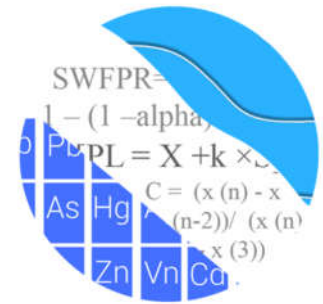


GROUNDWATER STATS CONSULTING



October 11, 2018

HR Green, Inc.
Attn: Mr. Greg Brennan
8710 Earhart Ln, SW
Cedar Rapids, Iowa 52404

Dear Mr. Brennan,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the June 2018 sample event at the Muscatine Power & Water for the Coal Combustion Residuals (CCR) program. 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).

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Jim Loftis, professor emeritus of Civil and Environmental Engineering at Colorado State University and consultant to Groundwater Stats Consulting.

The monitoring well network at Muscatine Power & Water consists of the following: upgradient wells MW-08 and MW-10 as well as MW-22 which was installed this year; and downgradient wells MW-4A, MW-5B, MW-6A, MW-13, MW-14A, MW-15A, MW-18A, and MW-21. Sampling began for the CCR program in June 2016 and a total of 8 background sample events were completed for all wells except newly installed well MW-22.

The following Appendix III constituents were evaluated using prediction limits: boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS). The following Appendix IV parameters were evaluated using confidence intervals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium and thallium.

Background Screening

Background data were screened in October 2017 for all parameters at each well for the constituents listed above, and the results of the screening were submitted during that time. A summary of those findings was submitted with that report, and discussed below.

Outlier Screening and Trend Tests

Time series plots were used to initially screen for suspected outliers, trends, and seasonal patterns. Outliers and trends in background data result in increased variation and statistical limits that are not conservative from a regulatory perspective, if not addressed.

Box plots provide visual representation of variation within individual wells and between all wells. Data were further evaluated through the Analysis of Variance test to determine whether observed variation is statistically significant, and guide the decision logic for determining an appropriate statistical limit as discussed below.

A handful of possible outliers were identified and formally tested using Tukey's box plot method. When outliers were confirmed, these values were flagged in the computer database with "o" in order to deselect prior to construction of statistical limits. Flagged values appear as a disconnected, lighter symbol on the time series graphs.

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

The Sen's Slope/Mann Kendall trend test was used to evaluate all proposed background data through August 2017 to identify statistically significant increasing or decreasing trends. 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 a statistically significant decreasing trend for chloride in upgradient well MW-08. This trend was relatively low in magnitude when compared to average concentrations; therefore, no adjustments were made to the data sets. No other statistically significant trends were identified for any of the Appendix III parameters.

Natural systems continuously evolve due to physical changes made to the environment and unrelated to the site. To accommodate these types of changes, data for all wells and constituents are re-evaluated for the purpose of updating statistical limits. Improved sample size results in statistical limits that provide better representation of the true background population. In the case of interwell prediction limits, when a minimum of 2 new data points are available at each upgradient well, data will be evaluated to determine whether newer measurements are representative of earlier measurements in which case they may be incorporated into background.

Determination of Statistical Method

The Analysis of Variance (ANOVA) was used to identify the most appropriate statistical approach for Muscatine Power & Water. 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 parameters.

In cases where downgradient concentrations are elevated relative to upgradient concentrations, 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.

The ANOVA noted no variation in groundwater among upgradient wells for fluoride and pH. Boron contained 100% nondetects in upgradient wells; therefore, the ANOVA test could not be performed. As a result, interwell tests are recommended for boron, fluoride and pH. The ANOVA identified spatial variation in groundwater upgradient of the site for calcium, chloride, sulfate and TDS, indicating intrawell methods should be considered for these parameters if no pre-existing contamination from the site is

suspected downgradient wells. Additional testing was conducted as described below to determine intrawell 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 that 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, it is necessary to demonstrate that water at downgradient wells is not suspected to have existing impacts from the practices of the facility.

First, to establish baseline upgradient concentrations, tolerance limits (either parametric or nonparametric as appropriate) were constructed using pooled upgradient well data for each of the Appendix III parameters recommended for intrawell analyses. Parametric tolerance limits were constructed with a target of 99% confidence and 95% coverage. 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.

Next, to determine whether average downgradient concentrations are elevated relative to the upgradient well baseline concentrations established by the tolerance limits above, confidence intervals were constructed on downgradient wells for each of the Appendix III parameters exhibiting spatial variation. The results showed that at least one confidence interval exceeded its respective limit for each of the parameters tested.

When the entire confidence interval exceeds a background standard, it is an indication that downgradient concentrations are elevated above background levels. Therefore, interwell methods are recommended initially in lieu of intrawell methods until further research identifies whether the elevated downgradient concentrations are likely the result of natural geological conditions, an off-site source, or may be the result of the facility. After such a study, data would be re-evaluated to determine the most appropriate statistical Detection Monitoring method.

Prediction Limits – Appendix III Parameters June 2018

Interwell prediction limits were constructed as recommended in the CCR Rule (2015) and in the EPA Unified Guidance (2009), based on a 1-of-2 resample plan using pooled upgradient well data for all Appendix III parameters. In the event of an initial exceedance of compliance well data, a resample will be collected to determine whether the initial

exceedance is confirmed, in which case a statistically significant increase (SSI) is identified. If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no further action is necessary.

Parametric prediction limits were constructed when background data followed a normal or transformed-normal distribution. Non-parametric prediction limits are provided for data sets with greater than 50% nondetects, and for data sets which do not follow a normal or transformed-normal distribution. Downgradient measurements were compared to these background limits. A summary table of well/constituent pairs found to exceed their respective limits follows this letter.

The Sen's Slope/Mann Kendall trend test was performed on the exceedances noted above to determine whether concentrations are increasing, decreasing or stabilizing over time. No statistically significant increasing trends were noted. Well MW-18A showed statistically significant decreasing trends for calcium and sulfate.

Confidence Intervals – Appendix IV Parameters

Confidence intervals were constructed at all downgradient wells for detected Appendix IV parameters. A minimum of 4 samples is required to construct confidence intervals; however, 8 samples are generally recommended for better representation of the true average population. Established Maximum Contaminant Levels (MCLs) are used as the GWPS comparisons, unless background limits are higher as discussed below. For parameters without MCLs (cobalt, lithium, and molybdenum), the Regional Screening Level (RSL) was used unless background was higher. Parametric confidence intervals are constructed with 99% confidence when data follow a normal or transformed-normal distribution. For all other cases, nonparametric confidence intervals are constructed, with the confidence level based on the number of samples available.

Background limits are established for the Appendix IV parameters using upper tolerance limits constructed with 95% confidence/95% coverage using pooled upgradient well data, for comparison against established MCLs. When background limits, or Alternate Contaminant Levels (ACLs), are higher than established MCLs or RSLs, the CCR Rule recommends using these as the GWPS for the confidence interval comparisons. The GWPS is exceeded only when the entire confidence interval exceeds its respective GWPS. None of the confidence intervals exceeded their respective standard.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Muscatine Power & Water. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,

A handwritten signature in black ink that reads "Kristina Rayner". The signature is written in a cursive, flowing style.

Kristina L. Rayner
Groundwater Statistician

MUSCATINE POWER & WATER GWPS			
Constituent Name	MCL	RSL	Background Limit
Antimony, Total (mg/L)	0.006		0.001
Arsenic, Total (mg/L)	0.01		0.0037
Barium, Total (mg/L)	2		0.22
Beryllium, Total (mg/L)	0.004		0.001
Cadmium, Total (mg/L)	0.005		0.0005
Chromium, Total (mg/L)	0.1		0.005
Cobalt, Total (mg/L)	n/a	0.006	0.0015
Combined Radium, Total (pCi/L)	5		0.94
Fluoride, Total (mg/L)	4		0.83
Lead, Total (mg/L)	0.015		0.0005
Lithium, Total (mg/L)	n/a	0.04	0.01
Mercury, Total (mg/L)	0.002		0.0002
Molybdenum, Total (mg/L)	n/a	0.1	0.0057
Selenium, Total (mg/L)	0.05		0.005
Thallium, Total (mg/L)	0.002		0.001

**MCL = Maximum Contaminant Level*

**RSL = Regional Screening Level*

Interwell Prediction Limit Summary - Significant Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-13	0.2	n/a	6/20/2018	1.34	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-14A	0.2	n/a	6/20/2018	15	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.2	n/a	6/20/2018	10.5	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-18A	0.2	n/a	6/20/2018	13.3	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.2	n/a	6/19/2018	6.84	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-5B	134.4	n/a	6/21/2018	147	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-14A	134.4	n/a	6/20/2018	297	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-18A	134.4	n/a	6/20/2018	264	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-21	134.4	n/a	6/19/2018	159	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	6/21/2018	65	Yes	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
pH (SU)	MW-13	7.9	7.04	6/20/2018	8.03	Yes	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	6/20/2018	1090	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-18A	366	n/a	6/20/2018	709	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	6/19/2018	489	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	773.4	n/a	6/21/2018	828	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	773.4	n/a	6/20/2018	1800	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-18A	773.4	n/a	6/20/2018	1890	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	773.4	n/a	6/19/2018	952	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2

Trend Tests Summary Table

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/11/2018, 7:05 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 (mg/L)	MW-13	-3.238	-13	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-14A	-1.943	-22	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-15A	-4.336	-37	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-18A	-2.07	-28	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-21	-2.001	-20	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-14A	-6.832	-15	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-15A	-6.217	-3	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-18A	-41.32	-43	-38	Yes	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	0.7598	7	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-14A	1.45	15	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-14A	32.27	12	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-15A	-11.41	-2	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-18A	-151.2	-46	-38	Yes	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-14A	-83.5	-5	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-166.9	-15	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-18A	-241.9	-15	-34	No	11	0	n/a	n/a	0.01	NP

Confidence Interval Summary Table - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Antimony (mg/L)	MW-4A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-5B	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-6A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-13	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-14A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-15A	0.001	0.001	0.006	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-18A	0.00195	0.001	0.006	No 10	0.005995	0.01546	90	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-4A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-5B	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-6A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-13	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-14A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-15A	0.002	0.002	0.01	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-18A	0.00265	0.002	0.01	No 10	0.01187	0.03097	90	None	No	0.011	NP (NDs)
Barium (mg/L)	MW-4A	0.1437	0.1221	2	No 10	0.1329	0.01209	0	None	No	0.01	Param.
Barium (mg/L)	MW-5B	0.3293	0.2995	2	No 10	0.3144	0.01667	0	None	No	0.01	Param.
Barium (mg/L)	MW-6A	0.2154	0.1814	2	No 10	0.1984	0.01906	0	None	No	0.01	Param.
Barium (mg/L)	MW-13	0.1071	0.05108	2	No 10	0.07911	0.03141	0	None	No	0.01	Param.
Barium (mg/L)	MW-14A	0.03968	0.03058	2	No 10	0.03513	0.005098	0	None	No	0.01	Param.
Barium (mg/L)	MW-15A	0.04176	0.03364	2	No 9	0.0377	0.004209	0	None	No	0.01	Param.
Barium (mg/L)	MW-18A	0.0403	0.0281	2	No 10	0.04141	0.02103	10	None	No	0.011	NP (normality)
Beryllium (mg/L)	MW-4A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-5B	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-6A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-13	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-14A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-15A	0.001	0.001	0.004	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-18A	0.001	0.001	0.004	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-4A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-5B	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-6A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-13	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-14A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-15A	0.0005	0.0005	0.005	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-18A	0.0005	0.0005	0.005	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-4A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-5B	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-6A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-13	0.00658	0.005	0.1	No 9	0.005176	0.0005267	88.89	None	No	0.002	NP (NDs)
Chromium (mg/L)	MW-14A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-15A	0.005	0.005	0.1	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-18A	0.005	0.005	0.1	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-4A	0.0005	0.0005	0.006	No 10	0.0005181	0.00005724	90	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-5B	0.0005	0.0005	0.006	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-6A	0.0005	0.0005	0.006	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-13	0.0008038	0.0005536	0.006	No 9	0.0006787	0.0001374	22.22	Kapla..No		0.01	Param.
Cobalt (mg/L)	MW-14A	0.0005	0.0005	0.006	No 10	0.0005	0	100	Kapla..No		0.011	NP (NDs)
Cobalt (mg/L)	MW-15A	0.0005	0.0005	0.006	No 10	0.00295	0.007748	100	Kapla..No		0.011	NP (NDs)
Cobalt (mg/L)	MW-18A	0.0005	0.0005	0.006	No 10	0.00295	0.007748	100	Kapla..No		0.011	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-4A	0.7583	0.3735	5	No 9	0.5659	0.1992	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5B	1.031	0.5925	5	No 9	0.8118	0.2271	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6A	0.7309	0.3134	5	No 9	0.5211	0.2298	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-13	0.5607	0.1772	5	No 8	0.363	0.2029	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-14A	0.4542	0.1302	5	No 9	0.2922	0.1678	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-15A	0.2876	0.1315	5	No 9	0.2095	0.08085	0	None	No	0.01	Param.

Confidence Interval Summary Table - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	MW-18A	0.5629	0.2171	5	No 9	0.39	0.1791	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-4A	0.664	0.5	4	No 11	0.5423	0.09891	81.82	None	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-5B	1.88	0.5	4	No 11	0.7861	0.6091	72.73	None	No	0.006	NP (normality)
Fluoride (mg/L)	MW-6A	1.89	0.5	4	No 11	0.7931	0.5828	72.73	None	No	0.006	NP (normality)
Fluoride (mg/L)	MW-13	1.21	0.5	4	No 10	0.7815	0.5224	60	None	No	0.011	NP (normality)
Fluoride (mg/L)	MW-14A	0.684	0.5	4	No 10	0.5551	0.1239	80	None	No	0.011	NP (NDs)
Fluoride (mg/L)	MW-15A	0.5	0.5	4	No 10	0.5049	0.0155	90	None	No	0.011	NP (NDs)
Fluoride (mg/L)	MW-18A	0.5	0.5	4	No 10	0.5291	0.09202	90	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-4A	0.0005	0.0005	0.015	No 9	0.0005	0	100	None	No	0.002	NP (NDs)
Lead (mg/L)	MW-5B	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-6A	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-13	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-14A	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-15A	0.0005	0.0005	0.015	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-18A	0.0005	0.0005	0.015	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-4A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-5B	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-6A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-13	0.1	0.01	0.04	No 11	0.05293	0.04127	90.91	None	No	0.006	NP (NDs)
Lithium (mg/L)	MW-14A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-15A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-18A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-4A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-5B	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-6A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-13	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-14A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-15A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-18A	0.0002	0.0002	0.002	No 9	0.0002	0	100	None	No	0.002	NP (NDs)
Molybdenum (mg/L)	MW-4A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-5B	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-6A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-13	0.00684	0.002985	0.1	No 9	0.004903	0.002122	0	None	sqrt(x)	0.01	Param.
Molybdenum (mg/L)	MW-14A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-15A	0.002	0.002	0.1	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-18A	0.002	0.002	0.1	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-4A	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-5B	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-6A	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-13	0.0195	0.005	0.05	No 9	0.006611	0.004833	88.89	None	No	0.002	NP (NDs)
Selenium (mg/L)	MW-14A	0.008302	0.00699	0.05	No 10	0.007578	0.001006	10	None	x^4	0.01	Param.
Selenium (mg/L)	MW-15A	0.00502	0.005	0.05	No 10	0.0295	0.07748	90	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-18A	0.005	0.005	0.05	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-4A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-5B	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-6A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-13	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-14A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-15A	0.001	0.001	0.002	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-18A	0.001	0.001	0.002	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)

Prediction Limits

Interwell Prediction Limit Summary - Significant Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-13	0.2	n/a	6/20/2018	1.34	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-14A	0.2	n/a	6/20/2018	15	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.2	n/a	6/20/2018	10.5	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-18A	0.2	n/a	6/20/2018	13.3	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.2	n/a	6/19/2018	6.84	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-5B	134.4	n/a	6/21/2018	147	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-14A	134.4	n/a	6/20/2018	297	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-18A	134.4	n/a	6/20/2018	264	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-21	134.4	n/a	6/19/2018	159	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	6/21/2018	65	Yes	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
pH (SU)	MW-13	7.9	7.04	6/20/2018	8.03	Yes	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	6/20/2018	1090	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-18A	366	n/a	6/20/2018	709	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	6/19/2018	489	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	773.4	n/a	6/21/2018	828	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	773.4	n/a	6/20/2018	1800	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-18A	773.4	n/a	6/20/2018	1890	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-21	773.4	n/a	6/19/2018	952	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2

Interwell Prediction Limit Summary - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-4A	0.2	n/a	6/21/2018	0.2ND	No	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-5B	0.2	n/a	6/21/2018	0.2ND	No	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-6A	0.2	n/a	6/21/2018	0.2ND	No	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-13	0.2	n/a	6/20/2018	1.34	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-14A	0.2	n/a	6/20/2018	15	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-15A	0.2	n/a	6/20/2018	10.5	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-18A	0.2	n/a	6/20/2018	13.3	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-21	0.2	n/a	6/19/2018	6.84	Yes	24	n/a	n/a	100	n/a	n/a	0.002865	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-4A	134.4	n/a	6/21/2018	91.4	No	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-5B	134.4	n/a	6/21/2018	147	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-6A	134.4	n/a	6/21/2018	80.1	No	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-13	134.4	n/a	6/20/2018	89.5	No	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-14A	134.4	n/a	6/20/2018	297	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-15A	134.4	n/a	6/20/2018	102	No	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-18A	134.4	n/a	6/20/2018	264	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-21	134.4	n/a	6/19/2018	159	Yes	24	4.514	0.2844	0	None	x^(1/3)	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-4A	30	n/a	6/21/2018	15.3	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-5B	30	n/a	6/21/2018	65	Yes	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6A	30	n/a	6/21/2018	5ND	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-13	30	n/a	6/20/2018	5.84	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-14A	30	n/a	6/20/2018	29	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-15A	30	n/a	6/20/2018	5ND	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-18A	30	n/a	6/20/2018	25.6	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-21	30	n/a	6/19/2018	10.9	No	24	n/a	n/a	41.67	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-4A	0.826	n/a	6/21/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-5B	0.826	n/a	6/21/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-6A	0.826	n/a	6/21/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-13	0.826	n/a	6/20/2018	0.528	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-14A	0.826	n/a	6/20/2018	0.684	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-15A	0.826	n/a	6/20/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-18A	0.826	n/a	6/20/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-21	0.826	n/a	6/19/2018	0.5ND	No	23	n/a	n/a	82.61	n/a	n/a	0.00311	NP Inter (NDs) 1 of 2
pH (SU)	MW-4A	7.9	7.04	6/21/2018	7.53	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-5B	7.9	7.04	6/21/2018	7.3	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-6A	7.9	7.04	6/21/2018	7.58	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-13	7.9	7.04	6/20/2018	8.03	Yes	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-14A	7.9	7.04	6/20/2018	7.26	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-15A	7.9	7.04	6/20/2018	7.5	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-18A	7.9	7.04	6/20/2018	7.19	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
pH (SU)	MW-21	7.9	7.04	6/19/2018	7.25	No	24	n/a	n/a	0	n/a	n/a	0.00573	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-4A	366	n/a	6/21/2018	51.3	No	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5B	366	n/a	6/21/2018	119	No	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6A	366	n/a	6/21/2018	5ND	No	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-13	366	n/a	6/20/2018	62.1	No	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-14A	366	n/a	6/20/2018	1090	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-15A	366	n/a	6/20/2018	210	No	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-18A	366	n/a	6/20/2018	709	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-21	366	n/a	6/19/2018	489	Yes	24	n/a	n/a	0	n/a	n/a	0.002865	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-4A	773.4	n/a	6/21/2018	440	No	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-5B	773.4	n/a	6/21/2018	828	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6A	773.4	n/a	6/21/2018	368	No	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-13	773.4	n/a	6/20/2018	472	No	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-14A	773.4	n/a	6/20/2018	1800	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-15A	773.4	n/a	6/20/2018	676	No	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-18A	773.4	n/a	6/20/2018	1890	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter 1 of 2

