Big Rivers
ELECTRIC CORPORATION

D.B. Wilson Station
5663 State Route 85 West
Centertown, KY 42328
www.bigrivers.com

Date: July 11, 2024

Jamie Nielsen
Kentucky Department for Environmental Protection
Director, Division of Waste Management
300 Sower Blvd
Frankfort, KY 40601

Re: AI 3319,

Dear Ms Nielsen,

Please accept this correspondence as formal notice that 40 C.F.R. 257.106(h)(9) notification of the availability of the first 2024 semi-annual Groundwater data for Wilson Phase II CCR Landfill in accordance with 40 C.F.R 257, Subpart D). The software used for this evaluation was Sanitas™. This report is available on the Big Rivers website.

If you have any questions, please contact Diana Merritt at 270-748-0565 or email diana.merritt@bigrivers.com.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of true and imprisonment for such violations."

Best Regards,

Matt Granderson,
Plant Manager
Big Rivers Electric Corporation, D.B. Wilson Station

July 11, 2024

Mr. Mark Bertram
Big Rivers Electric Corporation
Administrative Services
Director Environmental Services
710 West 2nd Street
Owensboro, KY 42301

Re: Statistical Evaluation of April 2024 Assessment Monitoring Groundwater Data
D.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky
Agency Interest ID #: 3319

Dear Mr. Bertram:

This letter presents the results of the statistical evaluation of analytical data from the April 2024 assessment monitoring event performed at the D.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky in accordance with the requirements of the U.S. Environmental Protection Agency's *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* (40 Code of Federal Regulations [CFR] Part 257, Subpart D). This letter also presents a comparison of the April 2024 sampling results to groundwater protection standards (GWPSs). The GWPSs for the groundwater monitoring network were reviewed and updated as part of the statistical evaluation completed for the April 2024 sampling event and are presented on **Table 1**. These GWPSs will continue to be reviewed and updated as additional data are collected. A comparison of the April 2024 data to the updated GWPSs is presented on **Table 2**. The statistical evaluation presented herein was performed in accordance with the *Update to Certification of Statistical Method for Evaluating Groundwater in accordance with 40 CFR § 257.93 at D.B Wilson Station Phase II CC Landfill in Centertown, Kentucky* dated May 25, 2022.

In April 2024, the Phase II CCR Landfill Groundwater Monitoring Well Network was sampled for Appendix III and Appendix IV parameters per the requirements of 40 CFR §257.95(d)(1). Interwell prediction limit statistical analyses were performed for these well/constituent pairs and are discussed subsequently. GWPSs were also developed in accordance with 40 CFR §257.95(h) which describes a GWPS as the higher value between a statistically calculated background concentration for an analyte or the established maximum concentration limit (MCL) or the GWPS criteria for select Appendix IV parameters without an MCL presented in 40 CFR §257.95(h)(2). This letter presents the results of the statistical evaluation of the April 2024 assessment monitoring event for inclusion in the Phase II CCR Landfill Operating Record.

Statistical Evaluation of Phase II CCR Landfill Compliance Monitoring Well Network Evaluation

A review of the interwell prediction limit evaluation was performed to compare the April 2024 concentrations of Appendix III and Appendix IV parameters observed at CCR downgradient compliance monitoring wells MW-5, MW-6, MW-7, and MW-10 to calculated prediction limits (i.e., background limits) that were established using data collected from April of 2016 through April of 2024 from upgradient monitoring well MW-8. Note, any data qualified as rejected or considered an outlier (statistically or flagged using professional judgement) during the data review were excluded from the statistical analysis. Certain parameters were detected in April 2024 at concentrations above the calculated background limits (equivalent to the MW-8 prediction limits), and a summary is included in **Attachment 1**. This included the following well/constituent pairs for downgradient compliance monitoring wells with statistically significant increases (SSIs) above calculated background limits:

Appendix III Parameters:
- Boron (MW-5, MW-6, MW-7, and MW-10)
- Calcium (MW-5, MW-6, MW-7, and MW-10)
- Chloride (MW-5, MW-6, MW-7, and MW-10)
- Sulfate (MW-5, MW-6, and MW-7)
- Total Dissolved Solids (TDS) (MW-5, MW-6, and MW-10)

Appendix IV Parameters:
- Cobalt (MW-10)
- Lithium (MW-5, MW-6 and MW-7)

Results of exceedances of background were generally consistent with the October 2023 statistical results. The reported April 2024 SSIs for calcium (MW-7), and sulfate (MW-5 and MW-7) were not present in October 2023. Additionally, sulfate (MW-10) and TDS (MW-7) SSIs were present in October 2023, but were not present in this event. All other above-noted Appendix III and Appendix IV SSIs continue to occur to at downgradient compliance monitoring wells in the April 2024 statistical analysis.

The Appendix IV constituents with SSIs (cobalt and lithium) were further evaluated to determine whether they are present at statistically significant levels (SSLs) over the GWPS by calculating the lower confidence limit (LCL) at 95% confidence for each well and constituent using the

Baseline, Detection, and Assessment monitoring results collected to date from each monitoring well.
For a constituent to be present at an SSL over the GWPS, its LCL must be greater than the GWPS. The comparison of the calculated LCLs with the GWPSs for cobalt and lithium at downgradient compliance monitoring wells MW-5, MW-6, MW-7, and MW-10 resulted in the following well/constituent pairs with SSLs above the GWPS:

- Cobalt (MW-10)

The LCLs for the remaining well/constituent pairs for cobalt and lithium were either at or less than the GWPS and thus are not considered SSLs. **Attachment 1** provides a summary of the calculated LCLs in comparison with the GWPSs. Results of SSLs above the GWPSs were generally consistent with 2023 result as cobalt (MW-10) was reported as SSLs in both the April and October 2023 events. Lithium (MW-6) was reported as an SSL in both 2023 events; however, it was not present as an SSL in this event (LCL was equal to the GWPS).

Given that certain Appendix III and IV constituents were observed within the Phase II CCR Landfill groundwater monitoring network at concentrations above their respective calculated background limit and/or the LCL for certain Appendix IV constituents was greater than the corresponding GWPSs, these results do not warrant a transition to detection monitoring per the requirements of 40 CFR §257.95(f) and assessment monitoring will continue for the next second half semiannual monitoring event in 2024

Sincerely,

Burns & McDonnell Engineering Company, Inc.

Chris Hoglund, PG
Project Manager

Attachments:

Table 1 – Calculated Background and Groundwater Protection Standards for Groundwater
Table 2 – Summary of April 2024 Analytical Results

Attachment 1 – Sanitas™ Statistical Outputs for Phase II CCR Landfill Compliance Monitoring Network

cc: Diana Merritt, BREC Wilson Station

TABLES

Table 1
Calculated Background and Groundwater Protection Standards for Groundwater
D.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky

Detection Monitoring Constituents (Appendix III)	Units	Background*	MCL	40 CFR §257.95(h)(2) Criteria	Groundwater Protection Standard
Boron	mg/L	0.0518	--	--	--
Calcium	mg/L	349	--	--	--
pH	SU	4.67 - 6.84	--	--	--
Total Dissolved Solids	mg/L	1849	--	--	--
Chloride	mg/L	5.584	--	--	--
Fluoride	mg/L	1.21	4	--	4
Sulfate	mg/L	2180	--	--	--
Assessment Monitoring Constituents (Appendix IV)	**Units**	**Background***	**MCL**	**40 CFR §257.95(h)(2) Criteria**	**Groundwater Protection Standard**
Antimony	mg/L	0.0025	0.006	--	0.006
Arsenic	mg/L	0.0144	0.01	--	0.0144
Barium	mg/L	0.07	2	--	2
Beryllium	mg/L	0.002	0.004	--	0.004
Cadmium	mg/L	0.0005	0.005	--	0.005
Chromium	mg/L	0.0224	0.1	--	0.1
Cobalt	mg/L	0.009	--	0.006	0.009
Fluoride	mg/L	1.21	4	--	4
Lead	mg/L	0.012	--	0.015	0.015
Lithium	mg/L	0.02	--	0.04	0.04
Mercury	mg/L	0.000005	0.002	--	0.002
Molybdenum	mg/L	0.0187	--	0.1	0.1
Combined Radium 226 and 228**	pCi/L	2.94	5	--	5
Selenium	mg/L	0.0015	0.05	--	0.05
Thallium	mg/L	0.001	0.002	--	0.002

Notes:

*Background concentrations were determined utilizing interwell prediction limits (Attachment 1). Upgradient Monitoring Well MW-8 was used to calculate background concentrations. This included background data ranging from April 2016 through April 2024. For pH, background is between those values presented.

**Combined radium is reported with an uncertainty range. However, this range cannot be incorporated into statistical calculations as it varies per result and is not a standard value. Therefore, to maintain consistency in reporting these results, the reported laboratory concentration was used for the statistical analyses.

CFR - Code of Federal Regulations

MCL - Maximum Contaminant Level

mg/L - milligrams per Liter

pCi/L - picocuries per Liter

SU - standard units

Table 2
Summary of April 2024 Analytical Results
D.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky

		Sample Location:			**MW-5**	**MW-6**	**MW-7**	**MW-8**	**MW-10**
		Sample Date:	**Calculated Background[1]**	**GWPS[2]**	**4/17/2024**	**4/16/2024**	**4/16/2024**	**4/16/2024**	**4/16/2024**
		Laboratory ID(s):			**4042964-11**	**4042964-13**	**4042964-15**	**4042964-17**	**4042964-19**
		All analytes excl. Radium/Radium only Note(s):			**Downgradient**	**Downgradient**	**Downgradient**	**Upgradient Well**	**Downgradient**
Analytical Method	**Analyte**	**Unit**			**CCR Compliance Monitoring Well Network**				
Appendix III - Detection Monitoring									
6010B	Boron	mg/L	0.0518	--	**0.86** M1, M2	**1.37** D1	**5.23** D1	**0.10** U	**0.35**
6010B	Calcium	mg/L	349	--	**642** D1, M3	**525** D1	**453** D1	218 D1	**410** D1
In Situ	pH	SU	4.67 - 6.84	--	6.30	6.67	6.79	6.30	5.89
2540 C-2015	Total Dissolved Solids	mg/L	1849	--	**3320** Y1	**2520**	1760 J H2	1270	**2540**
300.0 REV 2.1	Chloride	mg/L	5.584	--	**764** J- D, M2	**56.5**	**389** D	5.0	**61.5**
300.0 REV 2.1	Fluoride	mg/L	1.21	4	0.18 J- M2, Y5, U	0.23	0.25	0.29	0.18 U
300.0 REV 2.1	Sulfate	mg/L	2180	--	**4520** D, M2	**4420** D	**3400** D	1800 D	2090 A-01,D
Appendix IV - Assessment Monitoring									
6020A	Antimony	mg/L	0.0025	0.006	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
6020A	Arsenic	mg/L	0.0144	0.0144	0.0030 J+ M1	0.0052	0.0036	0.0039	0.0013
6020A	Barium	mg/L	0.07	2	0.011	0.011	0.014	0.014	0.007
6020A	Beryllium	mg/L	0.002	0.004	0.002 UJ	0.002 U	0.001 U	0.001 U	0.001 U
6020A	Cadmium	mg/L	0.0005	0.005	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 J
6020A	Chromium	mg/L	0.0224	0.1	0.0006 U	0.0006 U	0.0006 U	0.0008 J	0.0006 U
6020A	Cobalt	mg/L	0.009	0.009	0.006	0.006	0.004 U	0.004 U	**0.066**
300.0 REV 2.1	Fluoride	mg/L	1.21	4	0.18 J- M2, Y5, U	0.23	0.25	0.29	0.18 U
6020A	Lead	mg/L	0.012	0.015	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
6020A	Lithium	mg/L	0.02	0.04	**0.04** J- D2	**0.05** D2	**0.04** D2	0.01 D2, J	0.01 D2, J
245.7 REV 2	Mercury	mg/L	0.000005	0.002	0.000005 UJ	0.000005 U	0.000005 U	0.000005 U	0.0000034 J
6020A	Molybdenum	mg/L	0.0187	0.1	0.004 J	0.008 J	0.006 J	0.01	0.002 U
903.1/904.0	Combined Radium 226 and 228[3]	pCi/l	2.94	5	1.37 J	0.945 J	1.08 J	1.18 J	0.298 J
6020A	Selenium	mg/L	0.0015	0.05	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
6020A	Thallium	mg/L	0.001	0.002	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U

Notes

1 - Background concentrations were determined utilizing interwell prediction limits. Upgradient well MW-8 was used to determine these background concentrations. This included data ranging from April 2016 through April 2024. For pH, background is between those values

2 - GWPSs were developed in accordance with §257.95(h).

3 - Combined radium is reported with an associate range. However, this range cannot be incorporated into statistical calculations as it varies per result and is not a standard value. Therefore, to maintain consistency in reporting these results, the reported laboratory concentration was used for the statistical analyses.

