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March 18, 2021

Submitted Electronically via Email

Ms. Kirsten Hillyer, Environmental Engineer
U.S. Environmental Protection Agency
Office of Resource Conservation & Recovery (ORCR)
Materials Recovery & Waste Management Division (MRWMD)
Cube: S-6834
Washington, DC 20460

RE: Indiana Michigan Power Company
Rockport Power Plant Alternative Closure Demonstration

Dear Ms. Hillyer,

Indiana Michigan Power Company (I&M) Rockport Power Plant (Rockport Plant) hereby submits the attached information to the U.S. Environmental Protection Agency (EPA) in response to your email to me dated Friday, March 12, 2021, requesting additional information for Rockport Plant's Site Specific Alternative Deadline to Initiate Closure under 40 CFR 257.103(f)(1) for the Bottom Ash Pond (BAP) at the Rockport Plant near Rockport, Indiana. Your email requested additional information to address the following:

- The workplan lacks a discussion about the workers' schedule.
- The groundwater quality data summary tables do not include data collected during 2020.
- The drill logs for 1701S, 1701I, 1702S, and 1702I (BAP wells) appear to be missing. Some of the drill logs do not list the well IDs

The schedule duration that was provided in Appendix C of the Demonstration Request is based on average work schedule of 5 days per week at 10 hours/day. The durations do not take into account delays from periods with significant rain events greater than average or normal for the geographic location.

The 2020 annual groundwater monitoring reports, which include historical data tables, including groundwater data collected in 2020, for Rockport Plant's BAP and Landfill are included in attachments A and B, respectively.

The boring logs and well construction diagrams for monitoring wells MW-1701 (S and I) and MW-1702 (S and I) were included in Appendix E-4 of the Groundwater Monitoring Network Evaluation Report for Rockport Plant's BAP. The 17XX series boring logs and well construction diagrams are included as a standalone document in attachment C to this letter. The other boring logs that do not have a corresponding well ID were part of a 1977 subsurface and geotechnical investigation for construction of the pond complex. There are no corresponding wells to the borings.

BOUNDLESS ENERGY™

In lieu of hard copies of these documents, electronic files are being submitted to you and Richard Huggins via email. If you have any questions regarding this submittal, please contact me at 614-716-2281 or damiller@aep.com.

Sincerely,

A handwritten signature in blue ink that reads "David A. Miller". The signature is written in a cursive style with a large, prominent initial "D".

David A. Miller, P.E.
Director, Land Environment & Remediation Services
Environmental Services Division

Attachments

cc: Richard Huggins – USEPA

EPA ADDITIONAL INFORMATION REQUEST

Attachment A

2020 Annual Groundwater Report for
Rockport Plant's Landfill

**Annual Groundwater Monitoring and Corrective
Action Report**

Indiana Michigan Power Company
Rockport Plant
Landfill CCR Management Unit
Rockport, Indiana

January 31, 2021

Prepared by:
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215



An **AEP** Company

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I. Overview

This *Annual Groundwater Monitoring and Corrective Action Report* (Report) has been prepared to report the status of activities for the year 2020 for the CCR landfill at Indiana Michigan Power Company's (I&M) Rockport Plant. The Indiana Michigan Power Company is wholly-owned subsidiary of American Electric Power Company (AEP). The USEPA's CCR rules require that the Annual Groundwater Monitoring and Corrective Action Report covering 2020 groundwater monitoring activities be posted to the operating record no later than January 31, 2021.

In general, the following activities were completed:

- The Landfill CCR Unit remained in detection monitoring throughout the 2020 reporting period.
- Groundwater data underwent various validation tests, including tests for completeness, valid values, transcription errors, and consistent units;
- Background data were update and revised prediction intervals for the landfill monitoring wells were calculated. The analysis is summarized in a report in **Appendix 2**;
- A statistical process in accordance with 40 CFR 257.93 to evaluate groundwater data was updated, certified, and posted to AEP's CCR website in October 2020. AEP's *Statistical Analysis Plan* (Geosyntec 2020). The statistical process was guided by USEPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* ("Unified Guidance", USEPA, 2009);
- Data for the November 2019 event was expanded to include results resampling according to the Statistical Analysis Plan, which were not available for the 2019 annual report because analysis of the samples was completed after the January 31, 2020 annual report deadline. The following Appendix III parameters exceeded background:
 - Chloride at wells MW-2D and MW-16D
 - Fluoride at wells MW-21S
 - TDS at wells MW-1S and MW-16D

A successful Alternative Source Demonstration was completed for the November 2019 sampling event, and the landfill remained in detection monitoring for the first semi-annual sampling event for 2020.

- The first semi-annual detection monitoring samples for 2020 were obtained in May, and resampling according to the Statistical Analysis Plan was again necessary. The statistical analysis was completed in August 2020. The following Appendix III parameters exceeded background:

- Calcium at well MW-16D
- Chloride at wells MW-2D; MW-16D; and MW-16S
- Fluoride at well MW-21S
- TDS at wells MW-2D and MW-16D

A successful Alternative Source Demonstration was completed for the Appendix III exceedances, and the Landfill remained in detection monitoring for the second semi-annual sampling event.

- Samples were collected in November 2020 for the second semi-annual sampling event. There are potential statistically significant increases over background for the following Appendix III parameters:
 - Calcium at wells MW-1D and MW-16D
 - Chloride at wells MW-1I; MW-2D; and MW-16D
 - Fluoride at wells MW-2S; MW-15I; MW-21S; and MW-21I
 - TDS at wells MW-1D; MW-2D and MW-16D
 - pH at well MW-21I

Resampling is being conducted according to the Statistical Analysis Plan to complete the statistical analysis. If necessary, another Alternative Source Demonstration will be conducted. If the Alternative Source Demonstration is unsuccessful, the landfill will transition to assessment monitoring.

The major components of this annual report, to the extent applicable at this time, are presented in sections that follow:

- A map/aerial photograph showing the CCR landfill unit, all groundwater monitoring wells and monitoring well identification numbers (Attached as **Appendix 1**);
- All of the monitoring data collected, including the rate and direction of groundwater flow, plus a summary showing the number of samples collected per monitoring well, the dates the samples were collected, and whether the sample was collected as part of background, detection monitoring, or assessment monitoring programs (Attached as **Appendix 1**);
- Statistical comparison of monitoring data to determine if there have been significant increase over background concentrations (Attached as **Appendix 2**, where applicable);
- A discussion of whether any alternate source demonstrations were performed, and the conclusions (Attached as **Appendix 3**, where applicable);
- A summary of any transition between monitoring programs, or an alternate monitoring frequency, for example the date and circumstances for transitioning from detection

monitoring to assessment monitoring, in addition to identifying the constituents detected at a statistically significant increase over background concentrations (Notices Attached as **Appendix 4**, where applicable);

- Identification of any monitoring wells that were installed, or decommissioned during the preceding year, along with a statement as to why that happened (Attached as **Appendix 5**, where applicable); and
- Other information required to be included in the annual report such as alternate source demonstration or assessment of corrective measures, if applicable

In addition, this report summarizes key actions completed, and where applicable, describes any problems encountered and actions taken to resolve those problems. The report includes a projection of key activities for the upcoming year.

II. Groundwater Monitoring Well Locations and Identification Numbers

The CCR landfill monitoring wells are listed as follows (S=shallow, I=Intermediate, D=Deep):

- Five Upgradient/Off Gradient Wells: MW-6S; MW-8(S,I); MW-11S; MW-14S.
- Sixteen Downgradient Wells: MW-17(S,I); MW-15(S,I); MW-16(S,I,D); MW-1(S,I,D); MW-21(S,I,D); and MW-2(S,I,D).

A figure that depicts the PE-certified groundwater monitoring network, the monitoring well locations, and their corresponding identification numbers is provided in **Appendix 1**.

III. Monitoring Wells Installed or Decommissioned

There were no CCR monitoring wells installed or decommissioned in 2020. The network design, as summarized in the *Groundwater Monitoring Network Design Report (Amec Foster Wheeler, 2017)* and as posted at the CCR web site for Rockport Plant's Landfill, did not change. That design report, viewable on the AEP CCR web site, discusses the facility location, the hydrogeological setting, the hydrostratigraphic units, the uppermost aquifer, downgradient monitoring well locations and the upgradient monitoring well locations. The web site is located at: <https://aep.com/environment/ccr/Rockport>.

IV. Groundwater Quality Data and Static Water Elevation Data, With Flow Rates and Flow Directions

Appendix 1 contains tables showing the groundwater quality data collected during the establishment of background quality, detection and assessment monitoring. Static water elevation data from each monitoring event also are shown in **Appendix 1**, along with the groundwater velocity calculations, groundwater flow direction and potentiometric maps developed after each sampling event.

V. Groundwater Quality Data Statistical Analysis

November 2019 Samples

Statistical analysis of the detection monitoring samples taken in November 2019 with resamples taken in February 2020 was completed on May 15, 2020 and is contained in **Appendix 2**. The following Appendix III parameters exceeded background:

- Chloride at wells MW-2D and MW-16D
- Fluoride at wells MW-21S
- TDS at wells MW-1S and MW-16D

May 2020 Samples

Statistical analysis of the first 2020 semiannual detection monitoring samples taken in May with resamples taken in July was documented in the August 4, 2020 statistical analysis report as shown in **Appendix 2**. The following Appendix III parameters exceeded background:

- Calcium at well MW-16D
- Chloride at wells MW-2D; MW-16D; and MW-16S
- Fluoride at well MW-21S
- TDS at wells MW-2D and MW-16D

November 2020 Samples

Samples were collected in November 2020 for the second semi-annual sampling event. There are potential statistically significant increases over background for the following Appendix III parameters:

- Calcium at wells MW-1D and MW-16D
- Chloride at wells MW-1I; MW-2D; and MW-16D
- Fluoride at wells MW-2S; MW-15I; MW-21S; and MW-21I
- TDS at wells MW-1D; MW-2D and MW-16D
- pH at well MW-21I

Resampling is being conducted according to the Statistical Analysis Plan to complete the statistical analysis. If necessary, another Alternative Source Demonstration will be conducted. If the Alternative Source Demonstration is unsuccessful, the landfill will transition to assessment monitoring.

VI. Alternate Source Demonstrations

November 2019 Samples

An alternate source demonstration (ASD) by Wood Environment & Infrastructure Solutions Inc. relative to the Appendix III SSIs resulting from the November 2019 sampling event was undertaken and completed by report dated June 2, 2020. The demonstration concluded that the groundwater quality and Appendix III indicator parameter SSIs identified in the statistical evaluation were not the result of a release of leachate from the landfill, but were due to natural groundwater variation. The successful ASD is included in **Appendix 3**.

Because the ASD for the November 2019 samples was successful, the landfill remained in detection monitoring for the first semiannual samples of 2020 taken in May.

May 2020 Samples

The first semiannual detection monitoring samples of 2020 were taken in May with verification samples taken in July. As discussed above, there were SSIs for Appendix III parameters. An ASD by Wood Environment & Infrastructure Solutions Inc. relative to the Appendix III SSIs was undertaken and completed by report dated October 30, 2020. The demonstration concluded that the groundwater quality and Appendix III indicator parameter SSIs identified in the statistical evaluation were not the result of a release of leachate from the landfill, but were due to natural groundwater variation and impacts from historical oil and gas operations in the vicinity. The successful ASD is included in **Appendix 3**.

Because the ASD for the May 2020 samples was successful, the landfill remained in detection monitoring for the second semiannual samples of 2020 taken in November.

VII. Discussion About Transition Between Monitoring Requirements or Alternate Monitoring Frequency

Because an ASD was successful for the Appendix III SSIs resulting from the statistical analyses of results from both the November 2019 and May 2020 sampling events, the landfill remained in detection monitoring for the November 2020 sampling event. Completion of resampling and statistical analyses of results for the November 2020 sampling event will be completed in early 2021.

If there are no SSIs of Appendix III parameters resulting from statistical analyses of the November 2020 sampling results, the landfill will remain in detection monitoring. If SSIs for the Appendix III indicator parameters are identified, an ASD will be investigated. If the ASD is successful, the landfill will remain in detection monitoring. If an ASD is not successful, then the landfill will proceed with assessment monitoring as required by 40 CFR 257.95.

Regarding defining an alternate monitoring frequency, the groundwater velocity and monitoring well production is high enough at this facility that no modification of the twice-per-year detection monitoring effort is needed.

VIII. Other Information Required

The landfill is currently in detection monitoring. All required information has been included in this annual groundwater monitoring report.

IX. Description of Any Problems Encountered in 2020 and Actions Taken

No significant problems were encountered. The low flow sampling effort went smoothly and the schedule was met to support 2020 annual groundwater report preparation covering the 2020 groundwater monitoring activities.

X. A Projection of Key Activities for the Upcoming Year

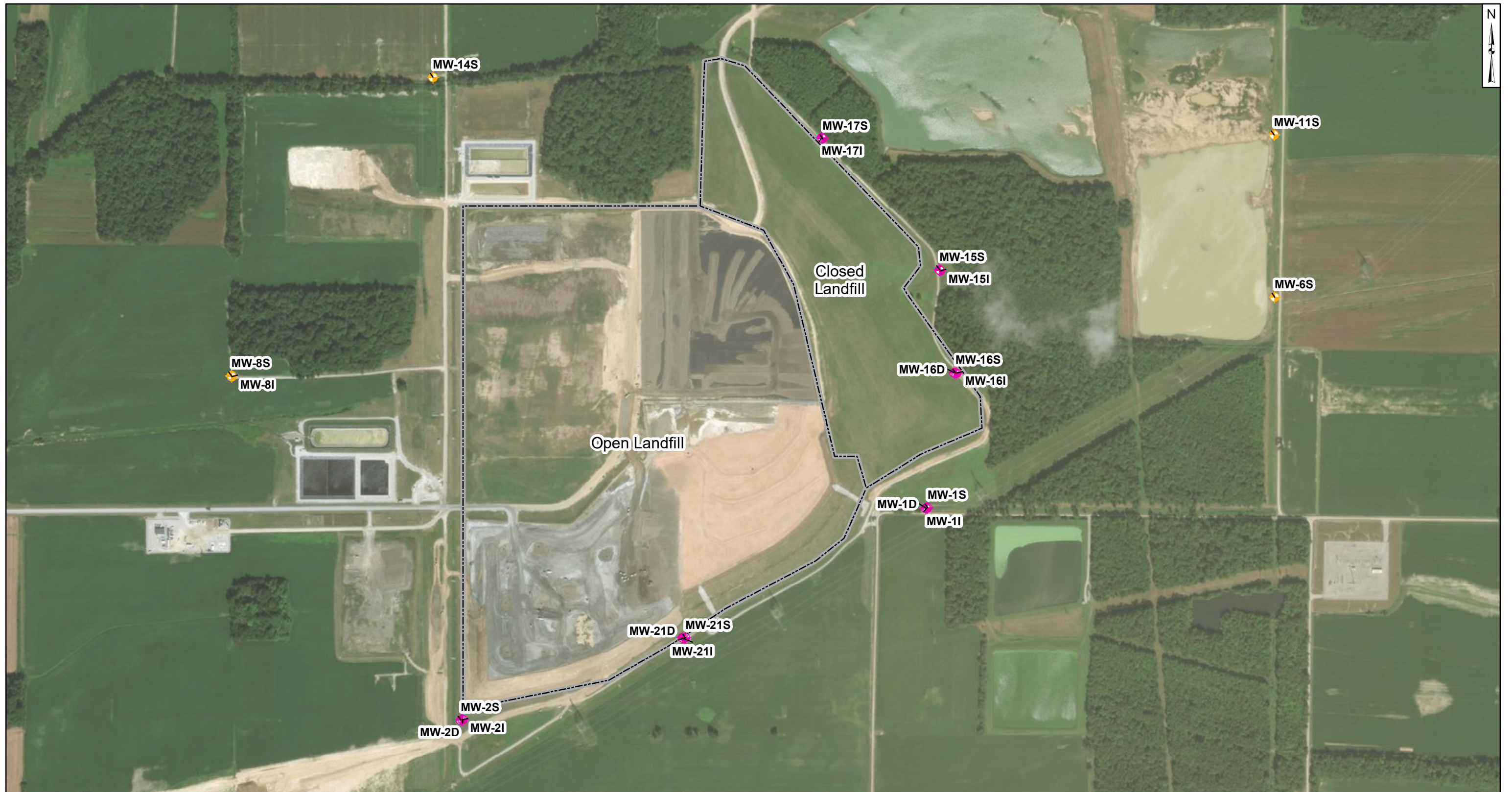
Key activities for 2021 include:

- Completion of resampling and statistical analyses of results from the November 2020 sampling event.
- Detection monitoring on a twice per year schedule (May and November) for 2021.
- Evaluation of the semiannual detection monitoring results from a statistical analysis viewpoint, looking for any statistically significant increases, or decreases when pH is considered.
- Alternate source demonstrations or assessment monitoring activities as necessary or required.
- Responding to any new data received in light of what the CCR rule requires.
- Preparation of the annual groundwater report.

APPENDIX 1 – Groundwater Data Tables and Figures

Figures and Tables follow, showing the groundwater monitoring network, data collected and the rate and direction of groundwater flow. The dates that the samples were collected and it also is shown whether the data were collected under background, detection, or assessment monitoring.

Groundwater Monitoring Network Figure

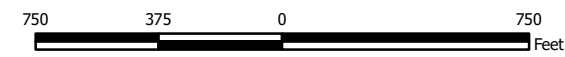


Monitoring Well Network

- ◆ Compliance Sampling Location
- ◆ Background Sampling Location
- Landfill Areas

Notes

- Monitoring well coordinates provided by AEP.
- Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.



**Site Layout
CCR Landfills**

AEP-Rockport Power Plant



Figure

1

Columbus, Ohio

2018/01/26

Groundwater Data Tables

Table 1 - Groundwater Data Summary: MW-001D

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.017	63.6	27.3	0.28	7.6	40.2	331
7/19/2016	Background	0.015	57.9	29.8	0.30	7.1	40.6	329
9/20/2016	Background	0.016	65.2	29.8	0.28	7.4	32.3	288
11/16/2016	Background	0.018	69.3	39.3	0.29	7.5	33.6	339
1/11/2017	Background	0.006	63.4	40.6	0.26	7.4	36.4	323
3/8/2017	Background	0.055	70.0	40.3	0.26	7.3	37.0	330
5/9/2017	Background	0.046	67.8	40.9	0.28	7.3	39.5	342
7/18/2017	Background	0.019	63.9	39.3	0.24	8.1	39.6	338
10/4/2017	Detection	0.002 J	65.7	10.3	0.85	7.3	10.4	339
1/22/2018	Detection	--	--	--	0.31	--	--	--
6/7/2018	Detection	0.103	70.9	43.1	0.3	8.2	39.5	345
8/16/2018	Detection	0.02	--	43.8	--	7.4	--	--
11/14/2018	Detection	0.1	71.9	46.9	0.3	7.8	39.8	340
2/13/2019	Detection	< 0.02 U	--	--	--	7.4	--	--
5/23/2019	Detection	0.02 J	73.6	32.1	0.27	7.2	45.3	346
7/23/2019	Detection	--	--	--	--	7.3	39.2	--
11/22/2019	Detection	0.04 J	72.5	49.1	0.27	7.3	41.2	398
2/17/2020	Detection	--	--	--	--	7.4	--	257
5/19/2020	Detection	0.04 J	59.9	23.8	0.30	7.1	23.3	261
11/11/2020	Detection	0.04 J	80.3	56.2	0.3	7.1	37.7	397

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-001D

**Rockport - LF
Appendix IV Constituents**

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.05	1.29	255	0.01 J	0.13	0.3	3.64	1.084	0.28	1.13	< 0.0002 U	0.002 J	3.44	0.07 J	0.04 J
7/19/2016	Background	0.03 J	0.73	147	< 0.005 U	0.07	1.5	0.373	0.195	0.30	1.37	0.017	< 0.002 U	3.59	0.03 J	0.02 J
9/20/2016	Background	0.03 J	1.07	160	0.007 J	0.04	0.3	0.836	1.457	0.28	0.500	0.0005 J	< 0.002 U	3.60	0.07 J	0.056
11/16/2016	Background	0.03 J	0.65	147	< 0.005 U	0.04	0.072	0.329	7.296	0.29	0.222	0.004	< 0.002 U	3.24	0.03 J	0.02 J
1/11/2017	Background	0.03 J	0.77	162	< 0.005 U	0.15	0.439	0.577	0.649	0.26	0.807	0.007	< 0.002 U	2.43	0.03 J	0.05 J
3/8/2017	Background	0.02 J	0.58	139	< 0.005 U	0.04	0.687	0.173	0.2384	0.26	1.92	0.007	< 0.002 U	3.40	0.03 J	0.03 J
5/9/2017	Background	0.02 J	0.75	142	0.006 J	0.04	0.174	0.440	0.724	0.28	0.419	0.009	< 0.002 U	3.05	0.06 J	0.04 J
7/18/2017	Background	0.02 J	0.59	139	< 0.004 U	0.05	0.131	0.212	0.946	0.24	0.355	0.002	< 0.002 U	2.94	< 0.03 U	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-001I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.075	67.4	24.9	0.37	6.7	44.3	323
7/19/2016	Background	0.014	60.0	24.8	0.40	7.0	46.7	315
9/20/2016	Background	0.018	64.5	24.3	0.37	7.4	42.4	331
11/16/2016	Background	0.015	63.9	24.1	0.31	7.1	40.7	334
1/11/2017	Background	0.004 J	60.9	24.4	0.33	7.6	41.4	316
3/8/2017	Background	0.045	66.9	24.1	0.35	7.4	41.2	300
5/9/2017	Background	0.049	65.7	26.5	0.38	7.2	43.8	323
7/18/2017	Background	0.047	64.8	26.5	0.34	6.9	43.3	330
10/4/2017	Detection	0.018	68.1	27.5	0.37	7.1	44.1	327
6/6/2018	Detection	0.11	66.4	28.6	0.42	7.5	42	321
8/16/2018	Detection	0.056	--	--	--	7.3	--	--
11/14/2018	Detection	0.05 J	65.5	28.8	0.41	7.8	40.7	308
2/13/2019	Detection	--	--	30.1	--	7.5	--	--
4/1/2019	Detection	--	--	34.1	--	7.4	--	--
5/23/2019	Detection	0.02 J	67.7	33.1	0.42	7.0	40.2	341
7/23/2019	Detection	--	--	30.6	--	7.2	--	--
9/11/2019	Detection	--	--	33.5	--	7.3	--	--
11/22/2019	Detection	< 0.02 U	66.7	35.0	0.37	7.1	39.7	348
5/19/2020	Detection	0.02 J	71.2	37.7	0.40	7.2	40.1	323
7/16/2020	Detection	--	--	35.4	0.39	7.4	--	340
11/11/2020	Detection	< 0.02 U	65.9	36.3	0.43	7.3	39	322

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-001I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.04 J	0.86	85.5	< 0.005 U	0.08	0.2	0.341	0.3903	0.37	0.851	0.005	< 0.002 U	2.47	< 0.03 U	0.03 J
7/19/2016	Background	0.04 J	0.78	86.1	< 0.005 U	0.10	1.0	0.364	1.675	0.40	1.25	0.022	0.002 J	2.85	0.04 J	0.02 J
9/20/2016	Background	0.01 J	0.92	84.9	< 0.005 U	0.02	0.2	0.401	1.696	0.37	0.156	0.007	< 0.002 U	2.89	< 0.03 U	0.02 J
11/16/2016	Background	0.02 J	0.80	93.4	< 0.005 U	0.02 J	0.051	0.381	1.312	0.31	0.059	0.005	< 0.002 U	3.27	< 0.03 U	0.03 J
1/11/2017	Background	0.02 J	0.82	90.5	0.005 J	0.02 J	0.390	0.424	0.621	0.33	0.099	0.005	< 0.002 U	3.33	< 0.03 U	0.104
3/8/2017	Background	0.03 J	0.69	76.7	< 0.005 U	0.05	0.686	0.054	0.15	0.35	0.427	0.006	< 0.002 U	1.82	0.04 J	0.03 J
5/9/2017	Background	0.04 J	0.89	85.0	< 0.004 U	0.01 J	0.155	0.558	0.63	0.38	0.068	0.008	< 0.002 U	2.87	< 0.03 U	0.02 J
7/18/2017	Background	0.02 J	0.86	94.3	< 0.004 U	0.007 J	0.112	0.569	2.533	0.34	0.137	0.0005 J	< 0.002 U	2.85	< 0.03 U	0.02 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-001S

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.037	70.7	29.6	0.59	8.1	33.7	392
7/19/2016	Background	0.015	62.9	31.1	0.65	7.2	35.5	392
9/20/2016	Background	0.022	68.0	31.4	0.60	7.1	32.4	411
11/16/2016	Background	0.020	74.4	31.9	0.54	7.3	30.7	398
1/11/2017	Background	0.005 J	65.0	32.0	0.57	7.4	30.7	392
3/8/2017	Background	0.030	71.5	30.7	0.59	7.1	30.5	384
5/9/2017	Background	0.031	72.6	31.3	0.63	7.2	33.3	402
7/18/2017	Background	0.028	69.2	30.4	0.58	7.3	33.6	406
10/4/2017	Detection	0.044	67.6	33.1	0.57	7.1	34.6	396
1/3/2018	Detection	--	--	39.9	--	7.6	--	--
6/6/2018	Detection	0.046	71.8	34.9	0.61	7.5	34.2	386
8/16/2018	Detection	--	--	37.3	--	7.3	--	--
11/14/2018	Detection	0.04 J	71.9	38.1	0.63	7.5	32.3	410
2/13/2019	Detection	--	--	40.4	--	7.5	--	--
4/1/2019	Detection	--	--	38.5	--	7.4	--	--
5/23/2019	Detection	< 0.02 U	73.7	33.7	0.55	7.9	36.3	388
7/23/2019	Detection	--	--	30.0	--	7.4	--	--
11/22/2019	Detection	< 0.02 U	69.8	30.6	0.57	6.9	35.9	444
2/18/2020	Detection	--	--	--	--	7.1	--	442
5/19/2020	Detection	0.02 J	72.0	34.7	0.55	7.0	37.1	350
11/11/2020	Detection	< 0.02 U	67.8	33.3	0.66	7.0	34.1	402

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-001S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.03 J	0.43	18.5	< 0.01 U	0.02 J	0.3	0.171	0.0665	0.59	0.204	0.004	< 0.002 U	0.65	1.1	< 0.02 U
7/19/2016	Background	0.20	0.69	21.9	0.160	0.22	0.7	0.398	0.819	0.65	0.572	0.024	< 0.002 U	0.80	1.1	0.168
9/20/2016	Background	0.02 J	0.38	17.2	< 0.005 U	0.005 J	0.3	0.014	0.244	0.60	0.01 J	0.002	< 0.002 U	0.68	0.9	< 0.01 U
11/16/2016	Background	0.02 J	0.38	17.9	< 0.005 U	0.007 J	0.207	0.01 J	0.296	0.54	0.022	0.010	< 0.002 U	0.74	0.9	< 0.01 U
1/11/2017	Background	0.04 J	0.43	17.7	< 0.005 U	0.02	0.720	0.052	0.934	0.57	0.076	0.008	< 0.002 U	0.59	1.0	< 0.01 U
3/8/2017	Background	0.04 J	0.76	36.5	0.023	0.09	1.38	1.21	0.0407	0.59	1.26	0.010	< 0.002 U	0.97	1.1	0.03 J
5/9/2017	Background	0.05 J	0.50	22.3	0.01 J	0.22	0.552	0.164	0.0324	0.63	0.526	0.009	< 0.002 U	1.64	1.1	< 0.01 U
7/18/2017	Background	0.02 J	0.39	17.3	< 0.004 U	0.01 J	0.255	0.02 J	0.309	0.58	0.033	0.0007 J	< 0.002 U	0.64	1.2	< 0.01 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-002D

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	< 0.002 U	75.6	24.2	0.19	7.9	42.1	341
7/20/2016	Background	0.010	65.8	24.2	0.21	7.5	44.2	339
9/21/2016	Background	0.013	66.7	22.8	0.20	7.3	39.6	338
11/17/2016	Background	0.014	73.9	22.2	0.19	7.1	35.4	327
1/11/2017	Background	< 0.002 U	64.2	22.3	0.19	7.4	38.3	318
3/8/2017	Background	0.030	74.2	21.7	0.20	7.4	37.6	318
5/9/2017	Background	0.027	70.8	23.1	0.21	7.3	40.5	343
7/19/2017	Background	0.073	64.7	23.0	0.18	8.5	40.5	340
10/4/2017	Detection	0.041	67.7	22.4	0.20	7.2	42.3	332
6/7/2018	Detection	0.076	78.6	43.1	0.22	7.6	39.8	361
8/16/2018	Detection	0.038	--	93	--	7.3	--	--
11/12/2018	Detection	0.07 J	72.4	51.3	0.2	7.4	36.1	348
2/13/2019	Detection	--	--	40.9	--	7.3	--	--
4/1/2019	Detection	--	--	69.4	--	7.5	--	--
5/22/2019	Detection	< 0.02 U	98.5	135	0.18	7.3	33.3	531
7/24/2019	Detection	--	114	156	--	6.3	--	540
9/11/2019	Detection	--	103	110	--	7.2	--	443
11/14/2019	Detection	0.02 J	76.9	56.5	0.18	7.3	38.9	356
2/18/2020	Detection	--	--	76.3	--	7.1	--	--
5/18/2020	Detection	< 0.02 U	88.7	93.6	0.21	7.8	36.2	399
7/15/2020	Detection	--	--	96.2	0.20	7.3	--	411
11/11/2020	Detection	< 0.02 U	92.2	92.2	0.2	7.2	35.1	395

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-002D

**Rockport - LF
Appendix IV Constituents**

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.03 J	0.78	185	< 0.005 U	0.12	0.2	0.473	0.0495	0.19	0.648	0.002	< 0.002 U	2.11	< 0.03 U	0.02 J
7/20/2016	Background	0.06	0.82	195	0.006 J	0.12	0.4	0.439	0.328	0.21	0.359	0.018	< 0.002 U	2.16	< 0.03 U	0.02 J
9/21/2016	Background	0.02 J	0.81	180	0.007 J	0.07	0.3	0.425	0.451	0.20	0.247	0.002	< 0.002 U	1.97	0.05 J	0.03 J
11/17/2016	Background	0.02 J	0.61	172	< 0.005 U	0.10	0.05 J	0.212	2.243	0.19	0.021	0.007	< 0.002 U	2.09	0.09 J	0.01 J
1/11/2017	Background	0.03 J	0.62	157	< 0.005 U	0.26	0.277	0.327	1.278	0.19	0.378	0.007	< 0.002 U	1.80	0.08 J	0.02 J
3/8/2017	Background	0.03 J	0.59	160	< 0.005 U	0.09	0.562	0.252	1.295	0.20	0.045	0.008	< 0.002 U	2.13	0.03 J	0.02 J
5/9/2017	Background	0.04 J	0.65	159	< 0.004 U	0.08	0.188	0.335	0.4554	0.21	0.144	0.011	< 0.002 U	1.90	0.06 J	0.02 J
7/19/2017	Background	0.02 J	0.62	169	< 0.004 U	0.08	0.162	0.353	0.372	0.18	0.075	0.0006 J	< 0.002 U	1.89	0.04 J	0.02 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-002I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.019	74.0	28.6	0.30	7.9	42.9	332
7/20/2016	Background	0.009	67.5	29.7	0.33	7.1	45.7	363
9/21/2016	Background	0.025	66.8	28.0	0.31	7.5	41.1	330
11/17/2016	Background	0.013	73.9	25.8	0.36	7.3	36.9	326
1/11/2017	Background	< 0.002 U	63.9	27.1	0.30	7.7	39.2	314
3/8/2017	Background	0.024	71.5	25.8	0.31	7.6	39.2	312
5/9/2017	Background	0.034	71	28.6	0.31	8.4	42.4	343
7/19/2017	Background	0.025	68.9	29.7	0.28	7.0	44.1	346
10/4/2017	Detection	0.030	72.5	29.8	0.28	7.2	45.5	343
1/4/2018	Detection	--	--	28.8	--	7.8	--	--
6/6/2018	Detection	0.052	72.7	31.8	0.32	7.6	43.2	356
8/16/2018	Detection	0.03	--	31.5	--	7.5	--	--
11/13/2018	Detection	0.05 J	64.8	27.9	0.32	7.2	39	308
2/13/2019	Detection	< 0.02 U	--	--	--	7.6	--	--
5/22/2019	Detection	< 0.02 U	64.3	25.4	0.32	7.3	39.2	328
11/14/2019	Detection	< 0.02 U	63.4	23.3	0.33	7.4	39.3	296
5/18/2020	Detection	< 0.02 U	61.9	24.4	0.36	7.8	40.5	297
11/11/2020	Detection	< 0.02 U	66.6	24.3	0.37	6.9	38.6	296

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-002I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.06	0.64	78.5	< 0.005 U	0.03	0.2	0.606	0.398	0.30	0.208	0.005	< 0.002 U	4.91	0.7	0.051
7/20/2016	Background	0.06	0.68	84.0	0.006 J	0.05	0.6	0.760	0.962	0.33	0.454	0.021	< 0.002 U	5.00	0.7	0.04 J
9/21/2016	Background	0.07	0.55	67.1	< 0.005 U	0.05	0.1	0.415	0.508	0.31	0.178	0.002	< 0.002 U	4.21	0.6	0.04 J
11/17/2016	Background	0.13	0.61	60.1	< 0.005 U	0.07	0.143	0.260	0.425	0.36	0.231	0.006	< 0.002 U	3.14	0.4	0.02 J
1/11/2017	Background	0.10	0.65	59.4	< 0.005 U	0.16	0.154	0.280	0.845	0.30	0.383	0.007	< 0.002 U	2.07	0.2	0.03 J
3/8/2017	Background	0.10	0.74	58.4	0.01 J	0.22	1.01	0.581	0.435	0.31	0.588	0.005	< 0.002 U	2.06	0.2	0.03 J
5/9/2017	Background	0.15	0.9	59.3	0.022	0.09	0.829	1.28	0.491	0.31	1.39	0.007	< 0.002 U	2.17	0.4	< 0.01 U
7/19/2017	Background	0.11	0.76	62.9	0.020	0.05	0.567	0.995	0.536	0.28	1.19	< 0.0002 U	< 0.002 U	2.07	0.2	0.064

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-002S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	< 0.002 U	59.4	21.5	0.26	6.4	26.0	298
7/20/2016	Background	0.015	51.6	21.8	0.29	7.7	27.6	265
9/21/2016	Background	0.014	57.4	23.8	0.26	7.6	26.2	301
11/17/2016	Background	0.018	62.4	21.8	0.26	7.3	24.1	316
1/11/2017	Background	0.004 J	51.6	21.2	0.25	7.7	25.9	284
3/8/2017	Background	0.069	57.9	21.0	0.26	7.7	26.6	285
5/9/2017	Background	0.084	59	20.8	0.26	7.1	30.3	321
7/19/2017	Background	0.052	53.3	19.6	0.23	7.5	33.8	308
10/4/2017	Detection	0.045	60.7	21.2	0.25	7.2	30.0	323
6/6/2018	Detection	0.073	57	25.3	0.29	7.6	28.9	329
11/13/2018	Detection	0.06 J	54.7	24.8	0.28	7.5	24.7	272
2/13/2019	Detection	--	--	26.5	--	7.8	--	--
4/1/2019	Detection	--	--	26.1	--	7.7	--	--
5/22/2019	Detection	< 0.02 U	51.3	26.4	0.30	7.7	26.2	352
7/23/2019	Detection	--	--	26.8	0.30	7.5	--	339
9/11/2019	Detection	--	--	26.6	--	7.3	--	--
11/14/2019	Detection	0.03 J	59.2	27.3	0.28	7.5	27.8	336
2/18/2020	Detection	--	--	--	--	7.4	--	--
5/18/2020	Detection	0.02 J	53.7	28.9	0.34	7.4	24.9	344
7/15/2020	Detection	--	--	28.7	0.33	7.6	--	347
11/11/2020	Detection	0.03 J	58.4	27	0.34	7.4	25.7	336

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-002S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	< 0.02 U	0.97	16.0	< 0.01 U	0.01 J	0.4	0.177	< 1.2 U	0.26	0.158	0.0004 J	< 0.002 U	2.03	0.3	< 0.02 U
7/20/2016	Background	0.02 J	1.09	14.0	< 0.005 U	0.01 J	0.6	0.090	0.66	0.29	0.105	0.018	< 0.002 U	2.39	0.3	< 0.01 U
9/21/2016	Background	0.04 J	0.94	12.4	< 0.005 U	0.02 J	0.3	0.017	0.172	0.26	0.101	0.005	< 0.002 U	2.07	0.2	< 0.01 U
11/17/2016	Background	0.02 J	0.94	12.4	< 0.005 U	0.02	0.337	0.019	0.371	0.26	0.022	0.008	< 0.002 U	1.91	0.3	< 0.01 U
1/11/2017	Background	0.02 J	0.92	11.0	< 0.005 U	0.09	0.329	0.014	0.654	0.25	0.063	0.009	< 0.002 U	2.14	0.4	0.074
3/8/2017	Background	0.02 J	0.95	12.3	< 0.005 U	0.009 J	0.670	0.051	0.5205	0.26	0.042	0.0007 J	< 0.002 U	1.92	0.3	< 0.01 U
5/9/2017	Background	0.04 J	0.95	12.3	< 0.004 U	0.01 J	0.370	0.064	0.434	0.26	0.047	0.002	< 0.002 U	1.75	0.2	< 0.01 U
7/19/2017	Background	0.12	0.96	13.6	< 0.004 U	0.03	0.410	0.121	0.6927	0.23	0.243	0.005	< 0.002 U	1.81	0.3	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-006S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.012	46.1	8.44	0.73	7.9	18.8	294
7/18/2016	Background	0.014	46.3	8.35	0.79	7.5	18.3	290
9/20/2016	Background	0.012	44.4	6.04	0.73	7.4	10.9	266
11/16/2016	Background	0.028	50.8	7.04	0.69	8.1	14.3	279
1/10/2017	Background	0.006	47.8	7.03	0.65	7.9	14.0	287
3/8/2017	Background	0.032	53.2	3.32	0.25	7.9	6.9	296
5/8/2017	Background	0.051	50.3	8.68	0.69	7.6	17.5	305
7/18/2017	Background	0.078	47.0	4.88	0.57	7.7	9.6	274
10/3/2017	Detection	0.094	44.8	3.28	0.71	7.3	7.5	261
6/5/2018	Detection	0.09	45.2	2.38	0.89	7.5	3.8	225
8/15/2018	Detection	0.101	52.8	11.9	0.81	7.7	15.6	277
9/26/2018	Detection	0.08 J	44.1	6.83	0.84	--	9.8	261
11/1/2018	Detection	0.04 J	42.3	3.52	0.86	7.3	4.9	225
11/15/2018	Detection	0.04 J	38.8	3.91	0.88	7.9	5.2	196
5/23/2019	Detection	0.02 J	52.5	9.64	0.95	7.4	16.8	315
11/14/2019	Detection	< 0.02 U	47.8	5.36	0.90	7.3	12.0	277
5/19/2020	Detection	< 0.02 U	43.1	1.49	1.02	7.7	1.6	214
11/12/2020	Detection	< 0.02 U	43	2.07	1.11	7.1	4.4	225

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-006S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.02 J	0.28	13.9	< 0.005 U	0.006 J	0.4	0.097	0.156	0.73	0.396	< 0.0002 U	0.002 J	5.99	0.4	< 0.01 U
7/18/2016	Background	0.03 J	0.26	13.6	0.005 J	0.25	0.4	0.052	0.101	0.79	0.074	0.015	< 0.002 U	3.28	0.3	0.01 J
9/20/2016	Background	0.03 J	0.26	13.6	< 0.005 U	0.02	0.3	0.019	0.8651	0.73	0.034	0.004	< 0.002 U	3.34	0.2	< 0.01 U
11/16/2016	Background	0.03 J	0.26	14.1	< 0.005 U	0.02 J	0.200	0.027	0.202	0.69	0.050	0.006	< 0.002 U	2.80	0.3	< 0.01 U
1/10/2017	Background	0.03 J	0.28	14.8	< 0.005 U	0.008 J	0.599	0.045	0.5825	0.65	0.032	0.014	< 0.002 U	2.93	0.4	0.01 J
3/8/2017	Background	0.03 J	0.26	15.8	< 0.005 U	0.05	1.37	0.049	0.297	0.25	0.113	0.009	< 0.002 U	3.29	0.7	< 0.01 U
5/8/2017	Background	0.03 J	0.28	15.4	< 0.004 U	0.009 J	0.583	0.061	0.12	0.69	0.083	0.011	< 0.002 U	2.73	0.8	< 0.01 U
7/18/2017	Background	0.02 J	0.27	14.3	< 0.004 U	0.04	0.291	0.026	0.954	0.57	0.056	< 0.0002 U	< 0.002 U	4.36	0.4	< 0.01 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-008I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.017	72.0	21.7	0.35	7.2	87.5	370
7/19/2016	Background	0.016	67.9	22.0	0.34	7.2	86.3	358
9/21/2016	Background	0.017	67.4	21.5	0.29	7.4	79.2	376
11/17/2016	Background	0.028	77.5	21.3	0.29	7.6	77.5	387
1/10/2017	Background	0.006	79.5	20.9	0.25	7.6	80.0	371
3/6/2017	Background	0.083	74.7	20.7	0.28	7.4	80.3	391
5/9/2017	Background	0.045	71.9	21.2	0.28	7.2	81.9	376
7/18/2017	Background	0.026	72.2	20.9	0.25	7.3	83.4	379
10/4/2017	Detection	0.096	74.7	20.1	0.27	7.6	85.9	378
12/12/2017	Detection	--	--	19.3	0.29	7.9	87.1	--
6/4/2018	Detection	0.044	76.7	20.9	0.29	7.7	79	407
11/14/2018	Detection	0.06 J	67.7	20.6	0.33	7.2	68.2	390
5/23/2019	Detection	0.03 J	70.7	21.0	0.34	7.2	62.3	371
11/22/2019	Detection	0.02 J	66.9	19.7	0.30	6.7	68.3	381
5/19/2020	Detection	0.02 J	68.8	20.4	0.32	7.8	61.7	357
11/10/2020	Detection	< 0.02 U	66.8	19.3	0.38	7.4	56.7	343

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-008I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.12	5.86	61.4	< 0.005 U	0.04	0.1	0.800	0.538	0.35	0.083	0.006	< 0.002 U	2.85	6.2	0.063
7/19/2016	Background	0.27	11.5	70.1	0.119	0.28	0.5	0.961	1.2515	0.34	0.242	0.007	< 0.002 U	3.00	7.5	0.166
9/21/2016	Background	0.07	2.08	57.0	< 0.005 U	0.02 J	0.1	0.643	0.678	0.29	0.02 J	0.008	< 0.002 U	2.34	2.7	0.03 J
11/17/2016	Background	0.10	1.39	58.4	< 0.005 U	0.04	0.055	0.646	1.166	0.29	0.032	0.009	< 0.002 U	2.47	3.0	0.03 J
1/10/2017	Background	0.08	2.58	54.9	< 0.005 U	0.02 J	0.817	0.671	1.825	0.25	0.025	0.005	< 0.002 U	2.31	2.3	0.04 J
3/6/2017	Background	0.08	2.78	56.9	< 0.005 U	0.04	0.511	0.656	1.015	0.28	0.032	0.010	< 0.002 U	2.73	2.9	0.05 J
5/9/2017	Background	0.08	2.09	57.8	< 0.004 U	0.05	0.230	0.770	1.011	0.28	0.054	0.001	< 0.002 U	2.29	4.5	0.03 J
7/18/2017	Background	0.07	1.31	60.4	< 0.004 U	0.02 J	0.077	0.672	1.079	0.25	0.01 J	< 0.0002 U	< 0.002 U	2.58	4.7	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-008S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.010	42.7	23.7	0.56	7.3	26.5	345
7/19/2016	Background	0.012	41.5	23.5	0.56	7.2	26.4	321
9/21/2016	Background	0.011	42.7	22.1	0.54	7.1	23.4	332
11/17/2016	Background	0.032	42.9	21.1	0.55	7.9	21.7	322
1/9/2017	Background	< 0.002 U	45.8	20.8	0.47	7.6	22.1	300
3/7/2017	Background	0.043	44.8	21.4	0.52	7.6	21.7	320
5/9/2017	Background	0.028	42.9	22.8	0.52	7.4	21.8	319
7/18/2017	Background	0.022	44.4	22.7	0.47	7.4	22.3	319
10/4/2017	Detection	0.016	39.8	22.4	0.52	7.8	23.1	317
12/12/2017	Detection	--	--	22.5	0.56	7.7	24.9	--
6/5/2018	Detection	0.058	42.3	23.8	0.59	7.6	21.2	324
11/13/2018	Detection	0.04 J	35.6	22.9	0.57	7.6	19.5	288
5/23/2019	Detection	< 0.02 U	35.9	23.6	0.58	7.4	20.4	312
11/21/2019	Detection	< 0.02 U	39.0	23.1	0.49	7.4	20.0	324
5/19/2020	Detection	< 0.02 U	42.2	27.2	0.50	6.3	23.8	342
11/10/2020	Detection	< 0.02 U	43.5	27.1	0.56	6.8	23.3	326

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-008S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	1.61	15.4	< 0.005 U	0.07	0.3	0.400	0.204	0.56	0.207	0.004	< 0.002 U	0.81	0.4	< 0.01 U
7/19/2016	Background	0.30	1.78	13.1	0.232	0.31	0.6	0.453	0.577	0.56	0.364	0.025	< 0.002 U	1.10	0.6	0.276
9/21/2016	Background	0.02 J	1.33	12.2	< 0.005 U	0.02 J	0.4	0.125	1.291	0.54	0.066	0.001	< 0.002 U	0.80	0.2	0.03 J
11/17/2016	Background	0.03 J	1.26	10.9	< 0.005 U	0.05	0.156	0.113	0.49	0.55	0.065	0.002	< 0.002 U	0.71	0.2	< 0.01 U
1/9/2017	Background	0.02 J	1.56	13.8	0.006 J	0.01 J	1.04	0.447	0.676	0.47	0.190	0.002	< 0.002 U	0.77	0.2	0.01 J
3/7/2017	Background	0.04 J	1.53	14.5	0.009 J	0.26	0.881	0.433	0.3161	0.52	0.278	0.006	< 0.002 U	1.56	0.2	0.170
5/9/2017	Background	0.03 J	2.09	16.9	0.01 J	0.09	0.423	0.981	0.127	0.52	0.389	0.006	< 0.002 U	0.75	0.3	< 0.01 U
7/18/2017	Background	0.02 J	1.19	10.9	< 0.004 U	0.13	0.277	0.052	1.653	0.47	0.038	0.001	0.015	0.83	0.2	< 0.01 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-011S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.062	41.6	1.82	0.74	7.9	10.9	212
7/18/2016	Background	0.062	38.8	1.83	0.76	7.3	10.6	201
9/20/2016	Background	0.077	45.1	1.62	0.73	7.3	5.3	196
11/16/2016	Background	0.053	37.3	1.54	0.92	8.4	4.1	182
1/10/2017	Background	0.029	40.4	2.12	0.96	8.1	7.6	179
3/7/2017	Background	0.057	42.8	4.63	1.00	7.9	13.7	197
5/9/2017	Background	0.047	41.2	9.87	0.86	7.8	16.4	239
7/18/2017	Background	0.067	44.2	8.19	0.75	7.7	15.6	224
10/3/2017	Detection	0.090	43.7	3.68	0.89	7.2	9.3	200
12/13/2017	Detection	--	--	2.4	0.82	8.3	8	--
6/5/2018	Detection	0.076	55.8	6.98	0.62	7.2	21.7	276
11/14/2018	Detection	0.11	56.4	1.79	0.72	7.6	5.9	238
5/23/2019	Detection	0.08 J	54.3	1.62	0.82	7.7	14.7	279
11/15/2019	Detection	0.052	47.6	1.48	0.77	7.8	2.7	216
5/20/2020	Detection	0.04 J	55.8	2.68	0.58	7.4	13.5	246
11/11/2020	Detection	0.04 J	52.4	1.52	0.83	7.4	2.9	211

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-011S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.05 J	0.47	10.4	< 0.005 U	0.006 J	0.4	0.113	0.422	0.74	0.046	< 0.0002 U	< 0.002 U	4.70	0.07 J	< 0.01 U
7/18/2016	Background	0.04 J	0.53	9.79	< 0.005 U	0.03	0.5	0.043	0.815	0.76	0.02 J	0.024	< 0.002 U	4.36	0.08 J	0.01 J
9/20/2016	Background	0.04 J	0.42	11.3	< 0.005 U	0.03	0.8	0.029	0.741	0.73	0.046	0.004	< 0.002 U	3.37	0.1	0.01 J
11/16/2016	Background	0.05 J	0.45	7.91	< 0.005 U	0.02	0.416	0.027	0.288	0.92	0.027	0.005	< 0.002 U	4.71	0.07 J	0.02 J
1/10/2017	Background	0.04 J	0.52	6.52	< 0.005 U	0.01 J	0.725	0.022	2.101	0.96	0.02 J	0.003	< 0.002 U	6.09	0.05 J	0.01 J
3/7/2017	Background	0.04 J	0.52	7.09	< 0.005 U	0.007 J	1.25	0.027	0.1865	1.00	0.02 J	0.013	0.002 J	6.03	0.2	0.01 J
5/9/2017	Background	0.04 J	0.48	7.73	< 0.004 U	0.03	0.567	0.030	0.1247	0.86	0.023	0.009	0.002 J	4.86	0.2	0.01 J
7/18/2017	Background	< 0.05 U	0.50	8.16	< 0.02 U	< 0.02 U	0.568	0.02 J	0.7935	0.75	0.06 J	0.002	< 0.002 U	4.69	0.3 J	0.2 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-014S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.011	59.2	28.6	0.39	7.2	34.9	368
7/20/2016	Background	0.008	56.3	29.4	0.39	7.1	36.5	364
9/21/2016	Background	0.010	59.5	28.1	0.36	7.0	32.5	361
11/17/2016	Background	0.008	65.4	27.8	0.35	7.7	29.1	362
1/9/2017	Background	< 0.002 U	65.7	27.2	0.33	7.5	30.7	344
3/7/2017	Background	0.031	63.4	26.8	0.36	7.4	29.9	354
5/9/2017	Background	0.017	59.8	29.4	0.37	7.0	32.3	376
7/18/2017	Background	0.030	65.6	29.6	0.33	7.3	33.1	377
10/4/2017	Detection	0.042	67.0	29.9	0.34	7.0	34.8	376
12/12/2017	Detection	--	--	30	0.34	7.6	35.5	--
6/5/2018	Detection	0.046	61.1	27.1	0.39	7.6	29.4	360
11/13/2018	Detection	0.04 J	59.2	29	0.37	6.8	30.8	344
5/23/2019	Detection	< 0.02 U	66.9	28.6	0.37	7.2	32.4	390
11/16/2019	Detection	< 0.02 U	65.1	28.9	0.38	7.5	32.8	374
5/19/2020	Detection	< 0.02 U	66.6	28.6	0.33	7.7	32.5	411
11/10/2020	Detection	< 0.02 U	66.4	26.3	0.39	6.7	31.4	370

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-014S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.06	2.33	29.7	0.02 J	0.32	1.0	1.49	0.512	0.39	1.02	< 0.0002 U	0.002 J	12.7	1.4	0.01 J
7/20/2016	Background	0.02 J	1.54	31.0	0.008 J	0.21	0.3	0.573	0.594	0.39	0.307	0.018	< 0.002 U	1.51	1.4	< 0.01 U
9/21/2016	Background	0.02 J	1.29	27.8	0.005 J	0.07	0.3	0.333	0.9	0.36	0.310	0.006	< 0.002 U	1.43	1.2	< 0.01 U
11/17/2016	Background	0.03 J	0.75	26.3	< 0.005 U	0.03	0.162	0.088	1.106	0.35	0.549	0.004	< 0.002 U	1.26	1.2	0.02 J
1/9/2017	Background	0.02 J	0.91	27.0	< 0.005 U	0.05	0.575	0.187	0.78	0.33	0.115	0.006	< 0.002 U	1.62	1.1	0.054
3/7/2017	Background	0.02 J	0.76	26.3	< 0.005 U	0.01 J	0.660	0.083	0.0525	0.36	0.061	0.005	< 0.002 U	1.84	1.1	0.055
5/9/2017	Background	0.06	0.75	25.0	< 0.004 U	0.08	0.301	0.065	0.0316	0.37	0.071	0.001	< 0.002 U	1.35	1.2	0.01 J
7/18/2017	Background	< 0.05 U	0.70	27.0	< 0.02 U	< 0.02 U	0.258	0.03 J	1.883	0.33	0.116	< 0.0002 U	< 0.002 U	1.67	1.3	0.07 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-015I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.060	44.1	59.3	0.25	7.2	42.5	380
7/19/2016	Background	0.032	44.6	53.8	0.25	7.1	41.0	356
9/21/2016	Background	0.030	46.1	43.4	0.23	7.1	34.0	334
11/16/2016	Background	0.022	51.4	44.9	0.25	7.5	33.6	340
1/10/2017	Background	0.019	46.5	48.3	0.34	7.7	35.4	351
3/7/2017	Background	0.047	51.1	38.5	0.32	7.5	31.1	331
5/10/2017	Background	0.038	46.6	32.7	0.31	7.2	29.7	322
7/18/2017	Background	0.050	43.9	27.1	0.22	7.2	26.6	300
10/4/2017	Detection	0.080	44.6	23.7	0.23	7.3	27.3	287
12/12/2017	Detection	--	--	22.8	0.22	7.8	26.7	--
1/4/2018	Detection	0.04	--	--	--	7.8	--	--
6/6/2018	Detection	0.066	47	25.1	0.26	8.1	25.3	279
8/16/2018	Detection	--	--	--	--	7.4	--	--
11/13/2018	Detection	0.07 J	39.9	23.7	0.25	7.6	25.3	248
5/23/2019	Detection	0.03 J	47.8	18.0	0.26	7.3	20.9	260
11/15/2019	Detection	0.03 J	45.2	16.9	0.27	7.4	17.6	248
5/19/2020	Detection	0.03 J	49.2	19.0	0.25	7.5	17.8	253
11/10/2020	Detection	0.03 J	44.2	12.8	0.47	7.5	11.7	213

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-015I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.01 J	25.2	118	< 0.005 U	0.02 J	0.2	1.24	0.863	0.25	0.026	0.005	< 0.002 U	5.76	< 0.03 U	0.04 J
7/19/2016	Background	0.25	27.9	132	0.165	0.23	0.5	1.66	1.091	0.25	0.254	0.018	< 0.002 U	6.74	0.2	0.273
9/21/2016	Background	0.01 J	21.1	119	< 0.005 U	0.009 J	0.1	1.32	0.504	0.23	0.026	0.004	< 0.002 U	5.75	< 0.03 U	0.03 J
11/16/2016	Background	0.04 J	23.6	107	0.005 J	0.06	0.132	1.03	1.747	0.25	0.213	0.004	< 0.002 U	6.73	< 0.03 U	0.04 J
1/10/2017	Background	0.01 J	20.2	91.2	< 0.005 U	0.005 J	0.350	1.00	0.869	0.34	0.01 J	0.011	< 0.002 U	7.63	< 0.03 U	0.04 J
3/7/2017	Background	0.02 J	20.4	88.9	< 0.005 U	0.03	0.700	0.903	0.865	0.32	0.065	0.006	< 0.002 U	7.91	0.07 J	0.112
5/10/2017	Background	0.02 J	20.2	86.1	< 0.004 U	0.03	0.134	1.02	0.189	0.31	0.090	0.002	< 0.002 U	6.52	0.04 J	0.03 J
7/18/2017	Background	0.02 J	23.6	94.8	< 0.004 U	0.02	0.089	1.25	1.643	0.22	0.082	< 0.0002 U	< 0.002 U	5.58	< 0.03 U	0.04 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-015S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.011	46.9	21.2	0.65	7.2	30.3	338
7/19/2016	Background	0.012	43.6	18.7	0.65	7.1	27.7	319
9/21/2016	Background	0.008	46.6	18.9	0.63	7.2	25.1	329
11/16/2016	Background	< 0.002 U	52.3	18.3	0.50	7.7	23.2	338
1/11/2017	Background	< 0.002 U	63.6	21.9	0.36	7.2	28.3	374
3/7/2017	Background	0.084	62.9	16.1	0.42	7.2	23.4	342
5/10/2017	Background	0.077	45.7	14.1	0.65	7.3	21.0	294
7/19/2017	Background	0.073	44.4	11.8	0.66	7.3	20.3	263
10/4/2017	Detection	0.095	48.3	13.3	0.62	7.4	23.2	300
6/5/2018	Detection	0.078	44.7	8.84	0.69	7.2	16.3	274
11/13/2018	Detection	0.04 J	41.8	8.78	0.72	7.5	13.1	232
5/23/2019	Detection	< 0.02 U	41.3	8.88	0.88	7.5	10.2	207
7/23/2019	Detection	--	--	--	0.87	5.7	--	--
9/11/2019	Detection	--	--	--	0.81	7.4	--	--
11/15/2019	Detection	< 0.02 U	40.2	9.48	0.70	7.4	8.4	234
5/19/2020	Detection	< 0.02 U	42.4	10.3	0.86	7.6	9.1	218
11/10/2020	Detection	< 0.02 U	45.4	10.1	0.78	7.3	10.3	236

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-015S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.04 J	0.32	4.71	0.007 J	0.14	0.2	3.03	0.4175	0.65	0.286	0.007	< 0.002 U	2.52	0.4	0.03 J
7/19/2016	Background	0.04 J	0.24	5.85	< 0.005 U	0.25	1.7	1.17	< 0.71 U	0.65	0.101	0.022	0.002 J	2.89	0.7	< 0.01 U
9/21/2016	Background	0.02 J	0.21	3.21	< 0.005 U	0.05	0.5	1.09	0.418	0.63	0.098	0.005	< 0.002 U	2.54	0.5	0.02 J
11/16/2016	Background	0.04 J	0.18	3.27	< 0.005 U	0.05	0.058	0.794	1.249	0.50	0.037	0.005	< 0.002 U	1.57	0.3	0.02 J
1/11/2017	Background	0.04 J	0.26	6.05	< 0.005 U	0.06	0.493	1.75	0.189	0.36	0.039	0.008	< 0.002 U	0.78	0.3	0.03 J
3/7/2017	Background	0.03 J	0.21	4.98	< 0.005 U	0.04	0.934	1.26	0.0973	0.42	0.024	0.008	< 0.002 U	1.17	0.5	0.04 J
5/10/2017	Background	0.04 J	0.21	3.54	0.005 J	0.05	0.198	1.20	0.241	0.65	0.062	0.003	< 0.002 U	2.08	0.5	0.02 J
7/19/2017	Background	0.02 J	0.23	3.11	< 0.004 U	0.05	0.096	1.25	0.0916	0.66	0.083	0.0009 J	< 0.002 U	2.87	0.2	0.02 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-016D
Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.033	84.3	68.7	0.20	6.8	36.4	350
7/19/2016	Background	0.013	68.7	69.6	0.22	7.3	37.4	321
9/20/2016	Background	0.012	70.5	67.6	0.22	7.3	33.4	342
11/17/2016	Background	0.014	77.9	63.6	0.17	7.3	33.2	356
1/11/2017	Background	0.004 J	72.4	67.9	0.21	7.5	34.0	343
3/8/2017	Background	0.023	79.2	65.4	0.22	7.4	35.3	347
5/10/2017	Background	0.102	75.8	69.9	0.22	7.5	37.2	367
7/18/2017	Background	0.017	71.7	69.6	0.17	9.0	36.8	363
10/4/2017	Detection	0.059	80.4	81.5	0.22	7.6	40.0	383
1/4/2018	Detection	--	80.1	86	--	7.7	37.9	--
6/6/2018	Detection	0.033	90.2	108	0.22	7.3	38.6	434
8/16/2018	Detection	--	83.8	99.7	--	7.3	--	447
11/14/2018	Detection	0.07 J	84.1	102	0.21	7.4	38.6	434
2/12/2019	Detection	--	--	109	--	7.4	--	439
4/1/2019	Detection	--	--	107	--	7.3	--	429
5/22/2019	Detection	0.03 J	88.5	104	0.20	7.3	38.0	460
7/24/2019	Detection	--	95.6	106	--	7.0	--	457
9/11/2019	Detection	--	109	125	--	7.3	--	523
11/15/2019	Detection	0.03 J	100	127	0.17	7.3	40.8	537
2/18/2020	Detection	--	--	133	--	7.2	38.9	579
5/19/2020	Detection	0.03 J	108	135	0.17	7.7	40.1	558
7/15/2020	Detection	--	102	133	0.20	7.2	--	519
11/11/2020	Detection	0.04 J	109	130	0.21	7.2	39.1	547

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-016D

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.02 J	0.48	240	< 0.005 U	0.08	0.3	0.617	0.0514	0.20	0.078	0.001	< 0.002 U	2.06	0.04 J	0.03 J
7/19/2016	Background	0.02 J	0.40	246	< 0.005 U	0.08	0.4	0.547	0.294	0.22	0.040	0.013	< 0.002 U	2.31	0.04 J	0.069
9/20/2016	Background	0.02 J	0.31	221	< 0.005 U	0.02 J	0.1	0.418	1.348	0.22	0.021	0.003	< 0.002 U	1.96	< 0.03 U	0.02 J
11/17/2016	Background	0.02 J	0.32	217	< 0.005 U	0.05	1.21	0.452	0.909	0.17	0.066	0.006	< 0.002 U	1.98	< 0.03 U	0.02 J
1/11/2017	Background	0.01 J	0.34	210	< 0.005 U	0.02 J	0.112	0.354	1.716	0.21	0.008 J	0.013	< 0.002 U	1.99	< 0.03 U	0.02 J
3/8/2017	Background	0.02 J	0.31	224	< 0.005 U	0.01 J	0.188	0.401	0.811	0.22	0.022	0.007	< 0.002 U	2.27	0.05 J	0.04 J
5/10/2017	Background	0.03 J	0.33	212	< 0.004 U	0.07	0.151	0.466	0.151	0.22	0.070	0.008	< 0.002 U	1.90	< 0.03 U	0.02 J
7/18/2017	Background	0.03 J	0.39	247	< 0.004 U	0.10	0.141	0.571	0.514	0.17	0.103	0.0006 J	< 0.002 U	2.03	< 0.03 U	0.02 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-016I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.031	110	80.4	0.1 J	7.7	38.7	539
7/20/2016	Background	0.027	93.9	86.8	0.15	7.6	42.2	532
9/21/2016	Background	0.026	95.9	90.2	0.1 J	7.4	36.8	544
11/17/2016	Background	0.024	96.2	59.1	0.1 J	7.1	33.0	508
1/11/2017	Background	0.015	89.3	44.1	0.1 J	7.4	34.0	481
3/8/2017	Background	0.100	101	39.3	0.16	7.3	35.4	460
5/19/2017	Background	0.032	86.7	39.4	0.15	7.0	35.4	455
7/18/2017	Background	0.044	91.3	50.2	0.08 J	7.2	36.1	465
10/4/2017	Detection	0.050	84.0	70.8	0.1 J	7.5	40.4	495
1/4/2018	Detection	--	71.9	71.2	--	7.7	--	487
6/6/2018	Detection	0.046	82.9	58.6	0.17	7.4	38.7	480
8/16/2018	Detection	--	61.6	61.1	--	7.2	--	456
11/14/2018	Detection	0.139	53.7	47.8	0.17	7.3	32.5	408
2/12/2019	Detection	0.02 J	--	--	--	7.4	--	--
5/22/2019	Detection	0.03 J	56.0	45.5	0.17	7.4	33.2	405
11/15/2019	Detection	0.02 J	41.0	31.2	0.14	7.4	25.2	343
5/19/2020	Detection	0.02 J	51.9	31.3	0.14	7.8	25.8	350
11/10/2020	Detection	0.02 J	44.5	19.6	0.2	6.8	21.4	273

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-016I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.02 J	0.71	267	< 0.005 U	0.06	0.1	0.602	0.592	0.1 J	0.023	0.005	< 0.002 U	1.02	0.2	0.085
7/20/2016	Background	0.01 J	0.75	267	< 0.005 U	0.03	0.2	0.627	1.576	0.15	0.025	0.005	< 0.002 U	1.02	0.2	0.060
9/21/2016	Background	0.01 J	0.75	262	< 0.005 U	0.03	0.1	0.576	1.225	0.1 J	0.023	0.006	< 0.002 U	1.03	0.1	0.074
11/17/2016	Background	0.05	0.67	234	< 0.005 U	0.05	0.082	0.546	0.587	0.1 J	0.053	0.013	< 0.002 U	0.93	0.2	0.069
1/11/2017	Background	0.01 J	0.72	220	< 0.005 U	0.04	0.085	0.514	2.632	0.1 J	0.01 J	0.010	< 0.002 U	1.00	0.1	0.071
3/8/2017	Background	0.02 J	0.68	221	< 0.005 U	0.03	0.422	0.580	0.581	0.16	0.034	0.013	< 0.002 U	1.17	0.2	0.075
5/19/2017	Background	0.06	0.70	206	< 0.004 U	0.08	0.204	0.707	0.938	0.15	0.153	0.010	< 0.002 U	0.91	0.4	0.075
7/18/2017	Background	0.02 J	0.73	238	< 0.004 U	0.03	0.118	0.599	0.787	0.08 J	0.065	0.003	< 0.002 U	1.07	0.2	0.070

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-016S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.028	96.2	18.7	0.44	7.5	46.9	483
7/20/2016	Background	0.025	83.0	19.0	0.46	7.1	50.1	471
9/21/2016	Background	0.024	93.5	17.1	0.38	7.3	42.1	509
11/17/2016	Background	0.025	96.4	16.4	0.30	6.9	38.3	486
1/11/2017	Background	0.017	94.6	17.5	0.35	7.2	39.2	474
3/8/2017	Background	0.038	106	19.3	0.36	7.1	39.6	473
5/10/2017	Background	0.082	105	22.9	0.38	8.3	42.3	499
7/19/2017	Background	0.037	91.8	19.8	0.33	6.3	40.7	484
10/4/2017	Detection	0.061	108	19.3	0.41	7.3	45.0	503
1/4/2018	Detection	--	109	--	--	7.3	--	517
6/6/2018	Detection	0.109	108	17.3	0.42	7.2	40.8	520
8/16/2018	Detection	0.034	109	--	--	7.1	--	533
11/14/2018	Detection	0.107	104	16.2	0.39	7.0	40.3	548
2/12/2019	Detection	0.02 J	--	--	--	7.1	--	517
5/22/2019	Detection	0.03 J	99.2	18.0	0.38	7.1	34.5	493
11/15/2019	Detection	0.02 J	92.2	20.7	0.32	7.0	35.2	497
5/19/2020	Detection	0.03 J	104	26.7	0.34	7.5	34.9	470
7/15/2020	Detection	--	--	25.8	0.37	7.1	--	489
11/11/2020	Detection	0.02 J	103	21.8	0.38	6.5	34.5	473

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-016S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.03 J	0.37	32.3	< 0.005 U	0.03	0.2	0.073	0.163	0.44	0.074	0.007	< 0.002 U	1.15	0.6	0.01 J
7/20/2016	Background	0.03 J	0.37	29.9	< 0.005 U	0.03	0.5	0.025	1.047	0.46	0.057	0.031	< 0.002 U	1.21	0.6	< 0.01 U
9/21/2016	Background	0.25	0.38	29.5	< 0.005 U	0.10	0.3	0.070	0.0255	0.38	0.182	0.005	< 0.002 U	1.11	0.8	< 0.01 U
11/17/2016	Background	0.02 J	0.34	25.3	< 0.005 U	0.006 J	1.03	0.028	0.2943	0.30	< 0.004 U	0.018	< 0.002 U	1.19	0.4	< 0.01 U
1/11/2017	Background	0.02 J	0.42	25.1	< 0.005 U	0.008 J	0.081	0.014	1.993	0.35	0.039	0.013	< 0.002 U	1.21	0.4	0.02 J
3/8/2017	Background	0.02 J	0.31	25.7	< 0.005 U	0.004 J	0.463	0.012	0.282	0.36	0.006 J	0.013	< 0.002 U	1.32	0.4	0.02 J
5/10/2017	Background	0.02 J	0.39	29.8	< 0.004 U	0.01 J	0.196	0.063	0.145	0.38	0.027	0.008	< 0.002 U	1.14	0.3	0.01 J
7/19/2017	Background	0.02 J	0.33	25.6	< 0.004 U	0.04	0.101	0.01 J	2.8533	0.33	0.01 J	0.010	< 0.002 U	0.98	0.4	0.01 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-017I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.058	73.7	195	0.57	7.6	43.1	609
7/20/2016	Background	0.056	83.1	209	0.56	7.2	49.3	569
9/20/2016	Background	0.051	88.9	214	0.52	7.1	48.1	620
11/16/2016	Background	0.041	80.0	164	0.56	7.8	44.1	540
1/10/2017	Background	0.034	72.3	159	0.56	7.5	43.2	513
3/7/2017	Background	0.079	81.4	158	0.58	7.5	44.9	549
5/9/2017	Background	0.083	69.6	151	0.61	7.2	43.5	528
7/19/2017	Background	0.052	64.4	145	0.63	7.3	44.7	509
10/4/2017	Detection	0.061	63.0	115	0.66	7.4	46.6	486
12/13/2017	Detection	--	--	86	0.76	7.5	44.8	--
1/4/2018	Detection	--	--	110	0.65	7.8	--	471
6/5/2018	Detection	0.081	51.2	80.2	0.87	7.4	41	418
8/16/2018	Detection	--	--	61.1	0.98	7.5	--	376
9/26/2018	Detection	--	--	--	1.03	--	--	--
11/13/2018	Detection	0.07 J	36.5	50.1	1	7.6	29.6	328
2/12/2019	Detection	--	--	--	1.05	7.7	--	--
4/1/2019	Detection	--	--	--	1.08	7.6	--	--
5/23/2019	Detection	0.04 J	45.1	60.2	1.07	7.5	32.8	352
7/23/2019	Detection	--	--	--	1.06	6.7	--	--
9/12/2019	Detection	--	--	--	1.08	7.6	--	--
11/15/2019	Detection	0.04 J	43.9	41.2	0.95	7.4	23.2	309
5/19/2020	Detection	0.04 J	40.3	32.8	1.07	7.9	20.7	273
7/15/2020	Detection	--	--	--	--	7.3	--	--
11/10/2020	Detection	0.04 J	38.1	25.5	1.16	8.4	16.8	239

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-017I

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.07	7.14	168	0.020	0.12	0.6	1.24	1.925	0.57	1.19	< 0.0002 U	0.003 J	3.60	0.1	0.03 J
7/20/2016	Background	0.05 J	7.41	190	0.006 J	0.13	2.1	0.778	1.167	0.56	0.284	0.004	< 0.002 U	3.66	0.05 J	0.02 J
9/20/2016	Background	0.04 J	6.45	198	< 0.005 U	0.04	0.1	0.472	1.587	0.52	0.133	0.005	< 0.002 U	3.08	0.05 J	0.02 J
11/16/2016	Background	0.03 J	3.38	149	< 0.005 U	0.04	0.059	0.370	0.762	0.56	0.049	0.006	< 0.002 U	3.37	< 0.03 U	0.056
1/10/2017	Background	0.02 J	3.94	148	< 0.005 U	0.008 J	0.254	0.391	1.51	0.56	0.02 J	0.009	< 0.002 U	3.20	< 0.03 U	0.02 J
3/7/2017	Background	0.02 J	4.61	159	< 0.005 U	0.007 J	0.776	0.406	1.023	0.58	0.026	0.008	< 0.002 U	3.62	0.05 J	0.02 J
5/9/2017	Background	0.02 J	3.61	133	< 0.004 U	0.03	0.196	0.394	1.007	0.61	0.115	0.005	< 0.002 U	3.26	0.03 J	0.01 J
7/19/2017	Background	0.02 J	3.76	140	< 0.004 U	0.02 J	0.127	0.372	0.8141	0.63	0.02 J	< 0.0002 U	< 0.002 U	3.42	< 0.03 U	0.05 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-017S

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.015	36.9	13.9	0.85	7.8	14.3	272
7/20/2016	Background	0.016	34.8	15.4	0.86	7.3	14.8	235
9/20/2016	Background	0.016	34.8	12.3	0.73	7.7	10.9	233
11/16/2016	Background	0.017	35.9	11.4	0.70	7.7	10.5	232
1/10/2017	Background	0.006	32.3	11.0	0.48	7.6	10.7	262
3/7/2017	Background	0.058	40.0	10.7	0.46	7.5	12.0	251
5/9/2017	Background	0.041	35.5	10.4	0.58	7.3	13.1	250
7/19/2017	Background	0.020	34.4	10.8	0.82	7.5	10.2	201
10/4/2017	Detection	0.033	34.1	10.5	0.89	7.4	10.7	214
6/5/2018	Detection	0.045	32.4	10.8	0.98	7.4	9.5	214
11/13/2018	Detection	0.05 J	33.1	11.5	0.91	7.5	8.4	196
5/23/2019	Detection	0.03 J	32.7	12.0	1.08	7.6	7.7	217
11/15/2019	Detection	0.02 J	28.7	12.6	0.96	7.6	6.2	207
5/19/2020	Detection	0.02 J	32.8	12.7	0.95	7.8	6.5	200
7/14/2020	Detection	--	--	--	--	6.8	--	--
11/10/2020	Detection	0.02 J	33.9	12.9	0.9	7.5	8.2	211