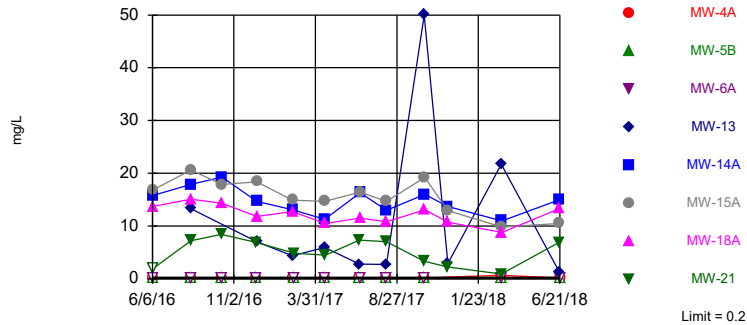
Interwell Prediction Limit Summary - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	N Bg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Total Dissolved Solids (mg/L)	MW-21	773.4	n/a	6/19/2018	952	Yes	24	512	122.2	0	None	No	0.0009403	Param Inter	1 of 2

Exceeds Limit: MW-13, MW-14A, MW-15A, MW-18A, MW-21

Prediction Limit
Interwell Non-parametric

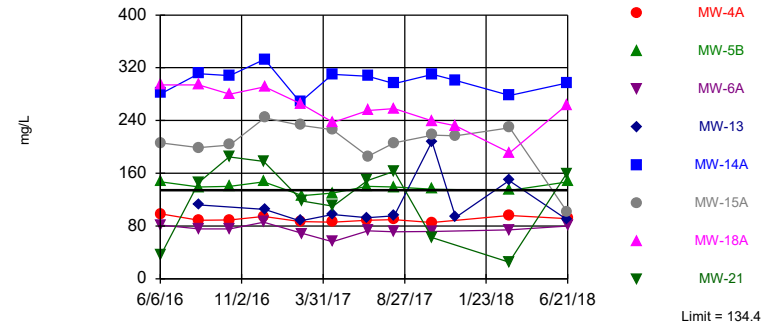


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 24) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.04487. Individual comparison alpha = 0.002865 (1 of 2). Comparing 8 points to limit.

Constituent: Boron Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Exceeds Limit: MW-5B, MW-14A, MW-18A, MW-21

Prediction Limit
Interwell Parametric

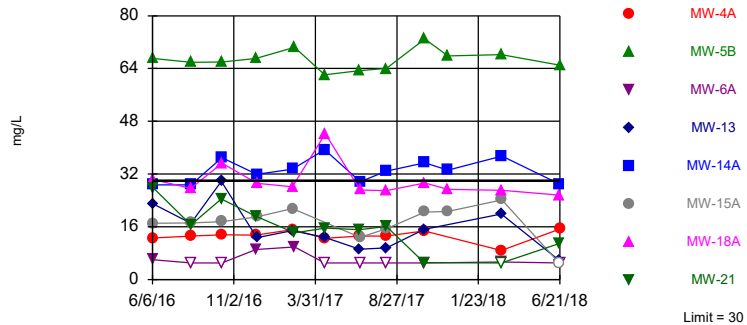


Background Data Summary (based on cube root transformation): Mean=4.514, Std. Dev.=0.2844, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8881, critical = 0.884. Kappa = 2.139 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Calcium Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Exceeds Limit: MW-5B

Prediction Limit
Interwell Non-parametric

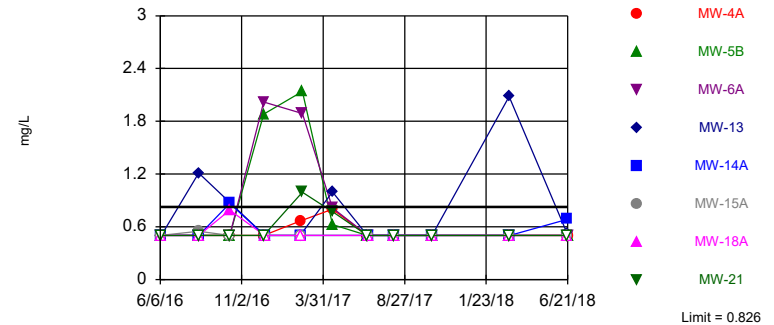


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 41.67% NDs. Annual per-constituent alpha = 0.04487. Individual comparison alpha = 0.002865 (1 of 2). Comparing 8 points to limit.

Constituent: Chloride Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Within Limit

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 23 background values. 82.61% NDs. Annual per-constituent alpha = 0.04861. Individual comparison alpha = 0.00311 (1 of 2). Comparing 8 points to limit.

Constituent: Fluoride Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-15A	MW-18A	MW-10 (bg)	MW-08 (bg)	MW-5B	MW-4A	MW-6A	MW-21	MW-14A
6/6/2016	16.8	13.7	<0.2						
6/7/2016				<0.2	<0.2	<0.2	<0.2		
6/8/2016								<2	15.8
8/15/2016	20.6	15.1	<0.2					7.23	17.9
8/16/2016				<0.2	<0.2	<0.2	<0.2		
10/10/2016			<0.2	<0.2				8.45	
10/11/2016	17.9	14.3			<0.2	<0.2	<0.2		19.3
12/12/2016					<0.2	<0.2	<0.2	6.93	
12/14/2016	18.4	11.8	<0.2	<0.2					14.7
2/17/2017	14.9	12.7	<0.2			<0.2			13.1
2/21/2017				<0.2	<0.2		<0.2	4.87	
4/17/2017	14.7		<0.2	<0.2	<0.2	<0.2	<0.2		11.3
4/18/2017		10.5						4.49	
6/19/2017			<0.2	<0.2					
6/20/2017					<0.2	<0.2		7.36	
6/21/2017	16.4	11.5					<0.2		16.3
8/7/2017			<0.2	<0.2		<0.2			
8/8/2017	14.7	10.8			<0.2		<0.2	7.05	13
10/16/2017			<0.2	<0.2		<0.2		3.33	
10/17/2017	19.2	13.1			<0.2		<0.2		16
11/28/2017	12.9 (R)	10.7 (R)						2.24 (R)	13.7 (R)
3/5/2018			<0.2						
3/6/2018				<0.2	<0.2	0.66	<0.2	0.885	
3/7/2018	9.8	8.81							11
6/19/2018			<0.2	<0.2				6.84	
6/20/2018	10.5	13.3							15
6/21/2018					<0.2	<0.2	<0.2		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	47.2 (o)	
8/15/2016	13.3	
8/16/2016		
10/10/2016	74.8 (o)	
10/11/2016		
12/12/2016		
12/14/2016	7.03	
2/17/2017	4.35	
2/21/2017		
4/17/2017	5.93	
4/18/2017		
6/19/2017		
6/20/2017	2.77	
6/21/2017		
8/7/2017		
8/8/2017	2.72	
10/16/2017	50	
10/17/2017		
11/28/2017	2.92 (R)	
3/5/2018		
3/6/2018	21.7	<0.2
3/7/2018		
6/19/2018		<0.2
6/20/2018	1.34	
6/21/2018		

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-18A	MW-6A	MW-4A	MW-5B	MW-08 (bg)	MW-14A	MW-21
6/6/2016	206	89.3	294						
6/7/2016				81.4	98.2	147	152		
6/8/2016								281	37.2
8/15/2016	199	80.7	294					311	146
8/16/2016				75.4	88.8	139	117		
10/10/2016		83.3					118		185
10/11/2016	203		280	75.7	89.3	140		308	
12/12/2016				85.6	94.5	147			178
12/14/2016	244	86.5	291				109	333	
2/17/2017	233	81.2	266		86.8			268	
2/21/2017				68.8		126	89.9		118
4/17/2017	226	79.2		56.3	85.9	130	96.5	310	
4/18/2017			237						110
6/19/2017		83.6					113		
6/20/2017					88.7	140			149
6/21/2017	186		255	72.9				307	
8/7/2017		85.5			89.7		91.3		
8/8/2017	206		258	71.2		139		296	163
10/16/2017		83.3			85.3		77		62.3
10/17/2017	218		239	71.9		136		310	
11/28/2017	217 (R)		232 (R)					301 (R)	
3/5/2018		77.3							
3/6/2018				74.1	95.8	134	74.7		25.1
3/7/2018	229		191					278	
6/19/2018		88.5					115		159
6/20/2018	102		264					297	
6/21/2018				80.1	91.4	147			

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	218 (o)	
8/15/2016	112	
8/16/2016		
10/10/2016	276 (o)	
10/11/2016		
12/12/2016		
12/14/2016	105	
2/17/2017	87.6	
2/21/2017		
4/17/2017	97.5	
4/18/2017		
6/19/2017		
6/20/2017	92.8	
6/21/2017		
8/7/2017		
8/8/2017	95.4	
10/16/2017	208	
10/17/2017		
11/28/2017	93.2 (R)	
3/5/2018		
3/6/2018	149	69.8
3/7/2018		
6/19/2018		91.5
6/20/2018	89.5	
6/21/2018		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-18A	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-5B	MW-4A	MW-21	MW-14A
6/6/2016	30.4	17.1	6.22						
6/7/2016				19.8	5.97	67	12.6		
6/8/2016								27.7	28.7
8/15/2016	27.6	17.2	<5					16.6	28.7
8/16/2016				17.8	<5	65.9	13.2		
10/10/2016			<5	16.2				24.4	
10/11/2016	35.3	17.6			<5	66	13.6		37
12/12/2016					9.08	67	13.5	19.2	
12/14/2016	29.2	19	<5	17.2					31.9
2/17/2017	28.1	21.5	<5				15.1		33.5
2/21/2017				15.4	9.93	70.4		14.2	
4/17/2017		47.4 (o)	<5	17.1	<5	62.1	12.5		39.4
4/18/2017	44.2							15.6	
6/19/2017			<5	14.1					
6/20/2017						63.4	13.2	15.1	
6/21/2017	27.2	12.8			<5				29.7
8/7/2017			<5	14			13.2		
8/8/2017	27	15.4			<5	64		16.1	32.9
10/16/2017			<5	14.4			14.7	5.09	
10/17/2017	29.3	20.5			<5	73			35.4
11/28/2017	27.4 (R)	20.7 (R)				67.8 (R)			33.2 (R)
3/5/2018			<5						
3/6/2018				14.5	5.33	68.2	8.81	<5	
3/7/2018	27.1	24.2							37.4
6/19/2018			<5	14.9				10.9	
6/20/2018	25.6	<5							29
6/21/2018					<5	65	15.3		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	22.9	
8/15/2016	17.1	
8/16/2016		
10/10/2016	29.8	
10/11/2016		
12/12/2016		
12/14/2016	12.7	
2/17/2017	14.8	
2/21/2017		
4/17/2017	12.8	
4/18/2017		
6/19/2017		
6/20/2017	9.17	
6/21/2017		
8/7/2017		
8/8/2017	9.62	
10/16/2017	15.2	
10/17/2017		
11/28/2017		
3/5/2018		
3/6/2018	19.9	30
3/7/2018		
6/19/2018		27.2
6/20/2018	5.84	
6/21/2018		

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-10 (bg)	MW-18A	MW-15A	MW-08 (bg)	MW-5B	MW-6A	MW-4A	MW-14A	MW-13
6/6/2016	0.731	<0.5	<0.5						
6/7/2016				<0.5	<0.5	<0.5	<0.5		
6/8/2016								<0.5	<0.5
8/15/2016	<0.5	<0.5	0.549					<0.5	1.21
8/16/2016				<0.5	<0.5	<0.5	<0.5		
10/10/2016	<0.5			<0.5					3.25 (o)
10/11/2016		0.791	<0.5		<0.5	<0.5	<0.5	0.867	
12/12/2016					1.88	2.02	<0.5		
12/14/2016	<0.5	<0.5 (F2)	<0.5	0.72				<0.5	<0.5
2/17/2017	<0.5	<0.5	<0.5				0.664	<0.5	<0.5
2/21/2017				<0.5	2.14	1.89			
4/17/2017	0.774		6.7 (o)	1.69 (F1o)	0.627	0.814	0.801	1.93 (o)	0.997
4/18/2017		3.16 (o)							
6/19/2017	<0.5			<0.5					
6/20/2017					<0.5		<0.5		<0.5
6/21/2017		<0.5	<0.5			<0.5		<0.5	
8/7/2017	<0.5			<0.5			<0.5		
8/8/2017		<0.5	<0.5		<0.5	<0.5		<0.5	<0.5
10/16/2017	<0.5			<0.5			<0.5		<0.5
10/17/2017		<0.5	<0.5		<0.5	<0.5		<0.5	
3/5/2018	<0.5								
3/6/2018				<0.5	<0.5	<0.5	<0.5		2.08
3/7/2018		<0.5	<0.5					<0.5	
6/19/2018	<0.5			0.826					
6/20/2018		<0.5	<0.5					0.684	0.528
6/21/2018					<0.5	<0.5	<0.5		

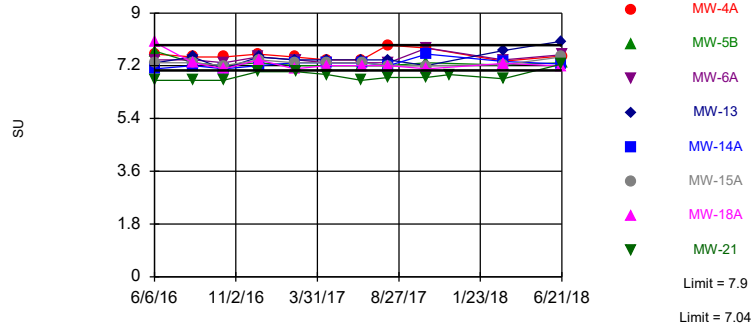
Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-21	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	<0.5	
8/15/2016	<0.5	
8/16/2016		
10/10/2016	<0.5	
10/11/2016		
12/12/2016	<0.5	
12/14/2016		
2/17/2017		
2/21/2017	0.993	
4/17/2017		
4/18/2017	0.768	
6/19/2017		
6/20/2017	<0.5	
6/21/2017		
8/7/2017		
8/8/2017	<0.5	
10/16/2017	<0.5	
10/17/2017		
3/5/2018		
3/6/2018	<0.5	<0.5
3/7/2018		
6/19/2018	<0.5	<0.5
6/20/2018		
6/21/2018		

Exceeds Limits: MW-13

Prediction Limit
Interwell Non-parametric



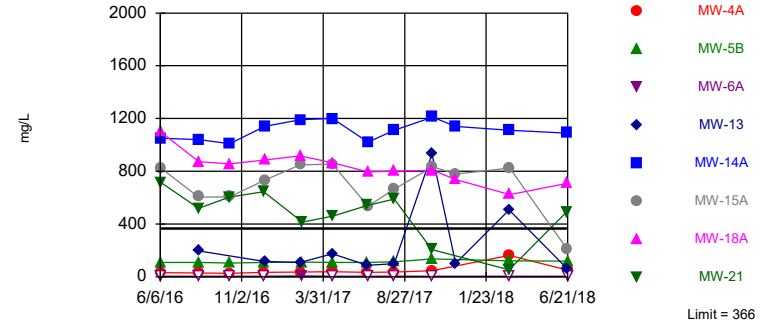
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 24 background values. Annual per-constituent alpha = 0.08974. Individual comparison alpha = 0.00573 (1 of 2). Comparing 8 points to limit.

Constituent: pH Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Hollow symbols indicate censored values.

Exceeds Limit: MW-14A, MW-18A, MW-21

Prediction Limit
Interwell Non-parametric

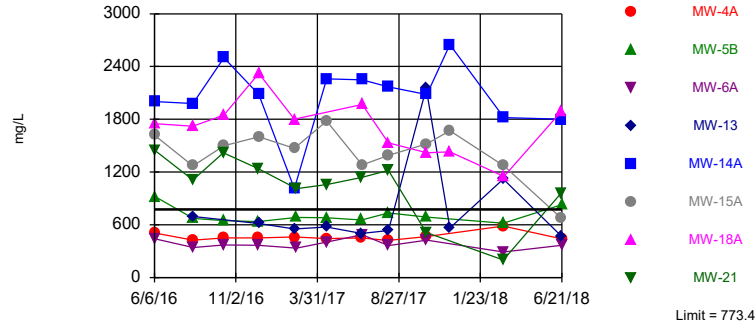


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. Annual per-constituent alpha = 0.04487. Individual comparison alpha = 0.002865 (1 of 2). Comparing 8 points to limit.