Bold - Analyte detected above calculated background concentration.

Parameter was detected in compliance monitoring well located downgradient of the CCR Landfill at a statistically significant level above its GWPS (see Attachment 1 for statistical output).

A-01 - Data invalid due to closing QC requirements not met. CCV/CCB positions swapped.

CCR - coal combustion residuals

D - Results reported from dilution.

D1 - Sample required dilution due to high concentration of target analyte.

D2 - Sample required dilution due to matrix interference.

GWPS - Groundwater Protection Standard

H2 - Initial analysis within holding time. Reanalysis was past holding time.

J - estimated concentration

J- - estimated potential low bias

J+ - estimated potential high bias

MS/MSD - Matrix spike recovery/matrix spike recovery duplicate

M1 - Matrix spike recovery was high; the method control sample recovery was acceptable.

M2 - Matrix spike recovery was low; the method control sample recovery was acceptable.

M3 - The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

mg/L - milligram per liter

pCi/L - picocurie per liter

RPD - Relative percent difference

SU - standard unit

U - Nondetect

UJ - Estimated at the reporting limit

Y1 - Sample RPD exceeded the method control limit.

Y5 - MS/MSD RPD exceeded the method control limit.

ATTACHMENT 1 – SANITAS™ STATISTICAL OUTPUTS FOR PHASE II CCR LANFDILL COMPLIANCE MONITORING NETWORK

Prediction Limit

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile Printed 7/3/2024, 10:25 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-5	0.0025	n/a	4/17/2024	0.0025ND	No	22	63.64	n/a	0.0409	NP Inter (NDs)
Antimony (mg/L)	MW-6	0.0025	n/a	4/16/2024	0.0025ND	No	22	63.64	n/a	0.0409	NP Inter (NDs)
Antimony (mg/L)	MW-7	0.0025	n/a	4/16/2024	0.0025ND	No	22	63.64	n/a	0.0409	NP Inter (NDs)
Antimony (mg/L)	MW-10	0.0025	n/a	4/16/2024	0.0025ND	No	22	63.64	n/a	0.0409	NP Inter (NDs)
Arsenic (ug/L)	MW-5	14.4	n/a	4/17/2024	3	No	22	0	n/a	0.0409	NP Inter (normality)
Arsenic (ug/L)	MW-6	14.4	n/a	4/16/2024	5.2	No	22	0	n/a	0.0409	NP Inter (normality)
Arsenic (ug/L)	MW-7	14.4	n/a	4/16/2024	3.6	No	22	0	n/a	0.0409	NP Inter (normality)
Arsenic (ug/L)	MW-10	14.4	n/a	4/16/2024	1.3	No	22	0	n/a	0.0409	NP Inter (normality)
Barium (ug/L)	MW-5	70	n/a	4/17/2024	11	No	21	0	n/a	0.04265	NP Inter (normality)
Barium (ug/L)	MW-6	70	n/a	4/16/2024	11	No	21	0	n/a	0.04265	NP Inter (normality)
Barium (ug/L)	MW-7	70	n/a	4/16/2024	14	No	21	0	n/a	0.04265	NP Inter (normality)
Barium (ug/L)	MW-10	70	n/a	4/16/2024	7	No	21	0	n/a	0.04265	NP Inter (normality)
Beryllium (ug/L)	MW-5	2	n/a	4/17/2024	1ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Beryllium (ug/L)	MW-6	2	n/a	4/16/2024	1ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Beryllium (ug/L)	MW-7	2	n/a	4/16/2024	1ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Beryllium (ug/L)	MW-10	2	n/a	4/16/2024	1ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Boron (ug/L)	**MW-5**	**51.8**	**n/a**	**4/17/2024**	**860**	**Yes**	**23**	**52.17**	**n/a**	**0.03929**	**NP Inter (NDs)**
Boron (ug/L)	**MW-6**	**51.8**	**n/a**	**4/16/2024**	**1370**	**Yes**	**23**	**52.17**	**n/a**	**0.03929**	**NP Inter (NDs)**
Boron (ug/L)	**MW-7**	**51.8**	**n/a**	**4/16/2024**	**5230**	**Yes**	**23**	**52.17**	**n/a**	**0.03929**	**NP Inter (NDs)**
Boron (ug/L)	**MW-10**	**51.8**	**n/a**	**4/16/2024**	**350**	**Yes**	**23**	**52.17**	**n/a**	**0.03929**	**NP Inter (NDs)**
Cadmium (ug/L)	MW-5	0.5	n/a	4/17/2024	0.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Cadmium (ug/L)	MW-6	0.5	n/a	4/16/2024	0.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Cadmium (ug/L)	MW-7	0.5	n/a	4/16/2024	0.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Cadmium (ug/L)	MW-10	0.5	n/a	4/16/2024	0.1J	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Calcium (ug/L)	**MW-5**	**349000**	**n/a**	**4/17/2024**	**642000**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Calcium (ug/L)	**MW-6**	**349000**	**n/a**	**4/16/2024**	**525000**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Calcium (ug/L)	**MW-7**	**349000**	**n/a**	**4/16/2024**	**453000**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Calcium (ug/L)	**MW-10**	**349000**	**n/a**	**4/16/2024**	**410000**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Chloride (mg/L)	**MW-5**	**5.584**	**n/a**	**4/17/2024**	**764**	**Yes**	**23**	**0**	**No**	**0.01**	**Param Inter**
Chloride (mg/L)	**MW-6**	**5.584**	**n/a**	**4/16/2024**	**56.5**	**Yes**	**23**	**0**	**No**	**0.01**	**Param Inter**
Chloride (mg/L)	**MW-7**	**5.584**	**n/a**	**4/16/2024**	**389**	**Yes**	**23**	**0**	**No**	**0.01**	**Param Inter**
Chloride (mg/L)	**MW-10**	**5.584**	**n/a**	**4/16/2024**	**61.5**	**Yes**	**23**	**0**	**No**	**0.01**	**Param Inter**
Chromium (ug/L)	MW-5	22.4	n/a	4/17/2024	0.3ND	No	22	31.82	n/a	0.0409	NP Inter (normality)
Chromium (ug/L)	MW-6	22.4	n/a	4/16/2024	0.3ND	No	22	31.82	n/a	0.0409	NP Inter (normality)
Chromium (ug/L)	MW-7	22.4	n/a	4/16/2024	0.3ND	No	22	31.82	n/a	0.0409	NP Inter (normality)
Chromium (ug/L)	MW-10	22.4	n/a	4/16/2024	0.3ND	No	22	31.82	n/a	0.0409	NP Inter (normality)
Cobalt (ug/L)	MW-5	9	n/a	4/17/2024	6	No	21	47.62	n/a	0.04265	NP Inter (normality)
Cobalt (ug/L)	MW-6	9	n/a	4/16/2024	6	No	21	47.62	n/a	0.04265	NP Inter (normality)
Cobalt (ug/L)	MW-7	9	n/a	4/16/2024	2ND	No	21	47.62	n/a	0.04265	NP Inter (normality)
Cobalt (ug/L)	**MW-10**	**9**	**n/a**	**4/16/2024**	**66**	**Yes**	**21**	**47.62**	**n/a**	**0.04265**	**NP Inter (normality)**
Fluoride (mg/L)	MW-5	1.21	n/a	4/17/2024	1ND	No	23	8.696	n/a	0.03929	NP Inter (normality)
Fluoride (mg/L)	MW-6	1.21	n/a	4/16/2024	0.23	No	23	8.696	n/a	0.03929	NP Inter (normality)
Fluoride (mg/L)	MW-7	1.21	n/a	4/16/2024	0.25	No	23	8.696	n/a	0.03929	NP Inter (normality)
Fluoride (mg/L)	MW-10	1.21	n/a	4/16/2024	1ND	No	23	8.696	n/a	0.03929	NP Inter (normality)
Lead (ug/L)	MW-5	12	n/a	4/17/2024	1ND	No	22	68.18	n/a	0.0409	NP Inter (NDs)
Lead (ug/L)	MW-6	12	n/a	4/16/2024	1ND	No	22	68.18	n/a	0.0409	NP Inter (NDs)
Lead (ug/L)	MW-7	12	n/a	4/16/2024	1ND	No	22	68.18	n/a	0.0409	NP Inter (NDs)
Lead (ug/L)	MW-10	12	n/a	4/16/2024	1ND	No	22	68.18	n/a	0.0409	NP Inter (NDs)
Lithium (ug/L)	**MW-5**	**20**	**n/a**	**4/17/2024**	**40**	**Yes**	**22**	**18.18**	**n/a**	**0.0409**	**NP Inter (Cohens/xform)**
Lithium (ug/L)	**MW-6**	**20**	**n/a**	**4/16/2024**	**50**	**Yes**	**22**	**18.18**	**n/a**	**0.0409**	**NP Inter (Cohens/xform)**

Prediction Limit

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile Printed 7/3/2024, 10:25 AM

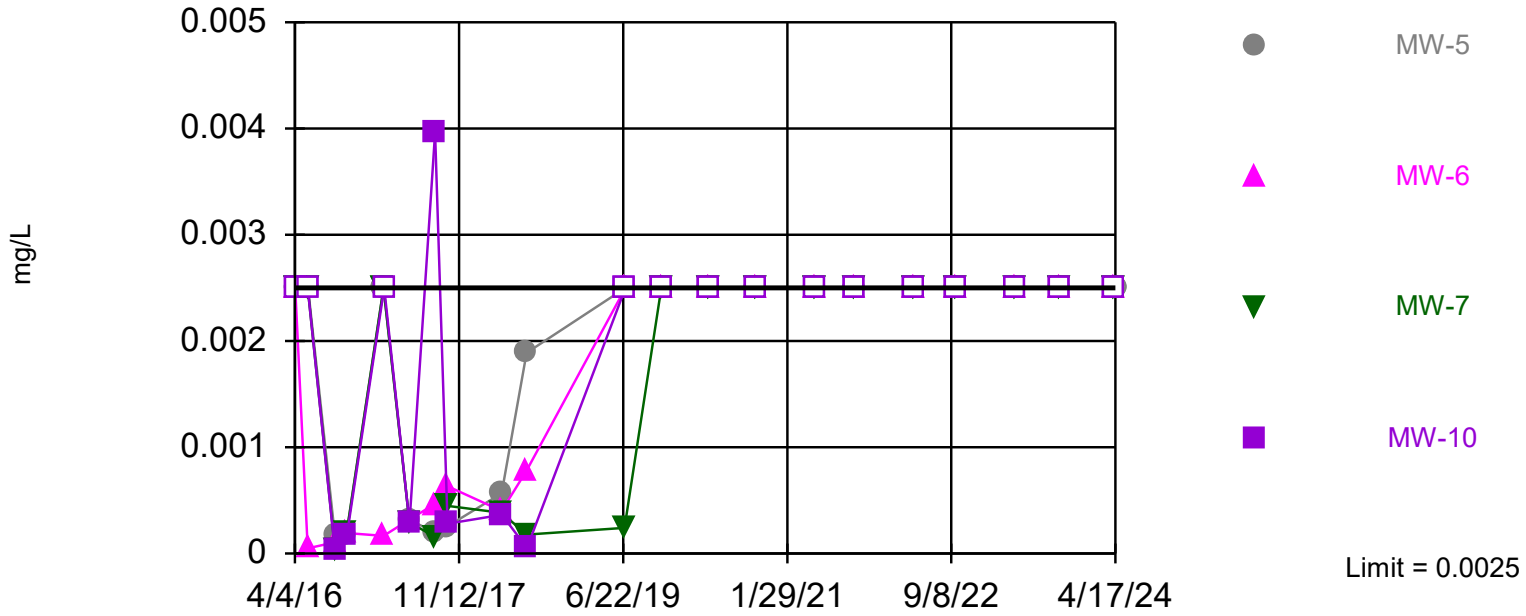
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Lithium (ug/L)	**MW-7**	**20**	**n/a**	**4/16/2024**	**40**	**Yes**	**22**	**18.18**	**n/a**	**0.0409**	**NP Inter (Cohens/xform)**
Lithium (ug/L)	MW-10	20	n/a	4/16/2024	10J	No	22	18.18	n/a	0.0409	NP Inter (Cohens/xform)
Mercury (ug/L)	MW-5	0.005	n/a	4/17/2024	0.0025ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Mercury (ug/L)	MW-6	0.005	n/a	4/16/2024	0.0025ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Mercury (ug/L)	MW-7	0.005	n/a	4/16/2024	0.0025ND	No	21	100	n/a	0.04265	NP Inter (NDs)
Mercury (ug/L)	MW-10	0.005	n/a	4/16/2024	0.0034J	No	21	100	n/a	0.04265	NP Inter (NDs)
Molybdenum (ug/L)	MW-5	18.7	n/a	4/17/2024	4J	No	22	0	n/a	0.0409	NP Inter (normality)
Molybdenum (ug/L)	MW-6	18.7	n/a	4/16/2024	8J	No	22	0	n/a	0.0409	NP Inter (normality)
Molybdenum (ug/L)	MW-7	18.7	n/a	4/16/2024	6J	No	22	0	n/a	0.0409	NP Inter (normality)
Molybdenum (ug/L)	MW-10	18.7	n/a	4/16/2024	5ND	No	22	0	n/a	0.0409	NP Inter (normality)
pH (SU)	MW-5	6.84	4.67	4/17/2024	6.3	No	22	0	n/a	0.08181	NP Inter (normality)
pH (SU)	MW-6	6.84	4.67	4/16/2024	6.67	No	22	0	n/a	0.08181	NP Inter (normality)
pH (SU)	MW-7	6.84	4.67	4/16/2024	6.79	No	22	0	n/a	0.08181	NP Inter (normality)
pH (SU)	MW-10	6.84	4.67	4/17/2024	5.89	No	22	0	n/a	0.08181	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-5	2.94	n/a	4/17/2024	1.37	No	21	0	n/a	0.04265	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-6	2.94	n/a	4/16/2024	0.945	No	21	0	n/a	0.04265	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-7	2.94	n/a	4/16/2024	1.08	No	21	0	n/a	0.04265	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-10	2.94	n/a	4/16/2024	0.298	No	21	0	n/a	0.04265	NP Inter (normality)
Selenium (ug/L)	MW-5	1.5	n/a	4/17/2024	1.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Selenium (ug/L)	MW-6	1.5	n/a	4/16/2024	1.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Selenium (ug/L)	MW-7	1.5	n/a	4/16/2024	1.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Selenium (ug/L)	MW-10	1.5	n/a	4/16/2024	1.5ND	No	21	90.48	n/a	0.04265	NP Inter (NDs)
Sulfate (mg/L)	**MW-5**	**2180**	**n/a**	**4/17/2024**	**4520**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Sulfate (mg/L)	**MW-6**	**2180**	**n/a**	**4/16/2024**	**4420**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Sulfate (mg/L)	**MW-7**	**2180**	**n/a**	**4/16/2024**	**3400**	**Yes**	**23**	**0**	**n/a**	**0.03929**	**NP Inter (normality)**
Sulfate (mg/L)	MW-10	2180	n/a	4/16/2024	0.5ND	No	23	0	n/a	0.03929	NP Inter (normality)
Thallium (ug/L)	MW-5	1	n/a	4/17/2024	1ND	No	22	86.36	n/a	0.0409	NP Inter (NDs)
Thallium (ug/L)	MW-6	1	n/a	4/16/2024	1ND	No	22	86.36	n/a	0.0409	NP Inter (NDs)
Thallium (ug/L)	MW-7	1	n/a	4/16/2024	1ND	No	22	86.36	n/a	0.0409	NP Inter (NDs)
Thallium (ug/L)	MW-10	1	n/a	4/16/2024	1ND	No	22	86.36	n/a	0.0409	NP Inter (NDs)
Total Dissolved Solids (mg/L)	**MW-5**	**1849**	**n/a**	**4/17/2024**	**3320**	**Yes**	**23**	**0**	**x^2**	**0.01**	**Param Inter**
Total Dissolved Solids (mg/L)	**MW-6**	**1849**	**n/a**	**4/16/2024**	**2520**	**Yes**	**23**	**0**	**x^2**	**0.01**	**Param Inter**
Total Dissolved Solids (mg/L)	MW-7	1849	n/a	4/16/2024	1760	No	23	0	x^2	0.01	Param Inter
Total Dissolved Solids (mg/L)	**MW-10**	**1849**	**n/a**	**4/16/2024**	**2540**	**Yes**	**23**	**0**	**x^2**	**0.01**	**Param Inter**

