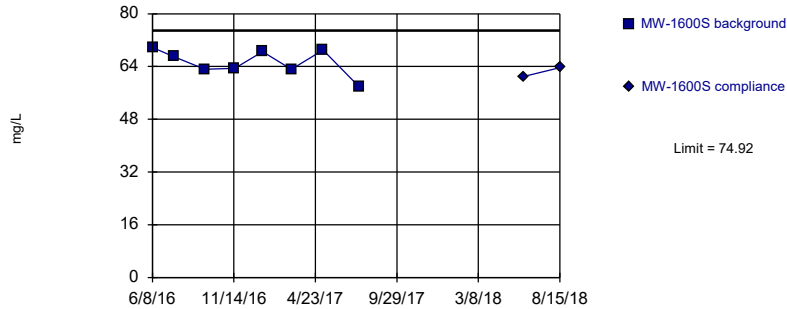
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=76.56, Std. Dev.=2.637, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9344, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:56 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

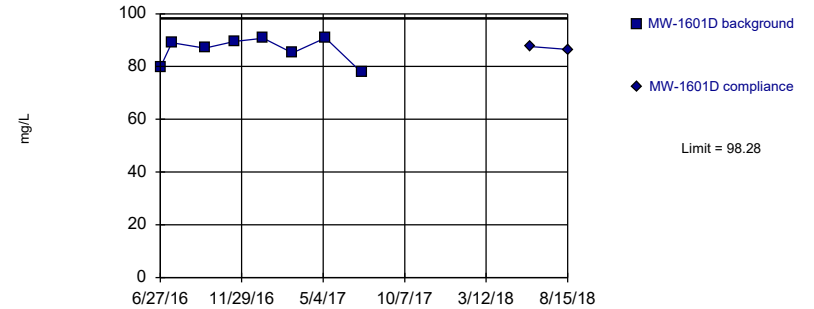
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=65.28, Std. Dev.=4.007, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9068, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:56 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

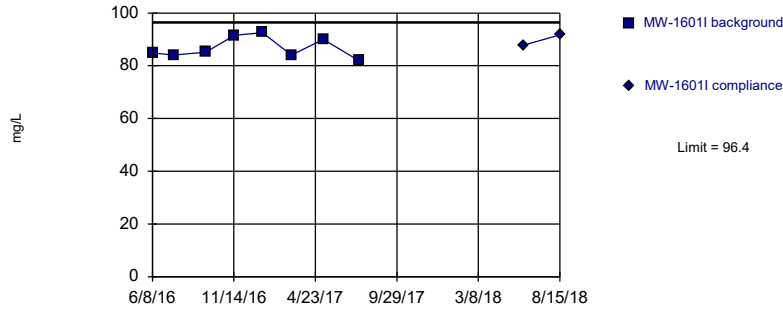
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=86.2, Std. Dev.=5.018, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8541, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:56 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

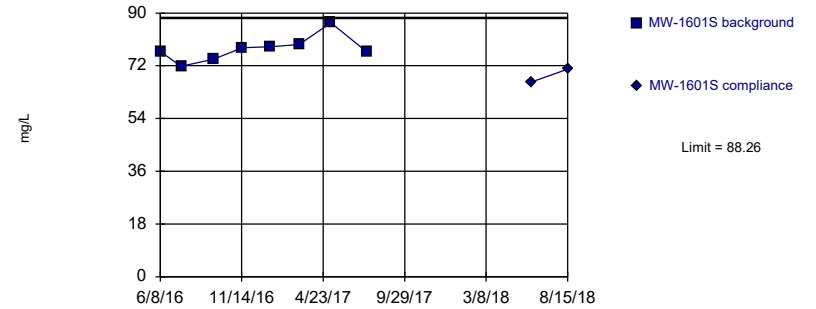
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=86.8, Std. Dev.=3.987, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8747, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

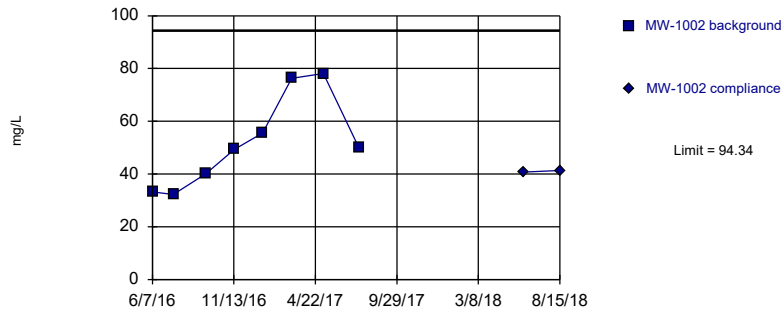
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=77.79, Std. Dev.=4.352, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9074, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

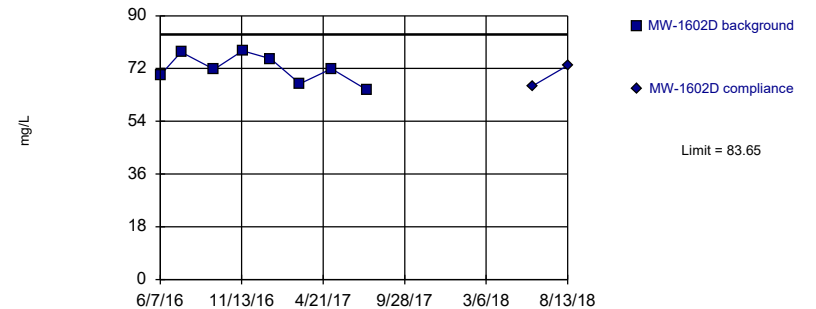
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=51.88, Std. Dev.=17.64, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8924, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limit Prediction Limit  
Intrawell Parametric



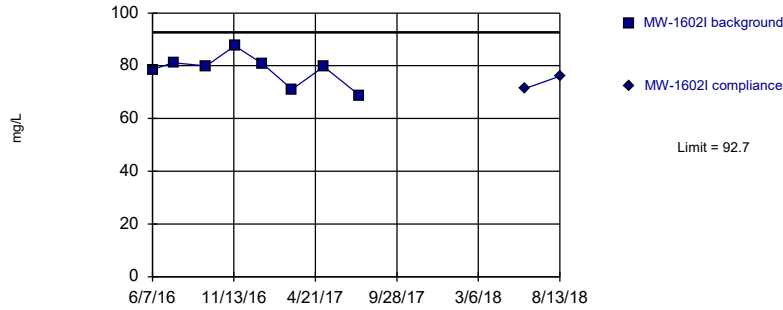
Background Data Summary: Mean=71.95, Std. Dev.=4.861, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9467, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP



Within Limit

Prediction Limit  
Intrawell Parametric

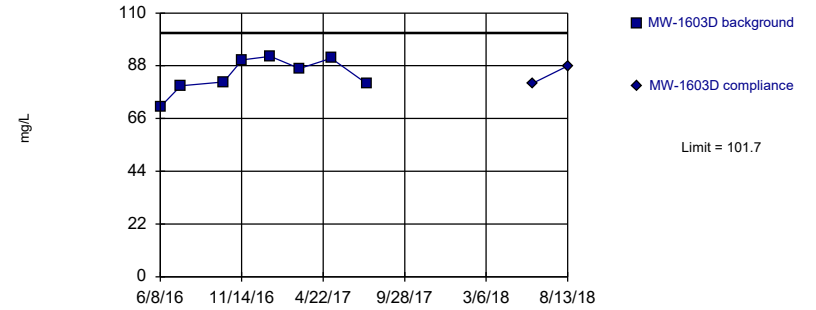


Background Data Summary: Mean=78.43, Std. Dev.=5.93, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.902, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limit

Prediction Limit  
Intrawell Parametric

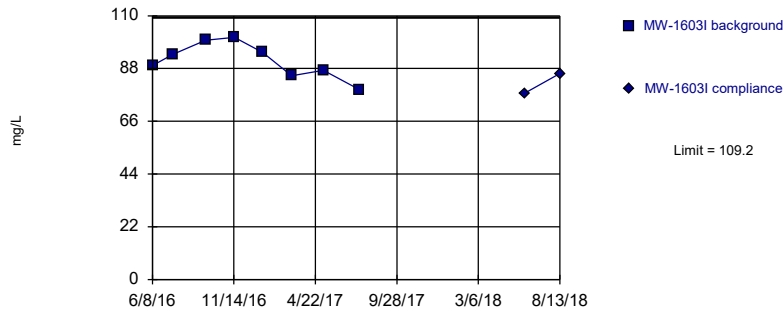


Background Data Summary: Mean=84.04, Std. Dev.=7.342, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9054, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limit

Prediction Limit  
Intrawell Parametric

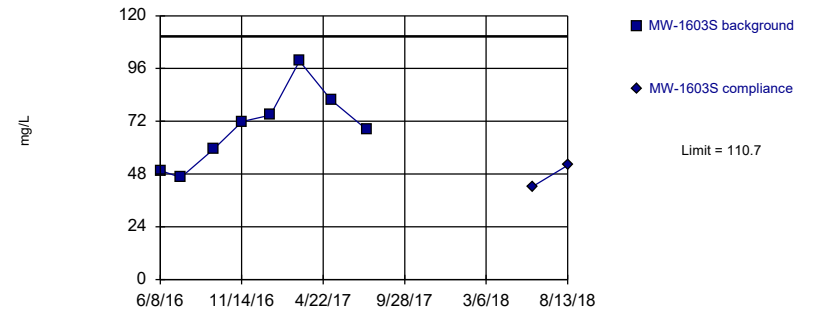


Background Data Summary: Mean=91.26, Std. Dev.=7.46, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9648, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limit

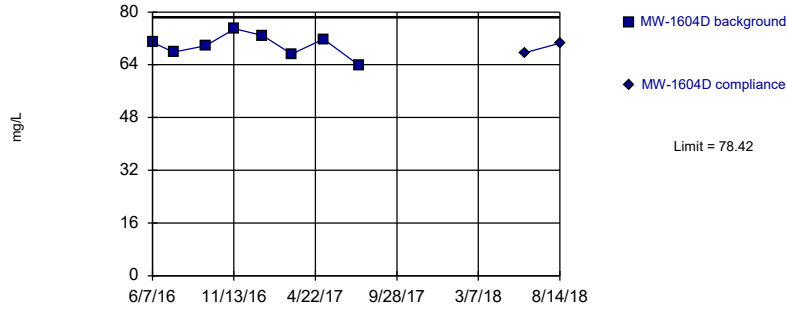
Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=68.9, Std. Dev.=17.36, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9662, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

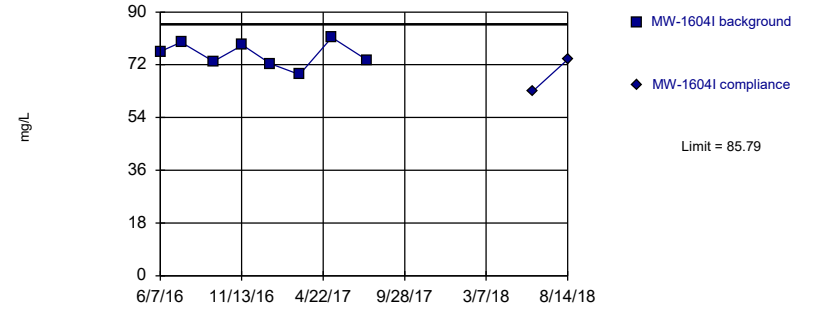
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=69.86, Std. Dev.=3.557, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.984, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

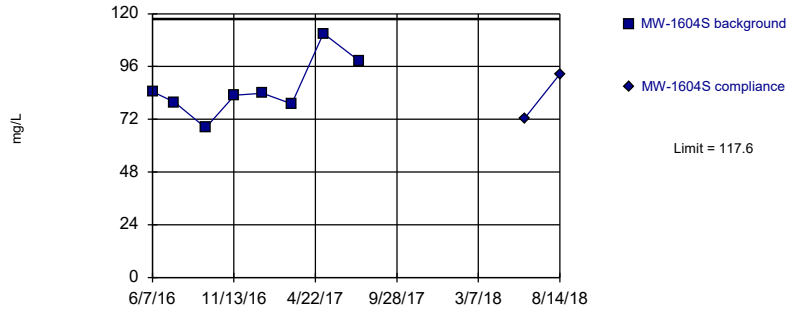
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=75.49, Std. Dev.=4.278, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9581, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