Constituent: Sulfate Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Exceeds Limit: MW-5B, MW-14A, MW-18A, MW-21

Prediction Limit
Interwell Parametric



Background Data Summary: Mean=512, Std. Dev.=122.2, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9352, critical = 0.884. Kappa = 2.139 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Total Dissolved Solids Analysis Run 10/10/2018 6:15 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Prediction Limit

Constituent: pH (SU) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-18A	MW-15A	MW-10 (bg)	MW-08 (bg)	MW-6A	MW-5B	MW-4A	MW-21	MW-14A
6/6/2016	8	7.3	7.4						
6/7/2016				7.2	7.4	7.7	7.6		
6/8/2016								6.7	7.1
8/15/2016	7.3	7.3	7.3					6.7	7.2
8/16/2016				7.3	7.4	7.3	7.5		
10/10/2016			7.2	7.1				6.7	
10/11/2016	7.1	7.2			7.3	7.2	7.5		7.1
12/12/2016					7.5	7.3	7.6	7	
12/14/2016	7.4	7.4	7.3	7.3					7.2
2/17/2017	7.1	7.3	7.2				7.5		7.3
2/21/2017				7.3	7.4	7.2		7	
4/17/2017		7.3	7.3	7.1	7.3	7.2	7.4		7.3
4/18/2017	7.2							6.9	
6/19/2017			7.2	7.1					
6/20/2017						7.2	7.4	6.7	
6/21/2017	7.2	7.3			7.3				7.3
8/7/2017			7.9	7.3			7.9		
8/8/2017	7.2	7.2			7.3	7.2		6.8	7.2
10/16/2017			7.3	7.4			7.8	6.8	
10/17/2017	7.1	7.2			7.8	7.3			7.6
11/28/2017								6.9 (R)	
3/5/2018			7.04						
3/6/2018				7.3	7.4	7.23	7.36	6.76	
3/7/2018	7.28	7.24							7.35
6/19/2018			7.72	7.56				7.25	
6/20/2018	7.19	7.5							7.26
6/21/2018					7.58	7.3	7.53		

Prediction Limit

Constituent: pH (SU) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	7.3	
8/15/2016	7.5	
8/16/2016		
10/10/2016	7.1	
10/11/2016		
12/12/2016		
12/14/2016	7.5	
2/17/2017	7.4	
2/21/2017		
4/17/2017	7.4	
4/18/2017		
6/19/2017		
6/20/2017	7.4	
6/21/2017		
8/7/2017		
8/8/2017	7.4	
10/16/2017	7.2	
10/17/2017		
11/28/2017		
3/5/2018		
3/6/2018	7.72	7.36
3/7/2018		
6/19/2018		7.9
6/20/2018	8.03	
6/21/2018		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-18A	MW-6A	MW-4A	MW-5B	MW-08 (bg)	MW-14A	MW-21
6/6/2016	827	42.1	1100						
6/7/2016				<5	32.2	109	366		
6/8/2016								1050	713
8/15/2016	605	33.8	874					1040	520
8/16/2016				<5	28.4	109	187		
10/10/2016		36.4					187		603
10/11/2016	607		855	<5	27.2	105		1010	
12/12/2016				<5	32.7	109			645
12/14/2016	732	38.4	886				149	1140	
2/17/2017	849	47.3	917		36			1190	
2/21/2017				5.94		111	145		415
4/17/2017	853	38.3		<5	39.5	108	145	1200	
4/18/2017			863						461
6/19/2017		35.4					190		
6/20/2017					33	108			541
6/21/2017	537		796	<5				1020	
8/7/2017		39			35.3		119		
8/8/2017	664		801	<5		114		1110	590
10/16/2017		46.9			45.4		106		206
10/17/2017	835		808	<5		135		1210	
11/28/2017	779 (R)		737 (R)					1140 (R)	
3/5/2018		51.4							
3/6/2018				<5	162	122	87.3		53.7
3/7/2018	824		624					1110	
6/19/2018		37.3					136		489
6/20/2018	210		709					1090	
6/21/2018				<5	51.3	119			

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	975 (o)	
8/15/2016	197	
8/16/2016		
10/10/2016	1170 (o)	
10/11/2016		
12/12/2016		
12/14/2016	117	
2/17/2017	110	
2/21/2017		
4/17/2017	174	
4/18/2017		
6/19/2017		
6/20/2017	86.7	
6/21/2017		
8/7/2017		
8/8/2017	99.4	
10/16/2017	931	
10/17/2017		
11/28/2017	102 (R)	
3/5/2018		
3/6/2018	506	123
3/7/2018		
6/19/2018		134
6/20/2018	62.1	
6/21/2018		

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-15A	MW-10 (bg)	MW-18A	MW-6A	MW-4A	MW-5B	MW-08 (bg)	MW-14A	MW-21
6/6/2016	1620	468	1750						
6/7/2016				440	507	920	836		
6/8/2016								2000	1440
8/15/2016	1270	412	1720					1980	1110
8/16/2016				340	426	672	664		
10/10/2016		444					708		1420
10/11/2016	1500		1850	370	450	646		2500	
12/12/2016				368	450	636			1240
12/14/2016	1600	428	2320				634	2080	
2/17/2017	1470	498	1800		460			1010	
2/21/2017				336		684	578		1010
4/17/2017	1780	538		402	442	680	624	2260	
4/18/2017			4160 (o)						1060
6/19/2017		524					656		
6/20/2017					452	656			1140
6/21/2017	1280		1970	486				2250	
8/7/2017		458			420		488		
8/8/2017	1390		1530	364		734		2170	1220
10/16/2017		414			466		470		514
10/17/2017	1520		1420	424		688		2080	
11/28/2017	1670 (R)		1430 (R)					2650 (R)	
3/5/2018		314							
3/6/2018				292	586	620	376		200
3/7/2018	1270		1150					1820	
6/19/2018		396					502		952
6/20/2018	676		1890					1800	
6/21/2018				368	440	828			

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/10/2018 6:17 PM View: Interwell PLs
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

	MW-13	MW-22 (bg)
6/6/2016		
6/7/2016		
6/8/2016	1970 (o)	
8/15/2016	694	
8/16/2016		
10/10/2016	2740 (o)	
10/11/2016		
12/12/2016		
12/14/2016	616	
2/17/2017	554	
2/21/2017		
4/17/2017	574	
4/18/2017		
6/19/2017		
6/20/2017	502	
6/21/2017		
8/7/2017		
8/8/2017	536	
10/16/2017	2150	
10/17/2017		
11/28/2017	562 (R)	
3/5/2018		
3/6/2018	1120	424
3/7/2018		
6/19/2018		434
6/20/2018	472	
6/21/2018		

Trend Tests

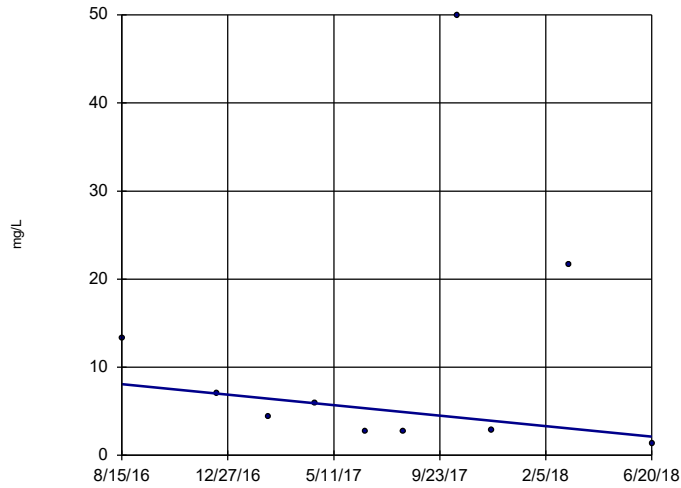
Trend Tests Summary Table

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/11/2018, 7:05 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 (mg/L)	MW-13	-3.238	-13	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-14A	-1.943	-22	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-15A	-4.336	-37	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-18A	-2.07	-28	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-21	-2.001	-20	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-14A	-6.832	-15	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-15A	-6.217	-3	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-18A	-41.32	-43	-38	Yes	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-5B	0.7598	7	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-14A	1.45	15	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-14A	32.27	12	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-15A	-11.41	-2	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-18A	-151.2	-46	-38	Yes	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-14A	-83.5	-5	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-15A	-166.9	-15	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-18A	-241.9	-15	-34	No	11	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

MW-13

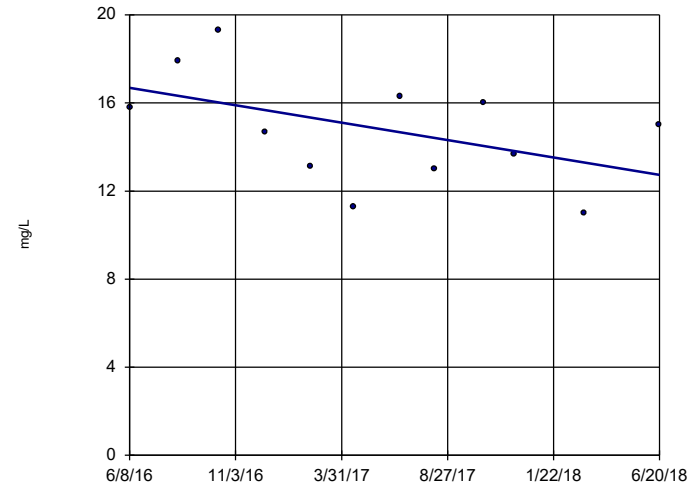


n = 10
 Slope = -3.238
 units per year.
 Mann-Kendall
 statistic = -13
 critical = -30
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

MW-14A

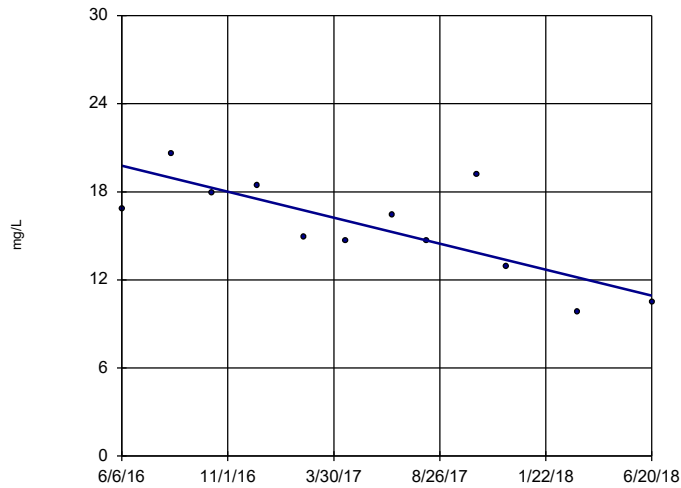


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 Slope = -1.943
 units per year.
 Mann-Kendall
 statistic = -22
 critical = -38
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

MW-15A

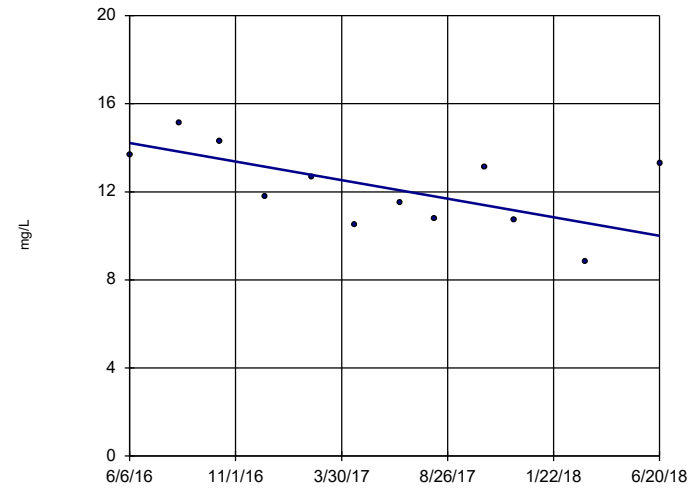


n = 12
 Slope = -4.336
 units per year.
 Mann-Kendall
 statistic = -37
 critical = -38
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

MW-18A

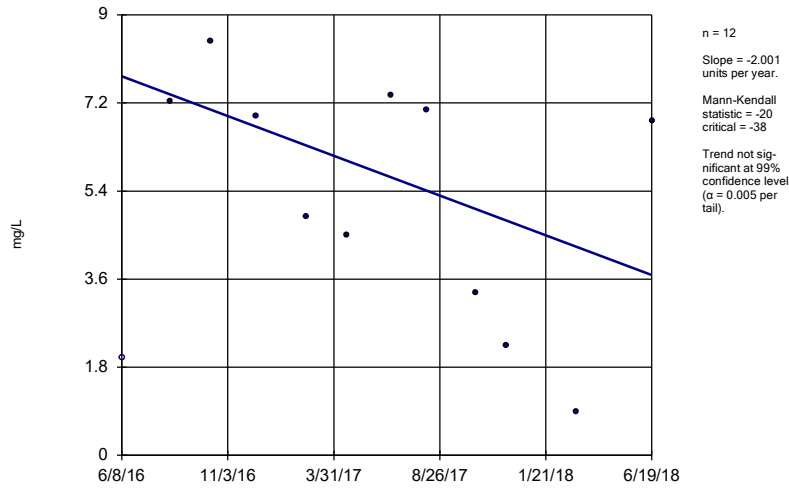


n = 12
 Slope = -2.07
 units per year.
 Mann-Kendall
 statistic = -28
 critical = -38
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

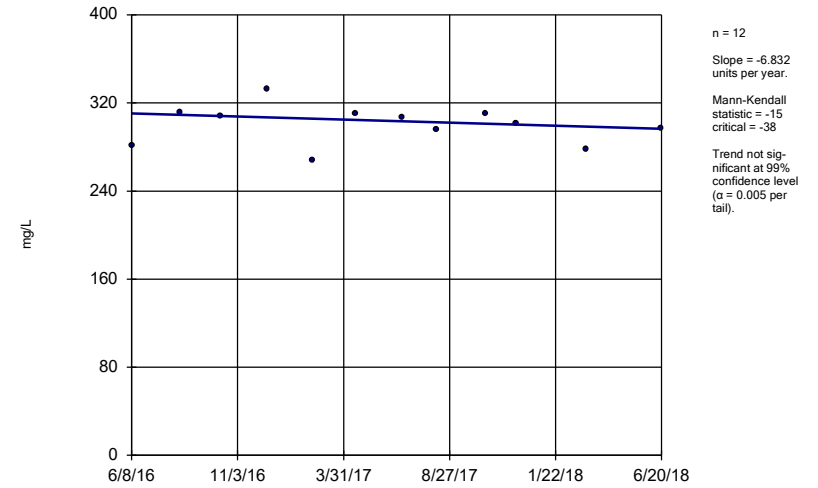
MW-21



Constituent: Boron Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

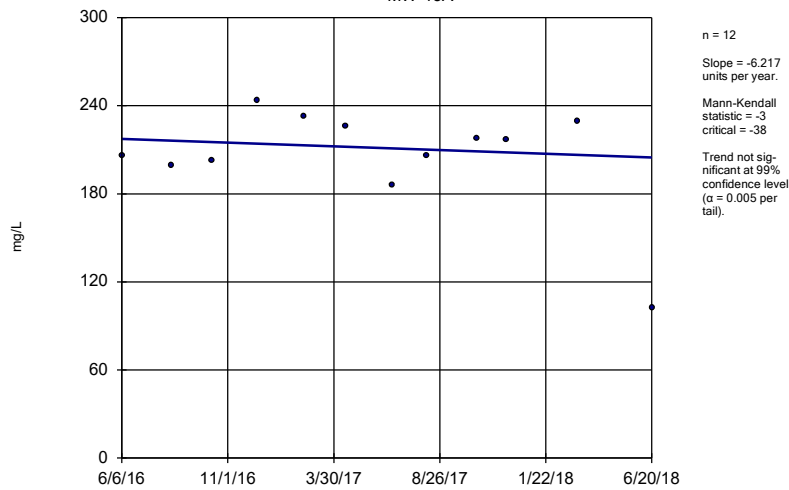
MW-14A



Constituent: Calcium Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator

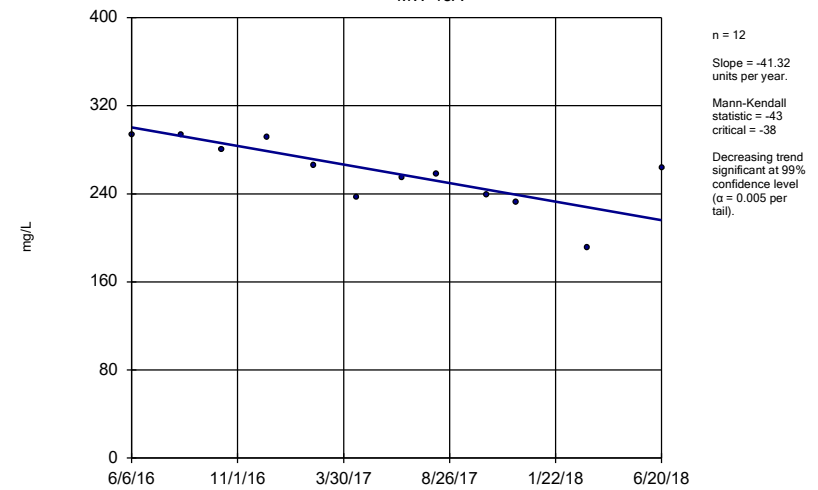
MW-15A



Constituent: Calcium Analysis Run 10/11/2018 7:03 AM View: Trend Tests
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

