

August 15, 2023

Mr. Mike Mizell Big Rivers Electric Corporation 710 West 2<sup>nd</sup> Street Owensboro, KY 42301

 Re: Statistical Evaluation of April 2023 Assessment Monitoring Groundwater Data D.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky Agency Interest ID #: 3319 Activity I.D. #: AIN2014001

Dear Mr. Mizell:

This letter presents the results of the statistical evaluation of analytical data from the April 2023 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 2023 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 2023 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 2023 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 2023, 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 determined background concentration for an analyte and 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 2023 assessment monitoring event for inclusion in the Phase II CCR Landfill Operating Record.



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

A summary of the interwell prediction limit evaluation was performed to compare the concentrations of Appendix III and Appendix IV parameters observed in April 2023 CCR compliance (downgradient) 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 2023 from upgradient monitoring well MW-8. Note, any data qualified as rejected during the data review were excluded from the statistical analysis. Certain parameters were detected in April 2023 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 and MW-7)
- Total Dissolved Solids (TDS) (MW-5, MW-6, MW-7, and MW-10)

### Appendix IV Parameters:

- Cobalt (MW-10)
- Lithium (MW-5 and MW-6)

Results of exceedances of background were generally consistent with the 2019 through September 2022 statistical results. The reported April 2023 SSIs for sulfate (MW-5 and MW-7) were not present in September 2022. All other above-noted Appendix III SSIs for April 2023 were also present in the September 2022 statistical analysis. Likewise, the Appendix IV SSIs for cobalt and/or lithium continue to occur at downgradient compliance monitoring wells.

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



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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)
- Lithium (MW-6)

The LCLs for the remaining well/constituent pairs for cobalt and lithium are 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 the 2022 results. Cobalt (MW-10) was reported as an SSL in both the September 2022 and April 2022 events. The reported SSL above GWPS for lithium (MW-6) was not identified as an SSL above the GWPS in September 2022. However, lithium (MW-6) was reported in April 2022 as an SSL.

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 2023.

Sincerely,

**Burns & McDonnell** 

Chi Haful

Chris Hoglund, PG Project Manager

Attachments:

Table 1 – Calculated Background and Groundwater Protection Standards for Groundwater Table 2 – Summary of April 2023 Analytical Results



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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 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 (field)	SU	4.67 - 6.84			
TDS	mg/L	1810			
Chloride	mg/L	5.59			
Fluoride	mg/L	1.21	4		
Sulfate	mg/L	2180			
Assessment 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	0.000002	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	0.0235		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 2023. 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

mg/L - milligrams per Liter

pCi/L - picocuries per Liter

MCL - Maximum Contaminant Level

SU - standard units

Table 2Summary of April 2023 Groundwater ResultsD.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky

	Sample Location:				MW-5	MW-6	MW-7	MW-8	MW-10	
	Sample Date: Laboratory ID(s): All analytes excl. Radium/Radium only		Calculated		4/25/2023	4/25/2023	4/25/2023	4/26/2023	4/26/2023	
			Background <sup>1</sup>	GWPS <sup>2</sup>	3043172-01	3043173-01	3043174-01	3043175-01	3043158-01	
		Note(s):				Field Duplicate 1 <sup>3</sup>		Background Well		
Analytical Method	Analyte	Unit CCR Compliance Monitoring Well Network								
Appendix III - Detection	n Monitoring									
6010B	Boron	mg/L	0.0518		0.75	0.87	2.85 D1	<0.1 U	0.66	
6010B	Calcium	mg/L	349		635 D1	473 D1	464 D1	218 D1	448 D1	
300.0 REV 2.1	Chloride	mg/L	5.59		92.7 D2	26.1 D2, J	94.5	4.2 D2	16.5 D2	
300.0 REV 2.1	Fluoride	mg/L	1.21	4.0	<0.2 V1, U	<0.2 V1, U	0.25	<2 D2, V1, U	<0.2 U	
300.0 REV 2.1	Sulfate	mg/L	2180		4710	1470 D2, J	2300 D, M3	721 D2, J-	536 D2	
In Situ	pH (Field Measurement)	su	4.67 - 6.84		6.47	6.45	6.55	6.41	5.98	
2540 C-2015	Total Dissolved Solids	mg/L	1810		3650	2430	2540	1110	3100	
Appendix IV - Asses	sment Monitoring									
6020A	Antimony	mg/L	0.0025	0.006	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	
6020A	Arsenic	mg/L	0.0144	0.0144	0.005	0.005	0.0037	0.0047	0.0006 J	
6020A	Barium	mg/L	0.07	2.0	0.011	0.012	0.012	0.018	0.009	
6020A	Beryllium	mg/L	0.000002	0.004	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U	
6020A	Cadmium	mg/L	0.0005	0.005	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	
6020A	Chromium	mg/L	0.0224	0.1	<0.002 U	0.0008 J	0.0013 J	0.0008 J	<0.002 U	
6020A	Cobalt	mg/L	0.009	0.009	0.007	0.007	<0.004 U	<0.004 U	0.116	
300.0 REV 2.1	Fluoride	mg/L	1.21	4	<0.2 V1, U	<0.2 V1, U	0.25	<2 D2, V1, U	<0.2 U	
6020A	Lead	mg/L	0.012	0.015	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U	
6020A	Lithium	mg/L	0.0235	0.04	0.03	0.04	0.02	0.008 J	0.009 J	
245.7 REV 2	Mercury	mg/L	0.000005	0.002	<0.000005 U	<0.000005 U	<0.000005 U	<0.000005 U	<0.000005 UJ	
6020A	Molybdenum	mg/L	0.0187	0.1	0.003 J	0.006 J	0.006 J	0.01	<0.01 U	
903.1/904.0	Combined Radium 226 and 228 <sup>4</sup>	pCi/l	2.94	5	1.04 J	1.64 J	0.924 J	1.66 J	1.20 J	
6020A	Selenium	mg/L	0.0015	0.05	<0.003 U	<0.003 U	<0.003 U	<0.003 U	<0.003 U	
6020A	Thallium	mg/L	0.001	0.002	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 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 2023. For pH, background is between those values presented.

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

3 - The highest concentration is reported between associated field duplicate samples for MW-6 (Duplicate 1) and MW-110 (Duplicate 2).

4 - 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.

# Parameters were detected in wells located downgradient of the CCR Landfill at a concentration greater than the GWPS.

CCR - coal combustion residuals

- CCV- continuing calibration verification
- 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
- J (+/-) estimated concentration (bias indicator [high + / low -])
- 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
- su standard unit
- U Nondetect at the identified concentration
- UJ Nondetect result was qualified as estimated at the reporting limit during data review.
- V1 CCV recovery was above method acceptance limits. This target analyte not detected in the sample.