Hollow symbols indicate censored values.

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 22 background values. 63.64% NDs. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Antimony Analysis Run 7/3/2024 10:24 AM View: BREC Wilson GW

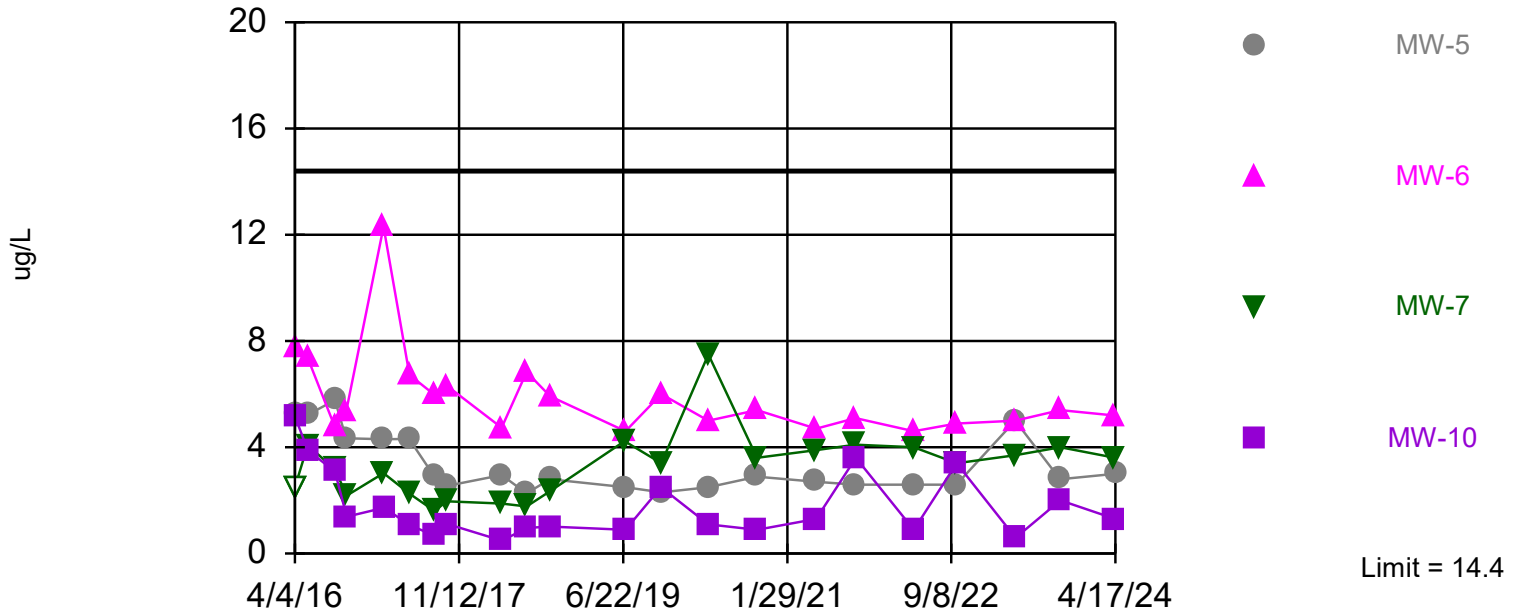
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

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 0.05 alpha level. Limit is highest of 22 background values. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

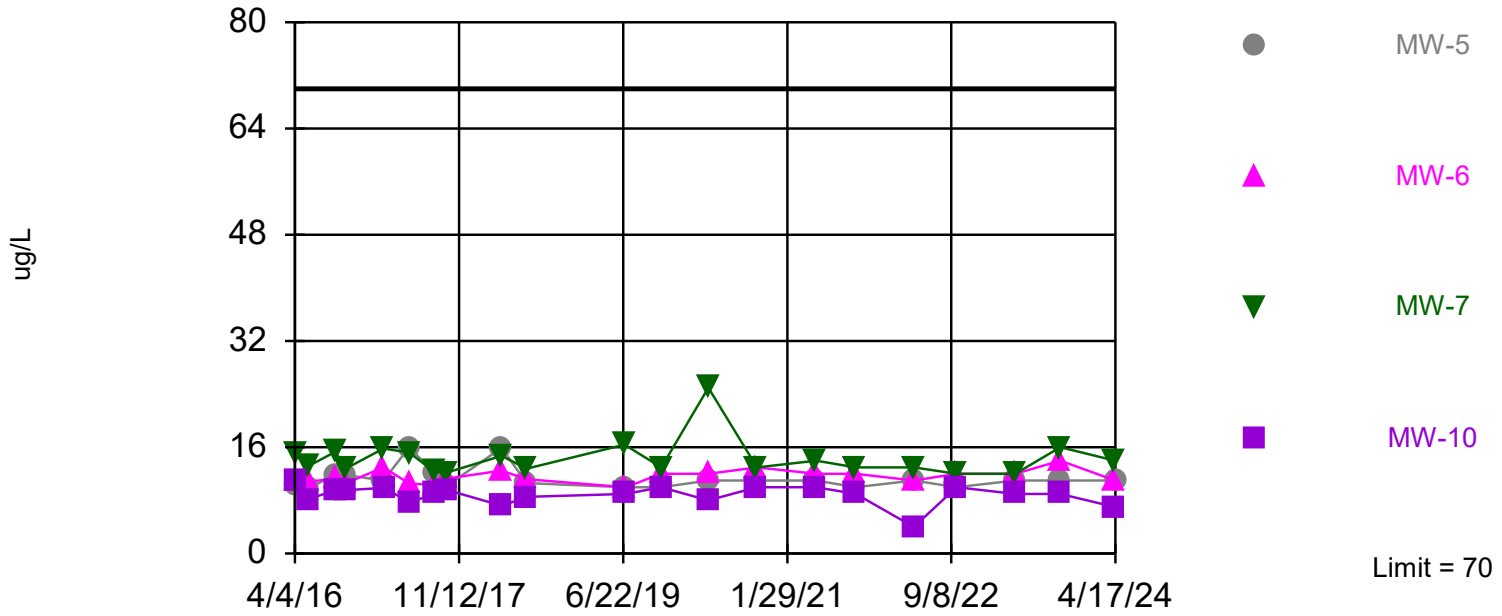
Constituent: Arsenic Analysis Run 7/3/2024 10:24 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Within Limit

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 0.05 alpha level. Limit is highest of 21 background values. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Barium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

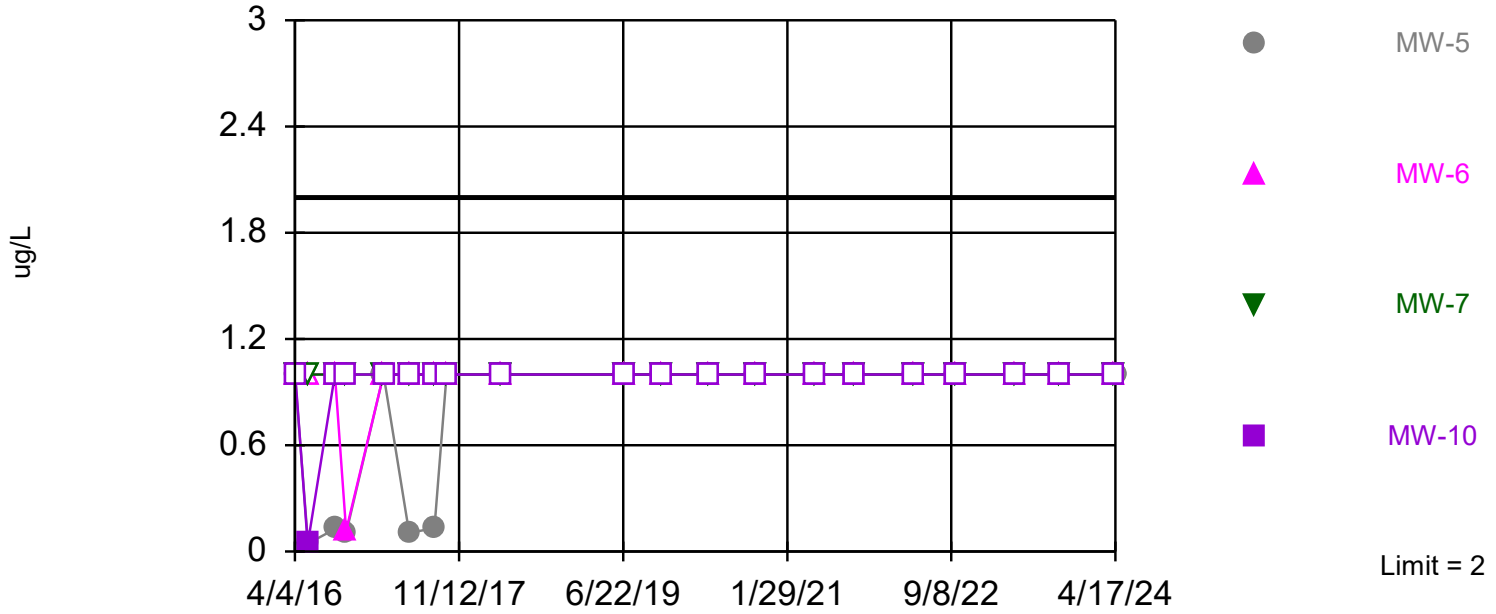
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 21) were censored; limit is most recent reporting limit. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Beryllium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