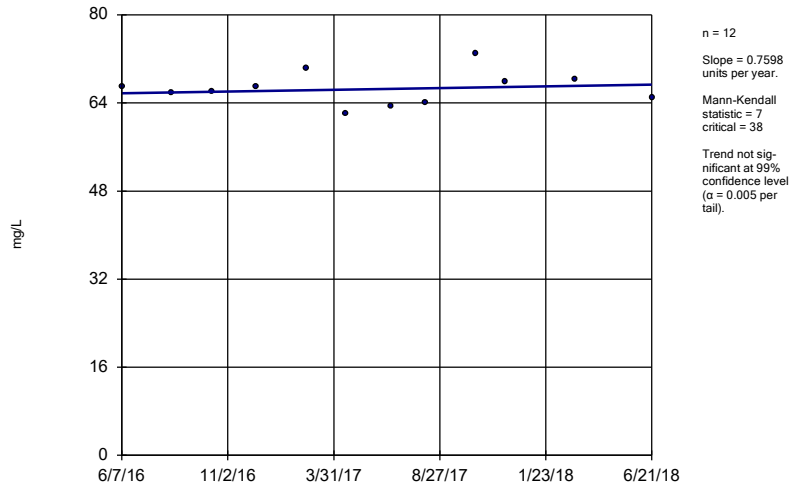
Sen's Slope Estimator

MW-18A



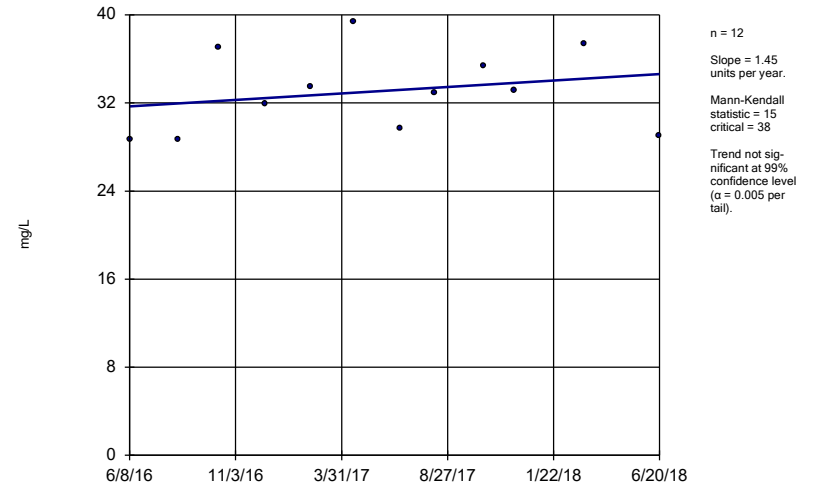
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 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-5B



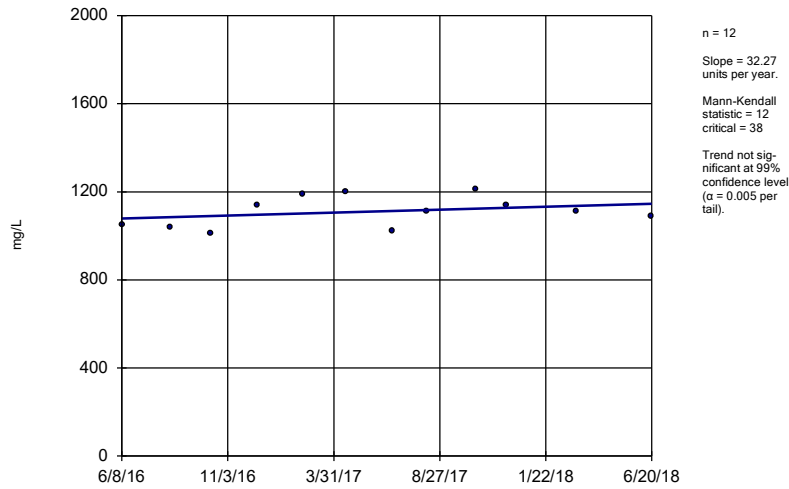
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-14A



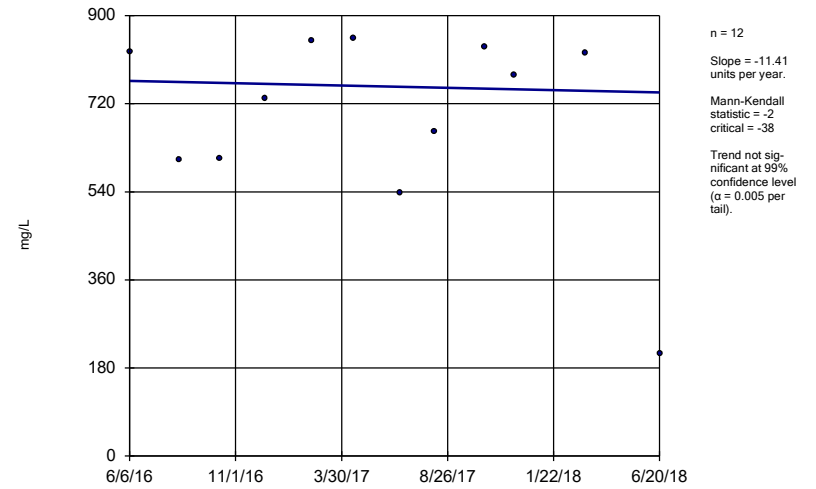
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-14A



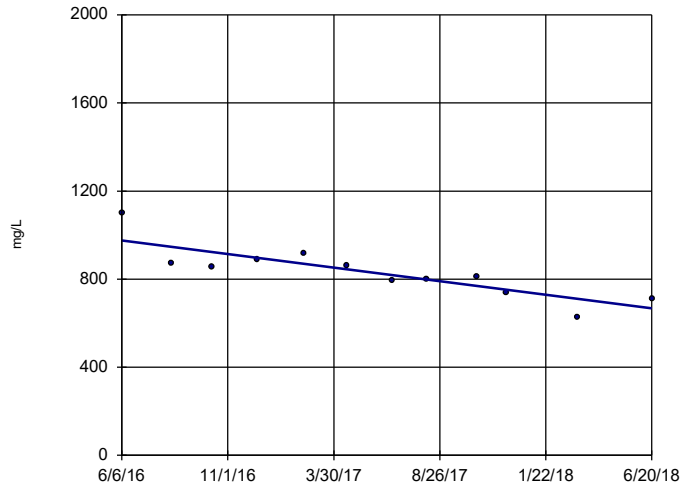
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Sen's Slope Estimator
MW-15A



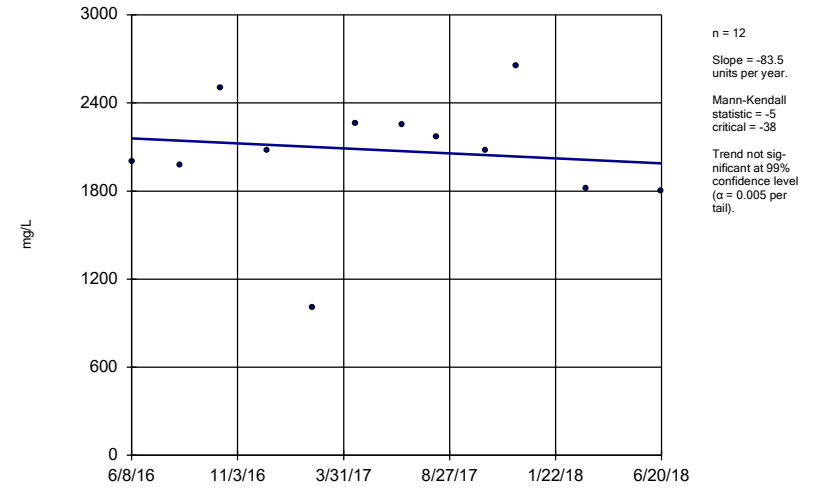
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-18A



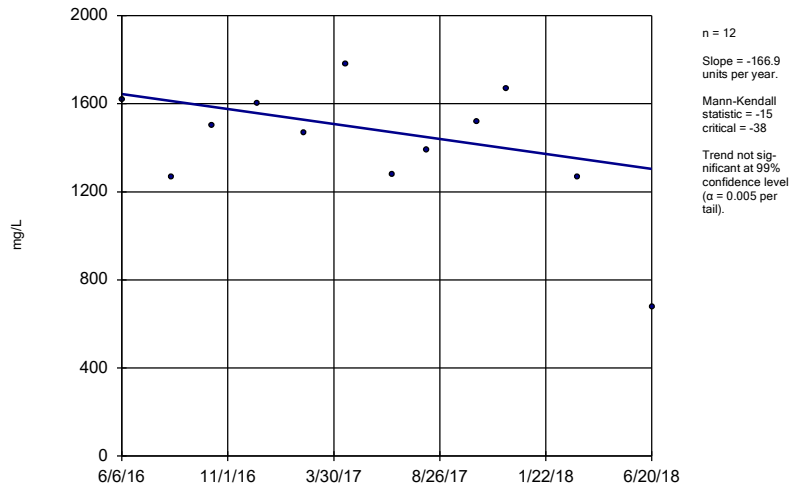
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-14A



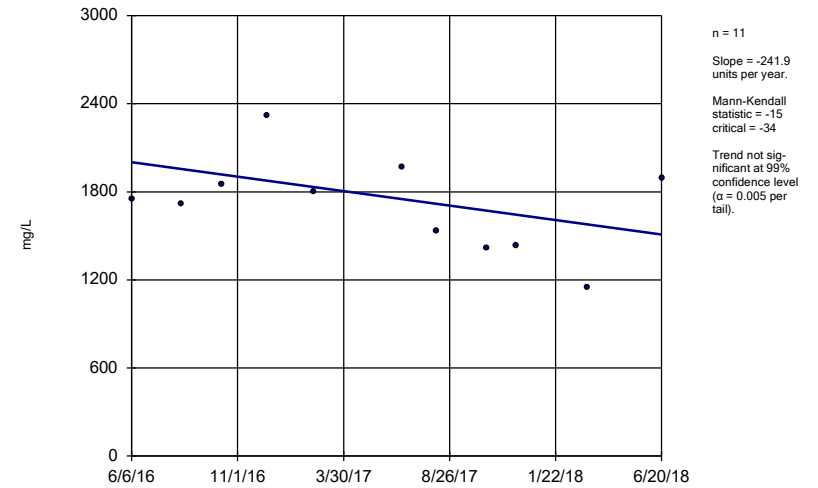
Constituent: Total Dissolved Solids Analysis Run 10/11/2018 7:03 AM View: Trend Tests
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Sen's Slope Estimator
MW-15A



Constituent: Total Dissolved Solids Analysis Run 10/11/2018 7:03 AM View: Trend Tests
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

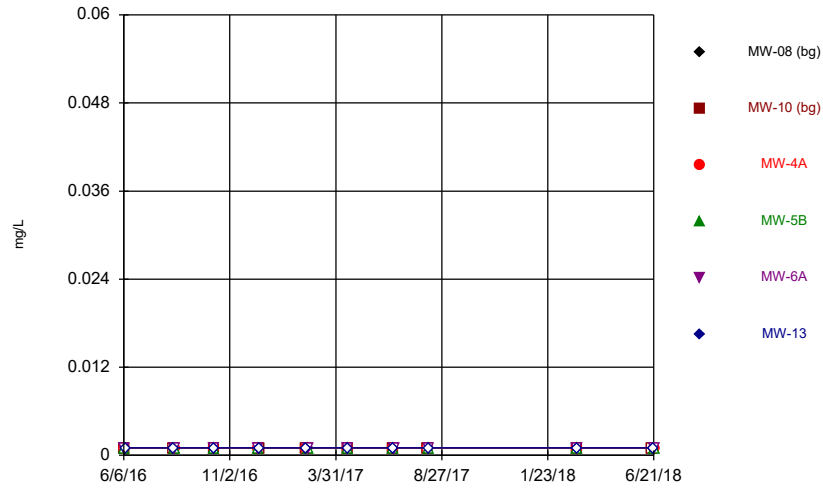
Sen's Slope Estimator
MW-18A



Constituent: Total Dissolved Solids Analysis Run 10/11/2018 7:03 AM View: Trend Tests
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

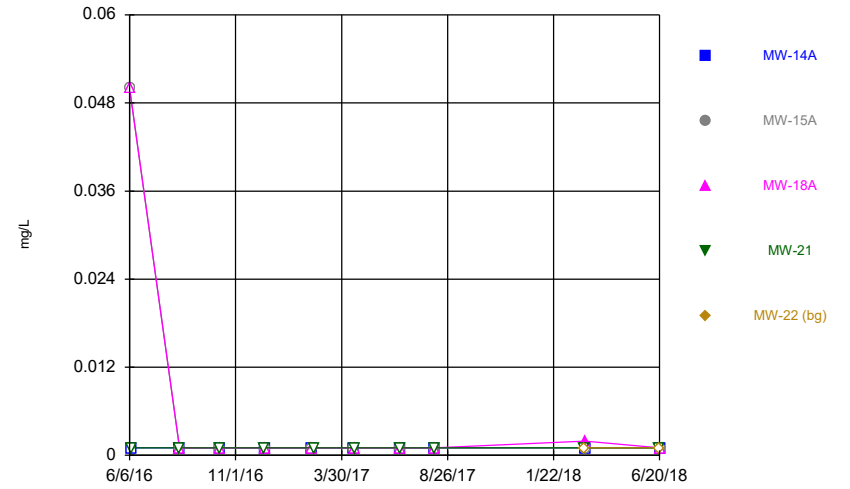
Time Series

Time Series



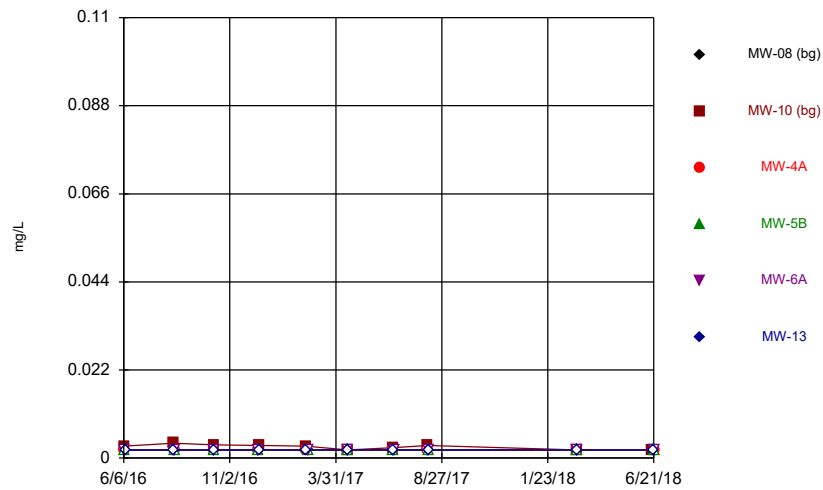
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



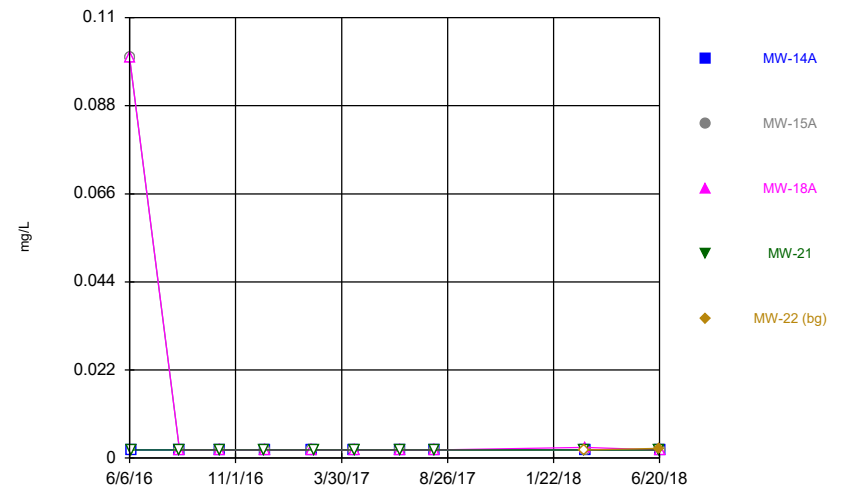
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



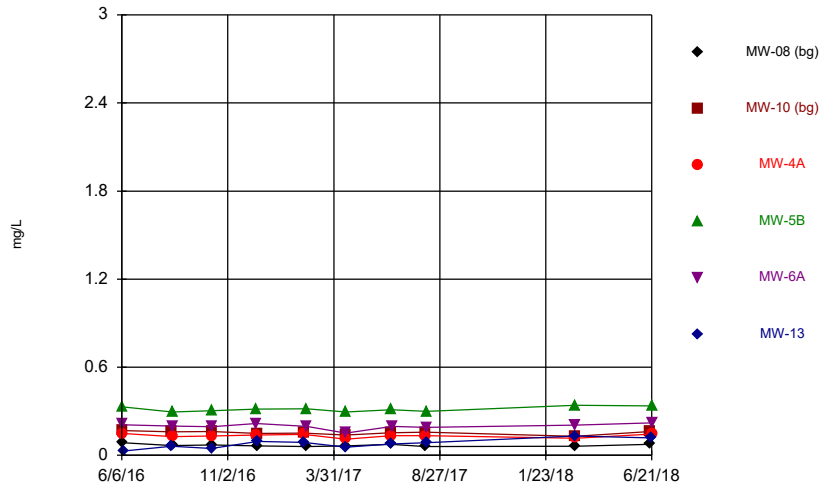
Constituent: Arsenic Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



Constituent: Arsenic Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

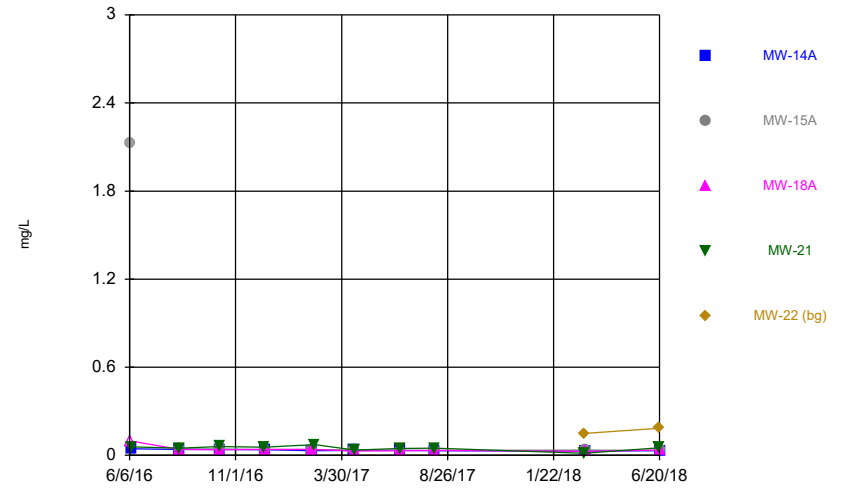
Time Series



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 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Hollow symbols indicate censored values.