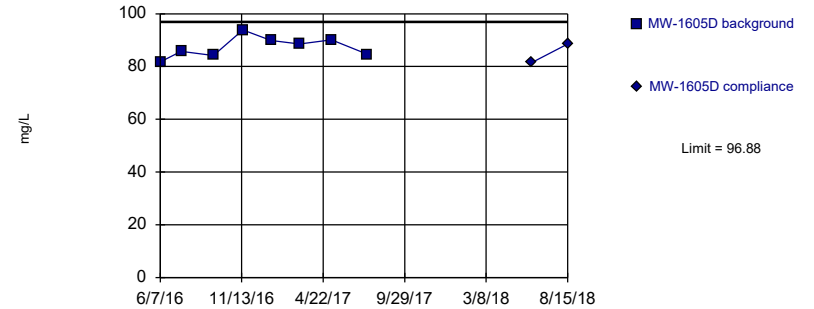
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=85.99, Std. Dev.=13.13, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9031, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

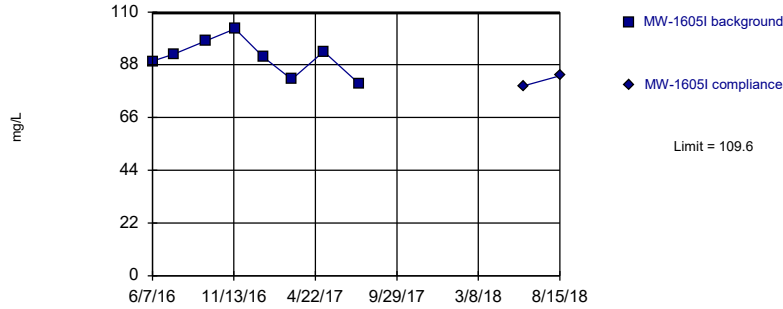
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=87.33, Std. Dev.=3.972, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9666, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

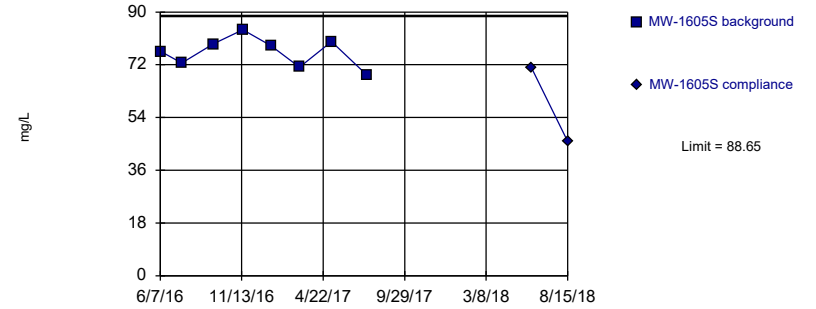
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=91.19, Std. Dev.=7.636, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9611, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

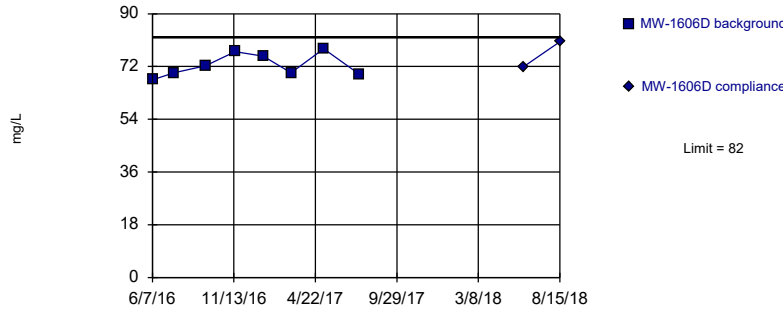
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=76.31, Std. Dev.=5.127, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9631, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

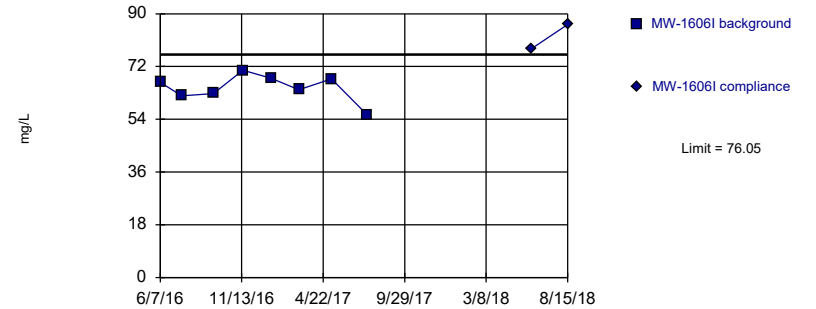
Within Limit Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=72.45, Std. Dev.=3.97, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9055, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit Prediction Limit  
Intrawell Parametric

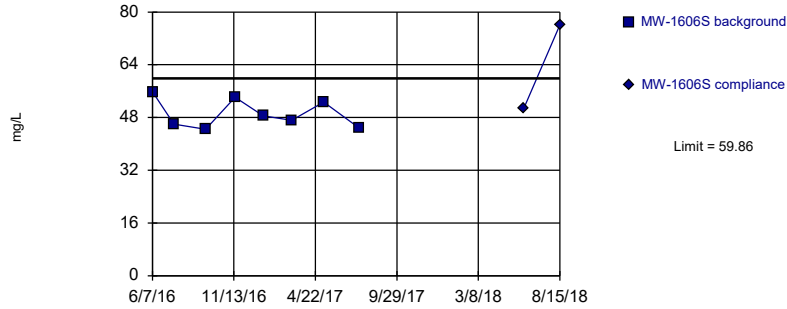


Background Data Summary: Mean=64.69, Std. Dev.=4.721, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit

Prediction Limit  
Intrawell Parametric

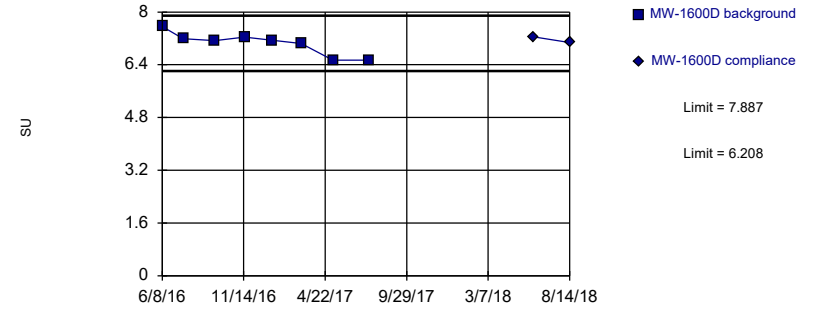


Background Data Summary: Mean=49.18, Std. Dev.=4.437, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8962, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: Calcium, total Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

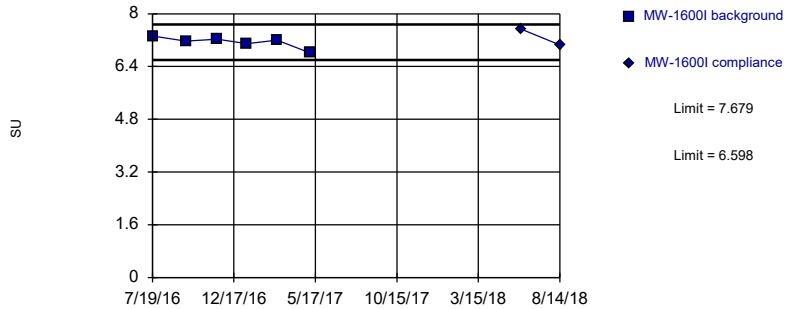


Background Data Summary: Mean=7.048, Std. Dev.=0.3486, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8807, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

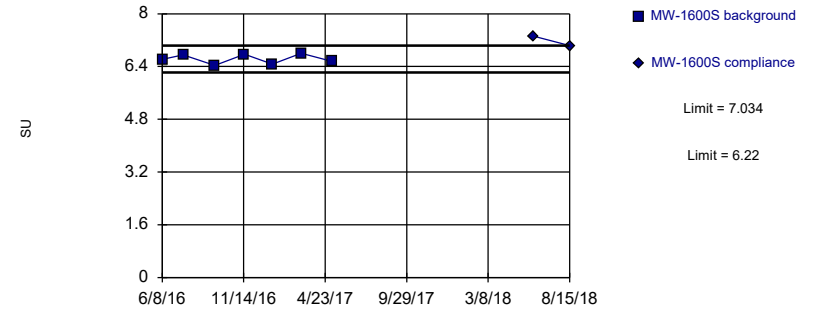


Background Data Summary: Mean=7.138, Std. Dev.=0.1789, n=6. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8846, critical = 0.713. Kappa = 3.019 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric



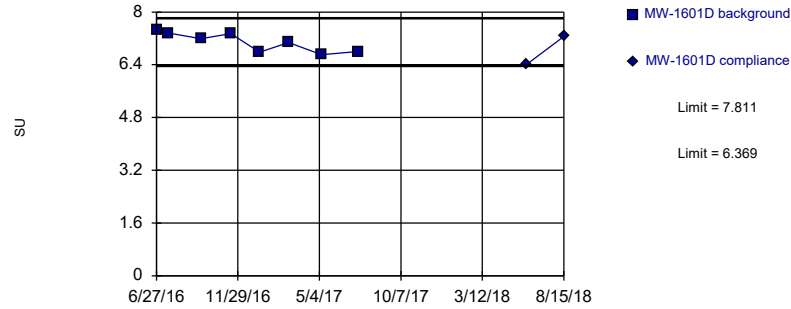
Background Data Summary: Mean=6.627, Std. Dev.=0.15, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9056, critical = 0.73. Kappa = 2.713 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit

Intrawell Parametric



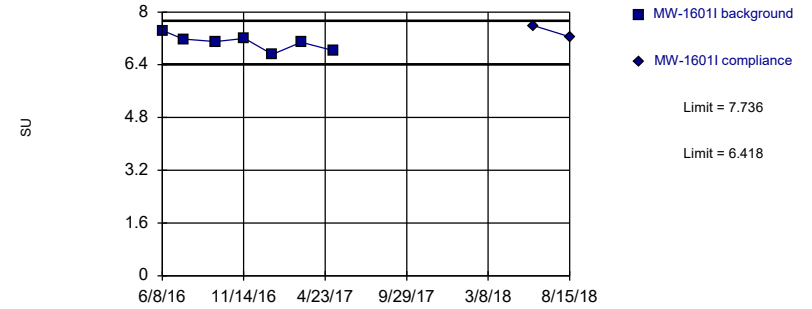
Background Data Summary: Mean=7.09, Std. Dev.=0.2994, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9013, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit

Intrawell Parametric



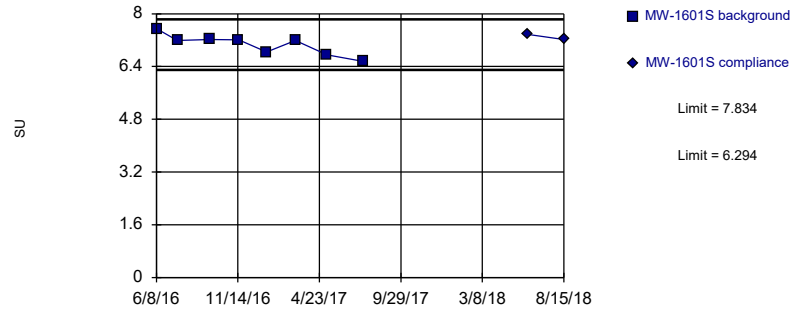
Background Data Summary: Mean=7.077, Std. Dev.=0.2428, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9548, critical = 0.73. Kappa = 2.713 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit

Intrawell Parametric



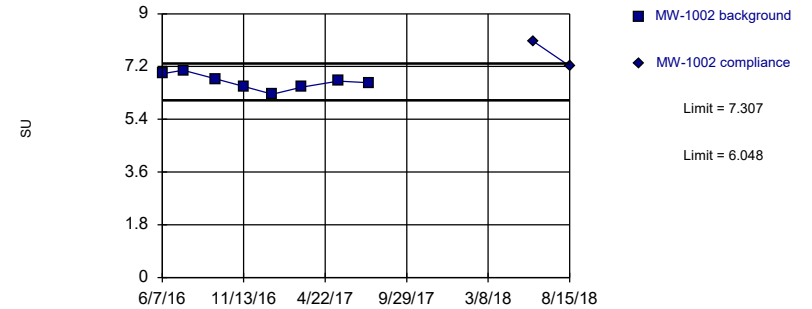
Background Data Summary: Mean=7.064, Std. Dev.=0.3199, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9212, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit