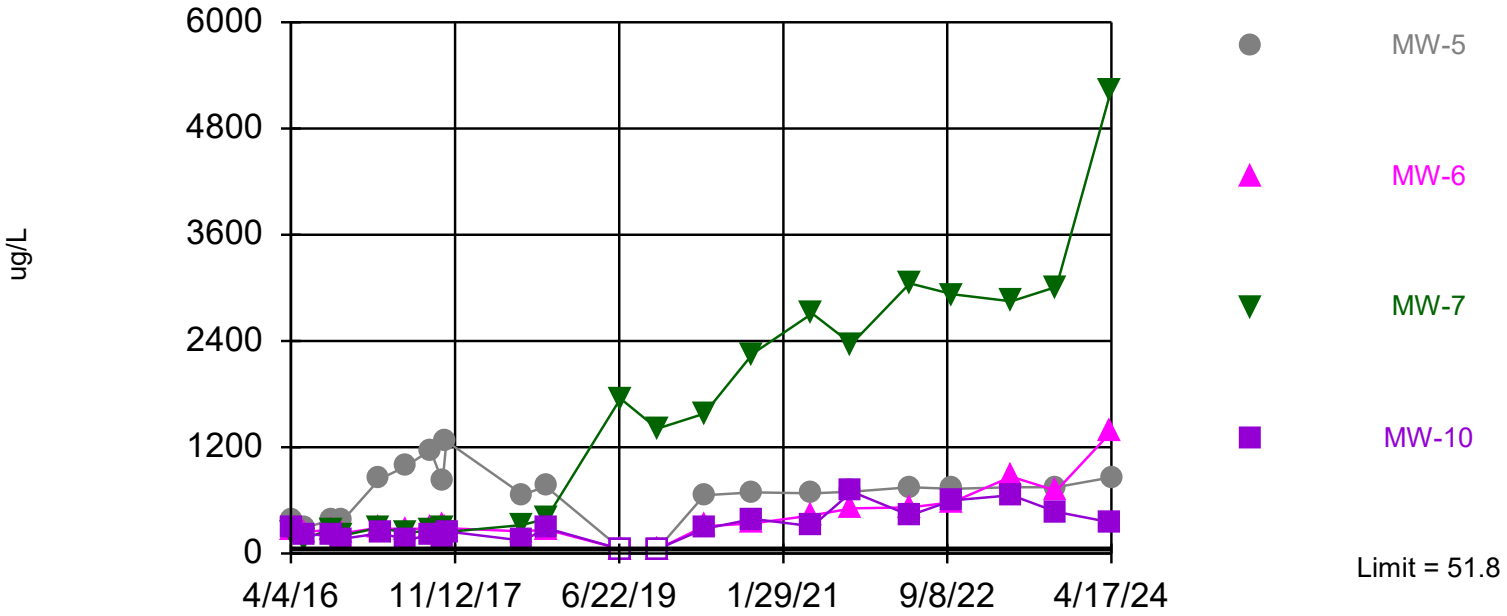
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Exceeds Limit: MW-5, MW-6, MW-7, MW-10

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. 52.17% NDs. Report alpha = 0.1481. Individual comparison alpha = 0.03929. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Boron Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

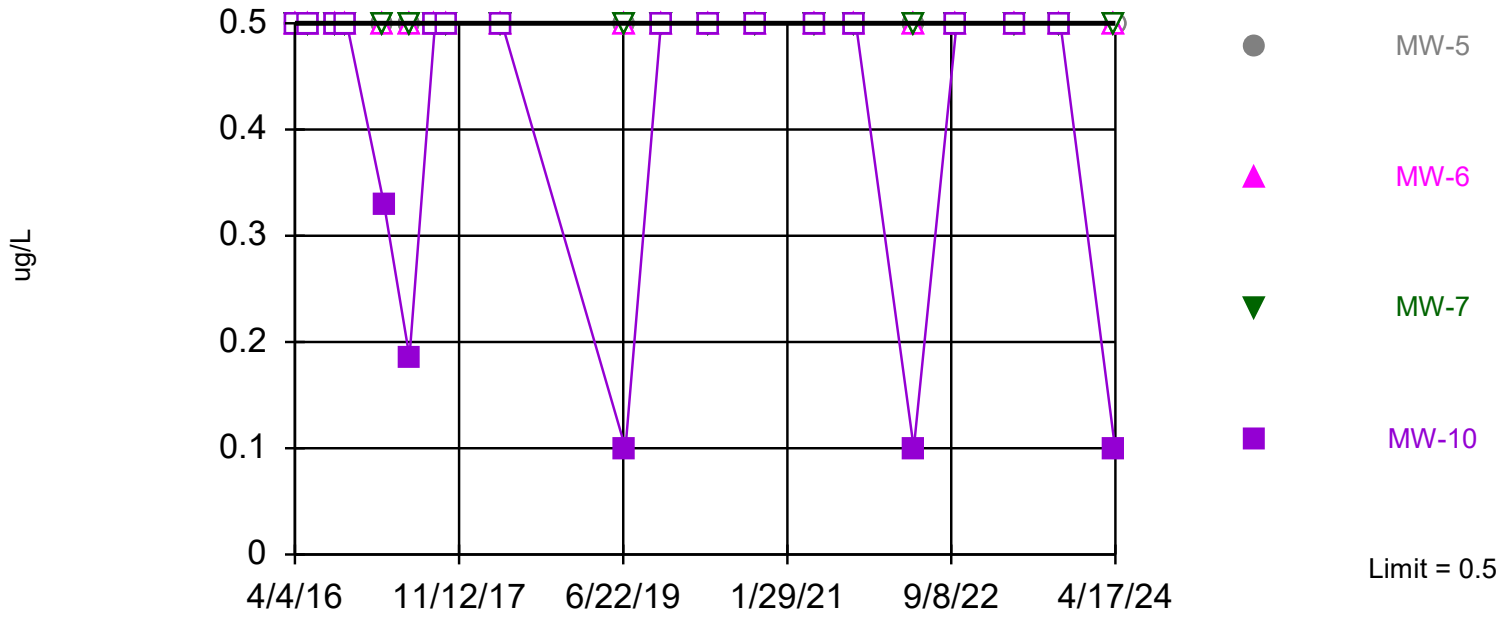
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

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 21 background values. 90.48% NDs. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

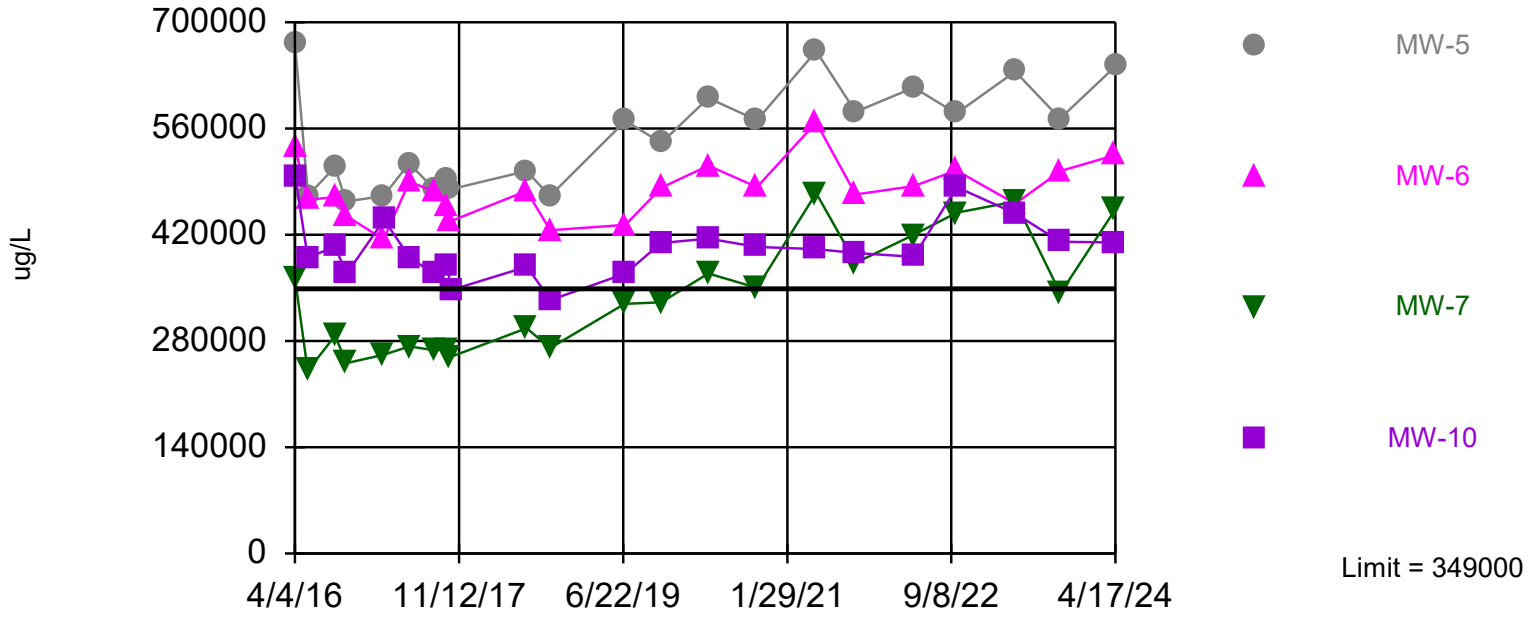
Constituent: Cadmium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Exceeds Limit: MW-5, MW-6, MW-7, MW-10

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 0.05 alpha level. Limit is highest of 23 background values. Report alpha = 0.1481. Individual comparison alpha = 0.03929. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

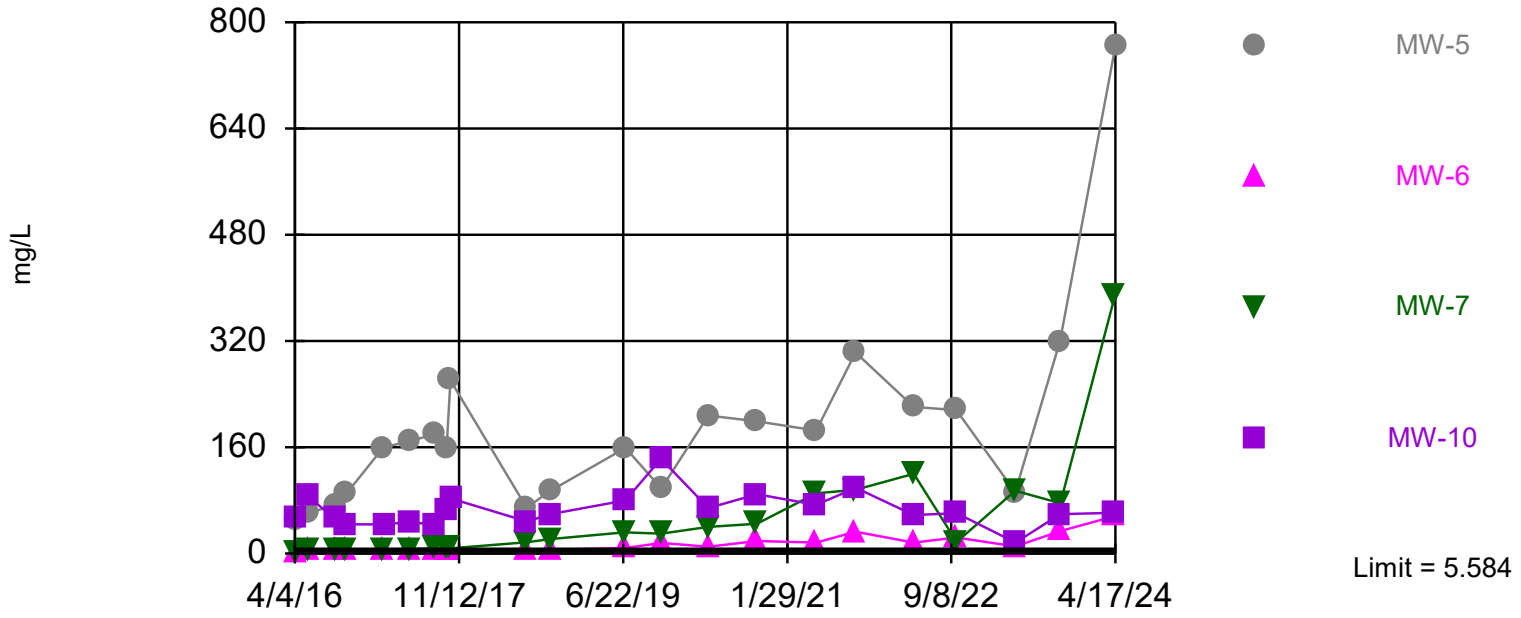
Constituent: Calcium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Exceeds Limit: MW-5, MW-6, MW-7, MW-10

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=4.269, Std. Dev.=0.5135, n=23. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9279, critical = 0.914. Report alpha = 0.0394. Individual comparison alpha = 0.01. Most recent point for each compliance well compared to limit. EPA 1989 outlier screening was performed on the background data. No background outliers were found.