Table 2Summary of April 2023 Groundwater ResultsD.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky

· · · · · ·		Sample Location: Sample Date: Laboratory ID(s):		GWPS <sup>2</sup>	MW-4D 4/26/2023	MW-10D 4/24/2023	MW-102 4/25/2023	MW-104 4/25/2023	MW-105R 4/25/2023	MW-110 4/25/2023			
	All analytes excl. Radium/F	Radium only	Background <sup>1</sup>		3043171-01	3043162-01	3043159-01	3043167-01	3043161-01	3043163-01			
		Note(s):								Field Duplicate 2 <sup>3</sup>			
Analytical Method	Analyte	Unit					Characterization Monitoring Wells						
Appendix III - Detection	Monitoring							-		•			
6010B	Boron	mg/L	0.0518		9.48 D1	2.62 D1, M3	<0.1 U	<0.1 U	<0.1 U	<0.1 U			
6010B	Calcium	mg/L	349		<b>721</b> D1	553 D1, M3	84.9 D1	319 D1	196 D1	40.2 D1			
300.0 REV 2.1	Chloride	mg/L	5.59		289 D2	36.2 D2	14.8 D2	10.7	11.2	11.3			
300.0 REV 2.1	Fluoride	mg/L	1.21	4.0	<2 D2, U	0.47	0.32	<0.2 U	0.2	0.27			
300.0 REV 2.1	Sulfate	mg/L	2180		641 D2	389 D2	150 D2	1710 D	769 D	77.7			
In Situ	pH (Field Measurement)	su	4.67 - 6.84		6.46	6.44	6.84	6.81	6.84	6.71			
2540 C-2015	Total Dissolved Solids	mg/L	1810		3590	2510	808	1620	1440	420			
Appendix IV - Asses	sment Monitoring												
6020A	Antimony	mg/L	0.0025	0.006	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U			
6020A	Arsenic	mg/L	0.0144	0.0144	0.0045	0.0025	0.0037	0.001	0.0008 J	0.0023			
6020A	Barium	mg/L	0.07	2.0	0.021	0.017	0.046	0.034	0.025	0.057			
6020A	Beryllium	mg/L	0.000002	0.004	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U			
6020A	Cadmium	mg/L	0.0005	0.005	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U			
6020A	Chromium	mg/L	0.0224	0.1	0.001 J	<0.002 U	0.0006 J	0.0009 J	<0.002 U	<0.002 U			
6020A	Cobalt	mg/L	0.009	0.009	0.022	0.004	<0.004 U	<0.004 U	<0.004 U	<0.004 U			
300.0 REV 2.1	Fluoride	mg/L	1.21	4	<2 D2, U	0.47	0.32	<0.2 U	0.2	0.27			
6020A	Lead	mg/L	0.012	0.015	0.0006 J	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U			
6020A	Lithium	mg/L	0.0235	0.04	0.12	0.06 J-, M2	<0.02 U	0.03	0.03	<0.02 U			
245.7 REV 2	Mercury	mg/L	0.000005	0.002	<0.000005 UJ	<0.000005 U	<0.000005 U	<0.000005 U	<0.000005 U	<0.000005 U			
6020A	Molybdenum	mg/L	0.0187	0.1	0.008 J	0.006 J	<0.01 U	<0.01 U	<0.01 U	<0.01 U			
903.1/904.0	Combined Radium 226 and 228 <sup>4</sup>	pCi/l	2.94	5	1.22 J	0.465 J	0.313 J	1.72 J	2.49 J	1.00 J			
6020A	Selenium	mg/L	0.0015	0.05	0.001 J	<0.003 U	<0.003 U	<0.003 U	<0.003 U	<0.003 U			
6020A	Thallium	mg/L	0.001	0.002	0.0001 J	<0.002 U	<0.002 U	<0.002 U	<0.002 U	<0.002 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 2023. For pH, background is between those values presented.

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

3 - The highest concentration is reported between associated field duplicate samples for MW-6 (Duplicate 1) and MW-110 (Duplicate 2).

4 - 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.

Parameters were detected in wells located downgradient of the CCR Landfill at a concentration greater than the GWPS.

CCR - coal combustion residuals

CCV- continuing calibration verification

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

J (+/-) - estimated concentration (bias indicator [high + / low -])

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.

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mg/L - milligram per liter

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U - Nondetect at the identified concentration

UJ - Nondetect result was qualified as estimated at the reporting limit during data review.

V1 - CCV recovery was above method acceptance limits. This target analyte not detected in the sample.

Table 2Summary of April 2023 Groundwater ResultsD.B. Wilson Station Phase II CCR Landfill in Centertown, Kentucky

	Samp	le Location:			MW-111	MW-112	MW-113	MW-114
	Calculated		4/24/2023	4/24/2023	4/24/2023	4/24/2023		
	Laboratory ID(s): All analytes excl. Radium/Radium only		Background <sup>1</sup>	GWPS <sup>2</sup>	3043164-01	3043165-01	3043166-01	3043160-01
		Note(s):						
Analytical Method	Analyte	Unit				Characterization	Monitoring Wells	
Appendix III - Detection	<u> </u>					1		1
6010B	Boron	mg/L	0.0518		0.23	0.14	<0.1 U	<0.1 M2, U
6010B	Calcium	mg/L	349		552 D1	246 D1	219 D1	106 D1, M3
300.0 REV 2.1	Chloride	mg/L	5.59		<10 D2, U	<5 D2, U	12.3 D2	28.0 D2
300.0 REV 2.1	Fluoride	mg/L	1.21	4.0	0.27	<0.2 U	<0.2 U	0.25
300.0 REV 2.1	Sulfate	mg/L	2180		399 D2	157 D2	228 D2	132 D2
In Situ	pH (Field Measurement)	su	4.67 - 6.84		7.24	6.19	7.25	7.83
2540 C-2015	Total Dissolved Solids	mg/L	1810		3220	1000	1650	1150
Appendix IV - Asses								
6020A	Antimony	mg/L	0.0025	0.006	<0.005 U	<0.005 U	<0.005 U	<0.005 U
6020A	Arsenic	mg/L	0.0144	0.0144	0.0024	0.0015	0.0278	0.002
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6020A	Chromium	mg/L	0.0224	0.1	<0.002 U	<0.002 U	<0.002 U	<0.002 U
6020A	Cobalt	mg/L	0.009	0.009	0.011	0.005	0.006	<0.004 U
300.0 REV 2.1	Fluoride	mg/L	1.21	4	0.27	<0.2 U	<0.2 U	0.25
6020A	Lead	mg/L	0.012	0.015	<0.002 U	<0.002 U	<0.002 U	<0.002 U
6020A	Lithium	mg/L	0.0235	0.04	0.03	0.01 J	0.03	0.02 M1
245.7 REV 2	Mercury	mg/L	0.000005	0.002	<0.000005 U	<0.000005 U	<0.000005 UJ	<0.000005 U
6020A	Molybdenum	mg/L	0.0187	0.1	0.003 J	0.002 J	0.003 J	0.004 J
903.1/904.0	Combined Radium 226 and 228 <sup>4</sup>	pCi/l	2.94	5	0.913 J	0.753 J	1.60 J	2.04 J
6020A	Selenium	mg/L	0.0015	0.05	<0.003 U	<0.003 U	<0.003 U	<0.003 U
6020A	Thallium	mg/L	0.001	0.002	<0.002 U	<0.002 U	<0.002 U	<0.002 U

### Notes

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sample is disproportionate to spike level. The method control sample recovery was acceptable. mg/L - milligram per liter

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su - standard unit

U - Nondetect at the identified concentration

 $\ensuremath{\mathsf{UJ}}\xspace$  - Nondetect result was qualified as estimated at the reporting limit during data review.