Intrawell Parametric

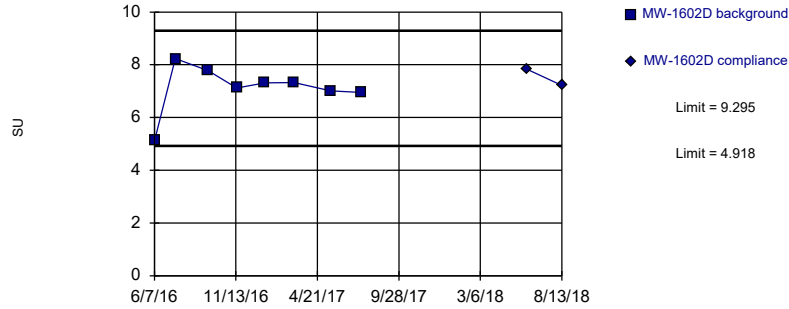


Background Data Summary: Mean=6.678, Std. Dev.=0.2616, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9843, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

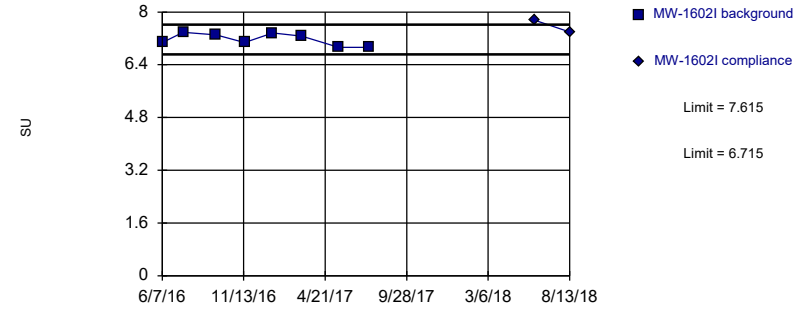


Background Data Summary: Mean=7.106, Std. Dev.=0.9093, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8449, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

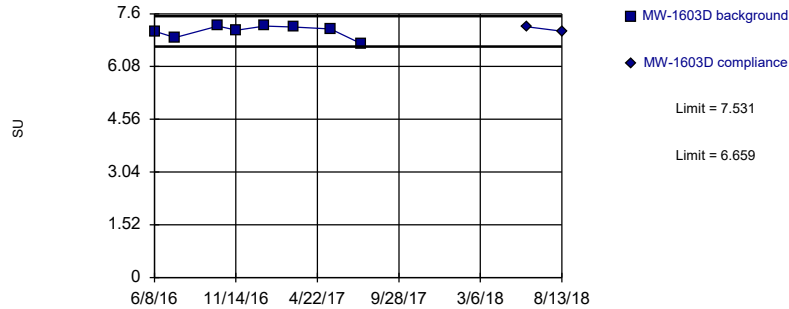


Background Data Summary: Mean=7.165, Std. Dev.=0.187, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8698, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

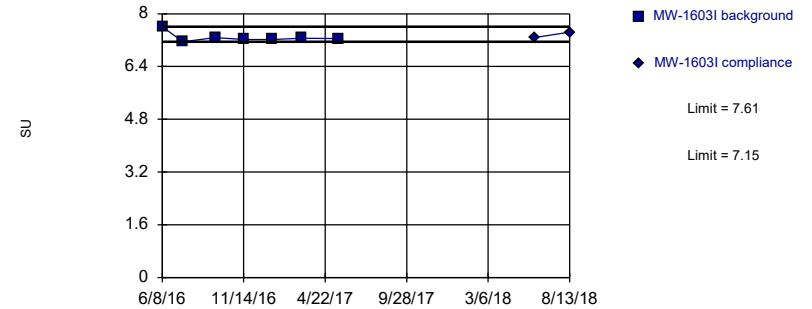


Background Data Summary: Mean=7.095, Std. Dev.=0.181, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8394, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Non-parametric

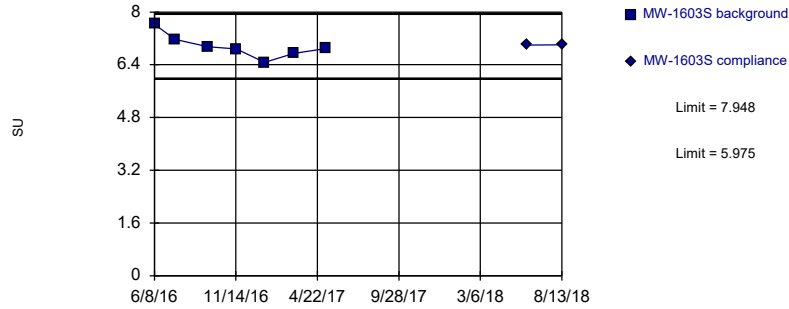


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 7 background values. Well-constituent pair annual alpha = 0.03452. Individual comparison alpha = 0.01734 (1 of 3).

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

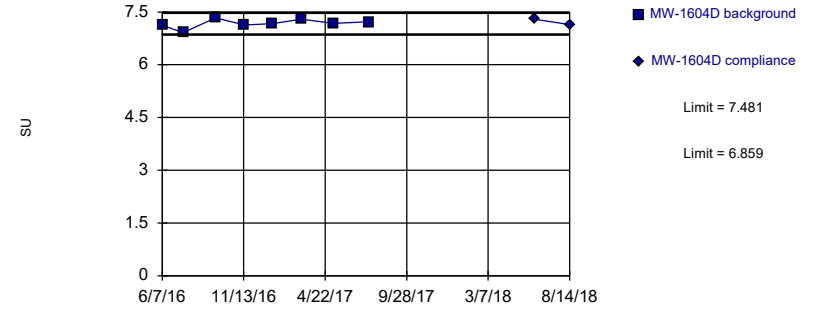


Background Data Summary: Mean=6.961, Std. Dev.=0.3635, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.73. Kappa = 2.713 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

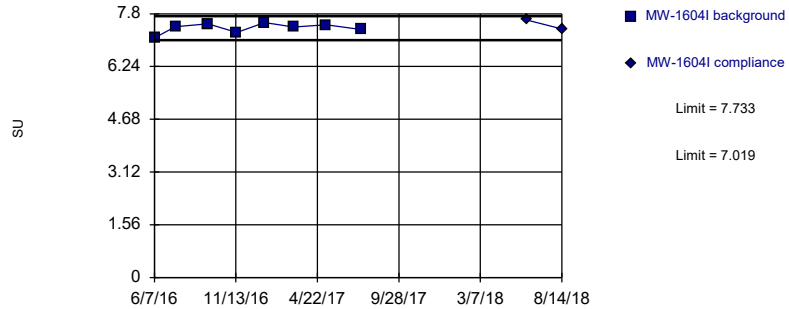


Background Data Summary: Mean=7.17, Std. Dev.=0.1292, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9176, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

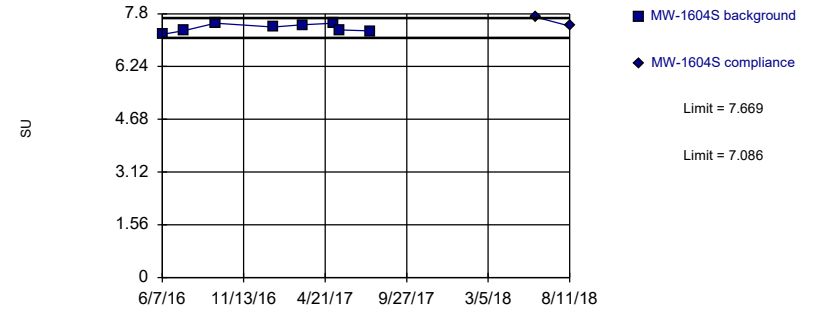


Background Data Summary: Mean=7.376, Std. Dev.=0.1483, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9201, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

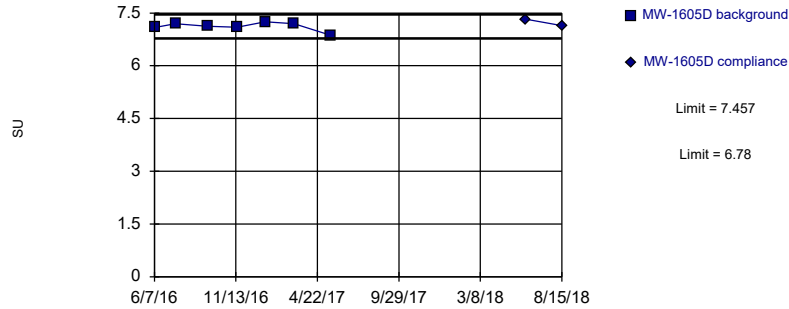


Background Data Summary: Mean=7.378, Std. Dev.=0.1209, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9219, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

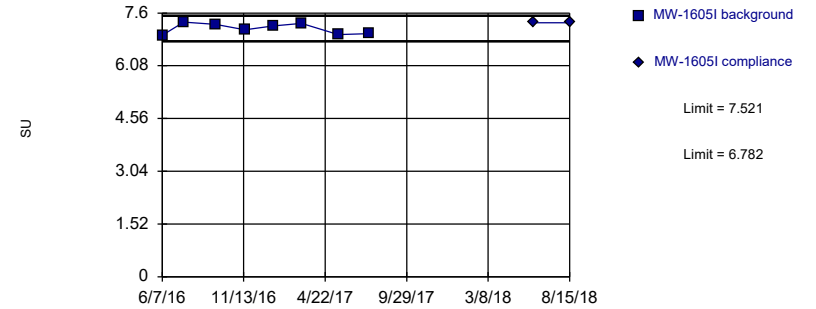


Background Data Summary: Mean=7.119, Std. Dev.=0.1248, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.864, critical = 0.73. Kappa = 2.713 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

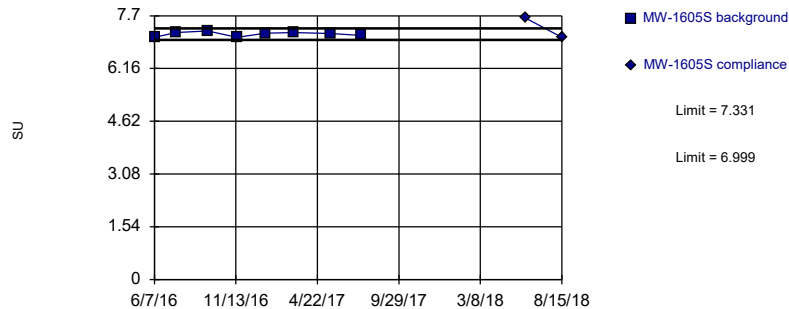


Background Data Summary: Mean=7.151, Std. Dev.=0.1535, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8883, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:57 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric

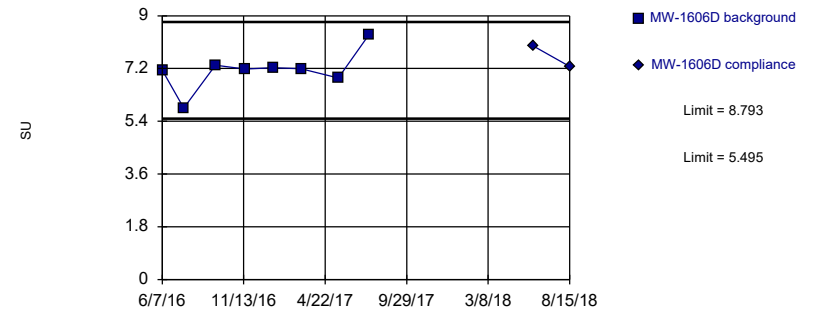


Background Data Summary: Mean=7.165, Std. Dev.=0.06887, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9097, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:58 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