Constituent: Chloride Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

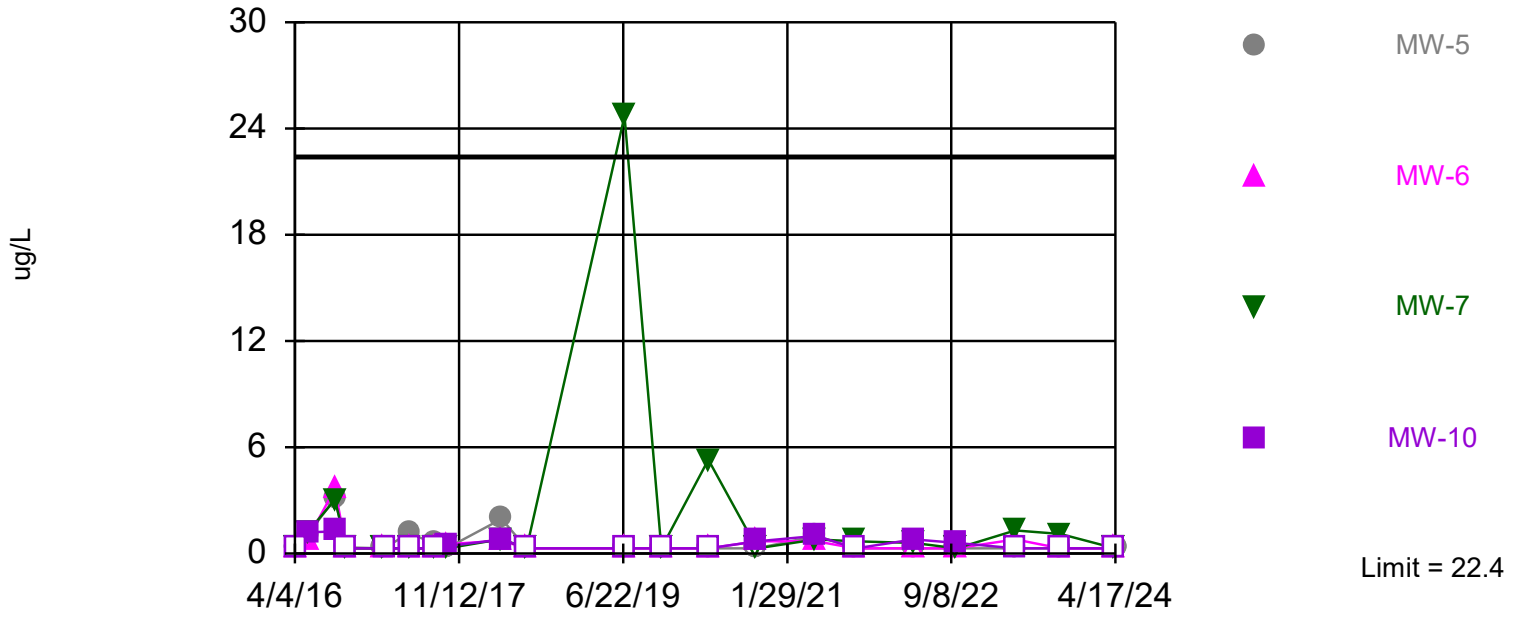
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

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 0.05 alpha level. Limit is highest of 22 background values. 31.82% NDs. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Chromium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

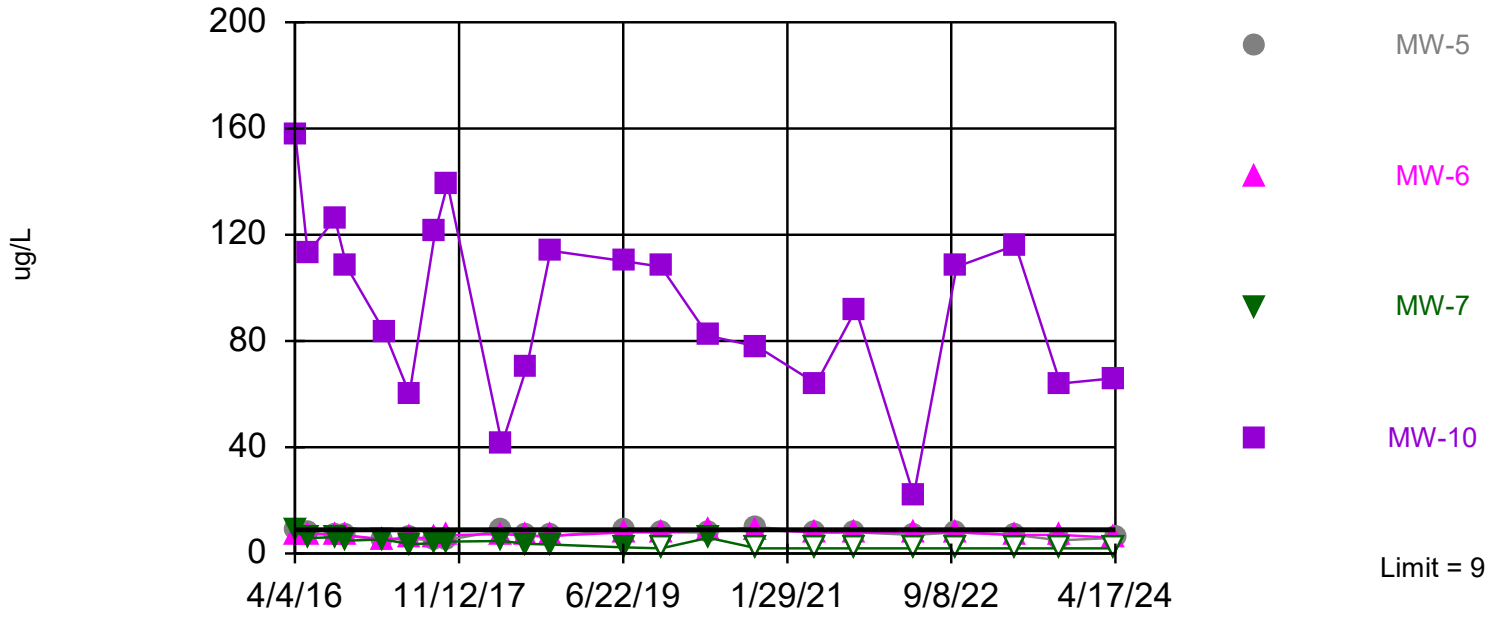
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Exceeds Limit: MW-10

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 0.05 alpha level. Limit is highest of 21 background values. 47.62% NDs. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Cobalt Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

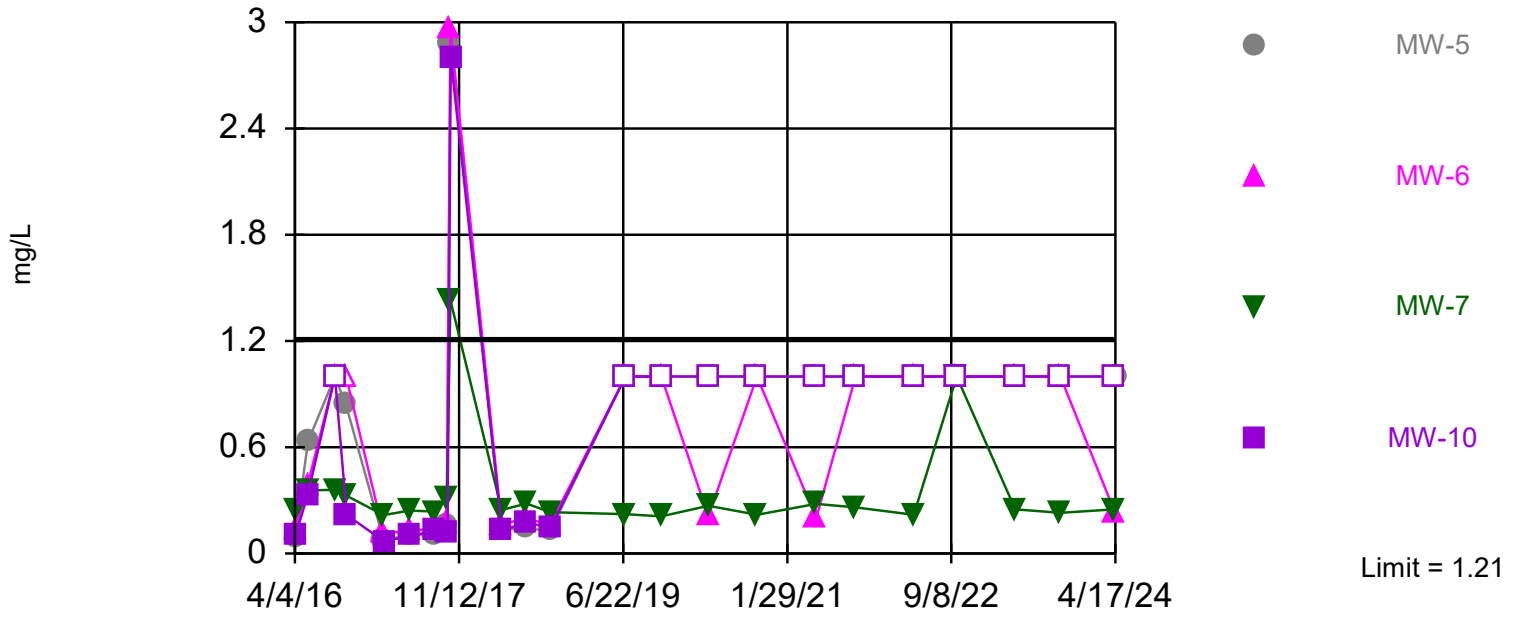
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

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 0.05 alpha level. Limit is highest of 23 background values. 8.696% NDs. Report alpha = 0.1481. Individual comparison alpha = 0.03929. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Fluoride Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

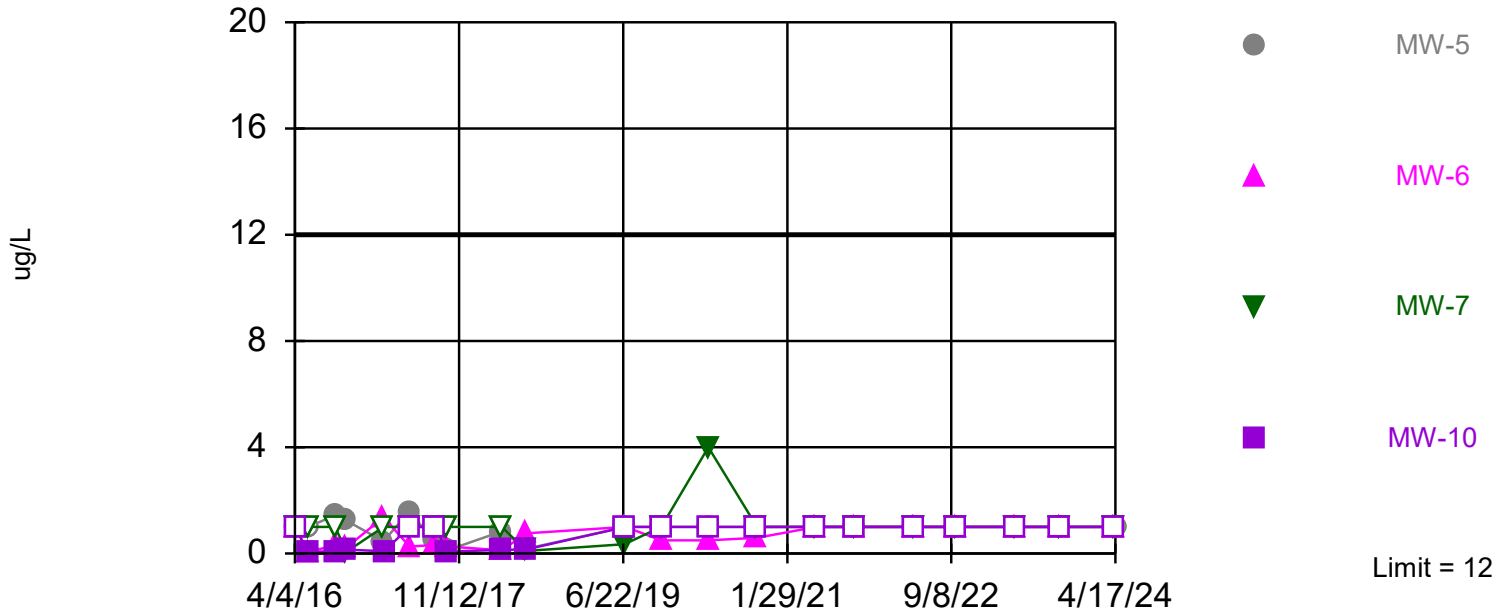
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