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-017S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.01 J	0.24	2.12	< 0.005 U	0.02	0.5	0.047	1.036	0.85	0.024	< 0.0002 U	< 0.002 U	3.98	0.07 J	0.01 J
7/20/2016	Background	0.03 J	0.26	2.74	< 0.005 U	0.08	0.2	0.105	0.0439	0.86	0.098	0.020	0.002 J	4.20	0.06 J	0.01 J
9/20/2016	Background	0.02 J	0.22	2.24	< 0.005 U	0.01 J	0.1	0.034	0.0759	0.73	0.025	0.003	< 0.002 U	4.08	0.08 J	0.01 J
11/16/2016	Background	0.03 J	0.20	2.40	< 0.005 U	0.02	0.066	0.029	1.594	0.70	0.020	0.004	< 0.002 U	3.39	0.1	0.053
1/10/2017	Background	0.03 J	0.21	3.45	< 0.005 U	0.02 J	0.489	0.040	0.17	0.48	0.02 J	0.003	< 0.002 U	0.44	0.2	0.02 J
3/7/2017	Background	0.04 J	0.20	3.94	< 0.005 U	0.09	0.776	0.076	0.47	0.46	0.079	0.008	0.002 J	0.70	0.1	0.02 J
5/9/2017	Background	0.04 J	0.22	4.37	< 0.004 U	0.02 J	0.233	0.138	0.433	0.58	0.108	0.003	< 0.002 U	1.14	0.1	< 0.01 U
7/19/2017	Background	0.02 J	0.22	2.25	< 0.004 U	0.06	0.124	0.053	1.748	0.82	0.038	< 0.0002 U	< 0.002 U	4.38	0.08 J	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-021D*Geosyntec Consultants, Inc.***Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.022	74.2	19.2	0.36	8.1	39.2	328
7/19/2016	Background	0.015	60.6	19.6	0.38	7.8	41.0	299
9/21/2016	Background	0.015	70.4	18.9	0.36	7.7	35.5	315
11/16/2016	Background	0.013	74.7	19.1	0.33	7.5	32.0	346
1/11/2017	Background	0.004 J	67.3	19.4	0.36	7.2	34.4	332
3/8/2017	Background	0.024	76.2	18.9	0.33	7.6	35.1	304
5/9/2017	Background	0.062	71.5	19.9	0.35	7.4	37.1	339
7/19/2017	Background	0.015	70.9	19.5	0.30	8.5	36.5	332
10/4/2017	Detection	0.092	67.8	18.5	0.32	7.5	37.4	339
1/11/2018	Detection	0.088	--	--	--	7.0	--	--
6/6/2018	Detection	0.03	70.7	19.9	0.4	7.7	38.4	347
11/13/2018	Detection	0.04 J	62.1	18.8	0.34	7.7	35.2	314
5/22/2019	Detection	< 0.02 U	69.3	19.1	0.36	7.5	36.8	348
11/14/2019	Detection	< 0.02 U	69.4	19.2	0.32	7.4	38.6	323
5/19/2020	Detection	0.02 J	69.2	19.9	0.26	7.6	33.3	328
11/11/2020	Detection	< 0.02 U	70.9	19.5	0.38	7.0	37.1	318

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-021D

**Rockport - LF
Appendix IV Constituents**

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.08	1.07	241	< 0.005 U	0.02	0.2	0.216	0.567	0.36	0.107	0.002	< 0.002 U	6.31	0.2	0.03 J
7/19/2016	Background	0.08	1.06	240	< 0.005 U	0.03	0.3	0.210	1.428	0.38	0.075	0.025	< 0.002 U	6.66	0.2	0.02 J
9/21/2016	Background	0.06	0.95	226	< 0.005 U	0.02 J	0.1	0.195	0.834	0.36	0.066	0.005	< 0.002 U	6.13	0.3	0.03 J
11/16/2016	Background	0.06	0.86	206	< 0.005 U	0.03	0.05 J	0.171	1.078	0.33	0.056	0.007	< 0.002 U	5.33	0.3	0.02 J
1/11/2017	Background	0.07	0.99	220	0.01 J	0.02	0.124	0.202	1.144	0.36	0.091	0.009	< 0.002 U	6.09	0.2	0.04 J
3/8/2017	Background	0.07	0.92	220	< 0.005 U	0.02	0.433	0.182	0.938	0.33	0.092	0.005	< 0.002 U	5.68	0.5	0.02 J
5/9/2017	Background	0.08	0.97	216	< 0.004 U	0.04	0.165	0.208	0.4495	0.35	0.118	0.013	< 0.002 U	5.07	0.6	0.02 J
7/19/2017	Background	0.12	1.04	226	< 0.004 U	0.02	0.110	0.203	0.856	0.30	0.089	0.0005 J	< 0.002 U	5.29	0.5	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-021I

**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.007	69.0	21.1	0.33	8.0	46.2	331
7/19/2016	Background	0.012	64.7	21.7	0.36	7.6	47.9	334
9/21/2016	Background	0.011	65.1	20.4	0.34	7.6	43.2	305
11/16/2016	Background	0.012	68.4	20.0	0.34	7.3	40.4	317
1/11/2017	Background	< 0.002 U	59.5	19.9	0.30	7.4	41.0	292
3/8/2017	Background	0.028	66.5	19.6	0.32	7.5	39.6	275
5/9/2017	Background	0.027	62.9	21.0	0.34	8.6	42.4	306
7/19/2017	Background	0.080	60.1	20.4	0.30	7.4	43.6	322
10/4/2017	Detection	0.029	63.9	20.5	0.31	7.4	45.7	306
6/6/2018	Detection	0.034	66.5	20.6	0.38	7.5	44.6	317
11/13/2018	Detection	0.08 J	61.5	20.2	0.36	7.7	43.4	294
5/22/2019	Detection	< 0.02 U	62.4	18.1	0.36	7.5	36.0	278
11/14/2019	Detection	< 0.02 U	56.5	17.5	0.38	7.5	35.5	262
5/19/2020	Detection	< 0.02 U	58.5	19.3	0.35	7.4	38.8	283
11/11/2020	Detection	< 0.02 U	58.6	18	0.45	7.0	36.4	266

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

Table 1 - Groundwater Data Summary: MW-0211

Rockport - LF

Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.02 J	1.55	127	< 0.005 U	0.02	0.1	0.514	0.349	0.33	0.02 J	< 0.0002 U	< 0.002 U	4.92	< 0.03 U	0.03 J
7/19/2016	Background	0.02 J	1.67	136	< 0.005 U	0.02	0.2	0.558	1.406	0.36	0.021	0.019	< 0.002 U	5.25	0.05 J	0.03 J
9/21/2016	Background	0.02 J	1.55	121	< 0.005 U	0.02	0.1	0.422	0.981	0.34	0.046	0.004	< 0.002 U	4.46	0.03 J	0.02 J
11/16/2016	Background	0.02 J	1.41	126	< 0.005 U	0.04	0.386	0.524	0.6556	0.34	0.035	0.006	< 0.002 U	4.40	0.09 J	0.02 J
1/11/2017	Background	0.02 J	1.39	126	0.01 J	0.02 J	1.04	0.437	2.733	0.30	< 0.004 U	0.005	< 0.002 U	4.63	0.07 J	0.04 J
3/8/2017	Background	0.03 J	1.08	123	< 0.005 U	0.01 J	0.349	0.437	0.882	0.32	0.01 J	0.007	< 0.002 U	4.31	0.07 J	0.02 J
5/9/2017	Background	0.05	1.2	116	< 0.004 U	0.01 J	0.125	0.412	0.591	0.34	0.022	0.008	< 0.002 U	4.06	0.05 J	0.03 J
7/19/2017	Background	0.03 J	1.38	123	< 0.004 U	0.01 J	0.143	0.517	1.225	0.30	0.033	0.004	< 0.002 U	4.18	0.05 J	0.03 J

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-021S**Rockport - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/9/2016	Background	0.002 J	55.1	15.0	0.61	6.6	21.2	275
7/19/2016	Background	0.011	52.8	15.1	0.64	7.5	21.2	292
9/21/2016	Background	0.007	52.0	14.7	0.62	7.6	17.4	285
11/16/2016	Background	0.015	60.0	14.7	0.63	7.5	14.9	294
1/11/2017	Background	0.002 J	54.4	14.4	0.54	7.3	15.9	287
3/8/2017	Background	0.018	59.0	14.8	0.58	7.6	16.5	298
5/9/2017	Background	0.033	56.0	15.7	0.60	8.9	17.6	296
7/19/2017	Background	0.034	55.9	15.9	0.54	7.2	18.8	304
10/4/2017	Detection	0.027	59.8	17.7	0.60	7.5	20.1	300
12/12/2017	Detection	--	--	18	0.6	8.0	21.1	--
6/6/2018	Detection	0.039	52.8	17.5	0.66	7.8	18.7	283
11/14/2018	Detection	0.06 J	55	17.9	0.66	7.3	17	278
2/12/2019	Detection	< 0.02 U	--	17.9	--	7.7	--	--
4/1/2019	Detection	--	--	17.5	--	7.8	--	--
5/21/2019	Detection	< 0.02 U	52.5	16.0	0.65	7.6	14.1	258
11/14/2019	Detection	< 0.02 U	50.4	17.4	0.73	7.5	15.8	241
2/18/2020	Detection	--	--	--	0.79	7.5	--	--
5/19/2020	Detection	< 0.02 U	49.1	18.0	0.76	8.1	15.1	238
7/16/2020	Detection	--	--	16.1	0.77	7.9	--	228
11/11/2020	Detection	< 0.02 U	50.9	18.1	0.83	7.6	16.4	259

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-021S

Rockport - LF
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/9/2016	Background	0.03 J	0.53	18.5	< 0.005 U	0.02	0.4	0.104	0.1599	0.61	0.095	0.003	< 0.002 U	1.78	0.7	0.01 J
7/19/2016	Background	0.02 J	0.47	19.6	< 0.005 U	0.02 J	0.7	0.033	0.5728	0.64	0.042	0.013	< 0.002 U	1.85	0.5	0.01 J
9/21/2016	Background	0.02 J	0.46	19.4	< 0.005 U	0.006 J	0.3	0.030	0.452	0.62	0.025	0.003	< 0.002 U	1.74	0.2	< 0.01 U
11/16/2016	Background	0.02 J	0.43	19.1	< 0.005 U	0.02	0.292	0.023	0.484	0.63	0.023	0.009	< 0.002 U	1.63	0.2	< 0.01 U
1/11/2017	Background	0.03 J	0.47	19.3	0.006 J	0.01 J	0.401	0.022	2.067	0.54	0.024	0.007	< 0.002 U	1.74	0.1	0.058
3/8/2017	Background	0.03 J	0.49	21.9	< 0.005 U	0.01 J	0.536	0.053	0.0305	0.58	0.095	0.002	< 0.002 U	2.00	0.1	< 0.01 U
5/9/2017	Background	0.04 J	0.47	17.7	< 0.004 U	0.01 J	0.300	0.027	0.2351	0.60	0.023	0.005	< 0.002 U	1.62	0.1	< 0.01 U
7/19/2017	Background	0.05 J	0.42	21.9	< 0.004 U	0.01 J	0.272	0.006 J	1.098	0.54	0.024	< 0.0002 U	< 0.002 U	2.31	0.2	< 0.01 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

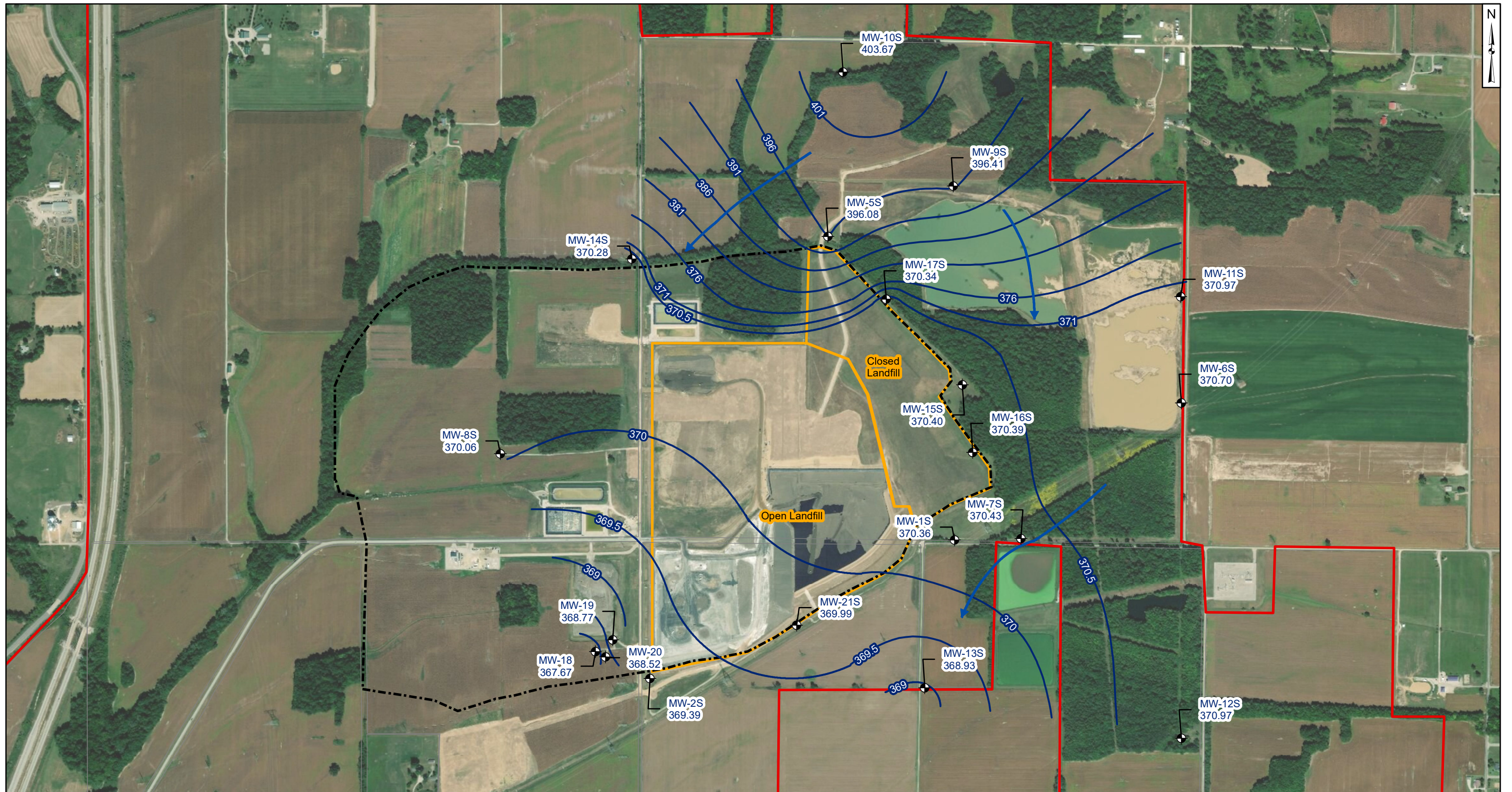
<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

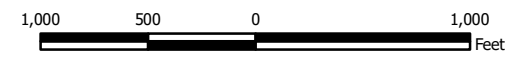
Groundwater Flow Direction Maps



- Legend**
- ◆ Groundwater Monitoring Well
 - ➔ Approximate Groundwater Flow Direction
 - Groundwater Elevation Contour
 - ⬛ 1984 Landfill Permit Boundary (Area 1)
 - ▭ Property Boundary
 - ▭ Landfill Area 1A (Active and Closed)

Notes

- Monitoring well coordinates and water level data (collected on May 18, 2020) provided by AEP.
- Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.
- Property and parcel boundaries taken from Spencer County Assessor.
- The water level from the shallowest screen interval in each well cluster was used in groundwater contouring.
- Groundwater elevation units are feet above mean sea level.



**Potentiometric Surface Contours - Uppermost Aquifer
May 2020**

AEP-Rockport Power Plant - CCR Landfill
Rockport, Indiana

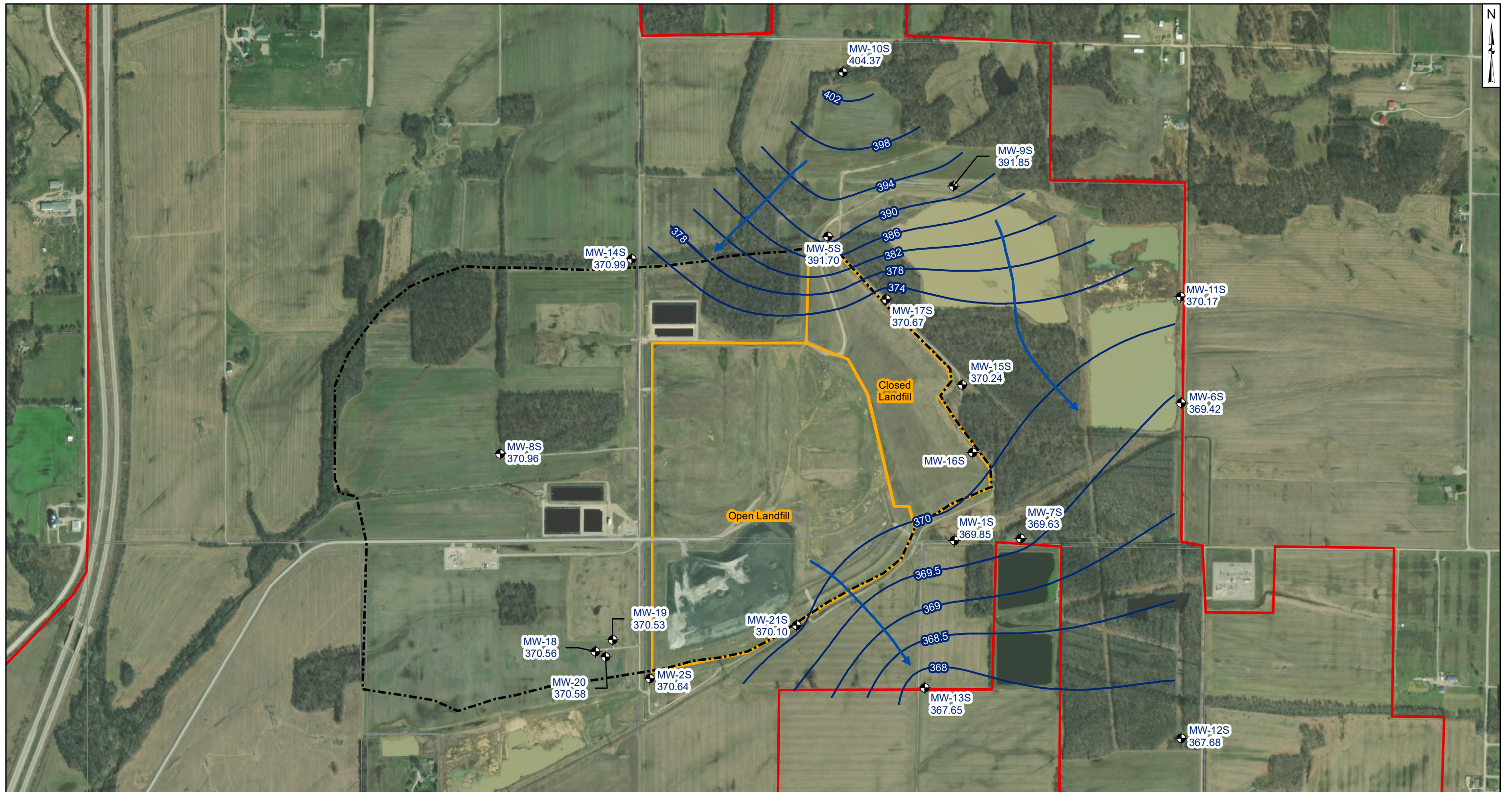


Figure

2

Columbus, Ohio

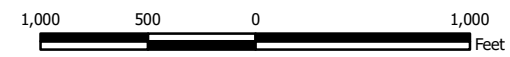
2020/06/17



- Legend**
- ◆ Groundwater Monitoring Well
 - ➔ Approximate Groundwater Flow Direction
 - Groundwater Elevation Contour
 - ⬡ 1984 Landfill Permit Boundary (Area 1)
 - ▭ Property Boundary
 - ▭ Landfill Area 1A (Active and Closed)

Notes

- Monitoring well coordinates and water level data (collected on November 10, 2020) provided by AEP.
- Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.
- Property and parcel boundaries taken from Spencer County Assessor.
- The water level from the shallowest screen interval in each well cluster was used in groundwater contouring.
- Groundwater elevation units are feet above mean sea level.
- MW-16S (392.06 ft amsl) was not used to generate contours due to anomalous or inconsistent reading.



**Potentiometric Surface Contours - Uppermost Aquifer
November 2020**

AEP-Rockport Power Plant - CCR Landfill
Rockport, Indiana



Figure
3

Columbus, Ohio 2021/01/14

Groundwater Flow Velocity Calculations

**Table 2: Residence Time Calculation Summary
Rockport - Landfill**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2016-06		2016-07		2016-09		2016-11	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	MW-11S ^[1]	2.0	200	0.30	240	0.25	302	0.20	292	0.21
	MW-14S ^[1]	2.0	99	0.61	98	0.62	92	0.66	51	1.2
	MW-15I ^[2]	2.0	304	0.20	287	0.21	374	0.16	456	0.13
	MW-15S ^[2]	2.0	304	0.20	265	0.23	346	0.18	498	0.12
	MW-16D ^[2]	2.0	363	0.17	449	0.14	422	0.14	208	0.29
	MW-16I ^[2]	2.0	301	0.20	299	0.20	330	0.18	340	0.18
	MW-16S ^[2]	2.0	208	0.29	274	0.22	293	0.21	358	0.17
	MW-17I ^[2]	2.0	98	0.62	208	0.29	234	0.26	277	0.22
	MW-17S ^[2]	2.0	152	0.40	176	0.35	226	0.27	255	0.24
	MW-1D ^[2]	2.0	179	0.34	580	0.10	438	0.14	118	0.52
	MW-1I ^[2]	2.0	87	0.70	32	1.9	280	0.22	383	0.16
	MW-1S ^[2]	2.0	103	0.59	129	0.47	289	0.21	309	0.20
	MW-21D ^[2]	2.0	65	0.94	107	0.57	373	0.16	179	0.34
	MW-21I ^[2]	2.0	17.1	3.6	207	0.29	44	1.4	358	0.17
	MW-21S ^[2]	2.0	44	1.4	147	0.41	219	0.28	257	0.24
	MW-2D ^[2]	2.0	148	0.41	59	1.0	128	0.47	431	0.14
	MW-2I ^[2]	2.0	49	1.23	44	1.4	163	0.37	404	0.15
	MW-2S ^[2]	2.0	444	0.14	44	1.4	231	0.26	310	0.20
MW-6S ^[1]	2.0	46	1.3	229	0.27	357	0.17	383	0.16	
MW-8I ^[1]	2.0	583	0.10	794	0.08	201	0.30	175	0.35	
MW-8S ^[1]	2.0	190	0.32	397	0.15	85	0.72	86	0.71	

Notes:

[1] - Background Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Landfill**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2017-01		2017-03		2017-05		2017-07		2017-10	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	MW-11S ^[1]	2.0	258	0.24	1,370	0.04	78	0.78	58	1.0	3,616	0.02
	MW-14S ^[1]	2.0	175	0.35	144	0.42	72	0.85	696	0.09	15,070	0.004
	MW-15I ^[2]	2.0	377	0.16	250	0.24	351	0.17	151	0.40	4,314	0.01
	MW-15S ^[2]	2.0	173	0.35	70	0.87	74	0.82	157	0.39	3,835	0.02
	MW-16D ^[2]	2.0	592	0.10	603	0.10	387	0.16	229	0.27	677	0.09
	MW-16I ^[2]	2.0	333	0.18	381	0.16	221	0.27	131	0.46	301	0.20
	MW-16S ^[2]	2.0	333	0.18	381	0.16	240	0.25	49	1.2	301	0.20
	MW-17I ^[2]	2.0	307	0.20	277	0.22	243	0.25	96	0.63	25,799	0.002
	MW-17S ^[2]	2.0	307	0.20	253	0.24	233	0.26	96	0.63	3,586	0.02
	MW-1D ^[2]	2.0	664	0.09	287	0.21	249	0.24	78	0.78	89	0.68
	MW-1I ^[2]	2.0	213	0.29	120	0.51	96	0.63	26	2.4	372	0.16
	MW-1S ^[2]	2.0	292	0.21	176	0.35	128	0.47	69	0.88	758	0.08
	MW-21D ^[2]	2.0	1,001	0.06	1,620	0.04	356	0.17	104	0.58	503	0.12
	MW-21I ^[2]	2.0	501	0.12	853	0.07	150	0.40	274	0.22	466	0.13
	MW-21S ^[2]	2.0	723	0.08	1,876	0.03	383	0.16	157	0.39	385	0.16
	MW-2D ^[2]	2.0	563	0.11	180	0.34	389	0.16	2,630	0.02	257	0.24
	MW-2I ^[2]	2.0	1,189	0.05	269	0.23	111	0.55	970	0.06	232	0.26
	MW-2S ^[2]	2.0	1,627	0.04	673	0.09	167	0.36	1,552	0.04	206	0.30
MW-6S ^[1]	2.0	343	0.18	90	0.68	96	0.63	211	0.29	708	0.09	
MW-8I ^[1]	2.0	1,592	0.04	173	0.35	138	0.44	843	0.07	1,391	0.04	
MW-8S ^[1]	2.0	140	0.43	99	0.61	79	0.77	459	0.13	892	0.07	

Notes:

[1] - Background Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Landfill**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2018-06		2018-08		2018-11	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	MW-11S ^[1]	2.0	5,799	0.010	5,419	0.011	5,125	0.012
	MW-14S ^[1]	2.0	10,043	0.006	9,336	0.007	9,942	0.006
	MW-15I ^[2]	2.0	9,193	0.007	2,097	0.029	528	0.12
	MW-15S ^[2]	2.0	9,211	0.007	1,873	0.032	426	0.14
	MW-16D ^[2]	2.0	689	0.088	1,432	0.042	901	0.068
	MW-16I ^[2]	2.0	844	0.072	661	0.092	225	0.270
	MW-16S ^[2]	2.0	844	0.072	1,322	0.046	826	0.074
	MW-17I ^[2]	2.0	23,838	0.003	17,221	0.004	NC	NC
	MW-17S ^[2]	2.0	23,793	0.003	18,011	0.003	NC	NC
	MW-1D ^[2]	2.0	516	0.12	54	1.12	151	0.402
	MW-1I ^[2]	2.0	715	0.085	63	0.96	76	0.80
	MW-1S ^[2]	2.0	669	0.091	91	0.67	303	0.20
	MW-21D ^[2]	2.0	502	0.12	124	0.49	303	0.20
	MW-21I ^[2]	2.0	670	0.091	124	0.49	326	0.19
	MW-21S ^[2]	2.0	550	0.11	113	0.54	396	0.15
	MW-2D ^[2]	2.0	89	0.68	199	0.31	241	0.25
	MW-2I ^[2]	2.0	84	0.73	180	0.34	80	0.76
	MW-2S ^[2]	2.0	33	1.82	199	0.31	241	0.25
MW-6S ^[1]	2.0	99	0.62	371	0.16	207	0.29	
MW-8I ^[1]	2.0	82	0.74	202	0.30	6,214	0.010	
MW-8S ^[1]	2.0	224	0.27	806	0.075	961	0.063	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

NC - No groundwater residence time calculated due to an anomalous water level reading

**Table 2: Residence Time Calculation Summary
Rockport - Landfill**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2019-05	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	MW-11S ^[1]	2.0	514	0.12
	MW-14S ^[1]	2.0	8,562	0.007
	MW-15I ^[2]	2.0	89	0.69
	MW-15S ^[2]	2.0	354	0.17
	MW-16D ^[2]	2.0	120	0.51
	MW-16I ^[2]	2.0	419	0.15
	MW-16S ^[2]	2.0	180	0.34
	MW-17I ^[2]	2.0	11,847	0.005
	MW-17S ^[2]	2.0	12,205	0.005
	MW-1D ^[2]	2.0	125	0.49
	MW-1I ^[2]	2.0	110	0.55
	MW-1S ^[2]	2.0	141	0.43
	MW-21D ^[2]	2.0	444	0.14
	MW-21I ^[2]	2.0	400	0.15
	MW-21S ^[2]	2.0	311	0.20
	MW-2D ^[2]	2.0	229	0.27
	MW-2I ^[2]	2.0	154	0.39
	MW-2S ^[2]	2.0	224	0.27
	MW-6S ^[1]	2.0	182	0.33
	MW-8I ^[1]	2.0	526	0.12
MW-8S ^[1]	2.0	665	0.092	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Landfill**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2020-02 ^[3]		2020-05		2020-07 ^[3]		2020-11	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	MW-11S ^[1]	2.0	261	0.23	145	0.42	286	0.21	504	0.12
	MW-14S ^[1]	2.0	10,171	0.01	4,315	0.01	9,357	0.01	10,683	0.01
	MW-15I ^[2]	2.0	NC	NC	247	0.25	599	0.10	271	0.22
	MW-15S ^[2]	2.0	179	0.34	145	0.42	150	0.41	232	0.26
	MW-16D ^[2]	2.0	244	0.25	260	0.23	290	0.21	353	0.17
	MW-16I ^[2]	2.0	NC	NC	225	0.27	235	0.26	340	0.18
	MW-16S ^[2]	2.0	232	0.26	195	0.31	271	0.22	14,459	0.004
	MW-17I ^[2]	2.0	NC	NC	2,822	0.02	17,194	0.004	18,536	0.003
	MW-17S ^[2]	2.0	112	0.54	4,049	0.02	18,484	0.003	18,852	0.003
	MW-1D ^[2]	2.0	649	0.09	576	0.11	760	0.08	1,049	0.06
	MW-1I ^[2]	2.0	NC	NC	576	0.11	785	0.08	1,024	0.06
	MW-1S ^[2]	2.0	611	0.10	518	0.12	709	0.09	896	0.07
	MW-21D ^[2]	2.0	NC	NC	577	0.11	4,068	0.01	1,016	0.06
	MW-21I ^[2]	2.0	NC	NC	602	0.10	4,216	0.01	1,033	0.06
	MW-21S ^[2]	2.0	664	0.09	628	0.10	4,216	0.01	1,033	0.06
	MW-2D ^[2]	2.0	NC	NC	33	1.82	480	0.13	564	0.11
	MW-2I ^[2]	2.0	NC	NC	67	0.91	530	0.11	585	0.10
	MW-2S ^[2]	2.0	1,464	0.04	123	0.50	5,507	0.01	580	0.10
MW-6S ^[1]	2.0	78	0.78	176	0.35	138	0.44	514	0.12	
MW-8I ^[1]	2.0	NC	NC	561	0.11	39	1.57	847	0.07	
MW-8S ^[1]	2.0	804	0.08	673	0.09	69	0.89	815	0.07	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

[3] - Only select wells were gauged as part of two-of-two verification sampling

NC - Not Calculated

APPENDIX 2 – Statistical Analyses

The memorandums summarizing the statistical evaluation follow.

STATISTICAL ANALYSIS SUMMARY-
Background Update Calculations
Landfill – Rockport Plant
Rockport, Indiana

Submitted to



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LIST OF ATTACHMENTS

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

LIST OF ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
CCR	Coal Combustion Residuals
CCV	Continuing Calibration Value
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
LF	Landfill
LFB	Laboratory Fortified Blanks
LPL	Lower Prediction Limit
LRB	Laboratory Reagent Blanks
NELAP	National Environmental Laboratory Accreditation Program
PQL	Practical Quantitation Limit
QA	Quality Assurance
QC	Quality Control
SSI	Statistically Significant Increase
TDS	Total Dissolved Solids
UPL	Upper Prediction Limit
USEPA	United States Environmental Protection Agency

SECTION 1

EXECUTIVE SUMMARY

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

Eight monitoring events were completed prior to July 2017 to establish background concentrations for Appendix III and Appendix IV parameters under the CCR rule. A minimum of four semiannual detection monitoring events were conducted between October 2017 and September 2019. Data from these events, including both initial and verification results, and additional sampling events completed at upgradient locations were evaluated for inclusion in the background dataset. Groundwater data underwent several validation tests, including those for completeness, sample tracking accuracy, transcription errors, and consistent use of measurement units. No data quality issues were identified which would impact the usability of the data.

The detection monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. The compliance data were reviewed for outliers, which were removed (when appropriate) prior to updating upper prediction limits (UPLs) for each Appendix III parameter to represent background values. Oversight on the use of statistical calculations was provided by Dr. Kirk Cameron of MacStat Consulting, Ltd. Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

SECTION 2

LANDFILL EVALUATION

2.1 Previous Background Calculations

Eight background monitoring events were completed from June 2016 through July 2017 to establish background concentrations for Appendix III and Appendix IV parameters under the CCR rule. The data were reviewed for outliers and trends prior to calculating upper prediction limits (UPLs) for each Appendix III parameter. Lower prediction limits (LPLs) were also established for pH. Intrawell prediction limits were selected for boron, fluoride, pH, and sulfate with a one-of-three resampling procedure. Interwell prediction limits were selected for calcium, chloride, and total dissolved solids (TDS) with a one-of-two resampling procedure. The statistical analyses to establish background levels were previously documented in the January 2018 *Statistical Analysis Summary* report (Geosyntec, 2018). An ASD was certified in January 2019 which resulted in a revision to intrawell tests for calcium, chloride, and TDS due to impacts from historical off-site oil and gas production wells on groundwater chemistry (Geosyntec, 2019).

2.2 Data Validation & QA/QC

Since October 2017, semiannual detection monitoring events have been conducted at the LF. If the initial results for each detection monitoring event identified possible exceedances, verification sampling was completed on an individual well/parameter basis. Thus, a minimum of four samples were collected from each compliance well. A summary of data collected during these detection monitoring events may be found in Table 1. Results from additional sampling events at select wells completed in December 2017, August 2018, September 2018, and November 2018, which were also included in the update to background levels, are also provided in Table 1.

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

The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.9.6.23 statistics software. The export was checked against the analytical data for transcription errors and completeness. No QA/QC issues were noted which would impact data usability.

2.3 Statistical Analysis

The data used to conduct the statistical analyses described below are summarized in Table 1. Statistical analyses for the LF were conducted in accordance with the January 2017 *Statistical Analysis Plan* (AEP, 2017), except where noted below. The complete statistical analysis results are included in Attachment B.

Time series plots of Appendix III parameters are included in Attachment B and were used to evaluate concentrations over time and to provide an initial screening of suspected outliers and trends. Box plots were also compiled to provide visual representation of variations between wells and within individual wells (Attachment B).

2.3.1 Outlier Evaluation

Potential outliers were evaluated using Tukey's outlier test; i.e., data points were considered potential outliers if they met one of the following criteria:

$$x_i < \tilde{x}_{0.25} - 3 \times IQR \quad (1)$$

or

$$x_i > \tilde{x}_{0.75} + 3 \times IQR \quad (2)$$

where:

x_i	=	individual data point
$\tilde{x}_{0.25}$	=	first quartile
$\tilde{x}_{0.75}$	=	third quartile
IQR	=	the interquartile range = $\tilde{x}_{0.75} - \tilde{x}_{0.25}$

Data that were evaluated as potential outliers are summarized in Attachment B. Tukey's outlier test and visual inspection indicated several potential outliers. Next, the data were reviewed to identify possible sources of errors or discrepancies, including data recording errors, unusual sampling conditions, laboratory quality, or inconsistent sample turbidity. After further review, five values were removed from the dataset, including:

- The pH value of 9.03 SU at MW-016D from July 18, 2017;
- The fluoride concentration of 0.85 mg/L at MW-001D from October 4, 2017;
- The sulfate concentration of 10.4 mg/L at MW-001D from October 4, 2017;
- The pH of 5.7 from MW-015S from July 23, 2019; and,

- The TDS values of 531 mg/L and 540 mg/L at MW-002D from May 22, 2019 and July 24, 2019, respectively.

While the sulfate and TDS values were not identified by Tukey's outlier test, they were removed based on visual screening to reduce variation within a well and to generate more conservative limits.

2.3.2 Establishment of Updated Background Levels

Analysis of variance (ANOVA) was conducted during the initial background screening to assist in identifying if intrawell tests are the most appropriate statistical approach for assessing Appendix III parameters. Intrawell tests compare compliance data from a single well to background data within the same well and are most appropriate when 1) upgradient wells exhibit spatial variation; 2) when statistical limits constructed from upgradient wells would not be conservative from a regulatory perspective; or 3) when downgradient water quality is not impacted compared to upgradient water quality for the same parameter. Periodic updating of background statistical limits is necessary as natural systems continuously change due to physical changes to the environment. For intrawell analyses, data for all wells and constituents are re-evaluated when a minimum of four new data points are available. These four (or more) new data points are used to determine if earlier concentrations are representative of present-day groundwater quality. For interwell comparisons, newer data are evaluated during each event for new outliers, and prediction limits are constructed using all available data from upgradient wells.

For intrawell comparisons, Mann-Whitney (Wilcoxon rank-sum) tests were used to compare the medians of historical data (June 2016 - July 2017) to the new compliance samples (October 2017 – September 2019). Results were evaluated to determine if the medians of the two groups were similar at the 99% confidence level. Where no significant difference was found, the new compliance data were added to the background dataset. Where a statistically significant difference was found between the medians of the two groups, the data were reviewed to evaluate the cause of the difference and to determine if adding newer data to the background dataset, replacing the background dataset with the newer data, or continuing to use the existing background dataset was most appropriate. If the differences appeared to have been caused by a release, then the previous background dataset would have continued to be used.

The complete Mann-Whitney test results and a summary of the significant findings can be found in Attachment B. Significant differences were found between the two groups for the following well/constituent pairs:

- Boron in downgradient well MW-001S;
- Calcium at upgradient well MW-008S and downgradient wells MW-016D, MW-016I, and MW-17I;

- Chloride at downgradient wells MW-001I, MW-001S, MW-002D, MW-002S, MW-015I, MW-015S, MW-016D, MW-021S, and MW-17I;
- Fluoride in downgradient wells MW-17I and MW-17S and upgradient well MW-6S;
- Sulfate in downgradient wells MW-015I and MW-016D; and,
- TDS in downgradient wells MW-015I, MW-016D, MW-016S, and MW-17I.

Upon review of the differences between the two groups, it was found that for all well-parameter pairs except chloride at MW-002D, chloride and TDS at MW-016D, and fluoride, calcium, and chloride at MW-17I, patterns were similar to upgradient wells and affected all constituents. Similar patterns between upgradient and downgradient monitoring wells is an indication that groundwater quality may be naturally changing unrelated to the site. Therefore, construction of intrawell prediction limits at these wells utilized all historic data through July 2019. During the next background update, data from all wells and parameters will be re-evaluated to determine whether the more historic data are no longer representative of present-day groundwater quality.

Increasing trends were observed for chloride at MW-002D and chloride and TDS at MW-016D. Thus, the background dataset was not updated to include the more recent data for these well-parameter pairs. While recent concentrations of fluoride at downgradient well MW-17I were significantly higher than the background dataset, the concentrations appear to have stabilized. Additionally, recent concentrations of calcium and chloride at MW-17I have lowered and better resemble concentrations in upgradient wells. Thus, the dataset for calcium, chloride, and TDS at MW-17I will use the eight most recent sample events.

2.3.3 Updated Prediction Limits

After the revised background set was established, a parametric or non-parametric analysis was selected based on the distribution of the data and the frequency of non-detect data. Estimated results less than the practical quantitation limit (PQL) – i.e., “J-flagged” data – were considered detections and the estimated results were used in the statistical analyses. Non-parametric analyses were selected for datasets with at least 50% non-detect data or datasets that could not be normalized. Parametric analyses were selected for datasets (either transformed or untransformed) that passed the Shapiro-Wilk / Shapiro-Francia test for normality. The Kaplan-Meier non-detect adjustment was applied to datasets with between 15% and 50% non-detect data. For datasets with fewer than 15% non-detect data, non-detect data were replaced with one half of the PQL. The selected analysis (i.e., parametric or non-parametric) and transformation (where applicable) for each background dataset are shown in Attachment B.

Intrawell UPLs were updated using a one-of-three retesting procedure for all the historical data through September 2019 to represent background values, except for the specific cases listed above. Intrawell LPLs were also generated for pH. The updated prediction limits are summarized in Table 2.

The intrawell UPLs were calculated for a one-of-two retesting procedure; i.e., if at least one sample in a series of two does not exceed the UPL, then it can be concluded that an SSI has not occurred. In practice, where the initial result did not exceed the UPL, a second sample was not collected. The retesting procedures are able to achieve an acceptably high statistical power to detect changes at downgradient wells for constituents evaluated using intrawell prediction limits.

2.4 Conclusions

Four detection monitoring events were completed in accordance with the CCR Rule. Additional sampling events completed during the detection monitoring period were also included in the new dataset. The laboratory and field data from these events were reviewed prior to statistical analysis, with no QA/QC issues identified that impacted data usability. Mann-Whitney tests were completed to evaluate whether data from the detection monitoring events could be added to the existing background dataset. Where appropriate, the background datasets were updated, and UPLs and LPLs were recalculated. Intrawell prediction limits using a one-of-two retesting procedure were updated for all Appendix III parameters.

SECTION 3

REFERENCES

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

Geosyntec Consultants, 2018. Statistical Analysis Summary. Landfill – Rockport Plant. January.

Geosyntec Consultants, 2019. Alternative Source Demonstration Report – Federal CCR Rule. Rockport Plant Landfill. January.

United States Environmental Protection Agency (USEPA). 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. EPA 530/R-09-007. March.

TABLES

**Table 1: Groundwater Data Summary
Rockport - Landfill**

Parameter	Unit	MW-001D								MW-001I								
		10/4/2017	1/3/2018	6/7/2018	8/16/2018	11/14/2018	2/13/2019	5/23/2019	7/23/2019	10/4/2017	6/6/2018	8/16/2018	11/14/2018	2/13/2019	4/1/2019	5/23/2019	7/23/2019	9/11/2019
		2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2019-D1	2019-D1-R1	2017-D1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2019-D1-R2
Boron	mg/L	0.002 J	-	0.103	0.02	0.100	0.100 U	0.020 J	-	0.018	0.110	0.056	0.050 J	-	-	0.020 J	-	-
Calcium	mg/L	65.7	-	70.9	-	71.9	-	73.6	-	68.1	66.4	-	65.5	-	-	67.7	-	-
Chloride	mg/L	10.3	-	43.1	43.8	46.9	-	32.1	-	27.5	28.6	-	28.8	30.1	34.1	33.1	30.6	33.5
Fluoride	mg/L	0.850	0.310	0.300	-	0.300	-	0.270	-	0.370	0.420	-	0.410	-	-	0.420	-	-
Total Dissolved Solids	mg/L	339	-	345	-	340	-	346	-	327	321	-	308	-	-	341	-	-
Sulfate	mg/L	10.4	-	39.5	-	39.8	-	45.3	39.2	44.1	42.0	-	40.7	-	-	40.2	-	-
pH	SU	7.3	-	8.2	7.4	7.8	7.4	7.2	7.3	7.1	7.5	7.3	7.8	7.5	7.4	7.0	7.2	7.3

Parameter	Unit	MW-001S									MW-002D								
		10/4/2017	1/3/2018	6/6/2018	8/16/2018	11/14/2018	2/13/2019	4/1/2019	5/23/2019	7/23/2019	10/4/2017	6/7/2018	8/16/2018	11/12/2018	2/13/2019	4/1/2019	5/22/2019	7/24/2019	9/11/2019
		2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2017-D1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2019-D1-R2
Boron	mg/L	0.044	-	0.046	-	0.040 J	-	-	0.100 U	-	0.041	0.076	0.038	0.070 J	-	-	0.100 U	-	-
Calcium	mg/L	67.6	-	71.8	-	71.9	-	-	73.7	-	67.7	78.6	-	72.4	-	-	98.5	114	103
Chloride	mg/L	33.1	39.9	34.9	37.3	38.1	40.4	38.5	33.7	30.0	22.4	43.1	93.0	51.3	40.9	69.4	135	156	110
Fluoride	mg/L	0.570	-	0.610	-	0.630	-	-	0.550	-	0.200	0.220	-	0.200	-	-	0.180	-	-
Total Dissolved Solids	mg/L	396	-	386	-	410	-	-	388	-	332	361	-	348	-	-	531	540	443
Sulfate	mg/L	34.6	-	34.2	-	32.3	-	-	36.3	-	42.3	39.8	-	36.1	-	-	33.3	-	-
pH	SU	7.1	7.6	7.5	7.3	7.5	7.5	7.4	7.9	7.4	7.2	7.6	7.3	7.4	7.3	7.5	7.3	6.3	7.2

Parameter	Unit	MW-002I							MW-002S							
		10/4/2017	1/4/2018	6/6/2018	8/16/2018	11/13/2018	2/13/2019	5/22/2019	10/4/2017	6/6/2018	11/13/2018	2/13/2019	4/1/2019	5/22/2019	7/23/2019	9/11/2019
		2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2019-D1	2017-D1	2018-D1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2019-D1-R2
Boron	mg/L	0.03	-	0.052	0.03	0.050 J	0.100 U	0.100 U	0.045	0.073	0.060 J	-	-	0.100 U	-	-
Calcium	mg/L	72.5	-	72.7	-	64.8	-	64.3	60.7	57.0	54.7	-	-	51.3	-	-
Chloride	mg/L	29.8	28.8	31.8	31.5	27.9	-	25.4	21.2	25.3	24.8	26.5	26.1	26.4	26.8	26.6
Fluoride	mg/L	0.280	-	0.320	-	0.320	-	0.320	0.250	0.290	0.280	-	-	0.300	0.300	-
Total Dissolved Solids	mg/L	343	-	356	-	308	-	328	323	329	272	-	-	352	339	-
Sulfate	mg/L	45.5	-	43.2	-	39.0	-	39.2	30.0	28.9	24.7	-	-	26.2	-	-
pH	SU	7.2	7.8	7.6	7.5	7.2	7.6	7.3	7.2	7.6	7.5	7.8	7.7	7.7	7.5	7.3

Parameter	Unit	MW-6S							MW-008I					MW-008S				
		10/3/2017	6/5/2018	8/15/2018	9/26/2018	11/1/2018	11/15/2018	5/23/2019	10/4/2017	12/12/2017	6/4/2018	11/14/2018	5/23/2019	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019
		2017-D1	2018-D1	*	*	*	2018-D2	2019-D1	2017-D1	*	2018-D1	2018-D2	2019-D1	2017-D1	*	2018-D1	2018-D2	2019-D1
Boron	mg/L	0.094	0.09	0.101	0.080 J	0.040 J	0.040 J	0.020 J	0.096	-	0.044	0.060 J	0.030 J	0.016	-	0.058	0.040 J	0.100 U
Calcium	mg/L	44.8	45.2	52.8	44.1	42.3	38.8	52.5	74.7	-	76.7	67.7	70.7	39.8	-	42.3	35.6	35.9
Chloride	mg/L	3.28	2.38	11.9	6.83	3.52	3.91	9.64	20.1	19.3	20.9	20.6	21.0	22.4	22.5	23.8	22.9	23.6
Fluoride	mg/L	0.710	0.890	0.810	0.840	0.860	0.880	0.950	0.270	0.290	0.290	0.330	0.340	0.520	0.560	0.590	0.570	0.580
Total Dissolved Solids	mg/L	261	225	277	261	225	196	315	378	-	407	390	371	317	-	324	288	312
Sulfate	mg/L	7.50	3.80	15.6	9.80	4.90	5.20	16.8	85.9	87.1	79.0	68.2	62.3	23.1	24.9	21.2	19.5	20.4
pH	SU	7.3	7.5	7.7	-	7.3	7.9	7.4	7.6	7.9	7.7	7.2	7.2	7.8	7.7	7.6	7.6	7.4

Notes:

mg/L: milligrams per liter

SU: standard unit

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

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

--: Not Measured

D1: First semi-annual detection monitoring event of the year

D2: Second semi-annual detection monitoring event of the year

R1: First verification event associated with detection monitoring round

R2: Second verification event associated with detection monitoring round

*Samples noted with an asterisk were not associated with a specific semiannual detection monitoring event but were included in the background update.

**Table 1: Groundwater Data Summary
Rockport - Landfill**

Parameter	Unit	MW-11S					MW-14S					MW-015I						
		10/3/2017	12/13/2017	11/14/2018	6/5/2018	5/23/2019	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019	10/4/2017	12/12/2017	1/4/2018	6/6/2018	8/16/2018	11/13/2018	5/23/2019
		2017-D1	*	2018-D2	2018-D1	2019-D1	2017-D1	*	2018-D1	2018-D2	2019-D1	2017-D1	2017-D1-R1	2017-D1-R2	2018-D1	2018-D1-R1	2018-D2	2019-D1
Boron	mg/L	0.09	-	0.110	0.076	0.080 J	0.042	-	0.046	0.040 J	0.100 U	0.08	-	0.04	0.066	-	0.070 J	0.030 J
Calcium	mg/L	43.7	-	56.4	55.8	54.3	67.0	-	61.1	59.2	66.9	44.6	-	-	47.0	-	39.9	47.8
Chloride	mg/L	3.68	2.40	1.79	6.98	1.62	29.9	30.0	27.1	29.0	28.6	23.7	22.8	-	25.1	-	23.7	18.0
Fluoride	mg/L	0.890	0.820	0.720	0.620	0.820	0.340	0.340	0.390	0.370	0.370	0.230	0.220	-	0.260	-	0.250	0.260
Total Dissolved Solids	mg/L	200	-	238	276	279	376	-	360	344	390	287	-	-	279	-	248	260
Sulfate	mg/L	9.30	8.00	5.90	21.7	14.7	34.8	35.5	29.4	30.8	32.4	27.3	26.7	-	25.3	-	25.3	20.9
pH	SU	7.2	8.3	7.6	7.2	7.7	7.0	7.6	7.6	6.8	7.2	7.3	7.8	7.8	8.1	7.4	7.6	7.3

Parameter	Unit	MW-015S						MW-016D										
		10/4/2017	6/5/2018	11/13/2018	5/23/2019	7/23/2019	9/11/2019	10/4/2017	1/4/2018	6/6/2018	8/16/2018	11/14/2018	2/11/2019	4/1/2019	5/22/2019	7/24/2019	9/11/2019	
		2017-D1	2018-D1	2018-D2	2019-D1	2019-D1-R1	2019-D1-R2	2017-D1	2018-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2019-D1-R2	
Boron	mg/L	0.095	0.078	0.040 J	0.100 U	-	-	0.059	-	0.033	-	0.070 J	-	-	0.030 J	-	-	
Calcium	mg/L	48.3	44.7	41.8	41.3	-	-	80.4	80.1	90.2	83.8	84.1	-	-	88.5	95.6	109	
Chloride	mg/L	13.3	8.84	8.78	8.88	-	-	81.5	86.0	108	99.7	102	109	107	104	106	125	
Fluoride	mg/L	0.620	0.690	0.720	0.880	0.870	0.810	0.220	-	0.220	-	0.210	-	-	0.200	-	-	
Total Dissolved Solids	mg/L	300	274	232	207	-	-	383	-	434	447	434	439	429	460	457	523	
Sulfate	mg/L	23.2	16.3	13.1	10.2	-	-	40.0	37.9	38.6	-	38.6	-	-	38.0	-	-	
pH	SU	7.4	7.2	7.5	7.5	5.7	7.4	7.6	7.7	7.3	7.3	7.4	7.4	7.3	7.3	7.0	7.3	

Parameter	Unit	MW-016I							MW-016S						
		10/4/2017	1/4/2018	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019	10/4/2017	1/4/2018	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019
		2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2019-D1	2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D2	2018-D2-R1	2019-D1
Boron	mg/L	0.05	-	0.046	-	0.139	0.020 J	0.030 J	0.061	-	0.109	0.034	0.107	0.020 J	0.030 J
Calcium	mg/L	84.0	71.9	82.9	61.6	53.7	-	56.0	108	109	108	109	104	-	99.2
Chloride	mg/L	70.8	71.2	58.6	61.1	47.8	-	45.5	19.3	-	17.3	-	16.2	-	18.0
Fluoride	mg/L	0.100 J	-	0.170	-	0.170	-	0.170	0.410	-	0.420	-	0.390	-	0.380
Total Dissolved Solids	mg/L	495	487	480	456	408	-	405	503	517	520	533	548	517	493
Sulfate	mg/L	40.4	-	38.7	-	32.5	-	33.2	45.0	-	40.8	-	40.3	-	34.5
pH	SU	7.5	7.7	7.4	7.2	7.3	7.4	7.4	7.3	7.3	7.2	7.1	7.0	7.1	7.1

Parameter	Unit	MW-17I											MW-17S				
		10/4/2017	12/13/2017	1/4/2018	6/5/2018	8/16/2018	9/26/2018	11/13/2018	2/12/2019	4/1/2019	5/23/2019	7/23/2019	9/12/2019	10/4/2017	6/5/2018	11/13/2018	5/23/2019
		2017-D1	2017-D1	2017-D1-R1	2018-D1	2018-D1-R1	2018-D1-R2	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1	2019-D1-R1	2019-D1-R2	2017-D1	2018-D1	2018-D2	2019-D1
Boron	mg/L	0.061	-	-	0.081	-	-	0.070 J	-	-	0.040 J	-	-	0.033	0.045	0.050 J	0.030 J
Calcium	mg/L	63.0	-	-	51.2	-	-	36.5	-	-	45.1	-	-	34.1	32.4	33.1	32.7
Chloride	mg/L	115	86.0	110	80.2	61.1	-	50.1	-	-	60.2	-	-	10.5	10.8	11.5	12.0
Fluoride	mg/L	0.660	0.760	0.650	0.870	0.980	1.03	1.00	1.05	1.08	1.07	1.06	1.08	0.890	0.980	0.910	1.08
Total Dissolved Solids	mg/L	486	-	471	418	376	-	328	-	-	352	-	-	214	214	196	217
Sulfate	mg/L	46.6	44.8	-	41.0	-	-	29.6	-	-	32.8	-	-	10.7	9.50	8.40	7.70
pH	SU	7.4	7.5	7.8	7.4	7.5	-	7.6	7.7	7.6	7.5	6.7	7.6	7.4	7.4	7.5	7.6

Notes:

mg/L: milligrams per liter

SU: standard unit

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

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

--: Not Measured

D1: First semi-annual detection monitoring event of the year

D2: Second semi-annual detection monitoring event of the year

R1: First verification event associated with detection monitoring round

R2: Second verification event associated with detection monitoring round

*Samples noted with an asterisk were not associated with a specific semiannual detection monitoring event but were included in the background update.

**Table 1: Groundwater Data Summary
Rockport - Landfill**

Parameter	Unit	MW-021D						MW-021I					MW-021S						
		10/4/2017	1/11/2018	2/8/2018	6/6/2018	11/13/2018	5/22/2019	10/4/2017	6/6/2018	11/13/2018	5/21/2019	5/22/2019	10/4/2017	12/12/2017	6/6/2018	11/14/2018	2/11/2019	4/1/2019	5/21/2019
		2017-D1	2017-D1-R1	2017-D1-R2	2018-D1	2018-D2	2019-D1	2017-D1	2018-D1	2018-D2	2019-D1	2019-D1	2017-D1	2017-D1-R1	2018-D1	2018-D2	2018-D2-R1	2018-D2-R2	2019-D1
Boron	mg/L	0.092	0.088	0.0921	0.03	0.040 J	0.100 U	0.029	0.034	0.080 J	0.100 U	-	0.027	-	0.039	0.060 J	0.100 U	-	0.100 U
Calcium	mg/L	67.8	-	-	70.7	62.1	69.3	63.9	66.5	61.5	62.4	-	59.8	-	52.8	55.0	-	-	52.5
Chloride	mg/L	18.5	-	-	19.9	18.8	19.1	20.5	20.6	20.2	18.1	-	17.7	18.0	17.5	17.9	17.9	17.5	16.0
Fluoride	mg/L	0.320	-	-	0.400	0.340	0.360	0.310	0.380	0.360	0.360	-	0.600	0.600	0.660	0.660	-	-	0.650
Total Dissolved Solids	mg/L	339	-	-	347	314	348	306	317	294	278	-	300	-	283	278	-	-	258
Sulfate	mg/L	37.4	-	-	38.4	35.2	36.8	45.7	44.6	43.4	36.0	-	20.1	21.1	18.7	17.0	-	-	14.1
pH	SU	7.5	7.0	-	7.7	7.7	7.5	7.4	7.5	7.7	7.3	7.5	7.5	8.0	7.8	7.3	7.7	7.8	7.6

Notes:

mg/L: milligrams per liter

SU: standard unit

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

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

--: Not Measured

D1: First semi-annual detection monitoring event of the year

D2: Second semi-annual detection monitoring event of the year

R1: First verification event associated with detection monitoring round

R2: Second verification event associated with detection monitoring round

**Table 2: Revised Prediction Limits
Rockport - Landfill**

Parameter	Unit	Description	MW-001D	MW-001I	MW-001S	MW-002D	MW-002I	MW-002S	MW-015I	MW-015S
Boron	mg/L	Intrawell Background Value (UPL)	0.151	0.122	0.0686	0.106	0.0632	0.120	0.0976	0.146
Calcium	mg/L	Intrawell Background Value (UPL)	79.4	72.3	79.8	114	79.9	67.0	55.0	70.5
Chloride	mg/L	Intrawell Background Value (UPL)	62.4	36.2	43.0	26.0	33.8	29.8	72.2	28.6
Fluoride	mg/L	Intrawell Background Value (UPL)	0.339	0.473	0.686	0.232	0.372	0.328	0.367	1.05
pH	SU	Intrawell Background Value (UPL)	8.3	8.0	8.1	8.5	8.5	8.1	8.2	7.8
pH		Intrawell Background Value (LPL)	6.6	6.5	6.7	6.3	6.6	6.4	6.7	6.8
Sulfate	mg/L	Intrawell Background Value (UPL)	48.1	48.0	38.5	48.0	49.5	35.3	48.2	38.9
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	364	355	422	374	382	379	430	439

Parameter	Unit	Description	MW-016D	MW-016I	MW-016S	MW-17I	MW-17S	MW-021D	MW-021I	MW-021S
Boron	mg/L	Intrawell Background Value (UPL)	0.115	0.156	0.147	0.105	0.0751	0.115	0.0831	0.0695
Calcium	mg/L	Intrawell Background Value (UPL)	100	130	122	112	40.9	82.8	72.8	63.4
Chloride	mg/L	Intrawell Background Value (UPL)	75.5	106	23.6	201	16.1	20.5	22.8	19.9
Fluoride	mg/L	Intrawell Background Value (UPL)	0.220	0.227	0.510	1.25	1.32	0.425	0.409	0.719
pH	SU	Intrawell Background Value (UPL)	7.9	7.9	8.2	8.1	7.9	8.6	8.6	8.8
pH		Intrawell Background Value (LPL)	6.8	6.8	6.2	6.7	7.1	6.6	7.3	6.4
Sulfate	mg/L	Intrawell Background Value (UPL)	42.5	45.0	53.2	58.1	17.1	43.2	51.9	24.6
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	398	595	561	736	299	376	360	324

Notes

UPL: Upper prediction limit

LPL: Lower prediction limit

ATTACHMENT A

Certification by a Qualified Professional Engineer

Certification by a Qualified Professional Engineer

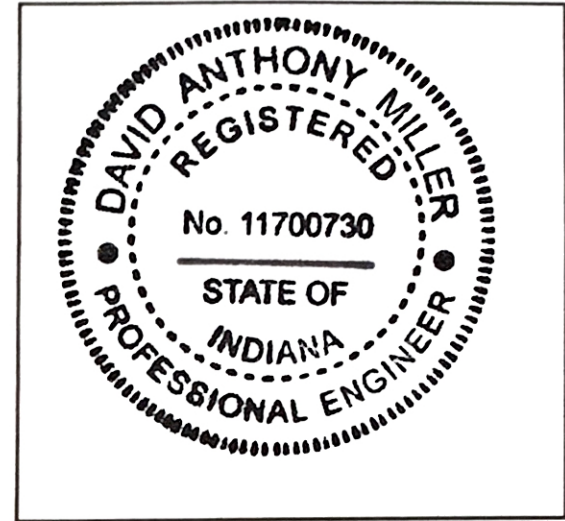
I certify that the selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Rockport Landfill CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



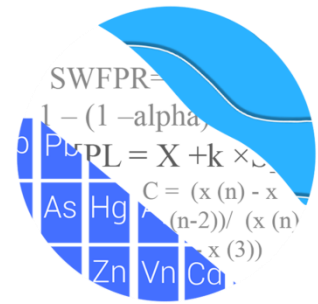
11700730
License Number

INDIANA
Licensing State

02.27.2020
Date

ATTACHMENT B
Statistical Analysis Output

GROUNDWATER STATS CONSULTING



January 29, 2020

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

RE: Rockport Landfill Background Update - 2019

Dear Ms. Kreinberg,

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

Sampling began at Rockport Landfill for the CCR program in 2016, and at least 8 background samples have been collected at each of the groundwater monitoring wells. The monitoring well network, as provided by Geosyntec Consultants, consists of the following:

- **Upgradient wells:** MW-008I, MW-008S, MW-014S, MW-11S, MW-6S
- **Downgradient wells:** MW-001D, MW-001I, MW-001S, MW-002D, MW-002I, MW-002S, MW-015I, MW-015S, MW-016D, MW-016I, MW-016S, MW-021D, MW-021I, MW-021S, MW-17I, and MW-17S

Data were provided electronically to Groundwater Stats Consulting, and the statistical analysis was performed according to the groundwater data screening that was performed in December 2017 by GSC and approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting and primary author of the USEPA Unified Guidance. The background update performed during this analysis was reviewed by Dr. Cameron.

The following CCR Detection Monitoring constituents were evaluated:

- **Appendix III parameters** – boron, calcium, chloride, fluoride, pH, sulfate, and TDS;

Time series plots for Appendix III parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, box plots are included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells.

Data at all wells were screened during the December 2017 analysis for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with this screening to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance recommendations as discussed below.

Summary of Statistical Method:

- 1) Intrawell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean

and standard deviation of the historical concentrations to account for concentrations below the reporting limit.

- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Historical Summary – December 2017 Background Screening

Outlier Evaluation

Time series plots are used to identify suspected outliers, or extreme values that would result in limits that are not conservative from a regulatory perspective, in proposed background data. Suspected outliers at all wells for Appendix III parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Tukey's outlier test noted a few outliers which were included on the Outlier Summary Table and accompanying graphs on the previous screening. Any values identified as outliers are plotted in a lighter font on the time series graph. While the test identified a few high outliers for pH in upgradient and downgradient wells, no values were flagged at that time. In the case of lithium in well MW-001I and selenium in well MW-015I where the test identified both a high and low outlier, only the high values were flagged as outlier since the low values were reported in more recent data, and additional observations will be needed to determine whether ongoing concentrations will continue to decrease. Overall, when additional data are available, a determination will be made as to whether those values represent natural variation or whether they are anomalous. The test also identified an outlier for fluoride in well MW-002S; however, this value was similar to surrounding wells and, therefore, was not flagged at this time. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

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

While trends may be visual, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each well to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of

the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, earlier data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When the historical records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

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

Appendix III – Determination of Spatial Variation

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

The ANOVA identified variation among upgradient well data for all of the Appendix III parameters. Therefore, all data were further evaluated as described for the appropriateness of intrawell testing to accommodate the groundwater quality. A summary table of the ANOVA results was included with the previous screening.

Appendix III – Intrawell Method Eligibility Screening

Intrawell limits constructed from carefully screened background data from within each well serve to provide statistical limits that are conservative (i.e. lower) from a regulatory perspective, and that will rapidly identify a change in more recent compliance data from within a given well. This statistical method removes the element of variation from across wells and eliminates the chance of mistaking natural spatial variation for a release from the facility. Prior to performing intrawell prediction limits, several steps were required to

reasonably demonstrate downgradient water quality does not have existing impacts from the practices of the facility.

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

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

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

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

Confidence intervals for the above parameters were found to be within their respective background limit for boron, fluoride, pH, and sulfate; while the confidence intervals for calcium, chloride, and TDS were above the background standards. Therefore, intrawell

methods are recommended for boron, fluoride, pH, and sulfate. Interwell methods were initially recommended for calcium, chloride, and TDS., however; a demonstration from upgradient wells supports natural variation in groundwater and therefore, intrawell methods will be considered for all parameters.

Prior to this update, all available data through July 2017 at each well were originally used to establish intrawell background limits based on a 1-of-3 resample plan. Currently, enough samples have been collected to utilize a 1-of-2 resample plan, which will now be used for future comparisons. Downgradient measurements will then be compared to these background limits during each subsequent semi-annual sampling event.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits will be necessary to accommodate these types of changes. In the interwell case, newer upgradient well data are carefully screened for anomalous values that would result in a statistical limit that is not conservative from a regulatory perspective. On an annual basis, all upgradient well data are tested for increasing or decreasing trends, and data are adjusted as necessary. In the intrawell case, data for all wells and constituents are re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater quality. In some cases, the earlier portion of data are deselected prior to construction of limits in order to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

Background Update Summary – July 2019

Prior to updating background data, samples were re-evaluated for all wells for intrawell parameters and all upgradient wells for interwell parameters using Tukey's outlier test and visual screening for all samples through July 2019 (Figure C). In some cases, wells had samples reported only through May 2019. Additionally, while no values were flagged at upgradient wells for parameters using interwell methods, Tukey's test noted outliers for fluoride in wells MW-001D and pH in wells MW-015S and MW-016D which were flagged in the database. Additionally, while Tukey's test did not identify an outlier for sulfate in well MW-001D, the lowest value was flagged to reduce variation and potentially inflate the statistical limit, as it was not consistent with remaining measurements within that well. In order to construct limits that were conservative from a regulatory perspective, the highest values for TDS in well MW-002D were flagged as

outliers. As mentioned above, flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. An updated summary of Tukey's test results and flagged outliers follows this letter.

For constituents requiring intrawell prediction limits, the Mann-Whitney (Wilcoxon Rank Sum) test was used to compare the medians of historical data through July 2017 to the new compliance samples at each well through the most recent sample to evaluate whether the groups are significantly different at the 99% confidence level, in which case background data may not be updated with compliance data (Figure D). A few statistically significant differences were found between the two groups for boron in downgradient well MW-001S; calcium in upgradient well MW-008S and downgradient wells MW-016D, MW-016I, and MW-17I; chloride in downgradient wells MW-001I, MW-001S, MW-002D, MW-002S, MW-015I, MW-015S, MW-016D, MW-021S, and MW-17I; fluoride in upgradient wells MW-6S and downgradient wells MW-17I and MW-17S; sulfate in downgradient wells MW-015I and MW-016D; and TDS in downgradient wells MW-015I, MW-016D, MW-016S, and MW-17I.

Generally, when the test concludes that the medians of the two groups are significantly different, particularly in the downgradient wells, the background are not updated to include the newer data unless it can be reasonably justified that the change in concentrations reflect a regional shift unrelated to practices at the site. In those cases, the more historical data may be deselected prior to construction of statistical limits so that limits are reflective of present-day conditions.

Typically, when the test concludes that the medians of the two groups are significantly different, particularly in the downgradient wells, the background are not updated to include the newer data but will be reconsidered in the future. This scenario applies to chloride in wells MW-002D and MW-016D, and TDS in well MW-016D, which shows a substantial increasing trend, has high recent concentrations, and yields a larger median difference between the two groups than other wells for their respective constituents. However, in the case of calcium in upgradient well MW-008S, since its concentrations are similar to those in one or more surrounding upgradient wells and it represents natural variation in groundwater quality, the background was, therefore, updated.

Regarding concentrations for boron in well MW-001S; calcium in wells MW-016D and MW-016I; chloride in wells MW-001I, MW-001S, MW-002S, MW-015I, MW-015S, and MW-021S; fluoride in wells MW-6S and MW-17S; sulfate in wells MW-015I and MW-016D; and TDS in wells MW-015I, MW-016S, and MW-17I; the Mann Whitney identified differences in which both shared very similar patterns and concentrations among other

of their respective wells where differences were not statistically significant. As a result, the background data for these well/constituent pairs were updated with compliance data. When similar patterns exist upgradient of the facility, it is an indication that groundwater quality is naturally changing and is unrelated to the landfill.

Recent concentrations for fluoride in downgradient well MW-171 have stabilized and will use the most recent 8 samples rather than historical samples as background data. Additionally, recent concentrations for calcium and chloride in downgradient well MW-171 have lowered and better resemble concentrations in upgradient wells, and therefore, these will also use the most recent 8 samples. All wells, with the exception of those that were not updated or are using the most recent samples, will use all historical data through July 2019 for construction of intrawell prediction limits. A summary of these results follows this letter and the test results are included with the Mann Whitney test section at the end of this report.

During the next background update, all data will be re-evaluated to determine whether the more historical data are no longer representative of present-day groundwater quality. In those cases, the earlier measurements may be deselected so that resulting statistical limits are representative of current groundwater conditions. A summary of these results follows this letter and the test results are included with the Mann Whitney test section at the end of this report.

Intrawell prediction limits using all reported data through July 2019, except for the cases mentioned combined with a 1-of-2 resample plan, were constructed and a summary of the updated limits follows this letter (Figure E).