Prediction Limit  
Intrawell Parametric



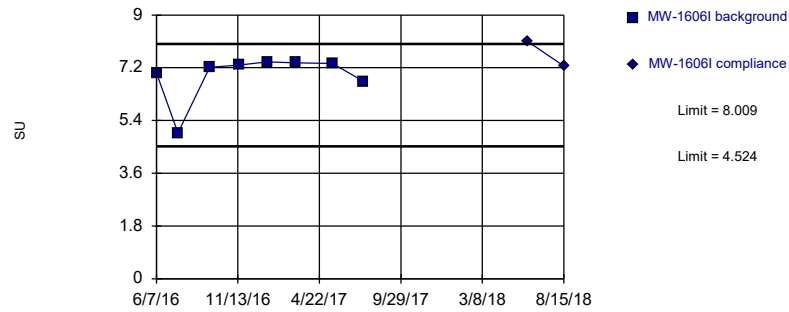
Background Data Summary: Mean=7.144, Std. Dev.=0.6851, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8564, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:58 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP



Within Limits

Prediction Limit  
Intrawell Parametric

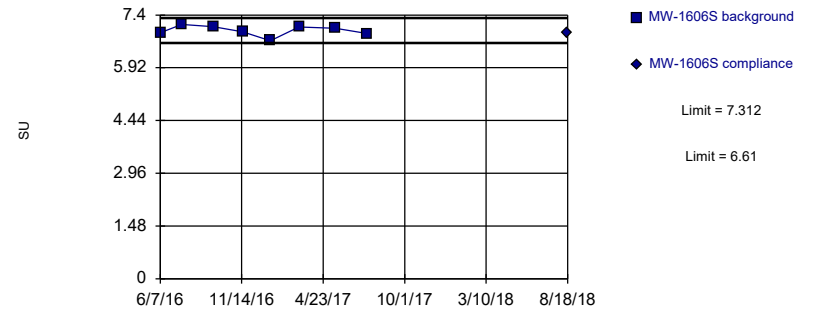


Background Data Summary (based on  $x^5$  transformation): Mean=17422, Std. Dev.=6451, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7638, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:58 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Within Limits

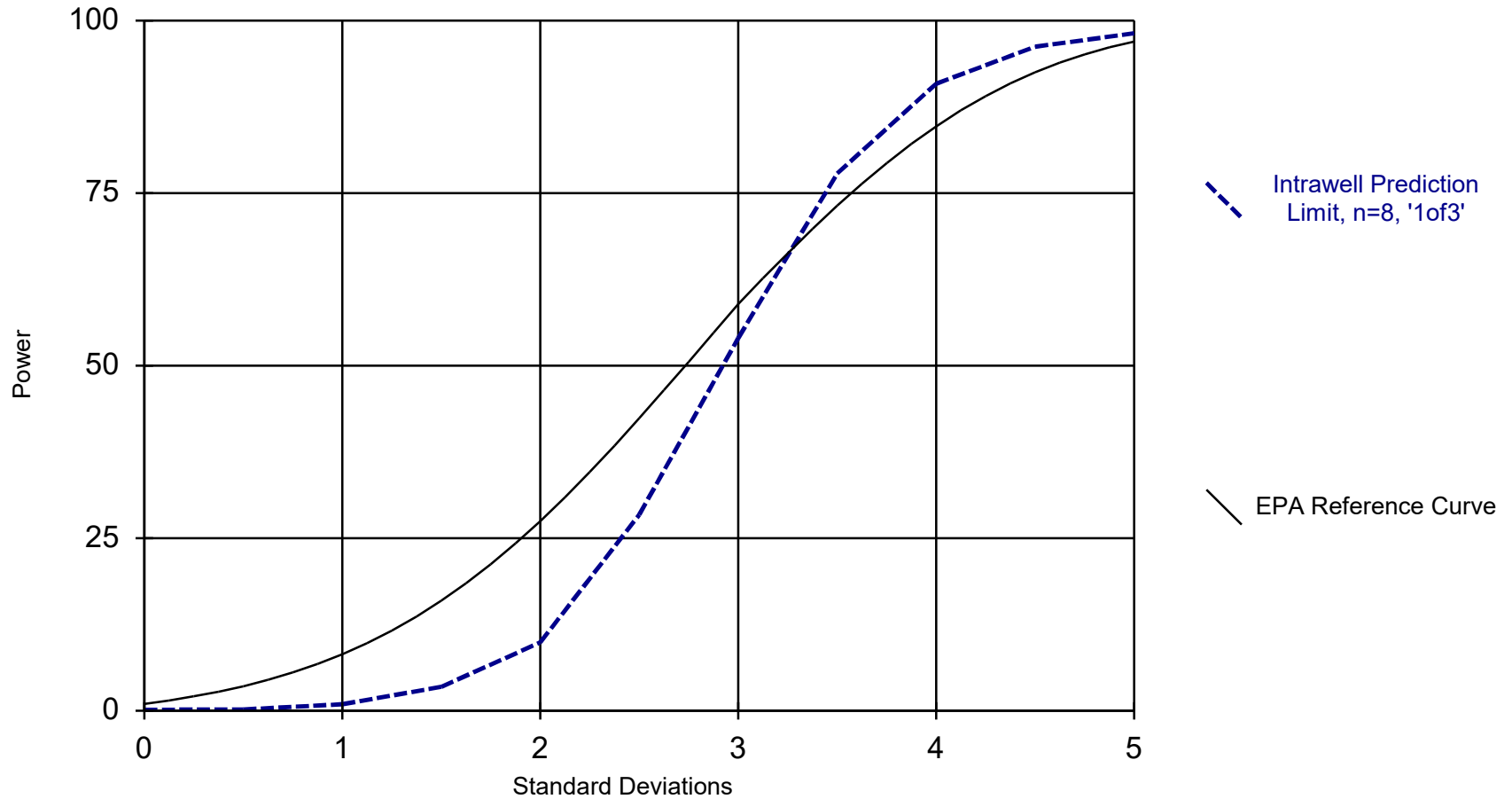
Prediction Limit  
Intrawell Parametric



Background Data Summary: Mean=6.961, Std. Dev.=0.1457, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9307, critical = 0.749. Kappa = 2.407 (c=7, w=15, 1 of 3, event alpha = 0.05132). Report alpha = 0.0005016.

Constituent: pH, field Analysis Run 1/3/2019 9:58 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

## Power Curve



Kappa = 2.473, based on 15 compliance wells and 8 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 12/13/2018 9:00 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

# Interwell Prediction Limit Summary Table - Significant Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 8:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig. Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Boron, total (mg/L)	MW-1002	0.1411	n/a	8/15/2018	1.88	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1603D	0.1411	n/a	8/13/2018	0.147	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1603S	0.1411	n/a	8/13/2018	1.7	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1604I	0.1411	n/a	8/14/2018	0.193	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1604S	0.1411	n/a	8/14/2018	0.582	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1605I	0.1411	n/a	8/15/2018	0.158	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1606S	0.1411	n/a	8/15/2018	0.563	Yes96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Chloride, total (mg/L)	MW-1002	46.4	n/a	8/15/2018	57.4	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1602D	46.4	n/a	8/13/2018	131	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1603S	46.4	n/a	8/13/2018	69.7	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1604S	46.4	n/a	8/14/2018	73	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1605S	46.4	n/a	8/15/2018	46.5	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1002	0.62	n/a	8/15/2018	1.02	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1604S	0.62	n/a	8/14/2018	0.9	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1002	76	n/a	8/15/2018	182	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1603S	76	n/a	8/13/2018	243	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1604I	76	n/a	8/14/2018	112	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1604S	76	n/a	8/14/2018	187	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1605I	76	n/a	8/15/2018	114	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1605S	76	n/a	8/15/2018	153	Yes96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Total Dissolved Solids [TDS] (mg/L)	MW-1602D	465.3	n/a	8/13/2018	521	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1603S	465.3	n/a	8/13/2018	558	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1604I	465.3	n/a	8/14/2018	487	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1604S	465.3	n/a	8/14/2018	583	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1605I	465.3	n/a	8/15/2018	483	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1605S	465.3	n/a	8/15/2018	573	Yes94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2

# Interwell Prediction Limit Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 8:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig. Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
<b>Boron, total (mg/L)</b>	<b>MW-1002</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>1.88</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Boron, total (mg/L)	MW-1602D	0.1411	n/a	8/13/2018	0.098	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1602I	0.1411	n/a	8/13/2018	0.109	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
<b>Boron, total (mg/L)</b>	<b>MW-1603D</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>0.147</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Boron, total (mg/L)	MW-1603I	0.1411	n/a	8/13/2018	0.13	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
<b>Boron, total (mg/L)</b>	<b>MW-1603S</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>1.7</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Boron, total (mg/L)	MW-1604D	0.1411	n/a	8/14/2018	0.052	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
<b>Boron, total (mg/L)</b>	<b>MW-1604I</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>0.193</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
<b>Boron, total (mg/L)</b>	<b>MW-1604S</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>0.582</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Boron, total (mg/L)	MW-1605D	0.1411	n/a	8/15/2018	0.024	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
<b>Boron, total (mg/L)</b>	<b>MW-1605I</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>0.158</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Boron, total (mg/L)	MW-1605S	0.1411	n/a	8/15/2018	0.029	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1606D	0.1411	n/a	8/15/2018	0.028	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
Boron, total (mg/L)	MW-1606I	0.1411	n/a	8/15/2018	0.031	No 96	0.2298	0.0706	1.042	None	sqrt(x)	0.0005016	Param Inter 1 of 2
<b>Boron, total (mg/L)</b>	<b>MW-1606S</b>	<b>0.1411</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>0.563</b>	<b>Yes96</b>	<b>0.2298</b>	<b>0.0706</b>	<b>1.042</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
<b>Chloride, total (mg/L)</b>	<b>MW-1002</b>	<b>46.4</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>57.4</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
<b>Chloride, total (mg/L)</b>	<b>MW-1602D</b>	<b>46.4</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>131</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Chloride, total (mg/L)	MW-1602I	46.4	n/a	8/13/2018	28.5	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1603D	46.4	n/a	8/13/2018	25.4	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1603I	46.4	n/a	8/13/2018	31.5	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Chloride, total (mg/L)</b>	<b>MW-1603S</b>	<b>46.4</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>69.7</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Chloride, total (mg/L)	MW-1604D	46.4	n/a	8/14/2018	16.4	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1604I	46.4	n/a	8/14/2018	43.7	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Chloride, total (mg/L)</b>	<b>MW-1604S</b>	<b>46.4</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>73</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Chloride, total (mg/L)	MW-1605D	46.4	n/a	8/15/2018	23.8	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1605I	46.4	n/a	8/15/2018	38	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Chloride, total (mg/L)</b>	<b>MW-1605S</b>	<b>46.4</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>46.5</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Chloride, total (mg/L)	MW-1606D	46.4	n/a	8/15/2018	23.9	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1606I	46.4	n/a	8/15/2018	25.4	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Chloride, total (mg/L)	MW-1606S	46.4	n/a	8/15/2018	20.7	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Fluoride, total (mg/L)</b>	<b>MW-1002</b>	<b>0.62</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>1.02</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Fluoride, total (mg/L)	MW-1602D	0.62	n/a	8/13/2018	0.31	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1602I	0.62	n/a	8/13/2018	0.28	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1603D	0.62	n/a	8/13/2018	0.27	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1603I	0.62	n/a	8/13/2018	0.43	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1603S	0.62	n/a	8/13/2018	0.56	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1604D	0.62	n/a	8/14/2018	0.26	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1604I	0.62	n/a	8/14/2018	0.33	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Fluoride, total (mg/L)</b>	<b>MW-1604S</b>	<b>0.62</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>0.9</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Fluoride, total (mg/L)	MW-1605D	0.62	n/a	8/15/2018	0.23	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1605I	0.62	n/a	8/15/2018	0.23	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1605S	0.62	n/a	8/15/2018	0.59	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1606D	0.62	n/a	8/15/2018	0.2	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1606I	0.62	n/a	8/15/2018	0.21	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Fluoride, total (mg/L)	MW-1606S	0.62	n/a	8/15/2018	0.47	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Sulfate, total (mg/L)</b>	<b>MW-1002</b>	<b>76</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>182</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Sulfate, total (mg/L)	MW-1602D	76	n/a	8/13/2018	18	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1602I	76	n/a	8/13/2018	75	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1603D	76	n/a	8/13/2018	39.1	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1603I	76	n/a	8/13/2018	66.2	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...