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 22 background values. 68.18% NDs. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lead Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

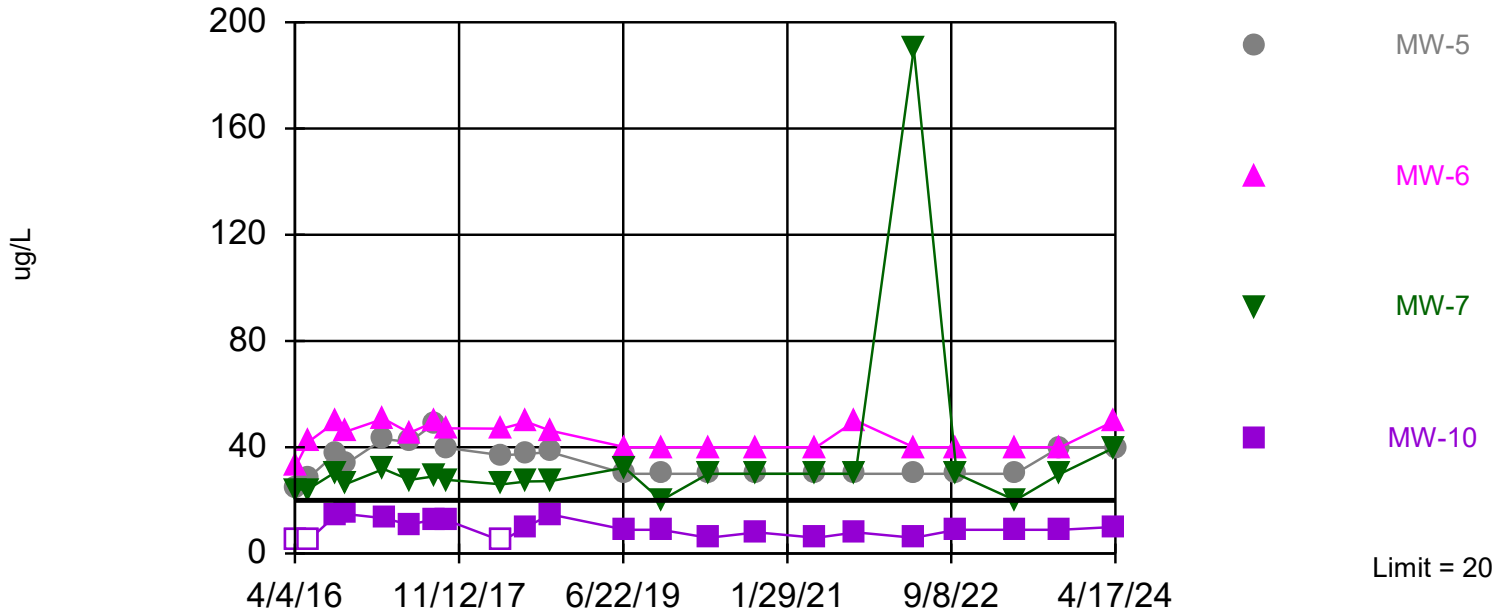
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Exceeds Limit: MW-5, MW-6, MW-7

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the data required both a power transformation and Cohen's adjustment. Limit is highest of 22 background values. 18.18% NDs. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. EPA 1989 outlier screening was performed on the background data. No background outliers were found. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lithium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

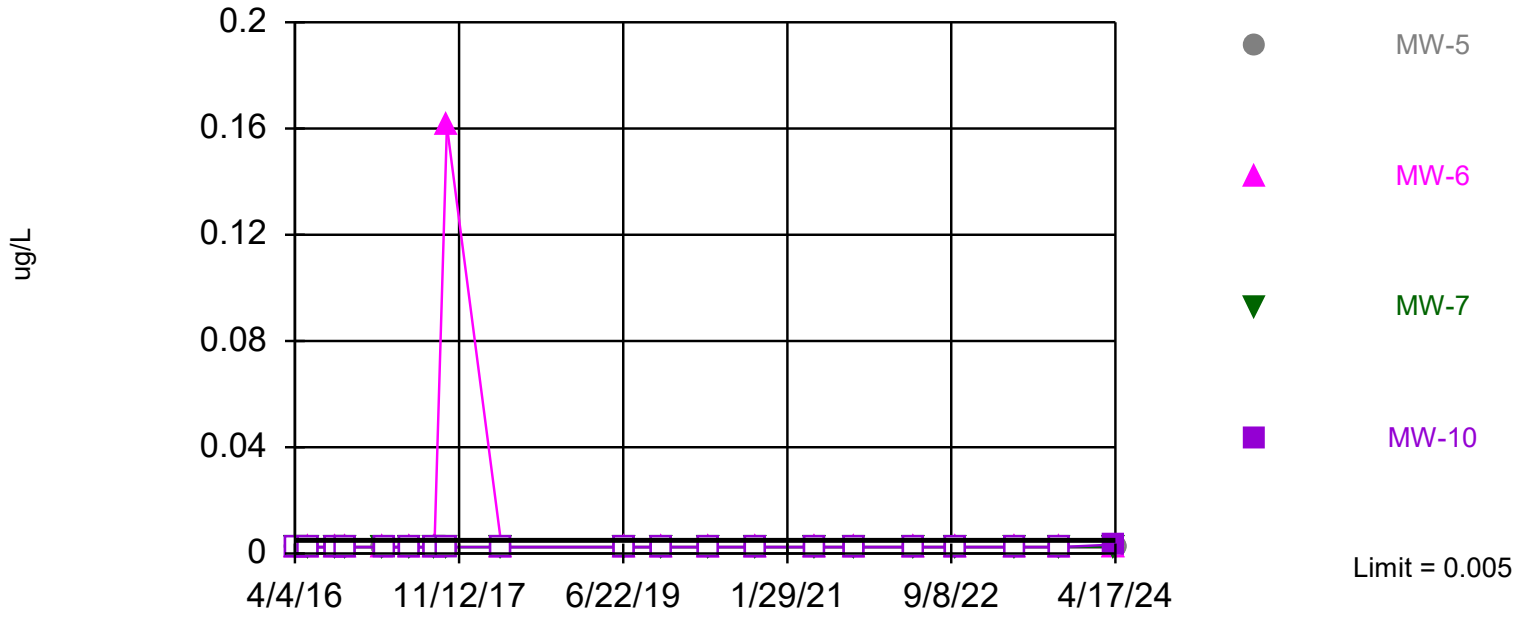
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 21) were censored; limit is most recent reporting limit. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Mercury Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

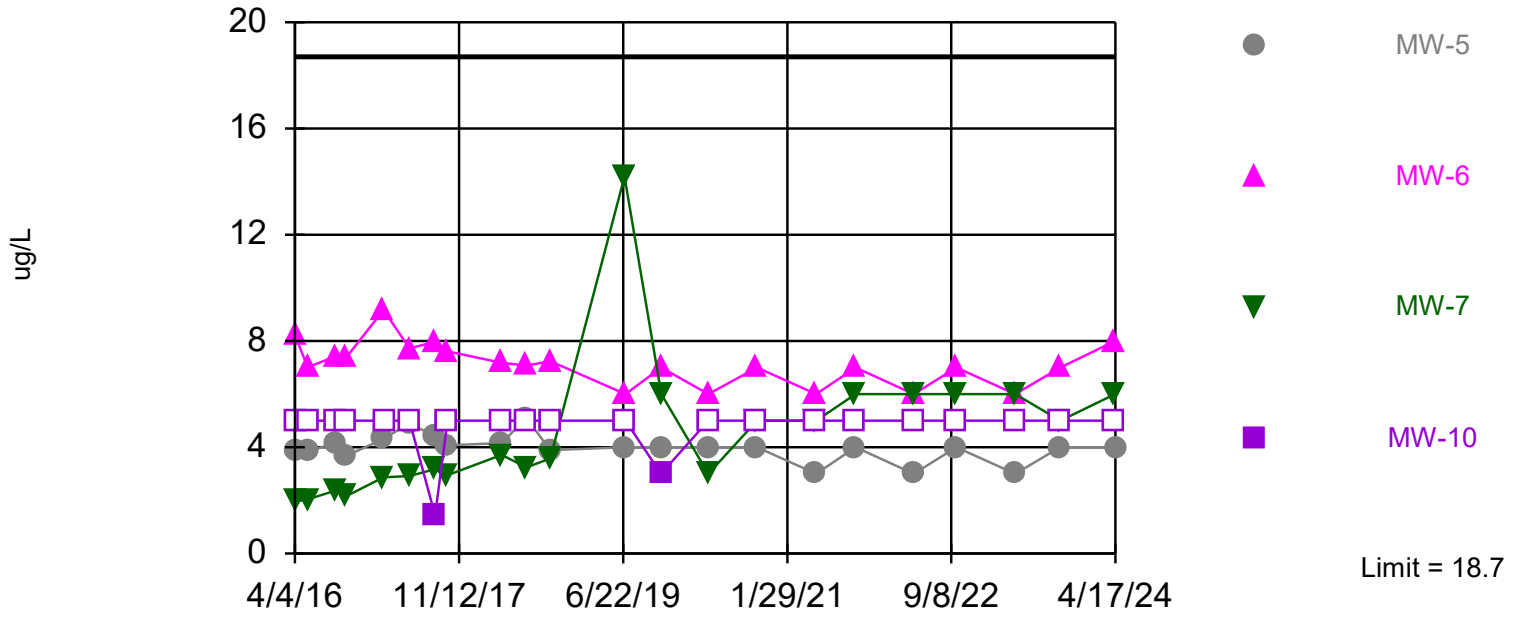
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

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 0.05 alpha level. Limit is highest of 22 background values. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

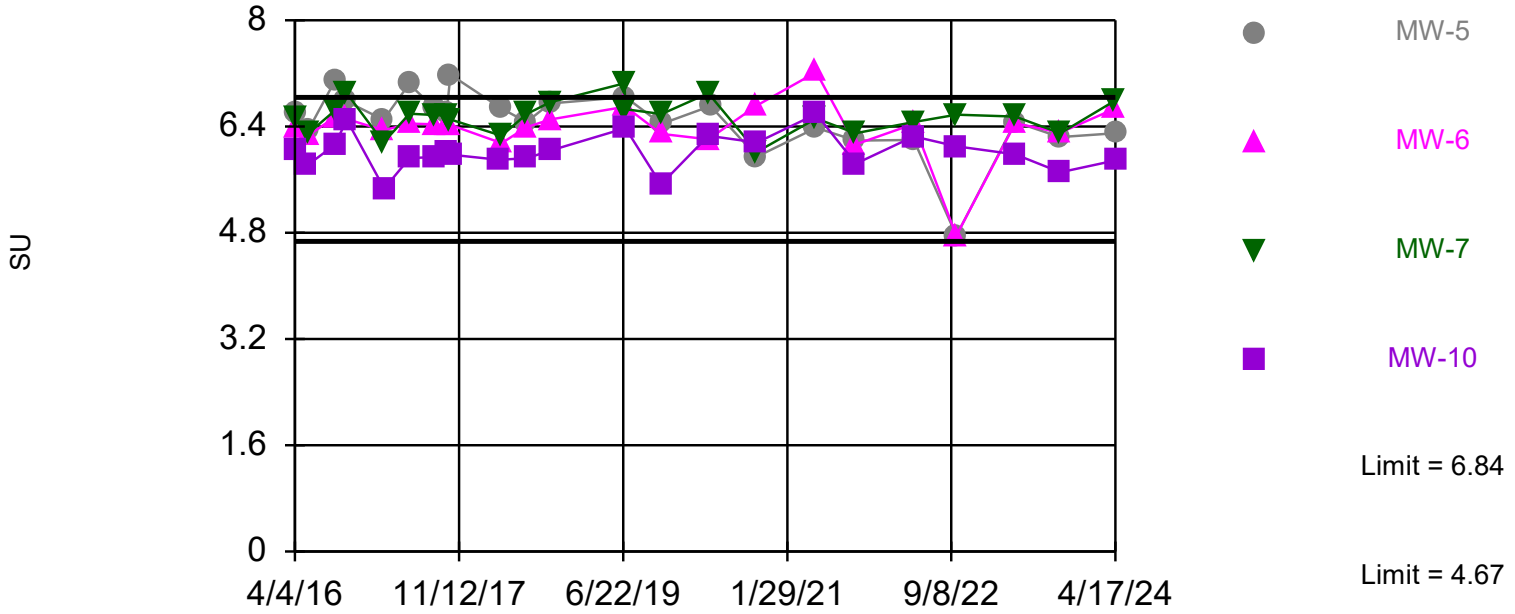
Constituent: Molybdenum Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Within Limits

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 0.05 alpha level. Limits are highest and lowest of 22 background values. Report alpha = 0.3077. Individual comparison alpha = 0.08181. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: pH Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