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

For Groundwater Stats Consulting,



Andrew T. Collins
Groundwater Analyst



Kristina Rayner
Groundwater Statistician

Date Ranges

Date: 1/28/2020 12:53 PM

Rockport Landfill Client: Geosyntec Data: Rockport_LF

Calcium, total (mg/L)

MW-171 background:1/10/2017-5/23/2019

Chloride, total (mg/L)

MW-002D background:6/7/2016-7/19/2017

MW-016D background:6/7/2016-7/19/2017

MW-171 background:7/19/2017-5/23/2019

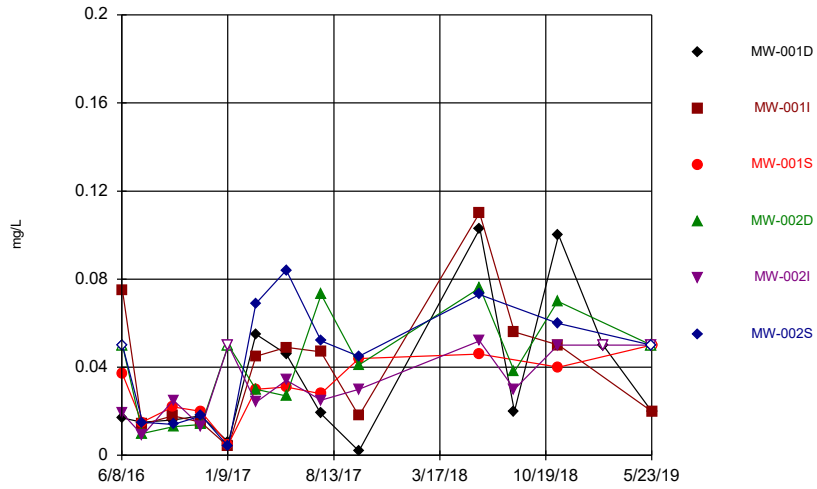
Fluoride, total (mg/L)

MW-171 background:6/5/2018-7/23/2019

Total Dissolved Solids [TDS] (mg/L)

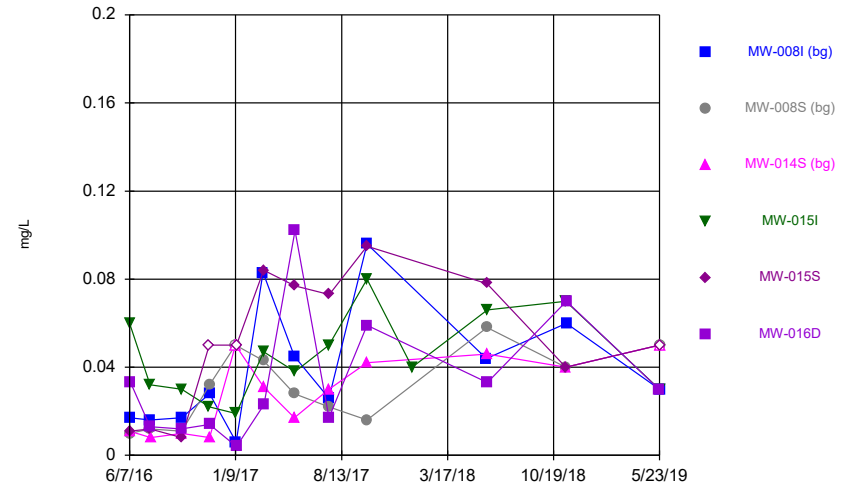
MW-016D background:6/7/2016-7/19/2017

Time Series



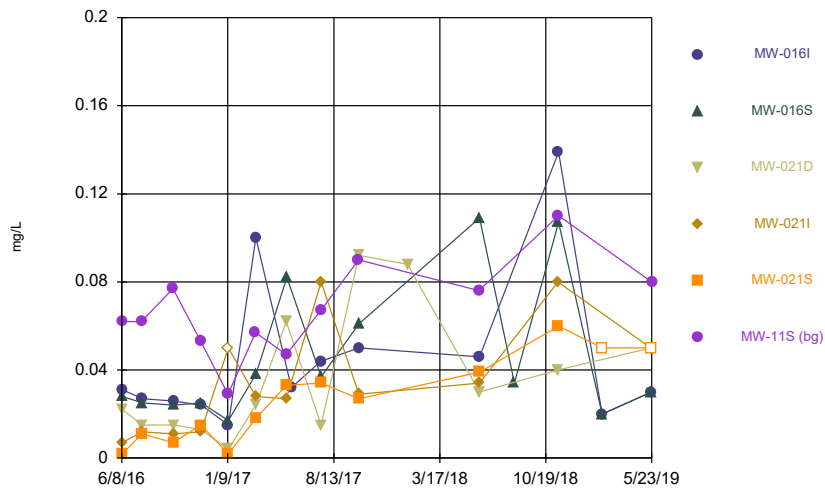
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



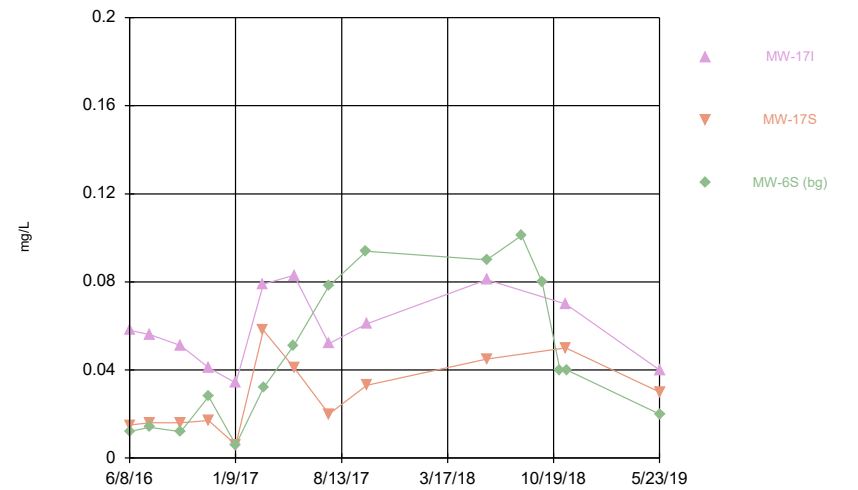
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Time Series



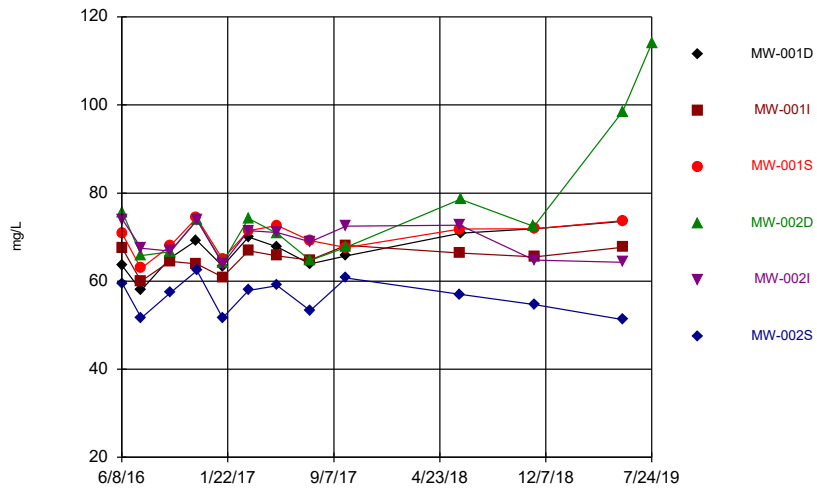
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



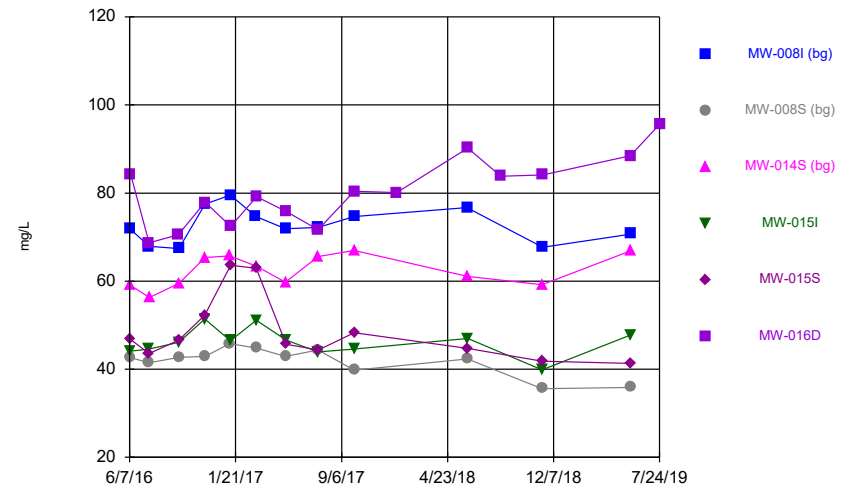
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Time Series



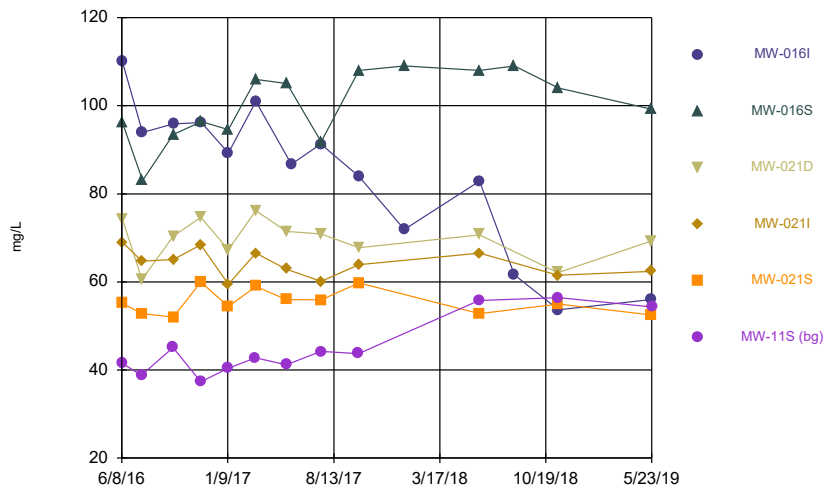
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Time Series



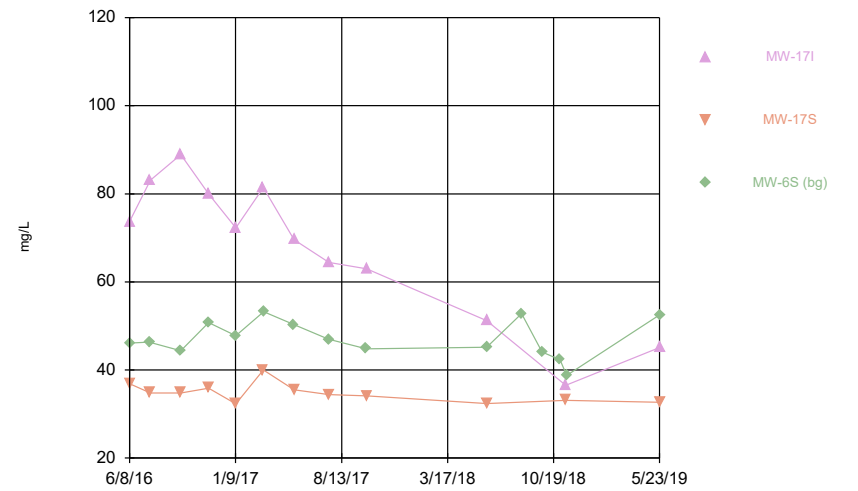
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Time Series



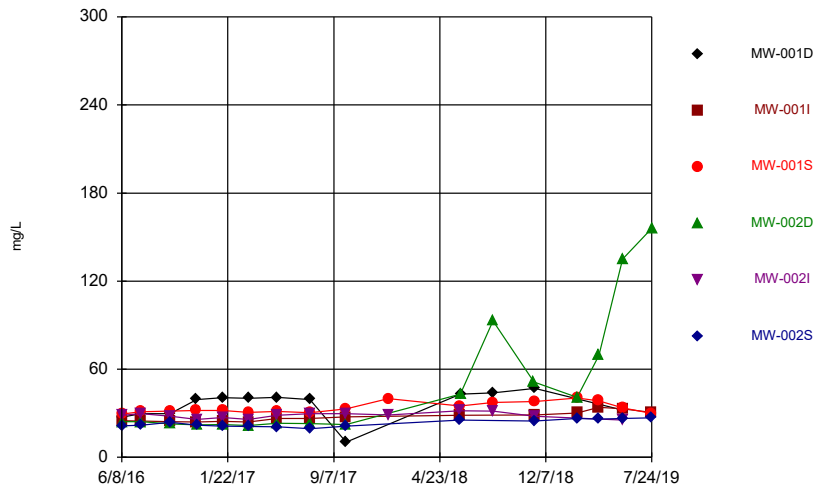
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Time Series



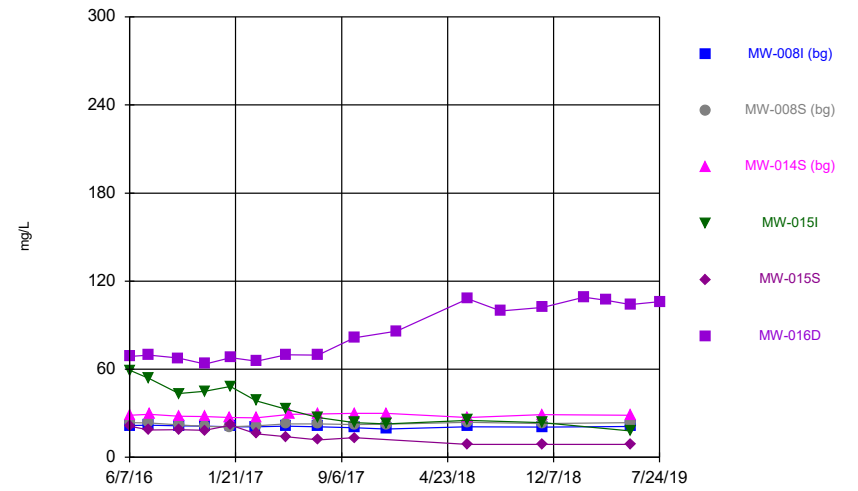
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Time Series



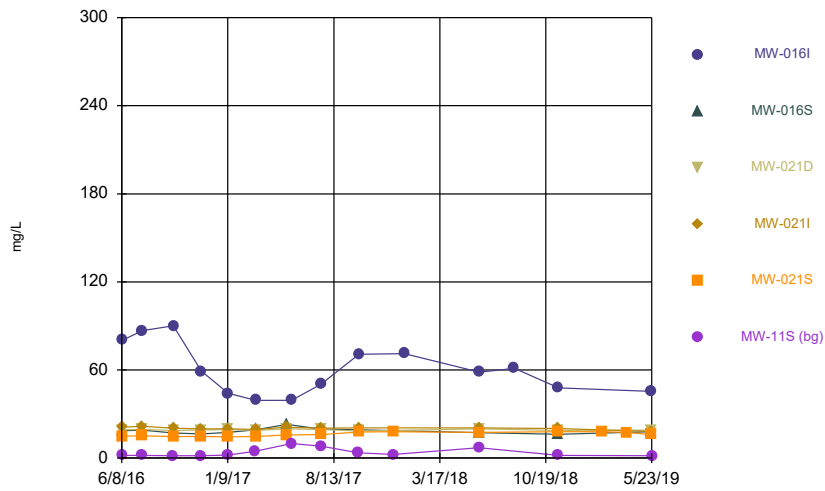
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Time Series



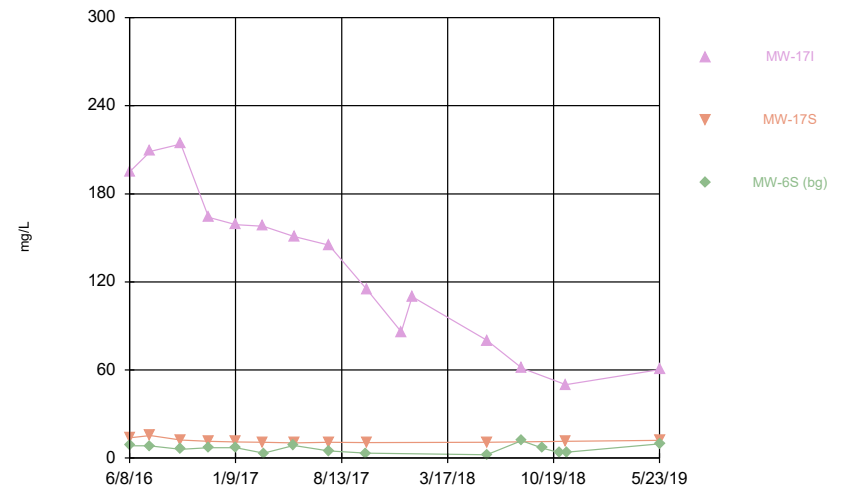
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Time Series



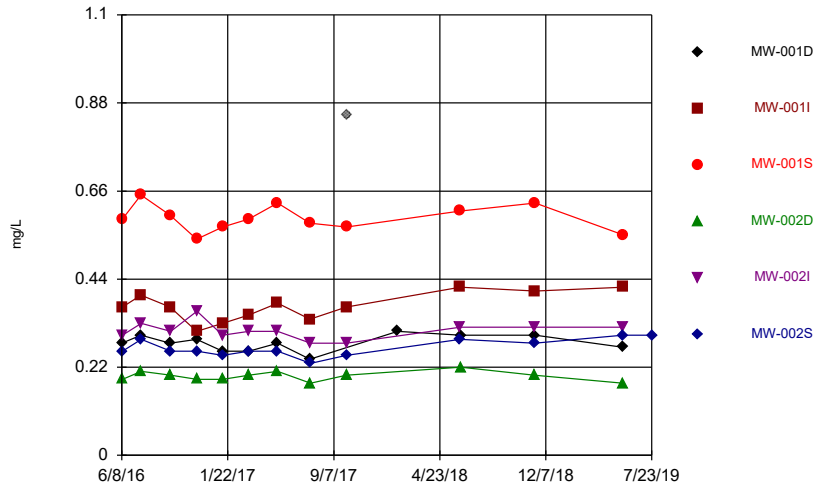
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Time Series



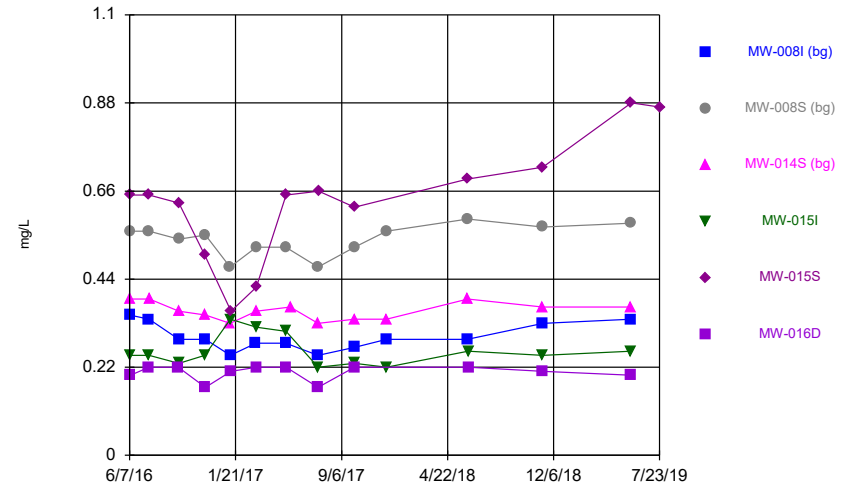
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Time Series



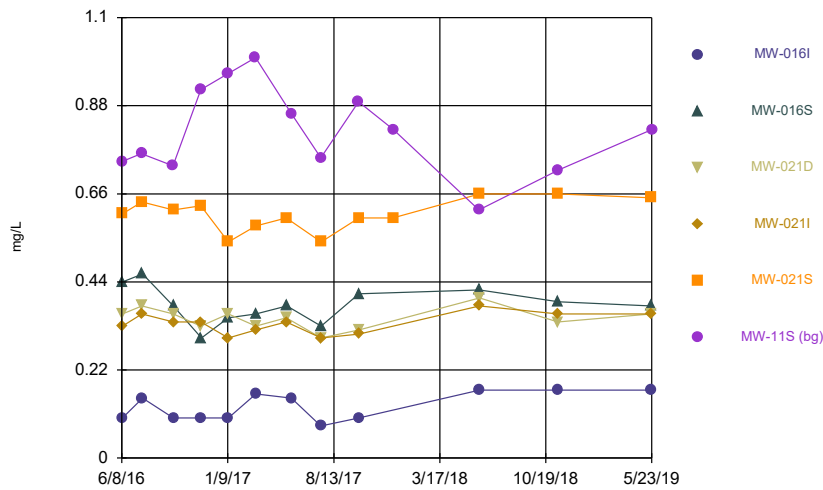
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



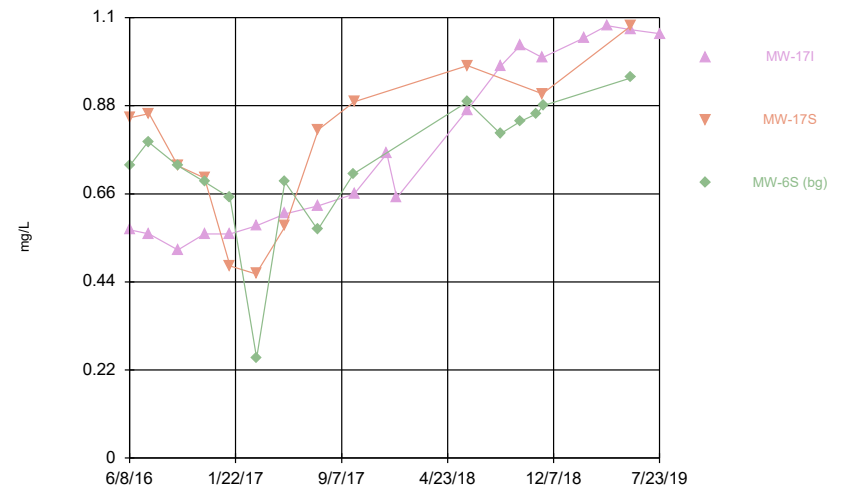
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



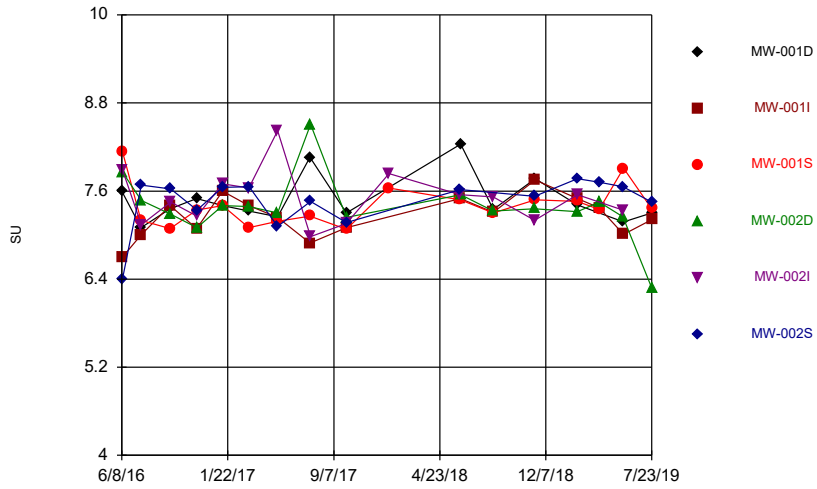
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Time Series



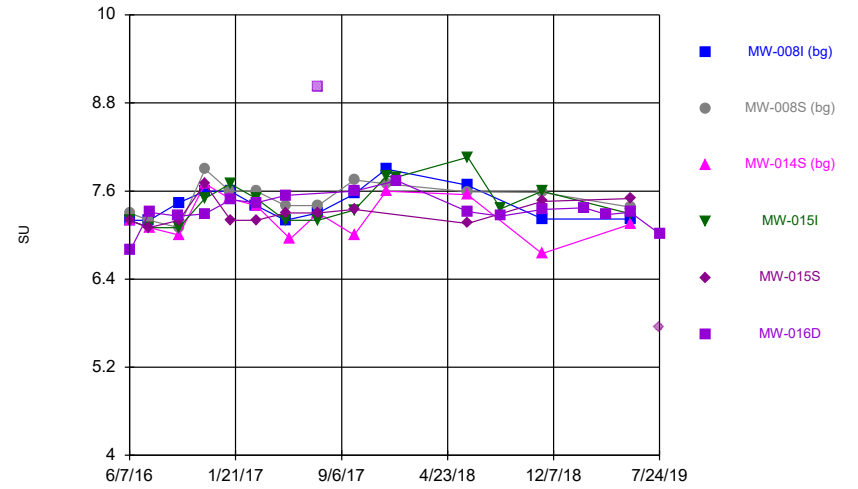
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Time Series



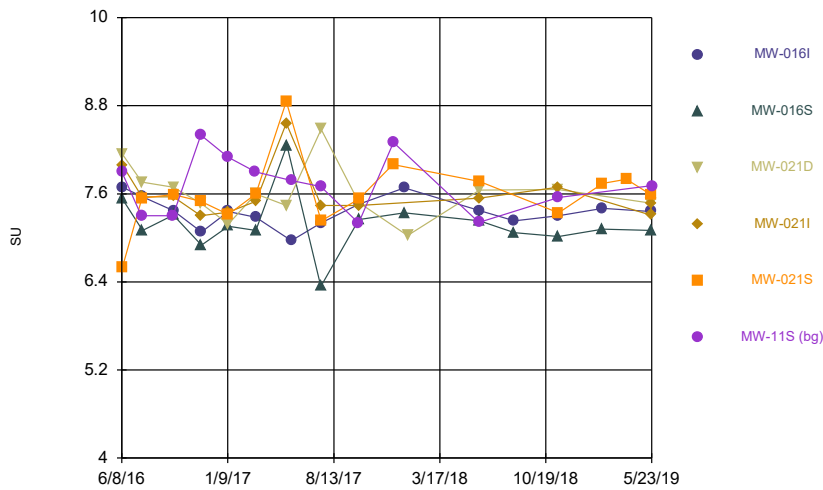
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



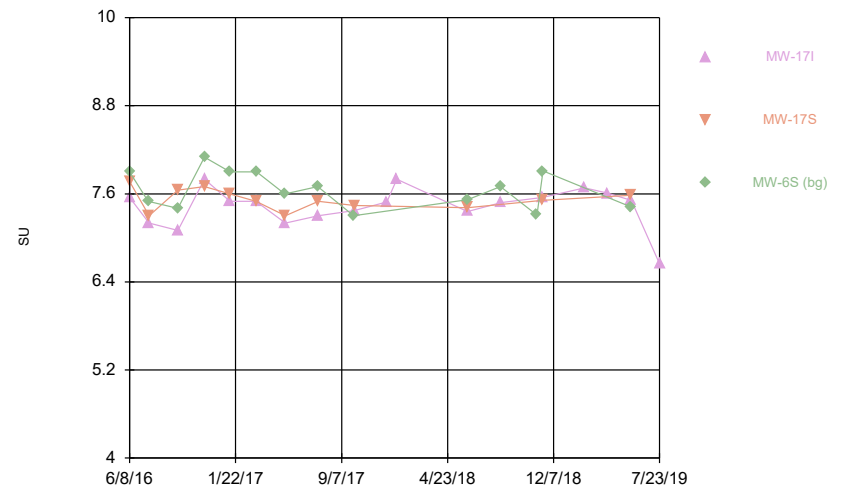
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



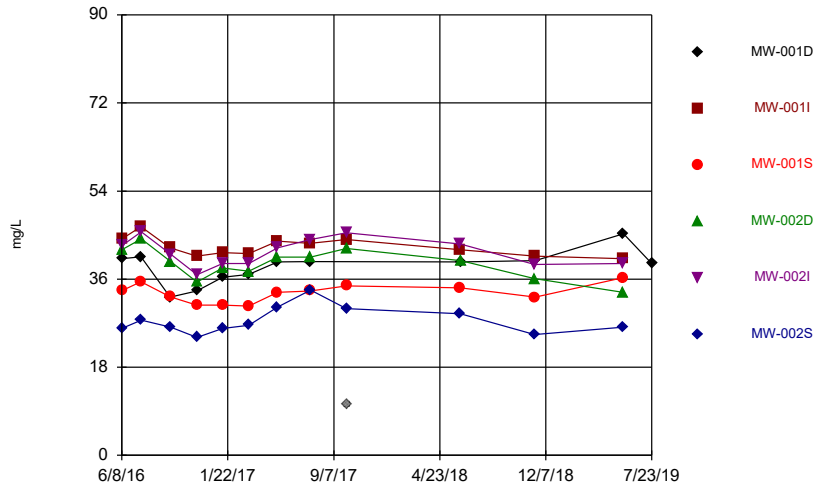
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



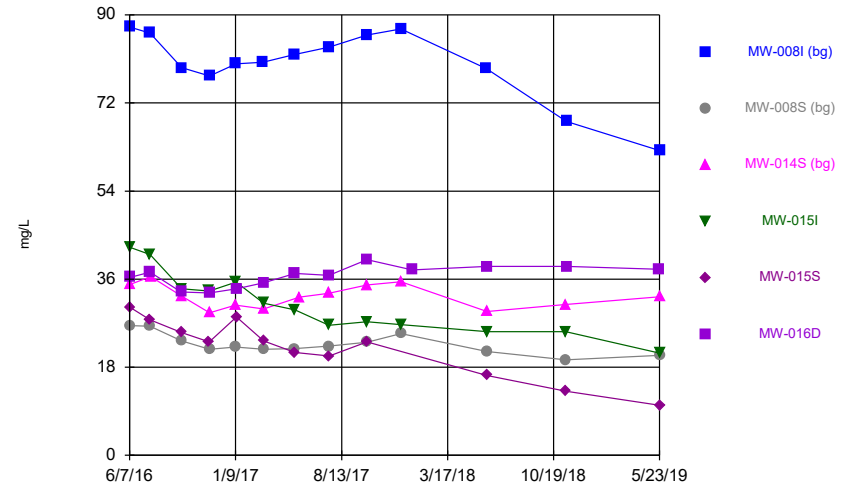
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



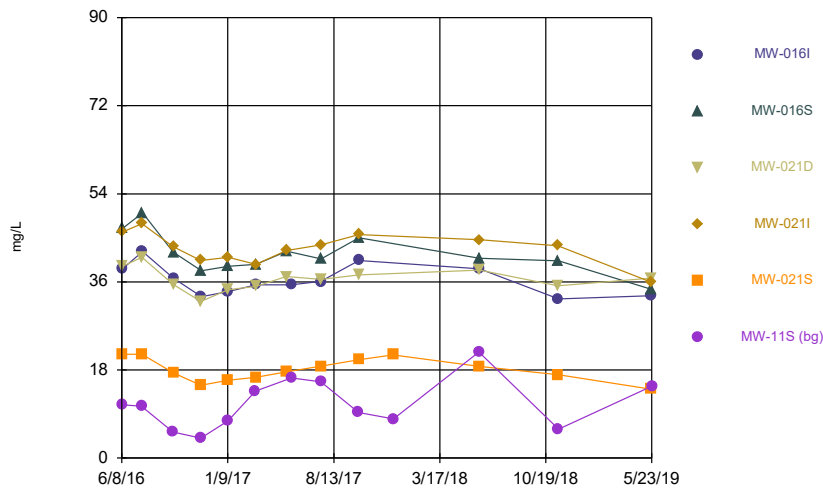
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



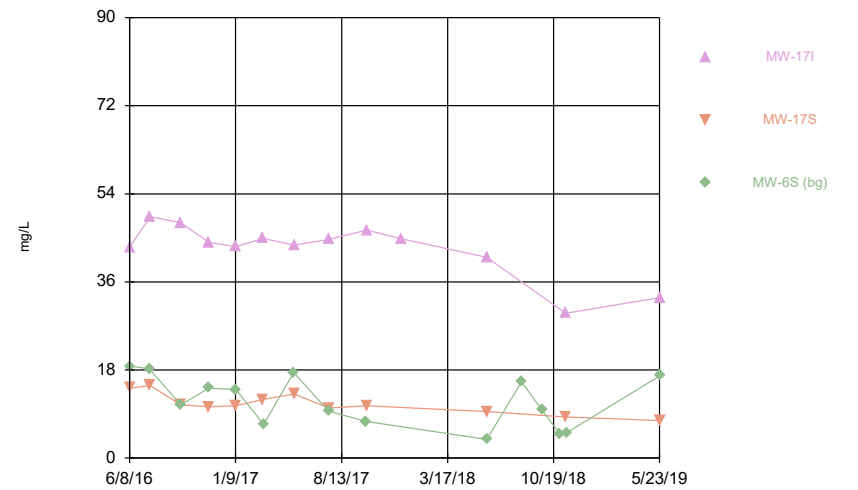
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



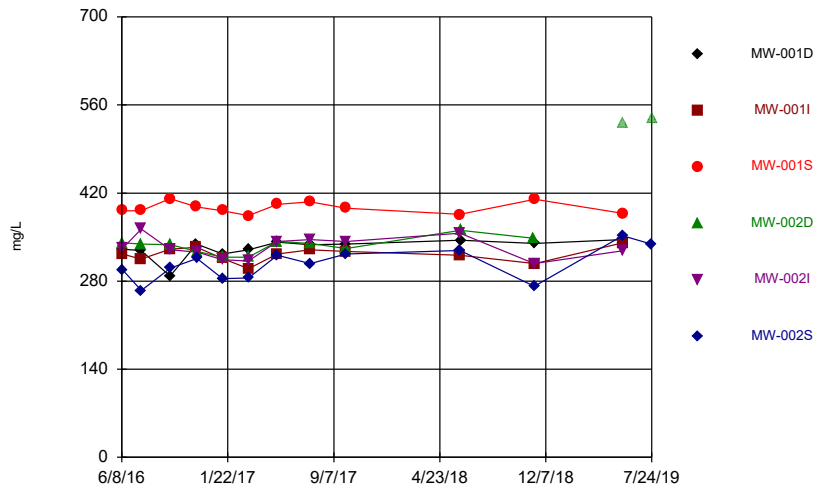
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



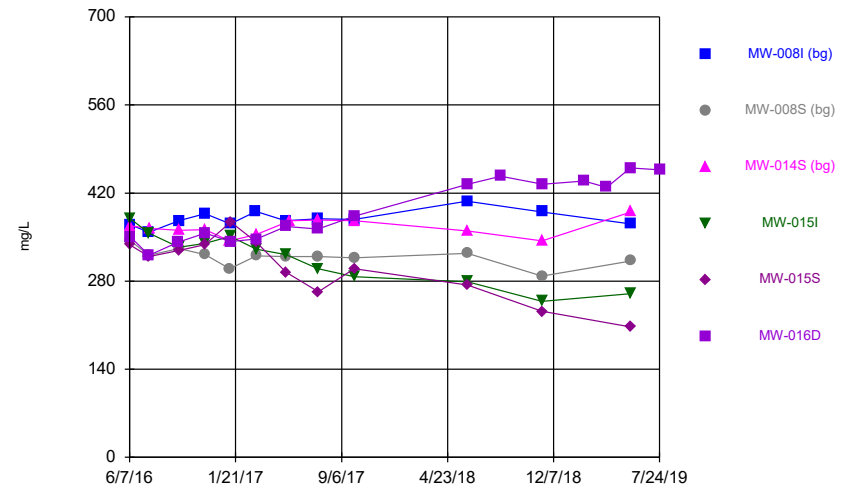
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



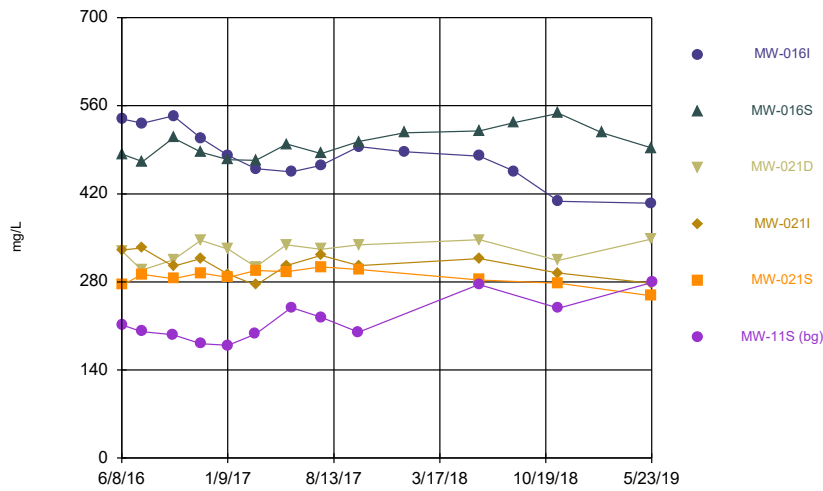
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:27 PM
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



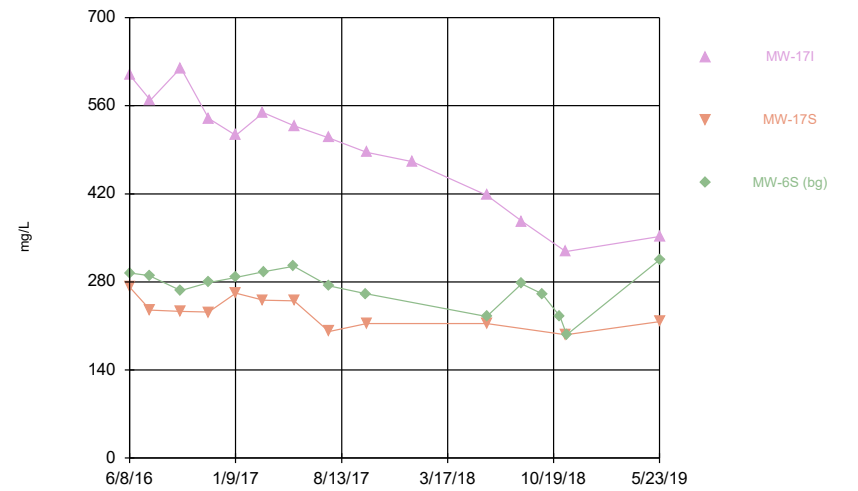
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



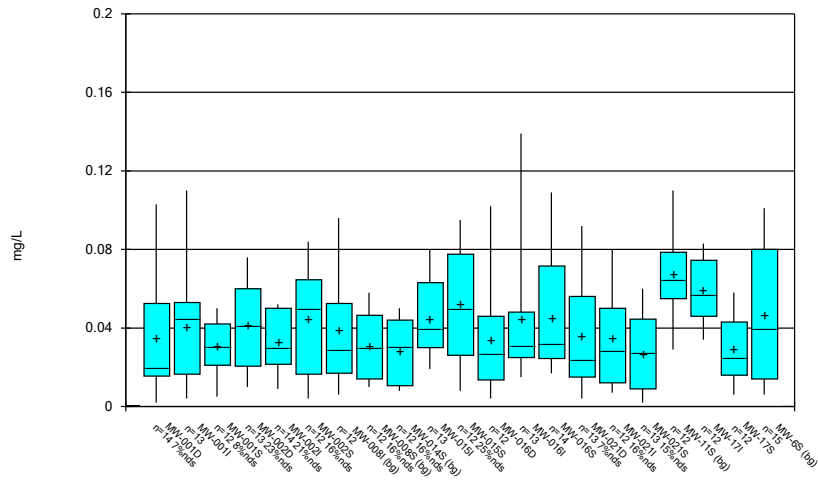
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Time Series



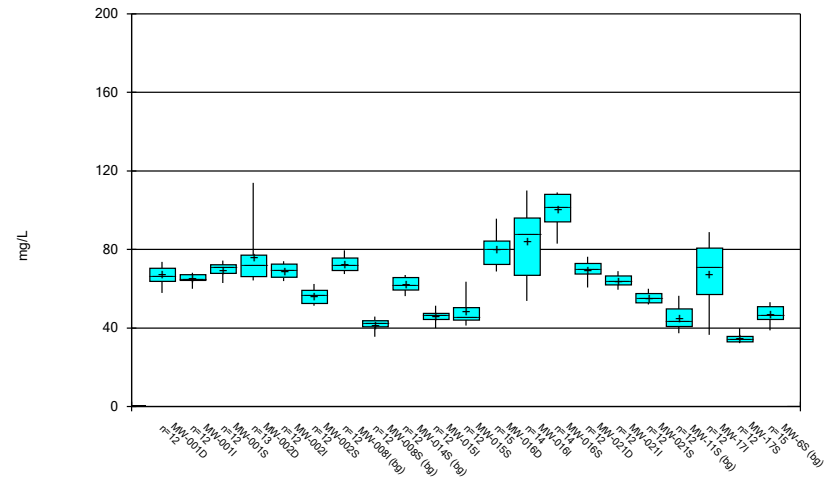
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



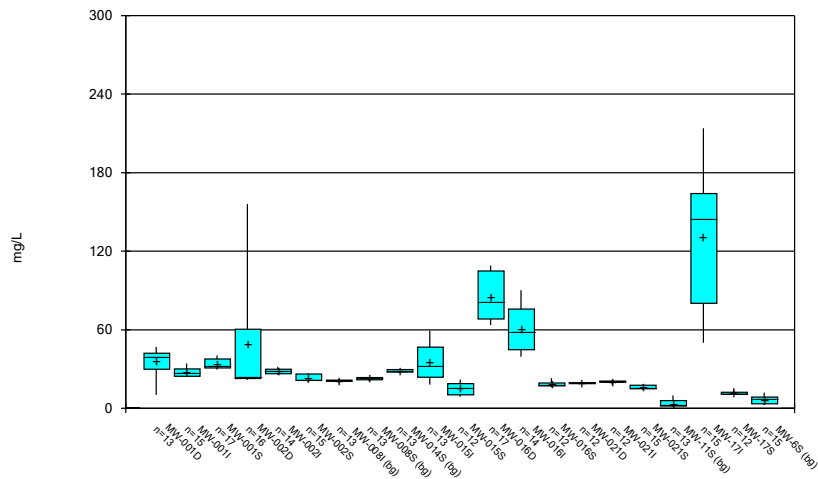
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



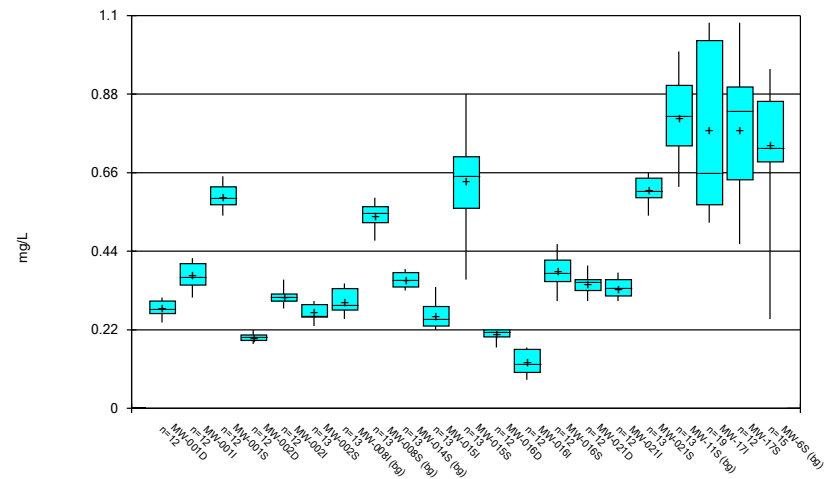
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



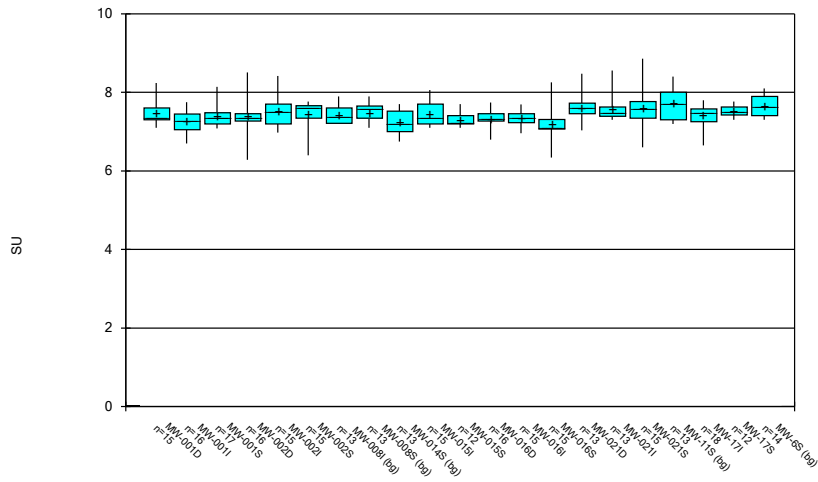
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



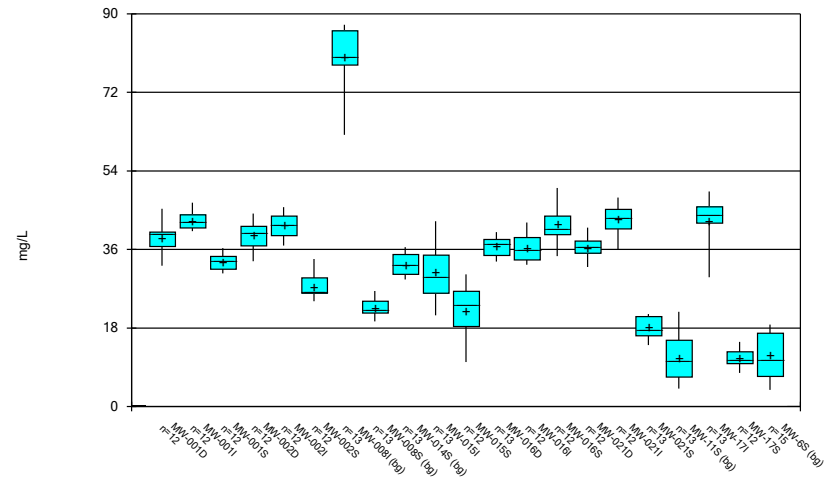
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



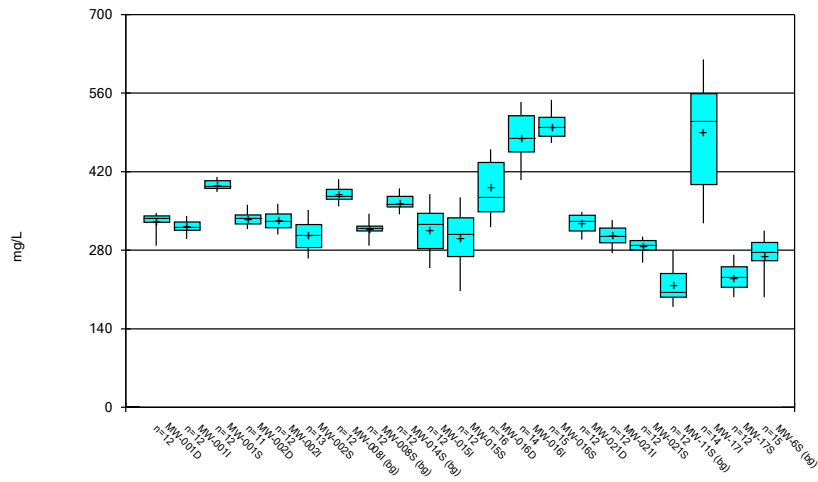
Constituent: pH, field Analysis Run 1/28/2020 12:30 PM
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



Constituent: Sulfate, total Analysis Run 1/28/2020 12:30 PM
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:30 PM
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Outlier Summary

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 12:31 PM

	MW-001D Fluoride, total (mg/L)	MW-015S pH, field (SU)	MW-016D pH, field (SU)	MW-001D Sulfate, total (mg/L)	MW-002D Total Dissolved Solids [TDS] (mg/L)
7/18/2017		9.03 (o)			
10/4/2017	0.85 (o)		10.4 (o)		
5/22/2019					531 (o)
7/23/2019		5.74 (o)			
7/24/2019					540 (o)

Intrawell Outlier Analysis - Significant Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/17/2020, 10:19 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	N	Mean	Std. Dev.	Distribution	Normality Test
Fluoride, total (mg/L)	MW-001D	Yes	0.85	10/4/2017	NP	13	0.3246	0.1591	In(x)	ShapiroWilk
pH, field (SU)	MW-002D	Yes	8.51,6.28	7/19/2017,7/23/2019	NP	16	7.381	0.4394	normal	ShapiroWilk
pH, field (SU)	MW-015S	Yes	5.74	7/23/2019	NP	13	7.185	0.4646	x^6	ShapiroWilk
pH, field (SU)	MW-016D	Yes	9.03	7/18/2017	NP	17	7.435	0.462	In(x)	ShapiroWilk
pH, field (SU)	MW-016S	Yes	8.26,6.34	5/10/2017,7/18/2017	NP	15	7.189	0.3948	In(x)	ShapiroWilk
pH, field (SU)	MW-021I	Yes	8.56	5/9/2017	NP	13	7.592	0.3422	In(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-002D	Yes	531,540	5/22/2019,7/24/2019	NP	13	367.4	75.53	In(x)	ShapiroWilk

Intrawell Outlier Analysis - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/17/2020, 10:19 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	N	Mean	Std. Dev.	Distribution	Normality Test
Boron, total (mg/L)	MW-001D	No	n/a	n/a	NP	14	0.03479	0.03235	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-001I	No	n/a	n/a	NP	13	0.04008	0.02972	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-001S	No	n/a	n/a	NP	12	0.03067	0.01353	normal	ShapiroWilk
Boron, total (mg/L)	MW-002D	No	n/a	n/a	NP	13	0.04169	0.0226	normal	ShapiroWilk
Boron, total (mg/L)	MW-002I	No	n/a	n/a	NP	14	0.03293	0.01498	sqrt(x)	ShapiroWilk
Boron, total (mg/L)	MW-002S	No	n/a	n/a	NP	12	0.0445	0.02606	normal	ShapiroWilk
Boron, total (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	12	0.039	0.02803	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	12	0.031	0.01704	normal	ShapiroWilk
Boron, total (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	12	0.02858	0.01699	normal	ShapiroWilk
Boron, total (mg/L)	MW-015I	No	n/a	n/a	NP	13	0.04492	0.01924	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-015S	No	n/a	n/a	NP	12	0.05233	0.03013	x^2	ShapiroWilk
Boron, total (mg/L)	MW-016D	No	n/a	n/a	NP	12	0.03417	0.02892	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-016I	No	n/a	n/a	NP	13	0.04492	0.03551	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-016S	No	n/a	n/a	NP	14	0.0455	0.03157	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-021D	No	n/a	n/a	NP	13	0.03615	0.02884	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-021I	No	n/a	n/a	NP	12	0.035	0.02535	ln(x)	ShapiroWilk
Boron, total (mg/L)	MW-021S	No	n/a	n/a	NP	13	0.02677	0.01938	sqrt(x)	ShapiroWilk
Boron, total (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	12	0.0675	0.02114	normal	ShapiroWilk
Boron, total (mg/L)	MW-17I	No	n/a	n/a	NP	12	0.05883	0.01656	x^(1/3)	ShapiroWilk
Boron, total (mg/L)	MW-17S	No	n/a	n/a	NP	12	0.02892	0.01648	sqrt(x)	ShapiroWilk
Boron, total (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	0.04653	0.03346	x^(1/3)	ShapiroWilk
Calcium, total (mg/L)	MW-001D	No	n/a	n/a	NP	12	66.93	4.467	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-001I	No	n/a	n/a	NP	12	65.15	2.559	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-001S	No	n/a	n/a	NP	12	69.94	3.505	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-002D	No	n/a	n/a	NP	13	75.93	14.52	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-002I	No	n/a	n/a	NP	12	69.32	3.776	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-002S	No	n/a	n/a	NP	12	56.36	3.795	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	12	72.74	3.986	normal	ShapiroWilk
Calcium, total (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	12	41.78	3.211	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	12	62.43	3.657	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-015I	No	n/a	n/a	NP	12	46.13	3.147	sqrt(x)	ShapiroWilk
Calcium, total (mg/L)	MW-015S	No	n/a	n/a	NP	12	48.51	7.482	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-016D	No	n/a	n/a	NP	15	80.21	7.728	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-016I	No	n/a	n/a	NP	14	83.89	17.08	x^3	ShapiroWilk
Calcium, total (mg/L)	MW-016S	No	n/a	n/a	NP	14	100.3	7.95	x^4	ShapiroWilk
Calcium, total (mg/L)	MW-021D	No	n/a	n/a	NP	12	69.64	4.707	x^6	ShapiroWilk
Calcium, total (mg/L)	MW-021I	No	n/a	n/a	NP	12	64.21	3.068	sqrt(x)	ShapiroWilk
Calcium, total (mg/L)	MW-021S	No	n/a	n/a	NP	12	55.44	2.841	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	12	45.13	6.64	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-17I	No	n/a	n/a	NP	12	67.43	16.17	x^3	ShapiroWilk
Calcium, total (mg/L)	MW-17S	No	n/a	n/a	NP	12	34.74	2.196	ln(x)	ShapiroWilk
Calcium, total (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	47.09	4.158	normal	ShapiroWilk
Chloride, total (mg/L)	MW-001D	No	n/a	n/a	NP	13	35.65	9.756	x^3	ShapiroWilk
Chloride, total (mg/L)	MW-001I	No	n/a	n/a	NP	15	27.49	3.308	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-001S	No	n/a	n/a	NP	17	33.78	3.663	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-002D	No	n/a	n/a	NP	16	49.66	42.77	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-002I	No	n/a	n/a	NP	14	28.46	1.987	normal	ShapiroWilk
Chloride, total (mg/L)	MW-002S	No	n/a	n/a	NP	15	23.24	2.51	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	13	20.93	0.6945	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	13	22.56	0.9921	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	13	28.58	1.096	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-015I	No	n/a	n/a	NP	13	35.48	13.41	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-015S	No	n/a	n/a	NP	12	15.07	4.815	x^2	ShapiroWilk
Chloride, total (mg/L)	MW-016D	No	n/a	n/a	NP	17	85.03	18.23	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-016I	No	n/a	n/a	NP	14	60.32	17.21	ln(x)	ShapiroWilk

Intrawell Outlier Analysis - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/17/2020, 10:19 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	N	Mean	Std. Dev.	Distribution	Normality Test
Chloride, total (mg/L)	MW-016S	No	n/a	n/a	NP	12	18.46	1.833	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-021D	No	n/a	n/a	NP	12	19.23	0.4376	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-021I	No	n/a	n/a	NP	12	20.29	0.8959	x^6	ShapiroWilk
Chloride, total (mg/L)	MW-021S	No	n/a	n/a	NP	15	16.19	1.398	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	13	3.699	2.858	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-17I	No	n/a	n/a	NP	15	130.5	54.78	normal	ShapiroWilk
Chloride, total (mg/L)	MW-17S	No	n/a	n/a	NP	12	11.73	1.518	ln(x)	ShapiroWilk
Chloride, total (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	6.349	2.767	sqrt(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-001D	Yes	0.85	10/4/2017	NP	13	0.3246	0.1591	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-001I	No	n/a	n/a	NP	12	0.3725	0.03571	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-001S	No	n/a	n/a	NP	12	0.5925	0.03334	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-002D	No	n/a	n/a	NP	12	0.1975	0.01215	x^(1/3)	ShapiroWilk
Fluoride, total (mg/L)	MW-002I	No	n/a	n/a	NP	12	0.3117	0.02167	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-002S	No	n/a	n/a	NP	13	0.2685	0.02154	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	13	0.2962	0.03355	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	13	0.5392	0.03796	x^6	ShapiroWilk
Fluoride, total (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	13	0.3608	0.02178	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-015I	No	n/a	n/a	NP	13	0.2608	0.03861	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-015S	No	n/a	n/a	NP	13	0.6385	0.1492	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-016D	No	n/a	n/a	NP	12	0.2067	0.01875	x^6	ShapiroWilk
Fluoride, total (mg/L)	MW-016I	No	n/a	n/a	NP	12	0.1292	0.03502	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-016S	No	n/a	n/a	NP	12	0.3833	0.04539	normal	ShapiroWilk
Fluoride, total (mg/L)	MW-021D	No	n/a	n/a	NP	12	0.3492	0.02712	sqrt(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-021I	No	n/a	n/a	NP	12	0.3367	0.0257	x^2	ShapiroWilk
Fluoride, total (mg/L)	MW-021S	No	n/a	n/a	NP	13	0.61	0.03979	x^6	ShapiroWilk
Fluoride, total (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	13	0.8146	0.1084	sqrt(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-17I	No	n/a	n/a	NP	19	0.7789	0.2191	ln(x)	ShapiroWilk
Fluoride, total (mg/L)	MW-17S	No	n/a	n/a	NP	12	0.7783	0.1938	x^2	ShapiroWilk
Fluoride, total (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	0.736	0.1692	x^3	ShapiroWilk
pH, field (SU)	MW-001D	No	n/a	n/a	NP	15	7.477	0.3196	ln(x)	ShapiroWilk
pH, field (SU)	MW-001I	No	n/a	n/a	NP	16	7.254	0.2784	x^3	ShapiroWilk
pH, field (SU)	MW-001S	No	n/a	n/a	NP	17	7.399	0.2841	ln(x)	ShapiroWilk
pH, field (SU)	MW-002D	Yes	8.51,6.28	7/19/2017,7/23/2019	NP	16	7.381	0.4394	normal	ShapiroWilk
pH, field (SU)	MW-002I	No	n/a	n/a	NP	15	7.509	0.3654	ln(x)	ShapiroWilk
pH, field (SU)	MW-002S	No	n/a	n/a	NP	15	7.457	0.351	x^6	ShapiroWilk
pH, field (SU)	MW-008I (bg)	No	n/a	n/a	NP	13	7.425	0.2278	ln(x)	ShapiroWilk
pH, field (SU)	MW-008S (bg)	No	n/a	n/a	NP	13	7.5	0.2276	x^3	ShapiroWilk
pH, field (SU)	MW-014S (bg)	No	n/a	n/a	NP	13	7.246	0.289	ln(x)	ShapiroWilk
pH, field (SU)	MW-015I	No	n/a	n/a	NP	15	7.449	0.2901	ln(x)	ShapiroWilk
pH, field (SU)	MW-015S	Yes	5.74	7/23/2019	NP	13	7.185	0.4646	x^6	ShapiroWilk
pH, field (SU)	MW-016D	Yes	9.03	7/18/2017	NP	17	7.435	0.462	ln(x)	ShapiroWilk
pH, field (SU)	MW-016I	No	n/a	n/a	NP	15	7.353	0.1988	sqrt(x)	ShapiroWilk
pH, field (SU)	MW-016S	Yes	8.26,6.34	5/10/2017,7/18/2017	NP	15	7.189	0.3948	ln(x)	ShapiroWilk
pH, field (SU)	MW-021D	No	n/a	n/a	NP	13	7.62	0.3728	ln(x)	ShapiroWilk
pH, field (SU)	MW-021I	Yes	8.56	5/9/2017	NP	13	7.592	0.3422	ln(x)	ShapiroWilk
pH, field (SU)	MW-021S	No	n/a	n/a	NP	15	7.601	0.4734	ln(x)	ShapiroWilk
pH, field (SU)	MW-11S (bg)	No	n/a	n/a	NP	13	7.719	0.4004	ln(x)	ShapiroWilk
pH, field (SU)	MW-17I	No	n/a	n/a	NP	18	7.425	0.2731	x^6	ShapiroWilk
pH, field (SU)	MW-17S	No	n/a	n/a	NP	12	7.522	0.1471	x^4	ShapiroWilk
pH, field (SU)	MW-6S (bg)	No	n/a	n/a	NP	14	7.654	0.2569	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-001D	No	n/a	n/a	NP	13	36.42	8.471	x^4	ShapiroWilk
Sulfate, total (mg/L)	MW-001I	No	n/a	n/a	NP	12	42.57	1.922	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-001S	No	n/a	n/a	NP	12	33.15	1.895	x^3	ShapiroWilk
Sulfate, total (mg/L)	MW-002D	No	n/a	n/a	NP	12	39.14	3.149	x^3	ShapiroWilk
Sulfate, total (mg/L)	MW-002I	No	n/a	n/a	NP	12	41.53	2.852	sqrt(x)	ShapiroWilk

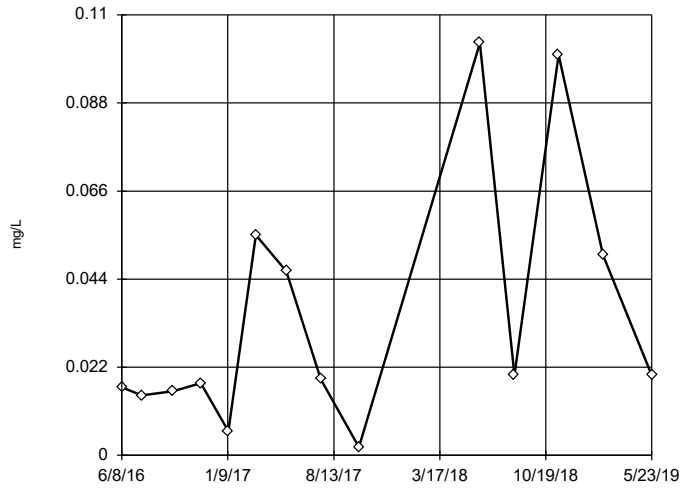
Intrawell Outlier Analysis - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/17/2020, 10:19 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	N	Mean	Std. Dev.	Distribution	Normality Test
Sulfate, total (mg/L)	MW-002S	No	n/a	n/a	NP	12	27.53	2.766	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	13	79.89	7.398	x^6	ShapiroWilk
Sulfate, total (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	13	22.69	2.136	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	13	32.45	2.424	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-015I	No	n/a	n/a	NP	13	30.72	6.368	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-015S	No	n/a	n/a	NP	12	21.84	6.106	x^2	ShapiroWilk
Sulfate, total (mg/L)	MW-016D	No	n/a	n/a	NP	13	36.68	2.13	x^6	ShapiroWilk
Sulfate, total (mg/L)	MW-016I	No	n/a	n/a	NP	12	36.37	3.093	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-016S	No	n/a	n/a	NP	12	41.65	4.121	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-021D	No	n/a	n/a	NP	12	36.55	2.368	normal	ShapiroWilk
Sulfate, total (mg/L)	MW-021I	No	n/a	n/a	NP	12	42.83	3.247	x^4	ShapiroWilk
Sulfate, total (mg/L)	MW-021S	No	n/a	n/a	NP	13	18.04	2.391	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	13	11.06	5.127	x^(1/3)	ShapiroWilk
Sulfate, total (mg/L)	MW-17I	No	n/a	n/a	NP	13	42.75	5.603	x^6	ShapiroWilk
Sulfate, total (mg/L)	MW-17S	No	n/a	n/a	NP	12	11.07	2.167	ln(x)	ShapiroWilk
Sulfate, total (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	11.59	5.216	normal	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-001D	No	n/a	n/a	NP	12	332.5	15.64	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-001I	No	n/a	n/a	NP	12	322.4	11.45	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-001S	No	n/a	n/a	NP	12	396.4	9.12	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-002D	Yes	531,540	5/22/2019,7/24/2019	NP	13	367.4	75.53	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-002I	No	n/a	n/a	NP	12	333.4	17.34	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-002S	No	n/a	n/a	NP	13	307.2	26.12	normal	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-008I (bg)	No	n/a	n/a	NP	12	379.5	12.72	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-008S (bg)	No	n/a	n/a	NP	12	318.3	14.31	x^3	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-014S (bg)	No	n/a	n/a	NP	12	364.7	13.73	normal	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-015I	No	n/a	n/a	NP	12	315.7	40.8	x^2	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-015S	No	n/a	n/a	NP	12	300.8	49.24	x^3	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-016D	No	n/a	n/a	NP	16	392	48.69	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-016I	No	n/a	n/a	NP	14	479.6	42.94	x^2	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-016S	No	n/a	n/a	NP	15	500.7	23.13	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-021D	No	n/a	n/a	NP	12	328.6	16.89	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-021I	No	n/a	n/a	NP	12	306.4	19.05	x^4	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-021S	No	n/a	n/a	NP	12	287.5	12.85	x^6	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-11S (bg)	No	n/a	n/a	NP	12	218.6	33.51	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-17I	No	n/a	n/a	NP	14	490.6	91.76	x^3	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-17S	No	n/a	n/a	NP	12	231.4	23.97	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (mg/L)	MW-6S (bg)	No	n/a	n/a	NP	15	270.1	32.78	x^5	ShapiroWilk

Tukey's Outlier Screening

MW-001D



n = 14

No outliers found. Tukey's method selected by user.

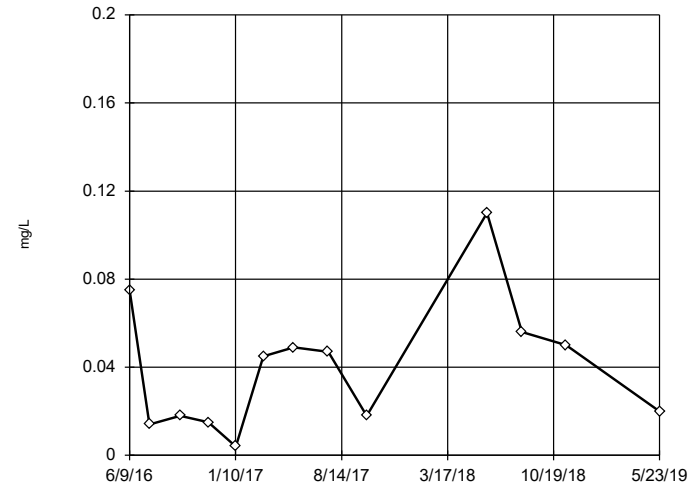
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.421, low cutoff = -0.001993, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-001I



n = 13

No outliers found. Tukey's method selected by user.

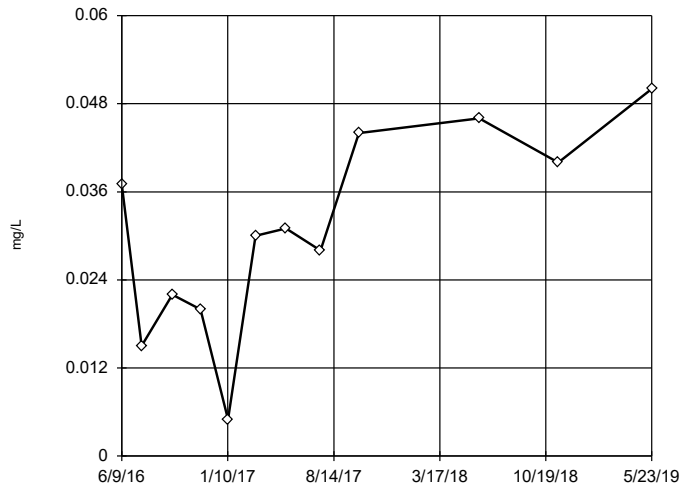
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.4035, low cutoff = -0.001298, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-001S



n = 12

No outliers found. Tukey's method selected by user.

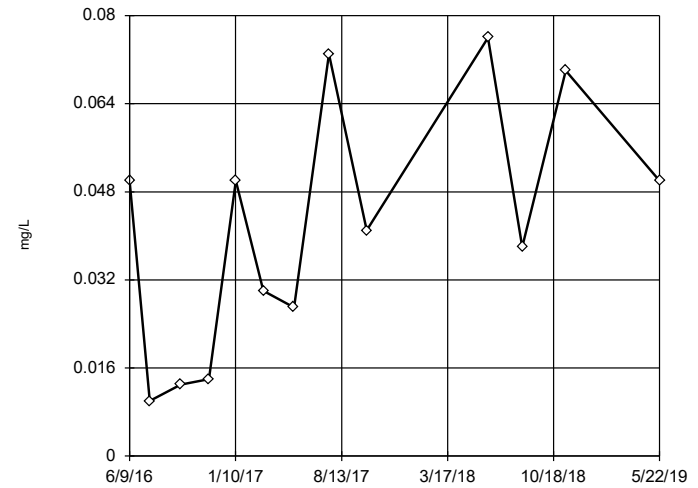
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.105, low cutoff = -0.042, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002D



n = 13

No outliers found. Tukey's method selected by user.

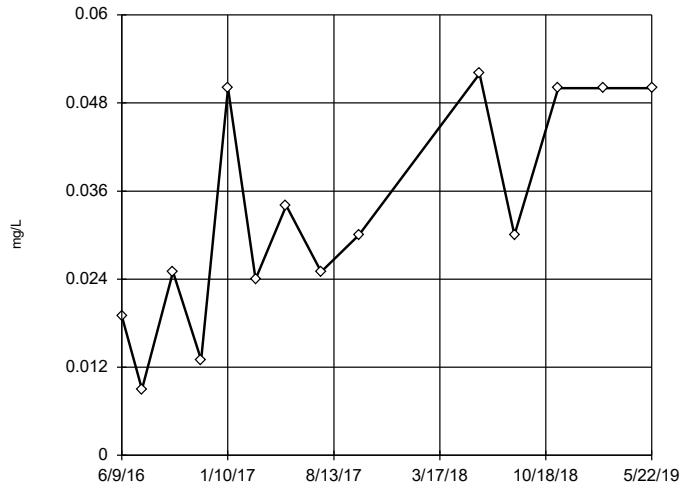
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.1785, low cutoff = -0.098, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-0021



n = 14

No outliers found.
Tukey's method selected by user.

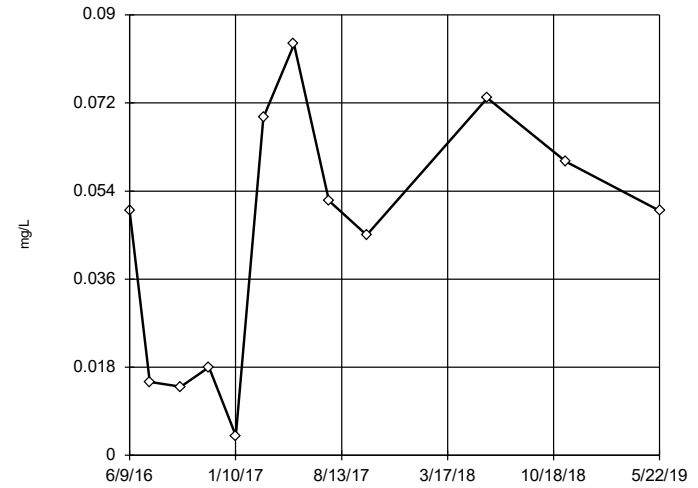
Data were square root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.2073,
low cutoff = -0.007276,
based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002S



n = 12

No outliers found.
Tukey's method selected by user.

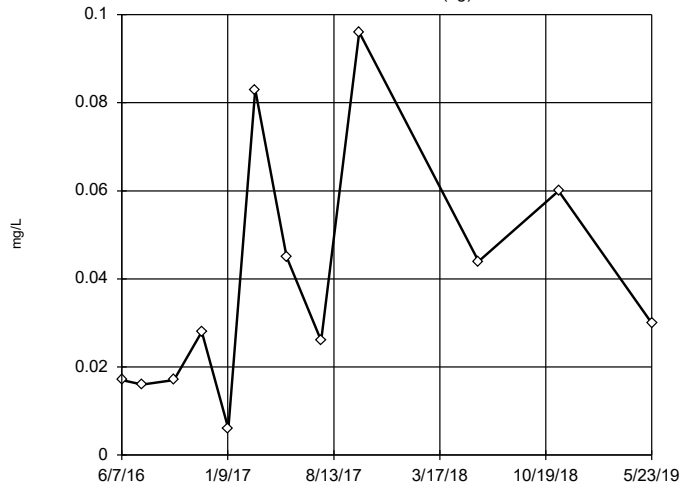
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.2085,
low cutoff = -0.1275,
based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-0081 (bg)



n = 12

No outliers found.
Tukey's method selected by user.

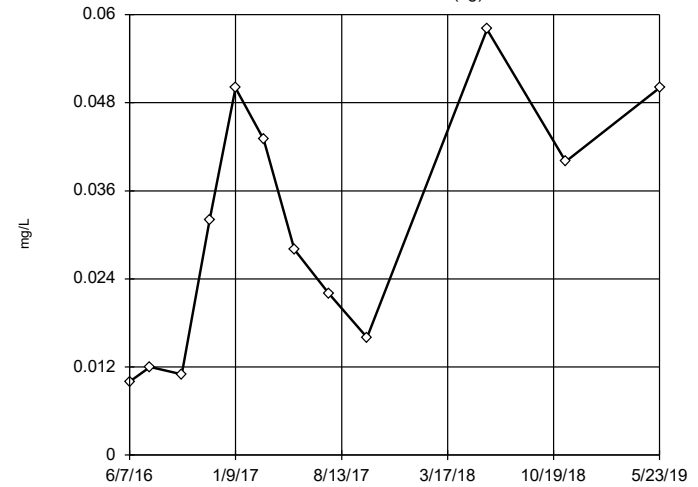
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.3779,
low cutoff = -0.0007851,
based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-008S (bg)



n = 12

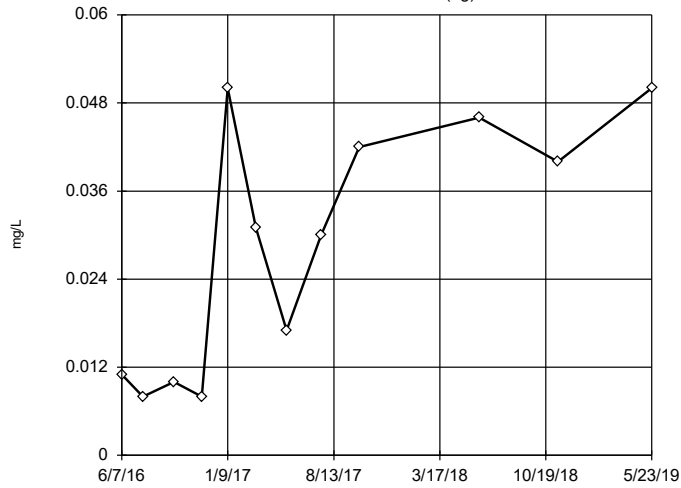
No outliers found.
Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.144,
low cutoff = -0.0835,
based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

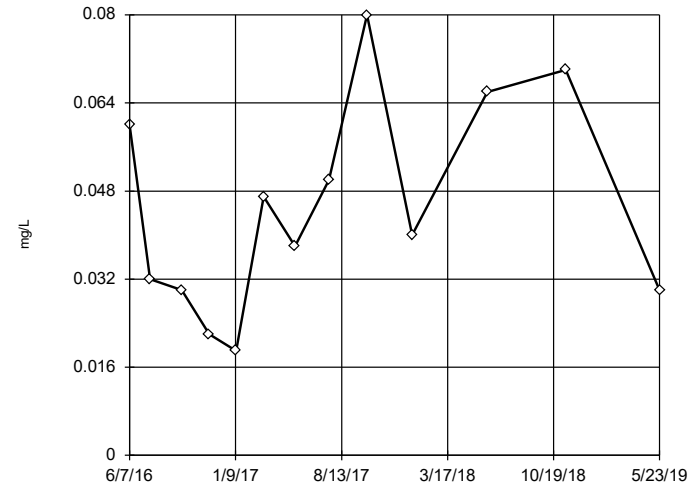
Tukey's Outlier Screening
MW-014S (bg)



n = 12
No outliers found.
Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 0.1445, low cutoff = -0.09, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

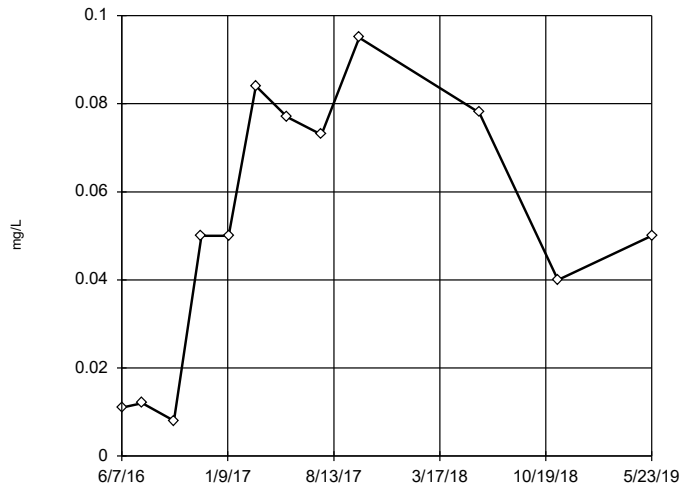
Tukey's Outlier Screening
MW-015I



n = 13
No outliers found.
Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.2863, low cutoff = 0.0001211, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

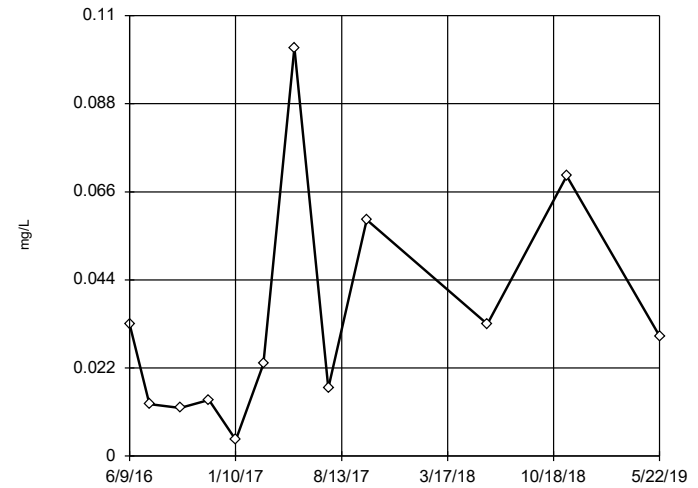
Tukey's Outlier Screening
MW-015S



n = 12
No outliers found.
Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.1463, low cutoff = -0.1205, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

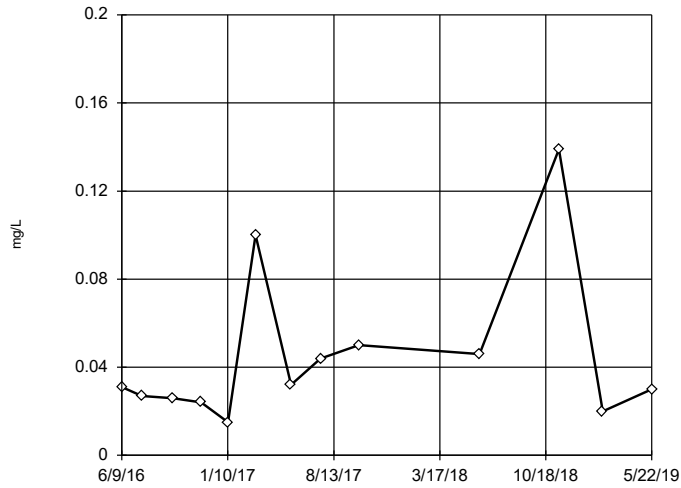
Tukey's Outlier Screening
MW-016D



n = 12
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.544, low cutoff = 0.0003856, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

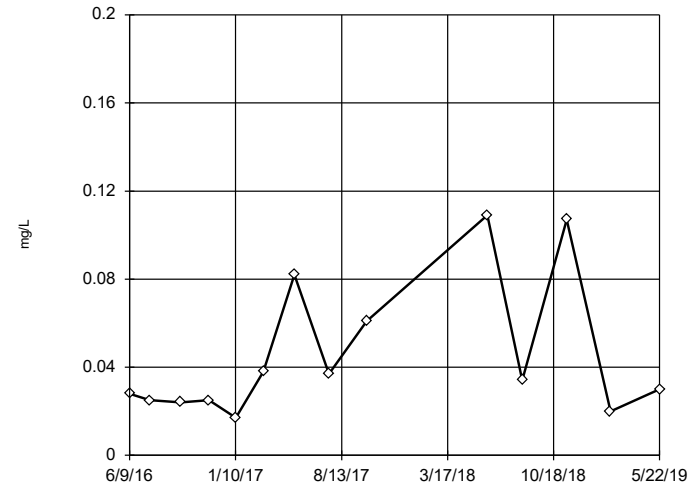
Tukey's Outlier Screening
MW-016I



n = 13
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.3394, low cutoff = 0.00353, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

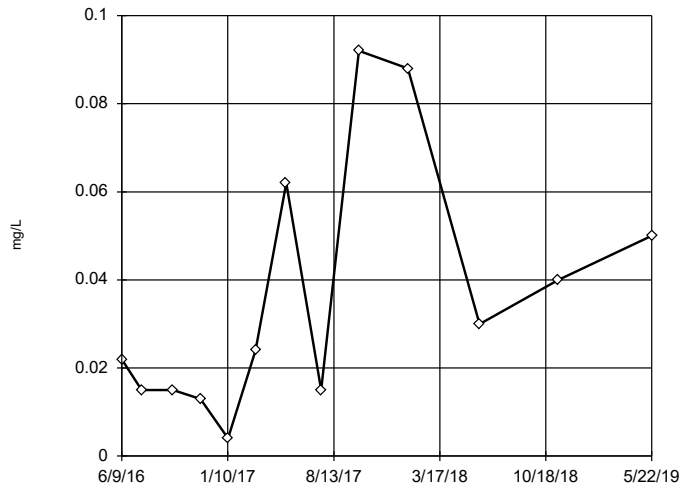
Tukey's Outlier Screening
MW-016S



n = 14
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.702, low cutoff = 0.001018, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

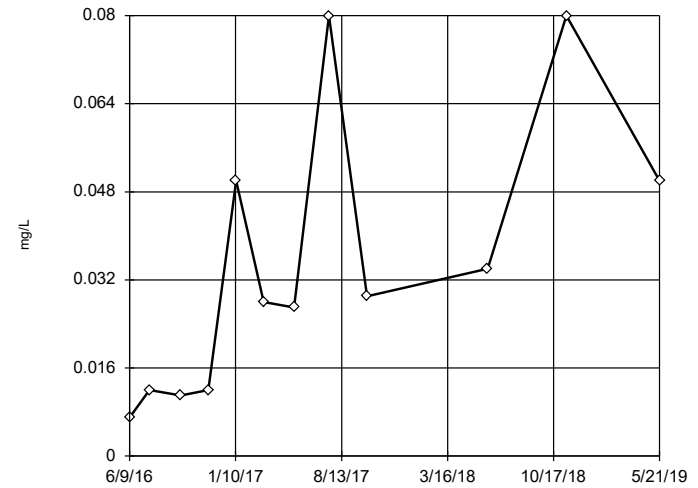
Tukey's Outlier Screening
MW-021D



n = 13
No outliers found.
Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.4903, low cutoff = -0.004081, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

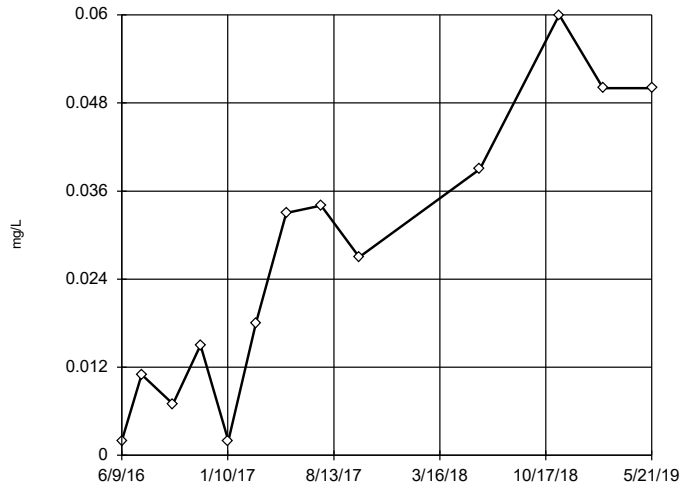
Tukey's Outlier Screening
MW-021I



n = 12
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 3.617, low cutoff = 0.0001659, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

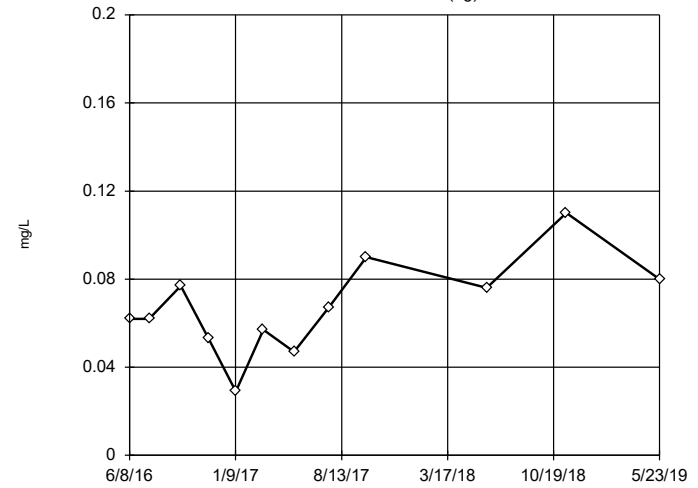
Tukey's Outlier Screening
MW-021S



n = 13
No outliers found.
Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.3129, low cutoff = -0.06479, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

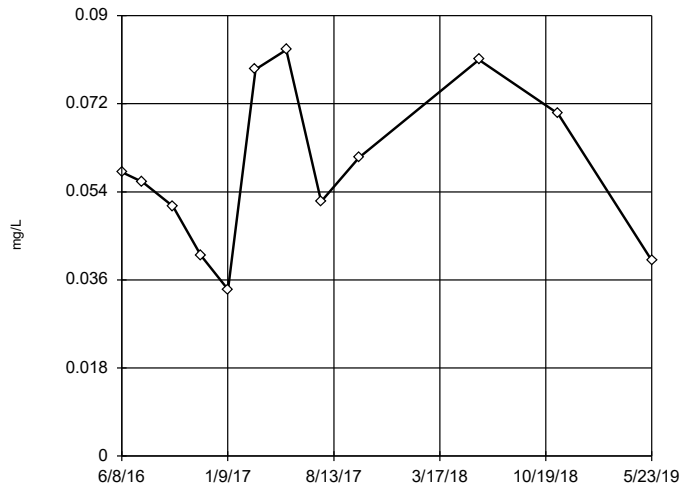
Tukey's Outlier Screening
MW-11S (bg)



n = 12
No outliers found.
Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 0.149, low cutoff = -0.0155, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

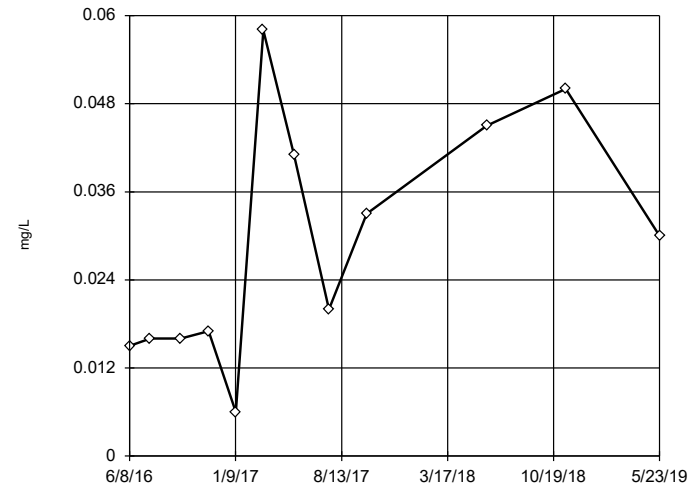
Tukey's Outlier Screening
MW-17I



n = 12
No outliers found.
Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.2258, low cutoff = 0.004871, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

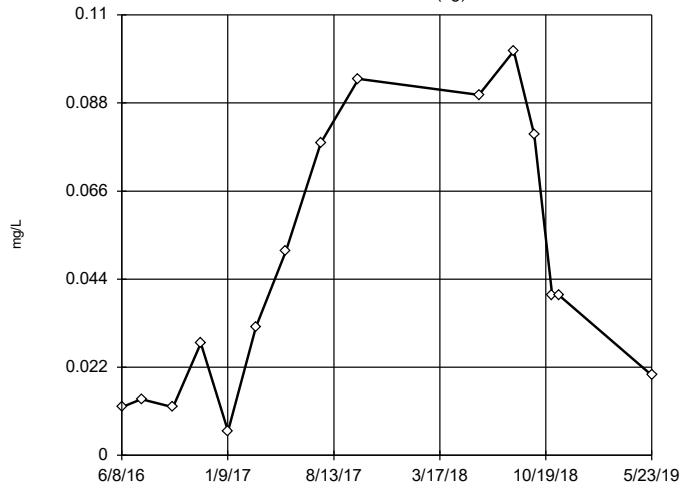
Tukey's Outlier Screening
MW-17S



n = 12
No outliers found.
Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.2023, low cutoff = -0.01345, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

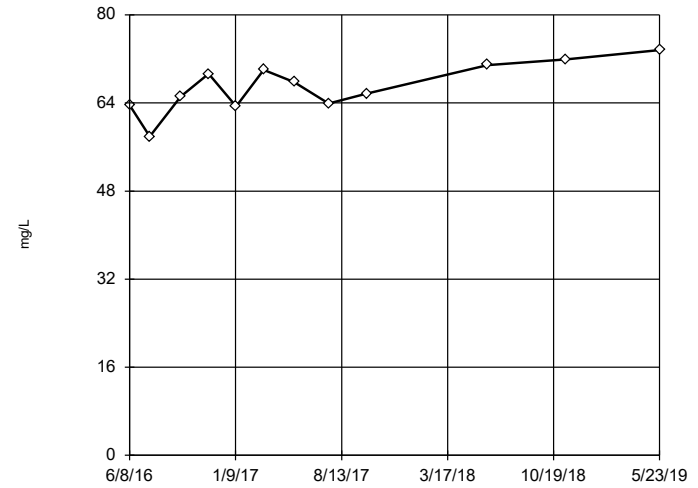
Tukey's Outlier Screening
MW-6S (bg)



n = 15
No outliers found. Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.002, low cutoff = -0.03548, based on IQR multiplier of 3.