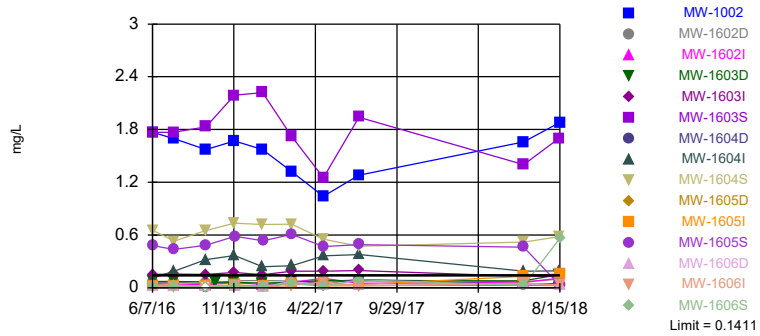
# Interwell Prediction Limit Summary Table - All Results

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/26/2018, 8:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig. Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
<b>Sulfate, total (mg/L)</b>	<b>MW-1603S</b>	<b>76</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>243</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Sulfate, total (mg/L)	MW-1604D	76	n/a	8/14/2018	26.2	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Sulfate, total (mg/L)</b>	<b>MW-1604I</b>	<b>76</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>112</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
<b>Sulfate, total (mg/L)</b>	<b>MW-1604S</b>	<b>76</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>187</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Sulfate, total (mg/L)	MW-1605D	76	n/a	8/15/2018	48.7	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
<b>Sulfate, total (mg/L)</b>	<b>MW-1605I</b>	<b>76</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>114</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
<b>Sulfate, total (mg/L)</b>	<b>MW-1605S</b>	<b>76</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>153</b>	<b>Yes96</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000209</b>	<b>NP Inter (normality) ...</b>
Sulfate, total (mg/L)	MW-1606D	76	n/a	8/15/2018	21.5	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1606I	76	n/a	8/15/2018	50.3	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Sulfate, total (mg/L)	MW-1606S	76	n/a	8/15/2018	34.9	No 96	n/a	n/a	0	n/a	n/a	0.000209	NP Inter (normality) ...
Total Dissolved Solids [TDS] (mg/L)	MW-1002	465.3	n/a	8/15/2018	453	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1602D</b>	<b>465.3</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>521</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1602I	465.3	n/a	8/13/2018	405	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1603D	465.3	n/a	8/13/2018	385	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1603I	465.3	n/a	8/13/2018	434	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1603S</b>	<b>465.3</b>	<b>n/a</b>	<b>8/13/2018</b>	<b>558</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1604D	465.3	n/a	8/14/2018	311	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1604I</b>	<b>465.3</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>487</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1604S</b>	<b>465.3</b>	<b>n/a</b>	<b>8/14/2018</b>	<b>583</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1605D	465.3	n/a	8/15/2018	379	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1605I</b>	<b>465.3</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>483</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
<b>Total Dissolved Solids [TDS] (mg/L)</b>	<b>MW-1605S</b>	<b>465.3</b>	<b>n/a</b>	<b>8/15/2018</b>	<b>573</b>	<b>Yes94</b>	<b>6.1e7</b>	<b>1.9e7</b>	<b>0</b>	<b>None</b>	<b>x^3</b>	<b>0.0005016</b>	<b>Param Inter 1 of 2</b>
Total Dissolved Solids [TDS] (mg/L)	MW-1606D	465.3	n/a	8/15/2018	329	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1606I	465.3	n/a	8/15/2018	387	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1606S	465.3	n/a	8/15/2018	316	No 94	6.1e7	1.9e7	0	None	x^3	0.0005016	Param Inter 1 of 2

Exceeds Limit: MW-1002, MW-1603D, MW-1603S, MW-1604I, MW-1604S, MW-1605I...

Prediction Limit  
Interwell Parametric

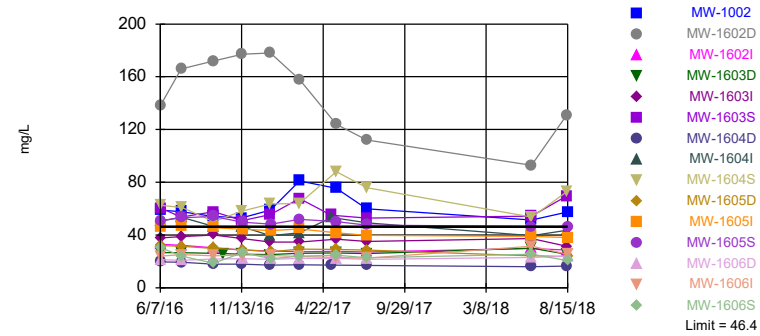


Background Data Summary (based on square root transformation): Mean=0.2298, Std. Dev.=0.0706, n=96, 1.042% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9808, critical = 0.965. Kappa = 2.066 (c=7, w=15, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0005016. Comparing 15 points to limit.

Constituent: Boron, total Analysis Run 12/26/2018 8:14 AM View: PL's - Interwell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit: MW-1002, MW-1602D, MW-1603S, MW-1604S, MW-1605S

Prediction Limit  
Interwell Non-parametric

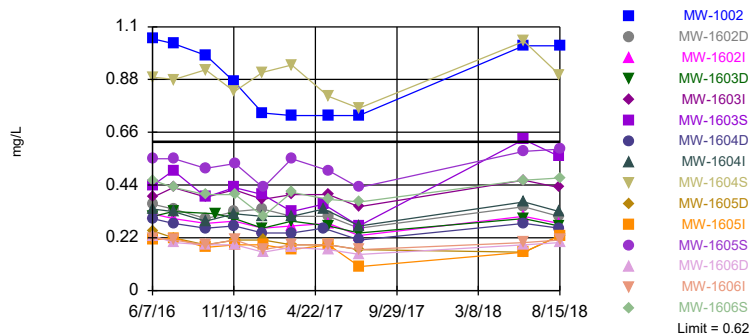


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. Annual per-constituent alpha = 0.00625. Individual comparison alpha = 0.000209 (1 of 2). Comparing 15 points to limit.

Constituent: Chloride, total Analysis Run 12/26/2018 8:14 AM View: PL's - Interwell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit: MW-1002, MW-1604S

Prediction Limit  
Interwell Non-parametric

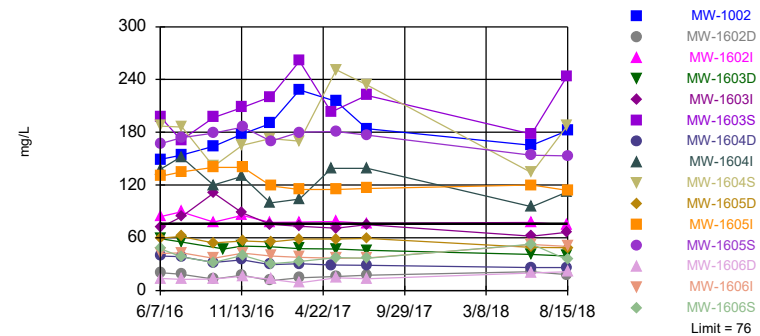


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. Annual per-constituent alpha = 0.00625. Individual comparison alpha = 0.000209 (1 of 2). Comparing 15 points to limit.

Constituent: Fluoride, total Analysis Run 12/26/2018 8:14 AM View: PL's - Interwell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit: MW-1002, MW-1603S, MW-1604I, MW-1604S, MW-1605I, MW-1605S

Prediction Limit  
Interwell Non-parametric

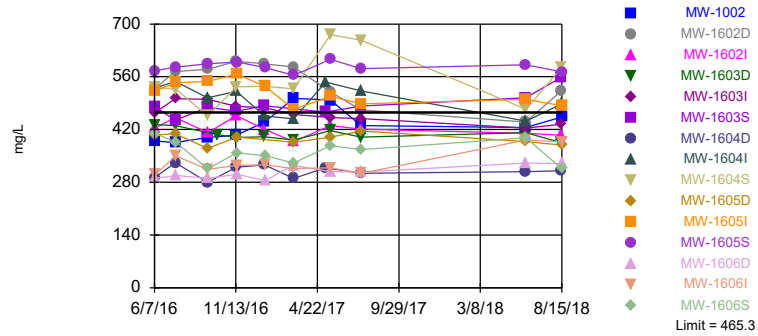


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. Annual per-constituent alpha = 0.00625. Individual comparison alpha = 0.000209 (1 of 2). Comparing 15 points to limit.

Constituent: Sulfate, total Analysis Run 12/26/2018 8:14 AM View: PL's - Interwell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

Exceeds Limit: MW-1602D, MW-1603S,  
MW-1604I, MW-1604S, MW-1605I, MW-160

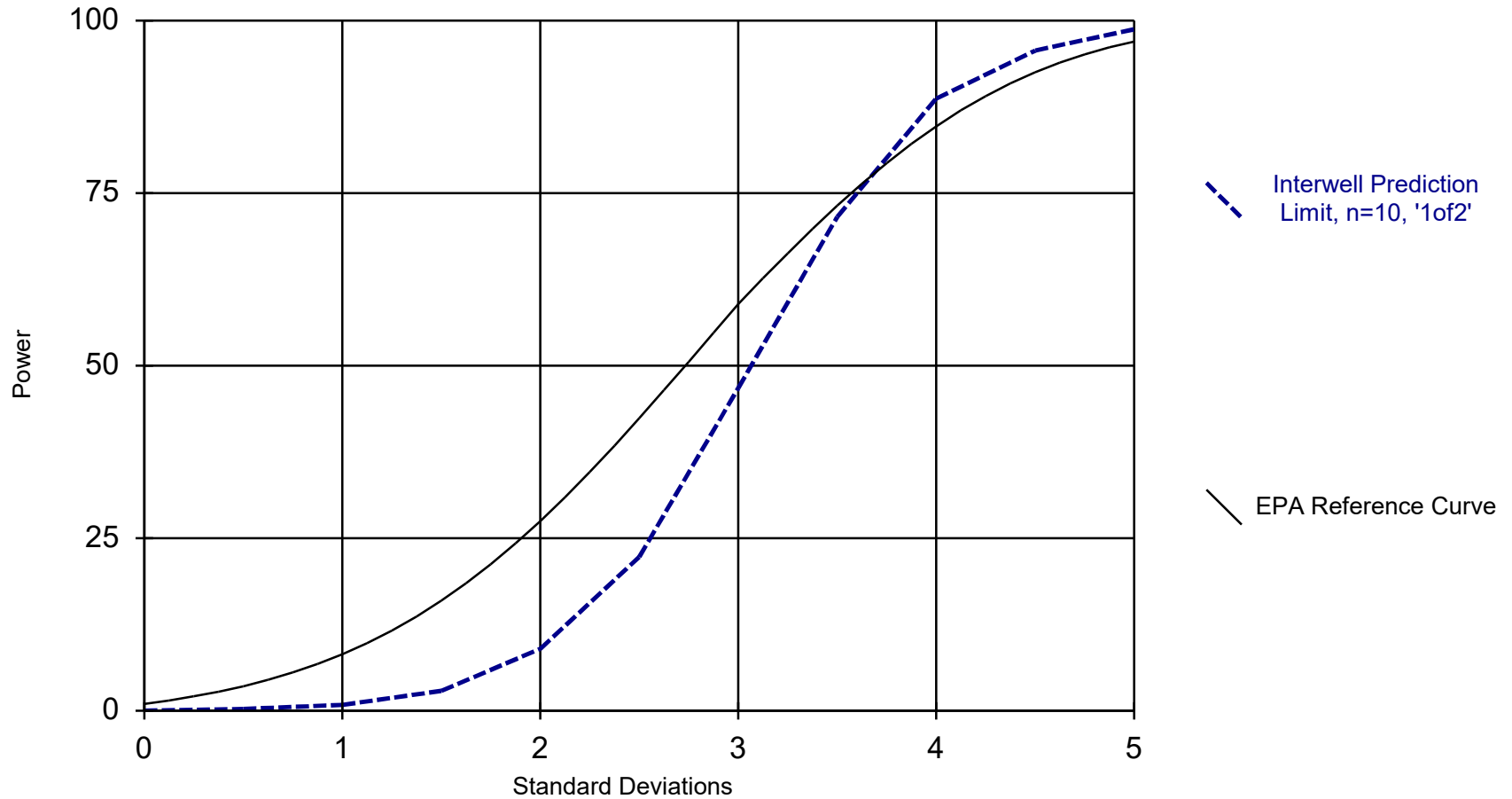
Prediction Limit  
Interwell Parametric



Background Data Summary (based on cube transformation): Mean=6.1e7, Std. Dev.=1.9e7, n=94. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9667, critical = 0.964. Kappa = 2.067 (c=7, w=15, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0005016. Comparing 15 points to limit.