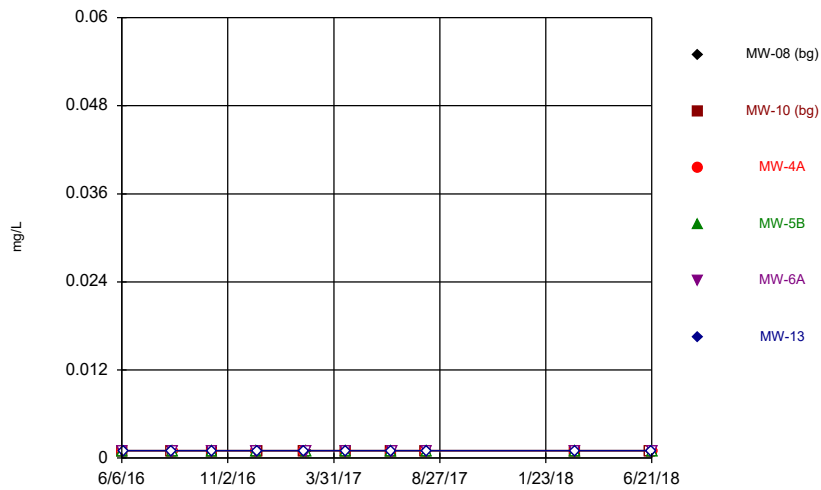
Time Series



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 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

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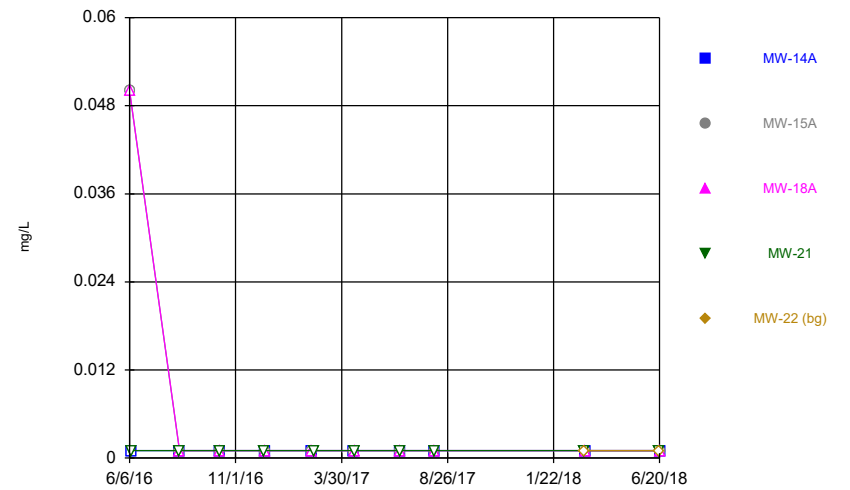
Time Series



Constituent: Beryllium Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

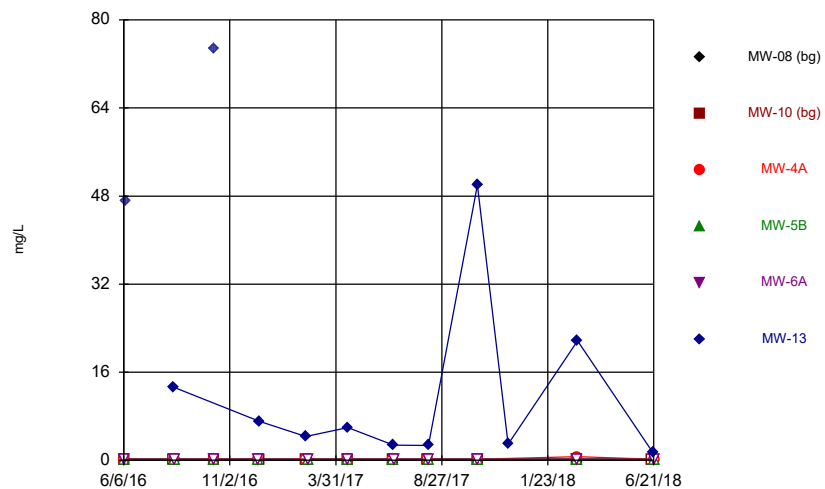
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Time Series



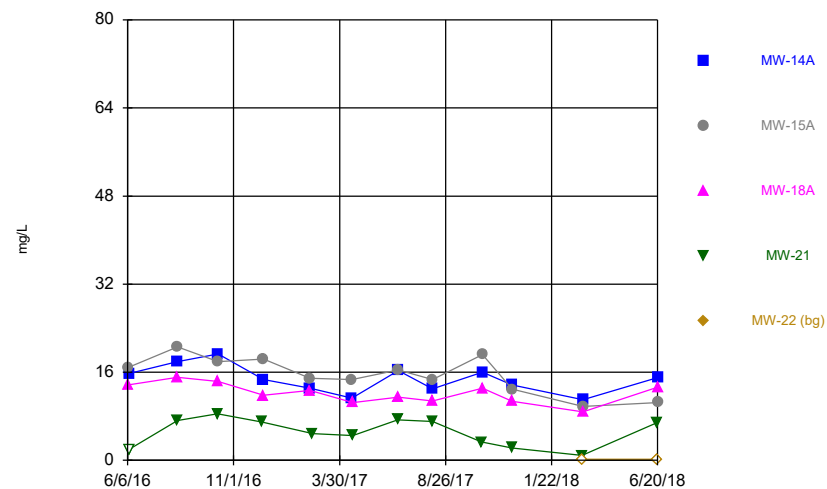
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Time Series



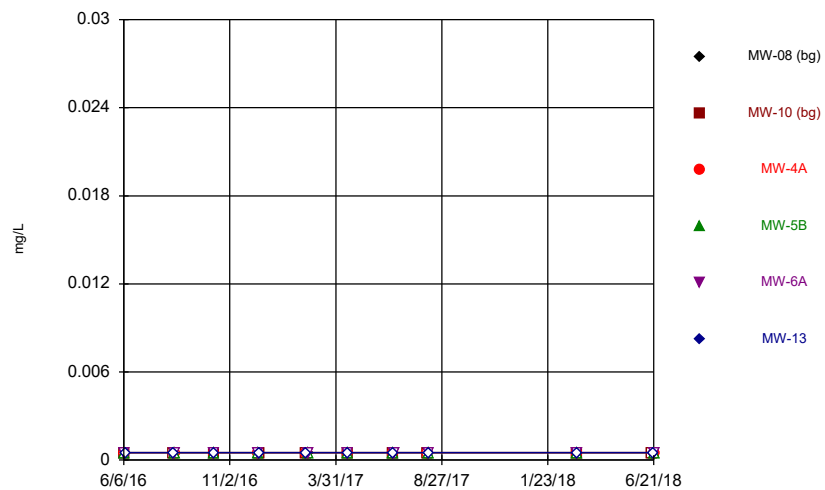
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



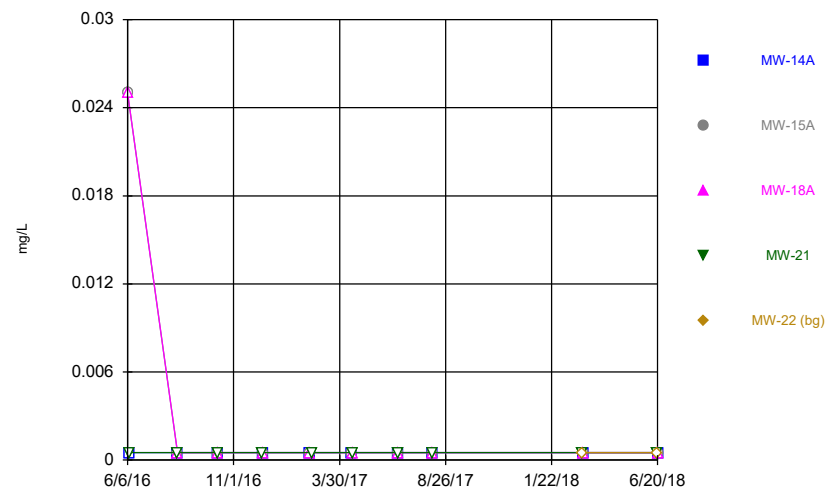
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



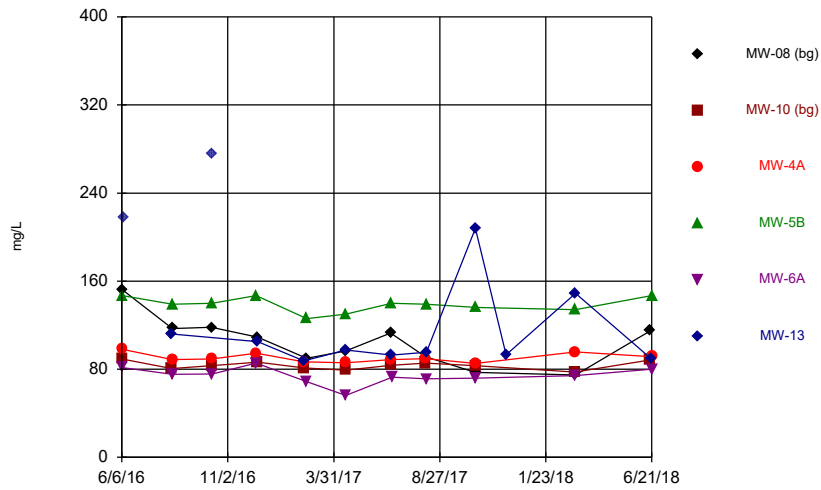
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



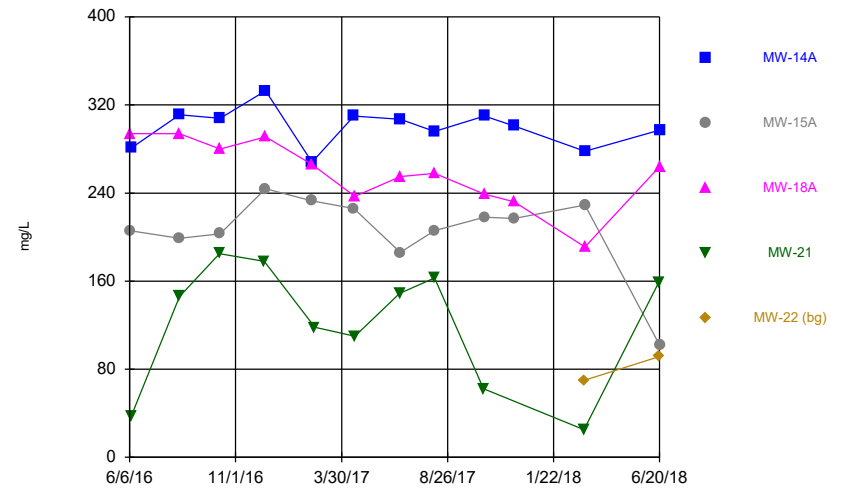
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



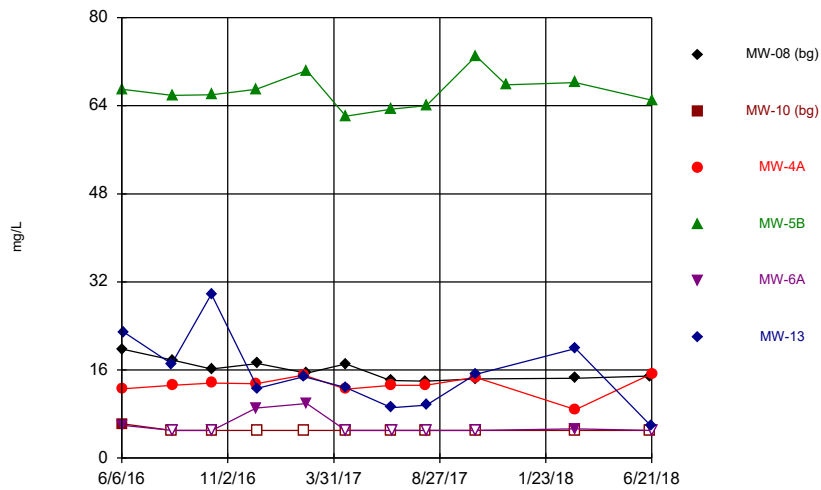
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



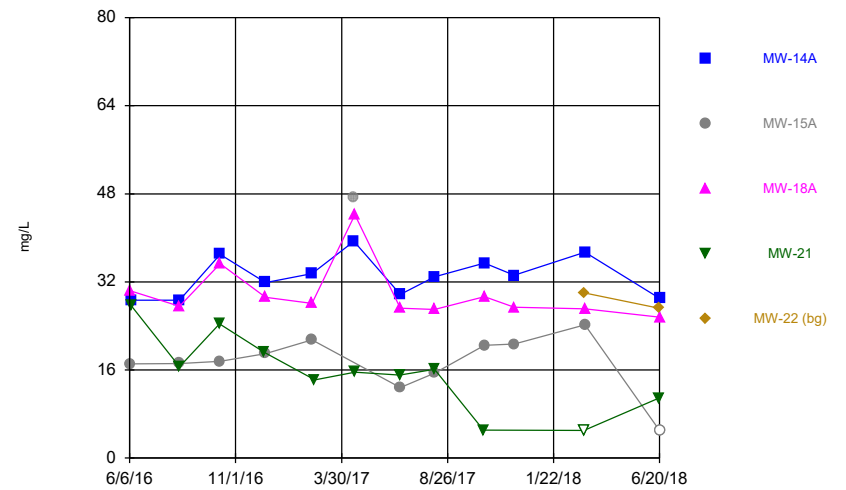
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



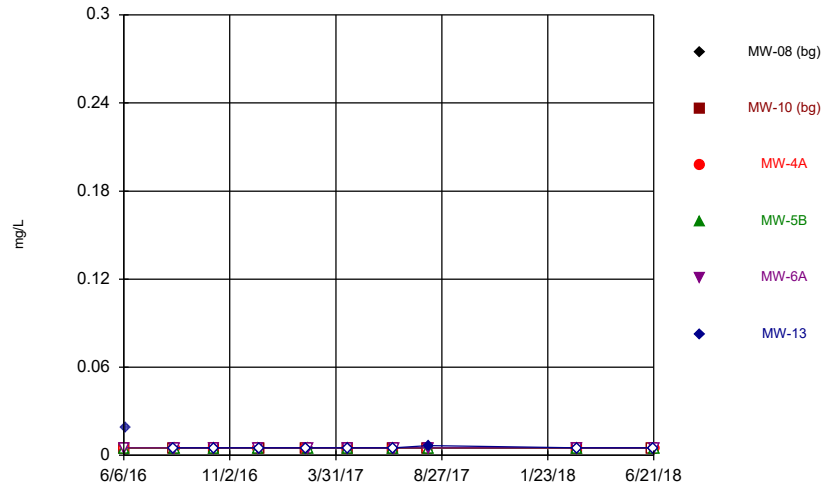
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



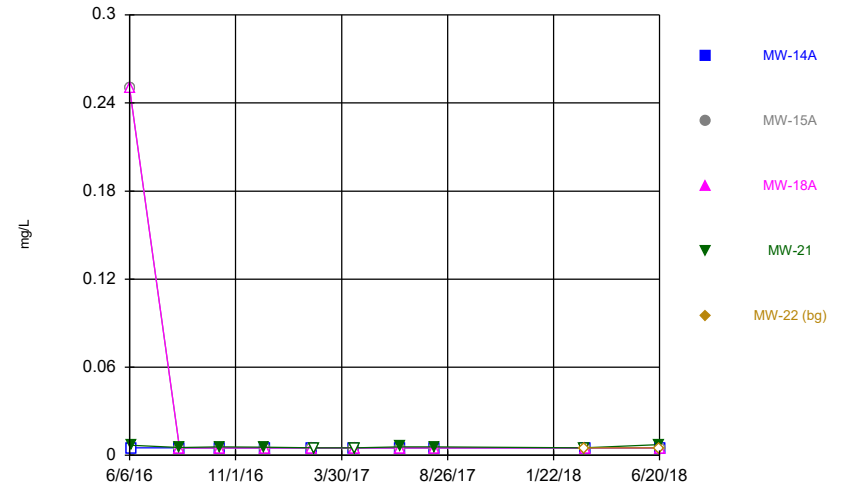
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



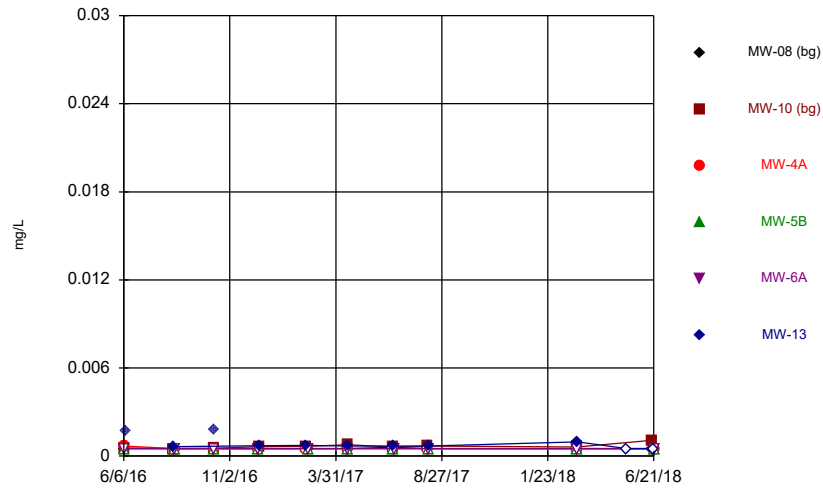
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



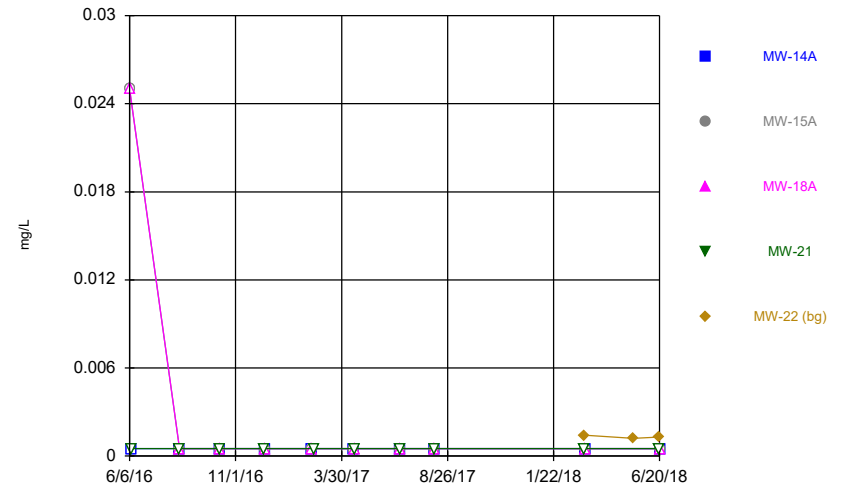
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