Constituent: Boron, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

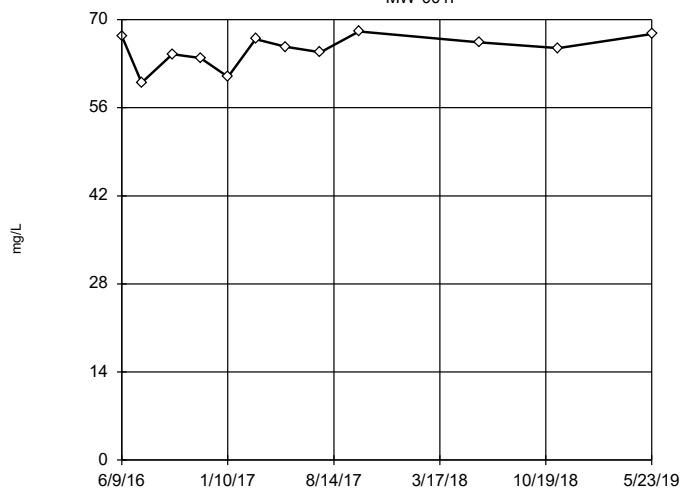
Tukey's Outlier Screening
MW-001D



n = 12
No outliers found. Tukey's method selected by user.
Data were x⁴ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 83.67, low cutoff = -52.93, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

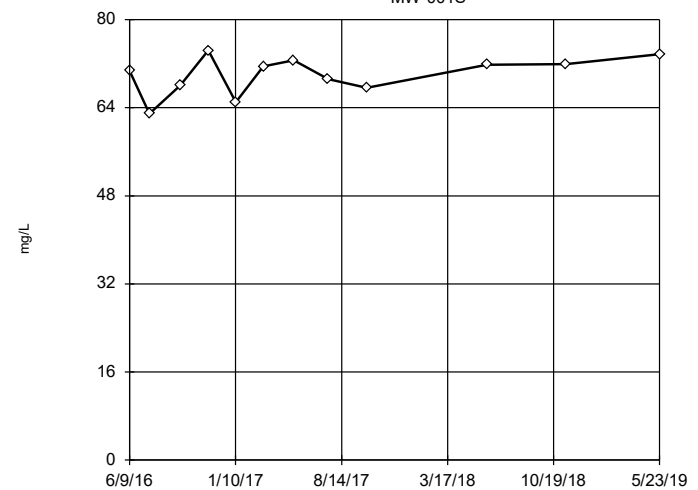
Tukey's Outlier Screening
MW-0011



n = 12
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 73.42, low cutoff = 41.44, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-001S

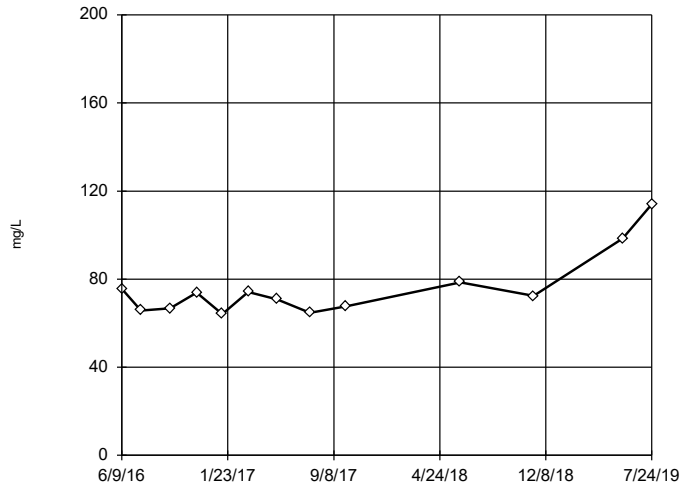


n = 12
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 80.77, low cutoff = -58.05, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002D

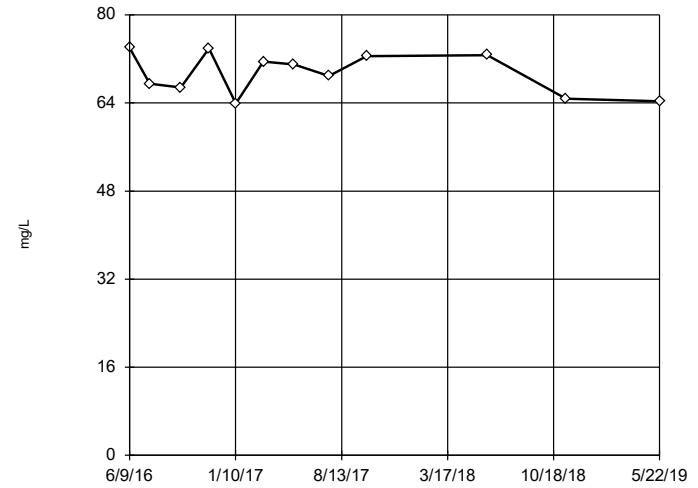


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 121.4, low cutoff = 42.05, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002I

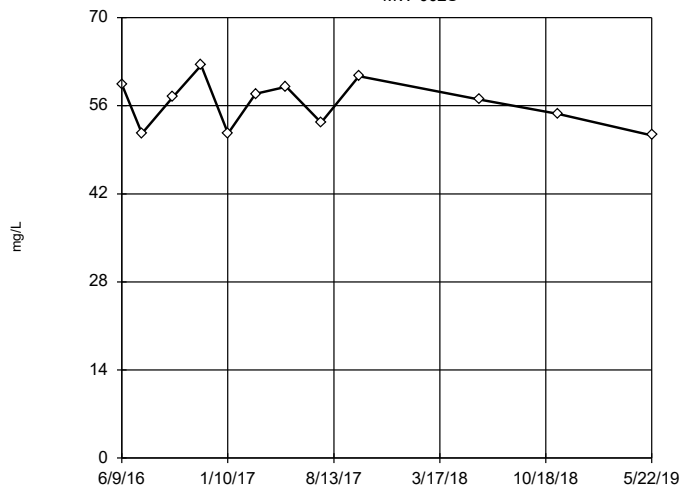


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 83.6, low cutoff = -69.58, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002S

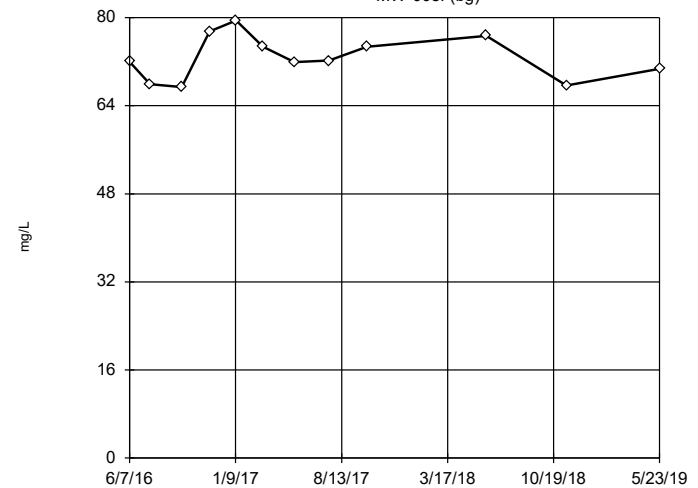


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x⁴ transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 71.68, low cutoff = -50.55, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

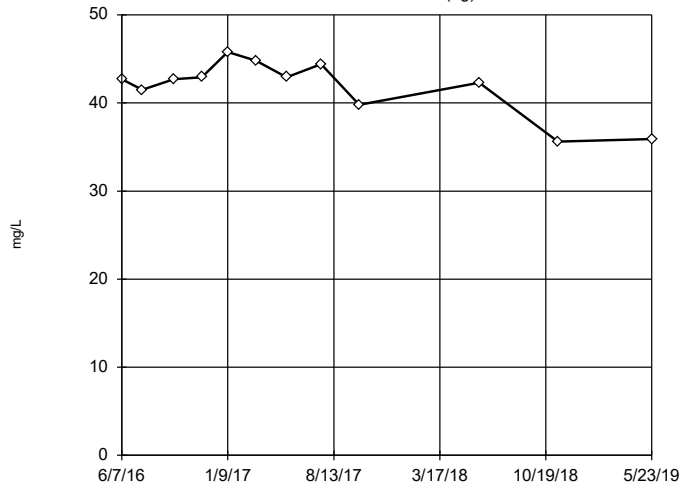
MW-008I (bg)



n = 12
 No outliers found.
 Tukey's method selected by user.
 Ladder of Powers transformations did not improve normality; analysis run on raw data.
 High cutoff = 94.9, low cutoff = 50.1, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

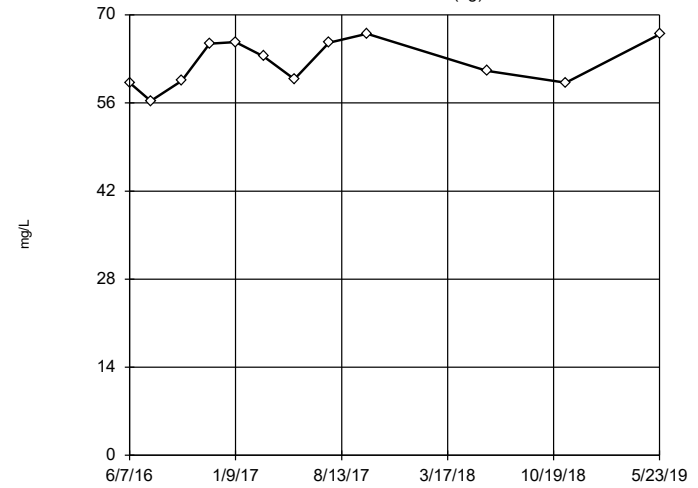
Tukey's Outlier Screening
MW-008S (bg)



n = 12
No outliers found. Tukey's method selected by user.
Data were x*6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 49.19, low cutoff = -37.26, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

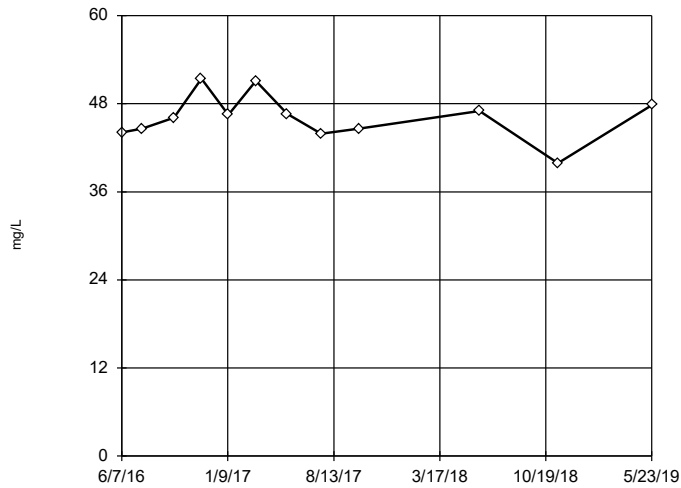
Tukey's Outlier Screening
MW-014S (bg)



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 88.85, low cutoff = 43.85, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

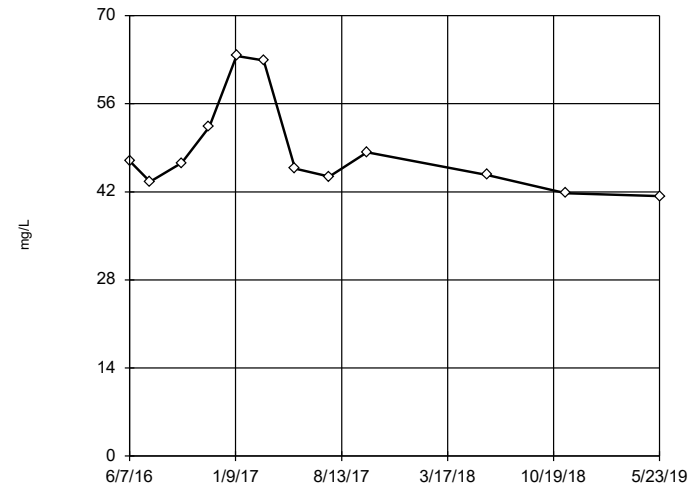
Tukey's Outlier Screening
MW-015I



n = 12
No outliers found. Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 57.16, low cutoff = 35.81, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

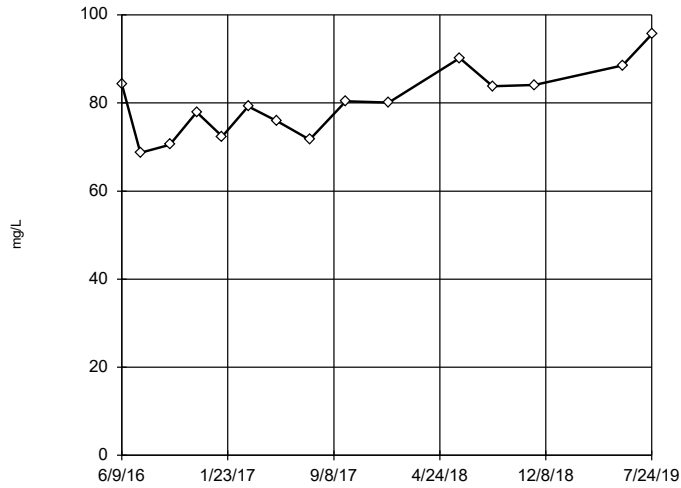
Tukey's Outlier Screening
MW-015S



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 74.92, low cutoff = 29.52, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

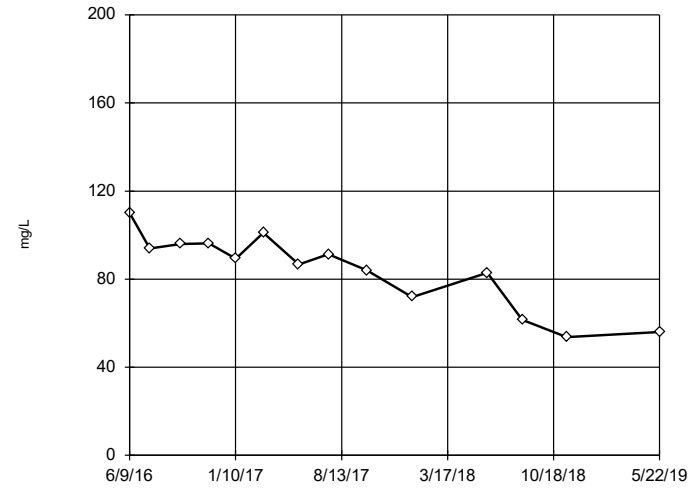
Tukey's Outlier Screening
MW-016D



n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 133.1, low cutoff = 45.86, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

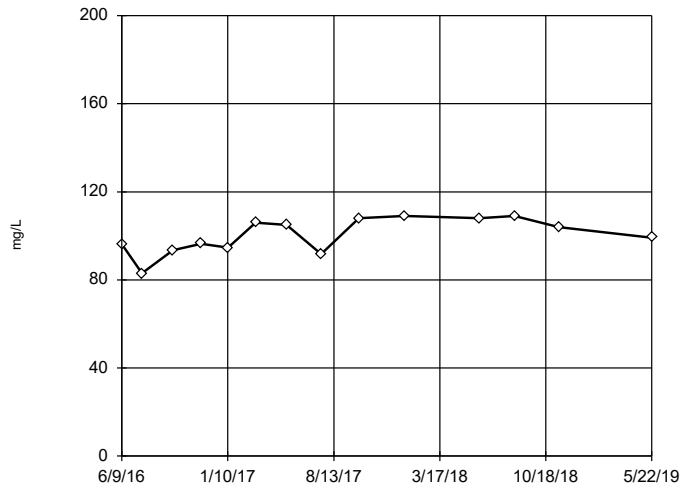
Tukey's Outlier Screening
MW-016I



n = 14
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 138.1, low cutoff = -113.1, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

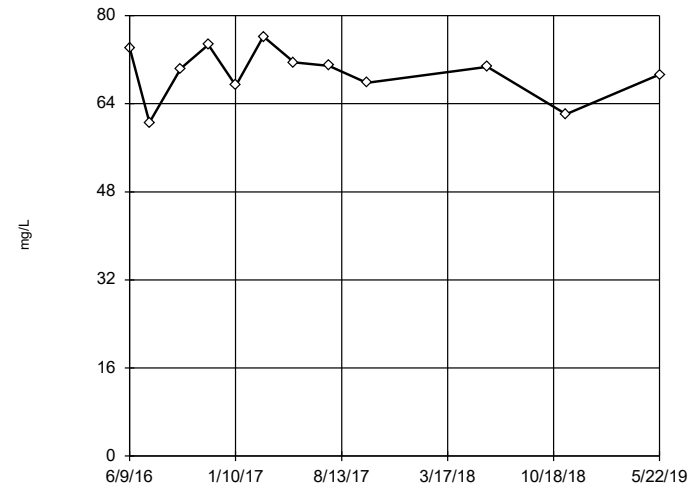
Tukey's Outlier Screening
MW-016S



n = 14
No outliers found. Tukey's method selected by user.
Data were x^4 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 132.6, low cutoff = -98.76, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-021D

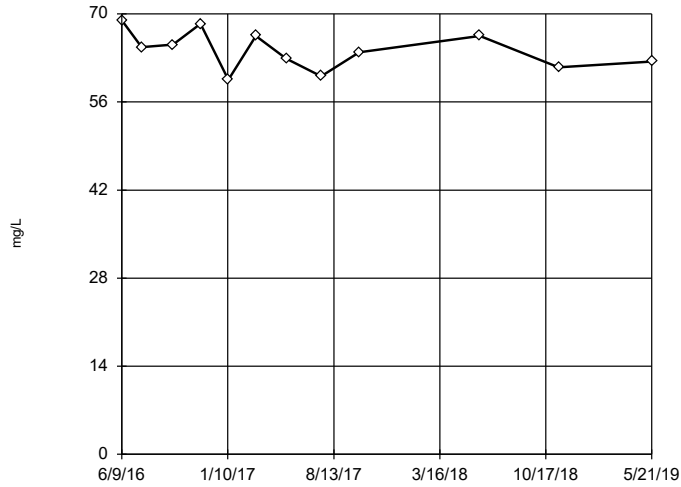


n = 12
No outliers found. Tukey's method selected by user.
Data were x^6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 82.53, low cutoff = -64.29, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-0211



n = 12

No outliers found. Tukey's method selected by user.

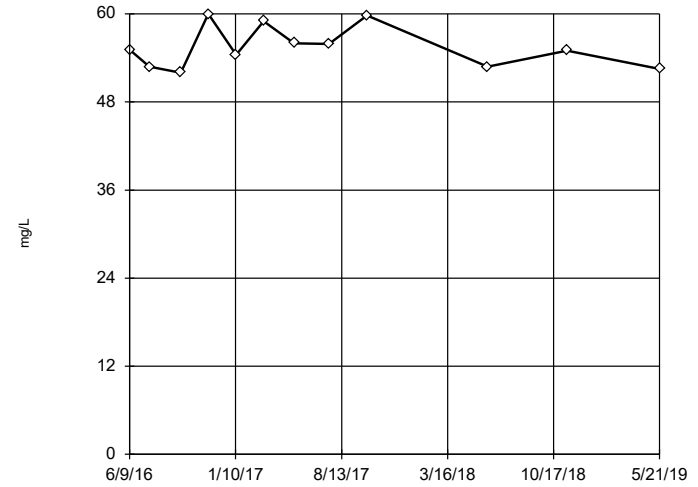
Data were square root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 81.12, low cutoff = 49.26, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021S



n = 12

No outliers found. Tukey's method selected by user.

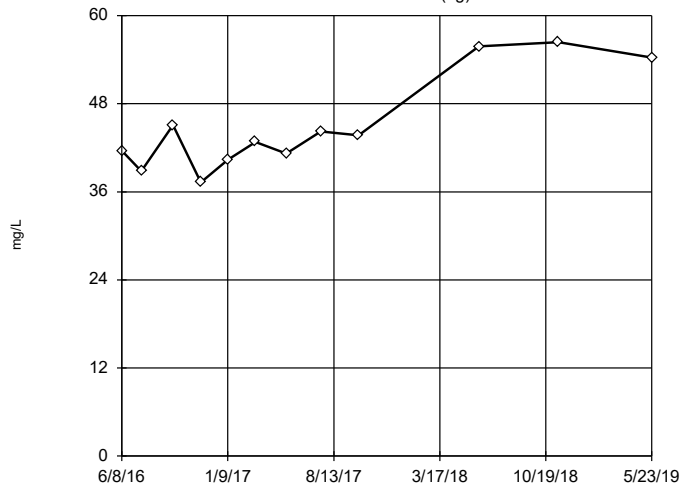
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 74.16, low cutoff = 40.92, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-11S (bg)



n = 12

No outliers found. Tukey's method selected by user.

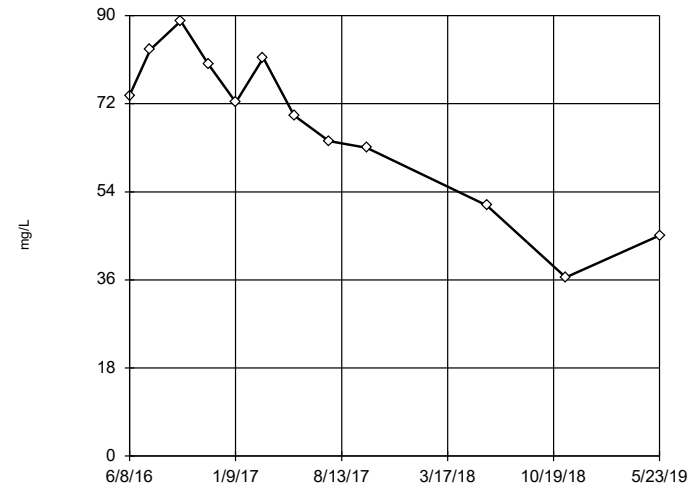
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 88.32, low cutoff = 22.86, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-171



n = 12

No outliers found. Tukey's method selected by user.

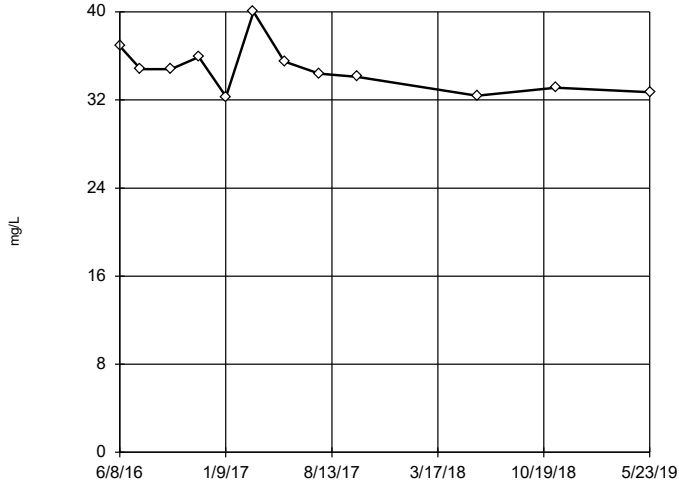
Data were cube transformed to achieve best W statistic (graph shown in original units).

High cutoff = 115.1, low cutoff = -93.16, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-17S



n = 12

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

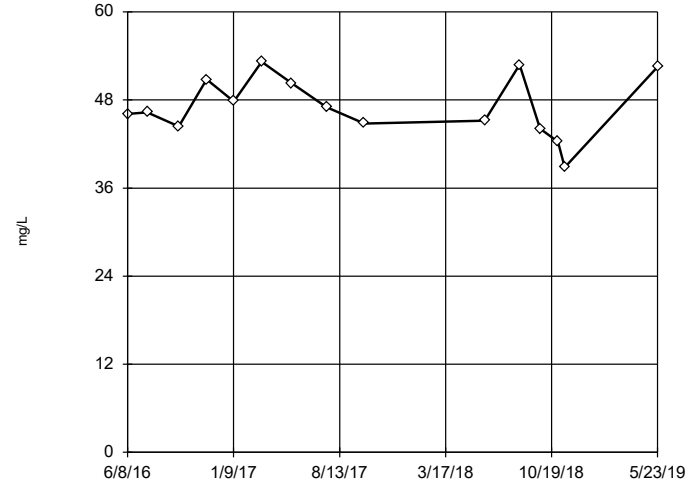
High cutoff = 45.61, low cutoff = 25.75, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell

Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-6S (bg)



n = 15

No outliers found. Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

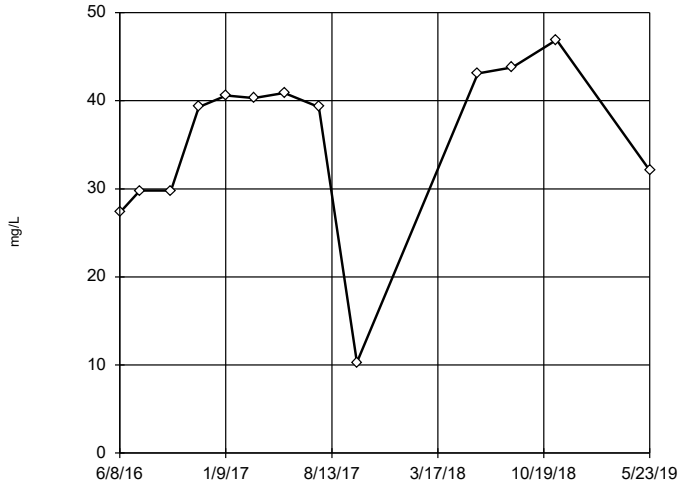
High cutoff = 70, low cutoff = 25.2, based on IQR multiplier of 3.

Constituent: Calcium, total Analysis Run 1/17/2020 10:16 AM View: Intrawell

Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-001D



n = 13

No outliers found. Tukey's method selected by user.

Data were cube transformed to achieve best W statistic (graph shown in original units).

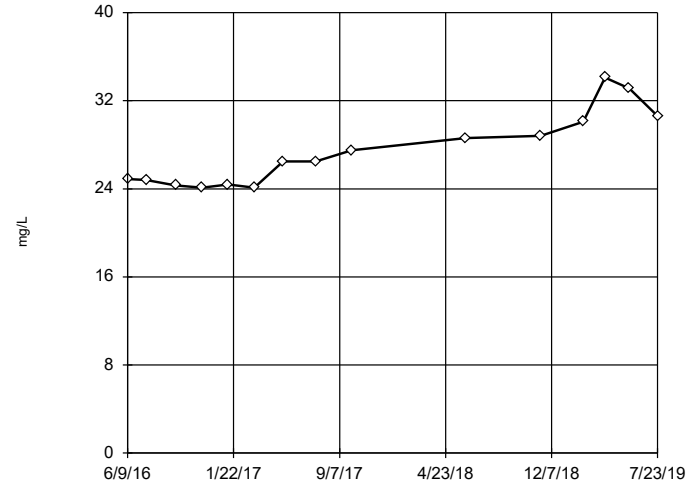
High cutoff = 60.15, low cutoff = -48.89, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell

Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-001I



n = 15

No outliers found. Tukey's method selected by user.

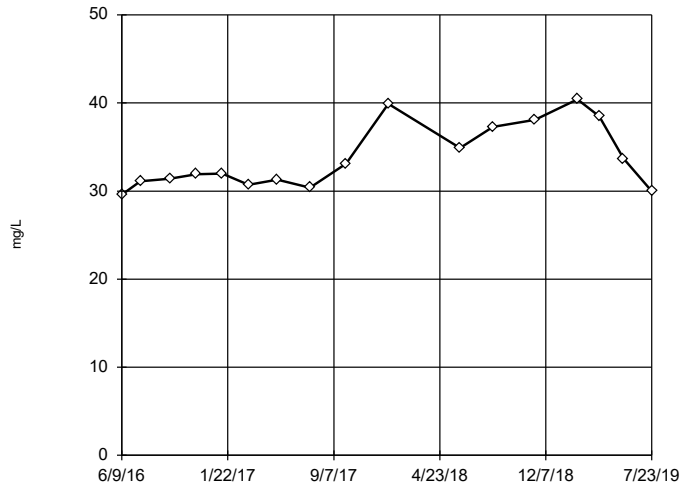
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 56.51, low cutoff = 13, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell

Rockport Landfill Client: Geosyntec Data: Rockport_LF

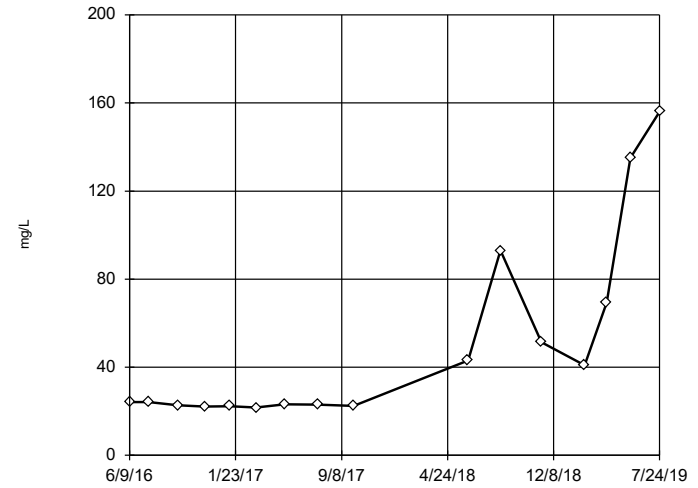
Tukey's Outlier Screening
MW-001S



n = 17
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 68.46, low cutoff = 17.02, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

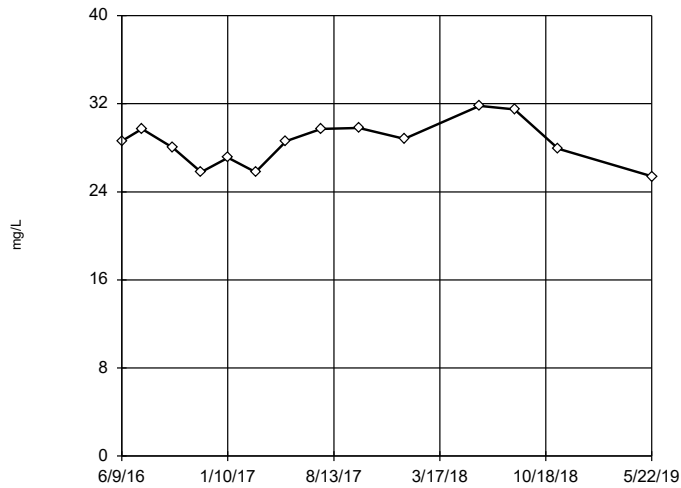
Tukey's Outlier Screening
MW-002D



n = 16
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1098, low cutoff = 1.228, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

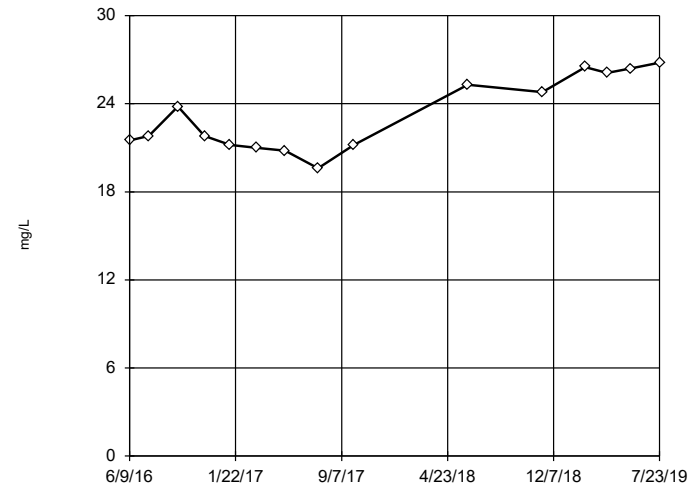
Tukey's Outlier Screening
MW-002I



n = 14
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 39.65, low cutoff = 16.55, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

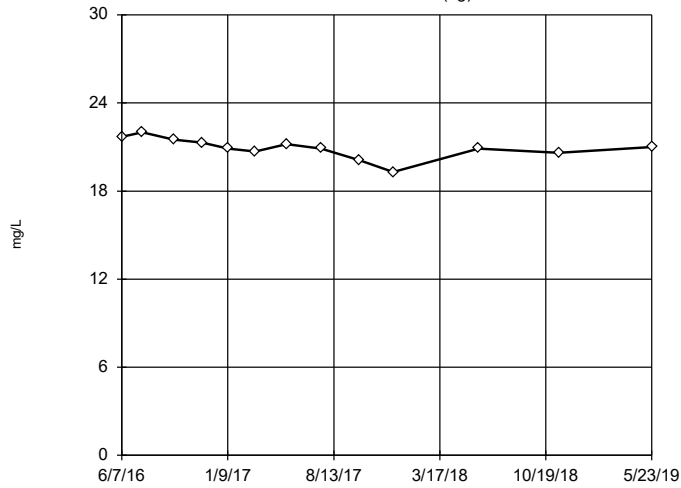
Tukey's Outlier Screening
MW-002S



n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 48.7, low cutoff = 11.36, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening MW-008I (bg)



n = 13

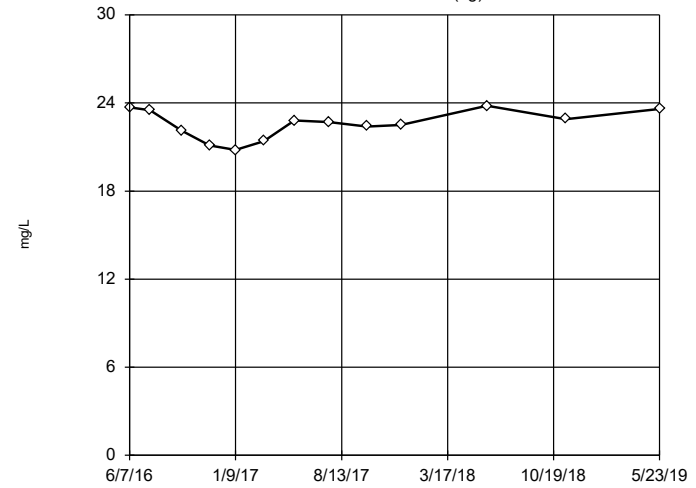
No outliers found.
Tukey's method selected by user.

Data were x*6 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 23.09, low cutoff = 16.73, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intranet
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening MW-008S (bg)



n = 13

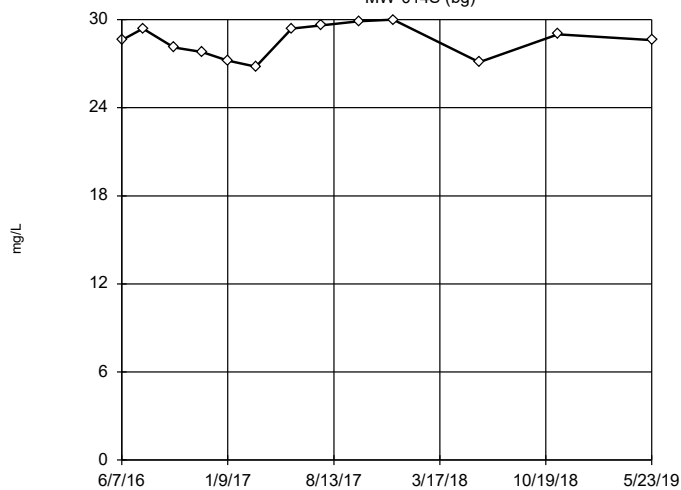
No outliers found.
Tukey's method selected by user.

Data were x*6 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 26.72, low cutoff = -21.04, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intranet
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening MW-014S (bg)



n = 13

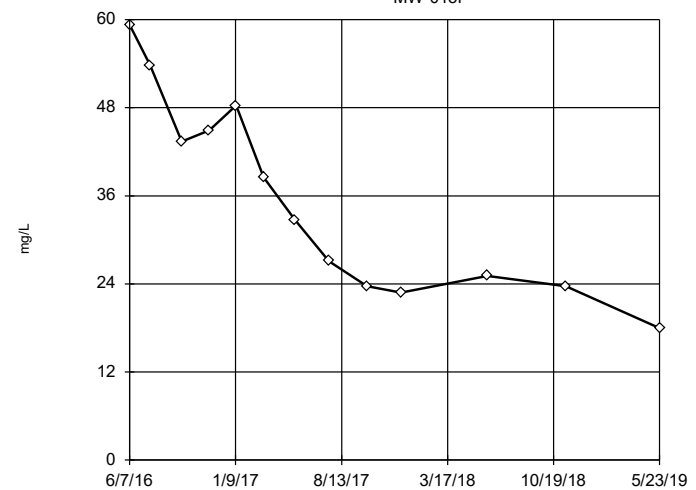
No outliers found.
Tukey's method selected by user.

Data were x*6 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 33.19, low cutoff = -25, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intranet
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening MW-015I



n = 13

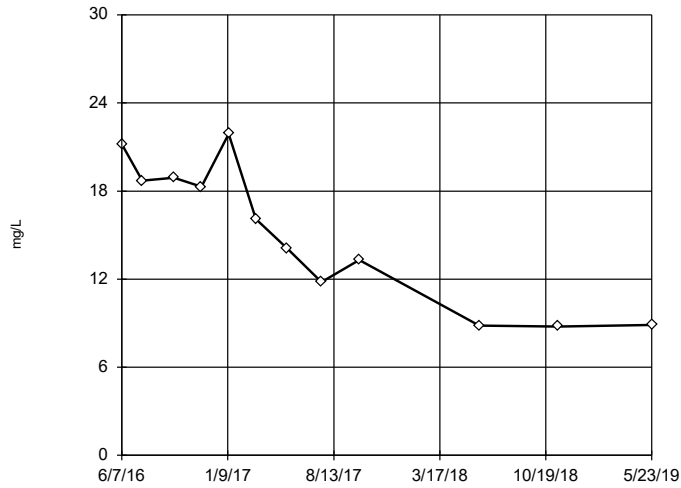
No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 353.3, low cutoff = 3.124, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intranet
Rockport Landfill Client: Geosyntec Data: Rockport_LF

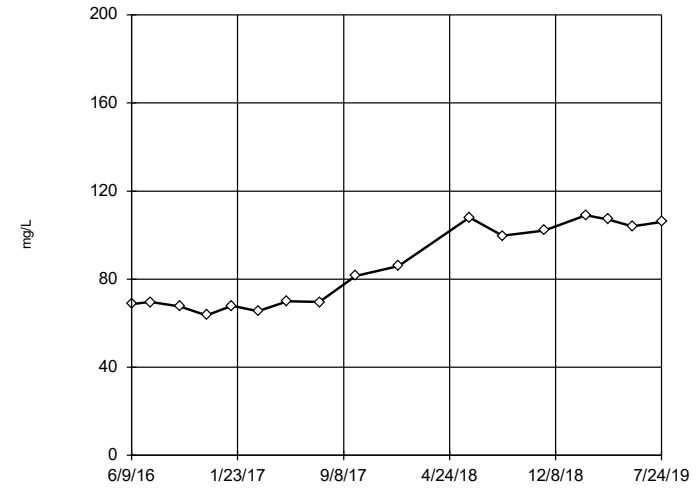
Tukey's Outlier Screening
MW-015S



n = 12
No outliers found. Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 32.96, low cutoff = -24.98, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

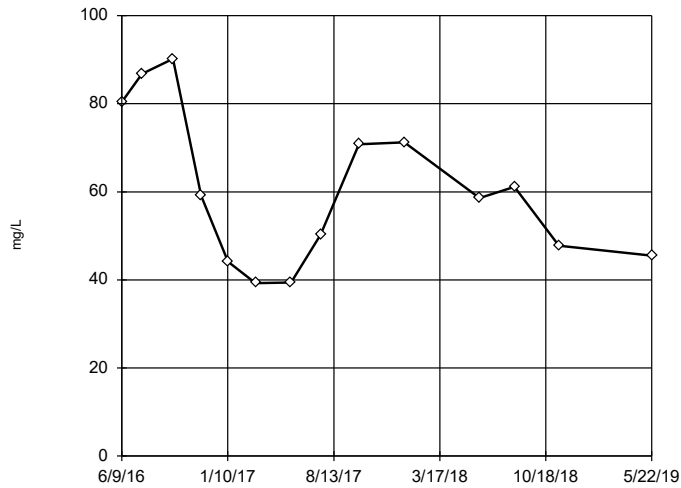
Tukey's Outlier Screening
MW-016D



n = 17
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 381.5, low cutoff = 18.8, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

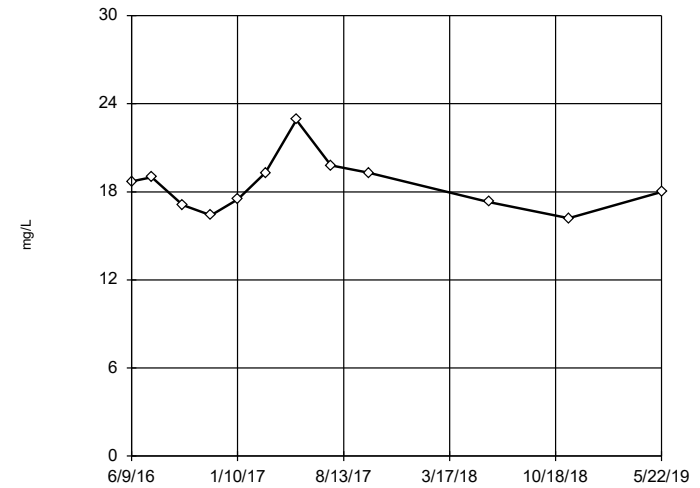
Tukey's Outlier Screening
MW-016I



n = 14
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 364.6, low cutoff = 9.296, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-016S

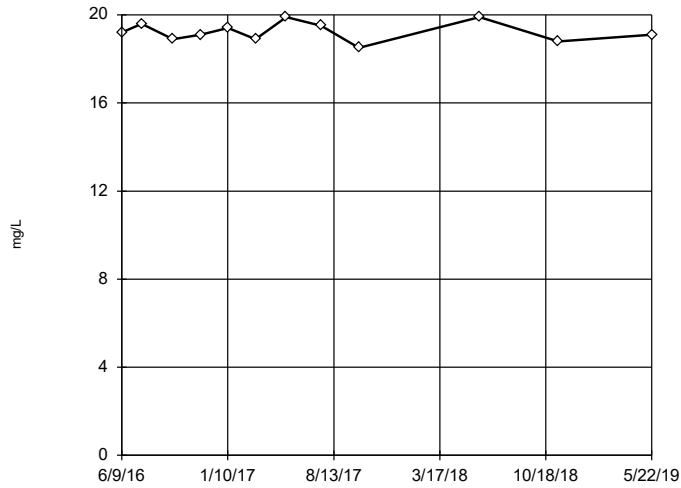


n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 27.27, low cutoff = 12.17, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021D

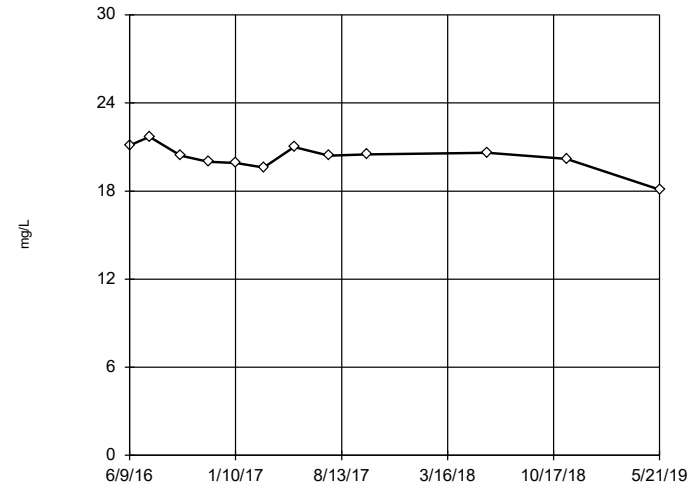


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 21.64, low cutoff = 17.08, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-0211

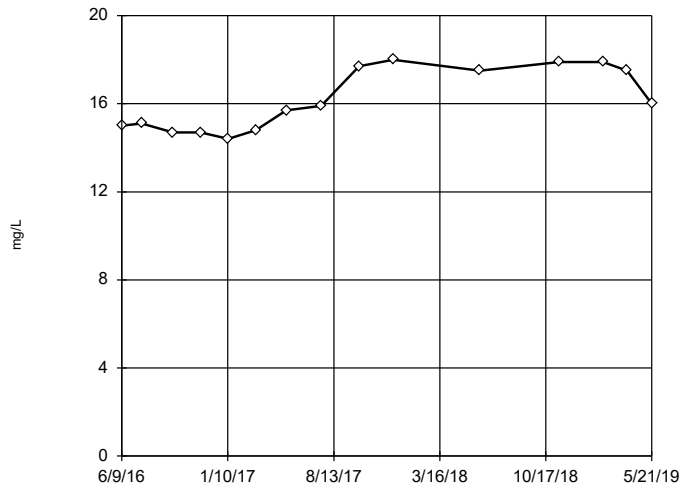


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x^6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 22.66, low cutoff = 14.4, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021S

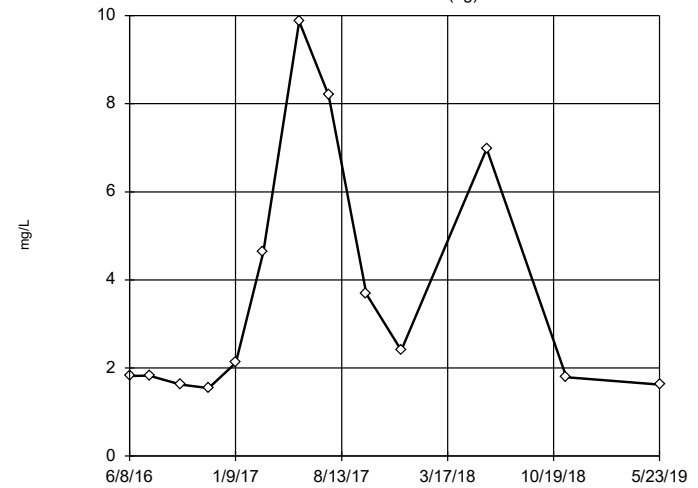


n = 15
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 30.28, low cutoff = 8.652, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-11S (bg)

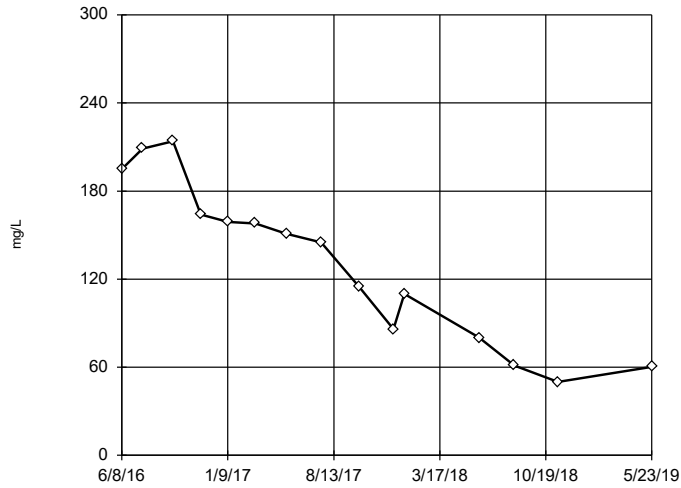


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 211.5, low cutoff = 0.04577, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-17I



n = 15

No outliers found. Tukey's method selected by user.

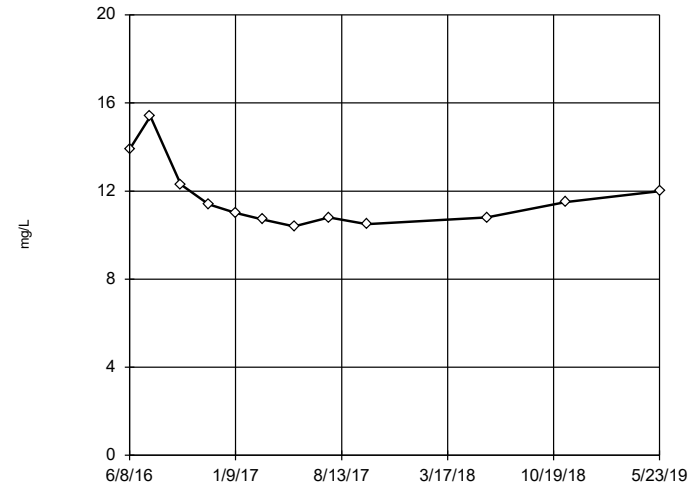
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 415.4, low cutoff = -171.2, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-17S



n = 12

No outliers found. Tukey's method selected by user.

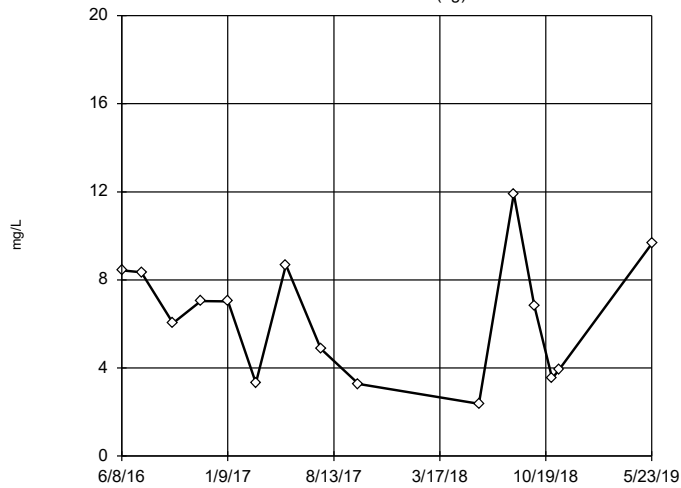
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 17.54, low cutoff = 7.447, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-6S (bg)



n = 15

No outliers found. Tukey's method selected by user.

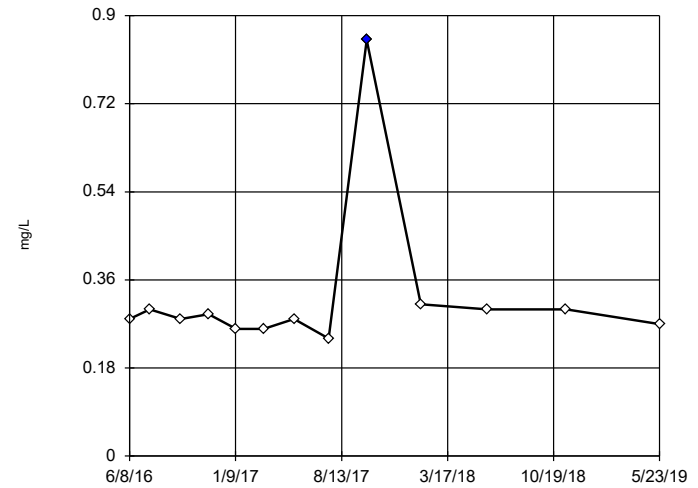
Data were square root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 35.91, low cutoff = -1.466, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-001D



n = 13

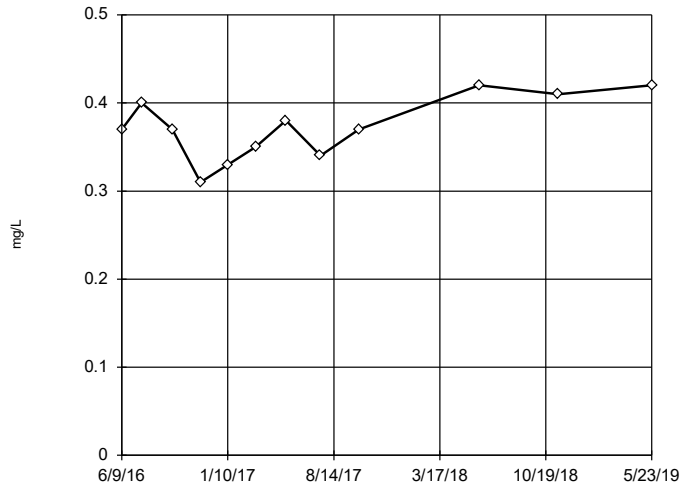
Outlier is drawn as solid. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.4355, low cutoff = 0.1825, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

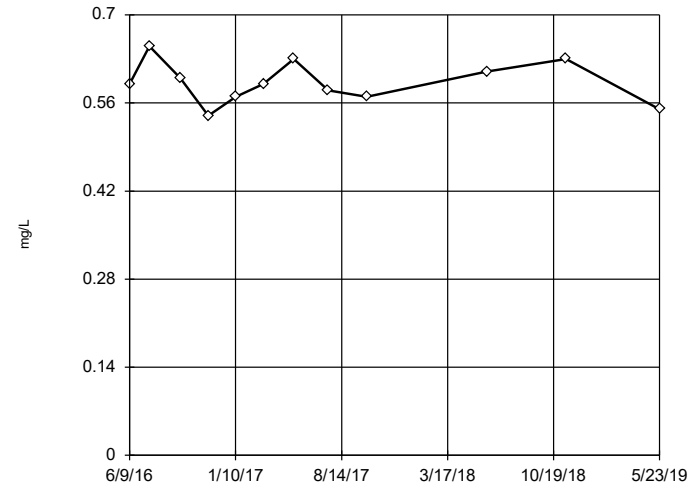
Tukey's Outlier Screening
MW-0011



n = 12
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 0.585, low cutoff = 0.165, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

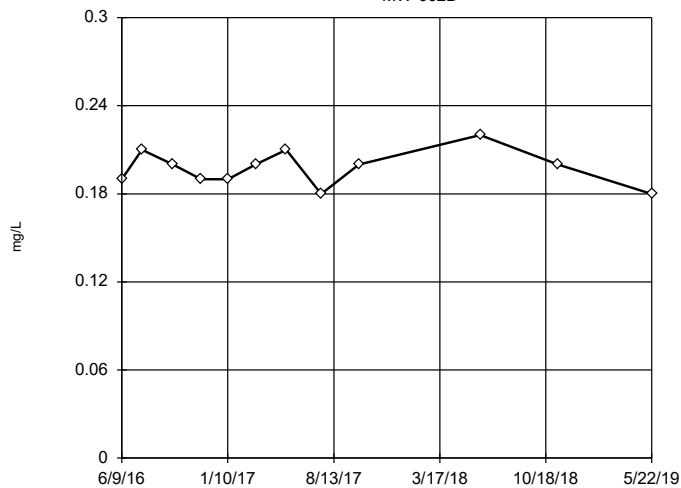
Tukey's Outlier Screening
MW-001S



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.7975, low cutoff = 0.4431, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

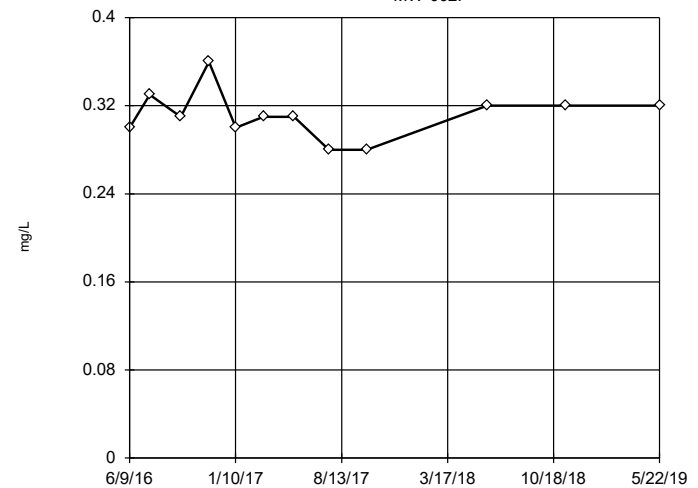
Tukey's Outlier Screening
MW-002D



n = 12
No outliers found. Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.2545, low cutoff = 0.1495, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-002I

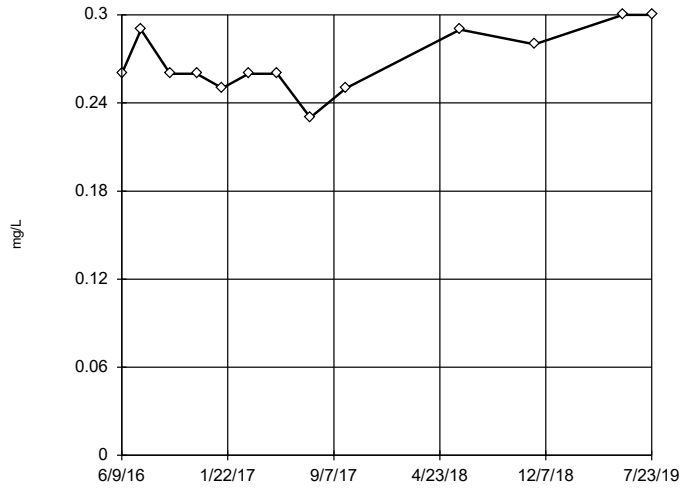


n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.3884, low cutoff = 0.2472, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:16 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-002S

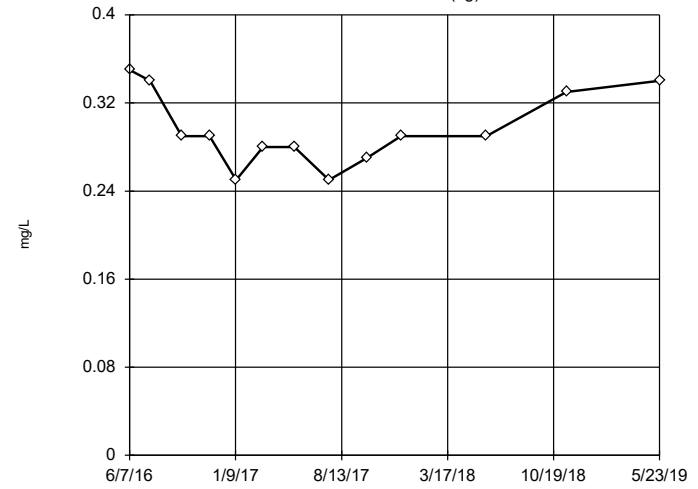


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 0.4268,
 low cutoff = 0.1732, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-0081 (bg)

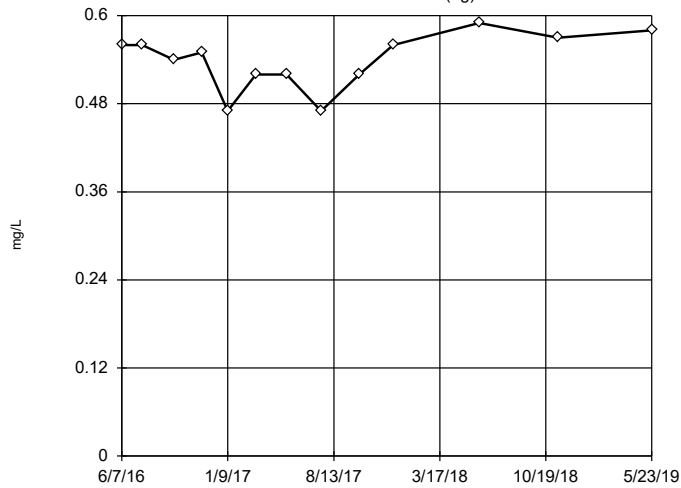


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 0.6056,
 low cutoff = 0.1521, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-008S (bg)

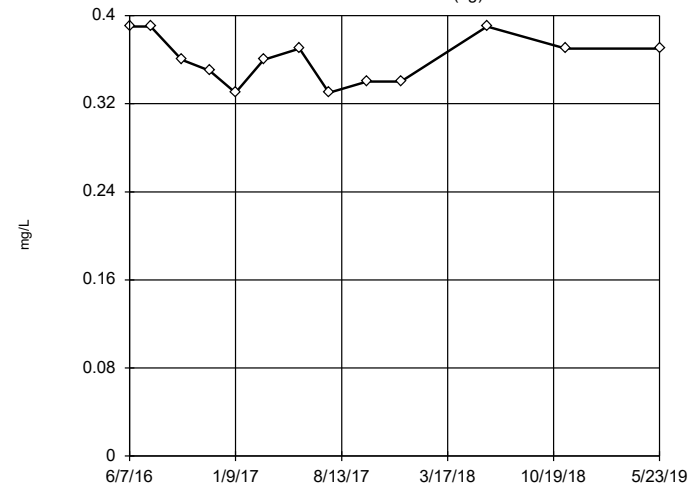


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were x*6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 0.6434,
 low cutoff = -0.5148, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

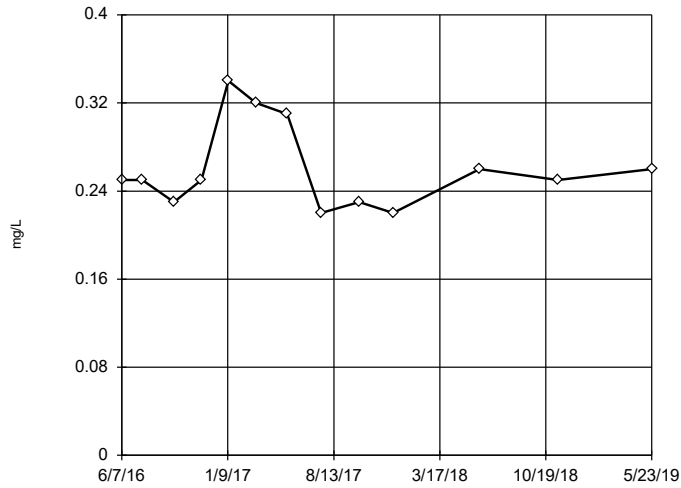
MW-014S (bg)



n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 0.5298,
 low cutoff = 0.2438, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

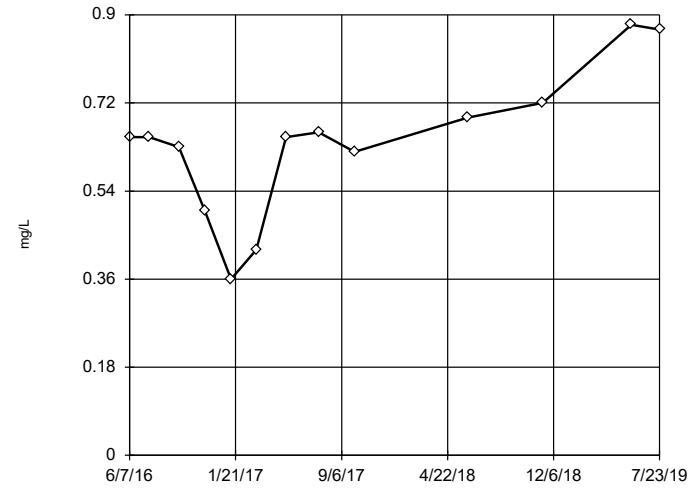
Tukey's Outlier Screening
MW-015I



n = 13
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.5339, low cutoff = 0.1223, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

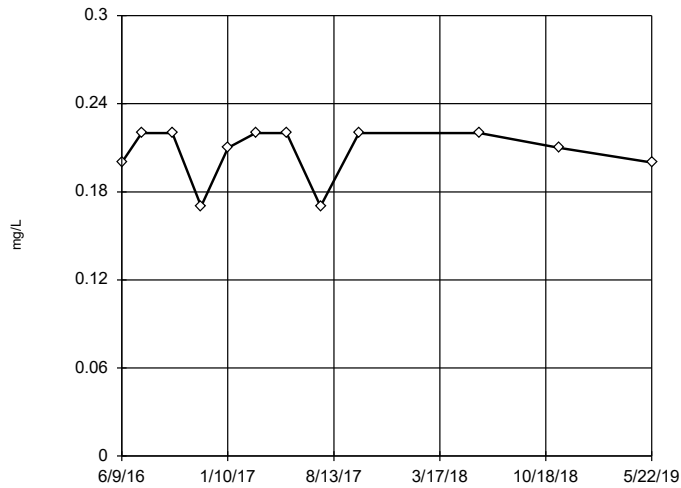
Tukey's Outlier Screening
MW-015S



n = 13
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 1.14, low cutoff = 0.125, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

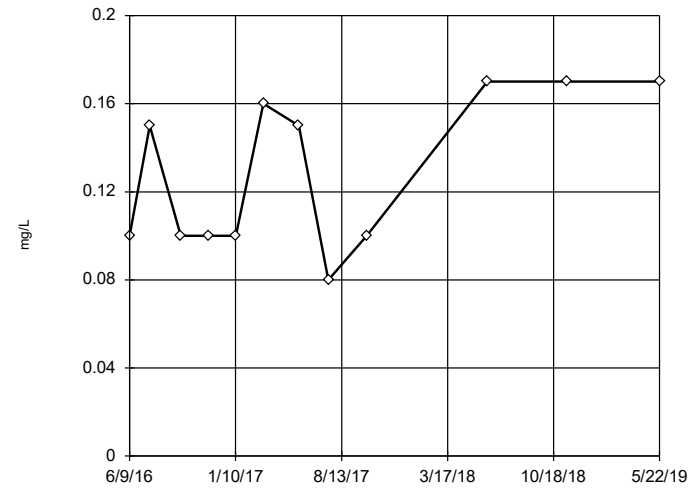
Tukey's Outlier Screening
MW-016D



n = 12
No outliers found. Tukey's method selected by user.
Data were x*6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.2529, low cutoff = -0.2093, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

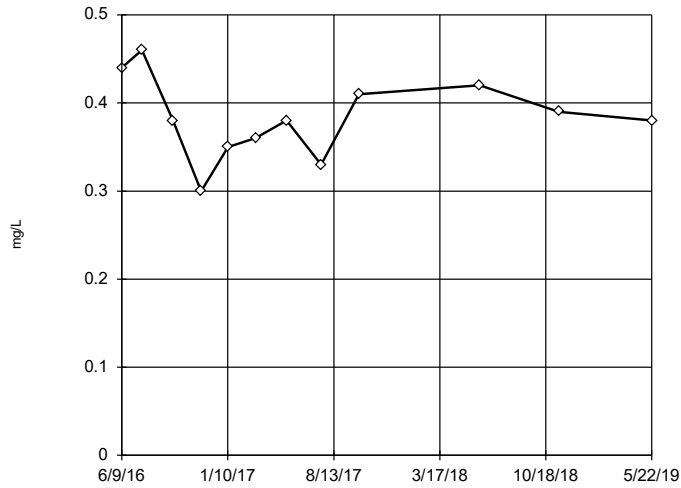
Tukey's Outlier Screening
MW-016I



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.7398, low cutoff = 0.02229, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