Constituent: Total Dissolved Solids [TDS] Analysis Run 12/26/2018 8:14 AM View: PL's - Interwell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

## Power Curve



Kappa = 2.96, based on 15 compliance wells and 8 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 12/13/2018 9:01 PM View: PL's - Intrawell  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP



# Upper Tolerance Limits - Appendix IV

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 12/13/2018, 9:20 PM

<u>Constituent</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony, total (mg/L)	0.00044	n/a	96	n/a	n/a	9.375	n/a	n/a	0.007269	NP Inter(normality)
Arsenic, total (mg/L)	0.043	n/a	98	n/a	n/a	0	n/a	n/a	0.00656	NP Inter(normality)
Barium, total (mg/L)	0.997	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter(normality)
Beryllium, total (mg/L)	0.0001	n/a	96	n/a	n/a	62.5	n/a	n/a	0.007269	NP Inter(normality)
Cadmium, total (mg/L)	0.00024	n/a	96	n/a	n/a	26.04	n/a	n/a	0.007269	NP Inter(normality)
Chromium, total (mg/L)	0.00413	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter(normality)
Cobalt, total (mg/L)	0.00334	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	7.25	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter(normality)
Fluoride, total (mg/L)	0.62	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter(normality)
Lead, total (mg/L)	0.00154	n/a	96	n/a	n/a	0	n/a	n/a	0.007269	NP Inter
Lithium, total (mg/L)	0.02338	n/a	96	0.09612	0.0294	13.54	None	sqrt(x)	0.05	Inter
Mercury, total (mg/L)	0.000005	n/a	72	n/a	n/a	80.56	n/a	n/a	0.02489	NP Inter(NDs)
Molybdenum, total (mg/L)	0.005171	n/a	96	-6.372	0.5731	0	None	ln(x)	0.05	Inter
Selenium, total (mg/L)	0.0038	n/a	96	n/a	n/a	34.38	n/a	n/a	0.007269	NP Inter(normality)
Thallium, total (mg/L)	0.0005	n/a	90	n/a	n/a	26.67	n/a	n/a	0.009888	NP Inter(normality)

# Confidence Interval Summary Table - All Appendix IV (No Significant Results)

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/4/2019, 10:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony, total (mg/L)	MW-1002	0.00006	0.00004	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1602D	0.00003	0.00001	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1602I	0.0001	0.00002	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1603D	0.00004365	0.00001062	0.006	No	10	0	x^(1/3)	0.01	Param.
Antimony, total (mg/L)	MW-1603I	0.00005	0.00003	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1603S	0.00006	0.00004	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1604D	0.00003493	0.00001107	0.006	No	10	0	No	0.01	Param.
Antimony, total (mg/L)	MW-1604I	0.00006	0.00002	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1604S	0.00007	0.00005	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1605D	0.00002	0.00001	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1605I	0.00004367	0.00002633	0.006	No	10	0	No	0.01	Param.
Antimony, total (mg/L)	MW-1605S	0.00006	0.00004	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1606D	0.00004098	0.00001302	0.006	No	10	10	No	0.01	Param.
Antimony, total (mg/L)	MW-1606I	0.00003	0.00002	0.006	No	10	0	No	0.011	NP (normality)
Antimony, total (mg/L)	MW-1606S	0.00006529	0.00004271	0.006	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1002	0.0003283	0.0002129	0.043	No	10	0	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1602D	0.009204	0.007852	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1602I	0.02888	0.01622	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603D	0.01207	0.01057	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603I	0.01289	0.01235	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603S	0.00036	0.00018	0.043	No	10	0	No	0.011	NP (normality)
Arsenic, total (mg/L)	MW-1604D	0.01919	0.01567	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1604I	0.02007	0.01878	0.043	No	9	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1604S	0.00041	0.0002	0.043	No	10	0	No	0.011	NP (normality)
Arsenic, total (mg/L)	MW-1605D	0.01921	0.01767	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1605I	0.0201	0.017	0.043	No	10	0	No	0.011	NP (normality)
Arsenic, total (mg/L)	MW-1605S	0.000523	0.000333	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606D	0.01532	0.0129	0.043	No	10	0	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606I	0.006402	0.003792	0.043	No	10	0	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1606S	0.0003872	0.0002042	0.043	No	10	0	ln(x)	0.01	Param.
Barium, total (mg/L)	MW-1002	0.02745	0.01369	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1602D	0.5181	0.4171	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1602I	0.1359	0.1193	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1603D	0.1171	0.1063	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1603I	0.08858	0.07994	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1603S	0.01853	0.01237	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1604D	0.2567	0.2281	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1604I	0.1279	0.1131	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1604S	0.02001	0.01517	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1605D	0.4706	0.4088	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1605I	0.1705	0.1453	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1605S	0.00872	0.00761	2	No	10	0	No	0.011	NP (normality)
Barium, total (mg/L)	MW-1606D	0.4105	0.3589	2	No	10	0	No	0.01	Param.
Barium, total (mg/L)	MW-1606I	0.0673	0.0467	2	No	10	0	No	0.011	NP (normality)
Barium, total (mg/L)	MW-1606S	0.01391	0.009743	2	No	10	0	No	0.01	Param.
Beryllium, total (mg/L)	MW-1002	0.00002	0.000004	0.004	No	10	70	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1602D	0.00002	0.000005	0.004	No	10	50	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1602I	0.00002	0.000005	0.004	No	10	50	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1603D	0.00002	0.000009	0.004	No	10	70	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1603I	0.00002	0.00001	0.004	No	10	80	No	0.011	NP (NDs)
Beryllium, total (mg/L)	MW-1603S	0.00002	0.000008	0.004	No	10	60	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1604D	0.00002	0.000004	0.004	No	10	80	No	0.011	NP (NDs)
Beryllium, total (mg/L)	MW-1604I	0.00002	0.000004	0.004	No	10	80	No	0.011	NP (NDs)
Beryllium, total (mg/L)	MW-1604S	0.00002	0.000005	0.004	No	10	60	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1605D	0.00002	0.00001	0.004	No	10	80	No	0.011	NP (NDs)

# Confidence Interval Summary Table - All Appendix IV (No Significant Results) Page 2

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/4/2019, 10:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Beryllium, total (mg/L)	MW-1605I	0.00002	0.000004	0.004	No	10	70	No	0.011	NP (normality)
Beryllium, total (mg/L)	MW-1605S	0.00002	0.000004	0.004	No	10	80	No	0.011	NP (NDs)
Beryllium, total (mg/L)	MW-1606D	0.0000364	0.00001117	0.004	No	10	50	No	0.01	Param.
Beryllium, total (mg/L)	MW-1606I	0.00002	0.000007	0.004	No	10	80	No	0.011	NP (NDs)
Beryllium, total (mg/L)	MW-1606S	0.00002	0.000004	0.004	No	10	40	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1002	0.00007	0.00002	0.005	No	10	0	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1602D	0.00002	0.00001	0.005	No	10	70	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1602I	0.00002	0.000005	0.005	No	10	30	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1603D	0.00002	0.000007	0.005	No	10	50	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1603I	0.00002	0.000004	0.005	No	10	60	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1603S	0.00003	0.00002	0.005	No	10	0	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1604D	0.00002	0.000007	0.005	No	10	70	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1604I	0.00002	0.000005	0.005	No	9	66.67	No	0.002	NP (normality)
Cadmium, total (mg/L)	MW-1604S	0.00003	0.00001	0.005	No	10	0	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1605D	0.00002	0.000006	0.005	No	10	80	No	0.011	NP (NDs)
Cadmium, total (mg/L)	MW-1605I	0.00002	0.000005	0.005	No	10	60	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1605S	0.00004	0.00003	0.005	No	10	0	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1606D	0.00002	0.000007	0.005	No	10	70	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1606I	0.00002	0.000004	0.005	No	10	60	No	0.011	NP (normality)
Cadmium, total (mg/L)	MW-1606S	0.00004048	0.00001552	0.005	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1002	0.0003631	0.00006699	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1602D	0.0003742	0.000192	0.1	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1602I	0.0003662	0.000113	0.1	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1603D	0.0002568	0.0001078	0.1	No	9	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1603I	0.0006406	0.0000808	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1603S	0.000445	0.000112	0.1	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1604D	0.0002051	0.00008129	0.1	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1604I	0.0003543	0.00007608	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1604S	0.0004649	0.00007792	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605D	0.0002917	0.0001299	0.1	No	10	0	No	0.01	Param.
Chromium, total (mg/L)	MW-1605I	0.0003333	0.00006976	0.1	No	10	0	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605S	0.0004033	0.00008834	0.1	No	10	0	x^(1/3)	0.01	Param.
Chromium, total (mg/L)	MW-1606D	0.0003801	0.00008002	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606I	0.0002977	0.0000673	0.1	No	10	0	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606S	0.0006575	0.0001305	0.1	No	10	0	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1002	0.0008263	0.0006063	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1602D	0.000196	0.0001092	0.006	No	10	0	sqrt(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1602I	0.001652	0.00134	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1603D	0.001183	0.000453	0.006	No	10	0	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1603I	0.001368	0.001194	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1603S	0.0006346	0.0001794	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604D	0.00009997	0.00005403	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604I	0.0009043	0.0007135	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604S	0.000548	0.000285	0.006	No	10	0	No	0.011	NP (normality)
Cobalt, total (mg/L)	MW-1605D	0.000184	0.00008439	0.006	No	10	0	sqrt(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1605I	0.001665	0.001469	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1605S	0.0005604	0.000224	0.006	No	10	0	sqrt(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1606D	0.000178	0.00007	0.006	No	10	0	No	0.011	NP (normality)
Cobalt, total (mg/L)	MW-1606I	0.001428	0.0007356	0.006	No	10	0	No	0.01	Param.
Cobalt, total (mg/L)	MW-1606S	0.0004222	0.00004669	0.006	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1002	1.497	0.2817	7.25	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602D	2.335	0.7165	7.25	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602I	1.273	0.8118	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603D	1.412	0.669	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603I	2.063	0.8297	7.25	No	10	0	No	0.01	Param.