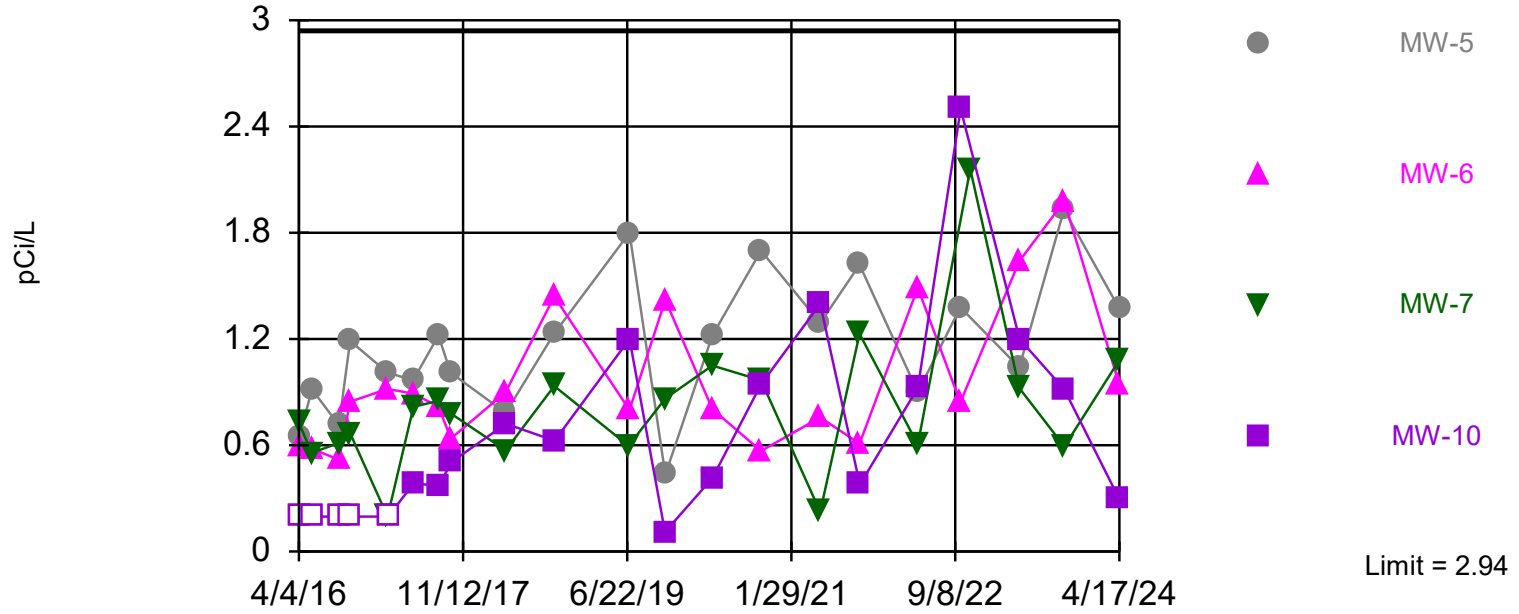
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Within Limit

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 0.05 alpha level. Limit is highest of 21 background values. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Radium 226 + 228 Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

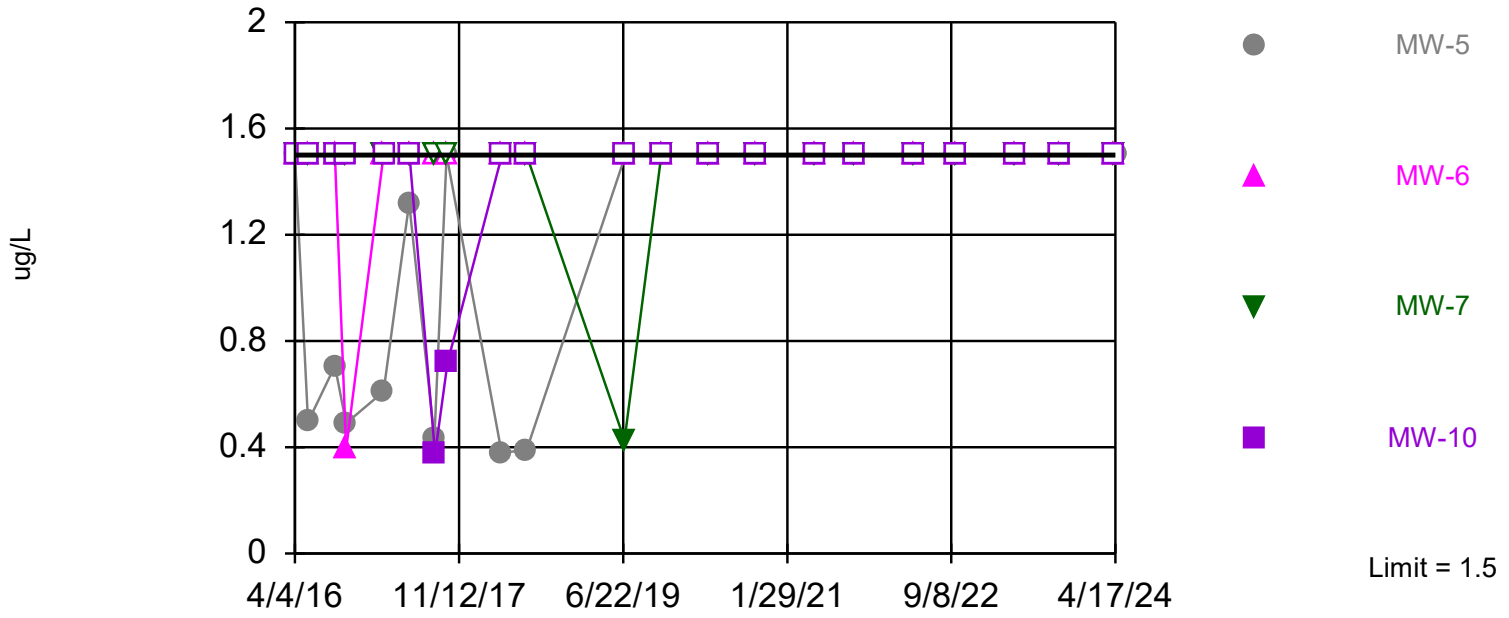
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

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 21 background values. 90.48% NDs. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Selenium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

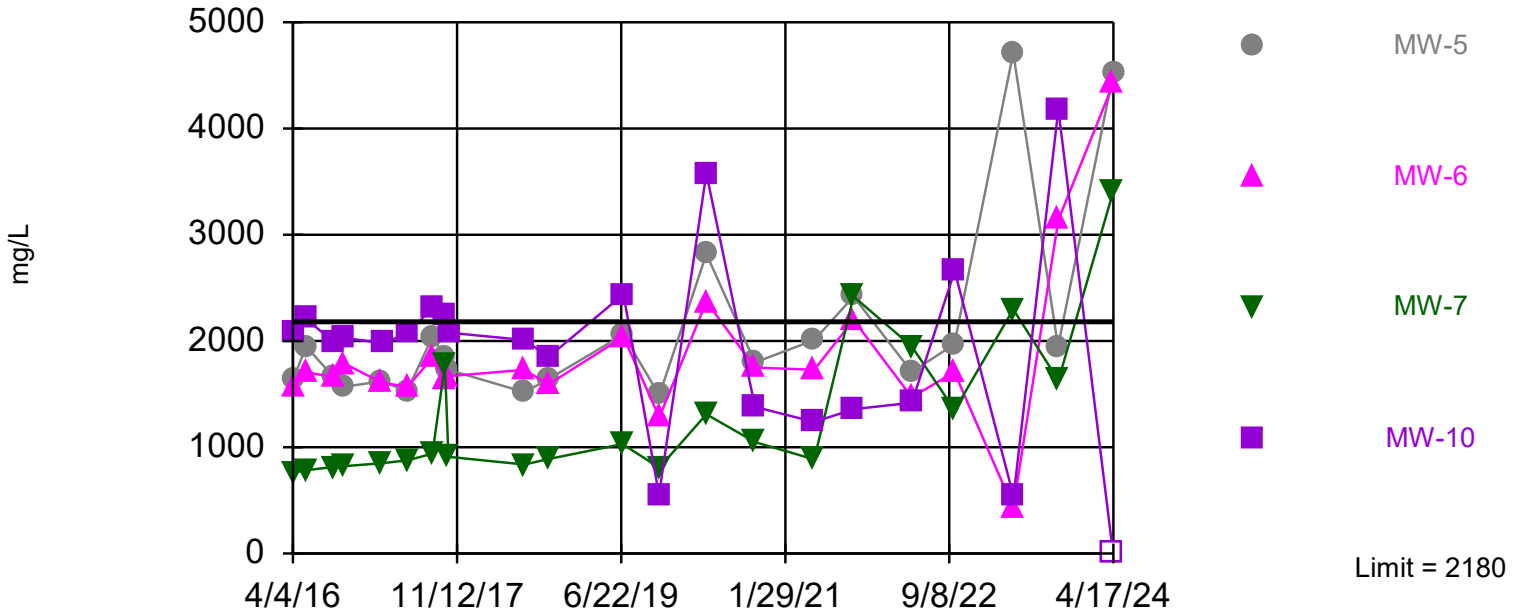
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

Exceeds Limit: MW-5, MW-6, MW-7

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 0.05 alpha level. Limit is highest of 23 background values. Report alpha = 0.1481. Individual comparison alpha = 0.03929. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Sulfate Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

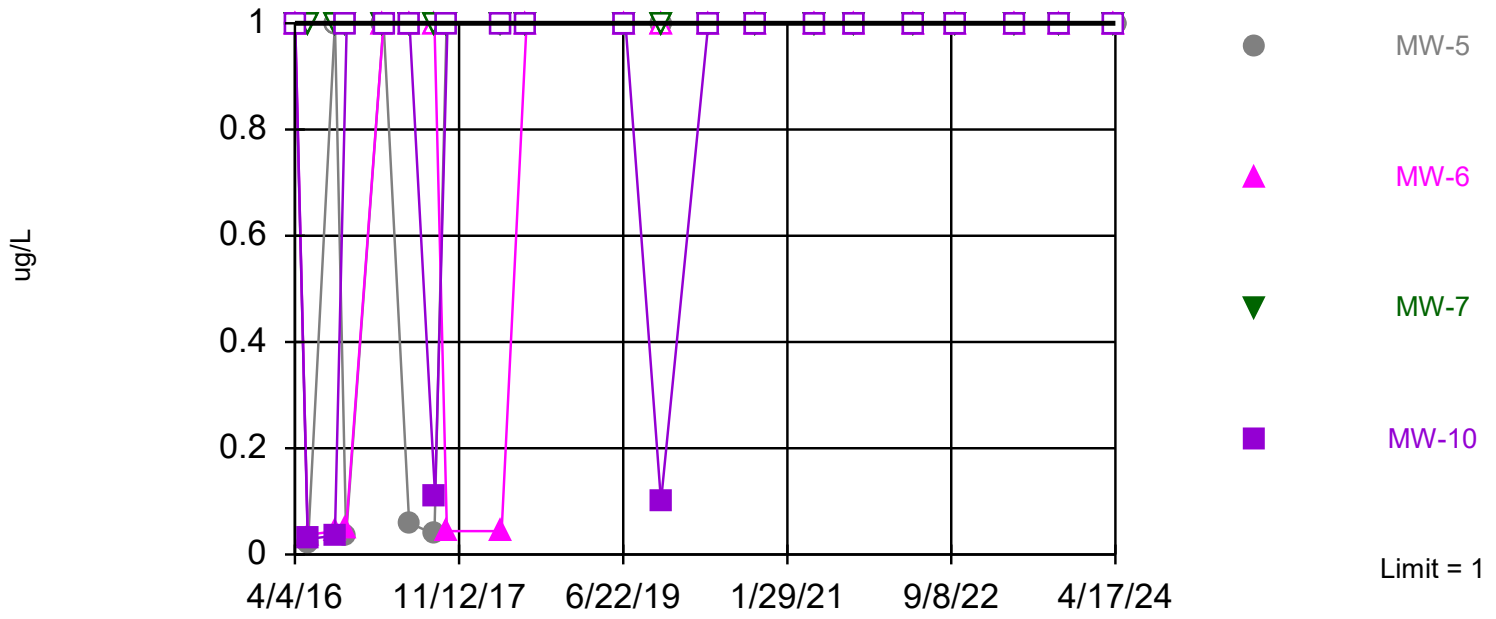
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Hollow symbols indicate censored values.