V1 - CCV recovery was above method acceptance limits. This target analyte not detected in the sample.

### ATTACHMENT 1 - SANITAS<sup>™</sup> STATISTICAL OUTPUTS FOR PHASE II CCR LANFILL COMPLIANCE MONITORING WELL NETWORK

# Interwell Prediction Limit

Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Printed 7M2MM2023, 1:57 PM

		Big Rivers Election	ric Corp.	Client: Burns & McDonnell	Data: BR	EC_GW	V_v2	Printed 7M	2MM2023, 1:57 PM		
Constituent	<u>Well</u>	<u>Upper Lim.</u>	Lower Lir	<u>n. Date Ot</u>	oserv.	Sig.	Bg N	<u>%NDs</u>	Transform	<u>Alpha</u>	Method
Antimony (mg/L)	MW-5	0.0025	n/a	4/25/2023 0.0	0025ND	No	19	63.16	n/a	0.04664	NP Inter (NDs)
Antimony (mg/L)	MW-6	0.0025	n/a	4/25/2023 0.0	0025ND	No	19	63.16	n/a	0.04664	NP Inter (NDs)
Antimony (mg/L)	MW-7	0.0025	n/a	4/25/2023 0.0	0025ND	No	19	63.16	n/a	0.04664	NP Inter (NDs)
Antimony (mg/L)	MW-10	0.0025	n/a	4/26/2023 0.0	0025ND	No	19	63.16	n/a	0.04664	NP Inter (NDs)
Arsenic (ug/L)	MW-5	14.4	n/a	4/25/2023 5	1	No 2	20	0	n/a	0.04456	NP Inter (normality)
Arsenic (ug/L)	MW-6	14.4	n/a	4/25/2023 5	١	No 2	20	0	n/a	0.04456	NP Inter (normality)
Arsenic (ug/L)	MW-7	14.4	n/a	4/25/2023 3.7	7 1	No 2	20	0	n/a	0.04456	NP Inter (normality)
Arsenic (ug/L)	MW-10	14.4	n/a	4/26/2023 0.6	5J L	No 2	20	0	n/a	0.04456	NP Inter (normality)
Barium (ug/L)	MW-5	70	n/a	4/25/2023 11	١	No	19	0	n/a	0.04664	NP Inter (normality)
Barium (ug/L)	MW-6	70	n/a	4/25/2023 12	1	No	19	0	n/a	0.04664	NP Inter (normality)
Barium (ug/L)	MW-7	70	n/a	4/25/2023 12	1	No	19	0	n/a	0.04664	NP Inter (normality)
Barium (ug/L)	MW-10	70	n/a	4/26/2023 9	١	No	19	0	n/a	0.04664	NP Inter (normality)
Beryllium (ug/L)	MW-5	0.002	n/a	4/25/2023 0.0	001ND 1	No	18	100	n/a	0.04893	NP Inter (NDs)
Beryllium (ug/L)	MW-6	0.002	n/a	4/25/2023 0.0	001ND	No	18	100	n/a	0.04893	NP Inter (NDs)
Beryllium (ug/L)	MW-7	0.002	n/a				18	100	n/a	0.04893	NP Inter (NDs)
Beryllium (ug/L)	MW-10	0.002	n/a				18	100	n/a	0.04893	NP Inter (NDs)
Boron (ug/L)	MW-5	51.8	n/a	4/25/2023 75			20	45	n/a	0.04456	NP Inter (normality)
Boron (ug/L)	MW-6	51.8	n/a	4/25/2023 87			20	45	n/a	0.04456	NP Inter (normality)
Boron (ug/L)	MW-7	51.8	n/a	4/25/2023 28			20	45	n/a	0.04456	NP Inter (normality)
Boron (ug/L)	MW-10	51.8	n/a	4/26/2023 66			20	45	n/a	0.04456	NP Inter (normality)
Cadmium (ug/L)	MW-5	0.5	n/a				18	88.89	n/a	0.04893	NP Inter (NDs)
Cadmium (ug/L)	MW-6	0.5	n/a				18	88.89	n/a	0.04893	NP Inter (NDs)
Cadmium (ug/L)	MW-7	0.5	n/a				18	88.89	n/a	0.04893	NP Inter (NDs)
Cadmium (ug/L)	MW-10	0.5	n/a				18	88.89	n/a	0.04893	NP Inter (NDs)
Calcium (ug/L)	MW-10	349000	n/a				20	00.09	n/a	0.04893 0.04456	NP Inter (normality)
Calcium (ug/L)	MW-6	349000	n/a				20	0	n/a	0.04456	NP Inter (normality)
Calcium (ug/L)	MW-7	349000	n/a				20	0	n/a	0.04456	NP Inter (normality)
Calcium (ug/L)	MW-10	349000	n/a				20	0	n/a	0.04456	NP Inter (normality)
Chloride (mg/L)	MW-5	5.59	n/a	4/25/2023 92			20	0	No	0.01	Param Inter
Chloride (mg/L)	MW-6	5.59	n/a	4/25/2023 10			20	0	No	0.01	Param Inter
Chloride (mg/L)	MW-7	5.59	n/a	4/25/2023 94			20	0	No	0.01	Param Inter
Chloride (mg/L)	MW-10	5.59	n/a	4/26/2023 16			20	0	No	0.01	Param Inter
Chromium (ug/L)	MW-5	22.4	n/a				19	36.84	n/a	0.04664	NP Inter (normality)
Chromium (ug/L)	MW-6	22.4	n/a	4/25/2023 0.8			19	36.84	n/a	0.04664	NP Inter (normality)
Chromium (ug/L)	MW-7	22.4	n/a	4/25/2023 1.3			19	36.84	n/a	0.04664	NP Inter (normality)
Chromium (ug/L)	MW-10	22.4	n/a				19	36.84	n/a	0.04664	NP Inter (normality)
Cobalt (ug/L)	MW-5	9	n/a	4/25/2023 7			19	42.11	n/a	0.04664	NP Inter (normality)
Cobalt (ug/L)	MW-6	9	n/a	4/25/2023 7			19	42.11	n/a	0.04664	NP Inter (normality)
Cobalt (ug/L)	MW-7	9	n/a	4/25/2023 2N			19	42.11	n/a		NP Inter (normality)
Cobalt (ug/L)	MW-10	9	n/a	4/26/2023 11			19	42.11	n/a	0.04664	NP Inter (normality)
Fluoride (mg/L)	MW-5	1.21	n/a	4/25/2023 1N			21	9.524	n/a	0.04265	NP Inter (normality)
Fluoride (mg/L)	MW-6	1.21	n/a	4/25/2023 1N	ID N	No 2	21	9.524	n/a	0.04265	NP Inter (normality)
Fluoride (mg/L)	MW-7	1.21	n/a	4/25/2023 0.2			21	9.524	n/a	0.04265	NP Inter (normality)
Fluoride (mg/L)	MW-10	1.21	n/a	4/26/2023 1N	ID N	No 2	21	9.524	n/a	0.04265	NP Inter (normality)
Lead (ug/L)	MW-5	12	n/a	4/25/2023 1N	ID N	No	19	68.42	n/a	0.04664	NP Inter (NDs)
Lead (ug/L)	MW-6	12	n/a	4/25/2023 1N	ID N	No	19	68.42	n/a	0.04664	NP Inter (NDs)
Lead (ug/L)	MW-7	12	n/a	4/25/2023 1N	ID N	No	19	68.42	n/a	0.04664	NP Inter (NDs)
Lead (ug/L)	MW-10	12	n/a	4/26/2023 1N	ID N	No	19	68.42	n/a	0.04664	NP Inter (NDs)
Lithium (ug/L)	MW-5	23.5	n/a	4/25/2023 30	١	Yes 2	20	20	No	0.01	Param Inter
Lithium (ug/L)	MW-6	23.5	n/a	4/25/2023 40	l l	Yes 2	20	20	No	0.01	Param Inter