# Confidence Interval Summary Table - All Appendix IV (No Significant Results) Page 3

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/4/2019, 10:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	MW-1603S	1.68	0.3352	7.25	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604D	1.259	0.4329	7.25	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604I	1.389	0.6124	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604S	1.145	0.3372	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605D	1.684	0.7941	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605I	2.201	1.376	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605S	1.067	0.1513	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606D	1.688	0.5278	7.25	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606I	1.846	0.6197	7.25	No	10	0	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606S	1.448	0.3534	7.25	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1002	1.03	0.73	4	No	10	0	No	0.011	NP (normality)
Fluoride, total (mg/L)	MW-1602D	0.3471	0.2949	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1602I	0.305	0.259	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603D	0.3144	0.2636	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603I	0.4327	0.3773	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603S	0.5273	0.3347	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604D	0.2826	0.2374	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604I	0.346	0.296	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604S	0.9567	0.8193	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605D	0.2265	0.1775	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605I	0.2166	0.1514	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605S	0.5717	0.4723	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606D	0.2063	0.1657	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606I	0.2113	0.1807	4	No	10	0	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606S	0.4528	0.3652	4	No	10	0	No	0.01	Param.
Lead, total (mg/L)	MW-1002	0.00005515	0.00001546	0.015	No	10	0	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1602D	0.0001158	0.00001318	0.015	No	10	0	No	0.01	Param.
Lead, total (mg/L)	MW-1602I	0.0002418	0.00003483	0.015	No	10	0	No	0.01	Param.
Lead, total (mg/L)	MW-1603D	0.0001668	0.00001001	0.015	No	10	0	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1603I	0.0001633	0.00001563	0.015	No	10	0	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1603S	0.0001686	0.00002797	0.015	No	10	0	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1604D	0.00005432	0.00001123	0.015	No	10	0	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1604I	0.00004763	0.000009844	0.015	No	10	0	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1604S	0.0001918	0.00001794	0.015	No	10	0	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1605D	0.00007782	0.00001134	0.015	No	10	10	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1605I	0.0001434	0.0000424	0.015	No	10	0	No	0.01	Param.
Lead, total (mg/L)	MW-1605S	0.0000848	0.00002046	0.015	No	10	0	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1606D	0.000141	0.000008	0.015	No	10	20	No	0.011	NP (Cohens/xfrm)
Lead, total (mg/L)	MW-1606I	0.00006627	0.00002053	0.015	No	10	10	ln(x)	0.01	Param.
Lead, total (mg/L)	MW-1606S	0.0004107	0.00001313	0.015	No	10	0	x^(1/3)	0.01	Param.
Lithium, total (mg/L)	MW-1002	0.01132	0.002885	0.04	No	10	10	No	0.01	Param.
Lithium, total (mg/L)	MW-1602D	0.01167	0.002297	0.04	No	10	0	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1602I	0.01154	0.00346	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1603D	0.009851	0.005149	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1603I	0.01321	0.004991	0.04	No	10	10	No	0.01	Param.
Lithium, total (mg/L)	MW-1603S	0.01087	0.002727	0.04	No	10	10	No	0.01	Param.
Lithium, total (mg/L)	MW-1604D	0.007315	0.0003785	0.04	No	10	20	No	0.01	Param.
Lithium, total (mg/L)	MW-1604I	0.01246	0.005138	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1604S	0.01515	0.008853	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1605D	0.006123	0.003677	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1605I	0.01173	0.004471	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1605S	0.01823	0.01197	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1606D	0.006421	0.001779	0.04	No	10	10	No	0.01	Param.
Lithium, total (mg/L)	MW-1606I	0.009696	0.005304	0.04	No	10	0	No	0.01	Param.
Lithium, total (mg/L)	MW-1606S	0.01393	0.008869	0.04	No	10	0	No	0.01	Param.

# Confidence Interval Summary Table - All Appendix IV (No Significant Results) Page 4

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/4/2019, 10:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Mercury, total (mg/L)	MW-1002	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1602D	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1602I	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1603D	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1603I	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1603S	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1604D	0.000005	0.000002	0.002	No	9	77.78	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1604I	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1604S	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1605D	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1605I	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1605S	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1606D	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1606I	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury, total (mg/L)	MW-1606S	0.000005	0.000005	0.002	No	9	88.89	No	0.002	NP (NDs)
Molybdenum, total (mg/L)	MW-1002	0.004805	0.00222	0.1	No	10	0	ln(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1602D	0.004113	0.003303	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1602I	0.002481	0.002075	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1603D	0.006169	0.004421	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1603I	0.009559	0.008051	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1603S	0.001464	0.0002111	0.1	No	10	0	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1604D	0.003473	0.002671	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604I	0.002971	0.002553	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604S	0.002613	0.002133	0.1	No	9	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1605D	0.00319	0.00194	0.1	No	10	0	No	0.011	NP (normality)
Molybdenum, total (mg/L)	MW-1605I	0.001367	0.001111	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1605S	0.00218	0.001544	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606D	0.00246	0.00177	0.1	No	10	0	No	0.011	NP (normality)
Molybdenum, total (mg/L)	MW-1606I	0.001825	0.001203	0.1	No	10	0	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606S	0.001636	0.001004	0.1	No	10	0	No	0.01	Param.
Selenium, total (mg/L)	MW-1002	0.00009704	0.00006661	0.05	No	10	0	ln(x)	0.01	Param.
Selenium, total (mg/L)	MW-1602D	0.0001	0.00003	0.05	No	10	40	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1602I	0.0001	0.00003	0.05	No	10	40	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1603D	0.0001	0.00004	0.05	No	10	50	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1603I	0.0001	0.00004	0.05	No	10	60	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1603S	0.000277	0.00004499	0.05	No	10	10	x^(1/3)	0.01	Param.
Selenium, total (mg/L)	MW-1604D	0.0001	0.00003	0.05	No	10	60	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1604I	0.0001	0.00003	0.05	No	10	50	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1604S	0.0001338	0.00004301	0.05	No	10	0	x^(1/3)	0.01	Param.
Selenium, total (mg/L)	MW-1605D	0.0001	0.00003	0.05	No	10	60	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1605I	0.0001	0.00003	0.05	No	10	50	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1605S	0.0013	0.0005	0.05	No	10	0	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1606D	0.0001	0.00004	0.05	No	10	60	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1606I	0.0001	0.00003	0.05	No	10	70	No	0.011	NP (normality)
Selenium, total (mg/L)	MW-1606S	0.005185	0.002775	0.05	No	10	0	No	0.01	Param.
Thallium, total (mg/L)	MW-1002	0.00004146	0.00002454	0.002	No	10	0	No	0.01	Param.
Thallium, total (mg/L)	MW-1602D	0.00005	0.00002	0.002	No	10	60	No	0.011	NP (normality)
Thallium, total (mg/L)	MW-1602I	0.00004193	0.00001607	0.002	No	10	10	No	0.01	Param.
Thallium, total (mg/L)	MW-1603D	0.00006972	0.00003004	0.002	No	10	40	No	0.01	Param.
Thallium, total (mg/L)	MW-1603I	0.00004645	0.00002755	0.002	No	10	0	No	0.01	Param.
Thallium, total (mg/L)	MW-1603S	0.000054	0.00002	0.002	No	10	0	No	0.011	NP (normality)
Thallium, total (mg/L)	MW-1604D	0.00005	0.00001	0.002	No	10	60	No	0.011	NP (normality)
Thallium, total (mg/L)	MW-1604I	0.00004603	0.00001265	0.002	No	10	0	x^(1/3)	0.01	Param.
Thallium, total (mg/L)	MW-1604S	0.00006235	0.00002025	0.002	No	10	0	No	0.01	Param.
Thallium, total (mg/L)	MW-1605D	0.00005	0.00001	0.002	No	10	70	No	0.011	NP (normality)

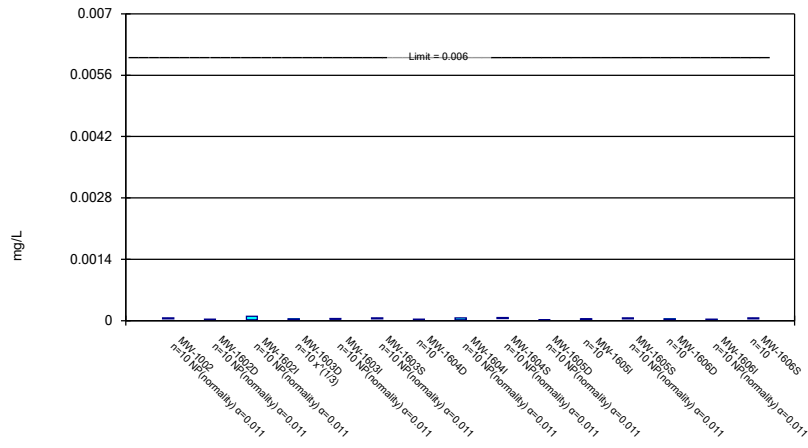
# Confidence Interval Summary Table - All Appendix IV (No Significant Results) Page 5

Rockport BAP Client: Geosyntec Data: Rockport\_BAP Printed 1/4/2019, 10:42 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Thallium, total (mg/L)	MW-1605I	0.00005	0.00002	0.002	No	10	0	No	0.011	NP (normality)
Thallium, total (mg/L)	MW-1605S	0.00004596	0.00002174	0.002	No	10	0	sqrt(x)	0.01	Param.
Thallium, total (mg/L)	MW-1606D	0.00005	0.00002	0.002	No	9	66.67	No	0.002	NP (normality)
Thallium, total (mg/L)	MW-1606I	0.00005712	0.00003122	0.002	No	10	0	sqrt(x)	0.01	Param.
Thallium, total (mg/L)	MW-1606S	0.00005101	0.00001259	0.002	No	10	10	No	0.01	Param.

### Parametric and Non-Parametric (NP) Confidence Interval

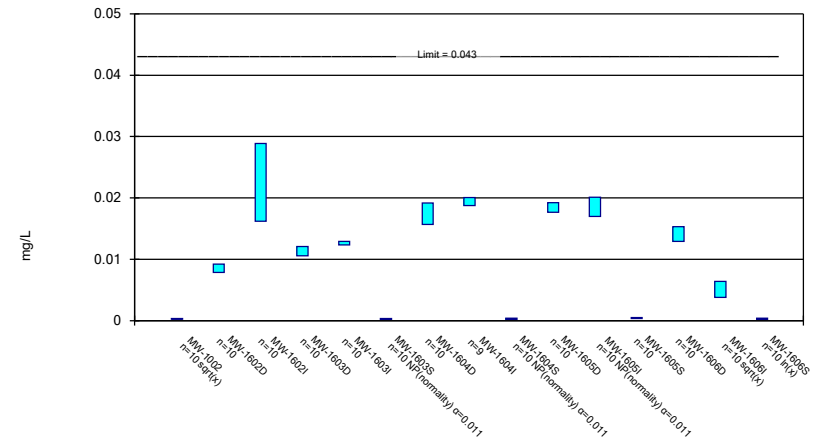
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

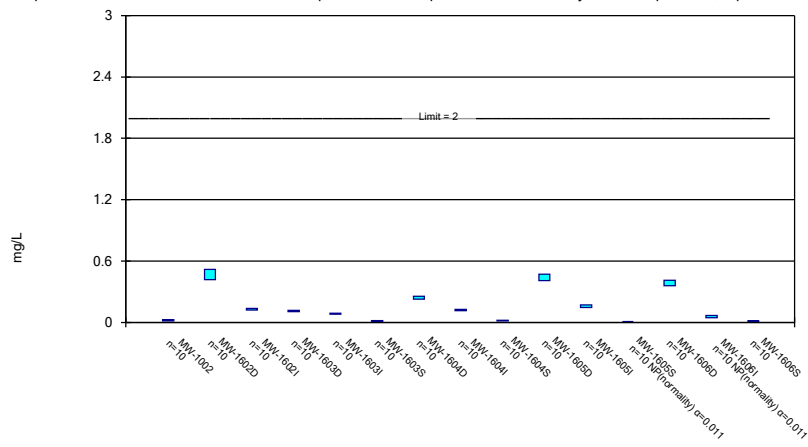
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

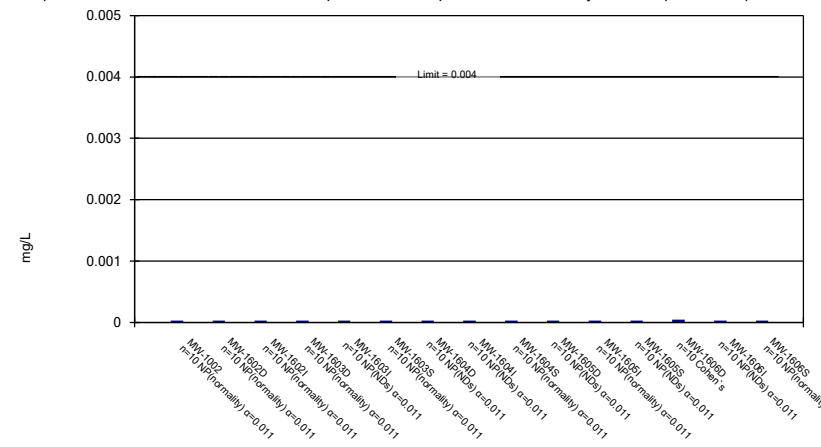
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