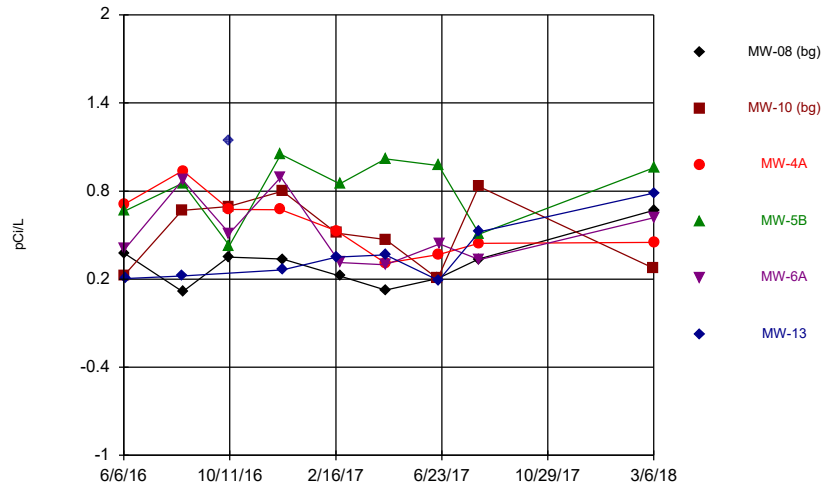
Constituent: Cobalt Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



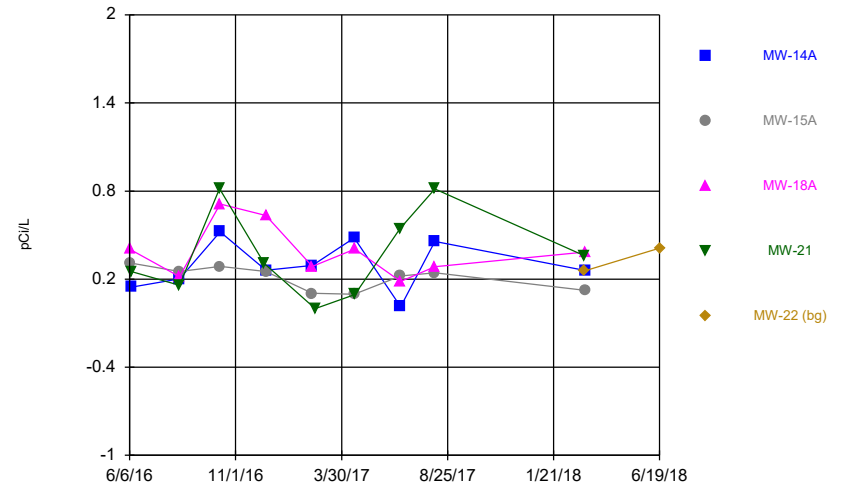
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



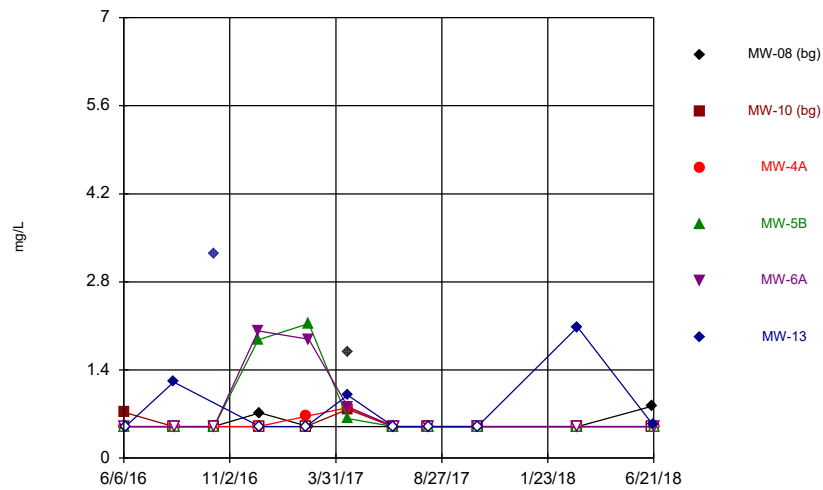
Constituent: Combined Radium 226 + 228 Analysis Run 10/11/2018 6:25 AM View: Time Series - All Well
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



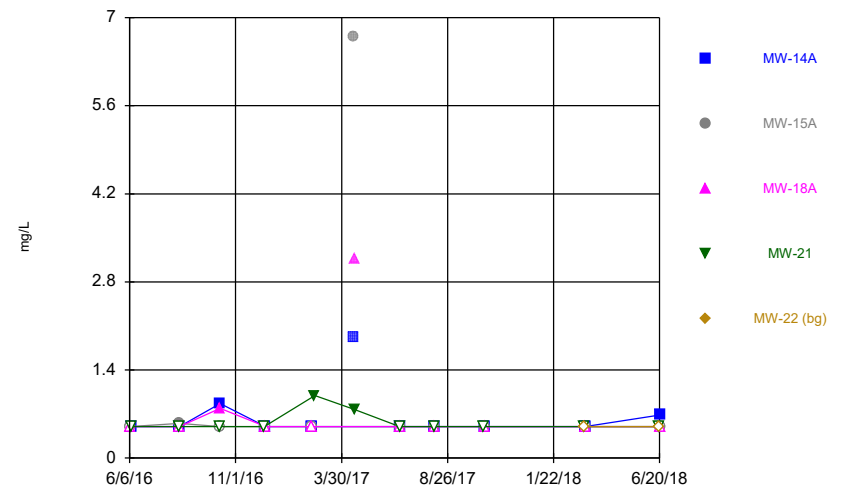
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



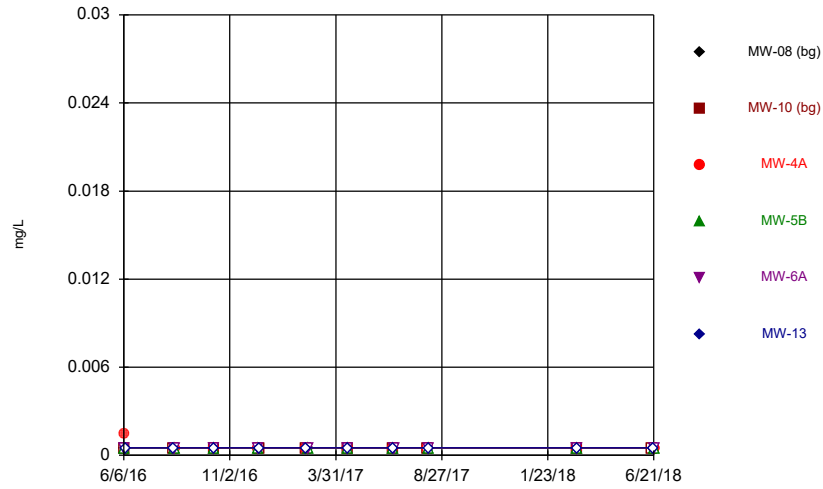
Constituent: Fluoride Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



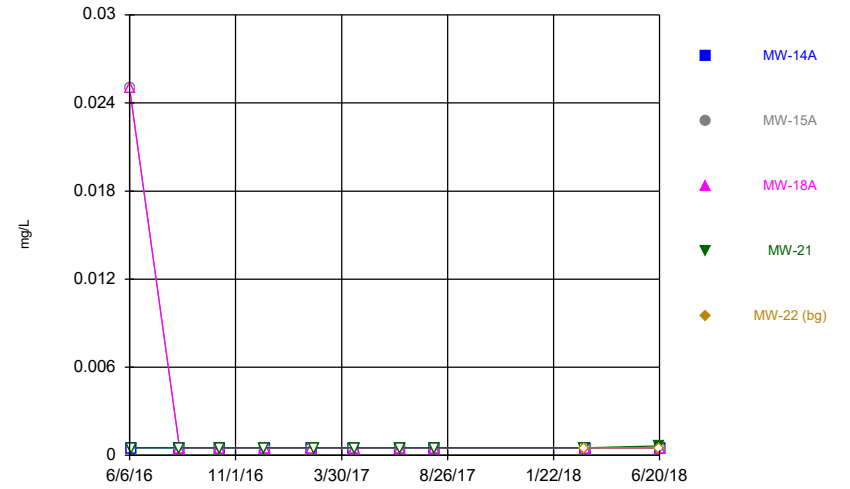
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



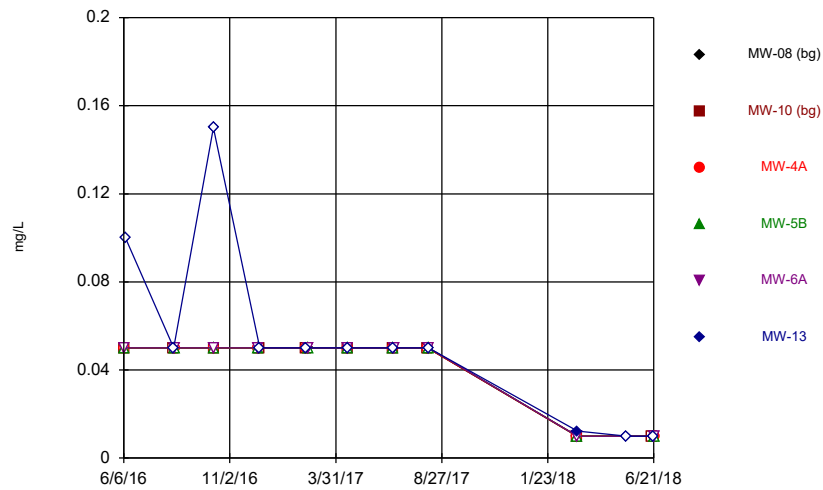
Constituent: Lead Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



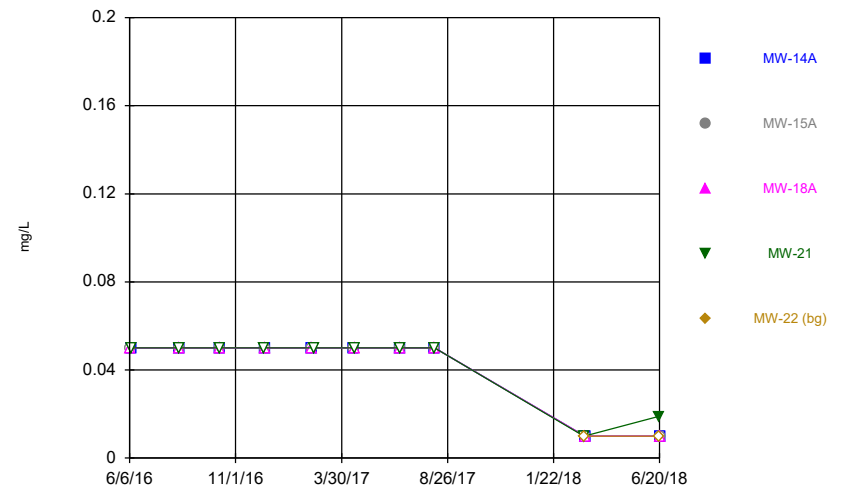
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



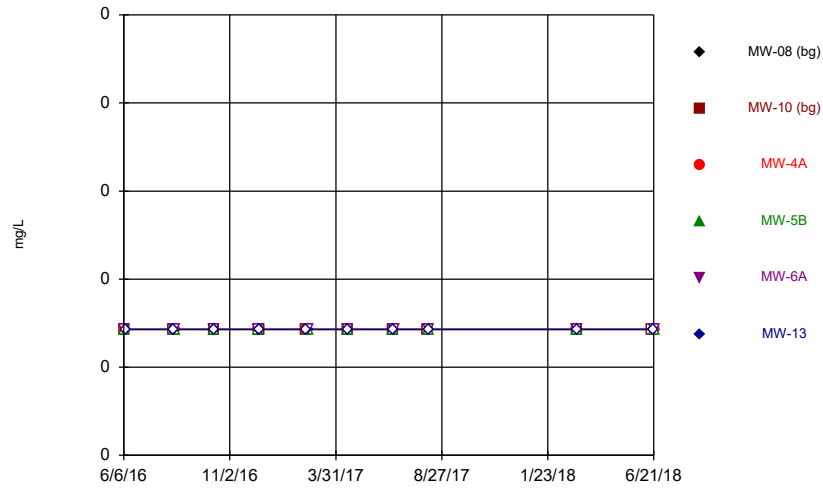
Constituent: Lithium Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



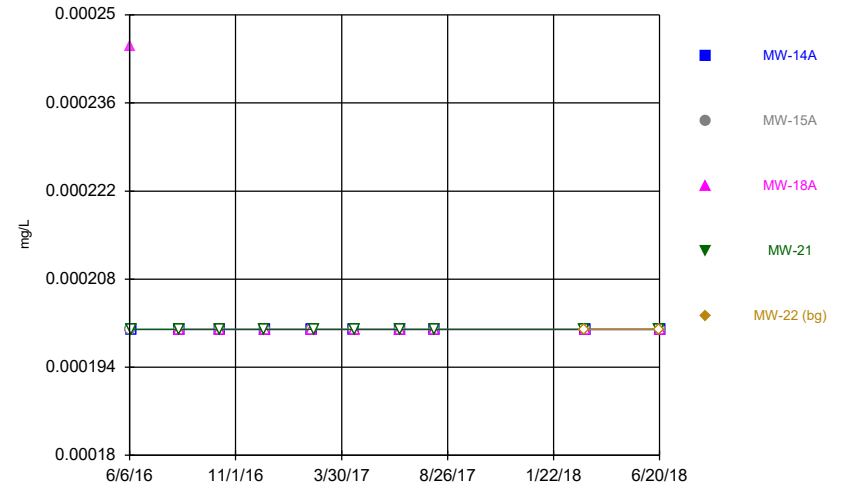
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



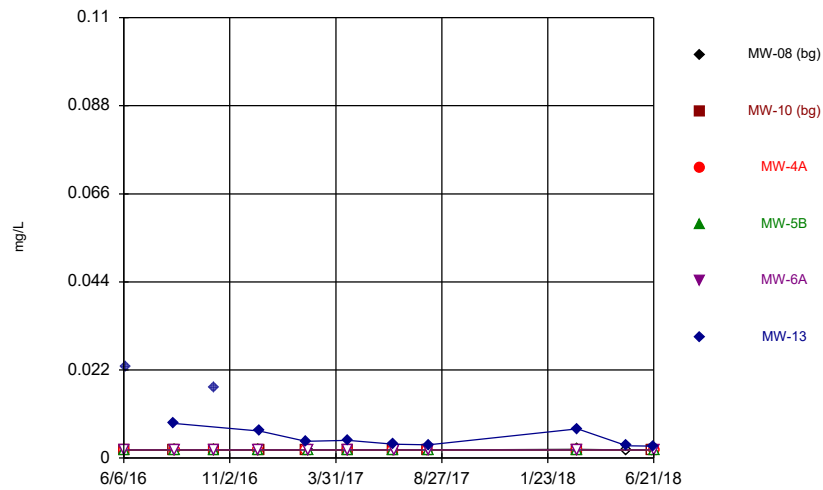
Constituent: Mercury Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



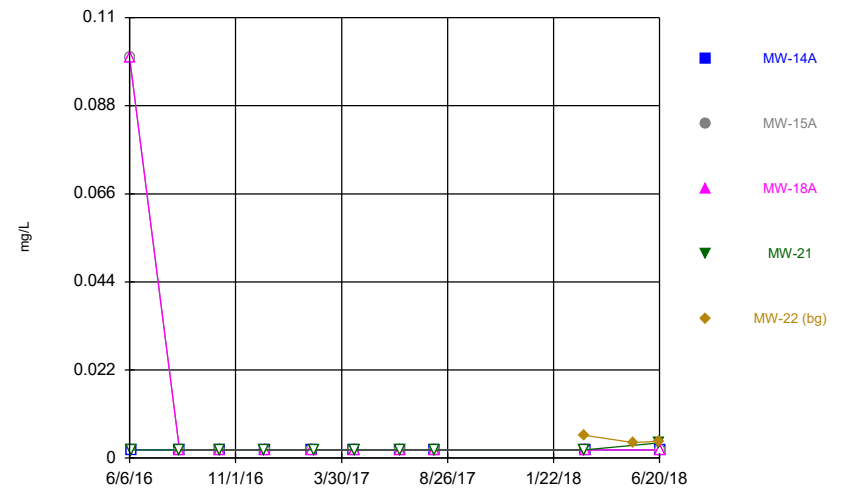
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



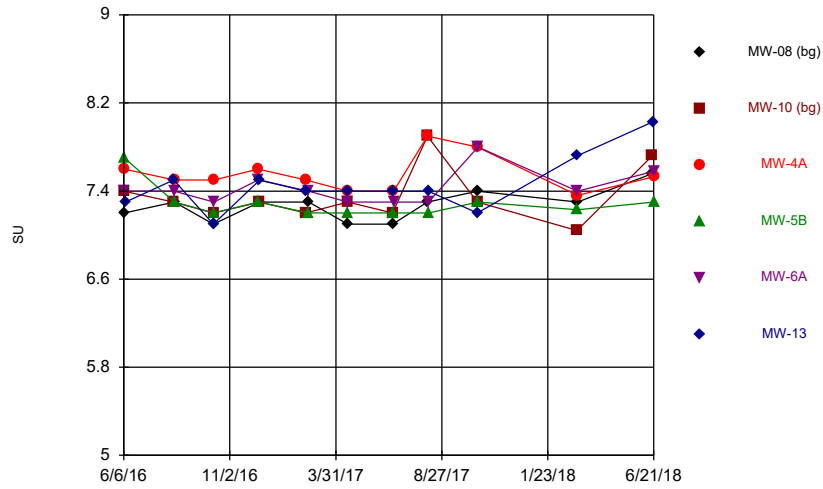
Constituent: Molybdenum Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