# Interwell Prediction Limit

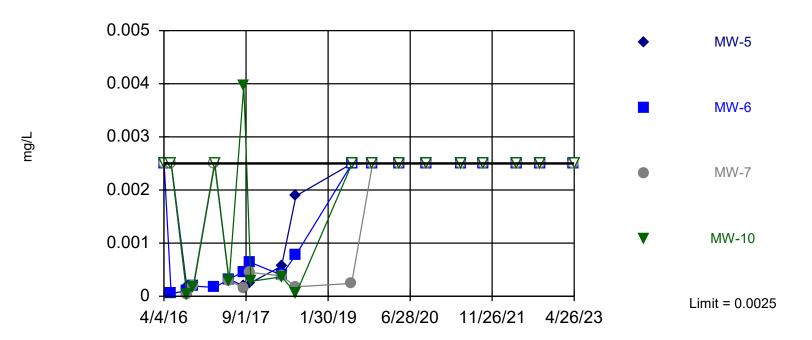
Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Printed 7M2MM2023, 1:57 PM

		Big Rivers Elect	ric Corp. Client:	Burns & McDo	nnell Data: I	nell Data: BREC_GW_v2		Printed 7	M2MM2023, 1:57 PM		
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	Transform	<u>Alpha</u>	Method
Lithium (ug/L)	MW-7	23.5	n/a	4/25/2023	20	No	20	20	No	0.01	Param Inter
Lithium (ug/L)	MW-10	23.5	n/a	4/26/2023	9J	No	20	20	No	0.01	Param Inter
Mercury (ug/L)	MW-5	0.005	n/a	4/25/2023	0.0025ND	No	18	100	n/a	0.04893	NP Inter (NDs)
Mercury (ug/L)	MW-6	0.005	n/a	4/25/2023	0.0025ND	No	18	100	n/a	0.04893	NP Inter (NDs)
Mercury (ug/L)	MW-7	0.005	n/a	4/25/2023	0.0025ND	No	18	100	n/a	0.04893	NP Inter (NDs)
Mercury (ug/L)	MW-10	0.005	n/a	4/26/2023	0.0025ND	No	18	100	n/a	0.04893	NP Inter (NDs)
Molybdenum (ug/L)	MW-5	18.7	n/a	4/25/2023	3J	No	20	0	n/a	0.04456	NP Inter (normality)
Molybdenum (ug/L)	MW-6	18.7	n/a	4/25/2023	6J	No	20	0	n/a	0.04456	NP Inter (normality)
Molybdenum (ug/L)	MW-7	18.7	n/a	4/25/2023	6J	No	20	0	n/a	0.04456	NP Inter (normality)
Molybdenum (ug/L)	MW-10	18.7	n/a	4/26/2023	5ND	No	20	0	n/a	0.04456	NP Inter (normality)
pH [Field] (SU)	MW-5	6.84	4.67	4/25/2023	6.47	No	21	0	n/a	0.0853	NP Inter (normality)
pH [Field] (SU)	MW-6	6.84	4.67	4/25/2023	6.45	No	21	0	n/a	0.0853	NP Inter (normality)
pH [Field] (SU)	MW-7	6.84	4.67	4/25/2023	6.55	No	21	0	n/a	0.0853	NP Inter (normality)
pH [Field] (SU)	MW-10	6.84	4.67	4/25/2023	5.98	No	21	0	n/a	0.0853	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-5	2.94	n/a	4/25/2023	1.04	No	19	0	n/a	0.04664	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-6	2.94	n/a	4/25/2023	1.64	No	19	0	n/a	0.04664	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-7	2.94	n/a	4/25/2023	0.924	No	19	0	n/a	0.04664	NP Inter (normality)
Radium 226 + 228 (pCi/L)	MW-10	2.94	n/a	4/26/2023	1.2	No	19	0	n/a	0.04664	NP Inter (normality)
Selenium (ug/L)	MW-5	1.5	n/a	4/25/2023	1.5ND	No	19	89.47	n/a	0.04664	NP Inter (NDs)
Selenium (ug/L)	MW-6	1.5	n/a	4/25/2023	1.5ND	No	19	89.47	n/a	0.04664	NP Inter (NDs)
Selenium (ug/L)	MW-7	1.5	n/a	4/25/2023	1.5ND	No	19	89.47	n/a	0.04664	NP Inter (NDs)
Selenium (ug/L)	MW-10	1.5	n/a	4/26/2023	1.5ND	No	19	89.47	n/a	0.04664	NP Inter (NDs)
Sulfate (mg/L)	MW-5	2180	n/a	4/25/2023	4710	Yes	20	0	n/a	0.04456	NP Inter (normality)
Sulfate (mg/L)	MW-6	2180	n/a	4/25/2023	432	No	20	0	n/a	0.04456	NP Inter (normality)
Sulfate (mg/L)	MW-7	2180	n/a	4/25/2023	2300	Yes	20	0	n/a	0.04456	NP Inter (normality)
Sulfate (mg/L)	MW-10	2180	n/a	4/26/2023	536	No	20	0	n/a	0.04456	NP Inter (normality)
Thallium (ug/L)	MW-5	1	n/a	4/25/2023	1ND	No	19	84.21	n/a	0.04664	NP Inter (NDs)
Thallium (ug/L)	MW-6	1	n/a	4/25/2023	1ND	No	19	84.21	n/a	0.04664	NP Inter (NDs)
Thallium (ug/L)	MW-7	1	n/a	4/25/2023	1ND	No	19	84.21	n/a	0.04664	NP Inter (NDs)
Thallium (ug/L)	MW-10	1	n/a	4/26/2023	1ND	No	19	84.21	n/a	0.04664	NP Inter (NDs)
Total Dissolved Solids (mg/L)	MW-5	1810	n/a	4/25/2023	3650	Yes	20	0	x^3	0.01	Param Inter
Total Dissolved Solids (mg/L)	MW-6	1810	n/a	4/25/2023	2300	Yes	20	0	x^3	0.01	Param Inter
Total Dissolved Solids (mg/L)	MW-7	1810	n/a	4/25/2023	2540	Yes	20	0	x^3	0.01	Param Inter
Total Dissolved Solids (mg/L)	MW-10	1810	n/a	4/26/2023	3100	Yes	20	0	x^3	0.01	Param Inter