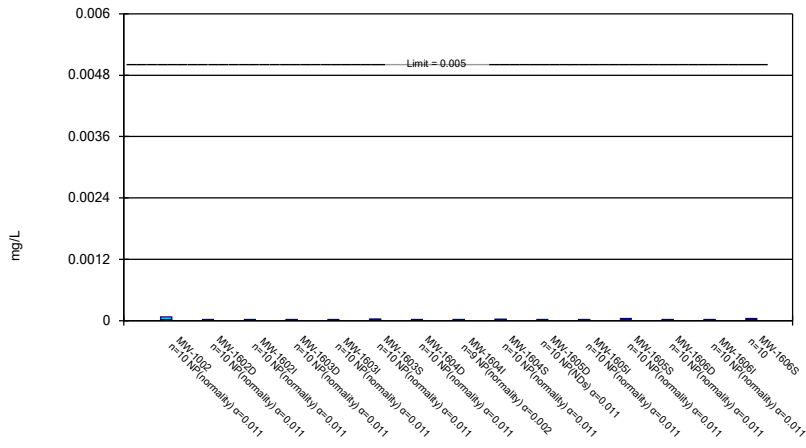
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

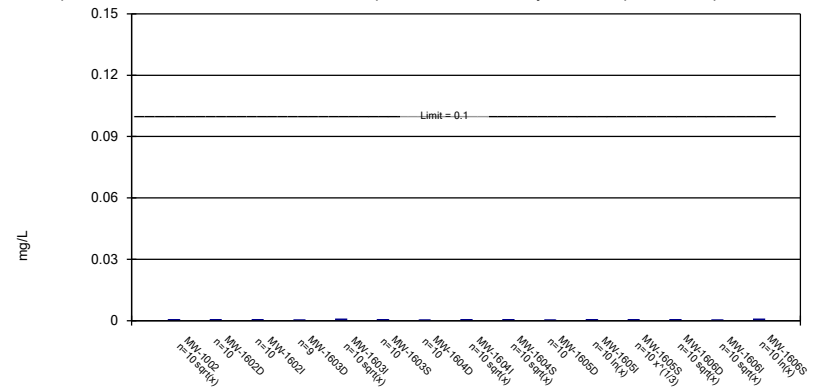
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric Confidence Interval

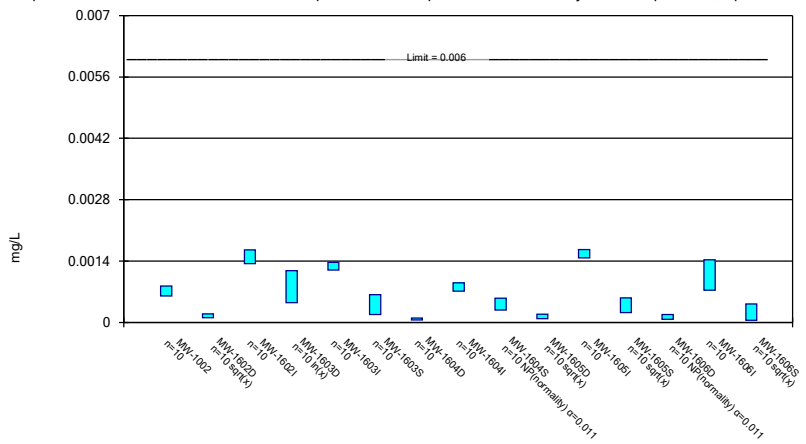
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

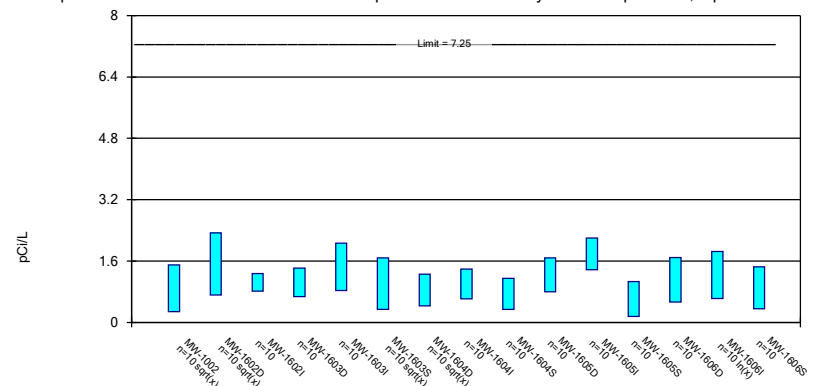
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt, total Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

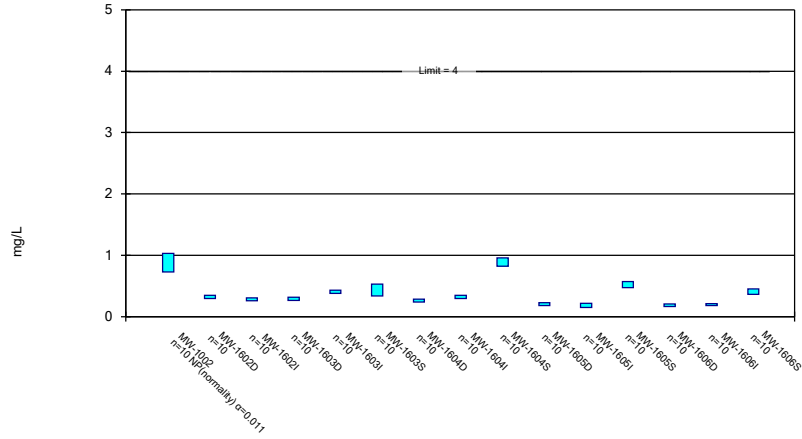


Constituent: Combined Radium 226 + 228 Analysis Run 1/4/2019 10:28 AM View: Confidence Intervals -  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP



### Parametric and Non-Parametric (NP) Confidence Interval

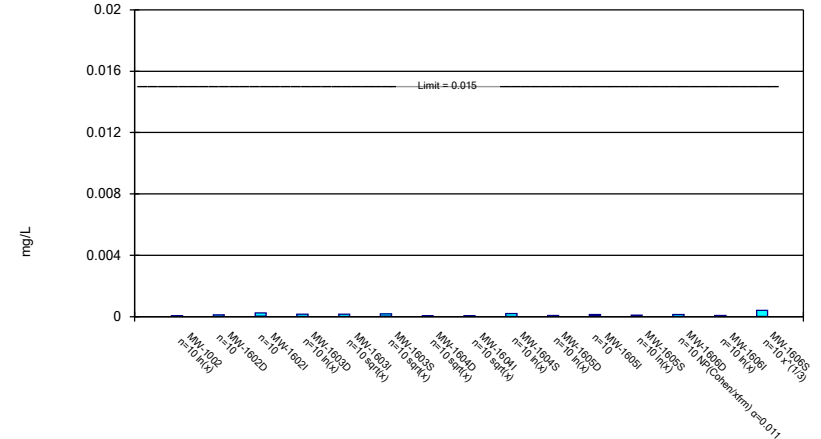
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

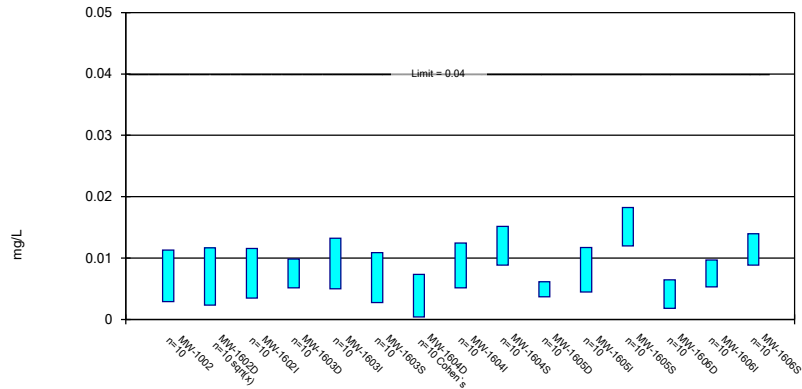
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric Confidence Interval

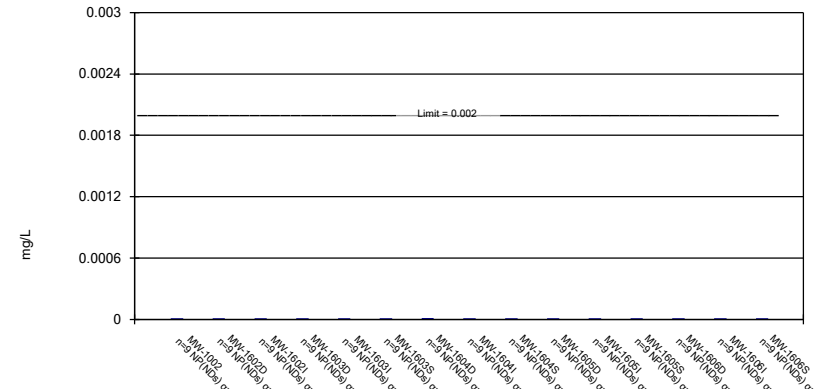
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Non-Parametric Confidence Interval

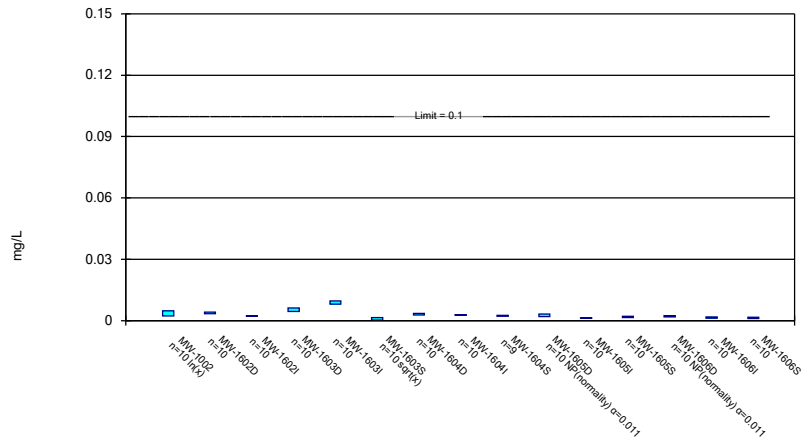
Compliance Limit is not exceeded.



Constituent: Mercury, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

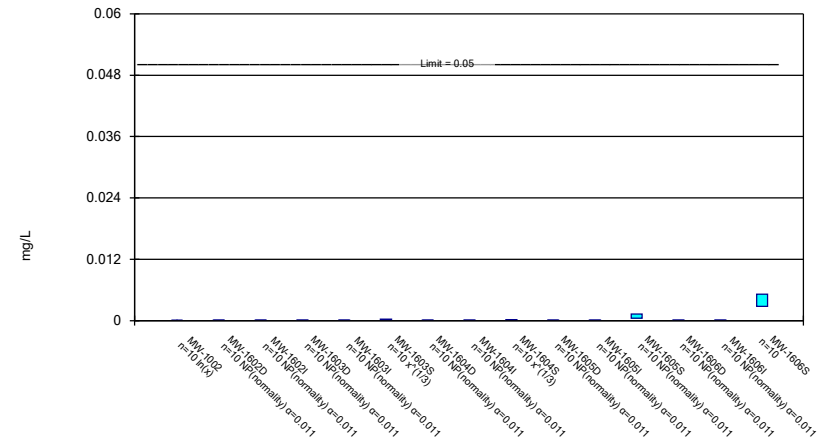
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

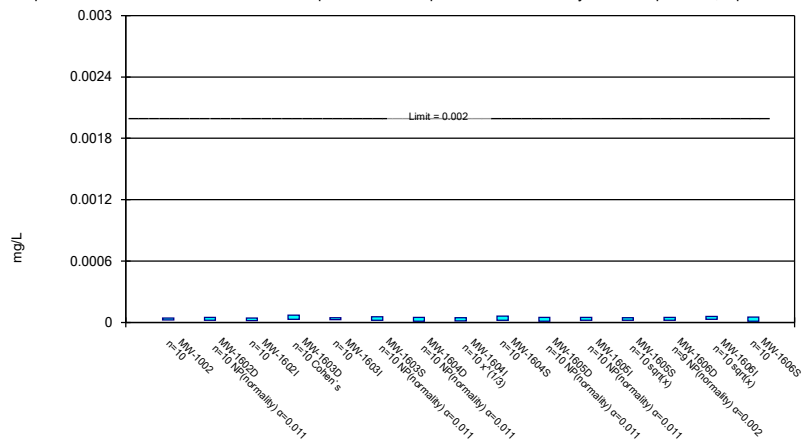
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium, total Analysis Run 1/4/2019 10:29 AM View: Confidence Intervals - App IV  
Rockport BAP Client: Geosyntec Data: Rockport\_BAP