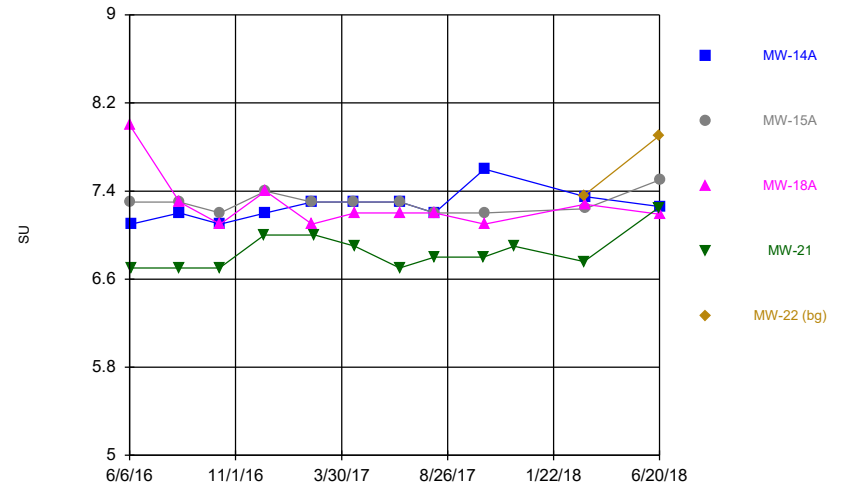
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



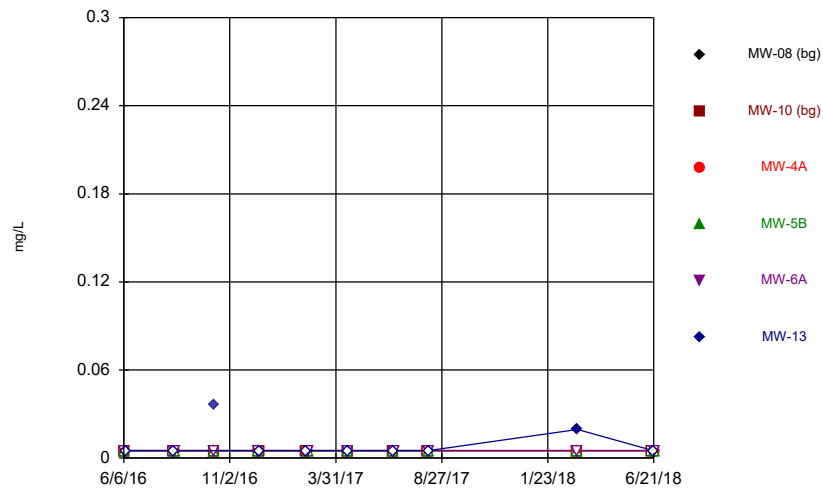
Constituent: pH Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



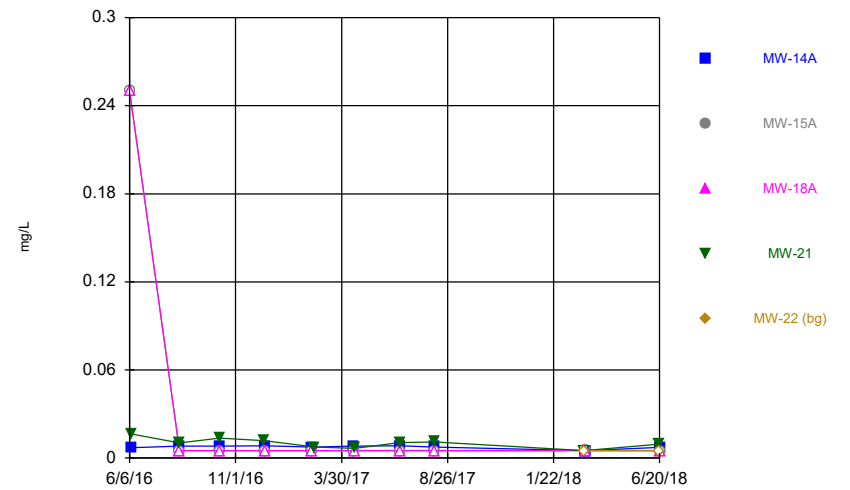
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



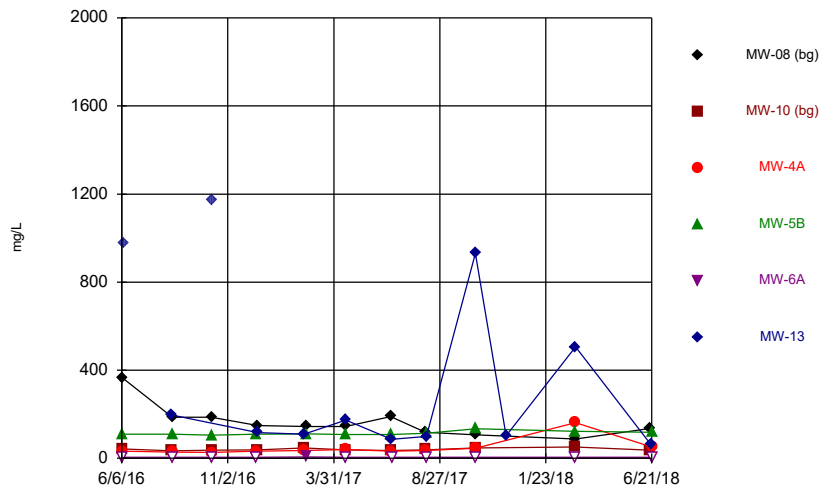
Constituent: Selenium Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



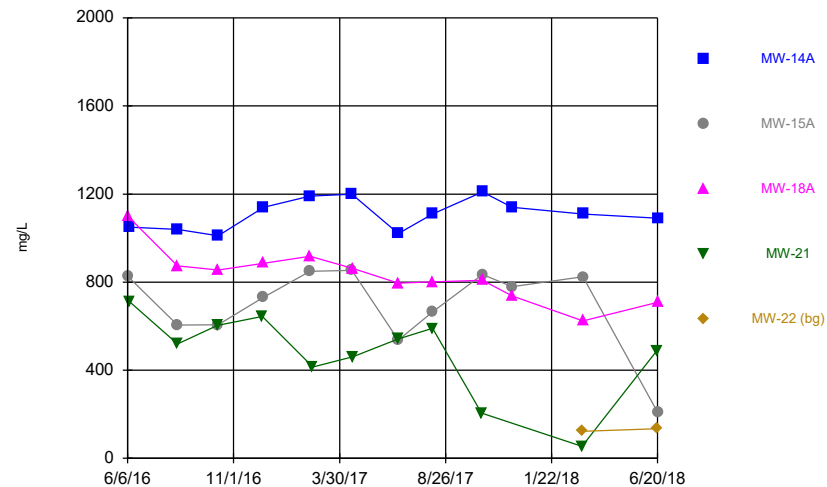
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



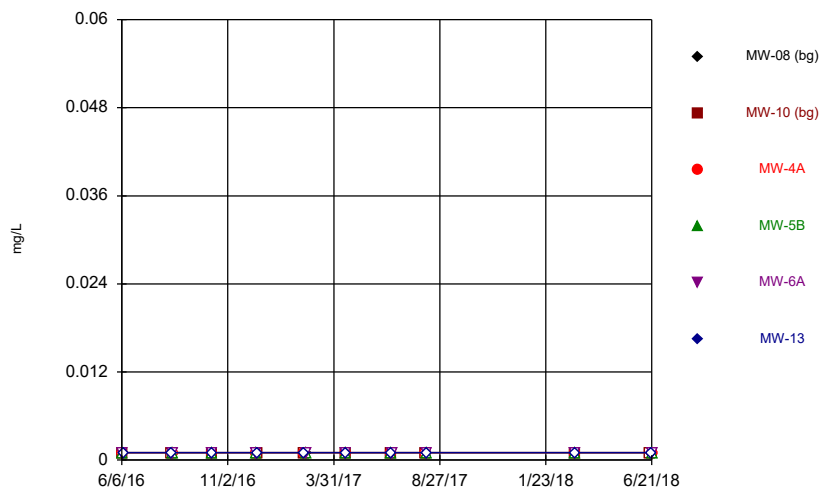
Constituent: Sulfate Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



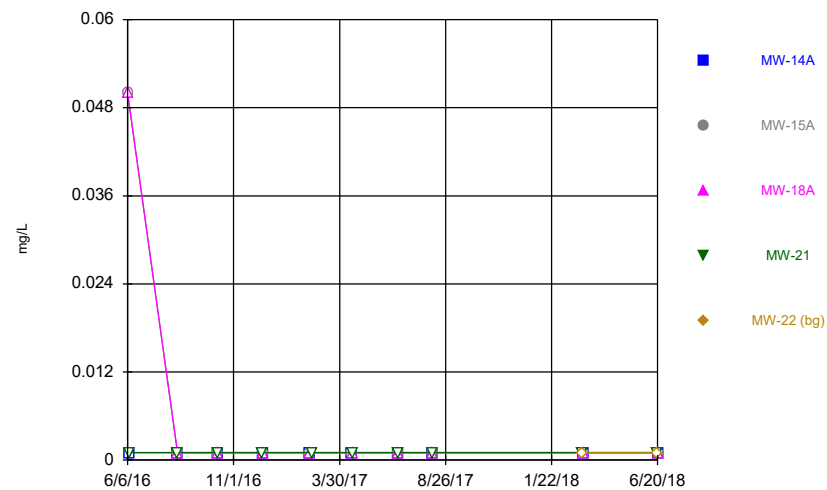
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Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



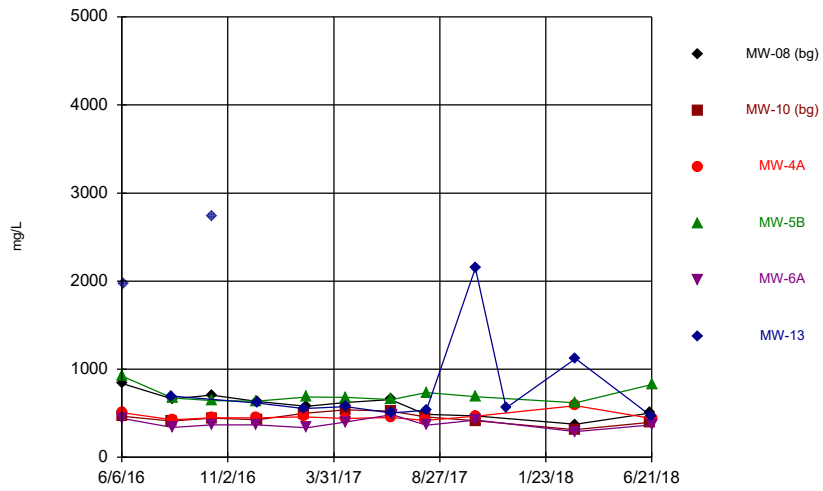
Constituent: Thallium Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



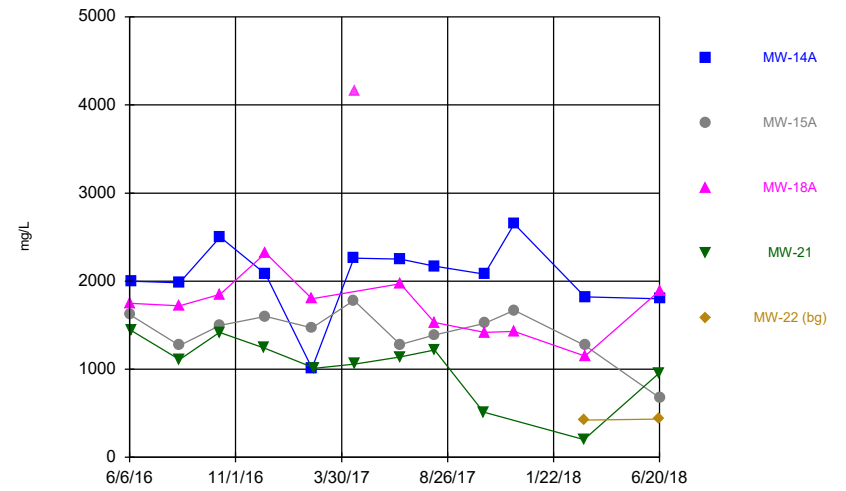
Constituent: Thallium Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



Constituent: Total Dissolved Solids Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Time Series



Constituent: Total Dissolved Solids Analysis Run 10/11/2018 6:25 AM View: Time Series - All Wells
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Confidence Intervals

Confidence Interval Summary Table - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Antimony (mg/L)	MW-4A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-5B	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-6A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-13	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-14A	0.001	0.001	0.006	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-15A	0.001	0.001	0.006	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Antimony (mg/L)	MW-18A	0.00195	0.001	0.006	No 10	0.005995	0.01546	90	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-4A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-5B	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-6A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-13	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-14A	0.002	0.002	0.01	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-15A	0.002	0.002	0.01	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-18A	0.00265	0.002	0.01	No 10	0.01187	0.03097	90	None	No	0.011	NP (NDs)
Barium (mg/L)	MW-4A	0.1437	0.1221	2	No 10	0.1329	0.01209	0	None	No	0.01	Param.
Barium (mg/L)	MW-5B	0.3293	0.2995	2	No 10	0.3144	0.01667	0	None	No	0.01	Param.
Barium (mg/L)	MW-6A	0.2154	0.1814	2	No 10	0.1984	0.01906	0	None	No	0.01	Param.
Barium (mg/L)	MW-13	0.1071	0.05108	2	No 10	0.07911	0.03141	0	None	No	0.01	Param.
Barium (mg/L)	MW-14A	0.03968	0.03058	2	No 10	0.03513	0.005098	0	None	No	0.01	Param.
Barium (mg/L)	MW-15A	0.04176	0.03364	2	No 9	0.0377	0.004209	0	None	No	0.01	Param.
Barium (mg/L)	MW-18A	0.0403	0.0281	2	No 10	0.04141	0.02103	10	None	No	0.011	NP (normality)
Beryllium (mg/L)	MW-4A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-5B	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-6A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-13	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-14A	0.001	0.001	0.004	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-15A	0.001	0.001	0.004	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-18A	0.001	0.001	0.004	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-4A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-5B	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-6A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-13	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-14A	0.0005	0.0005	0.005	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-15A	0.0005	0.0005	0.005	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-18A	0.0005	0.0005	0.005	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-4A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-5B	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-6A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-13	0.00658	0.005	0.1	No 9	0.005176	0.0005267	88.89	None	No	0.002	NP (NDs)
Chromium (mg/L)	MW-14A	0.005	0.005	0.1	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-15A	0.005	0.005	0.1	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Chromium (mg/L)	MW-18A	0.005	0.005	0.1	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-4A	0.0005	0.0005	0.006	No 10	0.0005181	0.00005724	90	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-5B	0.0005	0.0005	0.006	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-6A	0.0005	0.0005	0.006	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-13	0.0008038	0.0005536	0.006	No 9	0.0006787	0.0001374	22.22	Kapla..	No	0.01	Param.
Cobalt (mg/L)	MW-14A	0.0005	0.0005	0.006	No 10	0.0005	0	100	Kapla..	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-15A	0.0005	0.0005	0.006	No 10	0.00295	0.007748	100	Kapla..	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-18A	0.0005	0.0005	0.006	No 10	0.00295	0.007748	100	Kapla..	No	0.011	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-4A	0.7583	0.3735	5	No 9	0.5659	0.1992	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5B	1.031	0.5925	5	No 9	0.8118	0.2271	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6A	0.7309	0.3134	5	No 9	0.5211	0.2298	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-13	0.5607	0.1772	5	No 8	0.363	0.2029	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-14A	0.4542	0.1302	5	No 9	0.2922	0.1678	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-15A	0.2876	0.1315	5	No 9	0.2095	0.08085	0	None	No	0.01	Param.

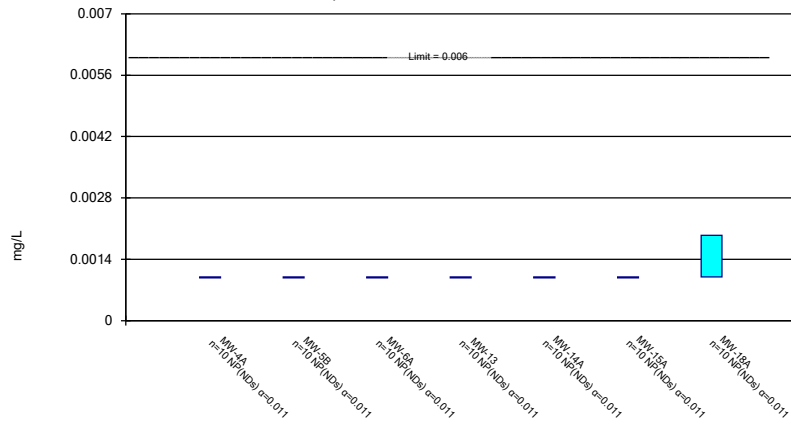
Confidence Interval Summary Table - All Results

Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water Printed 10/10/2018, 6:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	MW-18A	0.5629	0.2171	5	No 9	0.39	0.1791	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-4A	0.664	0.5	4	No 11	0.5423	0.09891	81.82	None	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-5B	1.88	0.5	4	No 11	0.7861	0.6091	72.73	None	No	0.006	NP (normality)
Fluoride (mg/L)	MW-6A	1.89	0.5	4	No 11	0.7931	0.5828	72.73	None	No	0.006	NP (normality)
Fluoride (mg/L)	MW-13	1.21	0.5	4	No 10	0.7815	0.5224	60	None	No	0.011	NP (normality)
Fluoride (mg/L)	MW-14A	0.684	0.5	4	No 10	0.5551	0.1239	80	None	No	0.011	NP (NDs)
Fluoride (mg/L)	MW-15A	0.5	0.5	4	No 10	0.5049	0.0155	90	None	No	0.011	NP (NDs)
Fluoride (mg/L)	MW-18A	0.5	0.5	4	No 10	0.5291	0.09202	90	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-4A	0.0005	0.0005	0.015	No 9	0.0005	0	100	None	No	0.002	NP (NDs)
Lead (mg/L)	MW-5B	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-6A	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-13	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-14A	0.0005	0.0005	0.015	No 10	0.0005	0	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-15A	0.0005	0.0005	0.015	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Lead (mg/L)	MW-18A	0.0005	0.0005	0.015	No 10	0.00295	0.007748	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-4A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-5B	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-6A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-13	0.1	0.01	0.04	No 11	0.05293	0.04127	90.91	None	No	0.006	NP (NDs)
Lithium (mg/L)	MW-14A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-15A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Lithium (mg/L)	MW-18A	0.05	0.01	0.04	No 10	0.042	0.01687	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-4A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-5B	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-6A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-13	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-14A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-15A	0.0002	0.0002	0.002	No 10	0.0002	0	100	None	No	0.011	NP (NDs)
Mercury (mg/L)	MW-18A	0.0002	0.0002	0.002	No 9	0.0002	0	100	None	No	0.002	NP (NDs)
Molybdenum (mg/L)	MW-4A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-5B	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-6A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-13	0.00684	0.002985	0.1	No 9	0.004903	0.002122	0	None	sqrt(x)	0.01	Param.
Molybdenum (mg/L)	MW-14A	0.002	0.002	0.1	No 10	0.002	0	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-15A	0.002	0.002	0.1	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-18A	0.002	0.002	0.1	No 10	0.0118	0.03099	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-4A	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-5B	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-6A	0.005	0.005	0.05	No 10	0.005	0	100	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-13	0.0195	0.005	0.05	No 9	0.006611	0.004833	88.89	None	No	0.002	NP (NDs)
Selenium (mg/L)	MW-14A	0.008302	0.00699	0.05	No 10	0.007578	0.001006	10	None	x^4	0.01	Param.
Selenium (mg/L)	MW-15A	0.00502	0.005	0.05	No 10	0.0295	0.07748	90	None	No	0.011	NP (NDs)
Selenium (mg/L)	MW-18A	0.005	0.005	0.05	No 10	0.0295	0.07748	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-4A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-5B	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-6A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-13	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-14A	0.001	0.001	0.002	No 10	0.001	0	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-15A	0.001	0.001	0.002	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)
Thallium (mg/L)	MW-18A	0.001	0.001	0.002	No 10	0.0059	0.0155	100	None	No	0.011	NP (NDs)