Within Limit

## **Prediction Limit**

Interwell Non-parametric

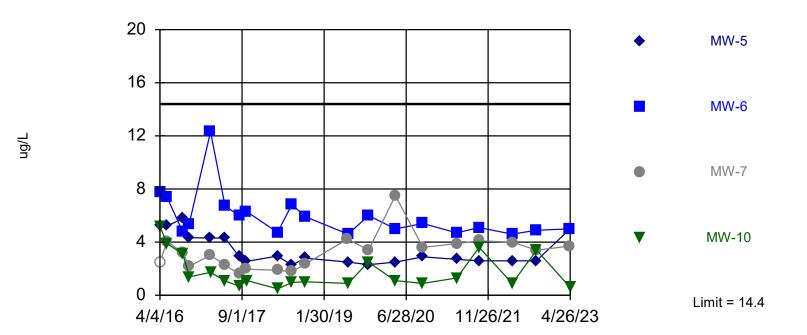


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 63.16% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each compliance well compared to limit. Distribution was found 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**



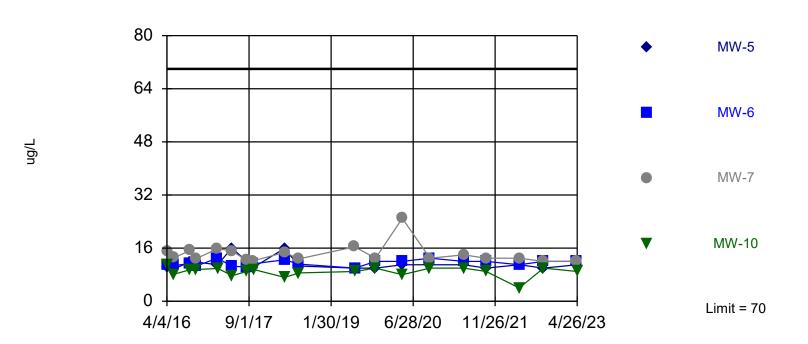
Interwell Non-parametric

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 20 background values. Report alpha = 0.1667. Individual comparison alpha = 0.04456. 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Within Limit

## **Prediction Limit**

Interwell Non-parametric



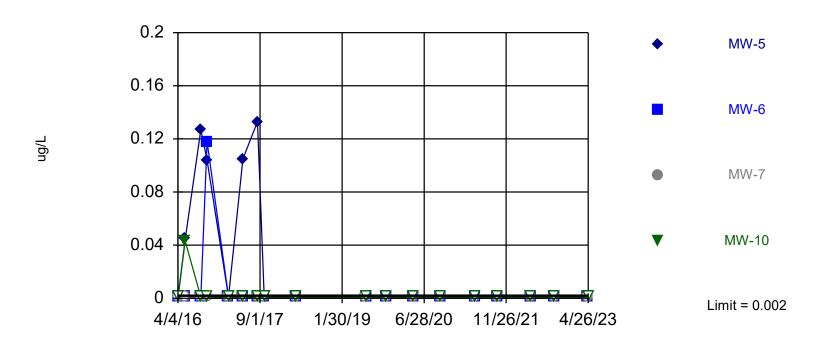
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 19 background values. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each compliance 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**

Interwell Non-parametric



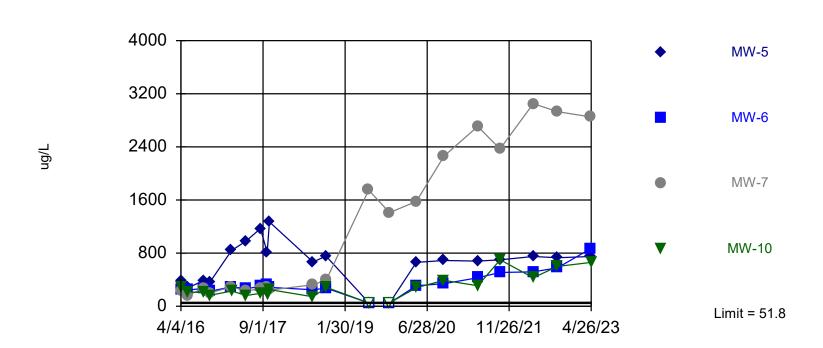
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 18) were censored; limit is most recent reporting limit. Report alpha = 0.1818. Individual comparison alpha = 0.04893. Most recent point for each compliance well compared to 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

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

### **Prediction Limit**

Interwell Non-parametric



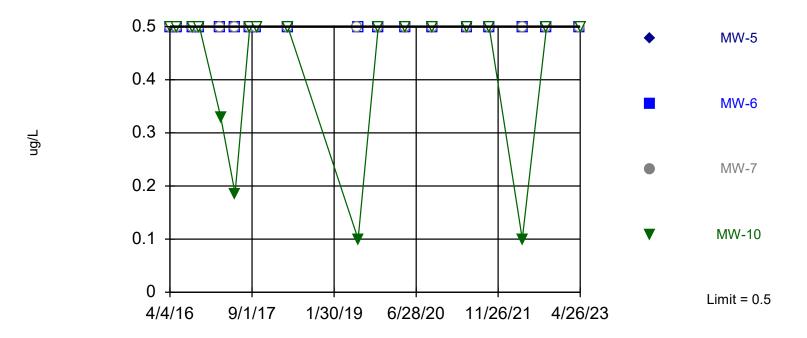
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 20 background values. 45% NDs. Report alpha = 0.1667. Individual comparison alpha = 0.04456. Most recent point for each 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