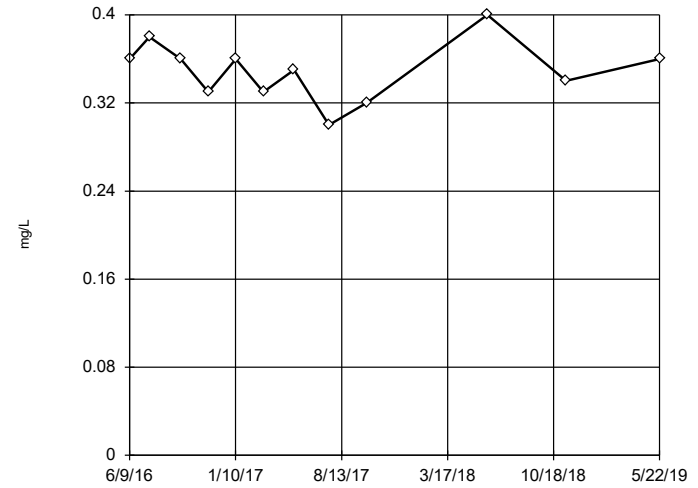
Tukey's Outlier Screening
MW-016S



n = 12
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 0.595, low cutoff = 0.175, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

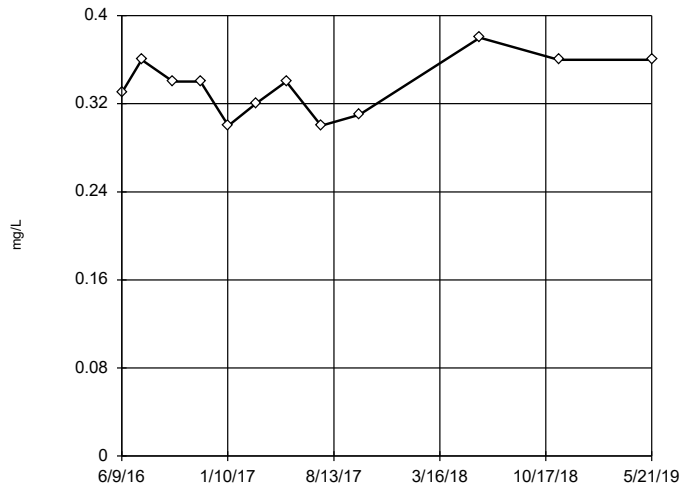
Tukey's Outlier Screening
MW-021D



n = 12
No outliers found. Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.4578, low cutoff = 0.2478, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

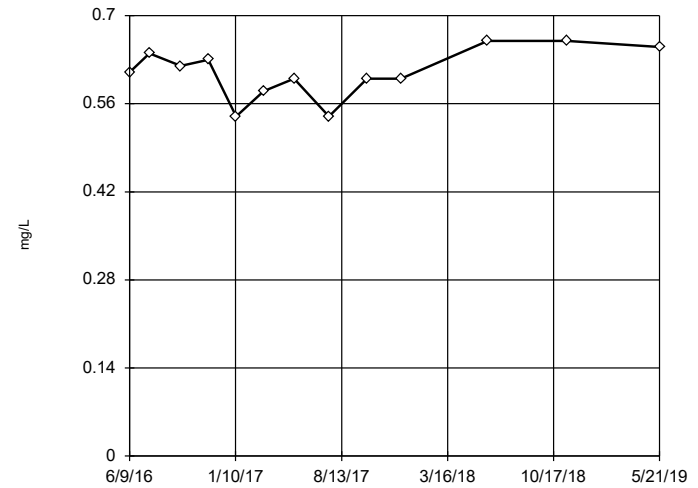
Tukey's Outlier Screening
MW-021I



n = 12
No outliers found. Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.4697, low cutoff = 0.09055, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

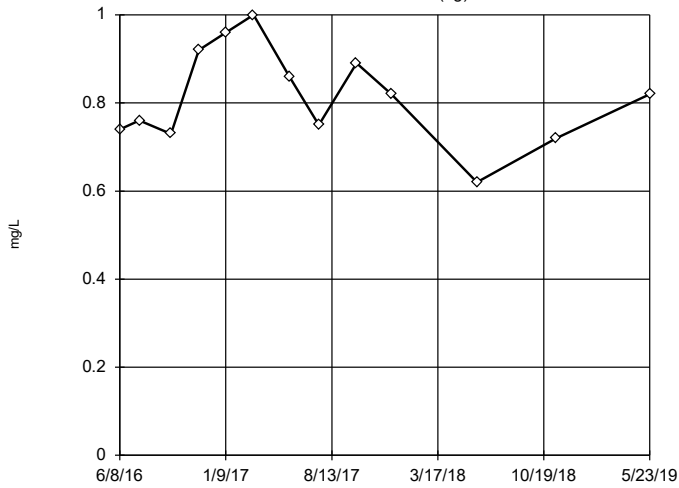
Tukey's Outlier Screening
MW-021S



n = 13
No outliers found. Tukey's method selected by user.
Data were x^6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 0.7377, low cutoff = -0.6002, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

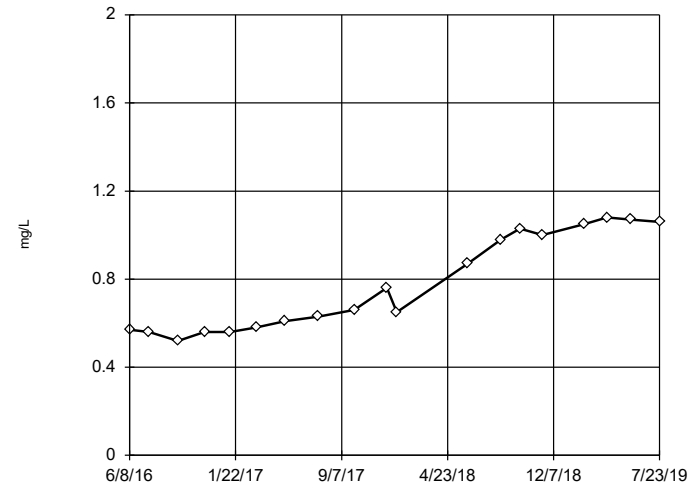
Tukey's Outlier Screening
MW-11S (bg)



n = 13
No outliers found.
Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.521, low cutoff = 0.3311, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

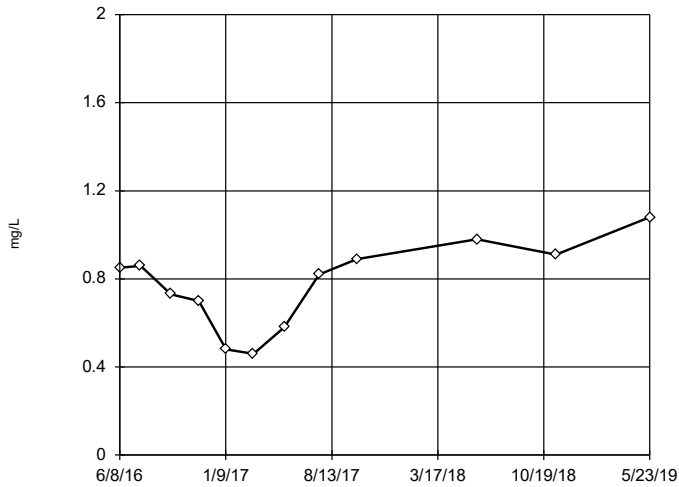
Tukey's Outlier Screening
MW-17I



n = 19
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 6.077, low cutoff = 0.0966, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

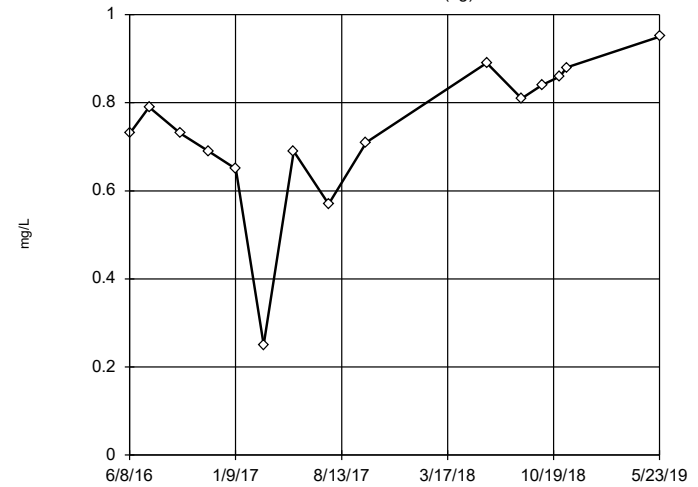
Tukey's Outlier Screening
MW-17S



n = 12
No outliers found.
Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.414, low cutoff = -0.8818, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

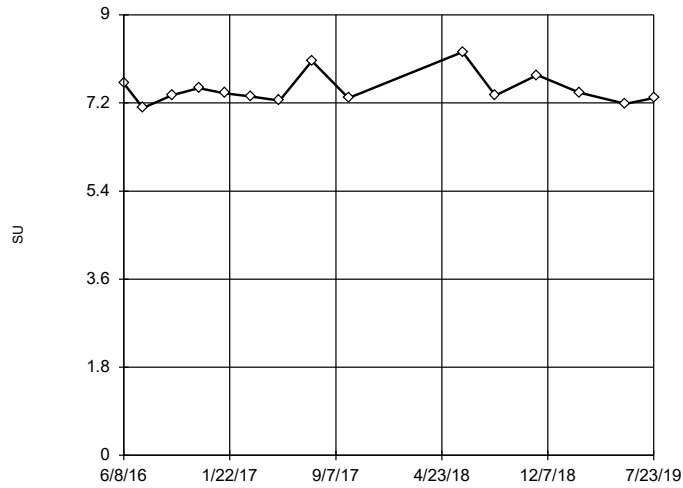
Tukey's Outlier Screening
MW-6S (bg)



n = 15
No outliers found.
Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 1.159, low cutoff = -0.8407, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

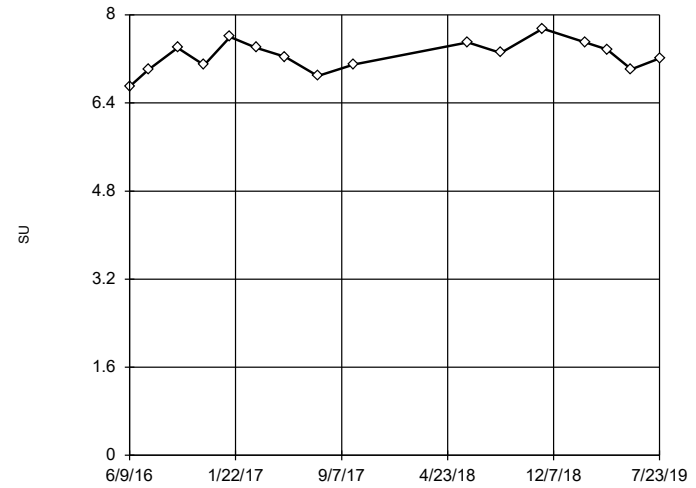
Tukey's Outlier Screening
MW-001D



n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.576, low cutoff = 6.469, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

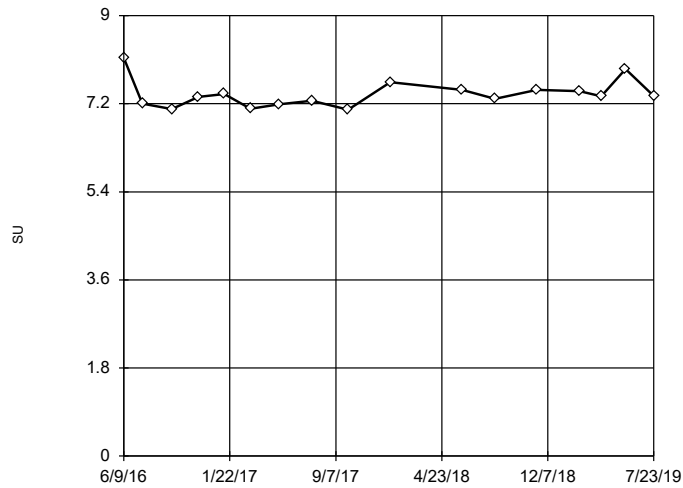
Tukey's Outlier Screening
MW-001I



n = 16
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.448, low cutoff = 5.441, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

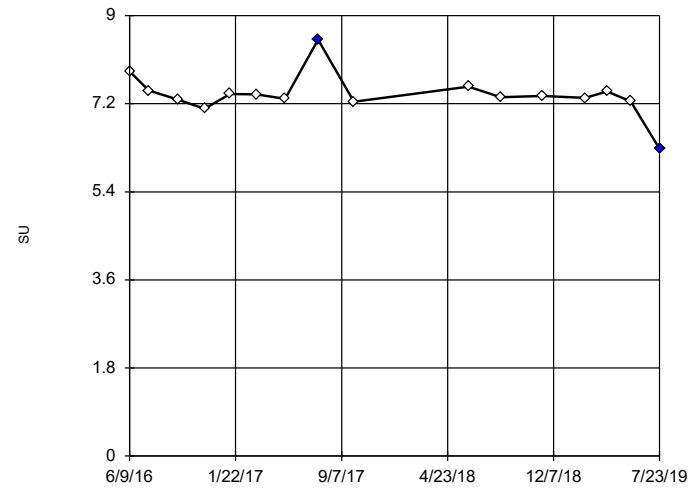
Tukey's Outlier Screening
MW-001S



n = 17
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.405, low cutoff = 6.404, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

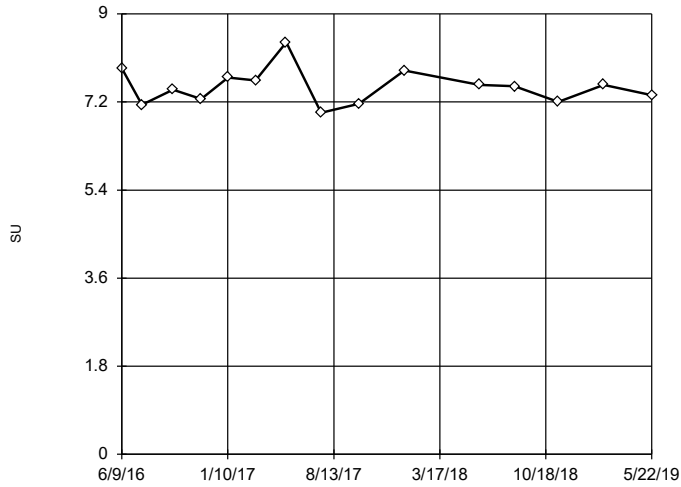
Tukey's Outlier Screening
MW-002D



n = 16
Outliers are drawn as solid. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 8.03, low cutoff = 6.7, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

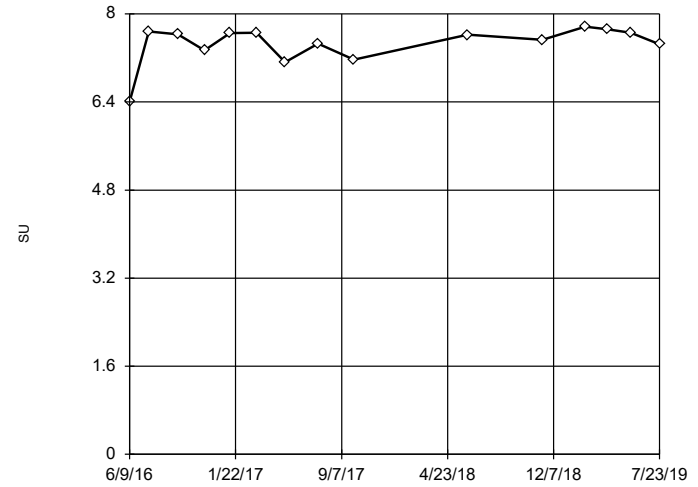
Tukey's Outlier Screening
MW-0021



n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 9.418, low cutoff = 5.887, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

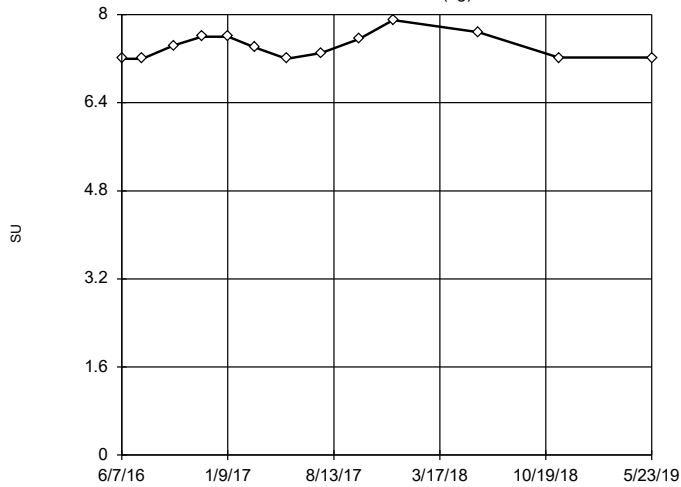
Tukey's Outlier Screening
MW-002S



n = 15
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.35, low cutoff = 5.187, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

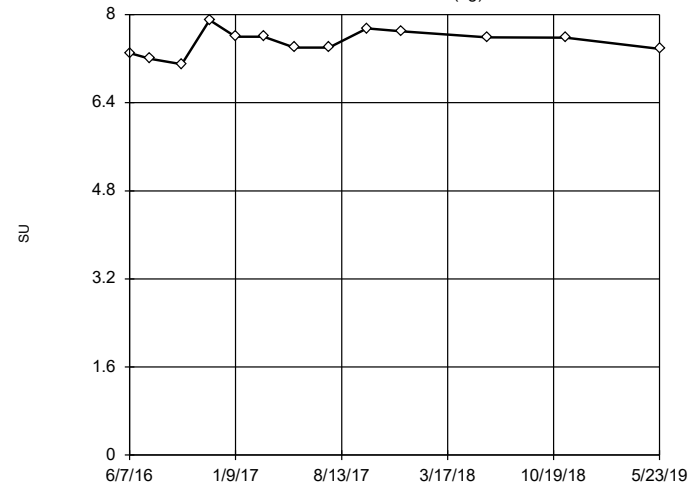
Tukey's Outlier Screening
MW-008I (bg)



n = 13
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.901, low cutoff = 6.156, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-008S (bg)

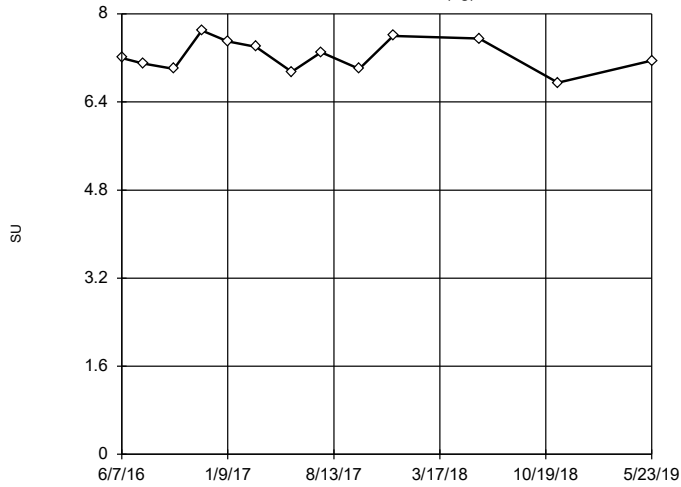


n = 13
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.456, low cutoff = 6.203, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-014S (bg)

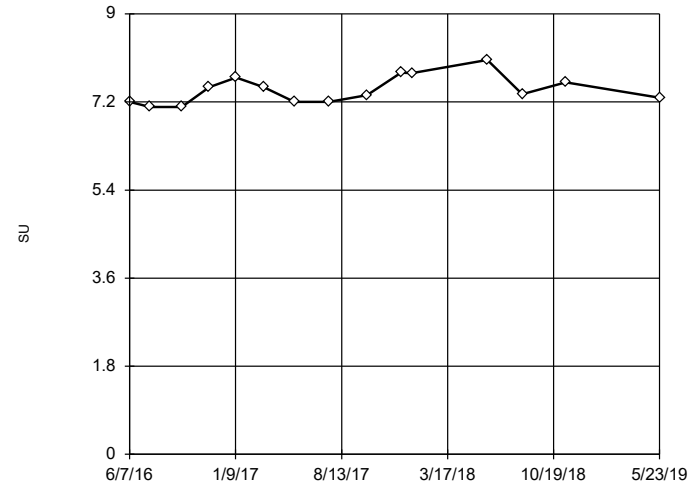


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 9.348, low cutoff = 5.635, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-015I

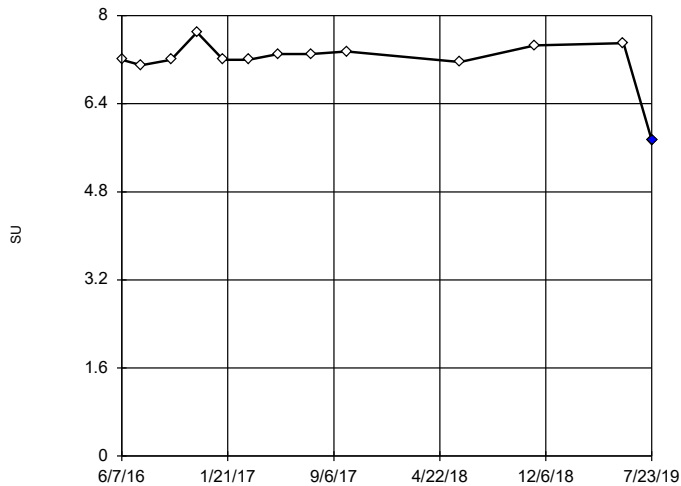


n = 15
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 9.418, low cutoff = 5.887, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-015S

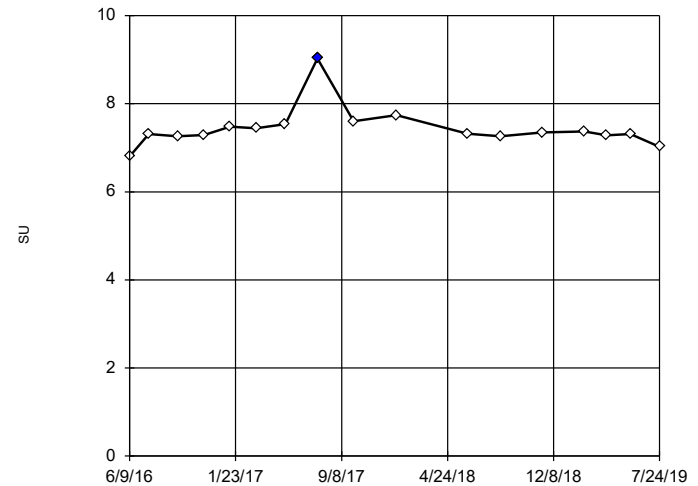


n = 13
 Outlier is drawn as solid.
 Tukey's method selected by user.
 Data were x*6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 7.932, low cutoff = 6.13, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016D

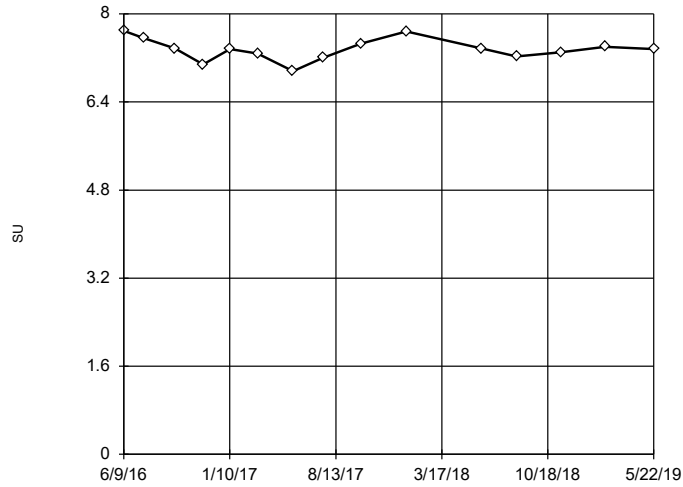


n = 17
 Outlier is drawn as solid.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 8.278, low cutoff = 6.595, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016I

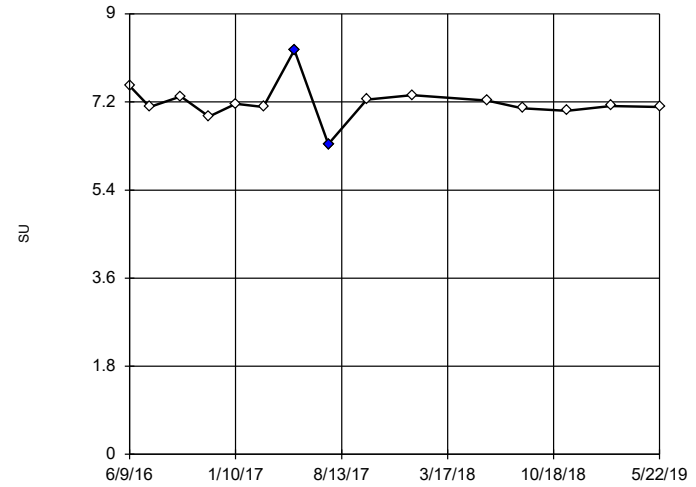


n = 15
 No outliers found.
 Tukey's method selected by user.
 Data were square root transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 8.172, low cutoff = 6.562, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016S

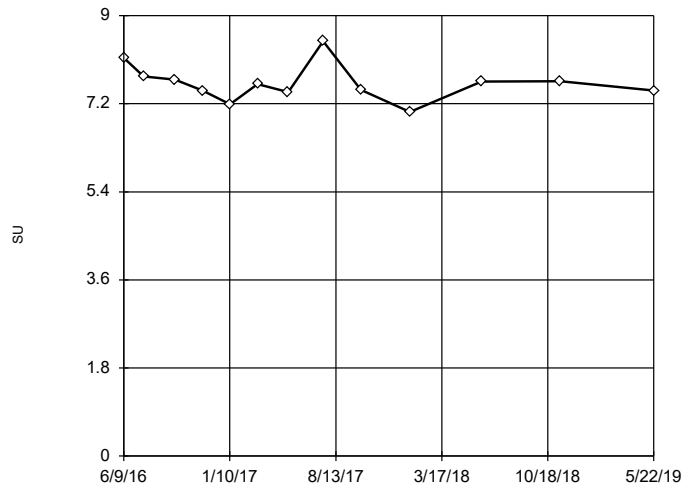


n = 15
 Outliers are drawn as solid.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 8.08, low cutoff = 6.396, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021D

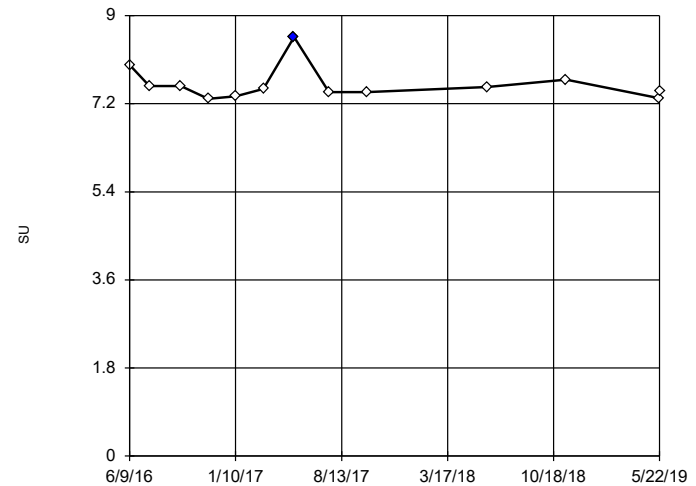


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 8.595, low cutoff = 6.7, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

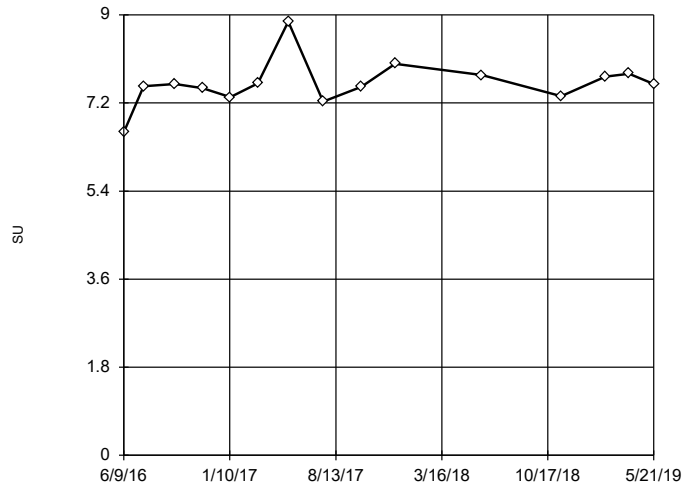
MW-021I



n = 13
 Outlier is drawn as solid.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 8.358, low cutoff = 6.746, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

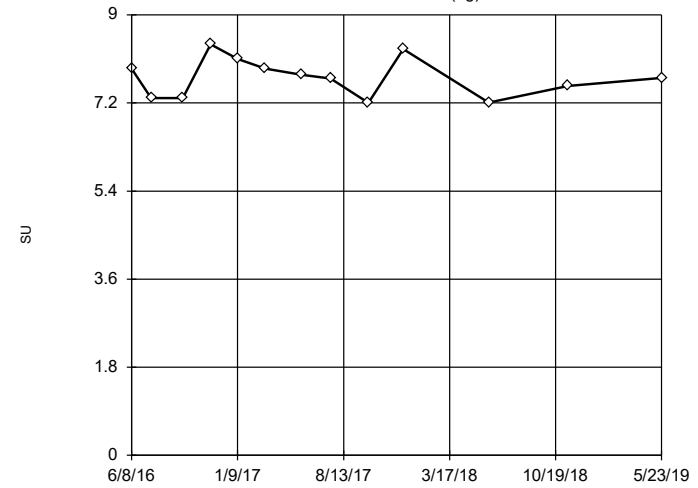
Tukey's Outlier Screening
MW-021S



n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 9.217, low cutoff = 6.188, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

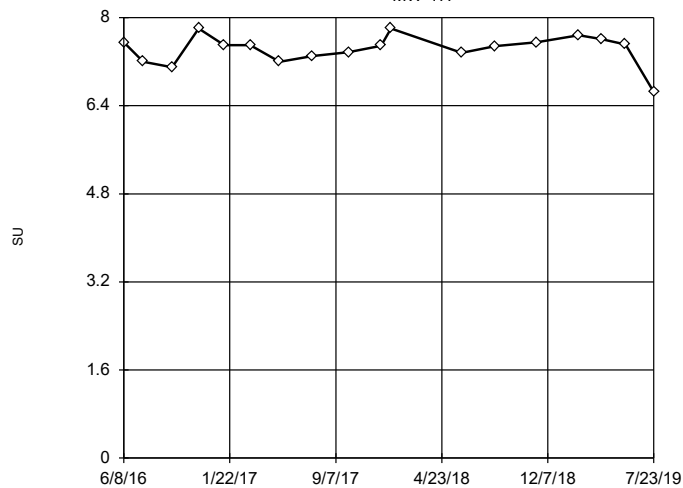
Tukey's Outlier Screening
MW-11S (bg)



n = 13
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 10.53, low cutoff = 5.548, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

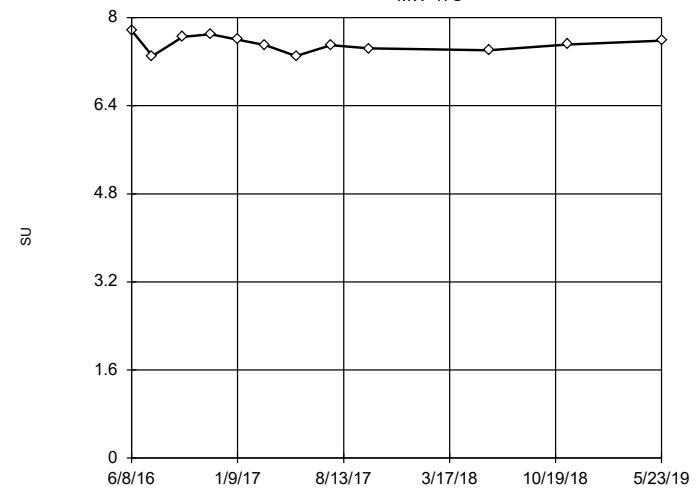
Tukey's Outlier Screening
MW-17I



n = 18
No outliers found. Tukey's method selected by user.
Data were x*6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.283, low cutoff = 4.793, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

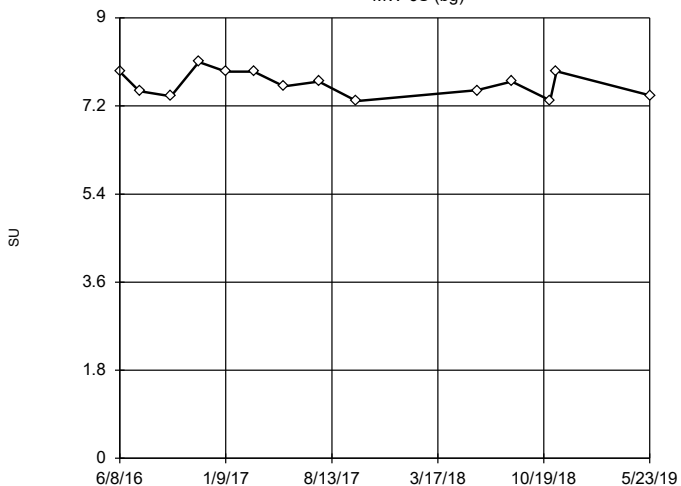
Tukey's Outlier Screening
MW-17S



n = 12
No outliers found. Tukey's method selected by user.
Data were x*4 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 8.146, low cutoff = 6.701, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

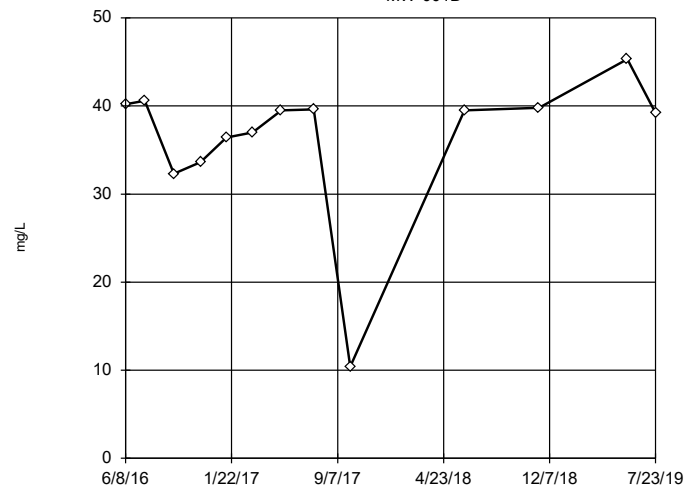
Tukey's Outlier Screening
MW-6S (bg)



n = 14
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 9.573, low cutoff = 6.115, based on IQR multiplier of 3.

Constituent: pH, field Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

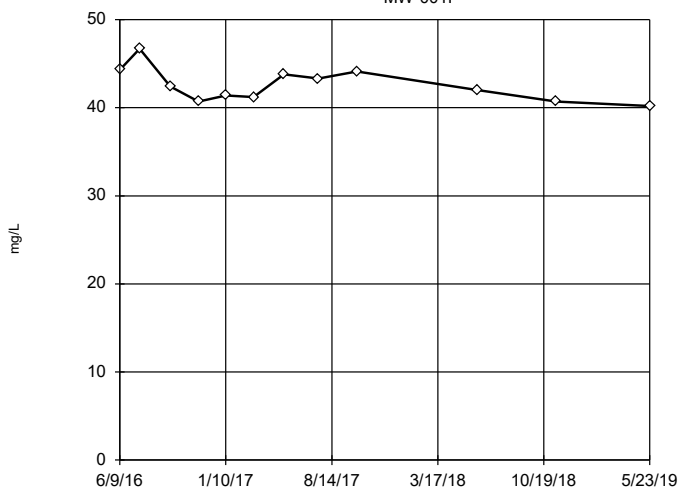
Tukey's Outlier Screening
MW-001D



n = 13
No outliers found. Tukey's method selected by user.
Data were x^4 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 48.85, low cutoff = -35.68, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

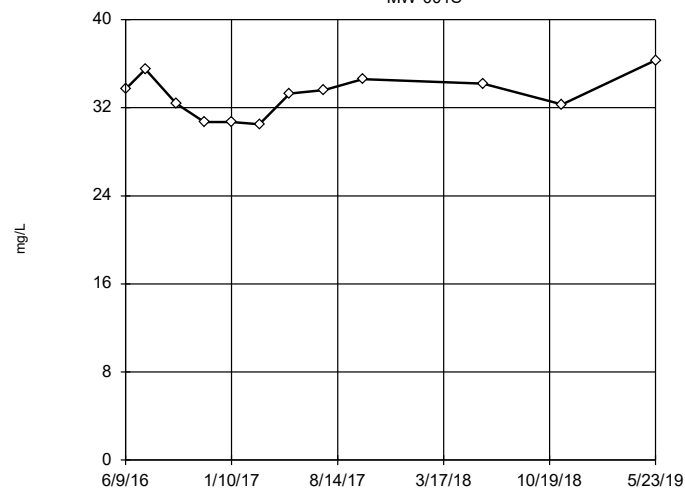
Tukey's Outlier Screening
MW-001I



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 54.34, low cutoff = 33.12, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

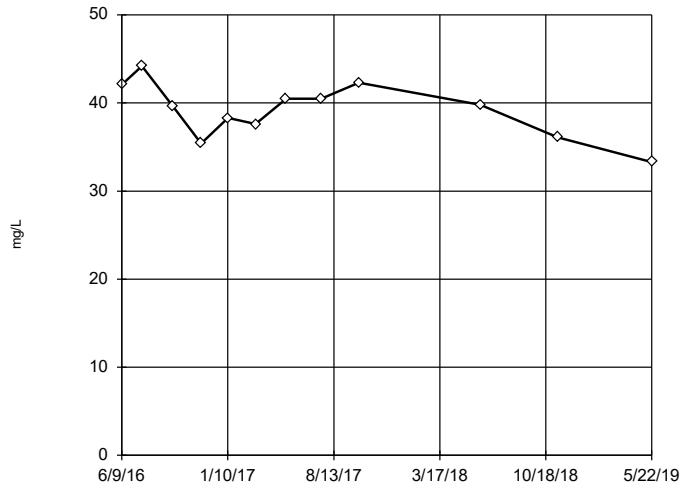
Tukey's Outlier Screening
MW-001S



n = 12
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 41, low cutoff = 14.63, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

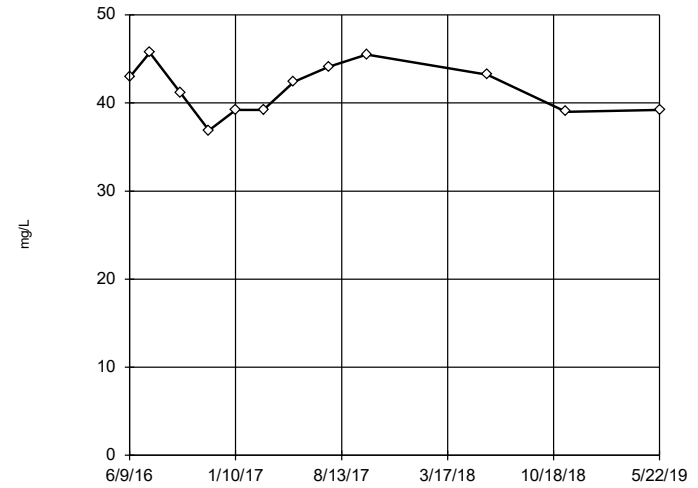
Tukey's Outlier Screening
MW-002D



n = 12
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 50.89, low cutoff = -22.35, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

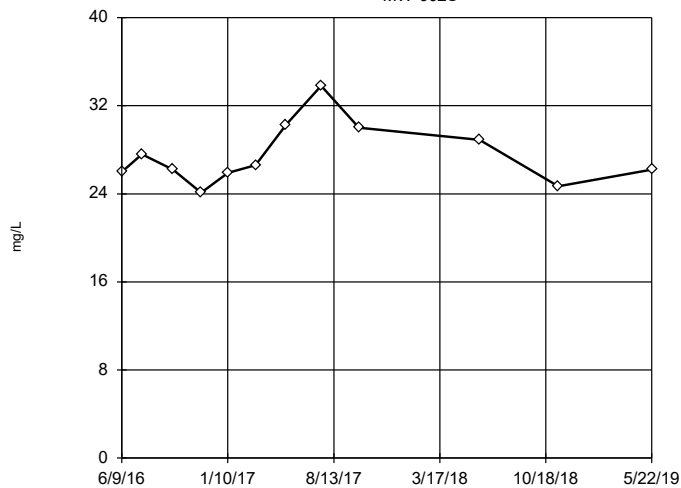
Tukey's Outlier Screening
MW-002I



n = 12
No outliers found. Tukey's method selected by user.
Data were square root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 58.43, low cutoff = 27.29, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

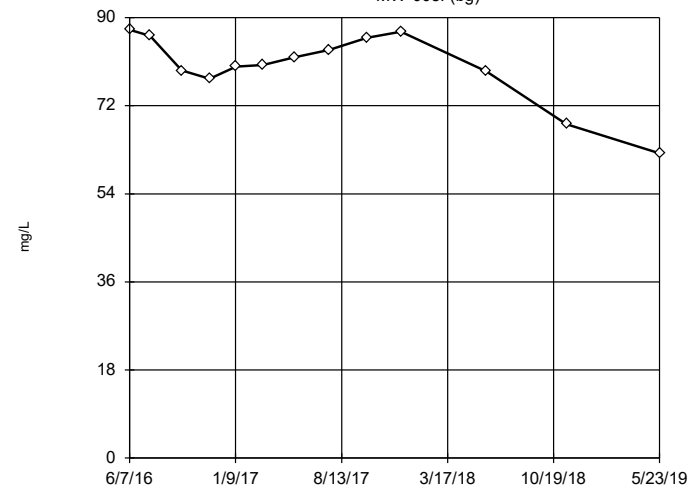
Tukey's Outlier Screening
MW-002S



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 43.02, low cutoff = 17.76, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

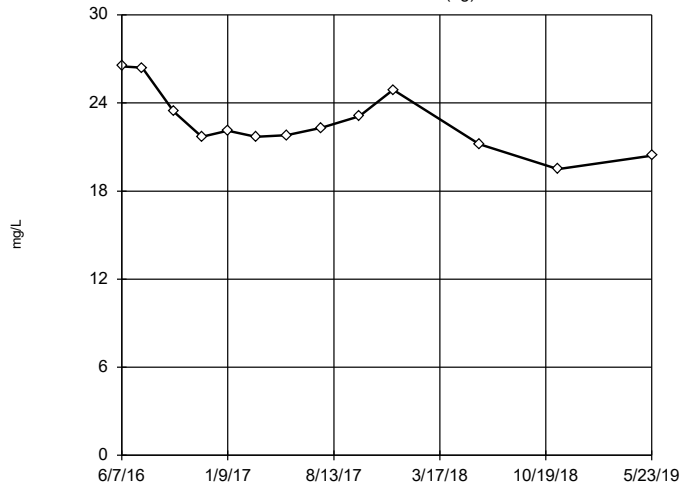
Tukey's Outlier Screening
MW-008I (bg)



n = 13
No outliers found. Tukey's method selected by user.
Data were x^6 transformed to achieve best W statistic (graph shown in original units).
High cutoff = 98.98, low cutoff = -81.94, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

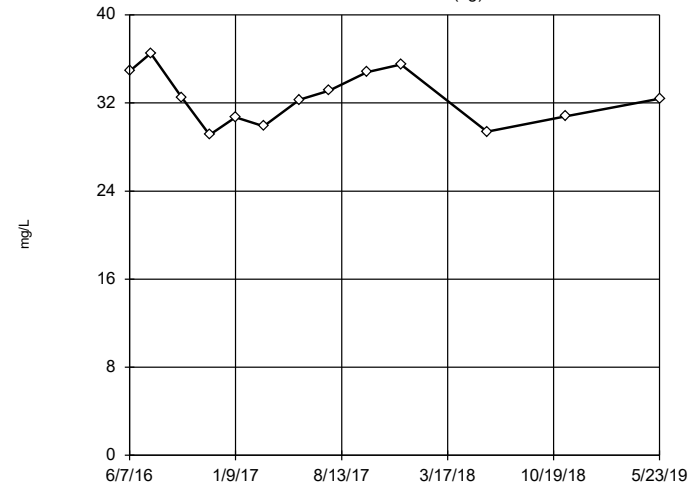
Tukey's Outlier Screening
MW-008S (bg)



n = 13
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 34.41, low cutoff = 15.05, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

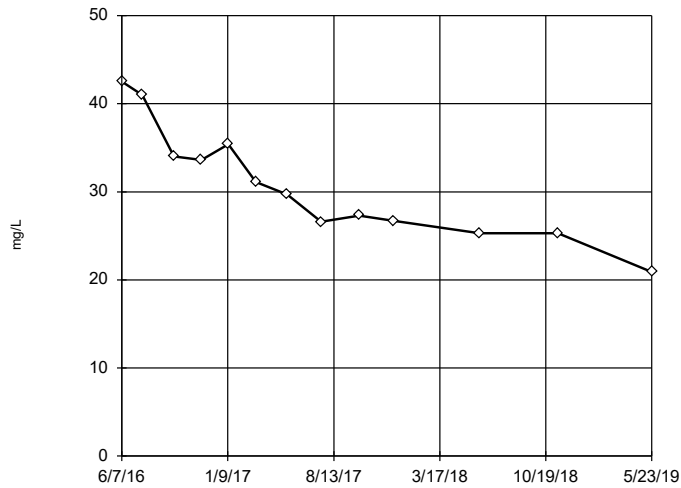
Tukey's Outlier Screening
MW-014S (bg)



n = 13
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 53.04, low cutoff = 19.91, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

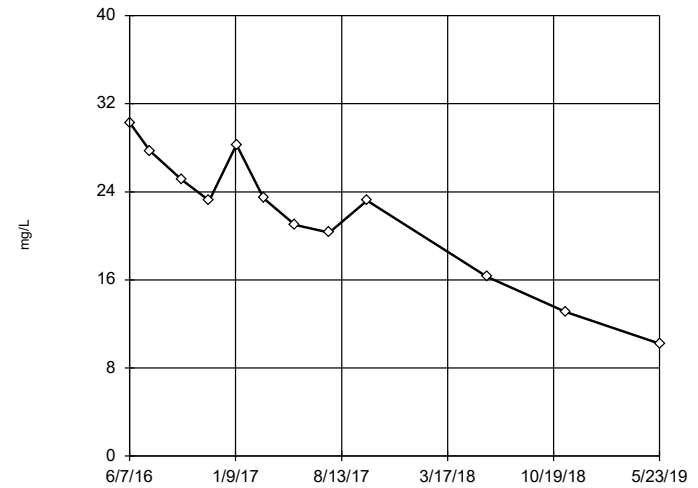
Tukey's Outlier Screening
MW-015I



n = 13
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 82.98, low cutoff = 10.85, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-015S

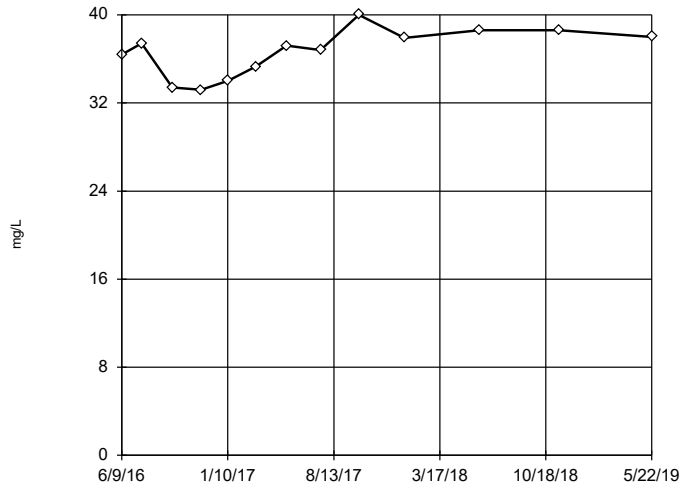


n = 12
No outliers found.
Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 42.17, low cutoff = -27.21, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016D

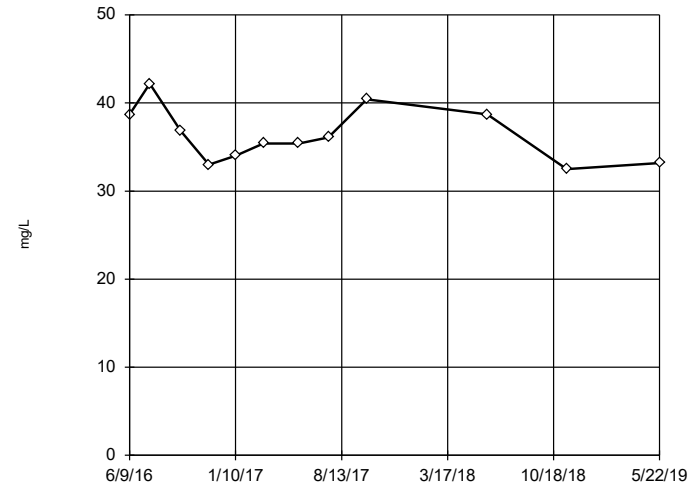


n = 13
 No outliers found.
 Tukey's method selected by user.
 Data were x*6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 44.16, low cutoff = -36.89, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016I

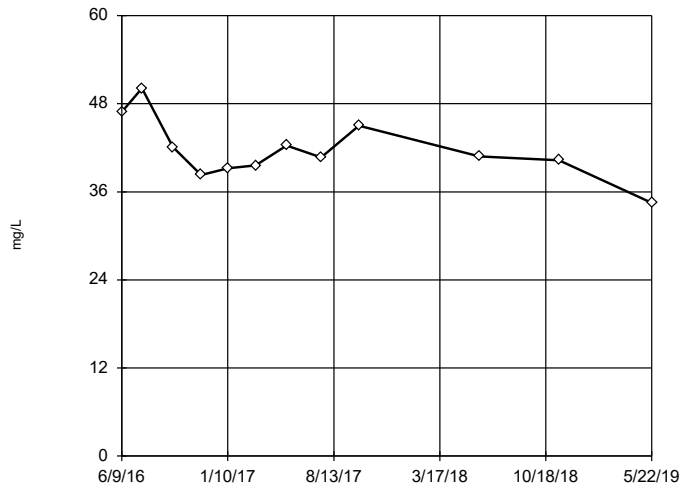


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 59.15, low cutoff = 21.98, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-016S

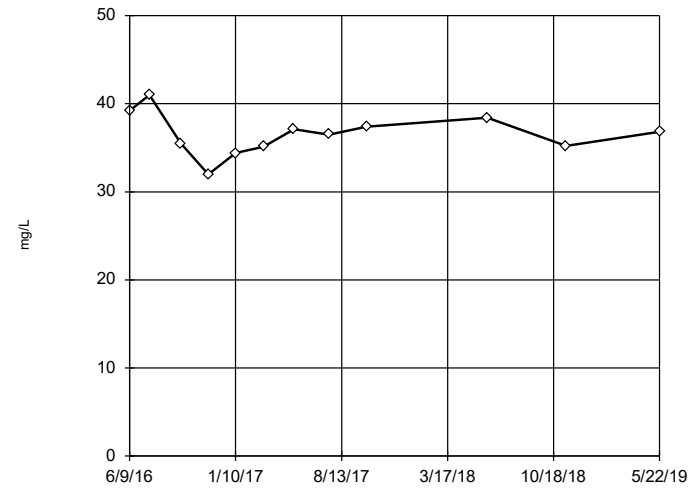


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 59.24, low cutoff = 29.02, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

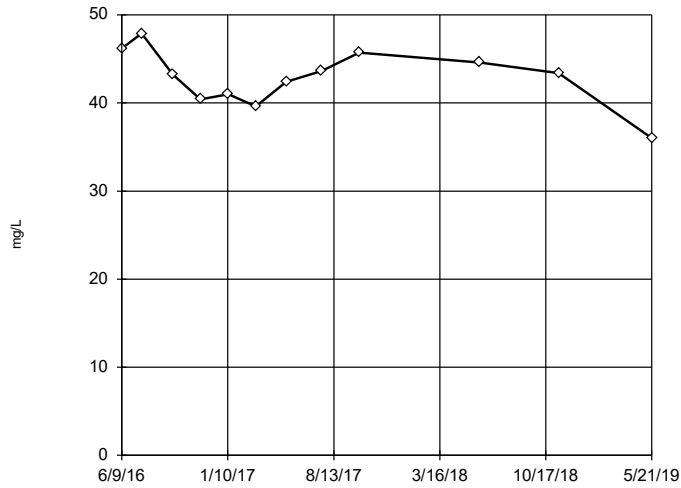
MW-021D



n = 12
 No outliers found.
 Tukey's method selected by user.
 Ladder of Powers transformations did not improve normality; analysis run on raw data.
 High cutoff = 46.15, low cutoff = 26.9, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

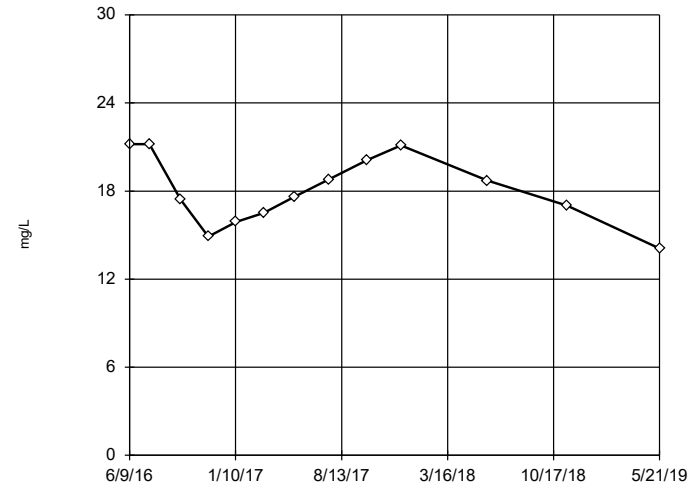
Tukey's Outlier Screening
MW-0211



n = 12
No outliers found. Tukey's method selected by user.
Data were x⁴ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 53.84, low cutoff = -34.99, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

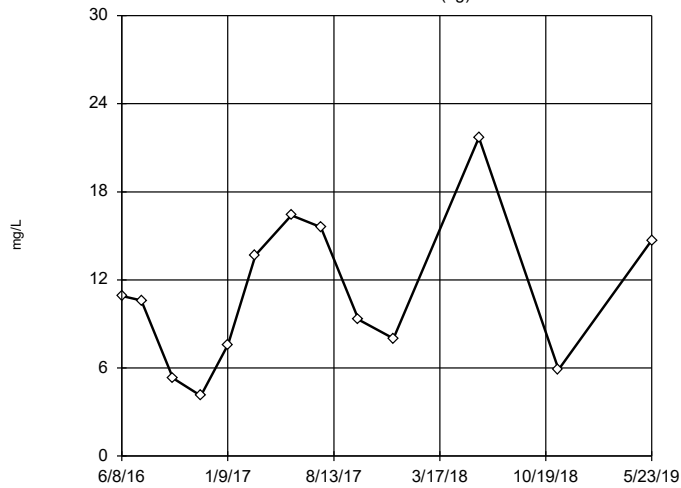
Tukey's Outlier Screening
MW-021S



n = 13
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 42.33, low cutoff = 7.88, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

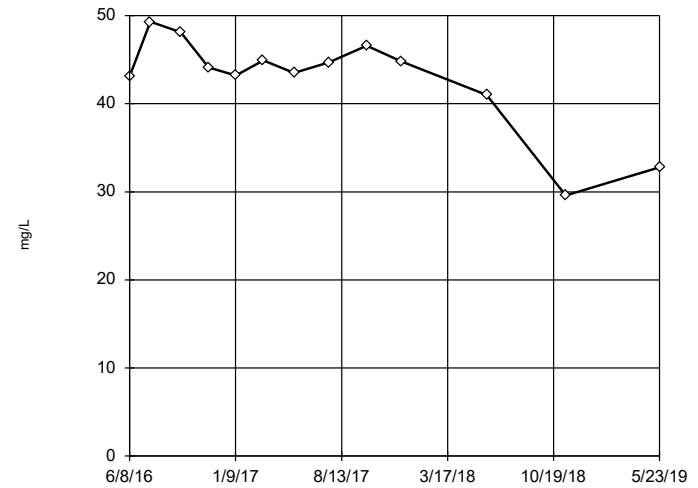
Tukey's Outlier Screening
MW-11S (bg)



n = 13
No outliers found. Tukey's method selected by user.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 76.07, low cutoff = 0.00189, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

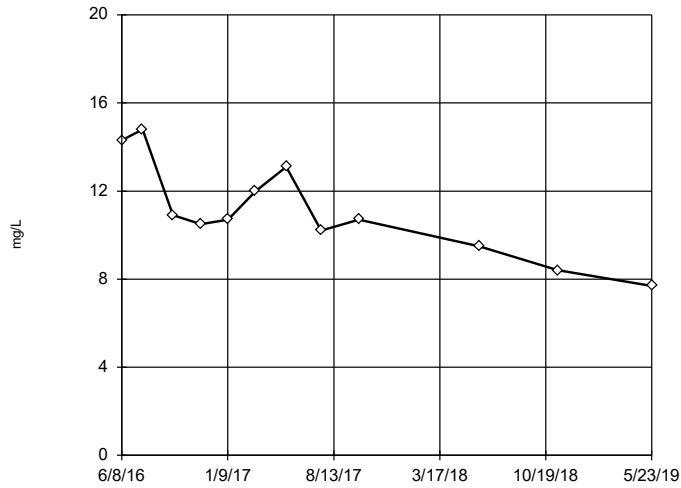
Tukey's Outlier Screening
MW-171



n = 13
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 52.16, low cutoff = -41.8, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

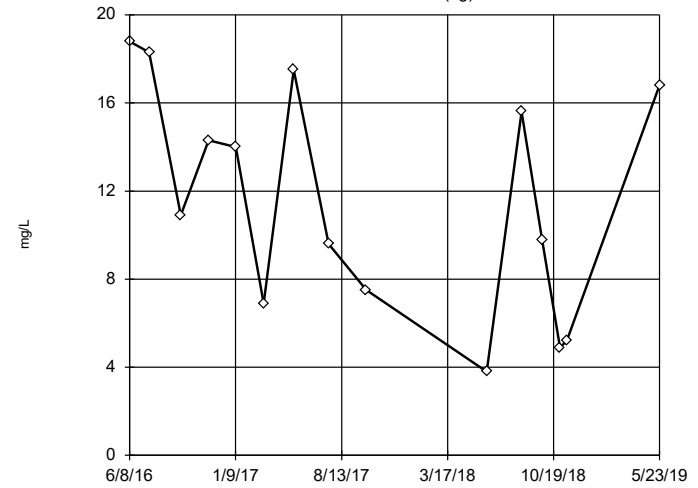
Tukey's Outlier Screening
MW-17S



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 25.91, low cutoff = 4.764, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

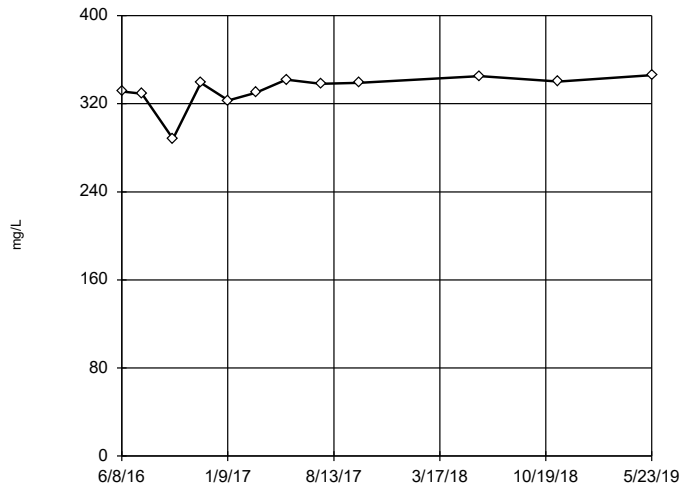
Tukey's Outlier Screening
MW-6S (bg)



n = 15
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 46.5, low cutoff = -22.8, based on IQR multiplier of 3.

Constituent: Sulfate, total Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

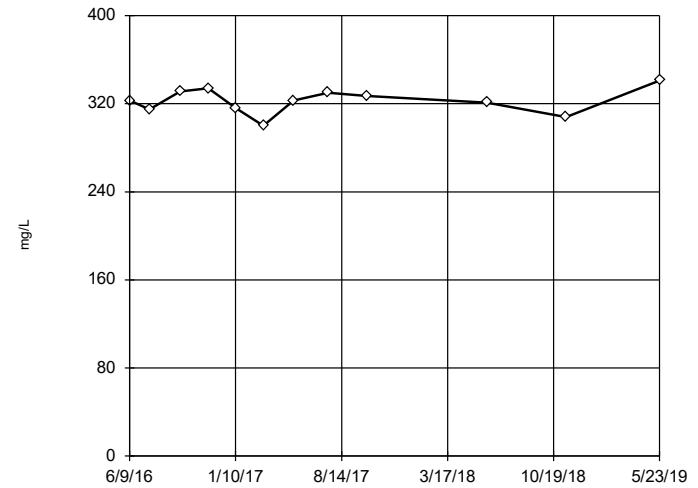
Tukey's Outlier Screening
MW-001D



n = 12
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 367.2, low cutoff = 271.7, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

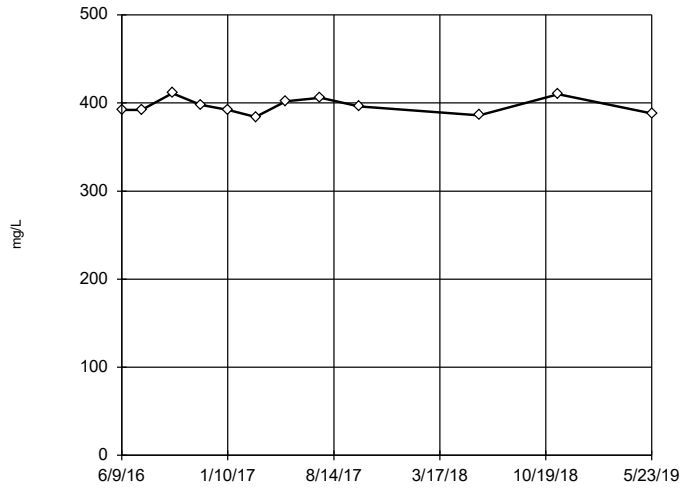
Tukey's Outlier Screening
MW-001I



n = 12
No outliers found. Tukey's method selected by user.
Data were x⁶ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 362.1, low cutoff = 181.2, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

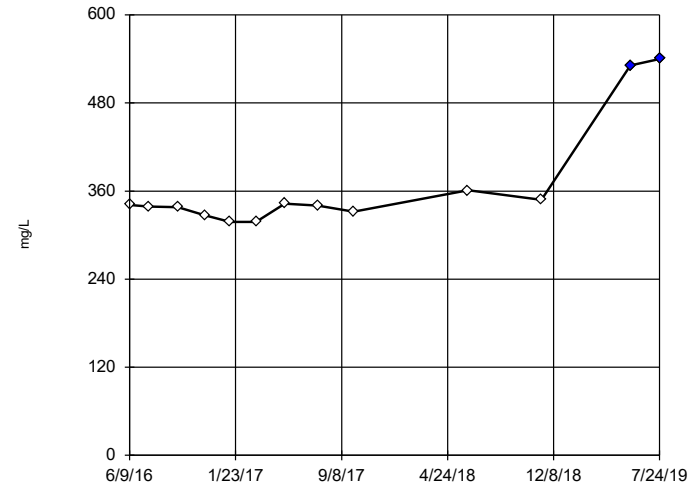
Tukey's Outlier Screening
MW-001S



n = 12
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 449.1, low cutoff = 350.8, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

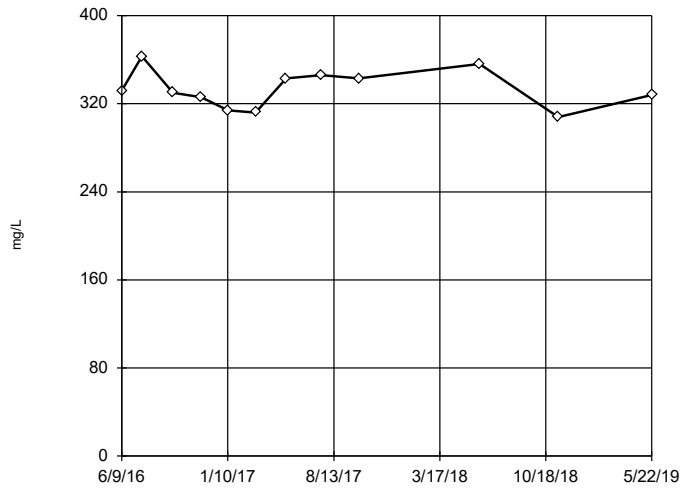
Tukey's Outlier Screening
MW-002D



n = 13
Outliers are drawn as solid.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 441.2, low cutoff = 264.7, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

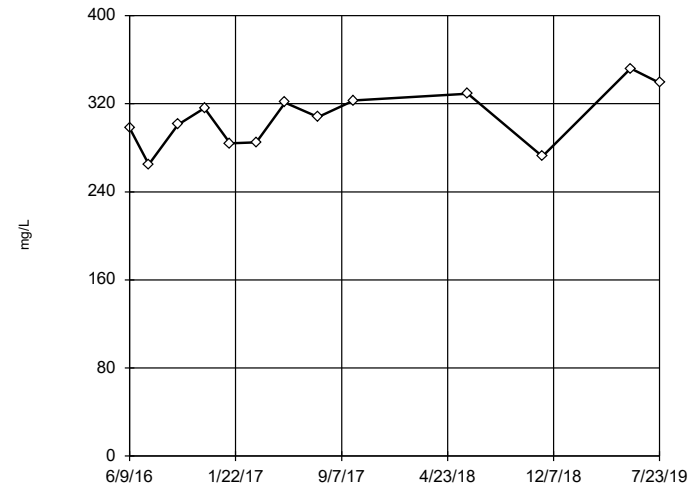
Tukey's Outlier Screening
MW-002I



n = 12
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 430.1, low cutoff = 256.3, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

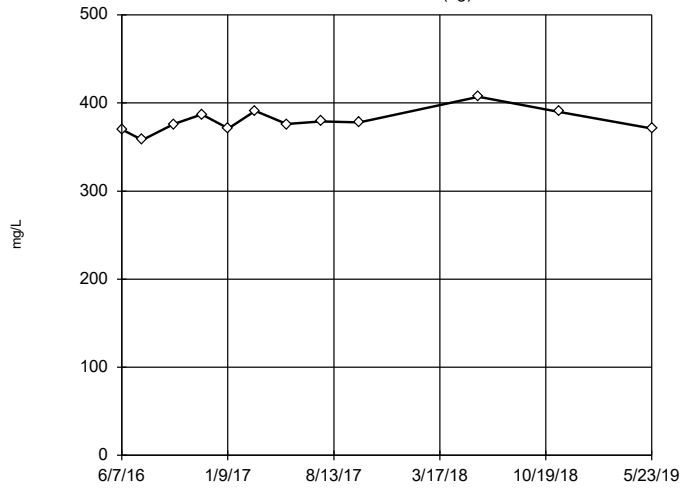
Tukey's Outlier Screening
MW-002S



n = 13
No outliers found.
Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 450.5, low cutoff = 160, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

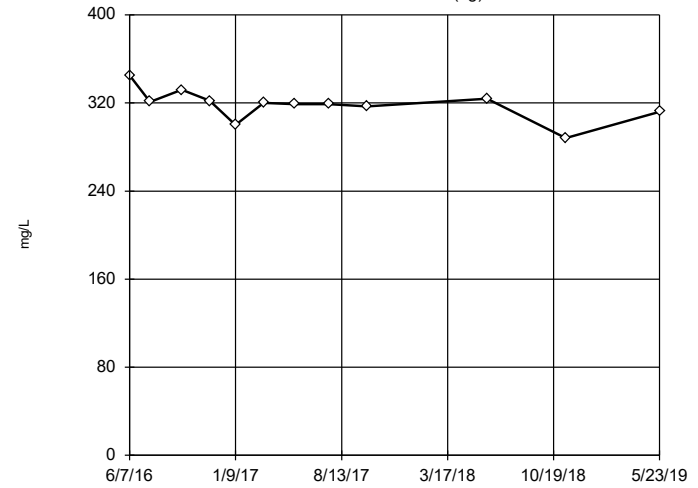
Tukey's Outlier Screening
MW-008I (bg)



n = 12
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 446.1, low cutoff = 323.1, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

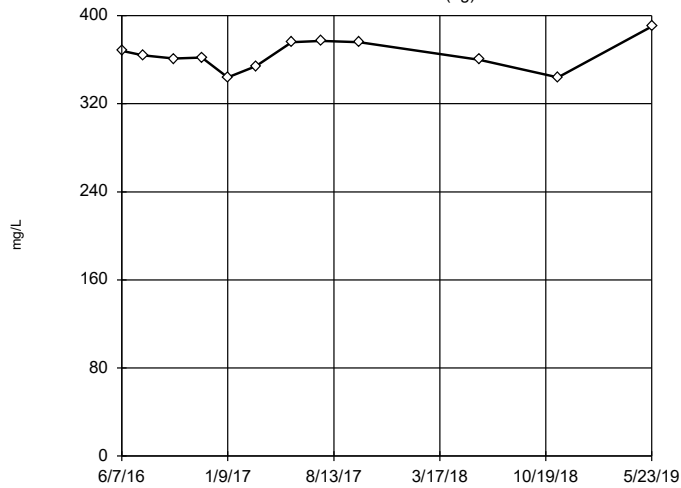
Tukey's Outlier Screening
MW-008S (bg)



n = 12
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 346.1, low cutoff = 285.8, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

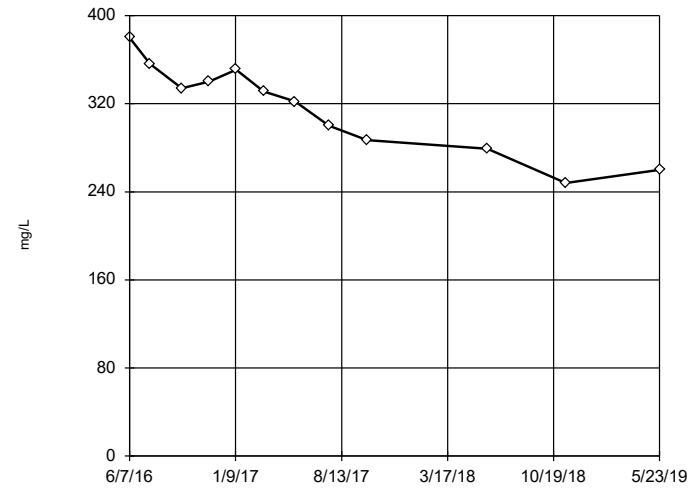
Tukey's Outlier Screening
MW-014S (bg)



n = 12
No outliers found. Tukey's method selected by user.
Ladder of Powers transformations did not improve normality; analysis run on raw data.
High cutoff = 433, low cutoff = 300, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

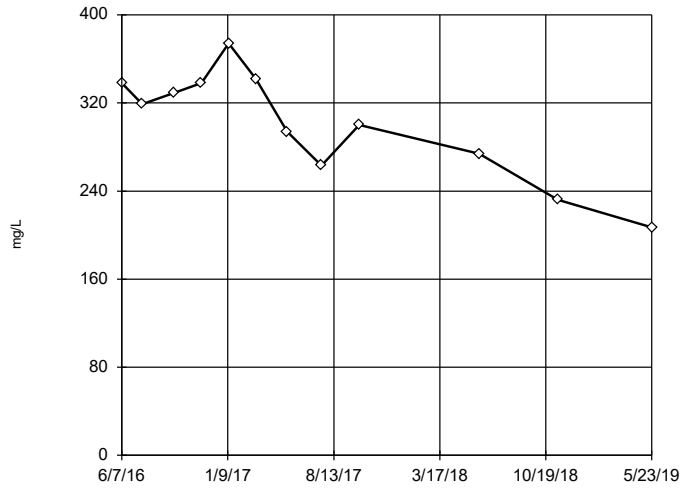
Tukey's Outlier Screening
MW-015I



n = 12
No outliers found. Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 487.1, low cutoff = -194.4, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

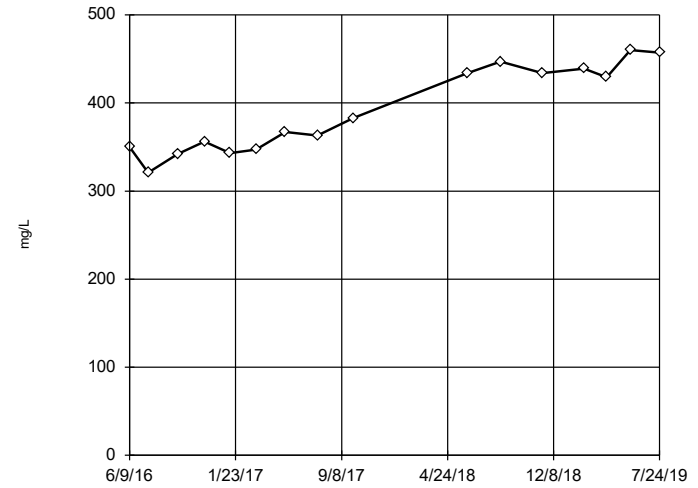
Tukey's Outlier Screening
MW-015S



n = 12
No outliers found. Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 458.4, low cutoff = -337.1, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