Non-Parametric Confidence Interval

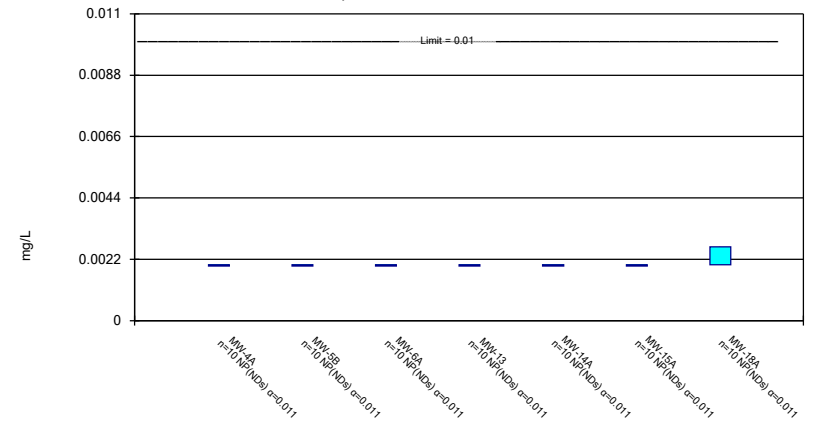
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval

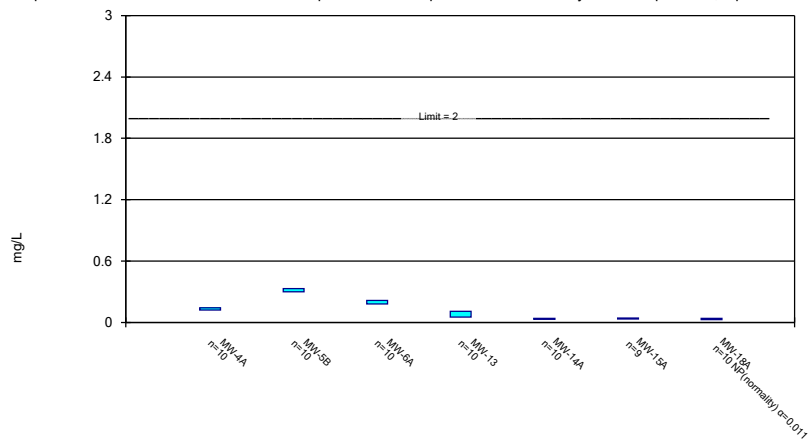
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Parametric and Non-Parametric (NP) Confidence Interval

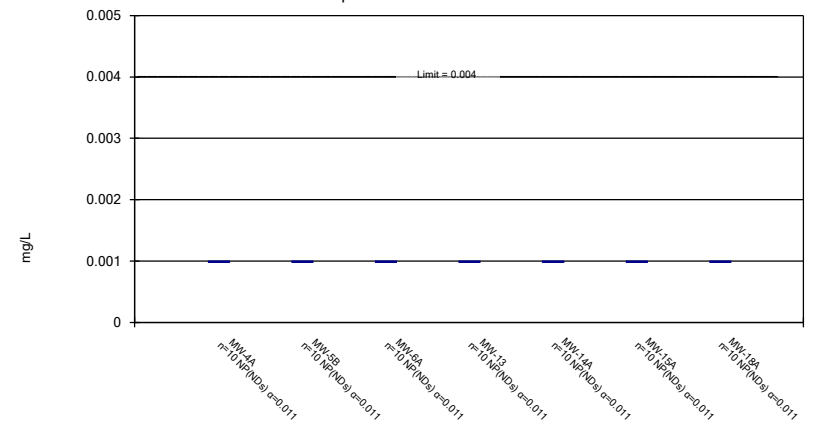
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval

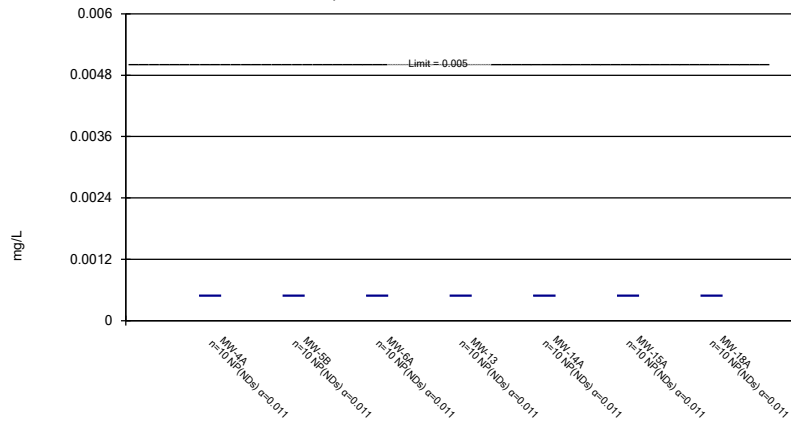
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval

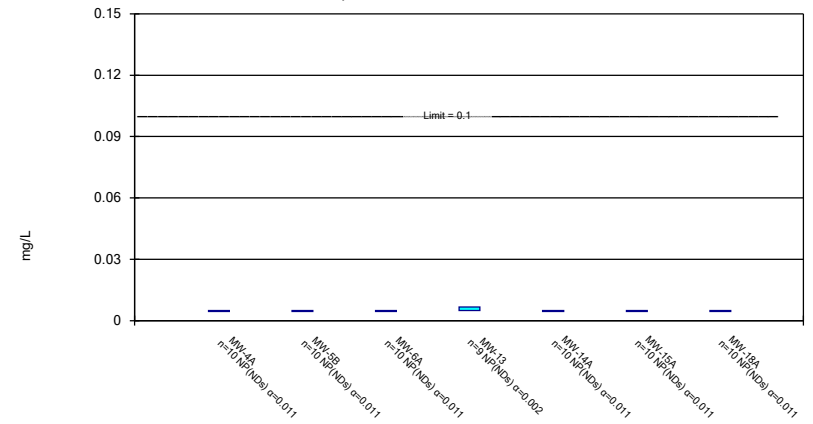
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval

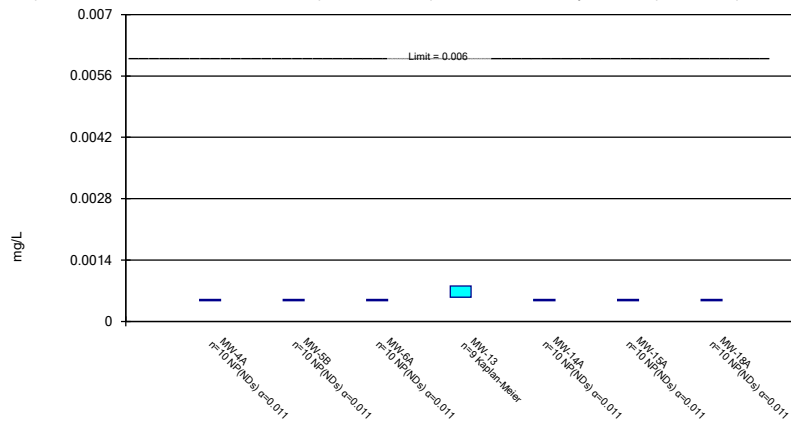
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Parametric and Non-Parametric (NP) Confidence Interval

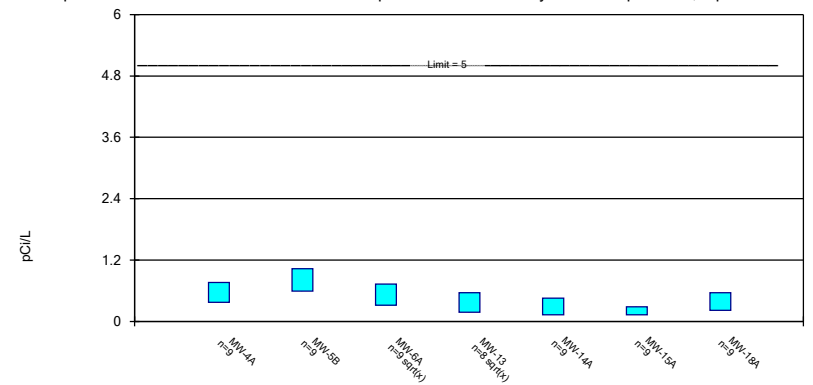
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

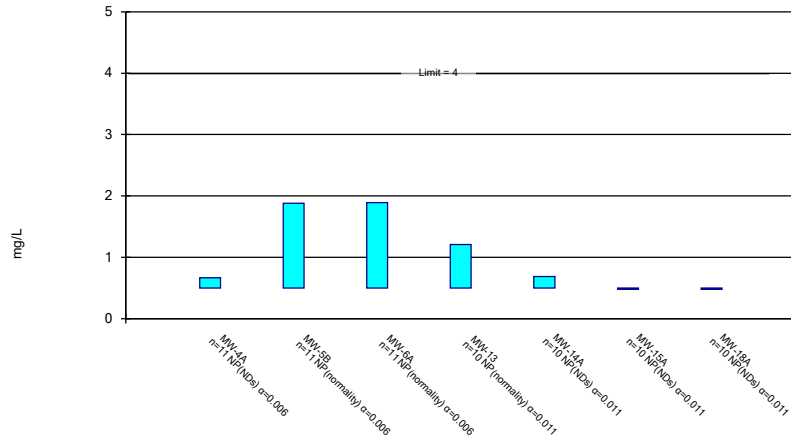
Parametric Confidence Interval

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



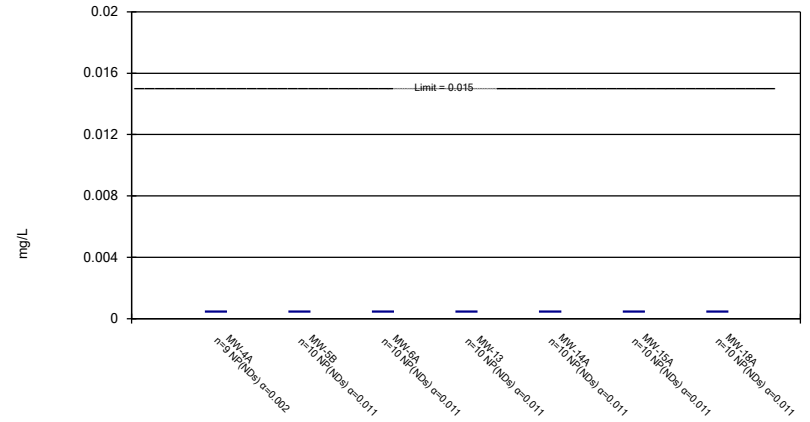
Constituent: Combined Radium 226 + 228 Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals -
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



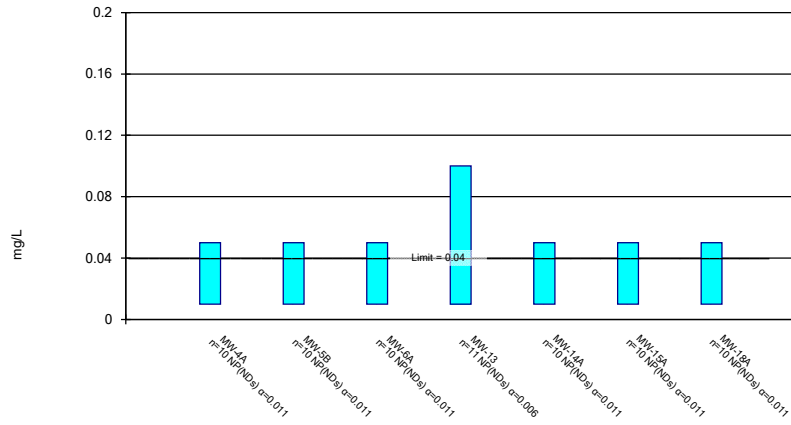
Constituent: Fluoride Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



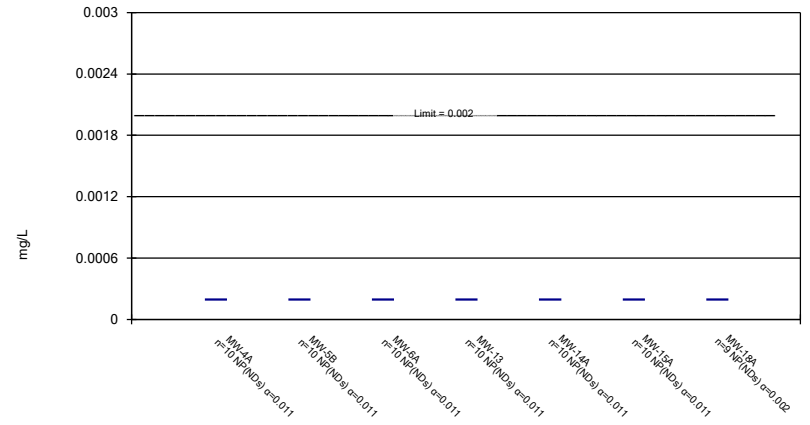
Constituent: Lead Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



Constituent: Lithium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

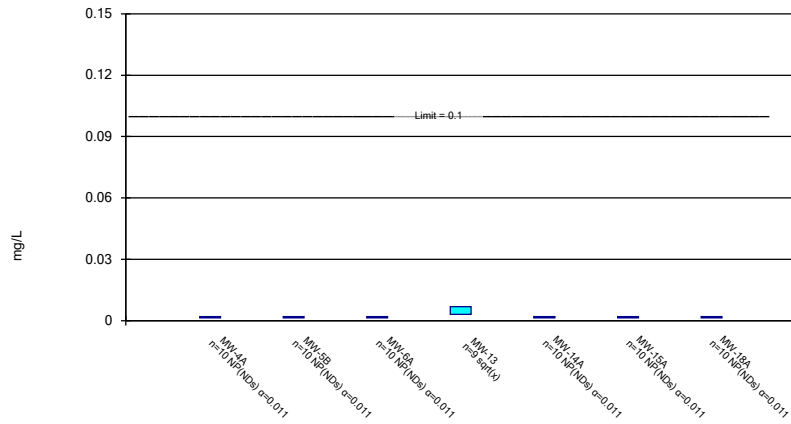
Non-Parametric Confidence Interval
Compliance Limit is not exceeded.



Constituent: Mercury Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Parametric and Non-Parametric (NP) Confidence Interval

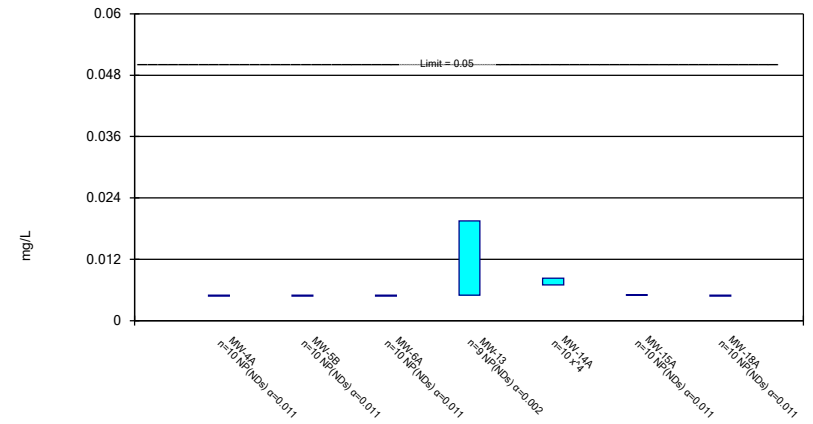
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Parametric and Non-Parametric (NP) Confidence Interval

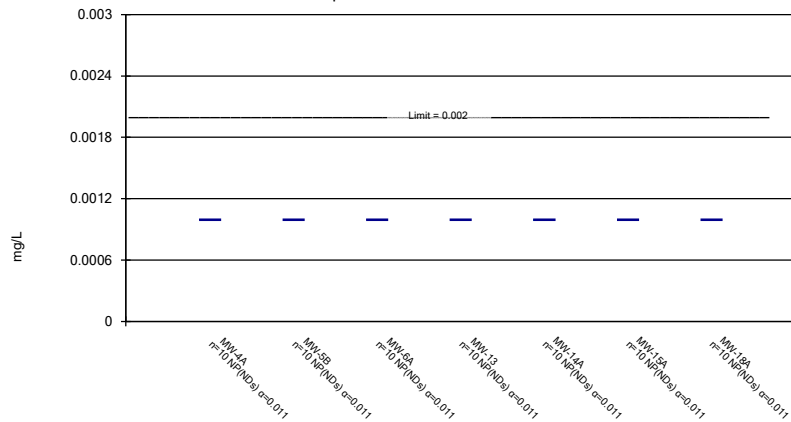
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 10/10/2018 6:14 PM View: Confidence Intervals - App IV
 Muscatine Power & Water Client: HR Green, Inc. Data: Muscatine Power & Water