### **Prediction Limit**

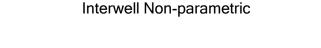
Interwell Non-parametric

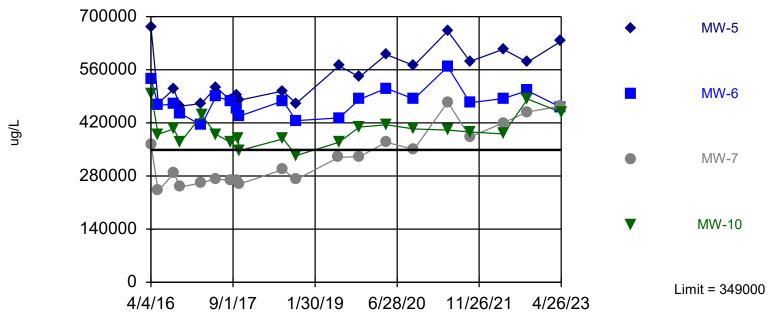


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 18 background values. 88.89% NDs. Report alpha = 0.1818. Individual comparison alpha = 0.04893. Most recent point for each compliance well compared to limit. Distribution was found 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Exceeds Limit: MW-5, MW-6, MW-7, MW-10

## **Prediction Limit**

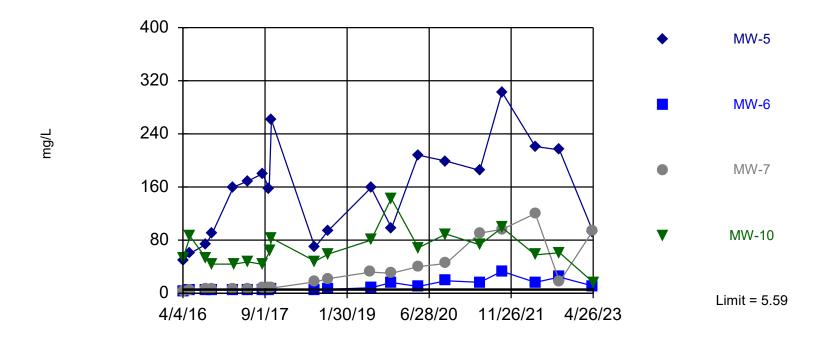




Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 20 background values. Report alpha = 0.1667. Individual comparison alpha = 0.04456. Most recent point for each compliance 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Exceeds Limit: MW-5, MW-6, MW-7, MW-10

# Prediction Limit



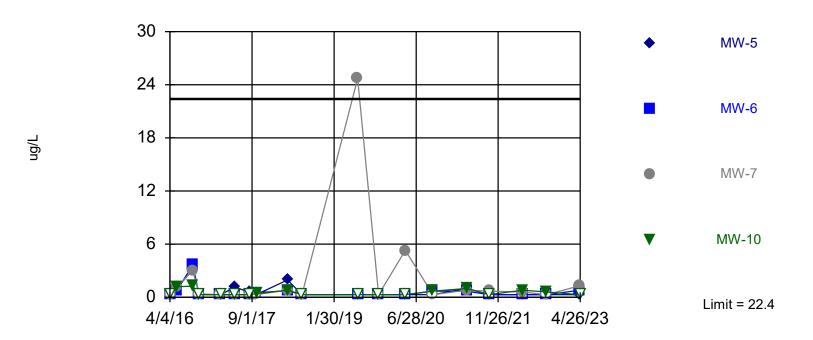
Background Data Summary: Mean=4.277, Std. Dev.=0.5047, n=20. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9296, critical = 0.905. Report alpha = 0.0394. Individual comparison alpha = 0.01. Most recent point for each compliance well compared to limit. EPA 1989 outlier screening was performed on the background data. No background outliers were found.

Constituent: Chloride Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**

Interwell Non-parametric



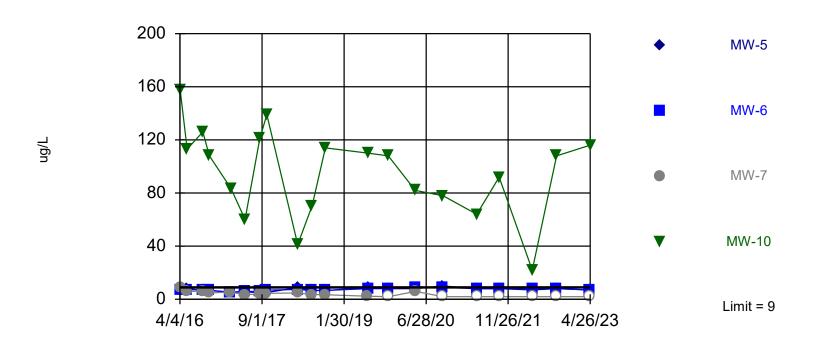
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 19 background values. 36.84% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

### Exceeds Limit: MW-10

## **Prediction Limit**

Interwell Non-parametric

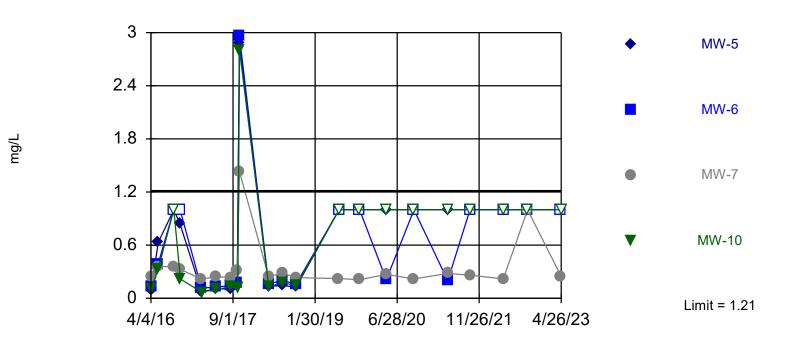


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 19 background values. 42.11% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**



Interwell Non-parametric

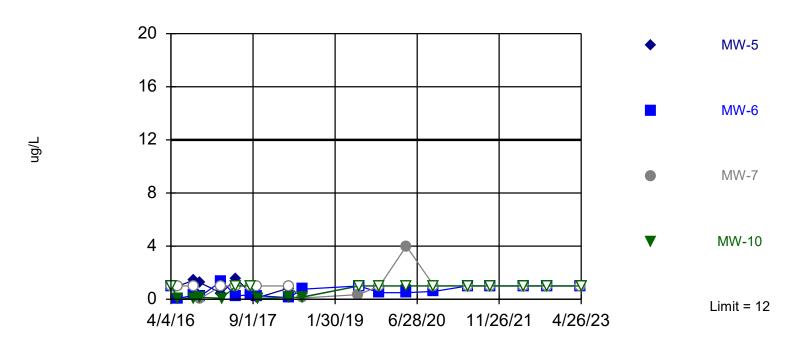
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 21 background values. 9.524% NDs. Report alpha = 0.16. Individual comparison alpha = 0.04265. Most recent point for each 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: Fluoride Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**