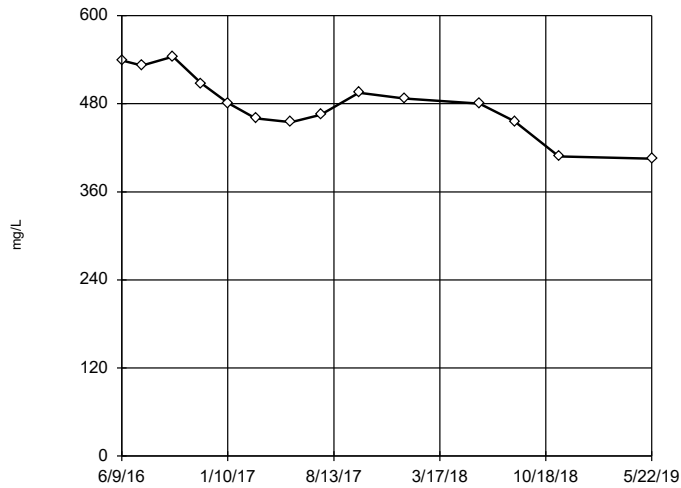
Tukey's Outlier Screening
MW-016D



n = 16
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 857.7, low cutoff = 177.4, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

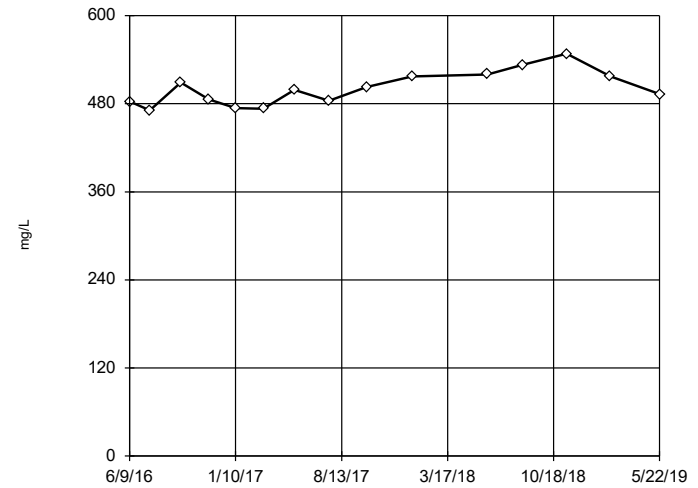
Tukey's Outlier Screening
MW-016I



n = 14
No outliers found. Tukey's method selected by user.
Data were square transformed to achieve best W statistic (graph shown in original units).
High cutoff = 678, low cutoff = 135.2, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-016S

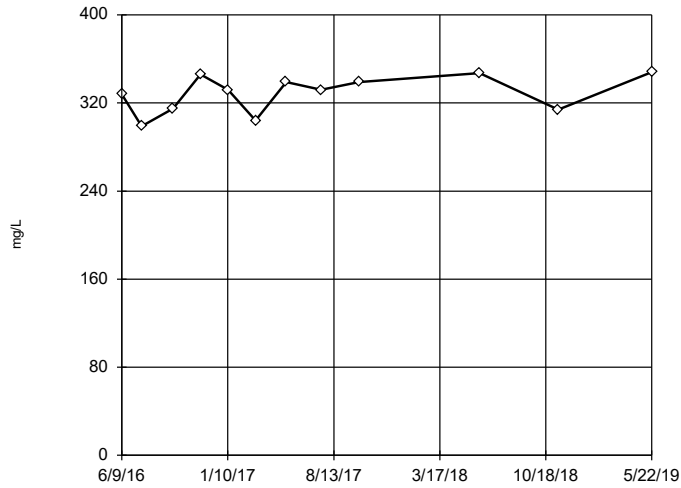


n = 15
No outliers found. Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 634, low cutoff = 393.8, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021D

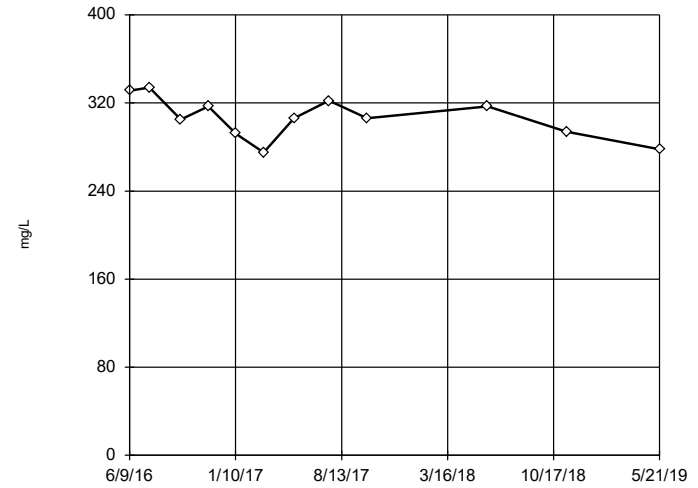


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x*6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 390.8, low cutoff = -315.1, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021I

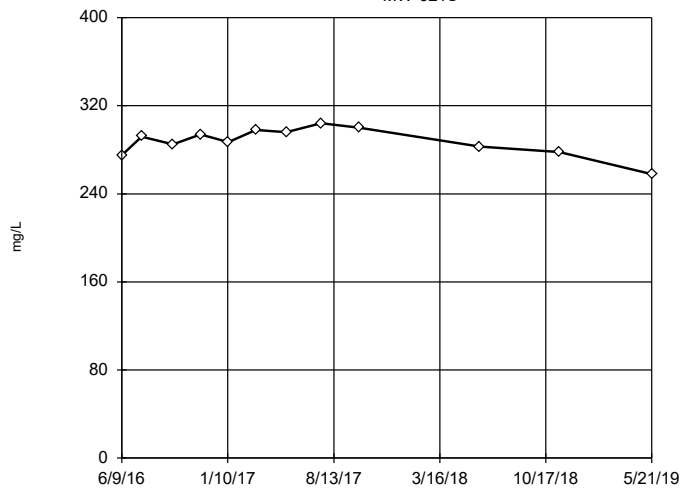


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x*4 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 374.1, low cutoff = -205.7, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

MW-021S

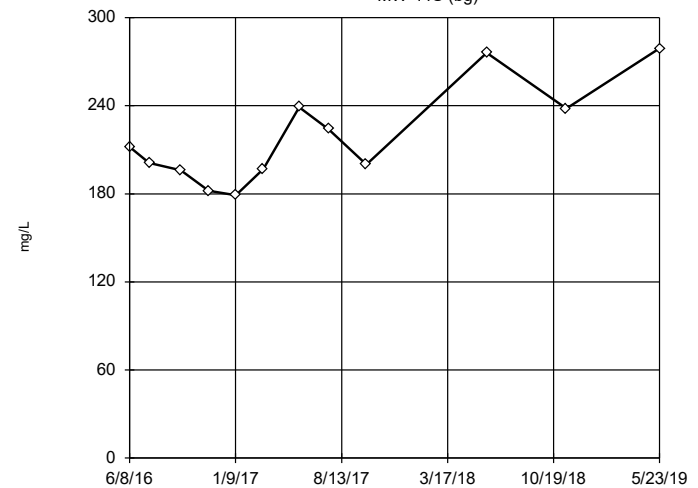


n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were x*6 transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 329.6, low cutoff = -218.5, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:17 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening

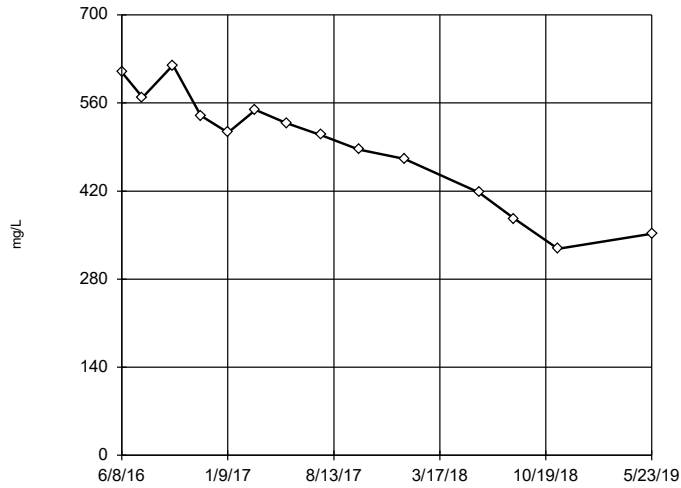
MW-11S (bg)



n = 12
 No outliers found.
 Tukey's method selected by user.
 Data were natural log transformed to achieve best W statistic (graph shown in original units).
 High cutoff = 426.4, low cutoff = 109.9, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:18 AM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

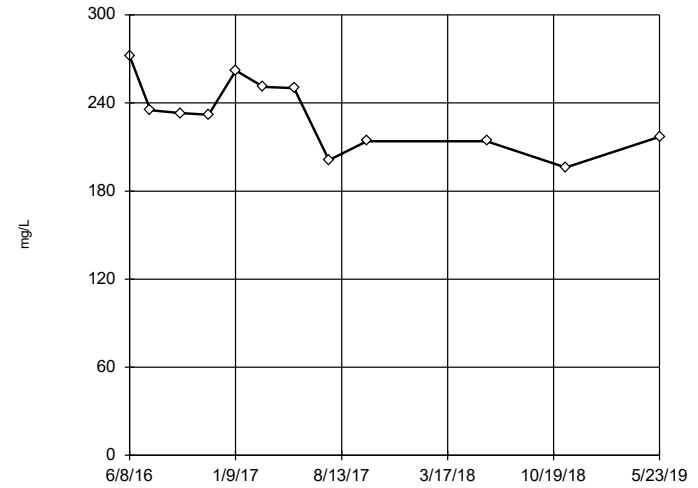
Tukey's Outlier Screening
MW-17I



n = 14
No outliers found.
Tukey's method selected by user.
Data were cube transformed to achieve best W statistic (graph shown in original units).
High cutoff = 799, low cutoff = -648, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:18 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

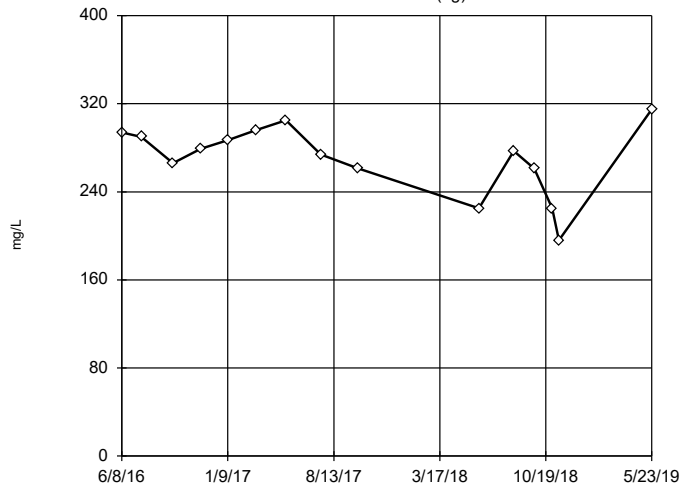
Tukey's Outlier Screening
MW-17S



n = 12
No outliers found.
Tukey's method selected by user.
Data were natural log transformed to achieve best W statistic (graph shown in original units).
High cutoff = 401.8, low cutoff = 133.4, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:18 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Tukey's Outlier Screening
MW-6S (bg)



n = 15
No outliers found.
Tukey's method selected by user.
Data were x⁵ transformed to achieve best W statistic (graph shown in original units).
High cutoff = 348.7, low cutoff = -280.8, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/17/2020 10:18 AM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Welch's t-test/Mann-Whitney - Significant Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 12:47 PM

<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Method</u>
Boron, total (mg/L)	MW-001S	2.633	Yes	Mann-W
Calcium, total (mg/L)	MW-008S (bg)	-2.642	Yes	Mann-W
Calcium, total (mg/L)	MW-016D	2.72	Yes	Mann-W
Calcium, total (mg/L)	MW-016I	-3.163	Yes	Mann-W
Calcium, total (mg/L)	MW-17I	-2.802	Yes	Mann-W
Chloride, total (mg/L)	MW-001I	3.188	Yes	Mann-W
Chloride, total (mg/L)	MW-001S	2.742	Yes	Mann-W
Chloride, total (mg/L)	MW-002D	2.785	Yes	Mann-W
Chloride, total (mg/L)	MW-002S	2.666	Yes	Mann-W
Chloride, total (mg/L)	MW-015I	-3.005	Yes	Mann-W
Chloride, total (mg/L)	MW-015S	-2.633	Yes	Mann-W
Chloride, total (mg/L)	MW-016D	3.418	Yes	Mann-W
Chloride, total (mg/L)	MW-021S	3.191	Yes	Mann-W
Chloride, total (mg/L)	MW-17I	-3.298	Yes	Mann-W
Fluoride, total (mg/L)	MW-17I	3.598	Yes	Mann-W
Fluoride, total (mg/L)	MW-17S	2.633	Yes	Mann-W
Fluoride, total (mg/L)	MW-6S (bg)	2.84	Yes	Mann-W
Sulfate, total (mg/L)	MW-015I	-2.712	Yes	Mann-W
Sulfate, total (mg/L)	MW-016D	2.858	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-015I	-2.802	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-016D	3.311	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-016S	2.838	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-17I	-3.163	Yes	Mann-W

Welch's t-test/Mann-Whitney - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 12:47 PM

Constituent	Well	Calc.	0.01	Method
Boron, total (mg/L)	MW-001D	1.357	No	Mann-W
Boron, total (mg/L)	MW-001I	1.319	No	Mann-W
Boron, total (mg/L)	MW-001S	2.633	Yes	Mann-W
Boron, total (mg/L)	MW-002D	1.546	No	Mann-W
Boron, total (mg/L)	MW-002I	2.274	No	Mann-W
Boron, total (mg/L)	MW-002S	0.8507	No	Mann-W
Boron, total (mg/L)	MW-008I (bg)	1.786	No	Mann-W
Boron, total (mg/L)	MW-008S (bg)	1.361	No	Mann-W
Boron, total (mg/L)	MW-014S (bg)	2.045	No	Mann-W
Boron, total (mg/L)	MW-015I	1.612	No	Mann-W
Boron, total (mg/L)	MW-015S	0.9407	No	Mann-W
Boron, total (mg/L)	MW-016D	1.701	No	Mann-W
Boron, total (mg/L)	MW-016I	0.9515	No	Mann-W
Boron, total (mg/L)	MW-016S	1.228	No	Mann-W
Boron, total (mg/L)	MW-021D	2.429	No	Mann-W
Boron, total (mg/L)	MW-021I	1.622	No	Mann-W
Boron, total (mg/L)	MW-021S	2.569	No	Mann-W
Boron, total (mg/L)	MW-11S (bg)	2.467	No	Mann-W
Boron, total (mg/L)	MW-17I	0.5944	No	Mann-W
Boron, total (mg/L)	MW-17S	1.616	No	Mann-W
Boron, total (mg/L)	MW-6S (bg)	2.261	No	Mann-W
Calcium, total (mg/L)	MW-001D	2.123	No	Mann-W
Calcium, total (mg/L)	MW-001I	1.783	No	Mann-W
Calcium, total (mg/L)	MW-001S	0.7643	No	Mann-W
Calcium, total (mg/L)	MW-002D	1.83	No	Mann-W
Calcium, total (mg/L)	MW-002I	-0.4246	No	Mann-W
Calcium, total (mg/L)	MW-002S	-0.5955	No	Mann-W
Calcium, total (mg/L)	MW-008I (bg)	-0.3403	No	Mann-W
Calcium, total (mg/L)	MW-008S (bg)	-2.642	Yes	Mann-W
Calcium, total (mg/L)	MW-014S (bg)	0.8507	No	Mann-W
Calcium, total (mg/L)	MW-015I	-0.3403	No	Mann-W
Calcium, total (mg/L)	MW-015S	-1.613	No	Mann-W
Calcium, total (mg/L)	MW-016D	2.72	Yes	Mann-W
Calcium, total (mg/L)	MW-016I	-3.163	Yes	Mann-W
Calcium, total (mg/L)	MW-016S	2.523	No	Mann-W
Calcium, total (mg/L)	MW-021D	-1.444	No	Mann-W
Calcium, total (mg/L)	MW-021I	-0.6806	No	Mann-W
Calcium, total (mg/L)	MW-021S	-0.6806	No	Mann-W
Calcium, total (mg/L)	MW-11S (bg)	2.293	No	Mann-W
Calcium, total (mg/L)	MW-17I	-2.802	Yes	Mann-W
Calcium, total (mg/L)	MW-17S	-2.127	No	Mann-W
Calcium, total (mg/L)	MW-6S (bg)	-1.447	No	Mann-W
Chloride, total (mg/L)	MW-001D	0.9541	No	Mann-W
Chloride, total (mg/L)	MW-001I	3.188	Yes	Mann-W
Chloride, total (mg/L)	MW-001S	2.742	Yes	Mann-W
Chloride, total (mg/L)	MW-002D	2.785	Yes	Mann-W
Chloride, total (mg/L)	MW-002I	1.101	No	Mann-W
Chloride, total (mg/L)	MW-002S	2.666	Yes	Mann-W
Chloride, total (mg/L)	MW-008I (bg)	-2.282	No	Mann-W
Chloride, total (mg/L)	MW-008S (bg)	1.244	No	Mann-W
Chloride, total (mg/L)	MW-014S (bg)	0.8807	No	Mann-W
Chloride, total (mg/L)	MW-015I	-3.005	Yes	Mann-W
Chloride, total (mg/L)	MW-015S	-2.633	Yes	Mann-W
Chloride, total (mg/L)	MW-016D	3.418	Yes	Mann-W
Chloride, total (mg/L)	MW-016I	0.06455	No	Mann-W

Welch's t-test/Mann-Whitney - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 12:47 PM

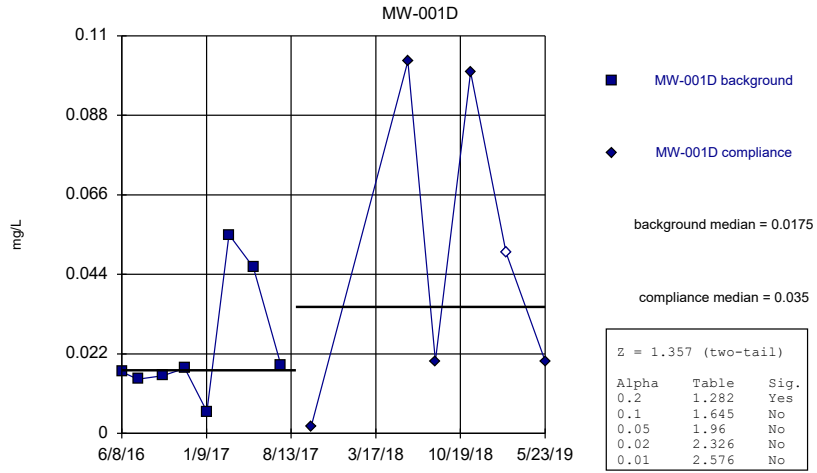
<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Method</u>
Chloride, total (mg/L)	MW-016S	-1.021	No	Mann-W
Chloride, total (mg/L)	MW-021D	-1.11	No	Mann-W
Chloride, total (mg/L)	MW-021I	-0.5955	No	Mann-W
Chloride, total (mg/L)	MW-021S	3.191	Yes	Mann-W
Chloride, total (mg/L)	MW-11S (bg)	-0.1466	No	Mann-W
Chloride, total (mg/L)	MW-17I	-3.298	Yes	Mann-W
Chloride, total (mg/L)	MW-17S	-0.5104	No	Mann-W
Chloride, total (mg/L)	MW-6S (bg)	-0.868	No	Mann-W
Fluoride, total (mg/L)	MW-001D	1.639	No	Mann-W
Fluoride, total (mg/L)	MW-001I	2.142	No	Mann-W
Fluoride, total (mg/L)	MW-001S	-0.2561	No	Mann-W
Fluoride, total (mg/L)	MW-002D	0.3496	No	Mann-W
Fluoride, total (mg/L)	MW-002I	0.3458	No	Mann-W
Fluoride, total (mg/L)	MW-002S	1.739	No	Mann-W
Fluoride, total (mg/L)	MW-008I (bg)	0.5963	No	Mann-W
Fluoride, total (mg/L)	MW-008S (bg)	2.001	No	Mann-W
Fluoride, total (mg/L)	MW-014S (bg)	0.223	No	Mann-W
Fluoride, total (mg/L)	MW-015I	-0.7454	No	Mann-W
Fluoride, total (mg/L)	MW-015S	2.134	No	Mann-W
Fluoride, total (mg/L)	MW-016D	0.2736	No	Mann-W
Fluoride, total (mg/L)	MW-016I	1.867	No	Mann-W
Fluoride, total (mg/L)	MW-016S	1.112	No	Mann-W
Fluoride, total (mg/L)	MW-021D	0.1732	No	Mann-W
Fluoride, total (mg/L)	MW-021I	1.467	No	Mann-W
Fluoride, total (mg/L)	MW-021S	1.55	No	Mann-W
Fluoride, total (mg/L)	MW-11S (bg)	-1.099	No	Mann-W
Fluoride, total (mg/L)	MW-17I	3.598	Yes	Mann-W
Fluoride, total (mg/L)	MW-17S	2.633	Yes	Mann-W
Fluoride, total (mg/L)	MW-6S (bg)	2.84	Yes	Mann-W
pH, field (SU)	MW-001D	-0.05792	No	Mann-W
pH, field (SU)	MW-001I	1.104	No	Mann-W
pH, field (SU)	MW-001S	1.492	No	Mann-W
pH, field (SU)	MW-002D	-1.103	No	Mann-W
pH, field (SU)	MW-002I	-0.4054	No	Mann-W
pH, field (SU)	MW-002S	0.8108	No	Mann-W
pH, field (SU)	MW-008I (bg)	1.107	No	Mann-W
pH, field (SU)	MW-008S (bg)	0.9541	No	Mann-W
pH, field (SU)	MW-014S (bg)	-0.2932	No	Mann-W
pH, field (SU)	MW-015I	2.036	No	Mann-W
pH, field (SU)	MW-015S	0.9526	No	Mann-W
pH, field (SU)	MW-016D	0.212	No	Mann-W
pH, field (SU)	MW-016I	0.8695	No	Mann-W
pH, field (SU)	MW-016S	-0.1742	No	Mann-W
pH, field (SU)	MW-021D	-1.026	No	Mann-W
pH, field (SU)	MW-021I	-0.5872	No	Mann-W
pH, field (SU)	MW-021S	1.39	No	Mann-W
pH, field (SU)	MW-11S (bg)	-1.248	No	Mann-W
pH, field (SU)	MW-17I	0.8458	No	Mann-W
pH, field (SU)	MW-17S	-0.767	No	Mann-W
pH, field (SU)	MW-6S (bg)	-1.428	No	Mann-W
Sulfate, total (mg/L)	MW-001D	1.021	No	Mann-W
Sulfate, total (mg/L)	MW-001I	-1.191	No	Mann-W
Sulfate, total (mg/L)	MW-001S	1.446	No	Mann-W
Sulfate, total (mg/L)	MW-002D	-0.7656	No	Mann-W
Sulfate, total (mg/L)	MW-002I	-0.08552	No	Mann-W

Welch's t-test/Mann-Whitney - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 12:47 PM

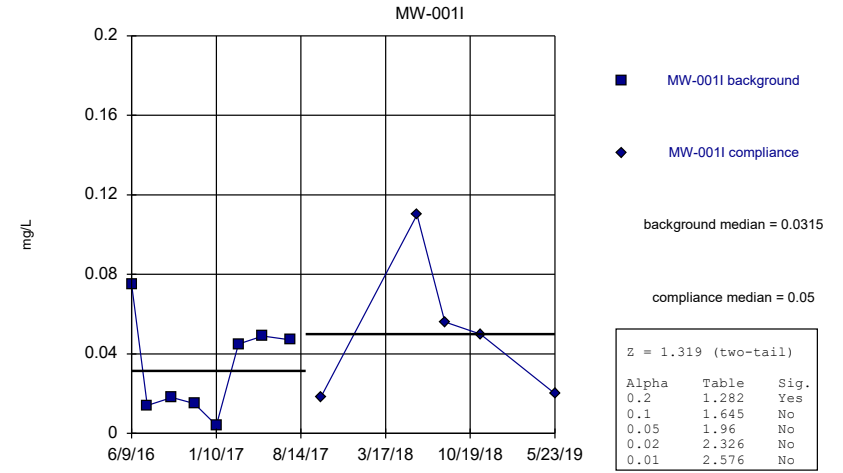
<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.01</u>	<u>Method</u>
Sulfate, total (mg/L)	MW-002S	0	No	Mann-W
Sulfate, total (mg/L)	MW-008I (bg)	-0.9515	No	Mann-W
Sulfate, total (mg/L)	MW-008S (bg)	-1.393	No	Mann-W
Sulfate, total (mg/L)	MW-014S (bg)	0.07319	No	Mann-W
Sulfate, total (mg/L)	MW-015I	-2.712	Yes	Mann-W
Sulfate, total (mg/L)	MW-015S	-2.382	No	Mann-W
Sulfate, total (mg/L)	MW-016D	2.858	Yes	Mann-W
Sulfate, total (mg/L)	MW-016I	-0.3409	No	Mann-W
Sulfate, total (mg/L)	MW-016S	-0.5944	No	Mann-W
Sulfate, total (mg/L)	MW-021D	0.5944	No	Mann-W
Sulfate, total (mg/L)	MW-021I	0.08492	No	Mann-W
Sulfate, total (mg/L)	MW-021S	-0.07329	No	Mann-W
Sulfate, total (mg/L)	MW-11S (bg)	0.2196	No	Mann-W
Sulfate, total (mg/L)	MW-17I	-1.391	No	Mann-W
Sulfate, total (mg/L)	MW-17S	-2.382	No	Mann-W
Sulfate, total (mg/L)	MW-6S (bg)	-1.794	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-001D	2.212	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-001I	0.08507	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-001S	-0.5986	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-002D	1.33	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-002I	-0.1701	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-002S	1.83	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-008I (bg)	1.023	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-008S (bg)	-1.446	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-014S (bg)	0.08522	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-015I	-2.802	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-015S	-2.297	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-016D	3.311	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-016I	-1.614	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-016S	2.838	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-021D	1.364	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-021I	-0.9374	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-021S	-1.274	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-11S (bg)	1.783	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-17I	-3.163	Yes	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-17S	-2.297	No	Mann-W
Total Dissolved Solids [TDS] (mg/L)	MW-6S (bg)	-2.145	No	Mann-W

Mann-Whitney (Wilcoxon Rank Sum)



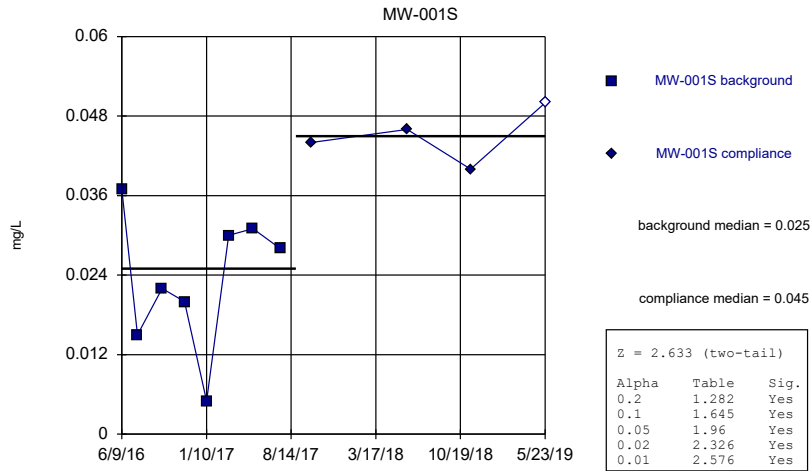
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



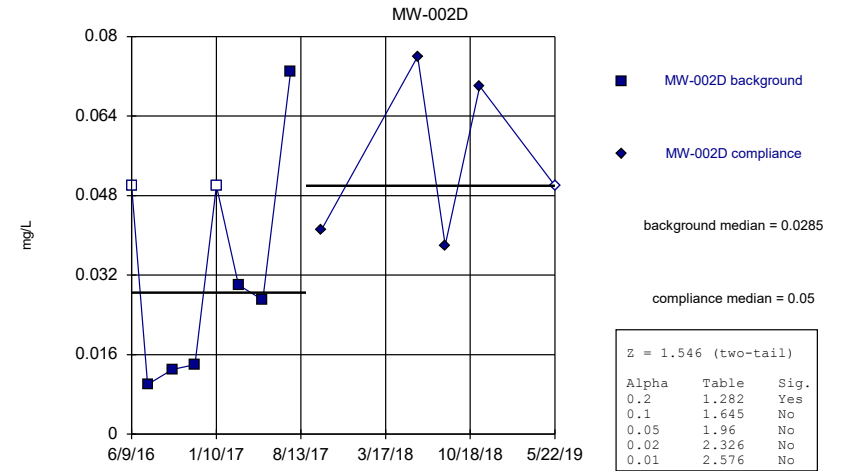
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



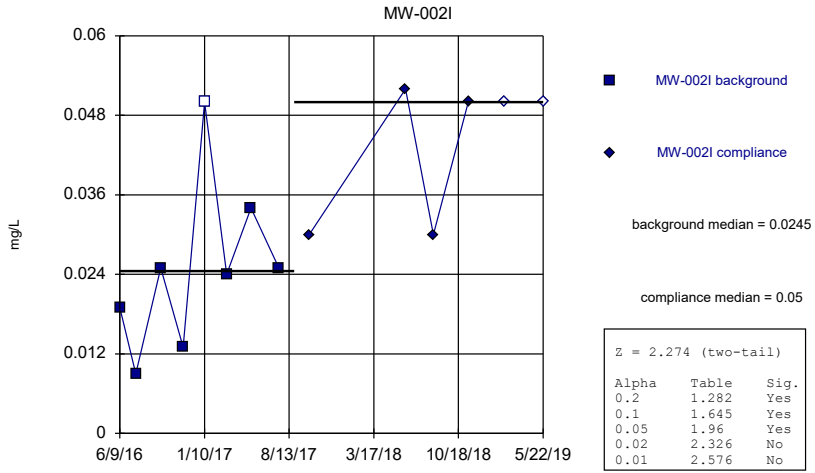
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



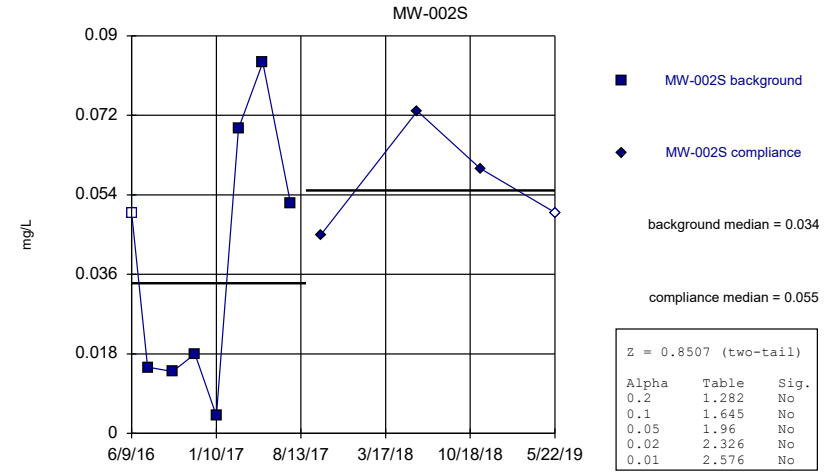
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



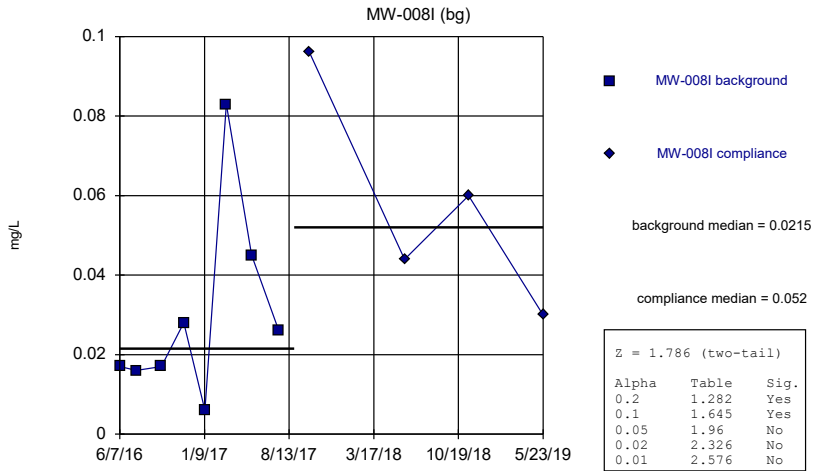
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



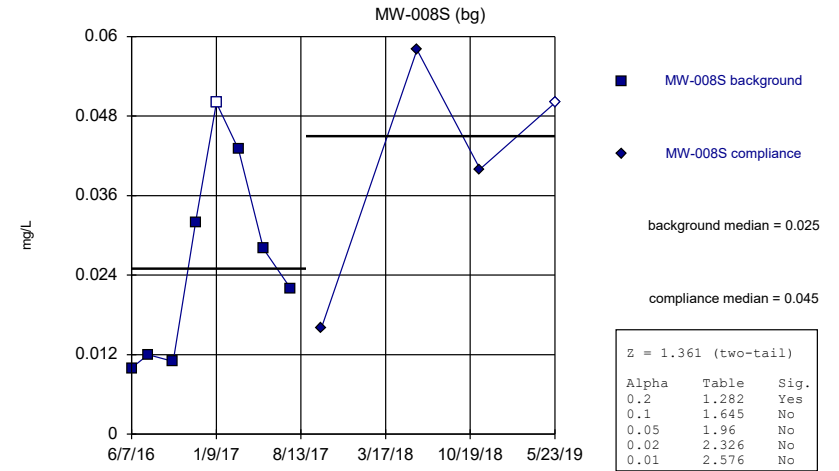
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Boron, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

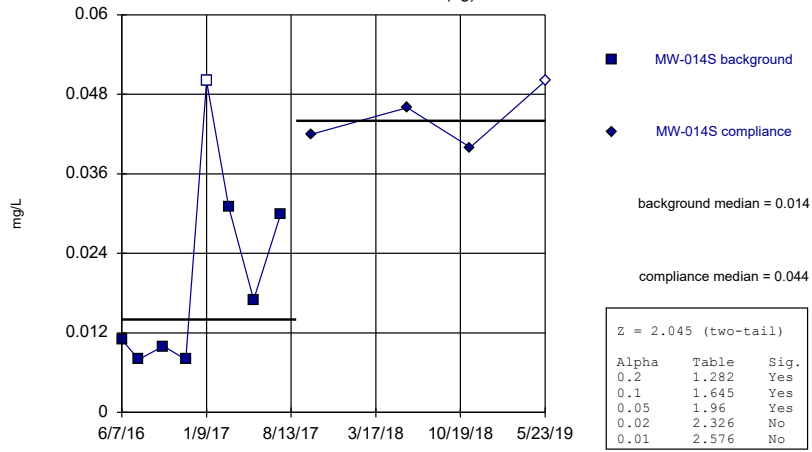
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Boron, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

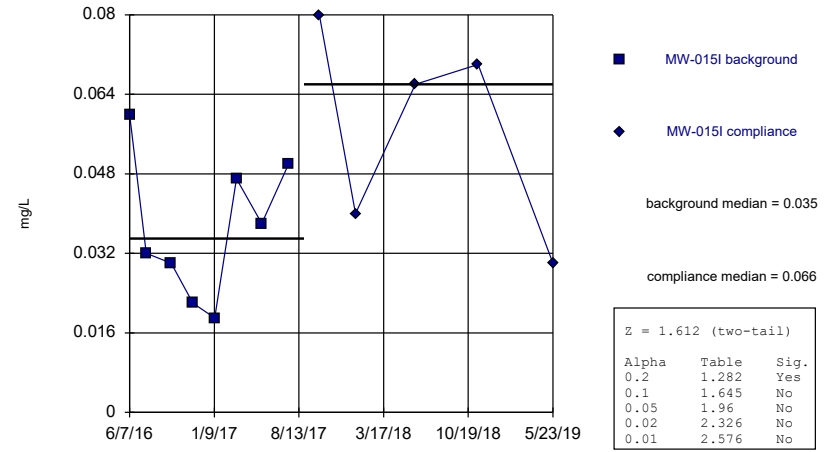
MW-014S (bg)



Constituent: Boron, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

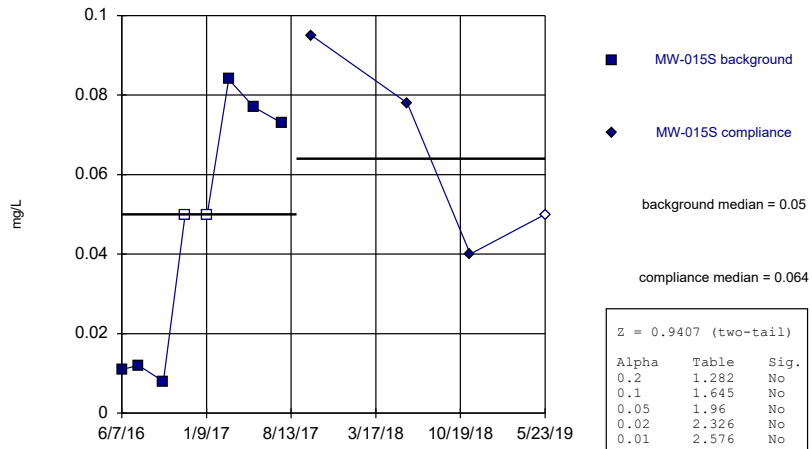
MW-015I



Constituent: Boron, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

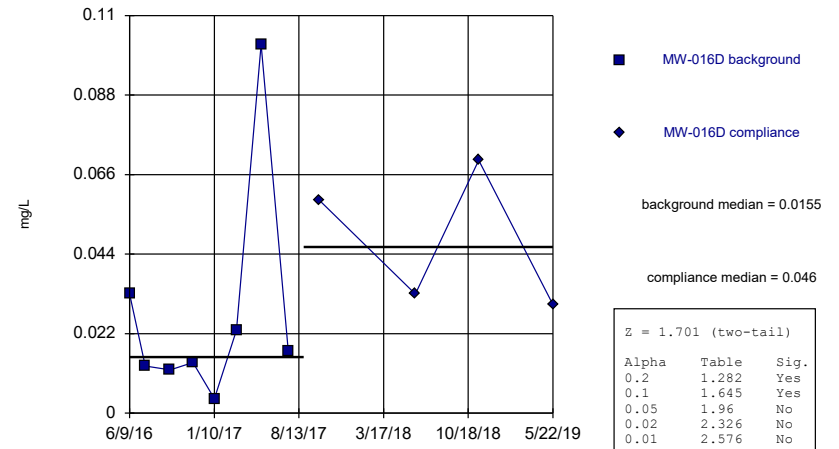
MW-015S



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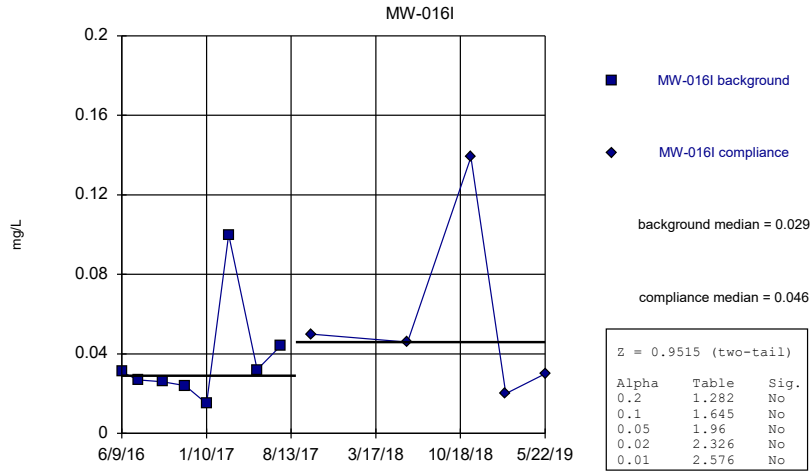
Mann-Whitney (Wilcoxon Rank Sum)

MW-016D



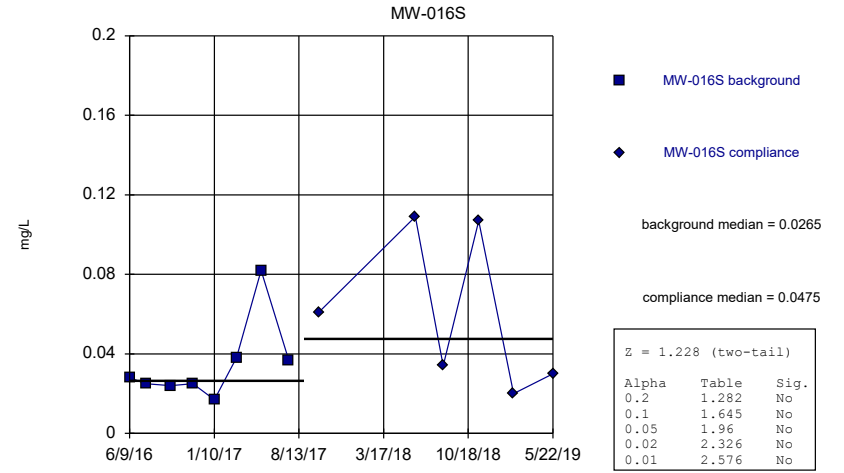
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Mann-Whitney (Wilcoxon Rank Sum)



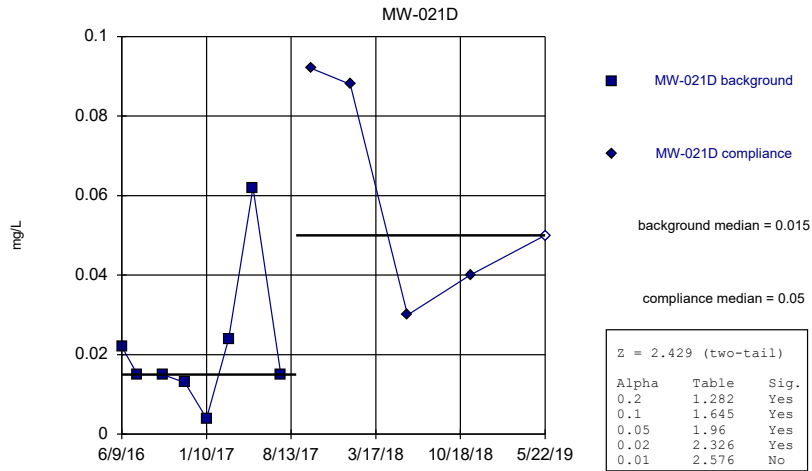
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



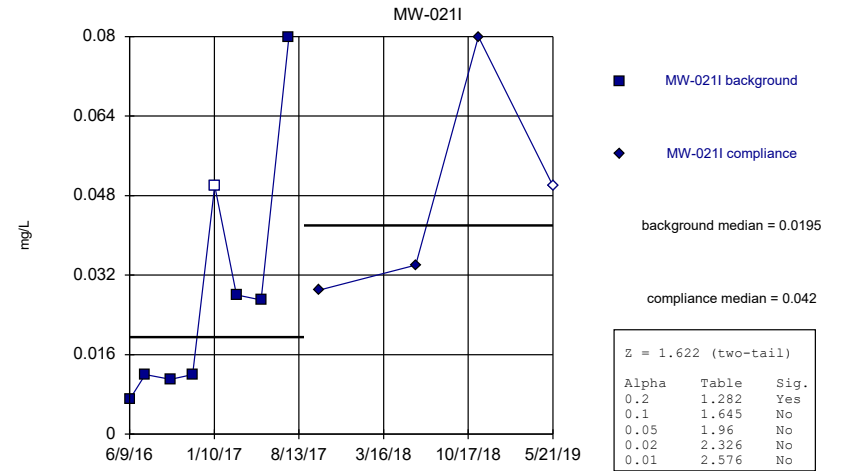
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Mann-Whitney (Wilcoxon Rank Sum)



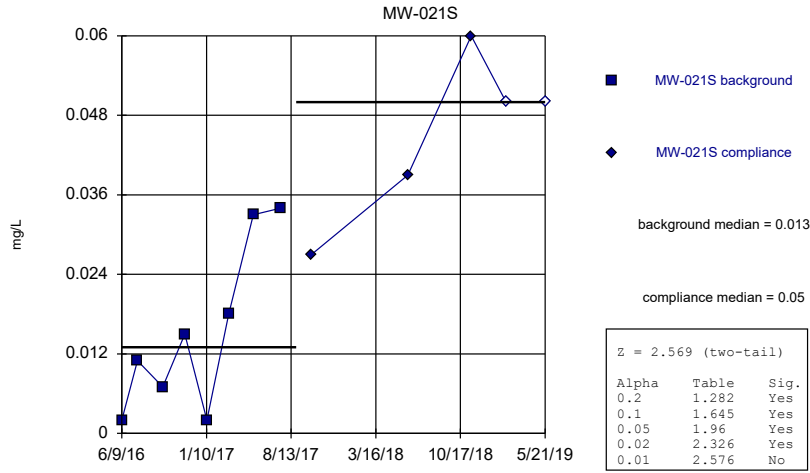
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



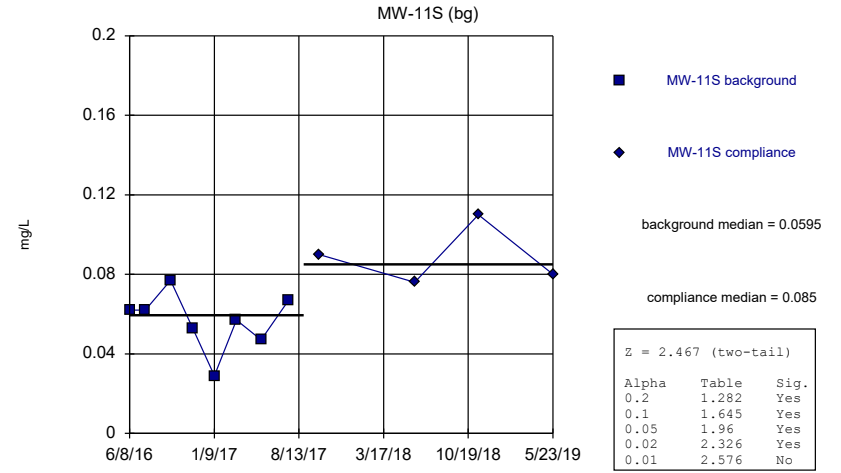
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Mann-Whitney (Wilcoxon Rank Sum)



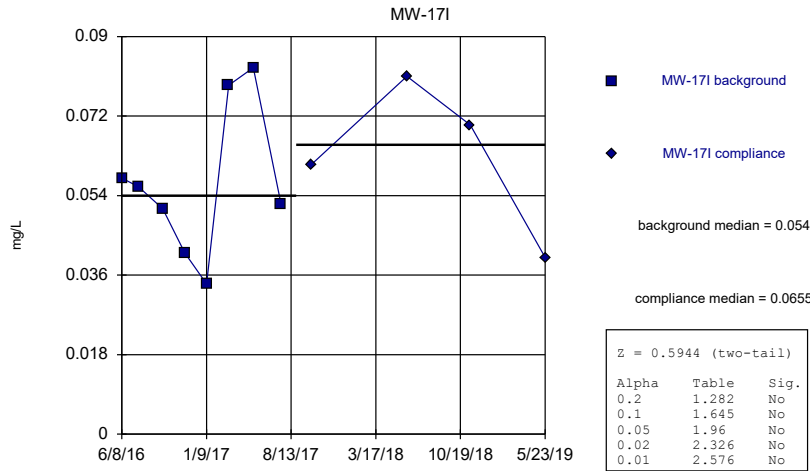
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



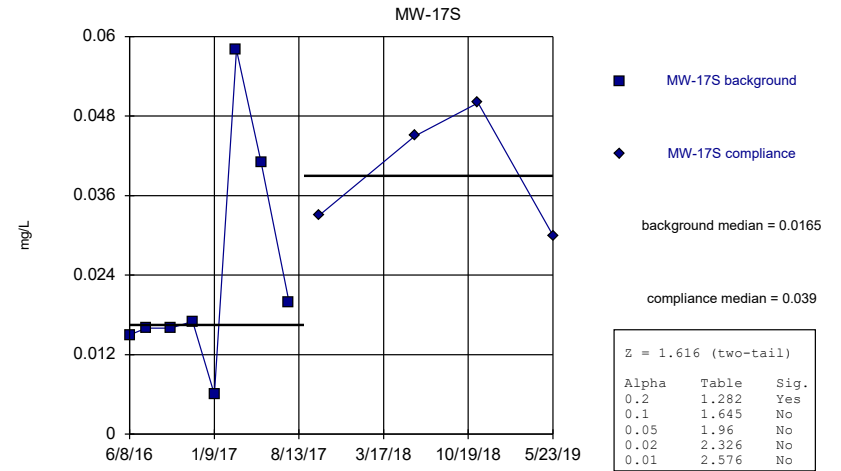
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



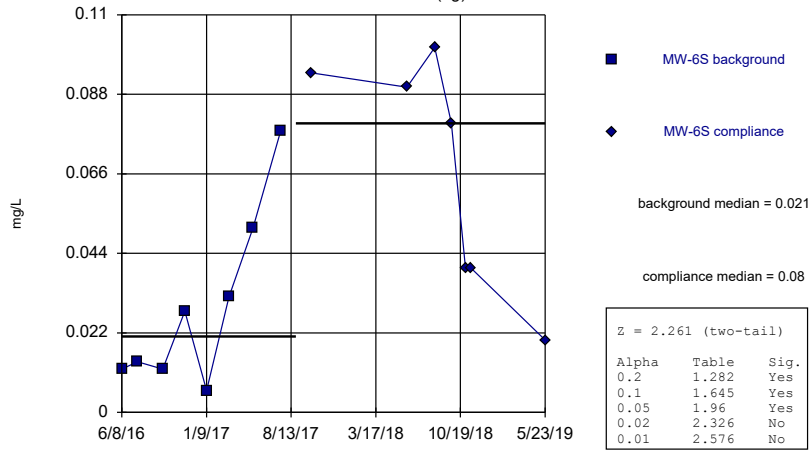
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



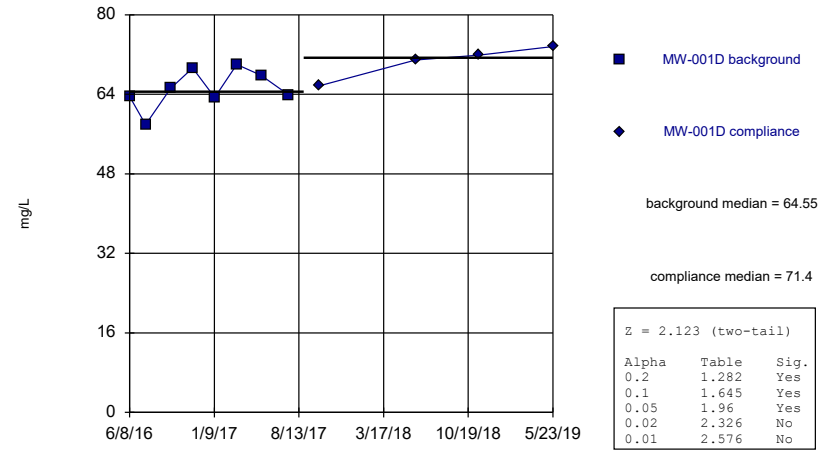
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-6S (bg)



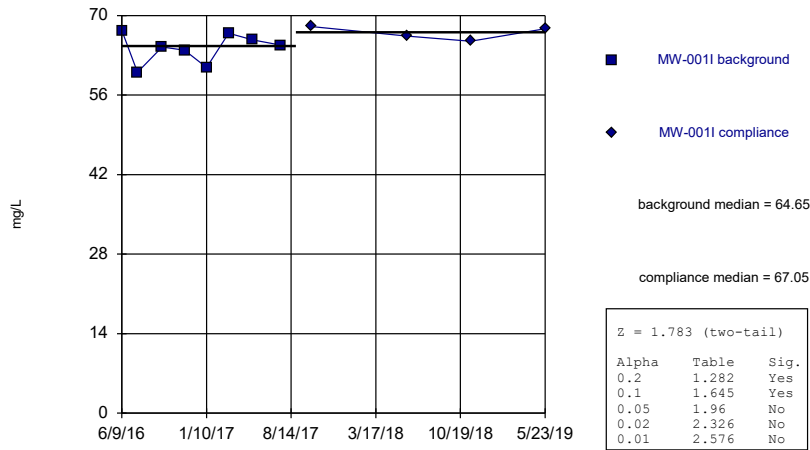
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001D



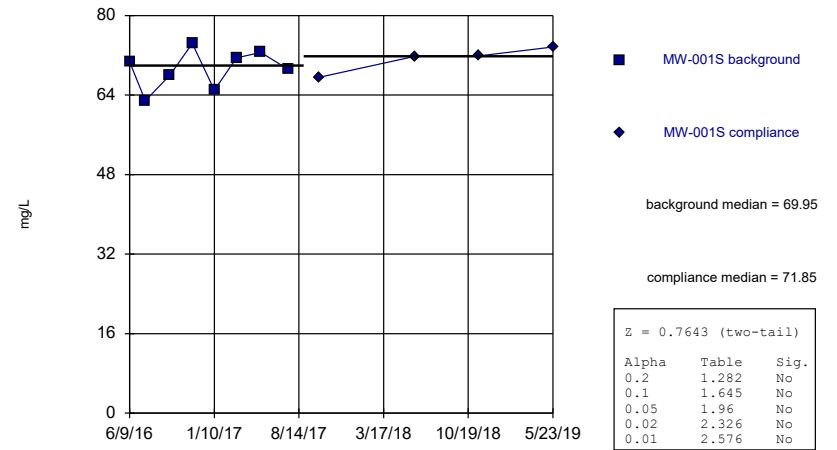
Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001I



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

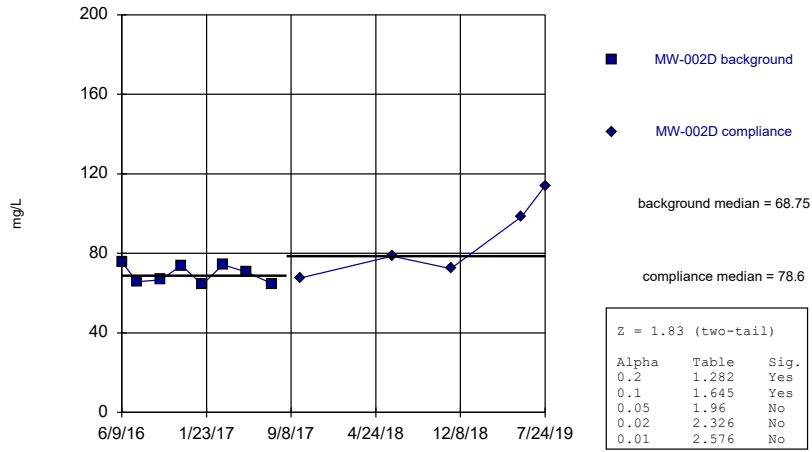
Mann-Whitney (Wilcoxon Rank Sum)
MW-001S



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

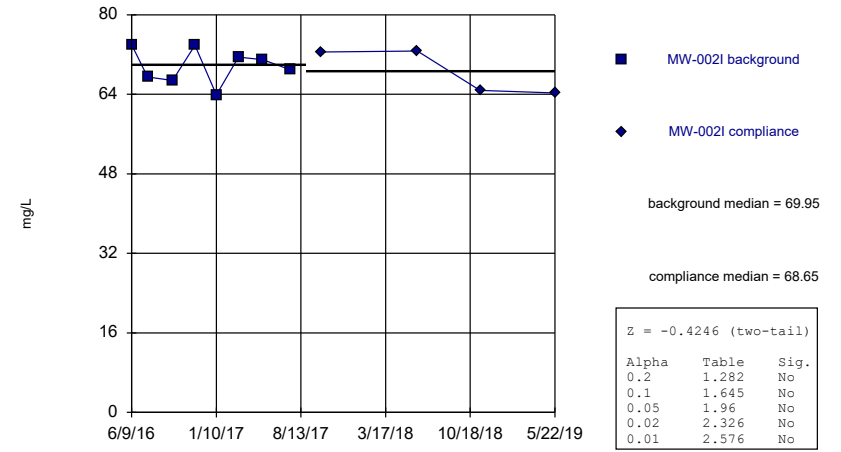
MW-002D



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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

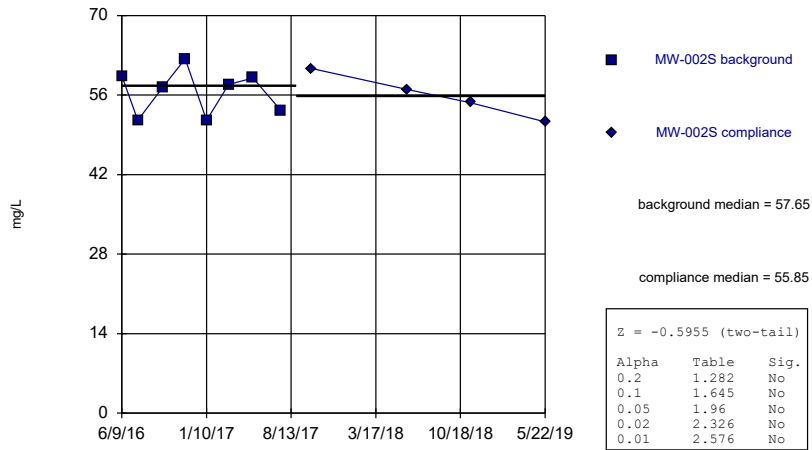
MW-002I



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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

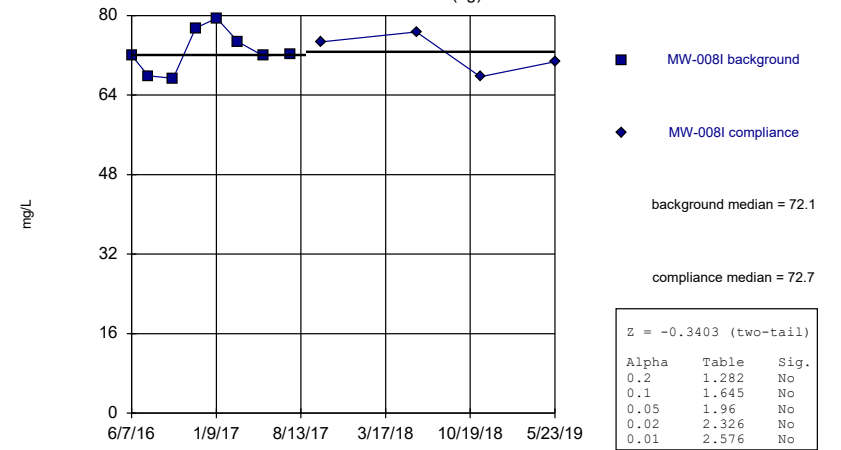
MW-002S



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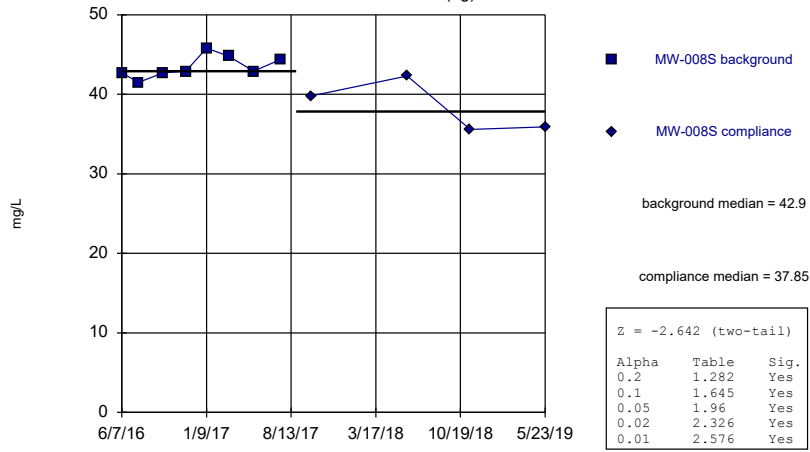
Mann-Whitney (Wilcoxon Rank Sum)

MW-008I (bg)



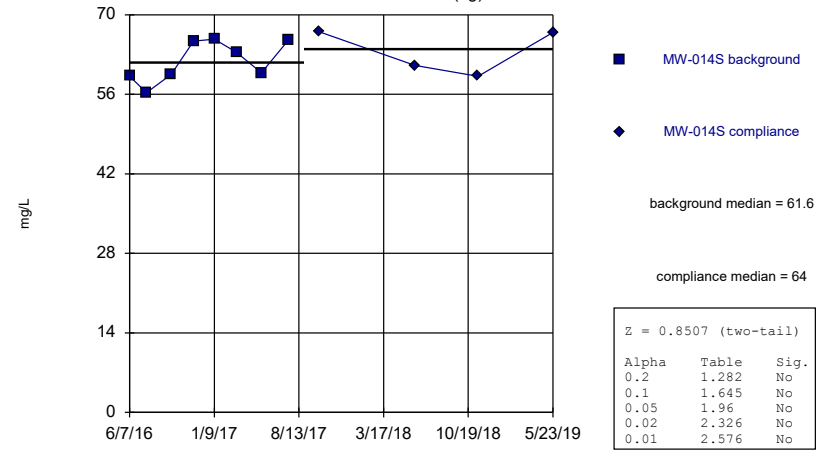
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-008S (bg)



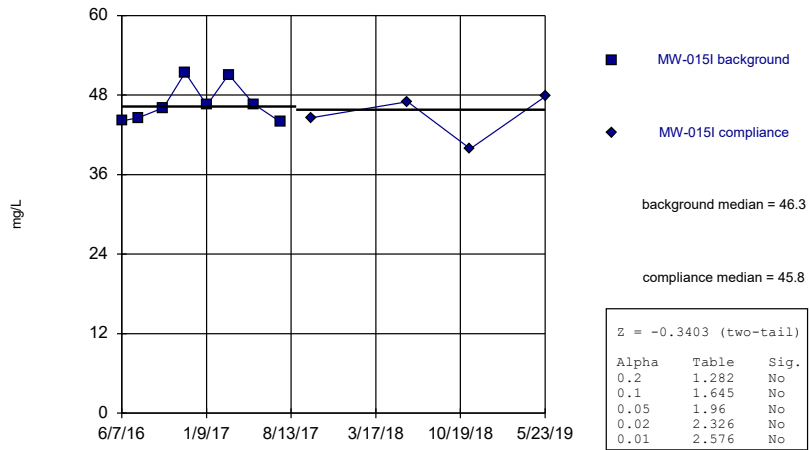
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-014S (bg)



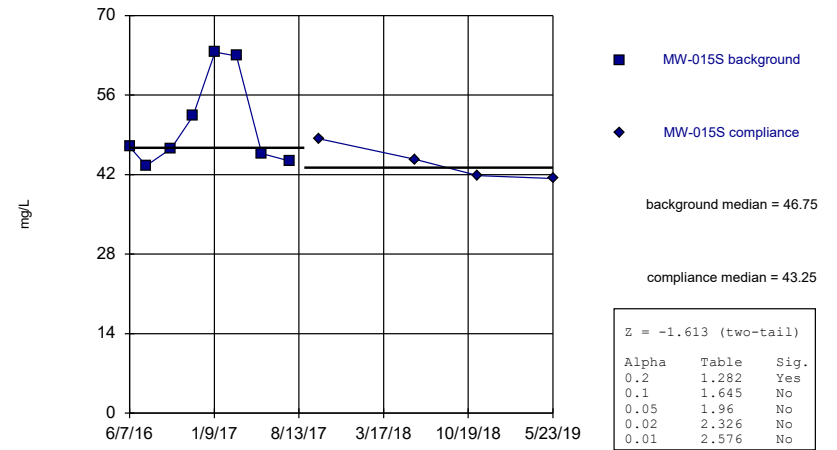
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015I



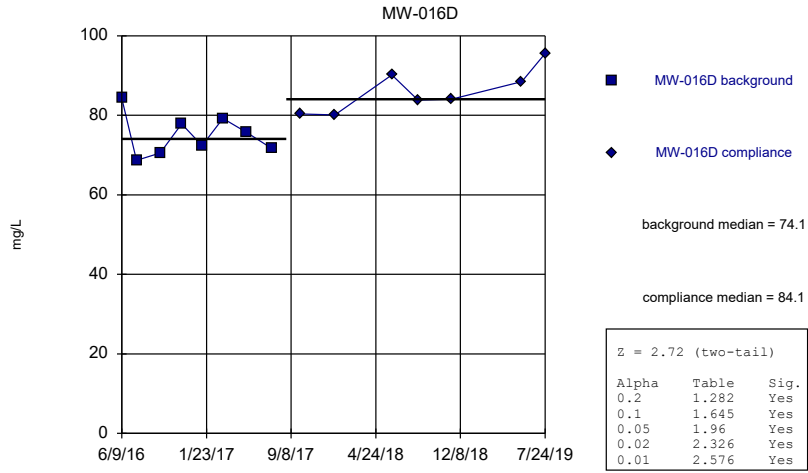
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015S



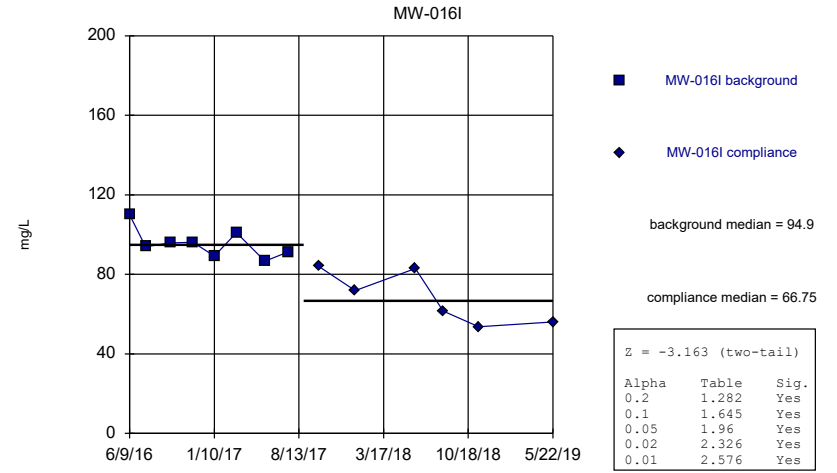
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



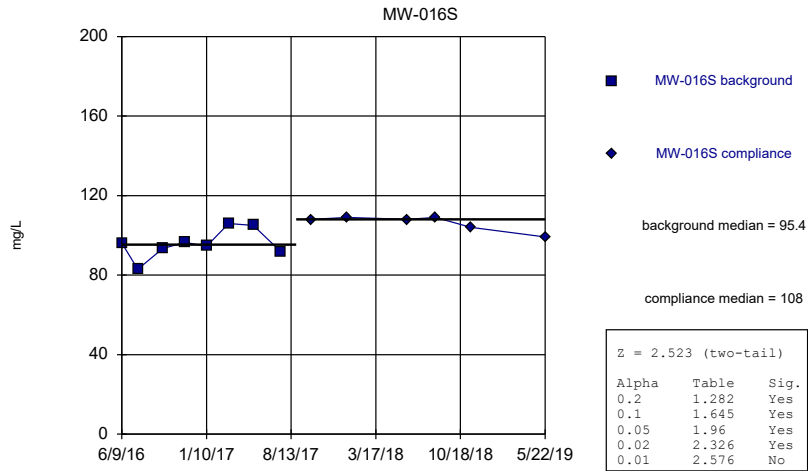
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



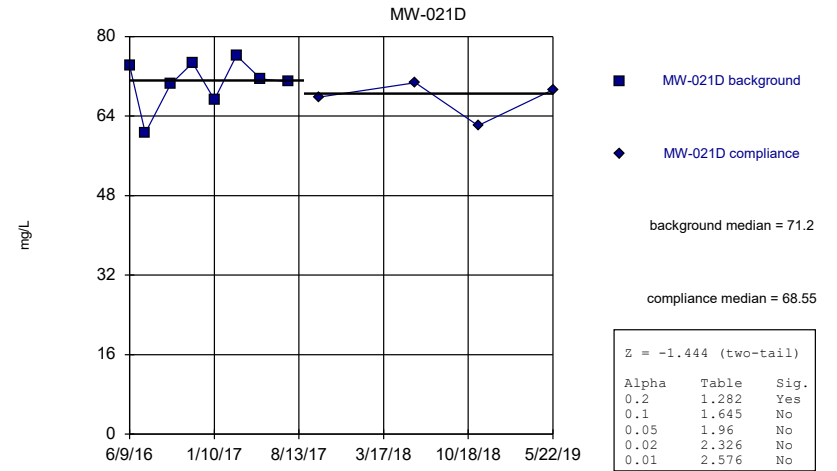
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
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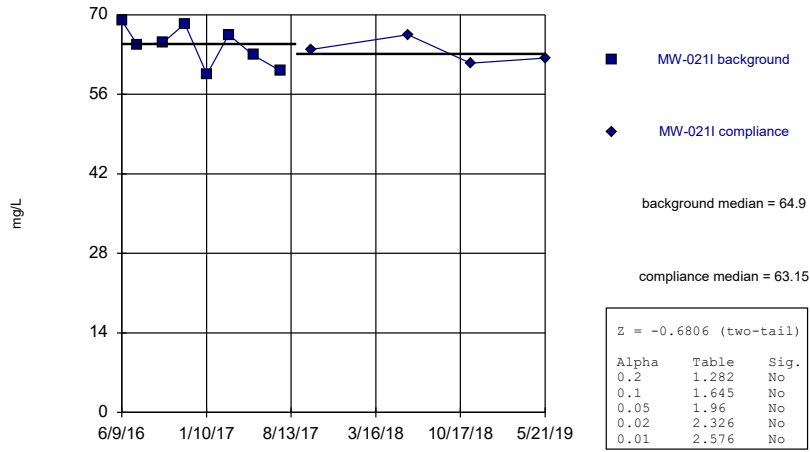
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

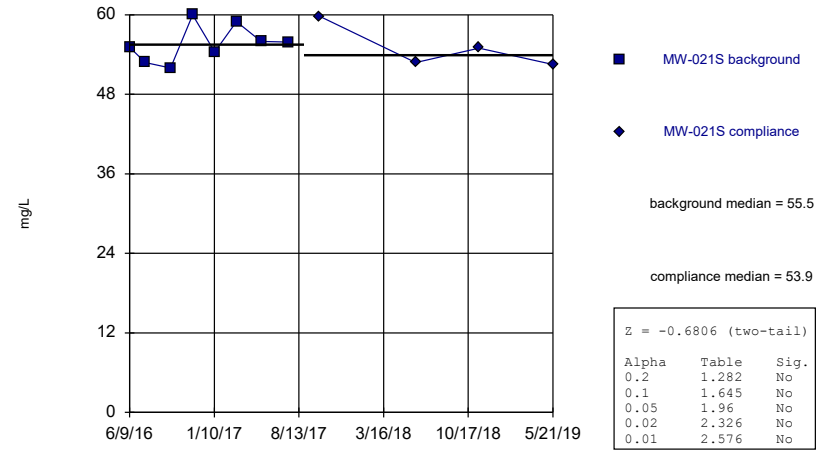
MW-0211



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

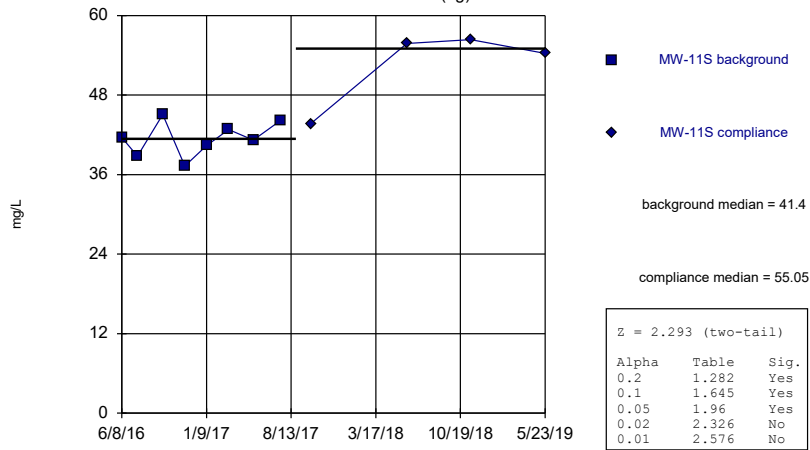
MW-021S



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

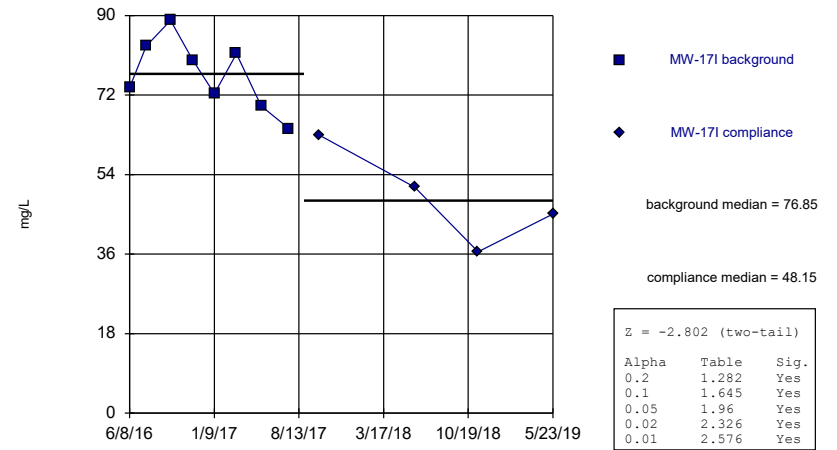
MW-11S (bg)



Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

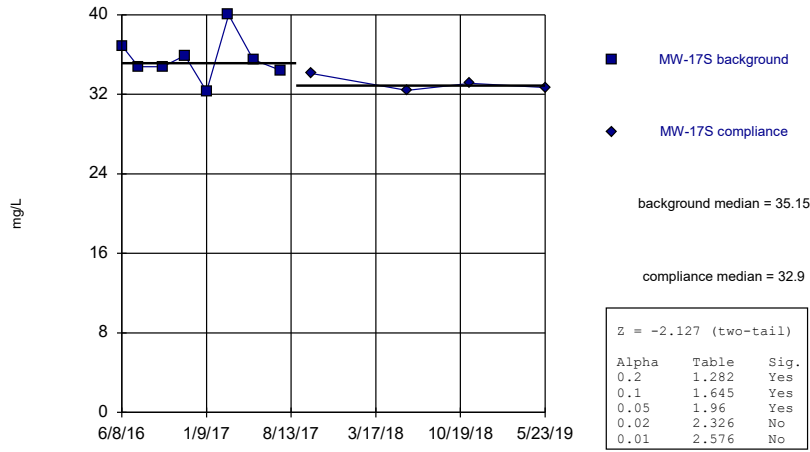
Mann-Whitney (Wilcoxon Rank Sum)