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 22 background values. 86.36% NDs. Report alpha = 0.1538. Individual comparison alpha = 0.0409. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

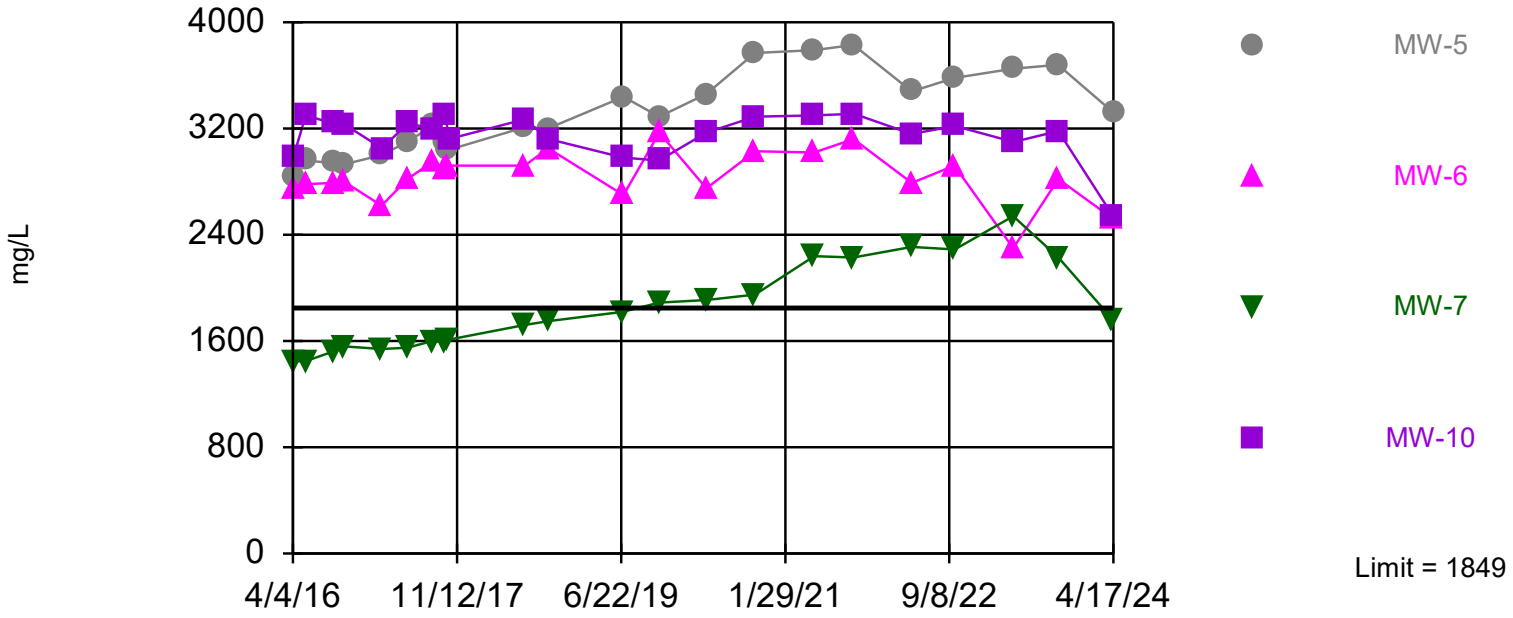
Constituent: Thallium Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Exceeds Limit: MW-5, MW-6, MW-10

Prediction Limit

Interwell Parametric



Background Data Summary (based on square transformation): Mean=2393935, Std. Dev.=400060, n=23. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9168, critical = 0.914. Report alpha = 0.0394. Individual comparison alpha = 0.01. Most recent point for each compliance well compared to limit. Distribution was found to be non-normal after removal of suspect values, so outliers could not be identified.

Constituent: Total Dissolved Solids Analysis Run 7/3/2024 10:25 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Confidence Interval

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile Printed 7/3/2024, 10:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Cobalt (ug/L)	MW-5	7.697	6.622	9	No	22	0	No	0.05	Param.
Cobalt (ug/L)	MW-6	7.601	6.893	9	No	22	0	No	0.05	Param.
Cobalt (ug/L)	MW-7	4.68	2	9	No	22	40.91	No	0.05	NP (normality)
Cobalt (ug/L)	MW-8 (bg)	2	1.13	9	No	22	45.45	No	0.05	NP (normality)
Cobalt (ug/L)	**MW-10**	**105**	**80.86**	**9**	**Yes**	**22**	**0**	**No**	**0.05**	**Param.**
Lithium (ug/L)	MW-5	36.81	32.31	40	No	22	0	No	0.05	Param.
Lithium (ug/L)	MW-6	47.2	40	40	No	22	0	No	0.05	NP (normality)
Lithium (ug/L)	MW-7	30	27.1	40	No	22	0	No	0.05	NP (normality)
Lithium (ug/L)	MW-8 (bg)	12.17	9.372	40	No	22	18.18	No	0.05	Param.
Lithium (ug/L)	MW-10	10.6	8.203	40	No	22	13.64	No	0.05	Param.

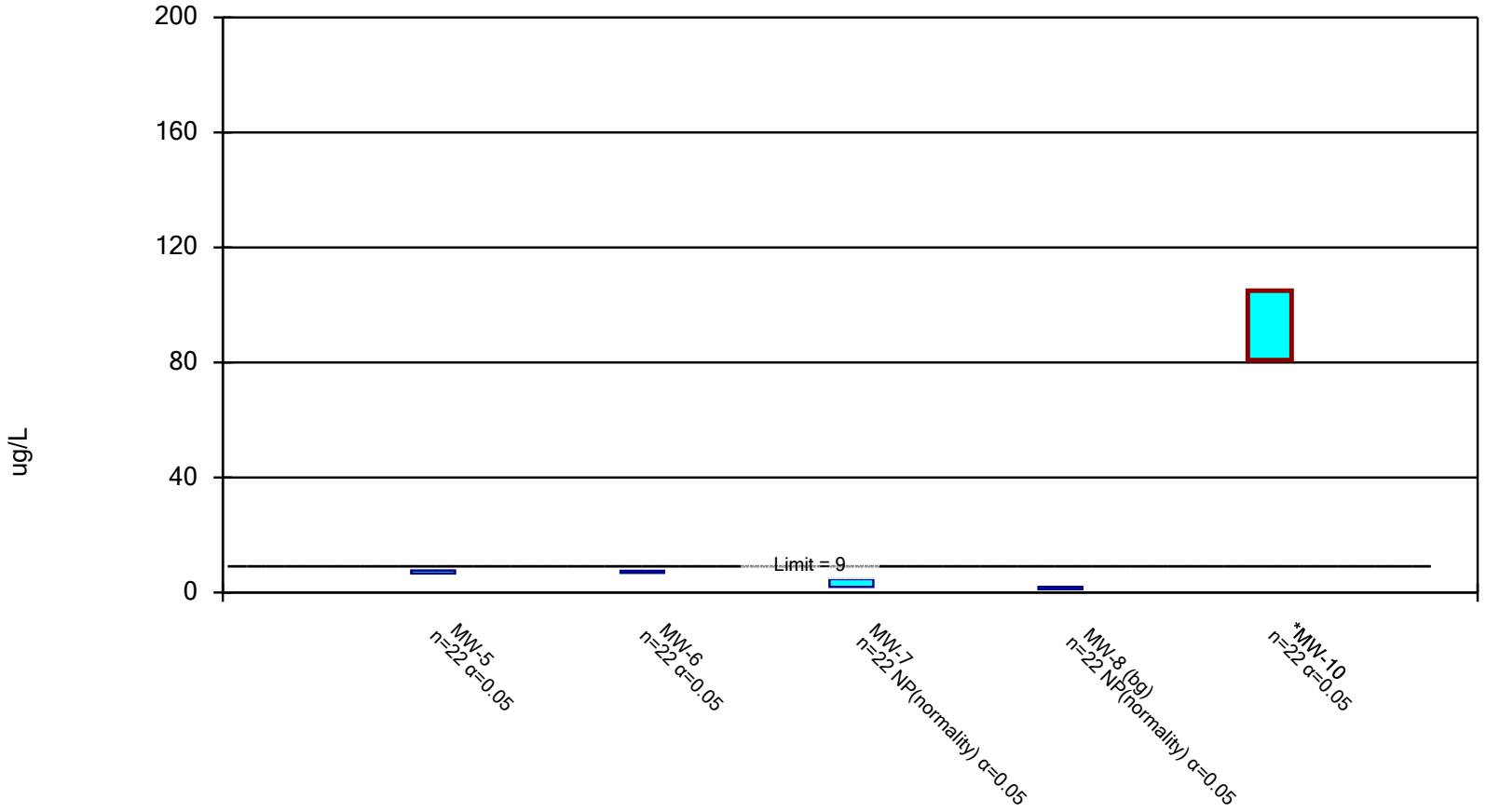
Confidence Interval

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile Printed 7/3/2024, 10:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Cobalt (ug/L)	**MW-10**	**105**	**80.86**	**9**	**Yes**	**22**	**0**	**No**	**0.05**	**Param.**

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Normality Test: Shapiro Wilk, alpha based on n.

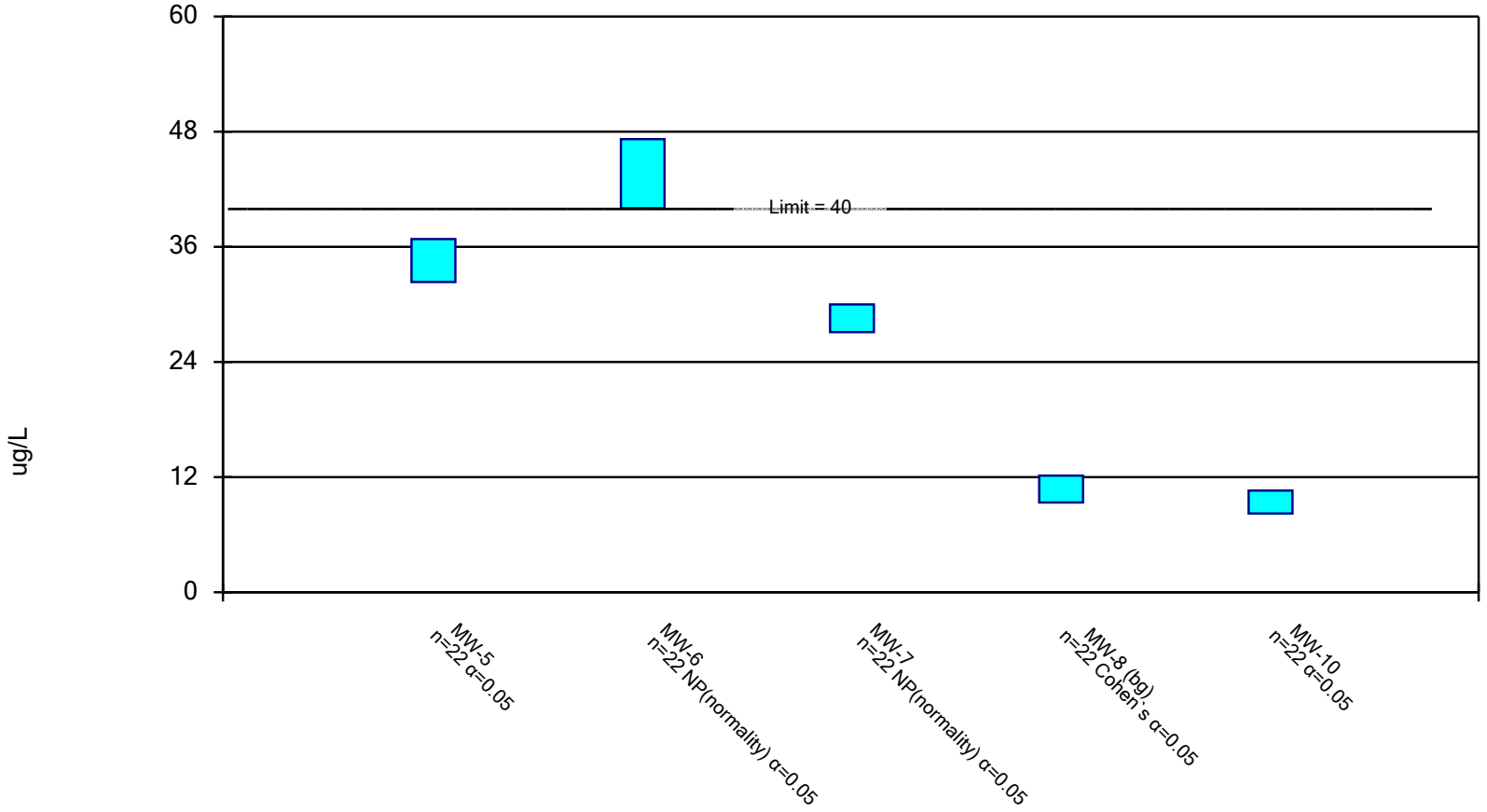


Constituent: Cobalt Analysis Run 7/3/2024 10:28 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile

Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Lithium Analysis Run 7/3/2024 10:28 AM View: BREC Wilson GW

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC Wilson_Datafile