Interwell Non-parametric



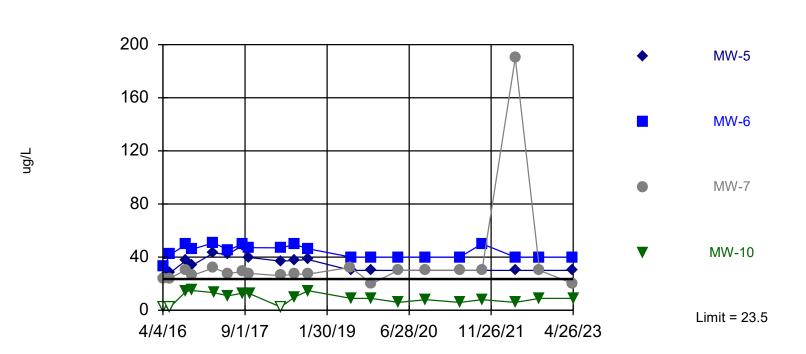
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 68.42% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each compliance well compared to limit. After outlier removal distribution was non-normal, so outlier results were invalidated. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lead Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

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

## **Prediction Limit**

Interwell Parametric



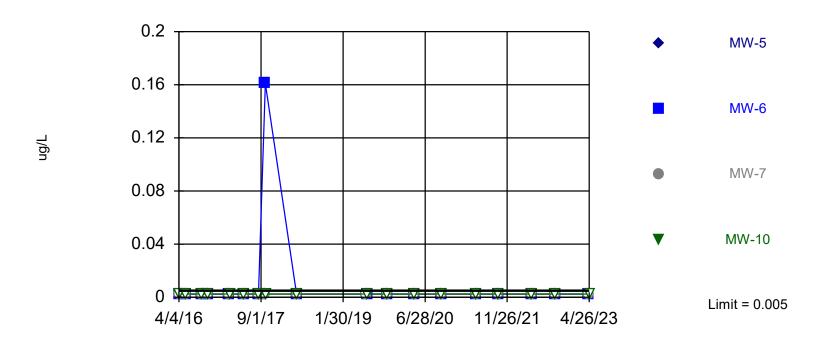
Background Data Summary (after Cohen's Adjustment): Mean=9.953, Std. Dev.=5.206, n=20, 20% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9207, critical = 0.905. Report alpha = 0.0394. Individual comparison alpha = 0.01. 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: Lithium Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**

Interwell Non-parametric

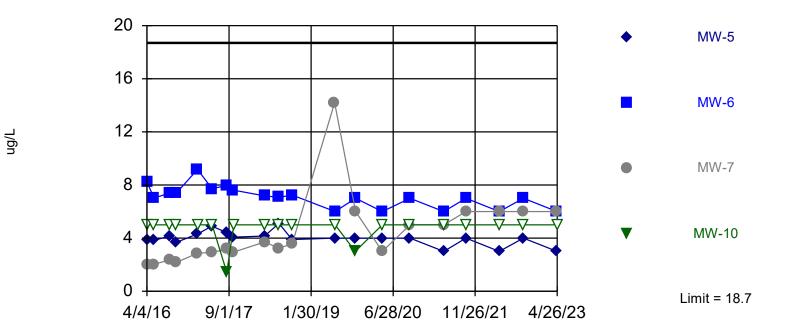


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 18) were censored; limit is most recent reporting limit. Report alpha = 0.1818. Individual comparison alpha = 0.04893. Most recent point for each compliance well compared to 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**



Interwell Non-parametric

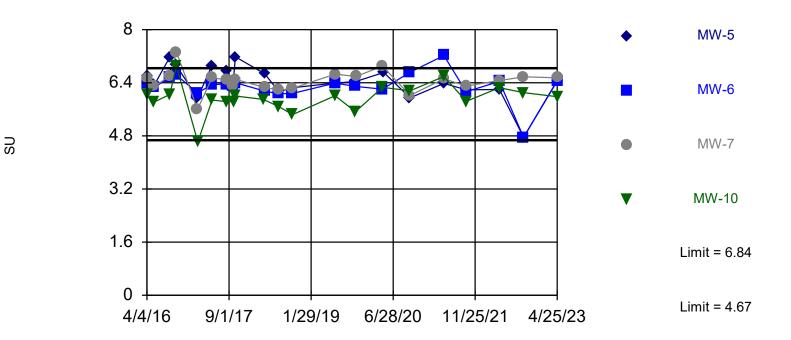
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 20 background values. Report alpha = 0.1667. Individual comparison alpha = 0.04456. Most recent point for each compliance 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

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Within Limits

### **Prediction Limit**



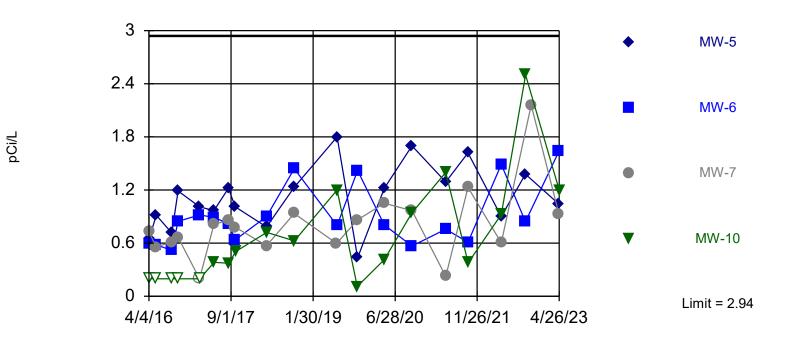
Interwell Non-parametric

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 21 background values. Report alpha = 0.32. Individual comparison alpha = 0.0853. 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 [Field] Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**



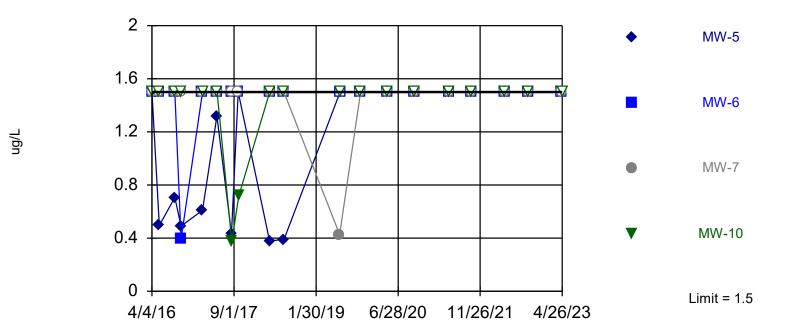
Interwell Non-parametric

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 19 background values. Report alpha = 0.1739. Individual comparison alpha = 0.04664. 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