MW-171



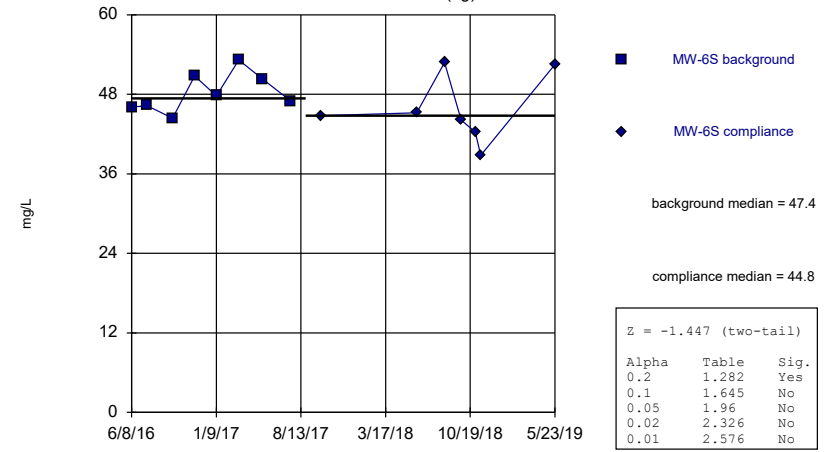
Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-17S



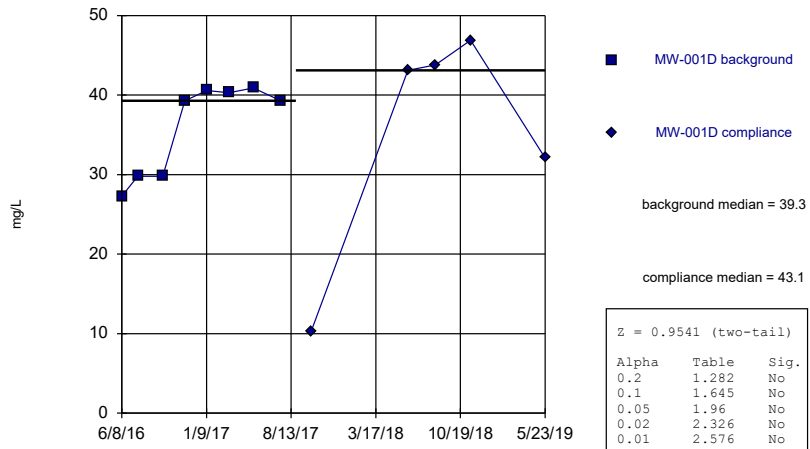
Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-6S (bg)



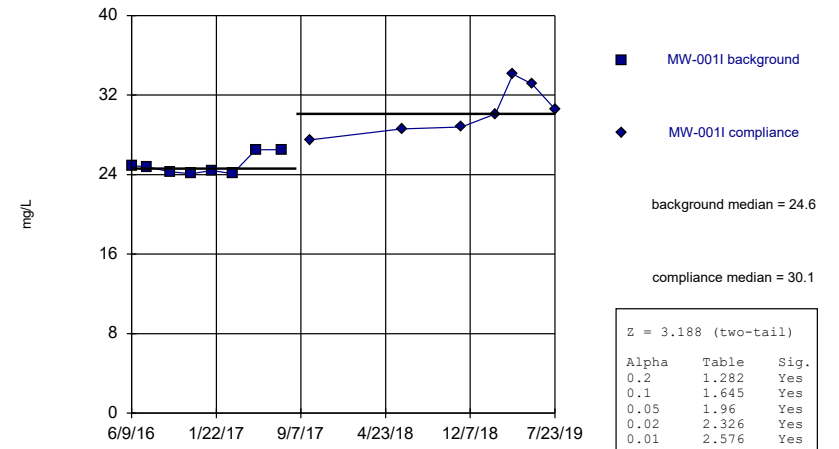
Constituent: Calcium, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001D



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

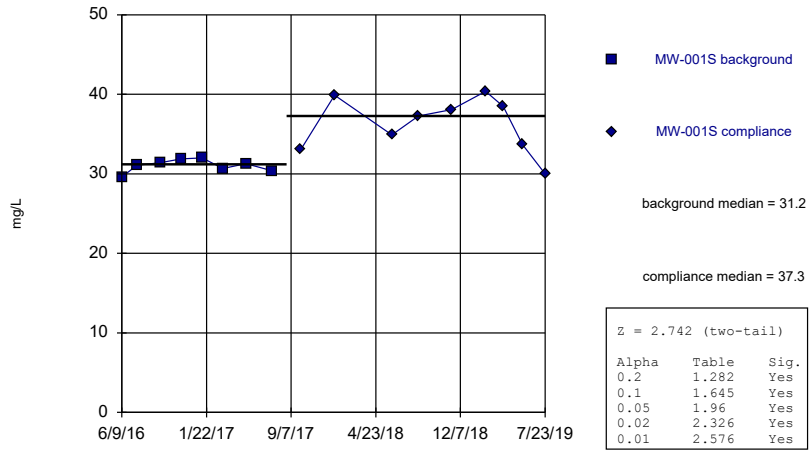
Mann-Whitney (Wilcoxon Rank Sum)
MW-0011



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

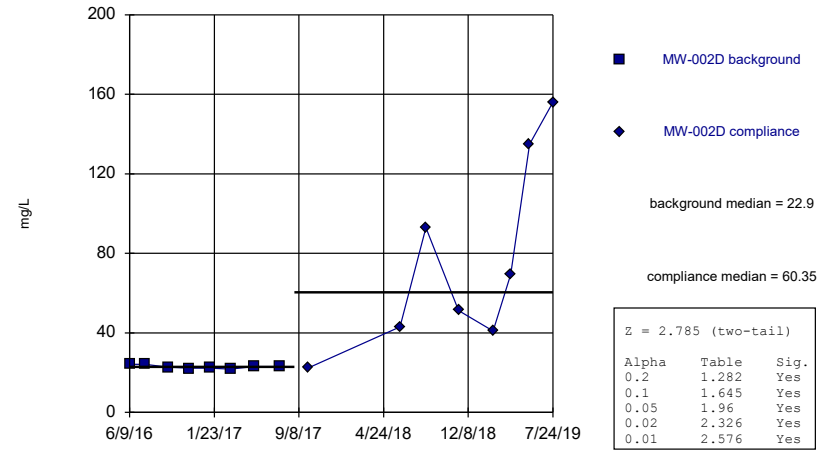
MW-001S



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

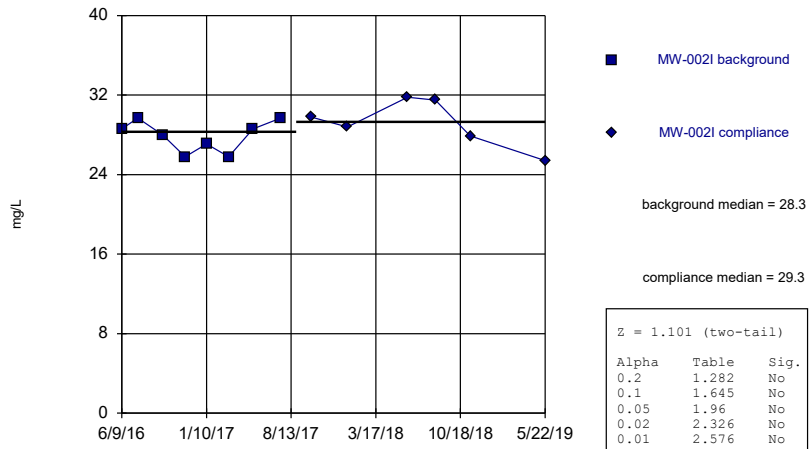
MW-002D



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

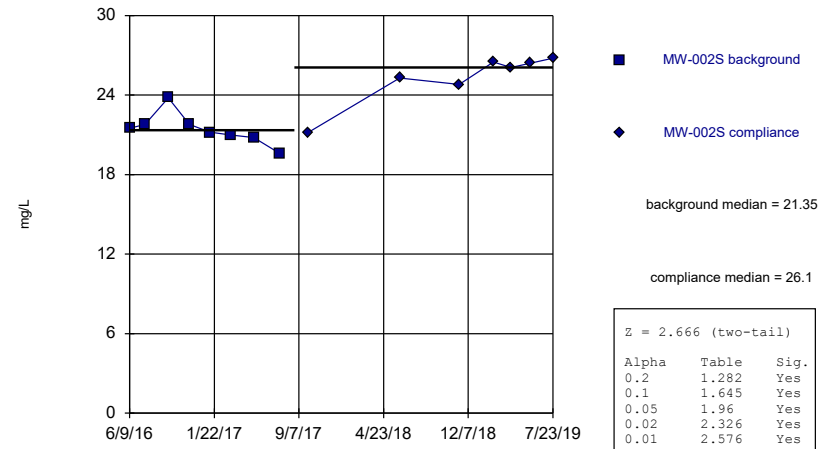
MW-002I



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

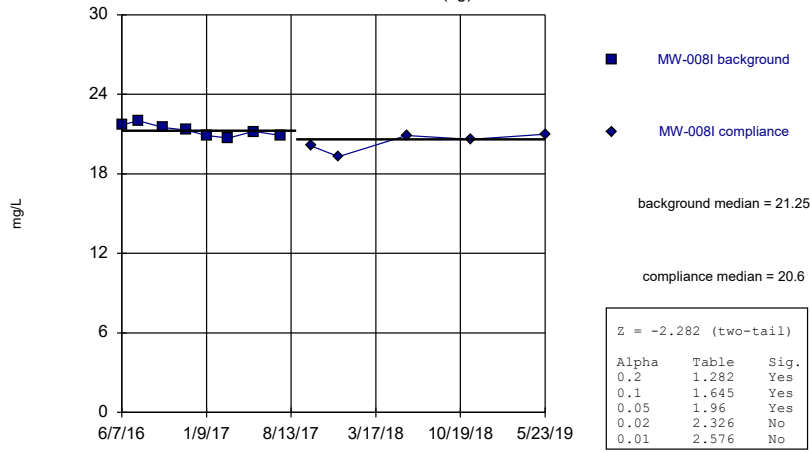
Mann-Whitney (Wilcoxon Rank Sum)

MW-002S



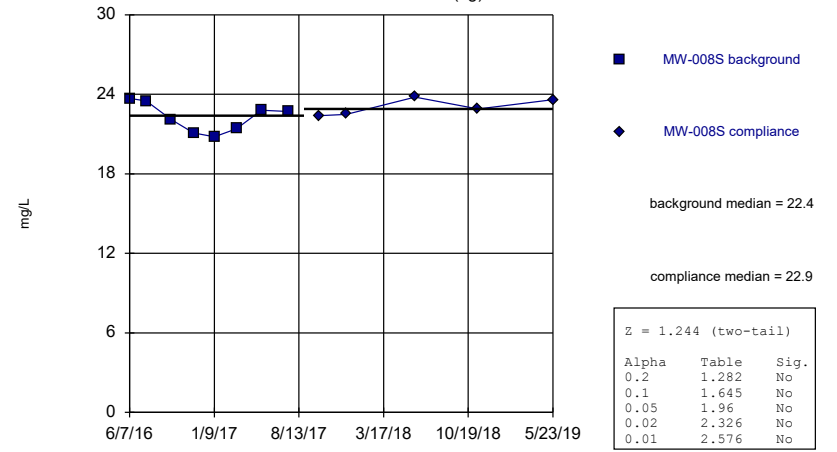
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-008I (bg)



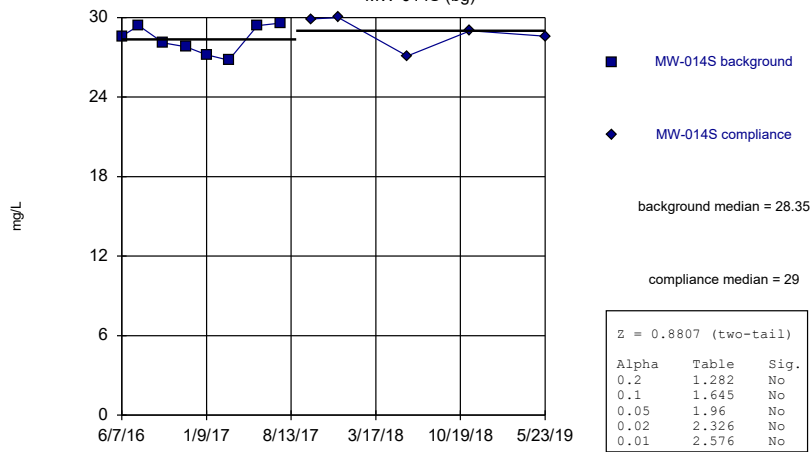
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-008S (bg)



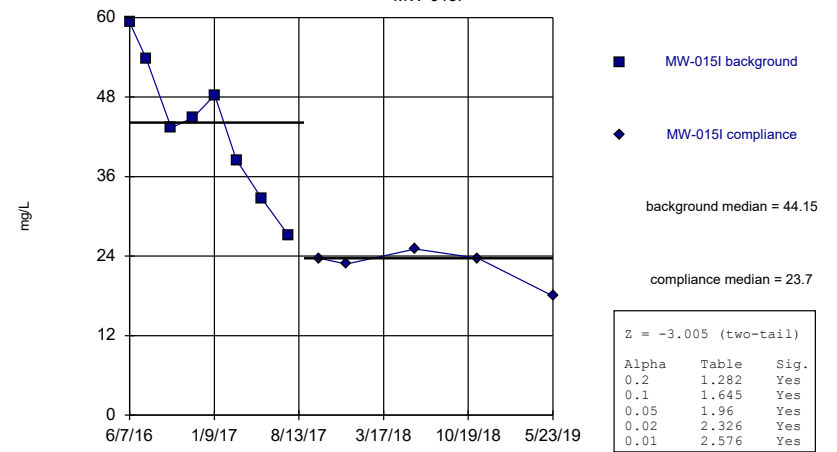
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-014S (bg)



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

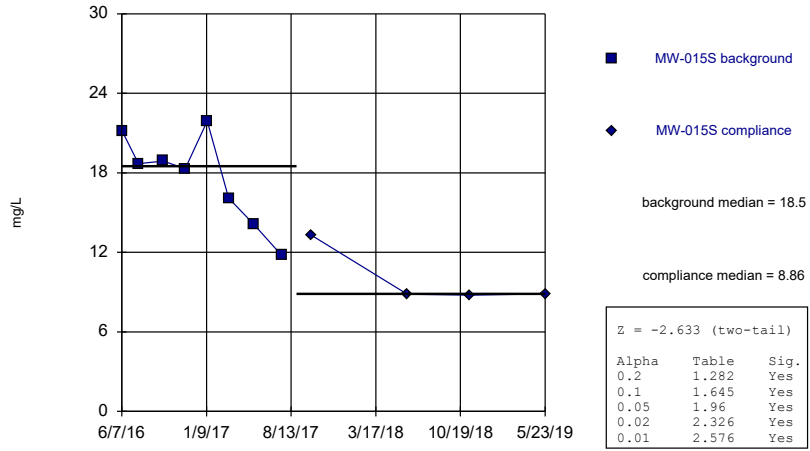
Mann-Whitney (Wilcoxon Rank Sum)
MW-015I



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

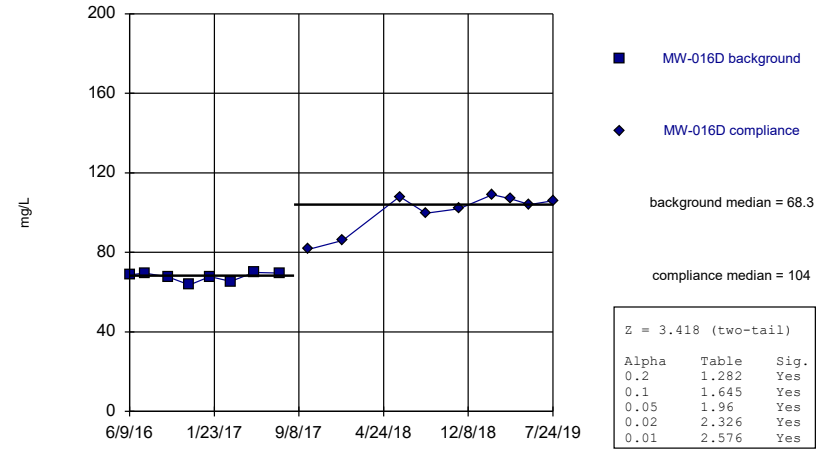
MW-015S



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

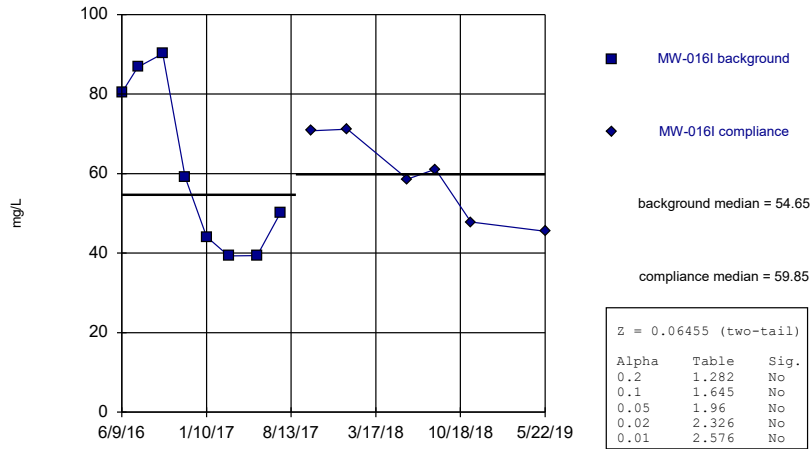
MW-016D



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

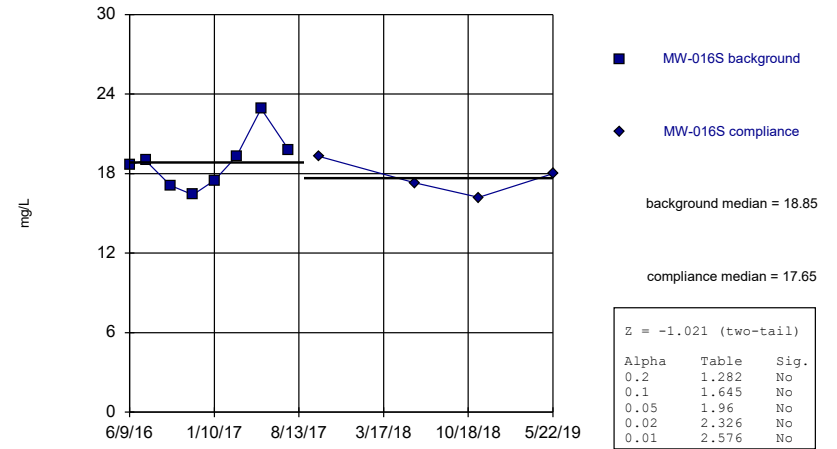
MW-016I



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

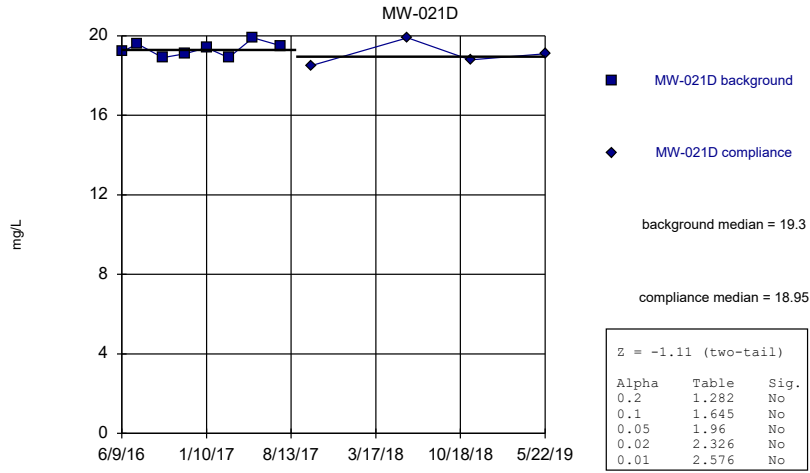
Mann-Whitney (Wilcoxon Rank Sum)

MW-016S



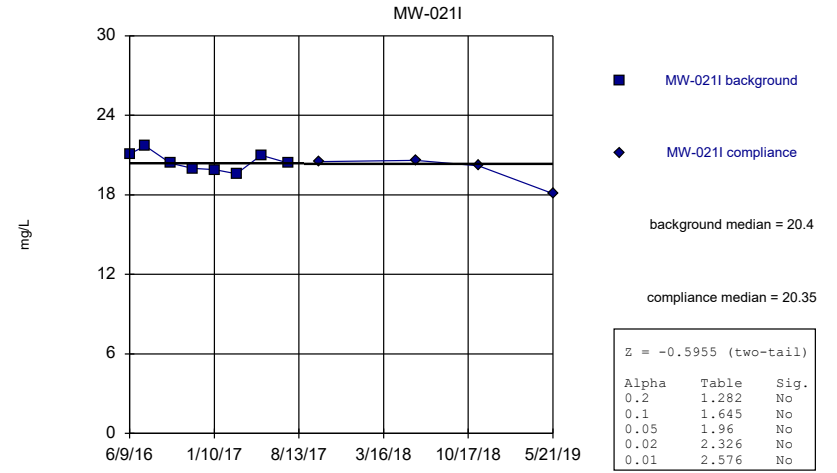
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



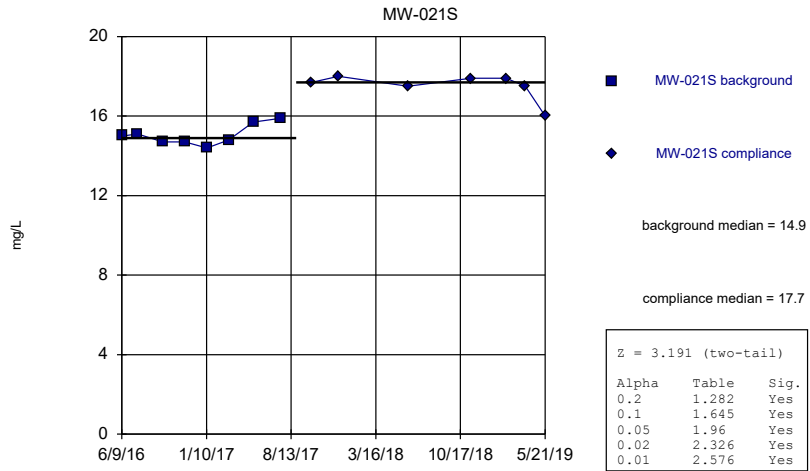
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



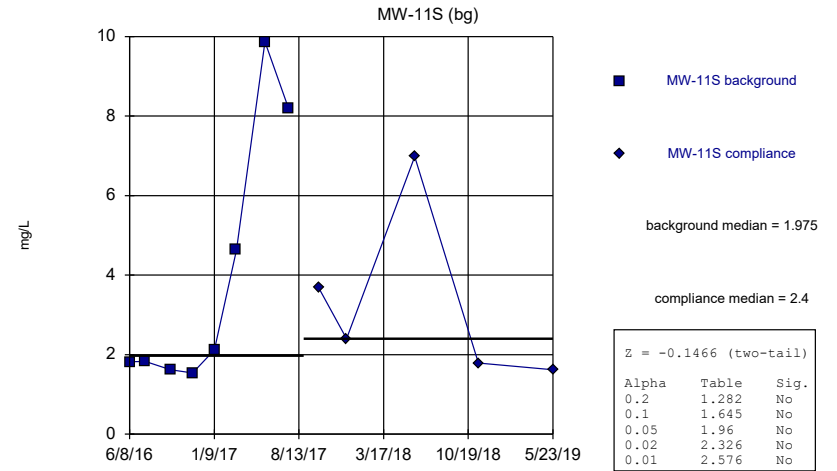
Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

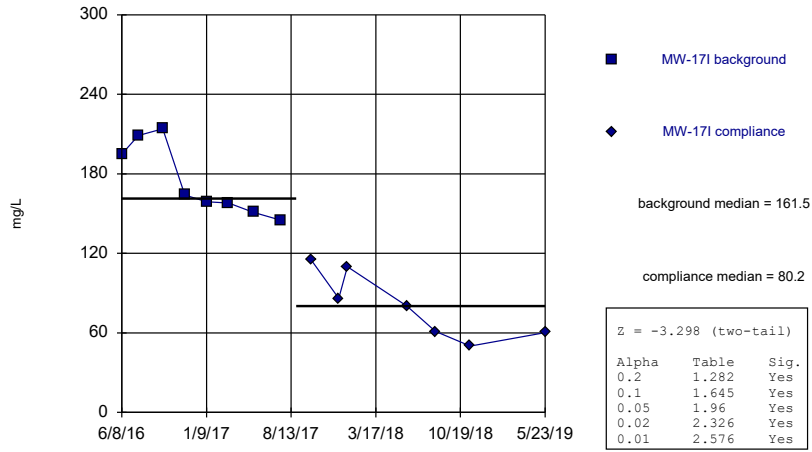
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

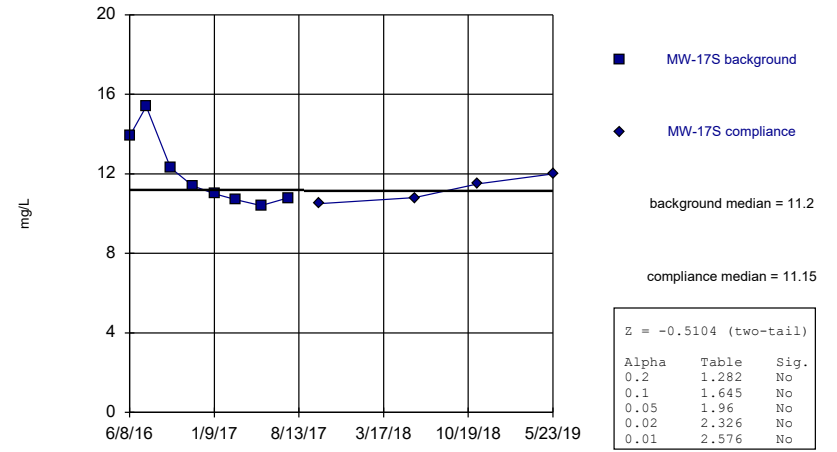
MW-17I



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

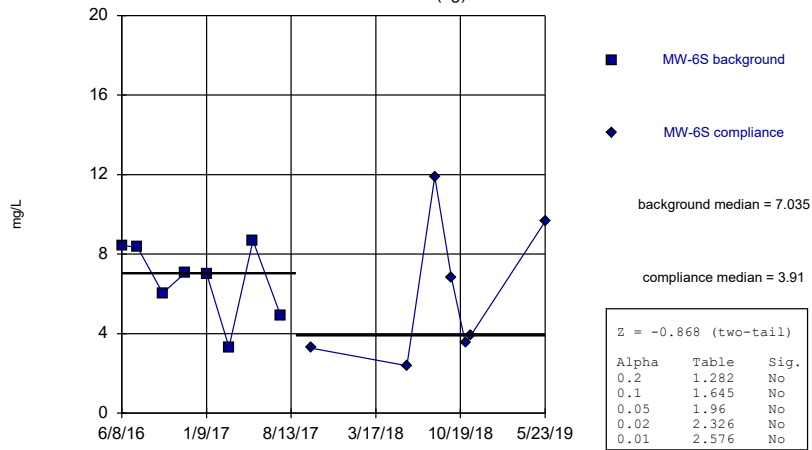
MW-17S



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

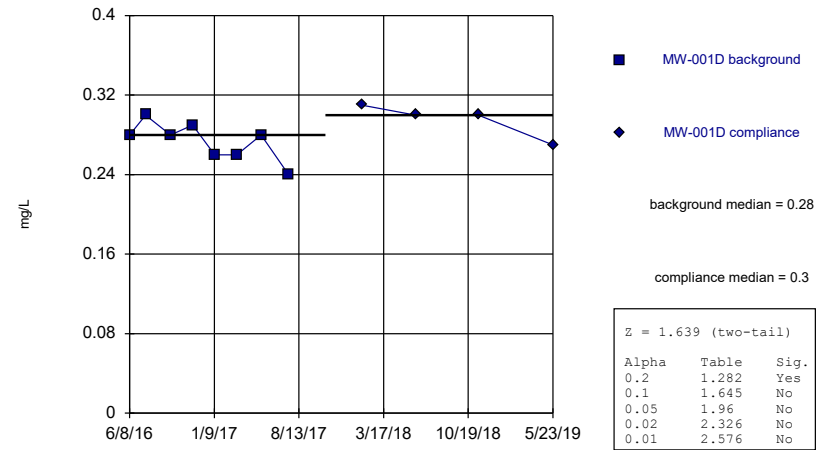
MW-6S (bg)



Constituent: Chloride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

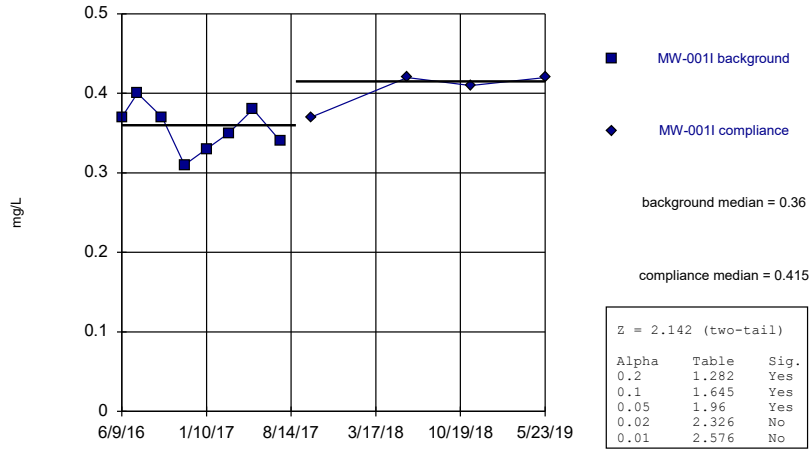
MW-001D



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

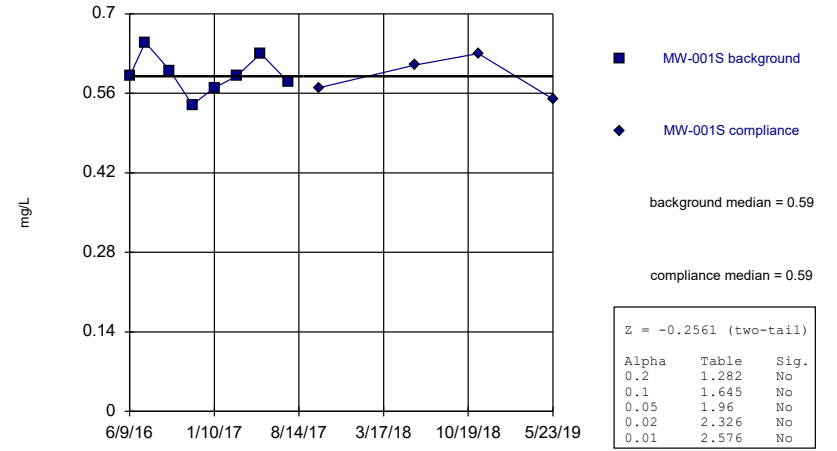
MW-001I



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

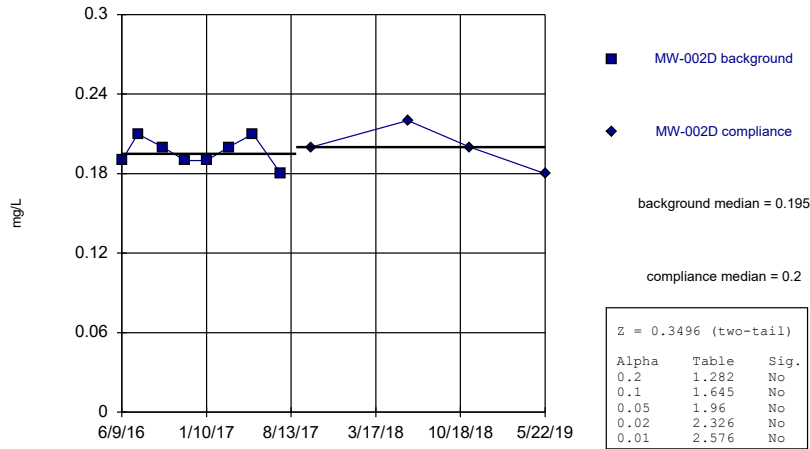
MW-001S



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

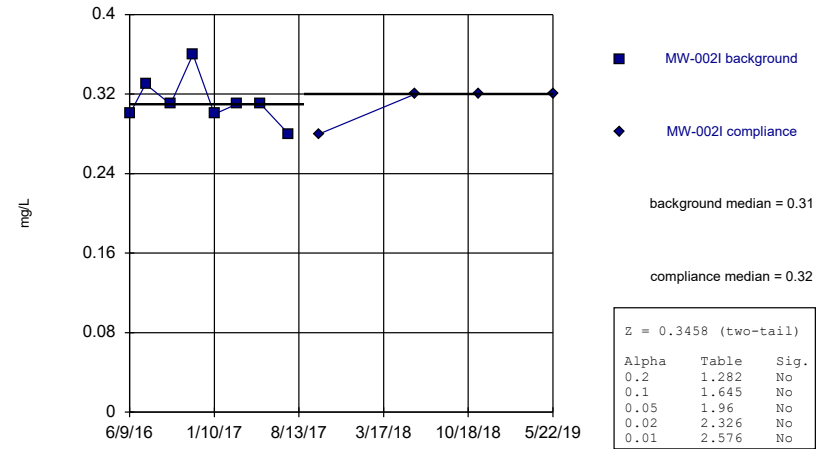
MW-002D



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

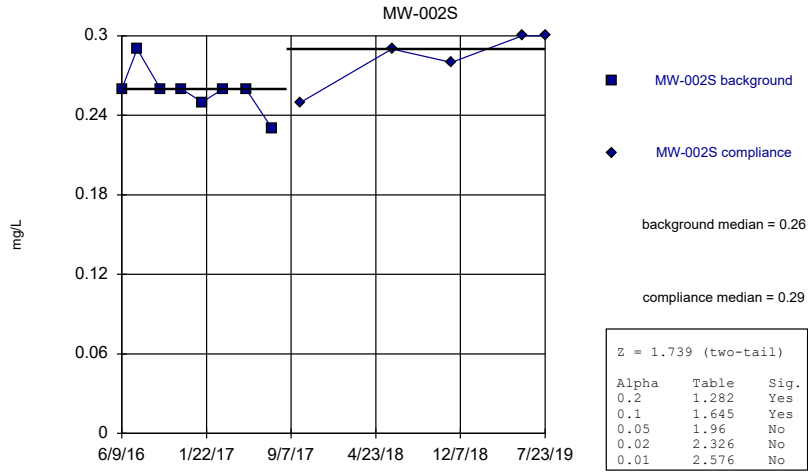
Mann-Whitney (Wilcoxon Rank Sum)

MW-002I



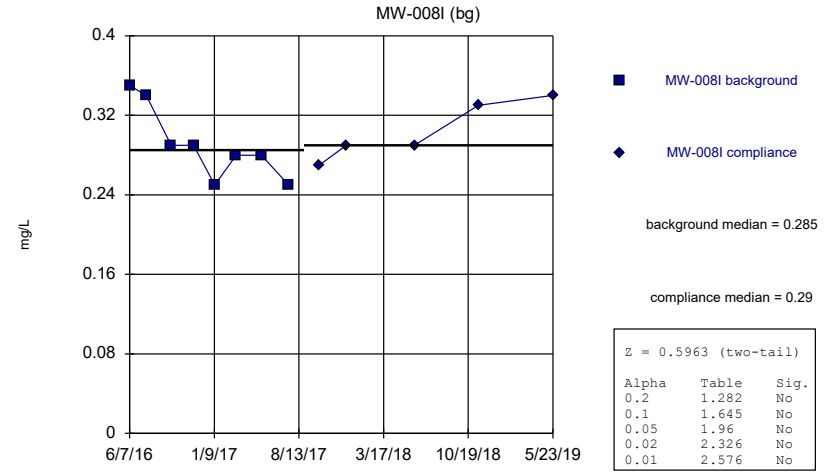
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



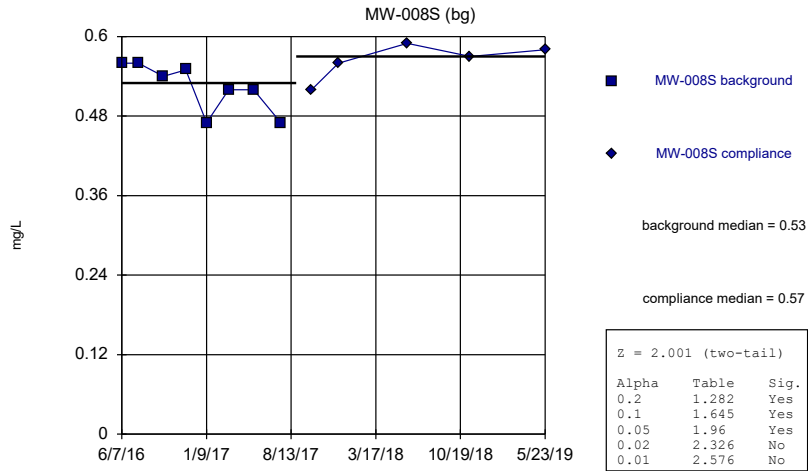
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



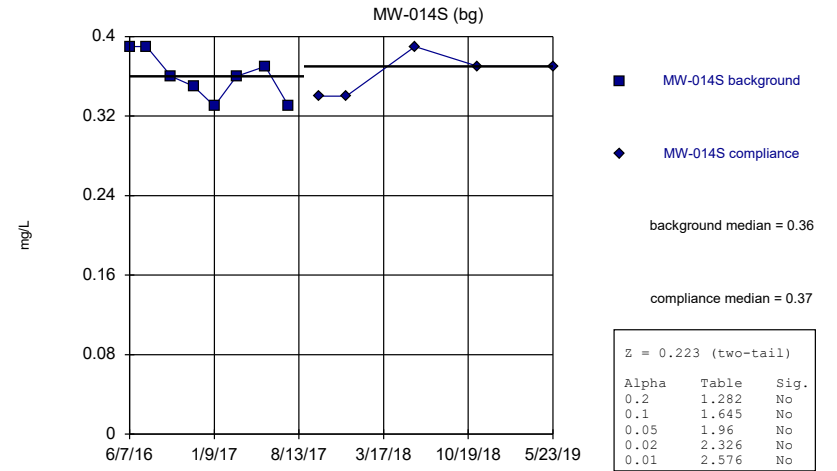
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



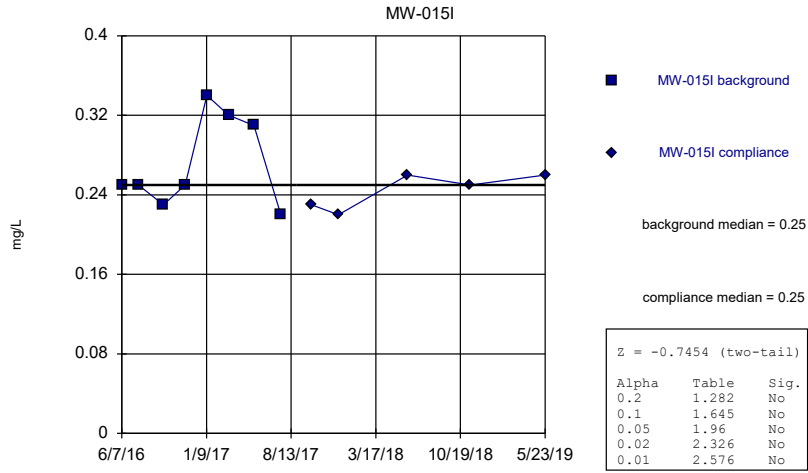
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



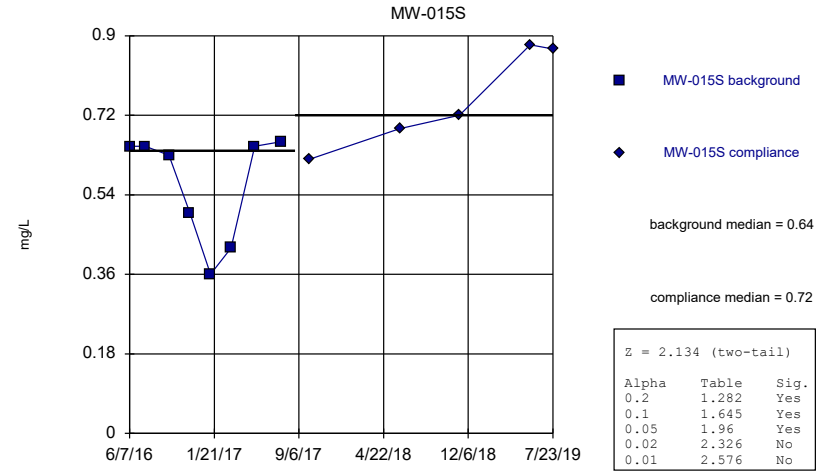
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



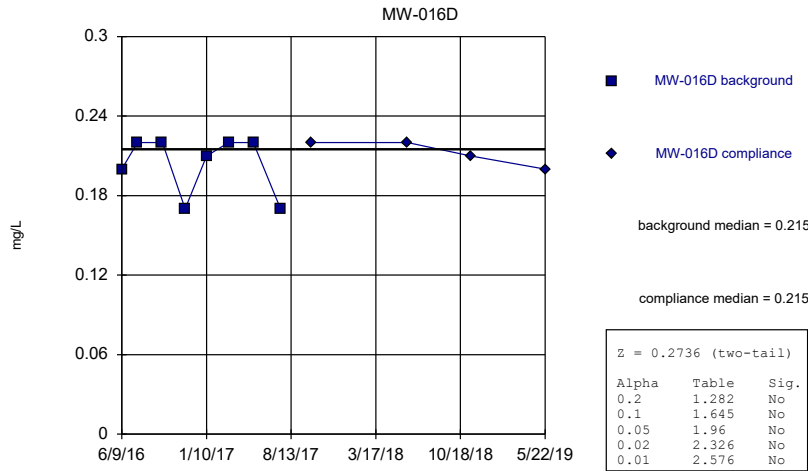
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



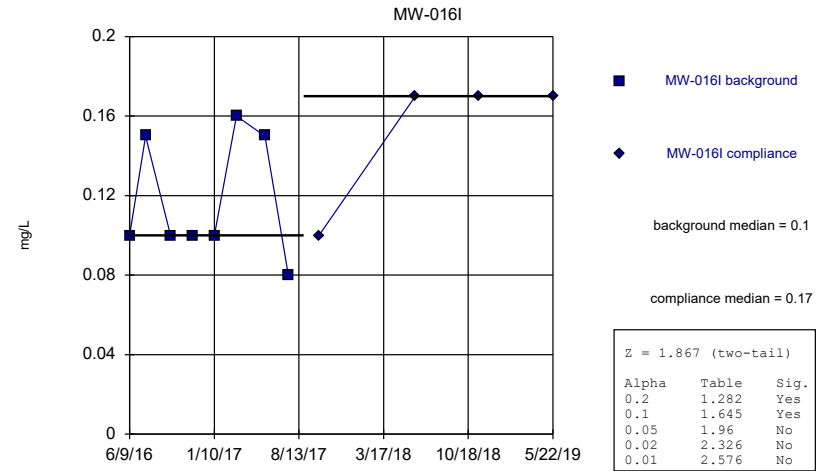
Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

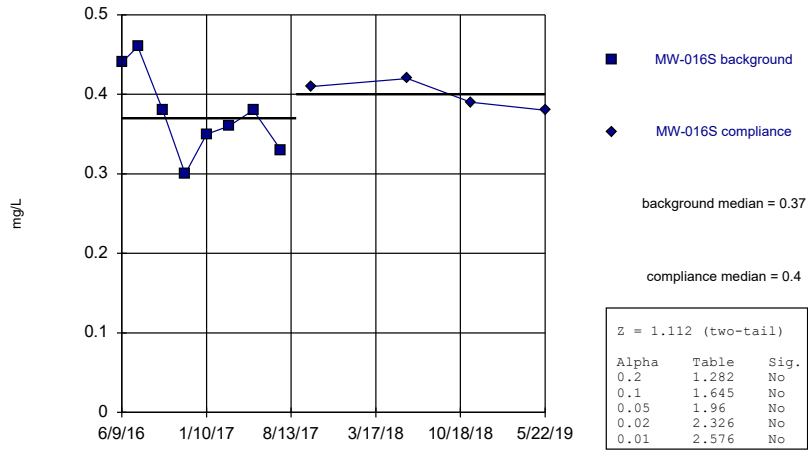
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Fluoride, total Analysis Run 1/28/2020 12:42 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

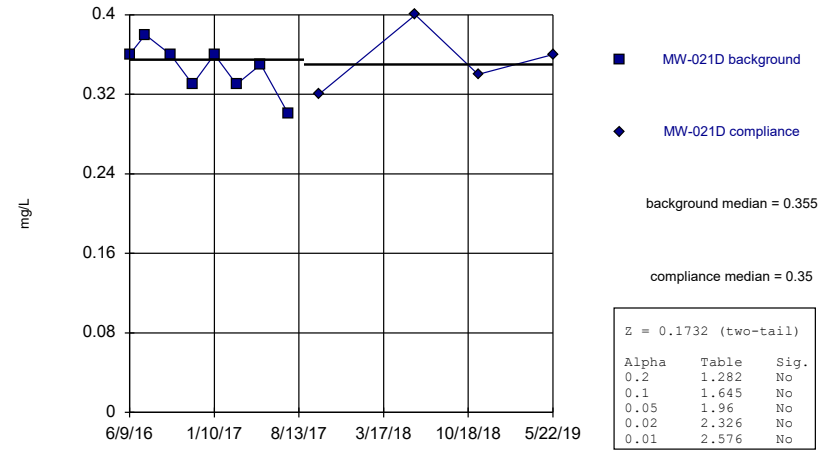
MW-016S



Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

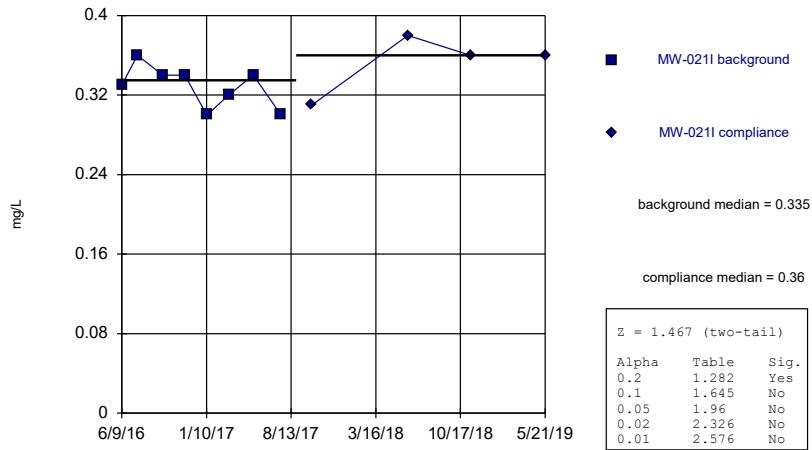
MW-021D



Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

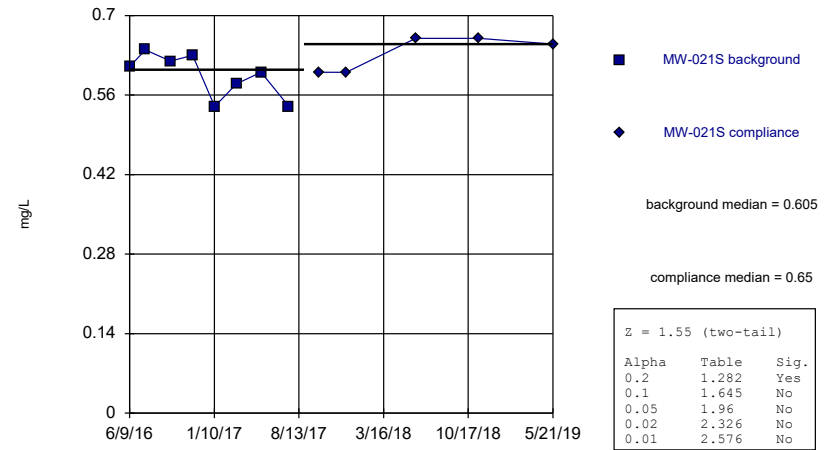
MW-021I



Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

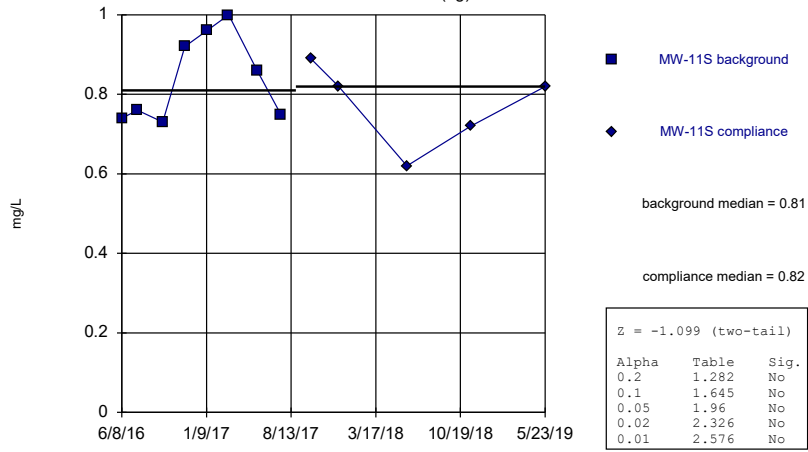
Mann-Whitney (Wilcoxon Rank Sum)

MW-021S



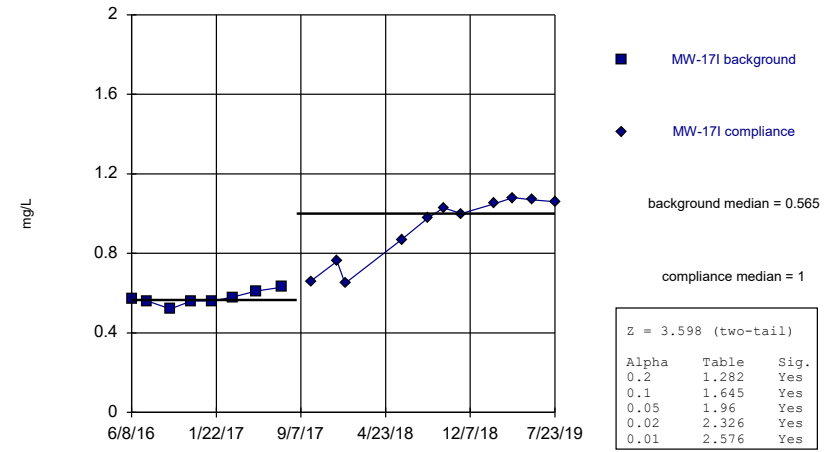
Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-11S (bg)



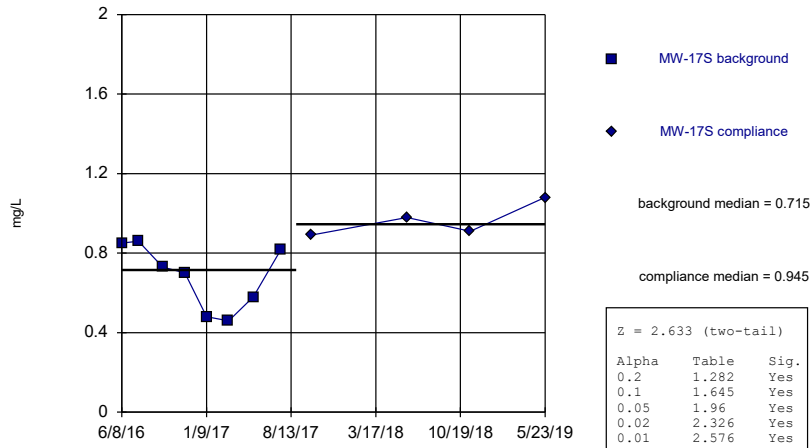
Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-171



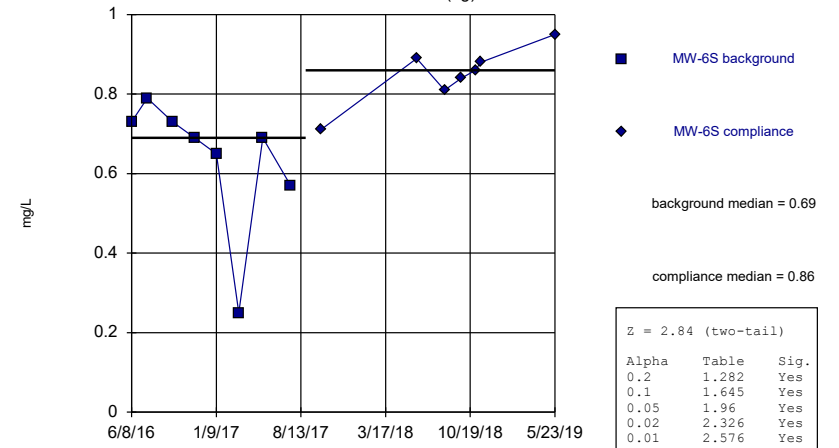
Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-17S



Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

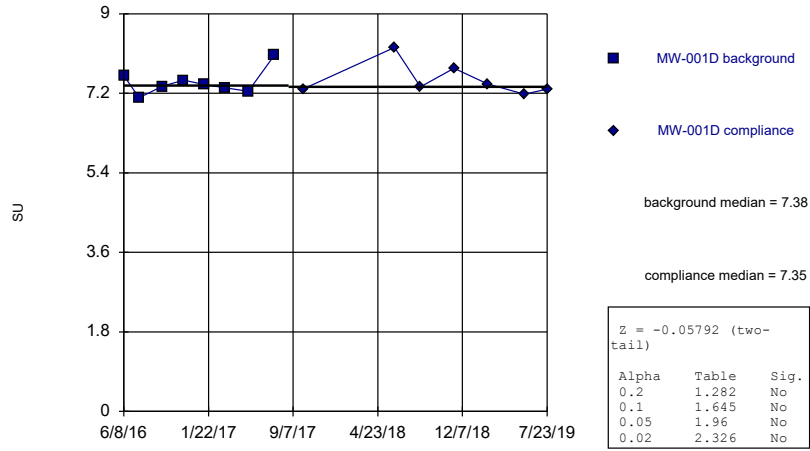
Mann-Whitney (Wilcoxon Rank Sum)
MW-6S (bg)



Constituent: Fluoride, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

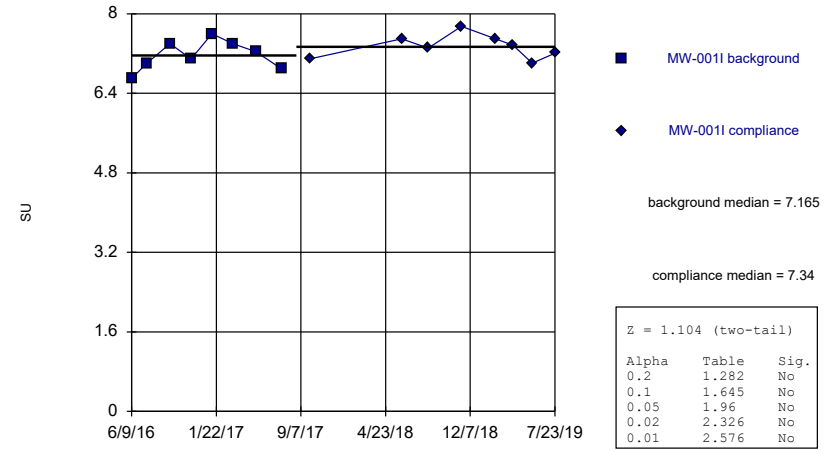
MW-001D



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

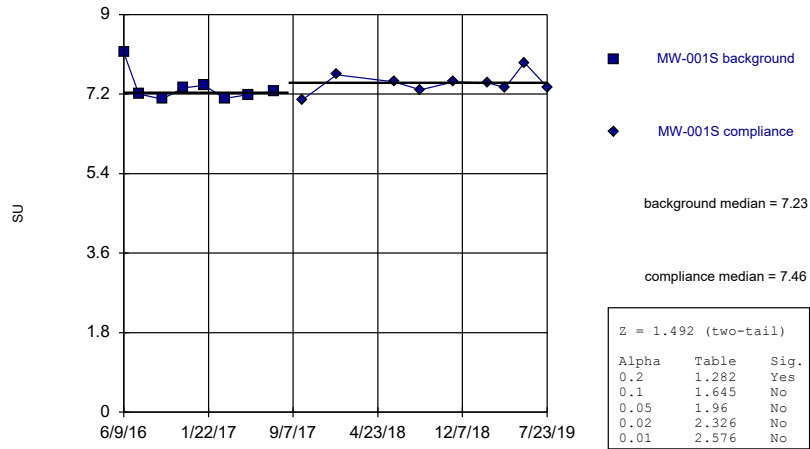
MW-0011



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

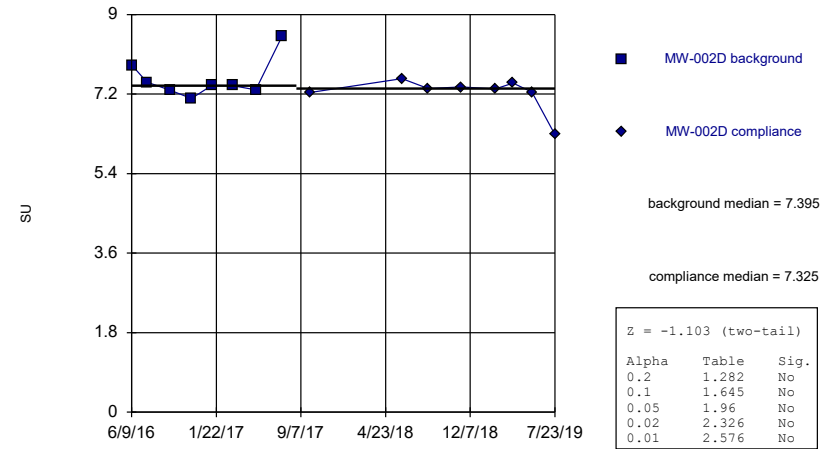
MW-001S



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

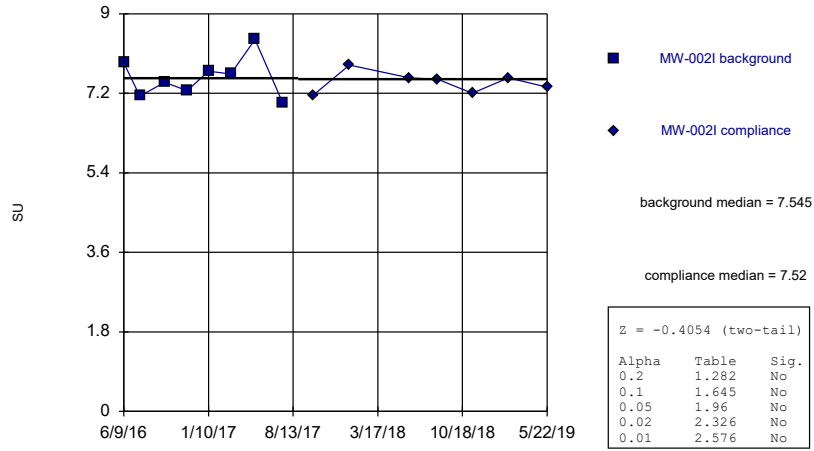
MW-002D



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

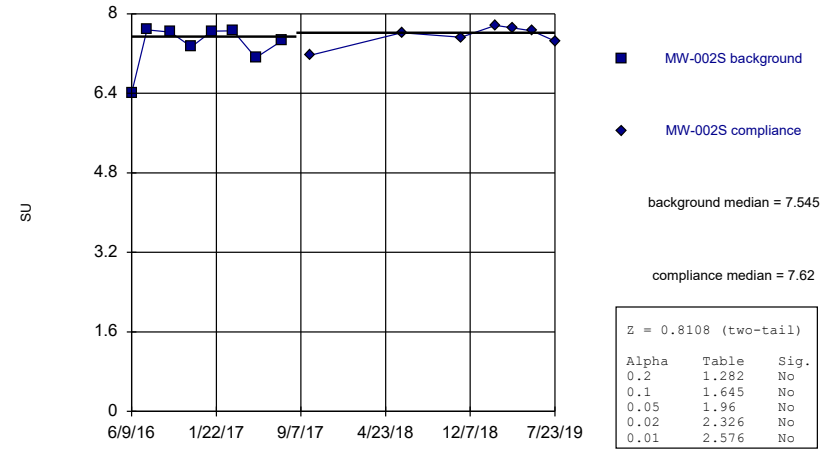
MW-002I



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

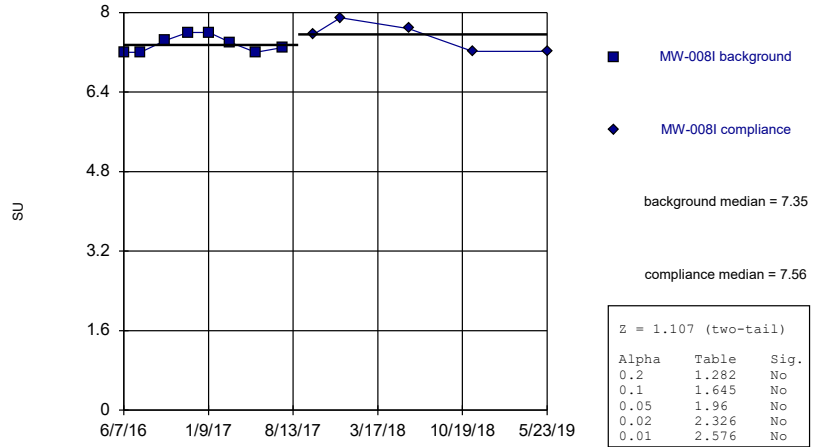
MW-002S



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

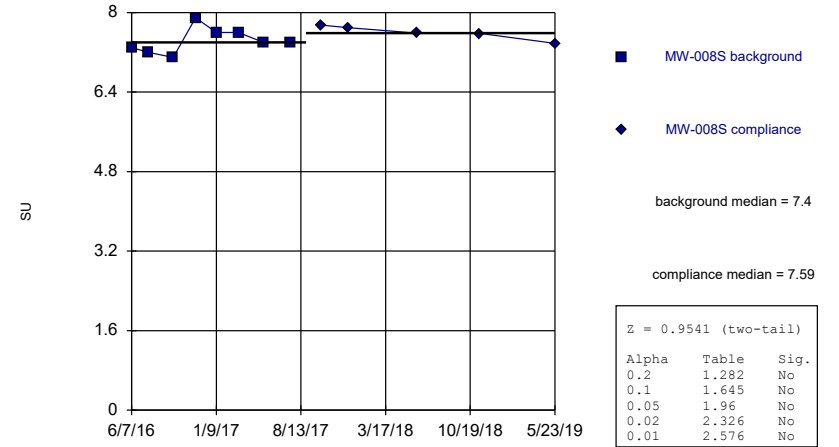
MW-008I (bg)



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

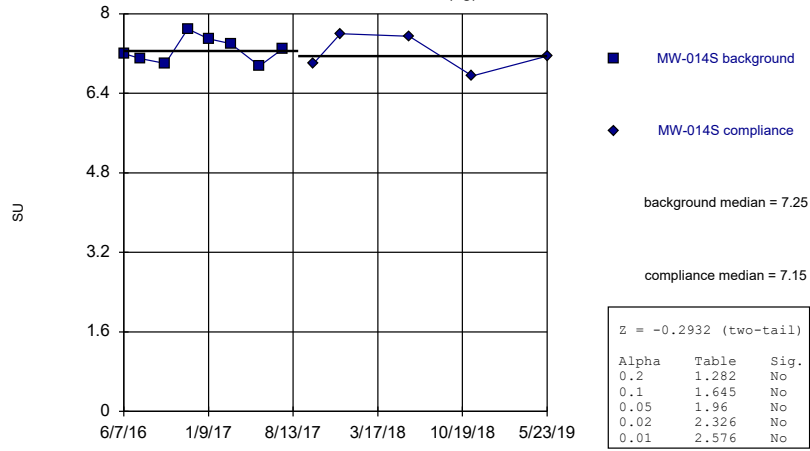
Mann-Whitney (Wilcoxon Rank Sum)

MW-008S (bg)



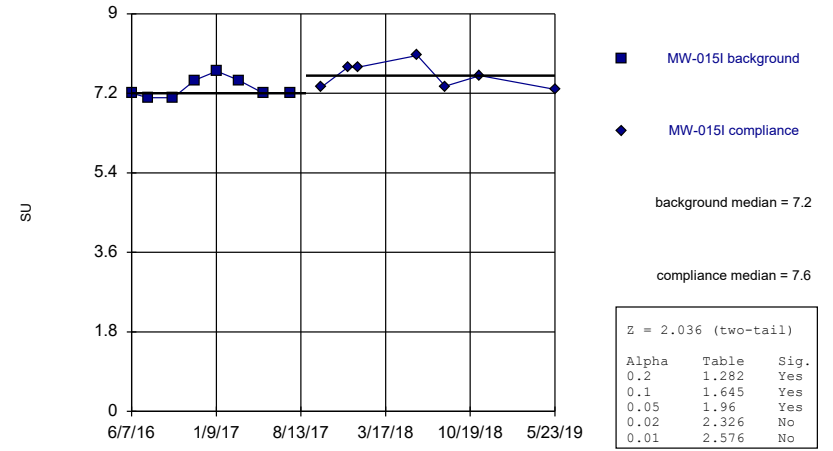
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-014S (bg)



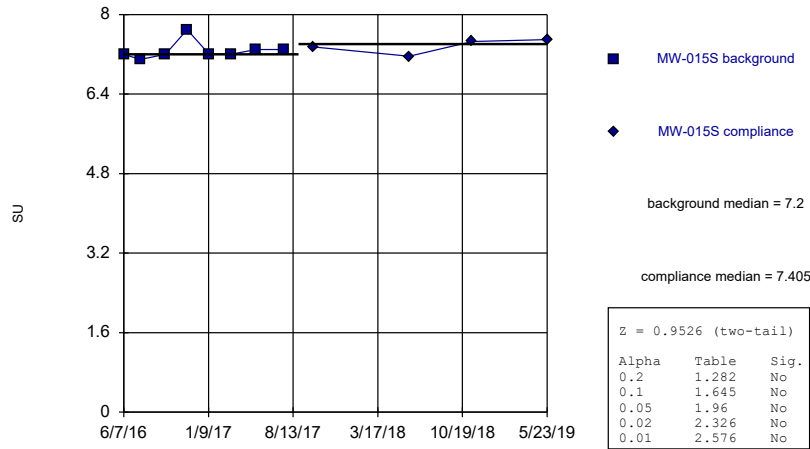
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015I



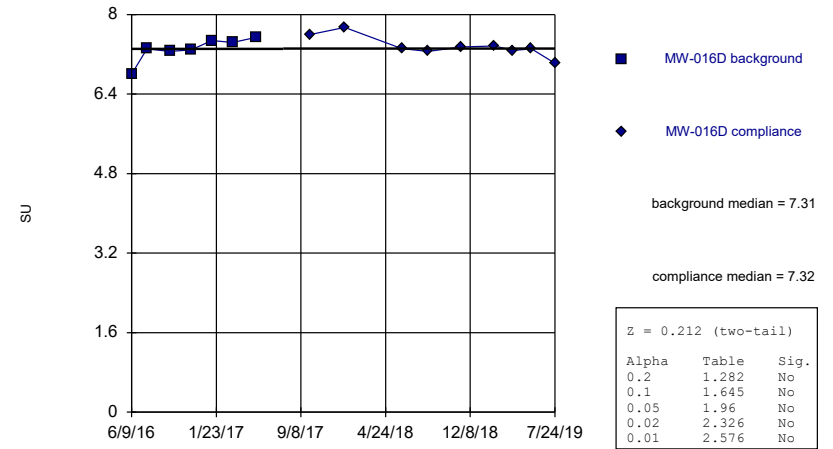
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015S



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

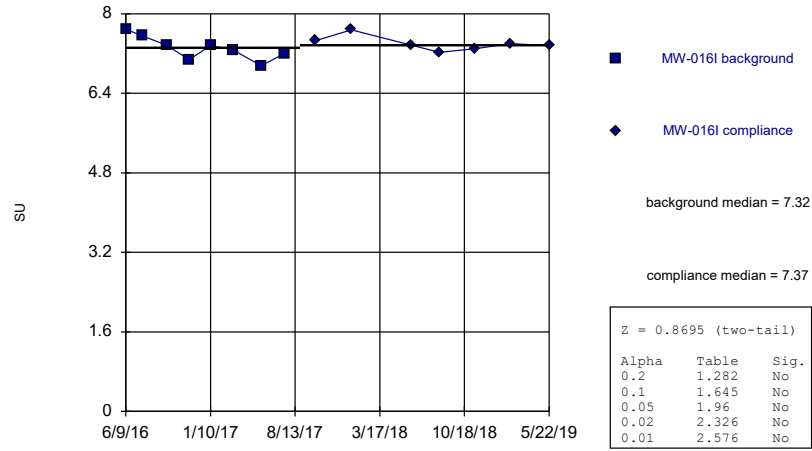
Mann-Whitney (Wilcoxon Rank Sum)
MW-016D



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

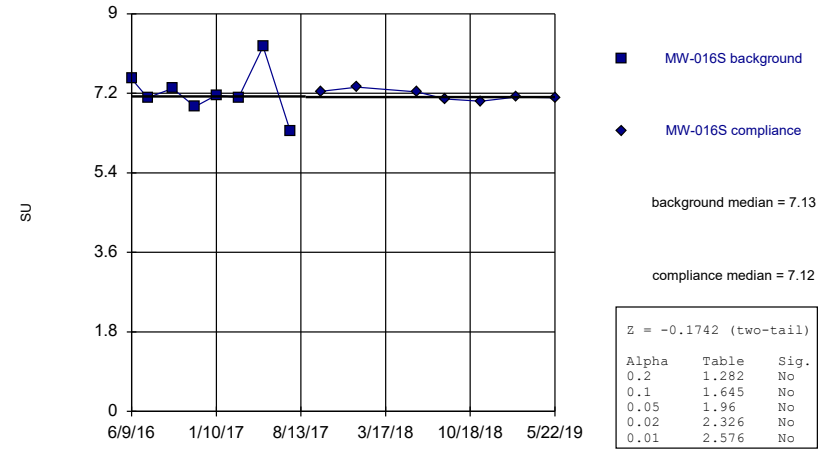
MW-016I



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

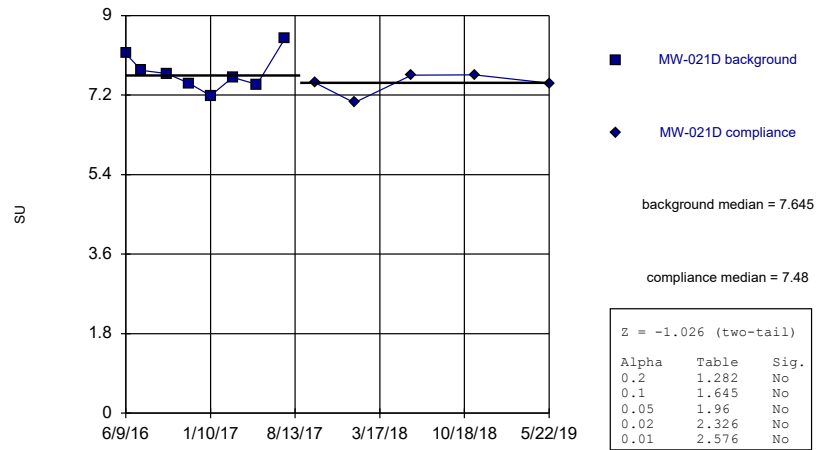
MW-016S



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

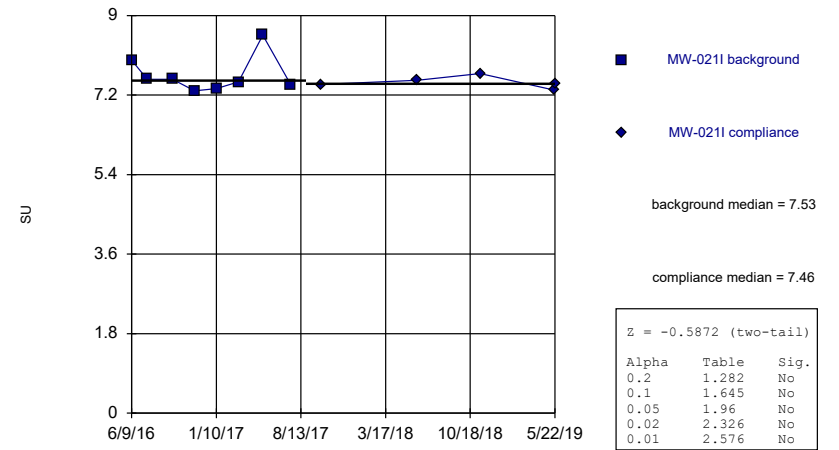
MW-021D



Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

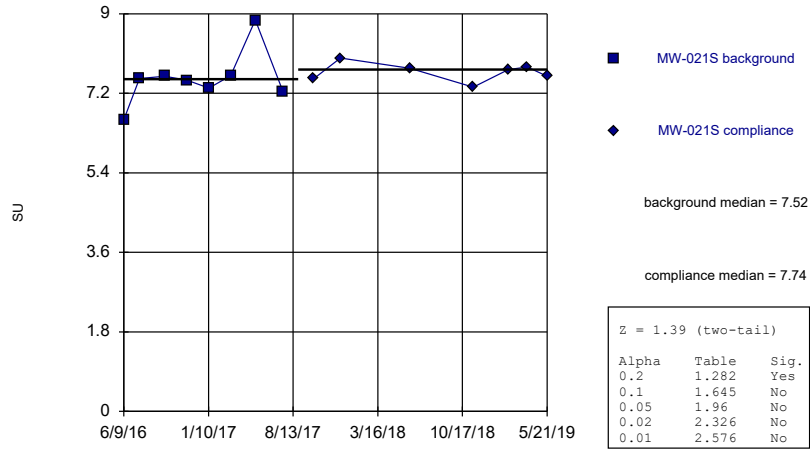
Mann-Whitney (Wilcoxon Rank Sum)