## **Prediction Limit**

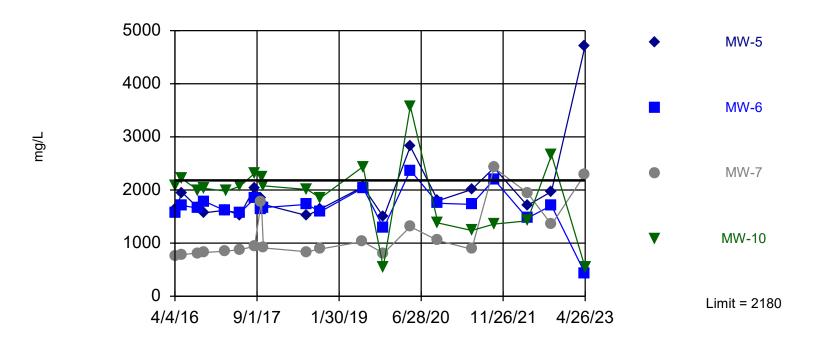


Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 89.47% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Exceeds Limit: MW-5, MW-7

# **Prediction Limit**



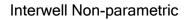
Interwell Non-parametric

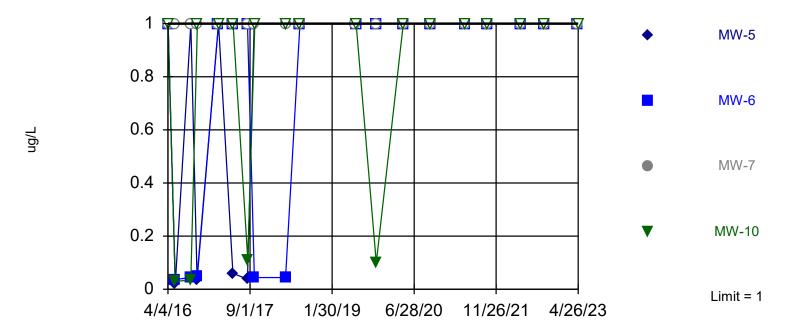
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 20 background values. Report alpha = 0.1667. Individual comparison alpha = 0.04456. Most recent point for each compliance 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

Within Limit

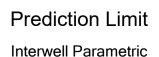
### **Prediction Limit**

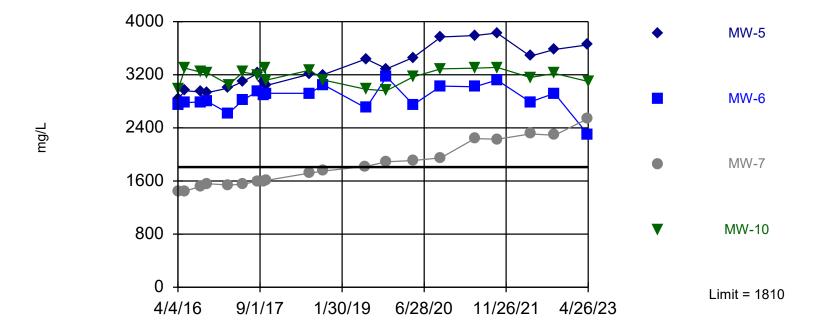




Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 84.21% NDs. Report alpha = 0.1739. Individual comparison alpha = 0.04664. Most recent point for each compliance well compared to limit. Distribution was found 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: Thallium Analysis Run 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2 Exceeds Limit: MW-5, MW-6, MW-7, MW-10





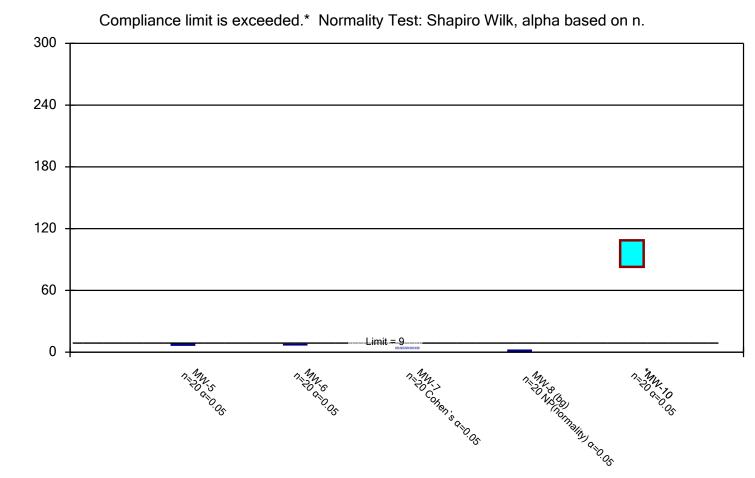
Background Data Summary (based on cube transformation): Mean=3.8e9, Std. Dev.=8.3e8, n=20. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9337, critical = 0.905. Report alpha = 0.0394. Individual comparison alpha = 0.01. Most 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 7/26/2023 1:53 PM View: Original Wells Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

# **Confidence Interval**

	В	ig Rivers Electric Co	orp. Client: Burns	s & McDonnell	Data: B	REC_GV	V_v2 Print	ted 7/26/2023, 2:46 PM		
Constituent	Well	Upper Lim.	Lower Lim.	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	Transform	<u>Alpha</u>	Method
Cobalt (ug/L)	MW-5	7.877	6.774	9	No	20	0	No	0.05	Param.
Cobalt (ug/L)	MW-6	7.696	6.947	9	No	20	0	No	0.05	Param.
Cobalt (ug/L)	MW-7	4.733	3.382	9	No	20	35	No	0.05	Param.
Cobalt (ug/L)	MW-8 (bg)	2	1.1	9	No	20	40	No	0.05	NP (normality)
Cobalt (ug/L)	MW-10	108.6	82.87	9	Yes	20	0	No	0.05	Param.
Lithium (ug/L)	MW-5	36.41	31.63	40	No	20	0	No	0.05	Param.
Lithium (ug/L)	MW-6	45.7	41.87	40	Yes	20	0	No	0.05	Param.
Lithium (ug/L)	MW-7	30	26.3	40	No	20	0	No	0.05	NP (normality)
Lithium (ug/L)	MW-8 (bg)	12.42	9.32	40	No	20	20	No	0.05	Param.
Lithium (ug/L)	MW-10	10.71	8.066	40	No	20	15	No	0.05	Param.





Constituent: Cobalt Analysis Run 7/26/2023 2:44 PM View: Original Wells - SSI Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

ng/L

# Parametric and Non-Parametric (NP) Confidence Interval

60 48 Limit = 40 36 24 12 0 AMA STRONG TO THE TRANSPORT n. 10, 10, 10, 05 1. \* M. W. 6 0.000 Con (Ca) 10,00 010,05

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

Constituent: Lithium Analysis Run 7/26/2023 2:44 PM View: Original Wells - SSI Big Rivers Electric Corp. Client: Burns & McDonnell Data: BREC\_GW\_v2

ng/L



Burns & McDonnell World Headquarters 9400 Ward Parkway Kansas City, MO 64114 **O** 816-333-9400 **F** 816-333-3690 www.burnsmcd.com