MW-021I



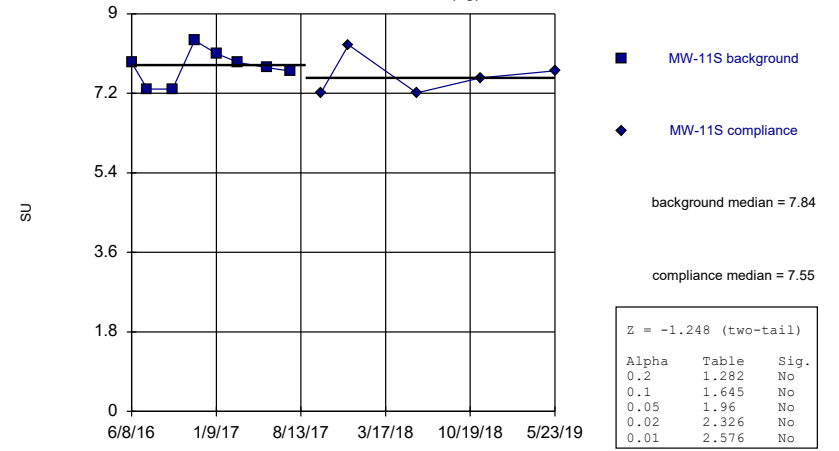
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-021S



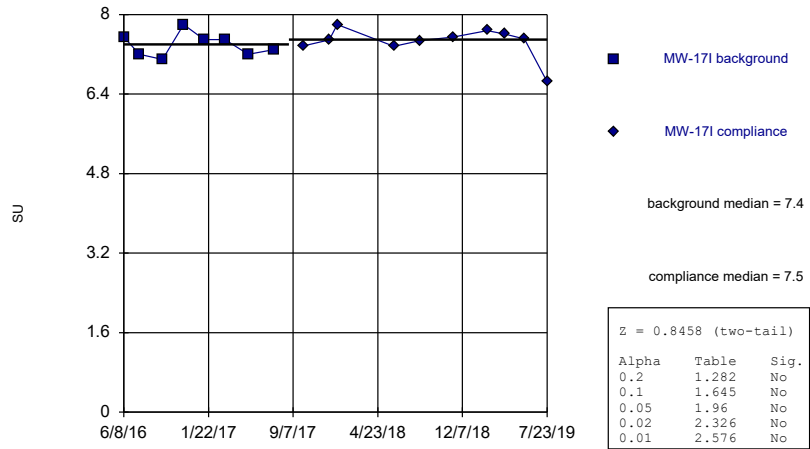
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-11S (bg)



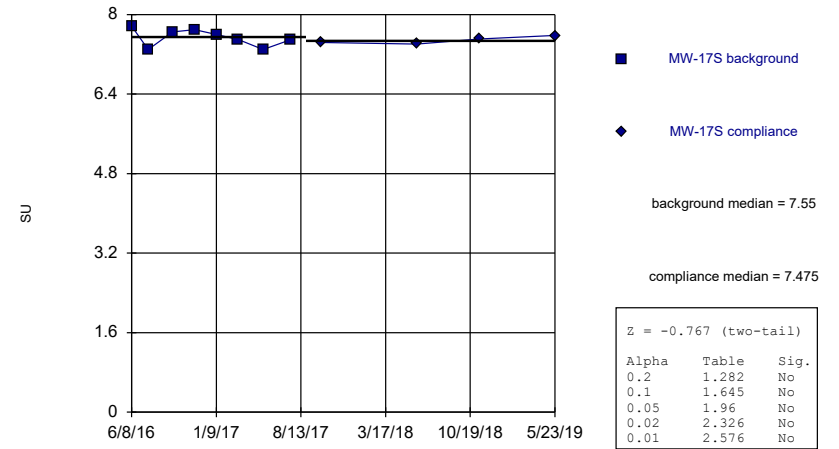
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-17I



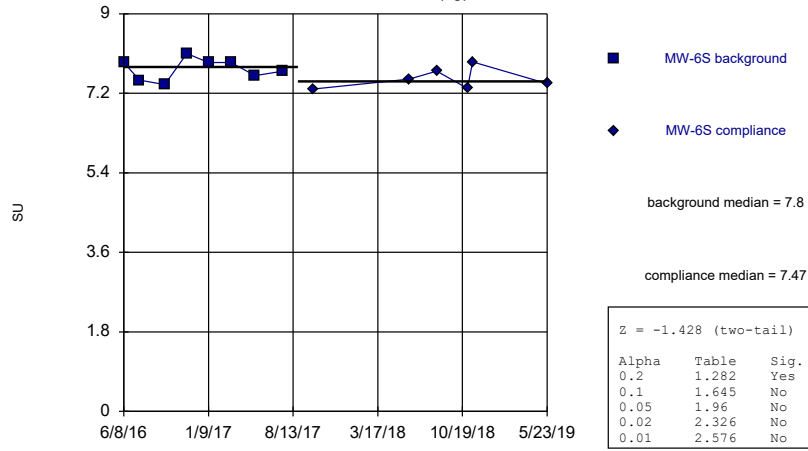
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-17S



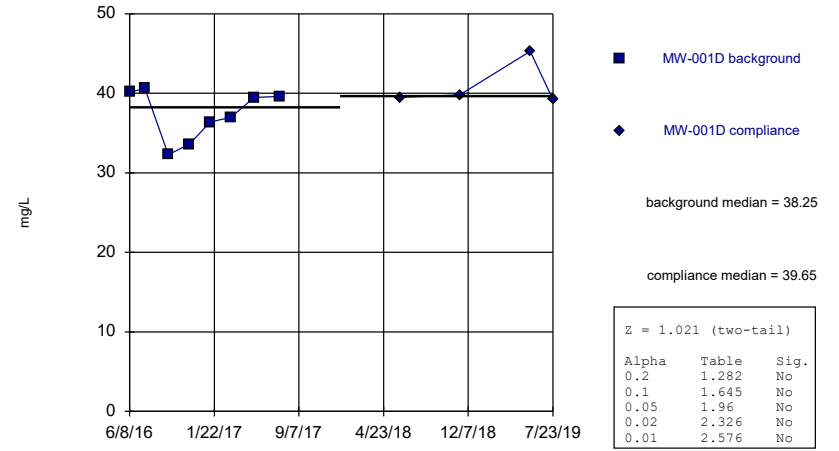
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-6S (bg)



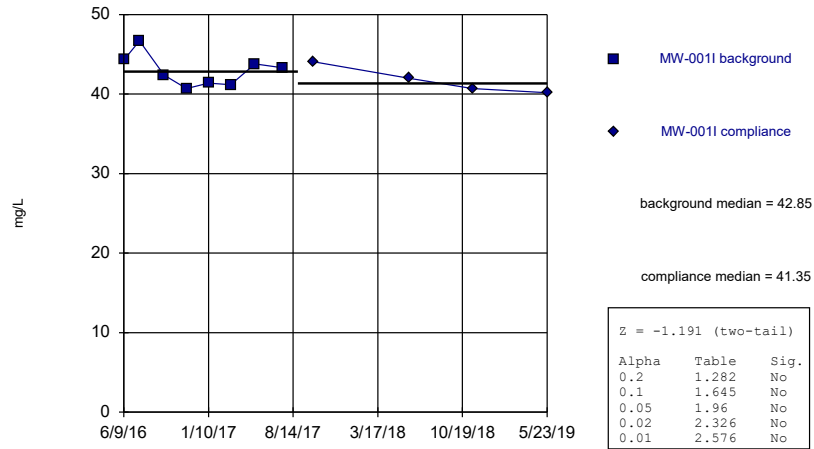
Constituent: pH, field Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001D



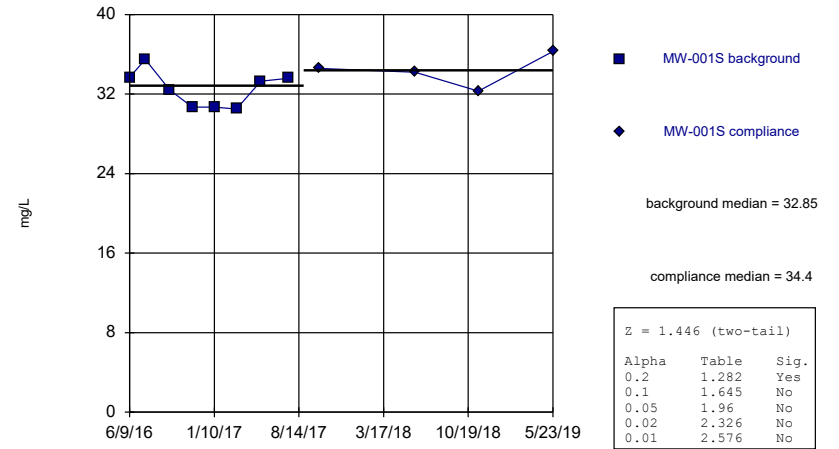
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001I



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

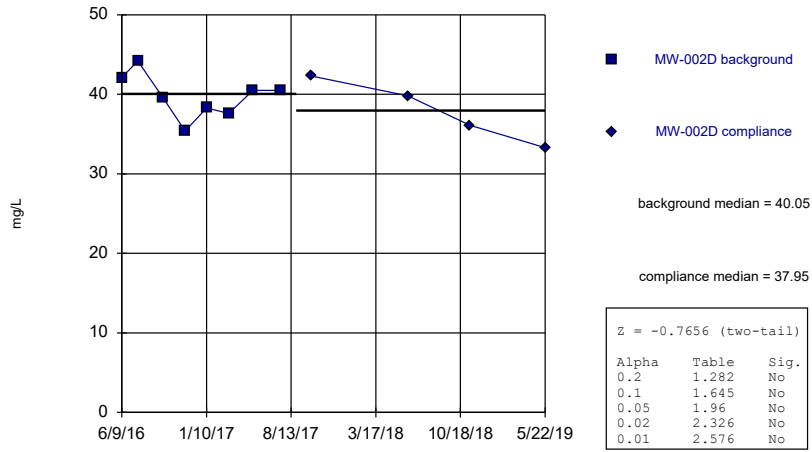
Mann-Whitney (Wilcoxon Rank Sum)
MW-001S



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

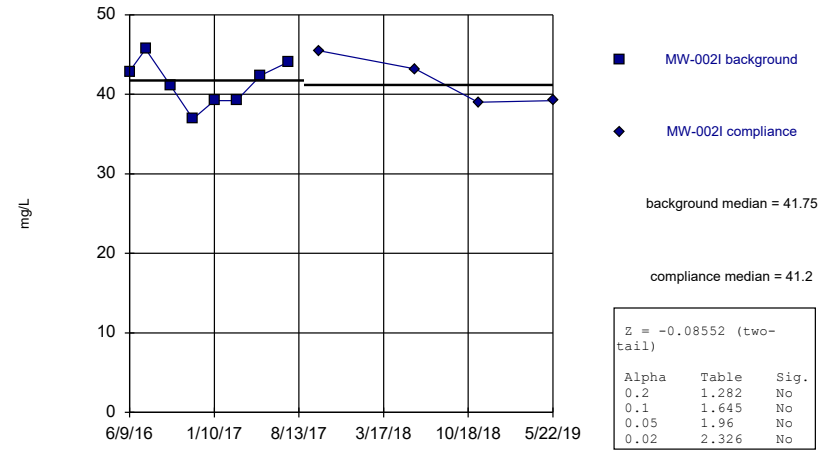
MW-002D



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

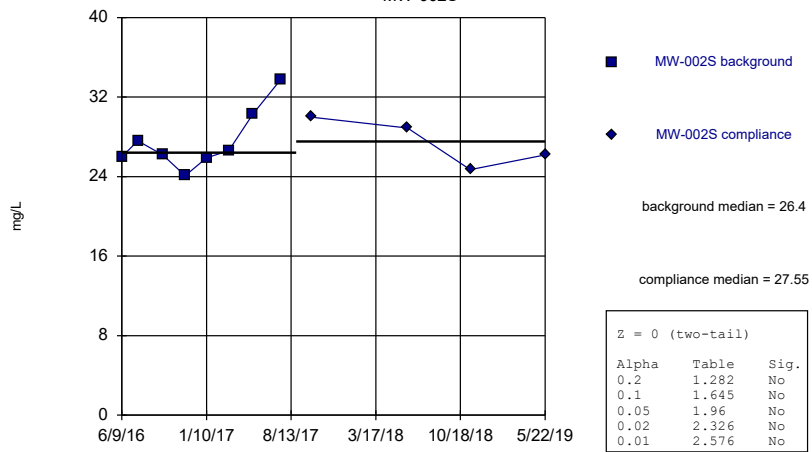
MW-002I



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

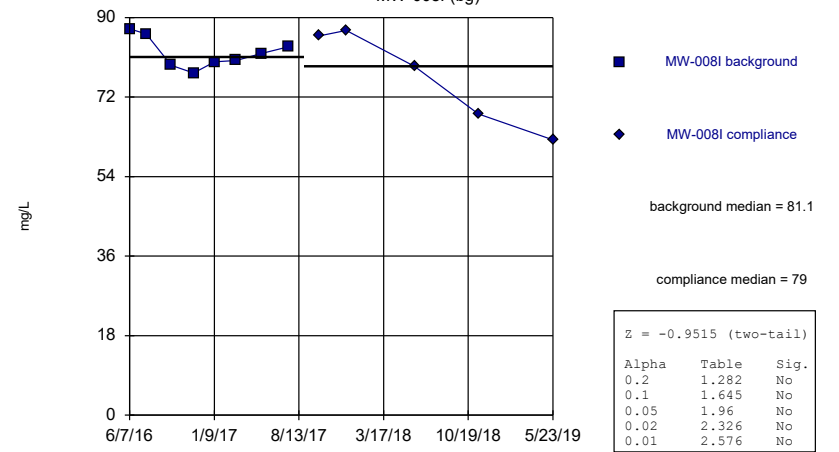
MW-002S



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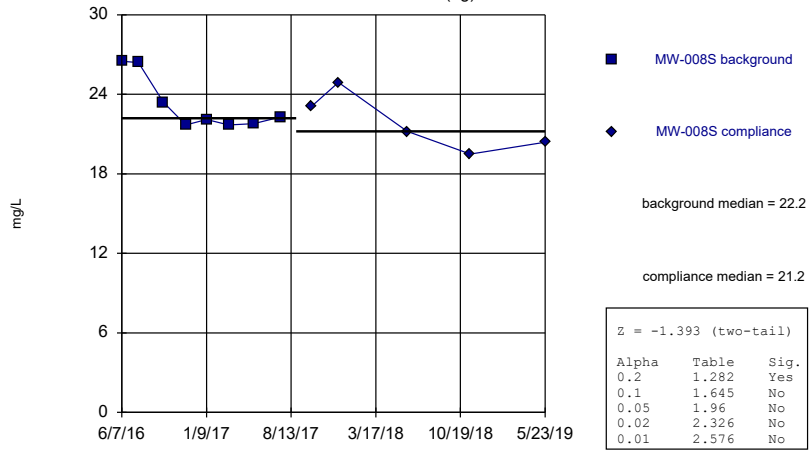
Mann-Whitney (Wilcoxon Rank Sum)

MW-008I (bg)



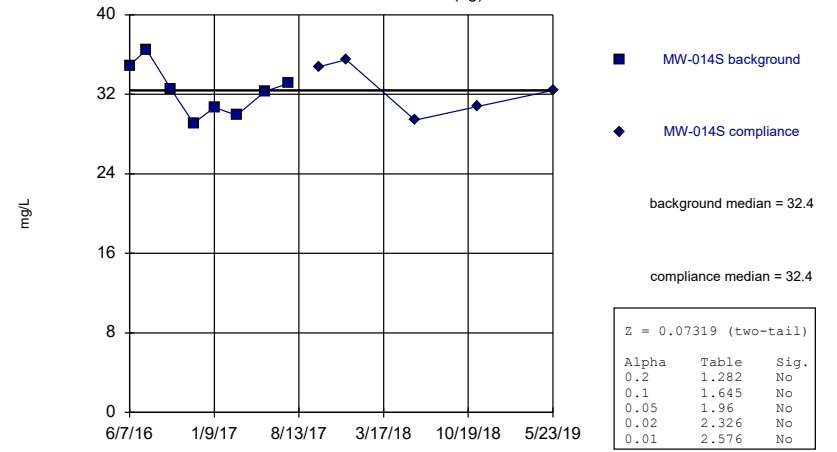
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-008S (bg)



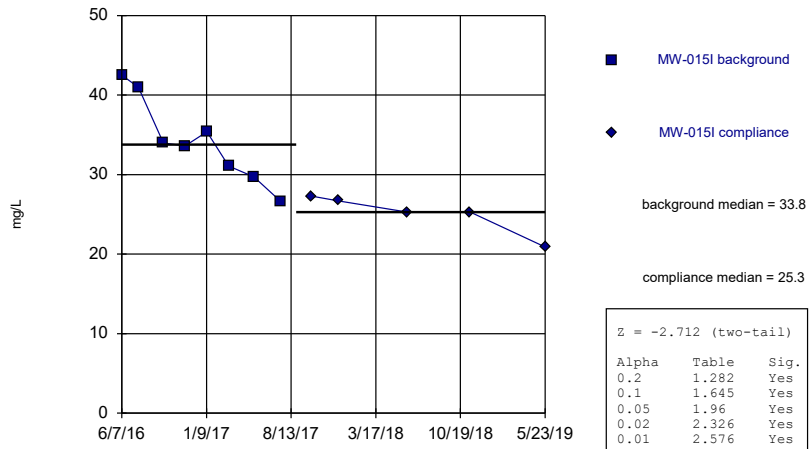
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-014S (bg)



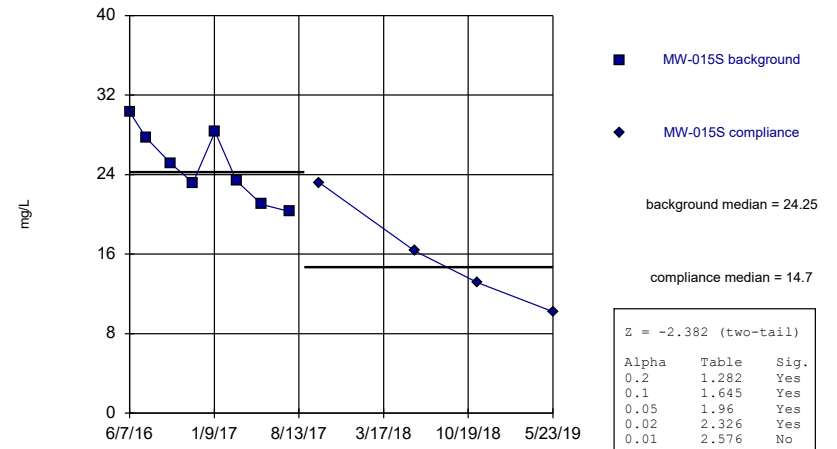
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015I



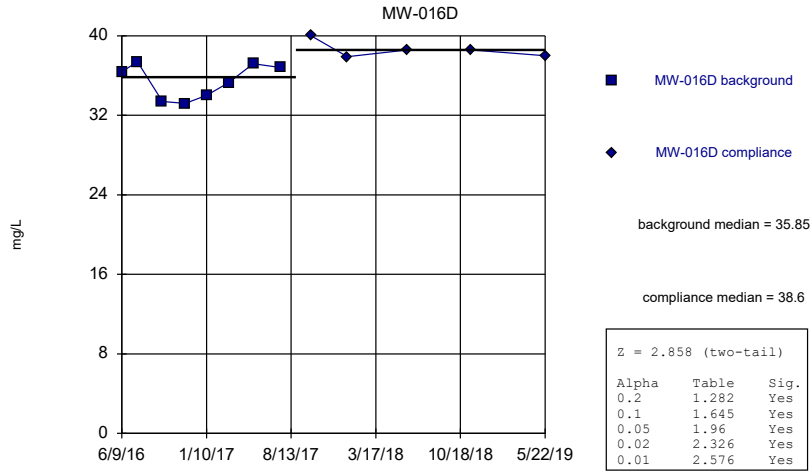
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-015S



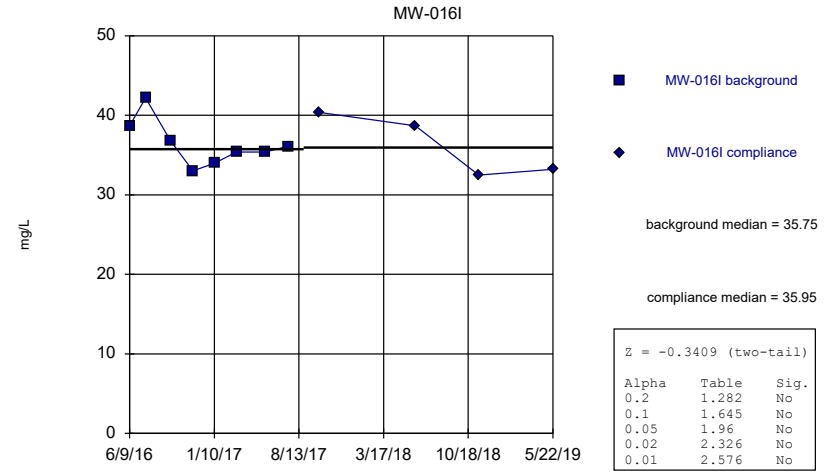
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



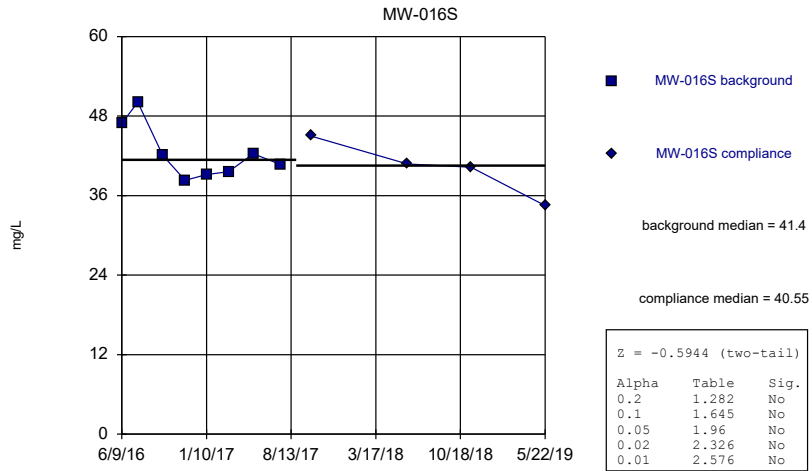
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



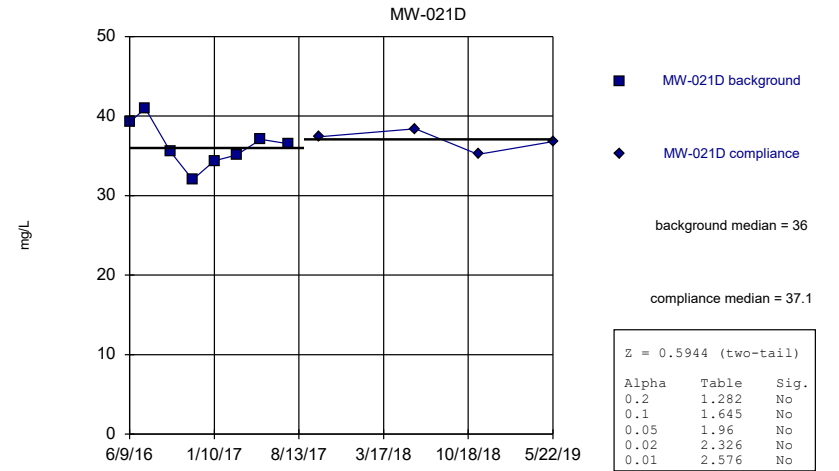
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

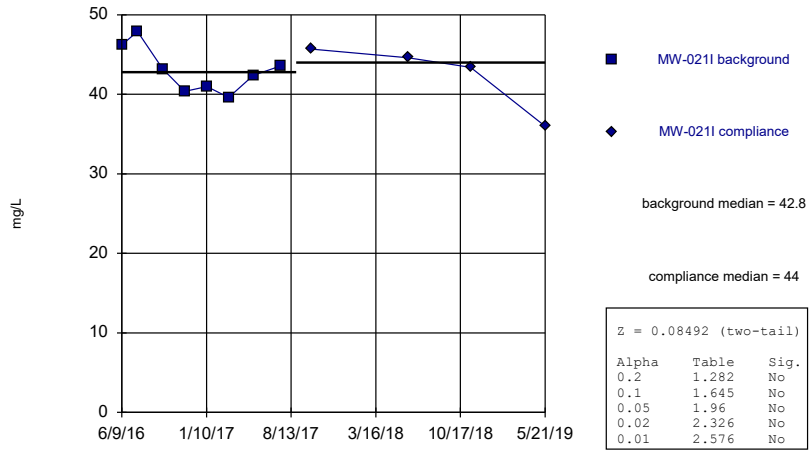
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

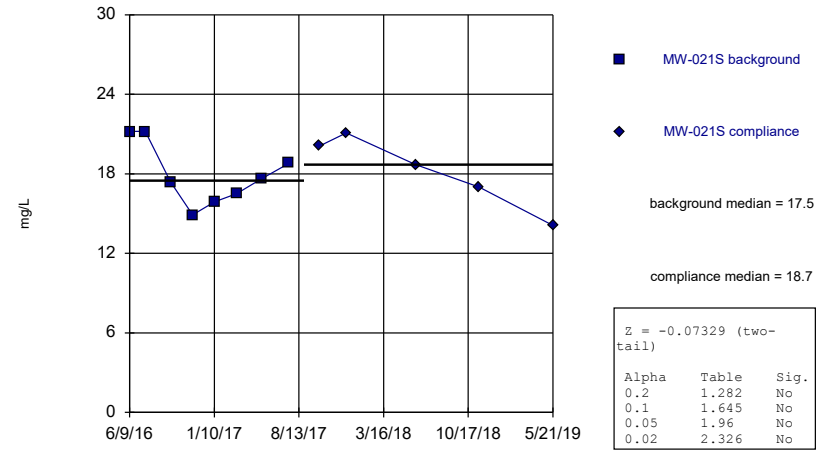
MW-0211



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

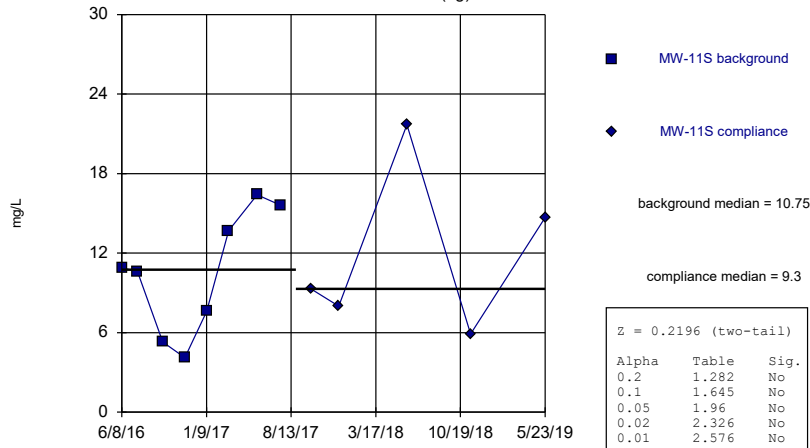
MW-021S



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

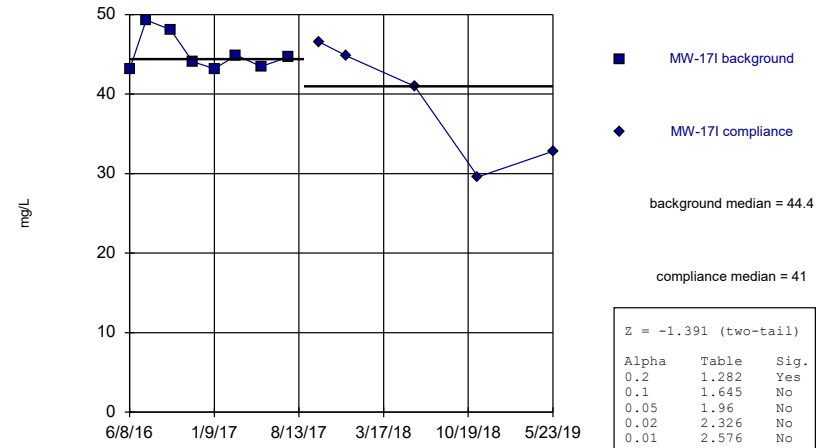
MW-11S (bg)



Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

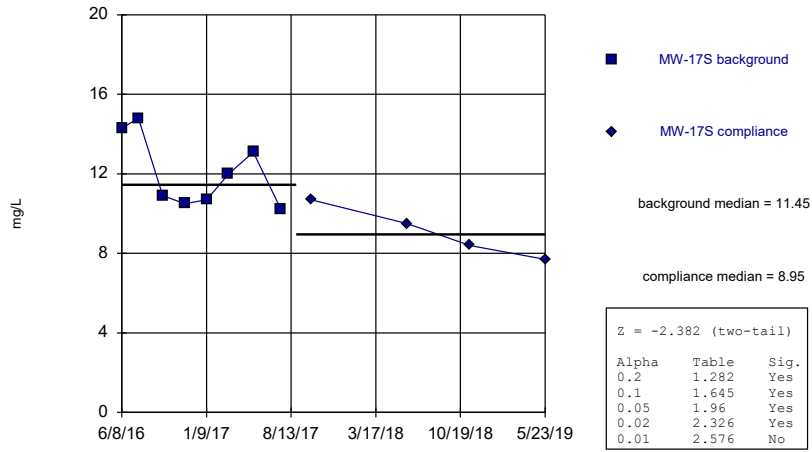
Mann-Whitney (Wilcoxon Rank Sum)

MW-171



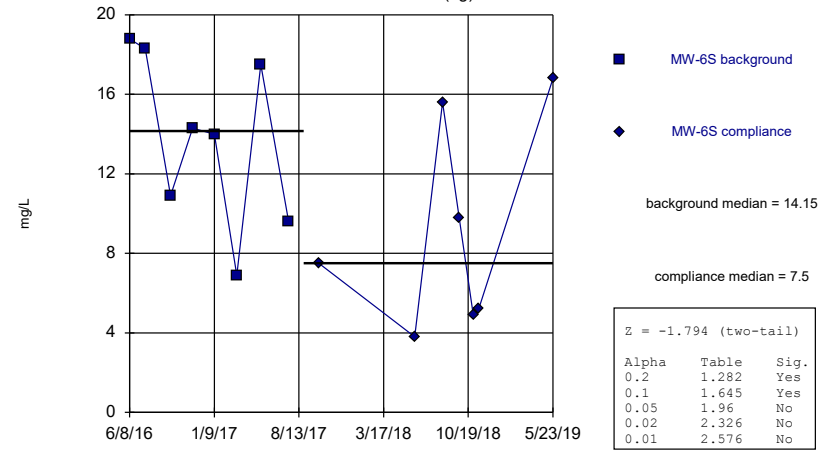
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-17S



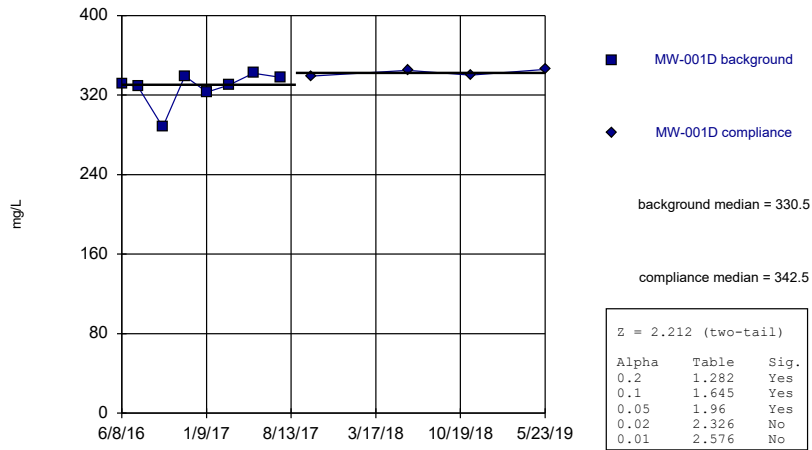
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-6S (bg)



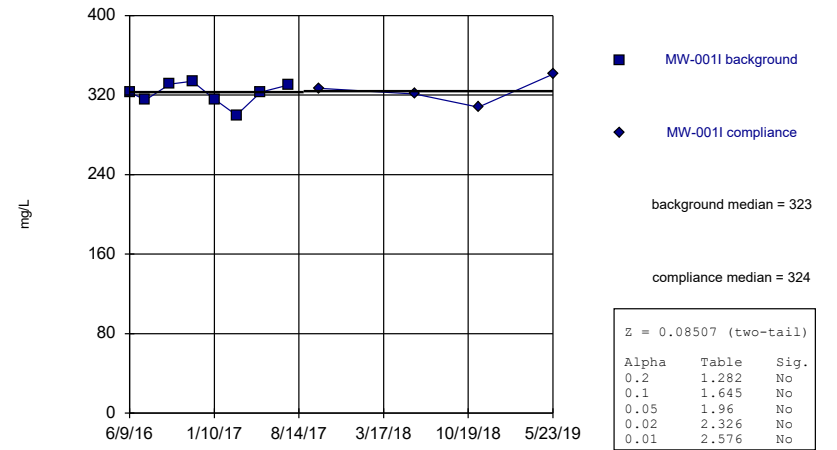
Constituent: Sulfate, total Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001D



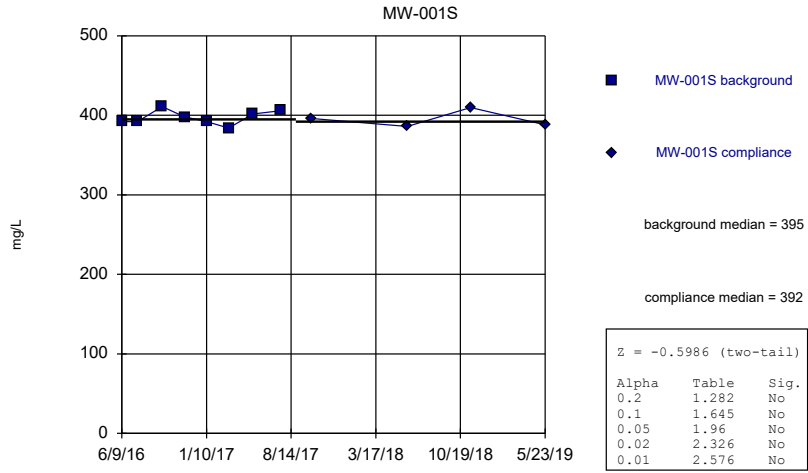
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)
MW-001I



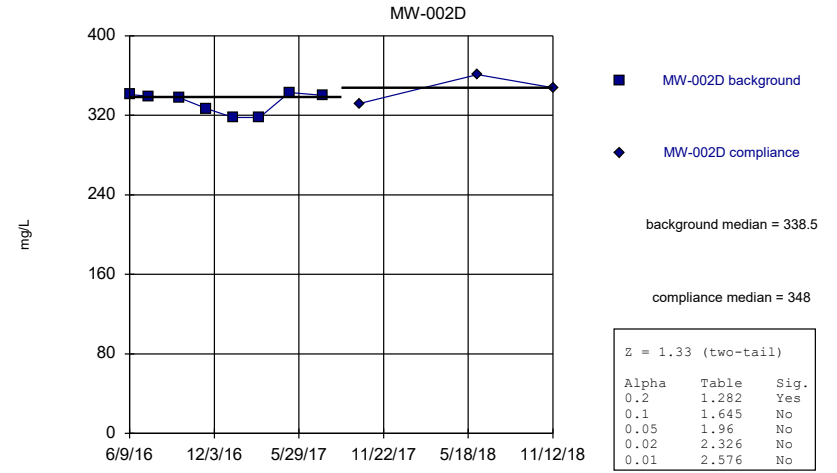
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



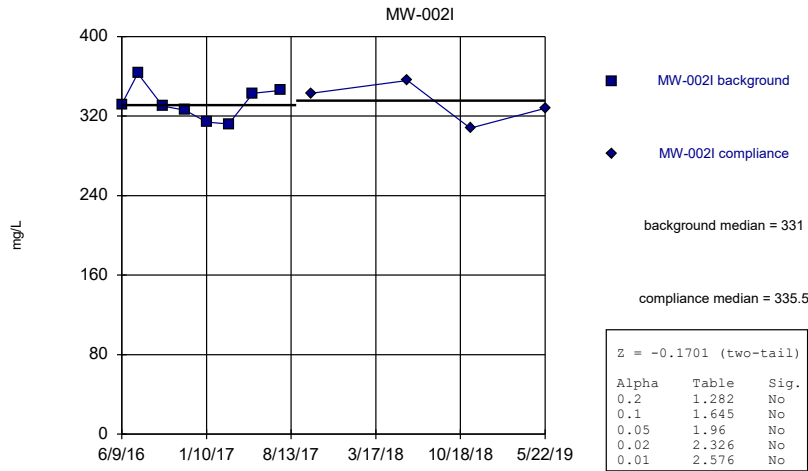
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 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



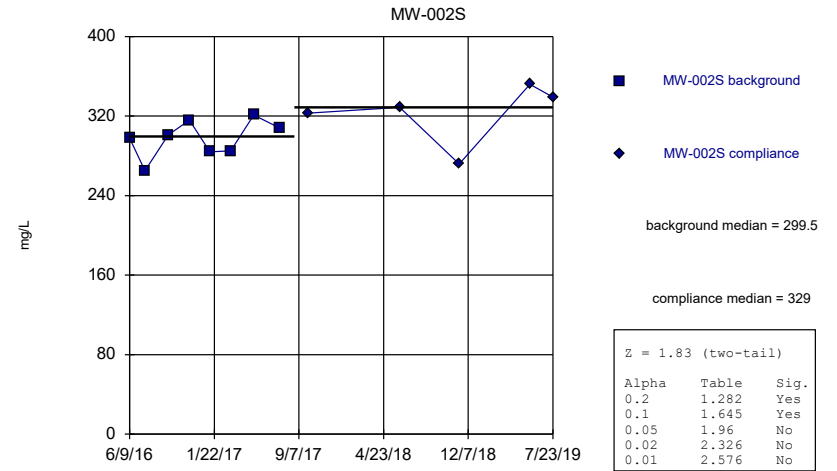
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

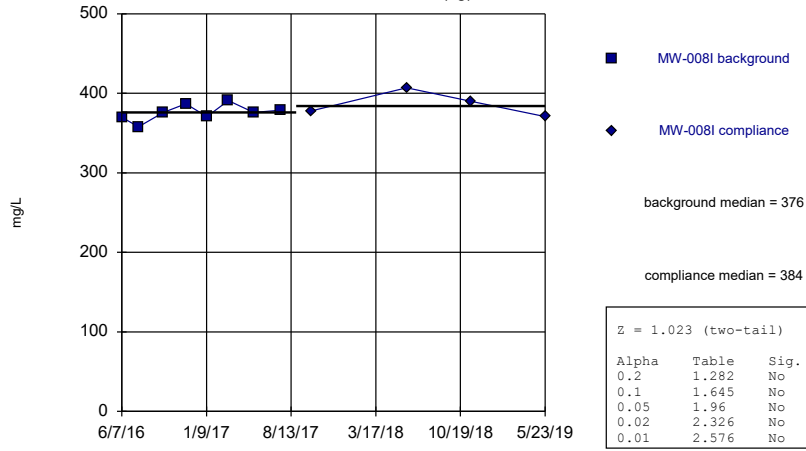
Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

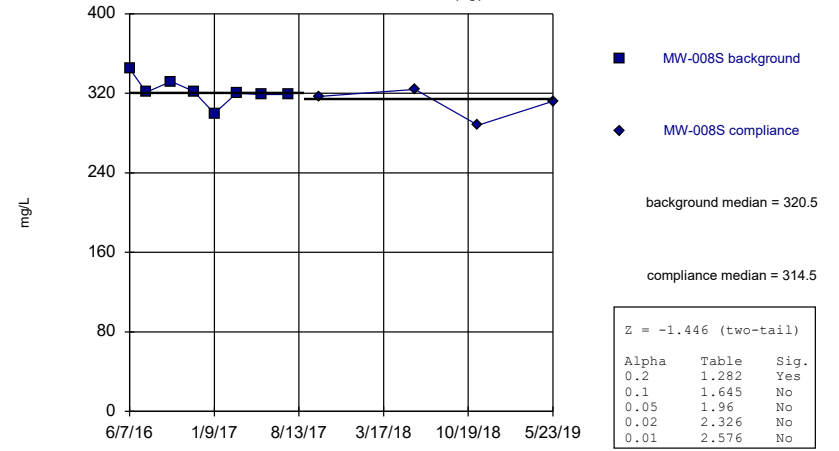
MW-008I (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

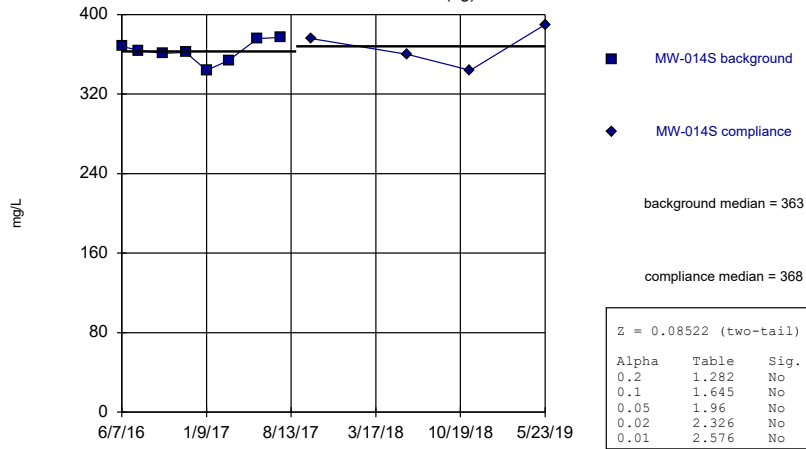
MW-008S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

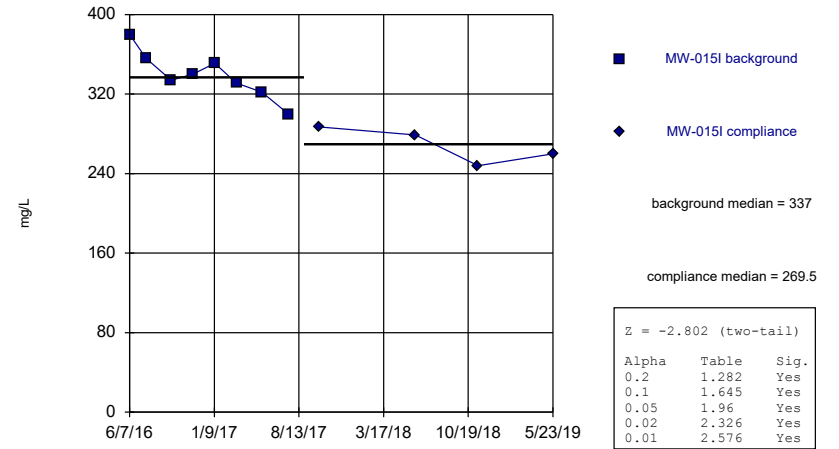
MW-014S (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

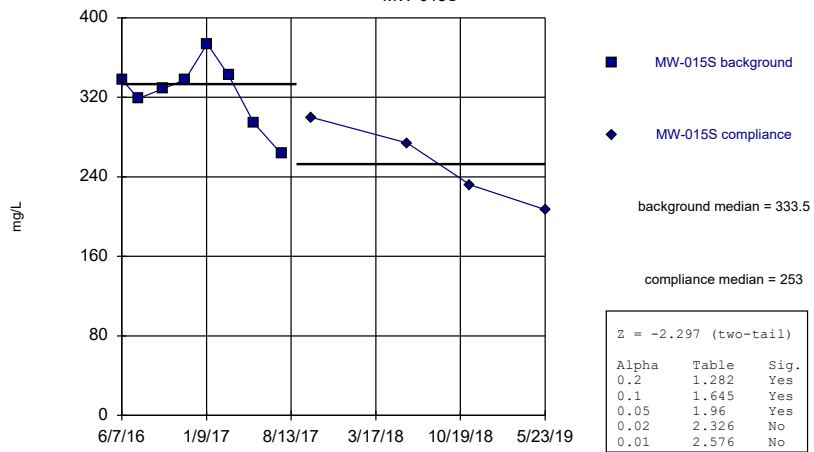
MW-015I



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

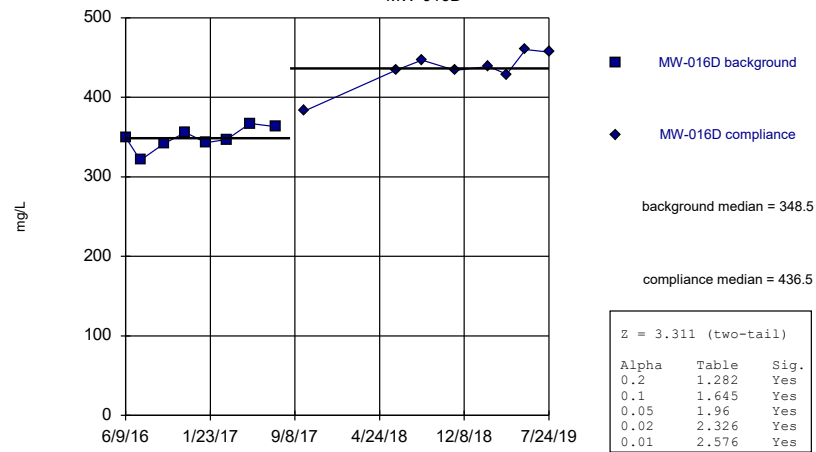
MW-015S



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

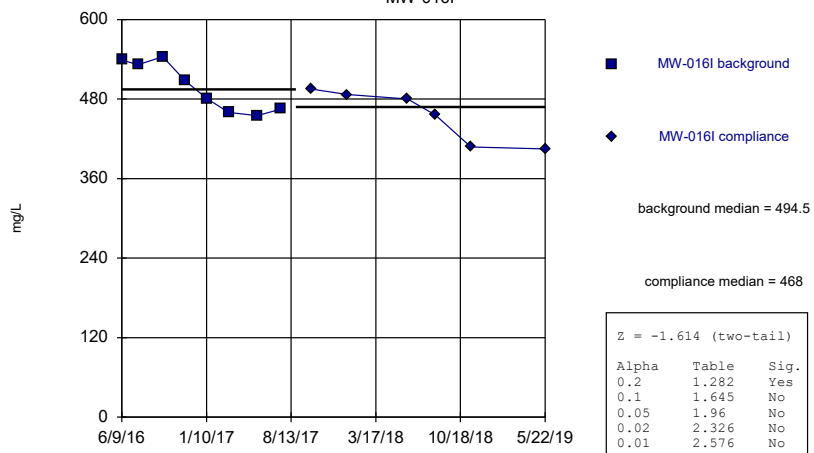
MW-016D



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)

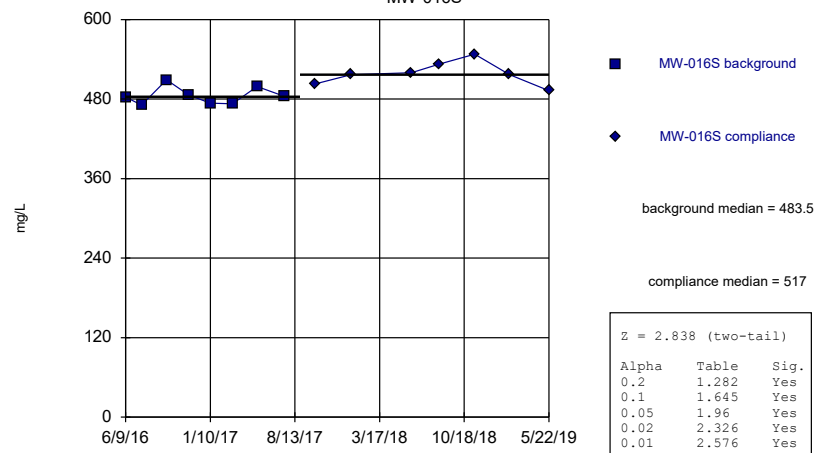
MW-016I



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

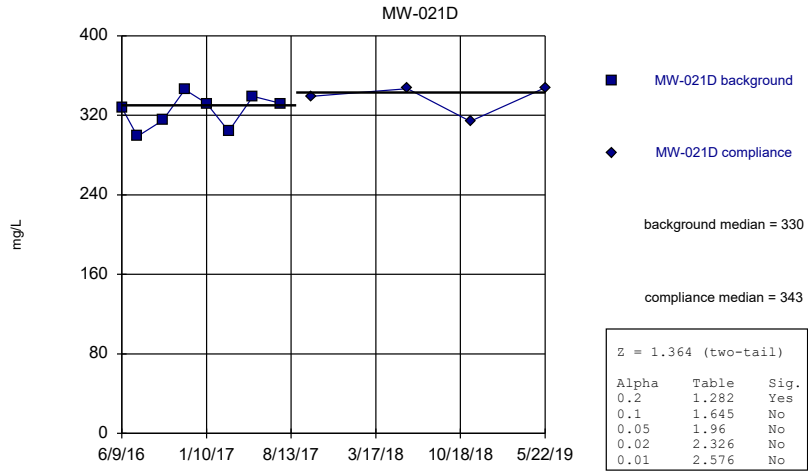
Mann-Whitney (Wilcoxon Rank Sum)

MW-016S



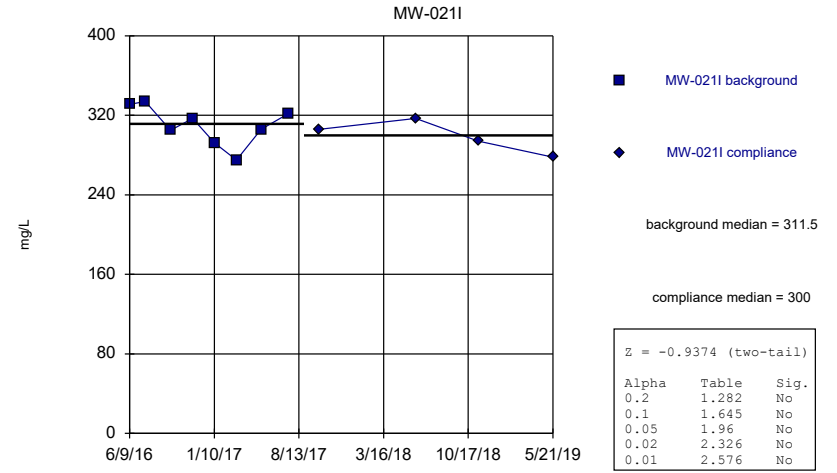
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



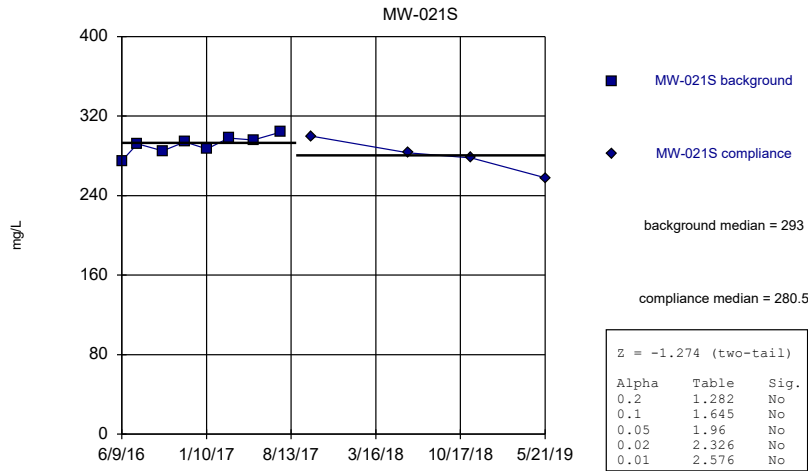
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



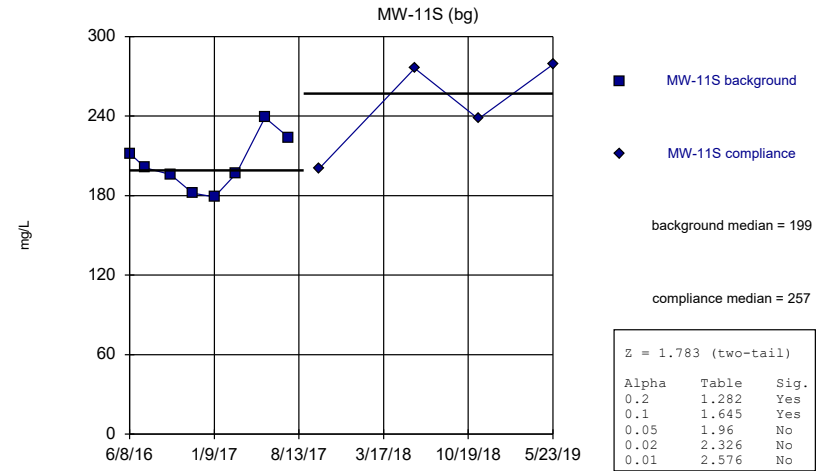
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Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



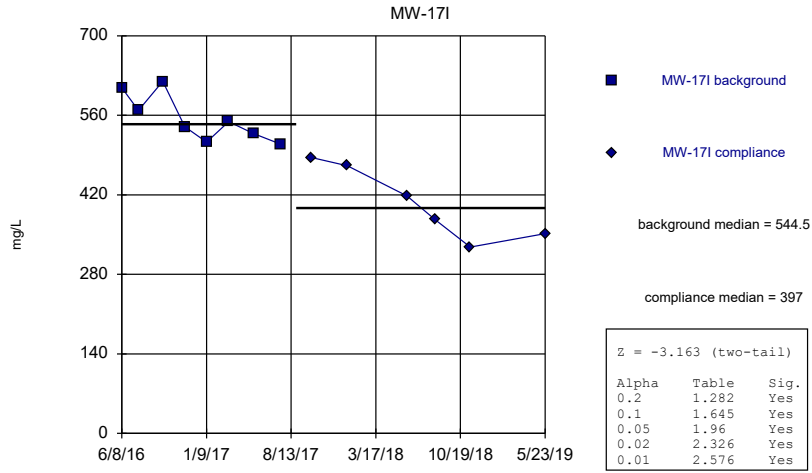
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



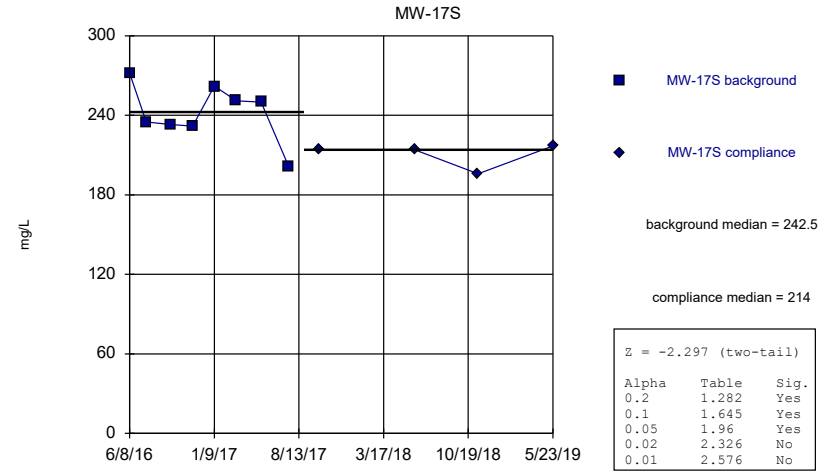
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



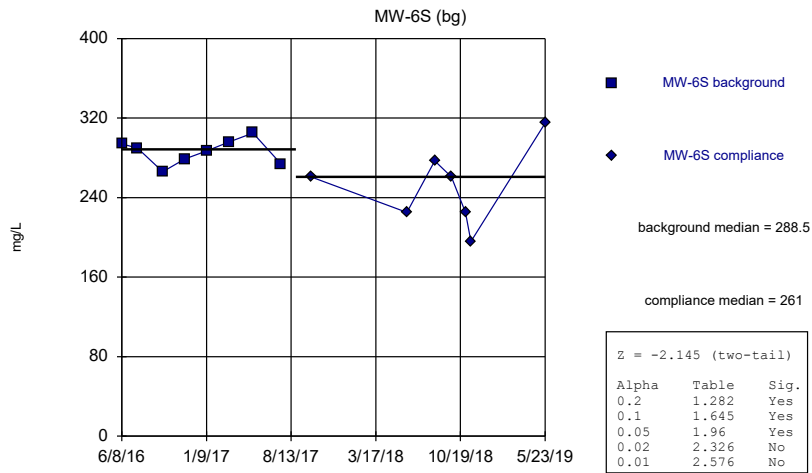
Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: IntraWell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: IntraWell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:43 PM View: IntraWell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

Interwell Prediction Limit Summary Table - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 1:02 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Obsrv.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	MW-001D	0.1507	n/a	n/a	1 future	n/a	14	0.169	0.08185	7.143	None	None	sqrt(x)	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-001I	0.1215	n/a	n/a	1 future	n/a	13	0.04008	0.02972	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-001S	0.06856	n/a	n/a	1 future	n/a	12	0.03067	0.01353	8.333	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-002D	0.1055	n/a	n/a	1 future	n/a	13	0.0392	0.0242	23.08	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-002I	0.06316	n/a	n/a	1 future	n/a	14	0.02636	0.01374	21.43	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-002S	0.1196	n/a	n/a	1 future	n/a	12	0.0434	0.0272	16.67	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-008I	0.1175	n/a	n/a	1 future	n/a	12	0.039	0.02803	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-008S	0.06992	n/a	n/a	1 future	n/a	12	0.0272	0.01526	16.67	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-014S	0.06462	n/a	n/a	1 future	n/a	12	0.0243	0.0144	16.67	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-015I	0.09763	n/a	n/a	1 future	n/a	13	0.04492	0.01924	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-015S	0.1463	n/a	n/a	1 future	n/a	12	0.05311	0.03327	25	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-016D	0.1151	n/a	n/a	1 future	n/a	12	0.03417	0.02892	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-016I	0.1558	n/a	n/a	1 future	n/a	13	0.2007	0.07084	0	None	None	sqrt(x)	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-016S	0.1467	n/a	n/a	1 future	n/a	14	0.2033	0.06711	0	None	None	sqrt(x)	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-021D	0.1151	n/a	n/a	1 future	n/a	13	0.03615	0.02884	7.692	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-021I	0.08313	n/a	n/a	1 future	n/a	12	0.02566	0.02052	16.67	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-021S	0.06949	n/a	n/a	1 future	n/a	13	0.02255	0.01714	15.38	Kaplan-Meier	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-11S	0.1267	n/a	n/a	1 future	n/a	12	0.0675	0.02114	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-17I	0.1052	n/a	n/a	1 future	n/a	12	0.05883	0.01656	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-17S	0.07506	n/a	n/a	1 future	n/a	12	0.02892	0.01648	0	None	None	No	0.0004702	Param Intra 1 of 2
Boron, total (mg/L)	MW-6S	0.1341	n/a	n/a	1 future	n/a	15	0.04653	0.03346	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-001D	79.44	n/a	n/a	1 future	n/a	12	66.93	4.467	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-001I	72.31	n/a	n/a	1 future	n/a	12	65.15	2.559	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-001S	79.76	n/a	n/a	1 future	n/a	12	69.94	3.505	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-002D	114	n/a	n/a	1 future	n/a	13	n/a	n/a	0	n/a	n/a	n/a	0.009692	NP Intra (normality) 1 of 2
Calcium, total (mg/L)	MW-002I	79.89	n/a	n/a	1 future	n/a	12	69.32	3.776	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-002S	66.98	n/a	n/a	1 future	n/a	12	56.36	3.795	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-008I	83.9	n/a	n/a	1 future	n/a	12	72.74	3.986	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-008S	50.76	n/a	n/a	1 future	n/a	12	41.78	3.211	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-014S	72.66	n/a	n/a	1 future	n/a	12	62.43	3.657	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-015I	54.95	n/a	n/a	1 future	n/a	12	46.13	3.147	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-015S	70.45	n/a	n/a	1 future	n/a	12	6.947	0.5166	0	None	None	sqrt(x)	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-016D	100.4	n/a	n/a	1 future	n/a	15	80.21	7.728	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-016I	129.6	n/a	n/a	1 future	n/a	14	83.89	17.08	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-016S	121.6	n/a	n/a	1 future	n/a	14	100.3	7.95	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-021D	82.82	n/a	n/a	1 future	n/a	12	69.64	4.707	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-021I	72.8	n/a	n/a	1 future	n/a	12	64.21	3.068	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-021S	63.4	n/a	n/a	1 future	n/a	12	55.44	2.841	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-11S	63.72	n/a	n/a	1 future	n/a	12	45.13	6.64	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-17I	112.1	n/a	n/a	1 future	n/a	8	60.44	15.02	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-17S	40.89	n/a	n/a	1 future	n/a	12	34.74	2.196	0	None	None	No	0.0004702	Param Intra 1 of 2
Calcium, total (mg/L)	MW-6S	57.97	n/a	n/a	1 future	n/a	15	47.09	4.158	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-001D	62.38	n/a	n/a	1 future	n/a	13	35.65	9.756	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-001I	36.15	n/a	n/a	1 future	n/a	15	27.49	3.308	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-001S	43.03	n/a	n/a	1 future	n/a	17	33.78	3.663	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-002D	26.04	n/a	n/a	1 future	n/a	8	22.94	0.9039	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-002I	33.78	n/a	n/a	1 future	n/a	14	28.46	1.987	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-002S	29.81	n/a	n/a	1 future	n/a	15	23.24	2.51	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-008I	22.83	n/a	n/a	1 future	n/a	13	20.93	0.6945	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-008S	25.28	n/a	n/a	1 future	n/a	13	22.56	0.9921	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-014S	31.58	n/a	n/a	1 future	n/a	13	28.58	1.096	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-015I	72.21	n/a	n/a	1 future	n/a	13	35.48	13.41	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-015S	28.55	n/a	n/a	1 future	n/a	12	15.07	4.815	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-016D	75.49	n/a	n/a	1 future	n/a	8	67.79	2.241	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-016I	106.4	n/a	n/a	1 future	n/a	14	60.32	17.21	0	None	None	No	0.0004702	Param Intra 1 of 2

Interwell Prediction Limit Summary Table - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 1:02 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Obsrv.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride, total (mg/L)	MW-016S	23.59	n/a	n/a	1 future	n/a	12	18.46	1.833	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-021D	20.46	n/a	n/a	1 future	n/a	12	19.23	0.4376	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-021I	22.8	n/a	n/a	1 future	n/a	12	20.29	0.8959	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-021S	19.85	n/a	n/a	1 future	n/a	15	16.19	1.398	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-11S	18.72	n/a	n/a	1 future	n/a	13	1.075	0.6769	0	None	ln(x)	0.0004702	Param Intra 1 of 2	
Chloride, total (mg/L)	MW-17I	200.6	n/a	n/a	1 future	n/a	8	88.45	32.64	0	None	None	No	0.0004702	Param Intra 1 of 2
Chloride, total (mg/L)	MW-17S	16.12	n/a	n/a	1 future	n/a	12	3.418	0.2133	0	None	sqrt(x)	0.0004702	Param Intra 1 of 2	
Chloride, total (mg/L)	MW-6S	13.59	n/a	n/a	1 future	n/a	15	6.349	2.767	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-001D	0.3387	n/a	n/a	1 future	n/a	12	0.2808	0.02065	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-001I	0.4725	n/a	n/a	1 future	n/a	12	0.3725	0.03571	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-001S	0.6858	n/a	n/a	1 future	n/a	12	0.5925	0.03334	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-002D	0.2315	n/a	n/a	1 future	n/a	12	0.1975	0.01215	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-002I	0.3723	n/a	n/a	1 future	n/a	12	0.3117	0.02167	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-002S	0.3275	n/a	n/a	1 future	n/a	13	0.2685	0.02154	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-008I	0.388	n/a	n/a	1 future	n/a	13	0.2962	0.03355	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-008S	0.6432	n/a	n/a	1 future	n/a	13	0.5392	0.03796	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-014S	0.4204	n/a	n/a	1 future	n/a	13	0.3608	0.02178	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-015I	0.3665	n/a	n/a	1 future	n/a	13	0.2608	0.03861	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-015S	1.047	n/a	n/a	1 future	n/a	13	0.6385	0.1492	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-016D	0.22	n/a	n/a	1 future	n/a	12	n/a	n/a	0	n/a	n/a	0.01077	NP Intra (normality) 1 of 2	
Fluoride, total (mg/L)	MW-016I	0.2272	n/a	n/a	1 future	n/a	12	0.1292	0.03502	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-016S	0.5104	n/a	n/a	1 future	n/a	12	0.3833	0.04539	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-021D	0.4251	n/a	n/a	1 future	n/a	12	0.3492	0.02712	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-021I	0.4086	n/a	n/a	1 future	n/a	12	0.3367	0.0257	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-021S	0.719	n/a	n/a	1 future	n/a	13	0.61	0.03979	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-11S	1.112	n/a	n/a	1 future	n/a	13	0.8146	0.1084	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-17I	1.254	n/a	n/a	1 future	n/a	8	1.018	0.06882	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-17S	1.321	n/a	n/a	1 future	n/a	12	0.7783	0.1938	0	None	None	No	0.0004702	Param Intra 1 of 2
Fluoride, total (mg/L)	MW-6S	1.179	n/a	n/a	1 future	n/a	15	0.736	0.1692	0	None	None	No	0.0004702	Param Intra 1 of 2
pH, field (SU)	MW-001D	8.313	6.64	n/a	1 future	n/a	15	7.477	0.3196	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-001I	7.966	6.543	n/a	1 future	n/a	16	7.254	0.2784	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-001S	8.116	6.682	n/a	1 future	n/a	17	7.399	0.2841	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-002D	8.51	6.28	n/a	1 future	n/a	16	n/a	n/a	0	n/a	n/a	0.01291	NP Intra (normality) 1 of 2	
pH, field (SU)	MW-002I	8.466	6.553	n/a	1 future	n/a	15	7.509	0.3654	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-002S	8.097	6.447	n/a	1 future	n/a	15	176756	40112	0	None	x^6	0.0002351	Param Intra 1 of 2	
pH, field (SU)	MW-008I	8.048	6.801	n/a	1 future	n/a	13	7.425	0.2278	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-008S	8.123	6.877	n/a	1 future	n/a	13	7.5	0.2276	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-014S	8.038	6.455	n/a	1 future	n/a	13	7.246	0.289	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-015I	8.209	6.69	n/a	1 future	n/a	15	7.449	0.2901	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-015S	7.789	6.823	n/a	1 future	n/a	12	7.306	0.1725	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-016D	7.893	6.778	n/a	1 future	n/a	16	7.336	0.218	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-016I	7.874	6.833	n/a	1 future	n/a	15	7.353	0.1988	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-016S	8.222	6.155	n/a	1 future	n/a	15	7.189	0.3948	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-021D	8.641	6.599	n/a	1 future	n/a	13	7.62	0.3728	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-021I	8.56	7.3	n/a	1 future	n/a	13	n/a	n/a	0	n/a	n/a	0.01938	NP Intra (normality) 1 of 2	
pH, field (SU)	MW-021S	8.84	6.362	n/a	1 future	n/a	15	7.601	0.4734	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-11S	8.816	6.622	n/a	1 future	n/a	13	7.719	0.4004	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-17I	8.106	6.744	n/a	1 future	n/a	18	7.425	0.2731	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-17S	7.933	7.11	n/a	1 future	n/a	12	7.522	0.1471	0	None	None	No	0.0002351	Param Intra 1 of 2
pH, field (SU)	MW-6S	8.342	6.966	n/a	1 future	n/a	14	7.654	0.2569	0	None	None	No	0.0002351	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-001D	48.13	n/a	n/a	1 future	n/a	12	38.58	3.411	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-001I	47.95	n/a	n/a	1 future	n/a	12	42.57	1.922	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-001S	38.46	n/a	n/a	1 future	n/a	12	33.15	1.895	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-002D	47.96	n/a	n/a	1 future	n/a	12	39.14	3.149	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-002I	49.52	n/a	n/a	1 future	n/a	12	41.53	2.852	0	None	None	No	0.0004702	Param Intra 1 of 2

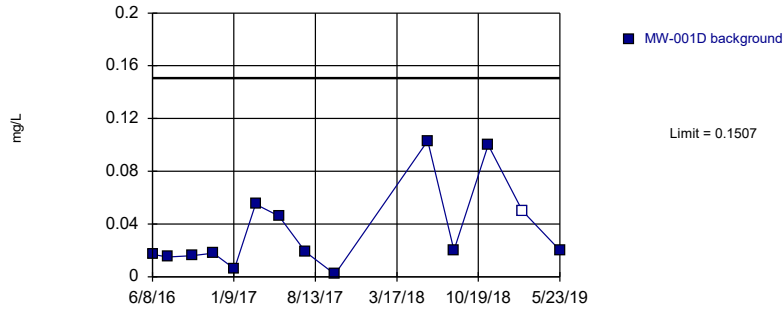
Interwell Prediction Limit Summary Table - All Results

Rockport Landfill Client: Geosyntec Data: Rockport_LF Printed 1/28/2020, 1:02 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg	N Bg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Sulfate, total (mg/L)	MW-002S	35.27	n/a	n/a	1 future	n/a	12	27.53	2.766	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-008I	100.2	n/a	n/a	1 future	n/a	13	79.89	7.398	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-008S	28.54	n/a	n/a	1 future	n/a	13	22.69	2.136	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-014S	39.09	n/a	n/a	1 future	n/a	13	32.45	2.424	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-015I	48.16	n/a	n/a	1 future	n/a	13	30.72	6.368	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-015S	38.94	n/a	n/a	1 future	n/a	12	21.84	6.106	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-016D	42.51	n/a	n/a	1 future	n/a	13	36.68	2.13	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-016I	45.03	n/a	n/a	1 future	n/a	12	36.37	3.093	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-016S	53.19	n/a	n/a	1 future	n/a	12	41.65	4.121	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-021D	43.18	n/a	n/a	1 future	n/a	12	36.55	2.368	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-021I	51.93	n/a	n/a	1 future	n/a	12	42.83	3.247	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-021S	24.59	n/a	n/a	1 future	n/a	13	18.04	2.391	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-11S	25.11	n/a	n/a	1 future	n/a	13	11.06	5.127	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-17I	58.09	n/a	n/a	1 future	n/a	13	42.75	5.603	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-17S	17.13	n/a	n/a	1 future	n/a	12	11.07	2.167	0	None	None	No	0.0004702	Param Intra 1 of 2
Sulfate, total (mg/L)	MW-6S	25.24	n/a	n/a	1 future	n/a	15	11.59	5.216	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-001D	364.2	n/a	n/a	1 future	n/a	12	4.1e12	8.1e11	0	None	x^5	0.0004702	Param Intra 1 of 2	
Total Dissolved Solids [TDS] (mg/L)	MW-001I	354.5	n/a	n/a	1 future	n/a	12	322.4	11.45	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-001S	422	n/a	n/a	1 future	n/a	12	396.4	9.12	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-002D	373.8	n/a	n/a	1 future	n/a	11	336.8	12.69	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-002I	382	n/a	n/a	1 future	n/a	12	333.4	17.34	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-002S	378.7	n/a	n/a	1 future	n/a	13	307.2	26.12	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-008I	415.1	n/a	n/a	1 future	n/a	12	379.5	12.72	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-008S	358.3	n/a	n/a	1 future	n/a	12	318.3	14.31	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-014S	403.1	n/a	n/a	1 future	n/a	12	364.7	13.73	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-015I	429.9	n/a	n/a	1 future	n/a	12	315.7	40.8	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-015S	438.7	n/a	n/a	1 future	n/a	12	300.8	49.24	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-016D	397.9	n/a	n/a	1 future	n/a	8	348.6	14.35	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-016I	594.6	n/a	n/a	1 future	n/a	14	479.6	42.94	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-016S	561.2	n/a	n/a	1 future	n/a	15	500.7	23.13	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-021D	375.9	n/a	n/a	1 future	n/a	12	328.6	16.89	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-021I	359.7	n/a	n/a	1 future	n/a	12	306.4	19.05	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-021S	323.5	n/a	n/a	1 future	n/a	12	287.5	12.85	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-11S	312.4	n/a	n/a	1 future	n/a	12	218.6	33.51	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-17I	736.3	n/a	n/a	1 future	n/a	14	490.6	91.76	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-17S	298.5	n/a	n/a	1 future	n/a	12	231.4	23.97	0	None	None	No	0.0004702	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-6S	355.8	n/a	n/a	1 future	n/a	15	270.1	32.78	0	None	None	No	0.0004702	Param Intra 1 of 2

Prediction Limit

Intrawell Parametric, MW-001D

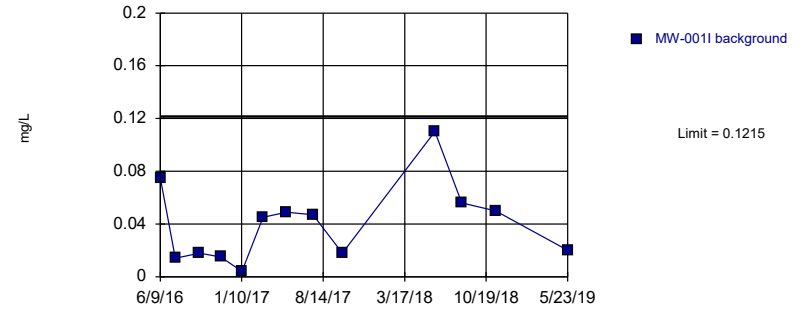


Background Data Summary (based on square root transformation): Mean=0.169, Std. Dev.=0.08185, n=14, 7.143% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9025, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Prediction Limit

Intrawell Parametric, MW-0011

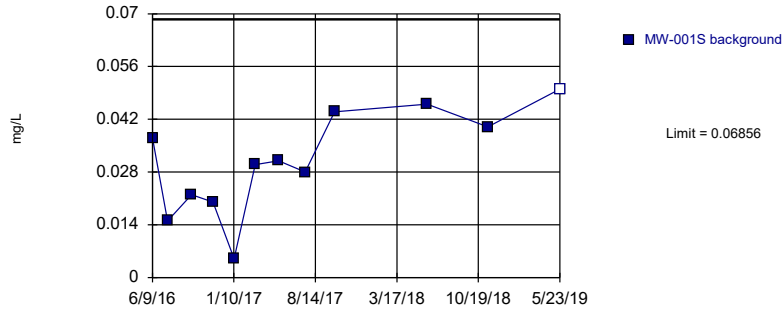


Background Data Summary: Mean=0.04008, Std. Dev.=0.02972, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8931, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Prediction Limit

Intrawell Parametric, MW-001S

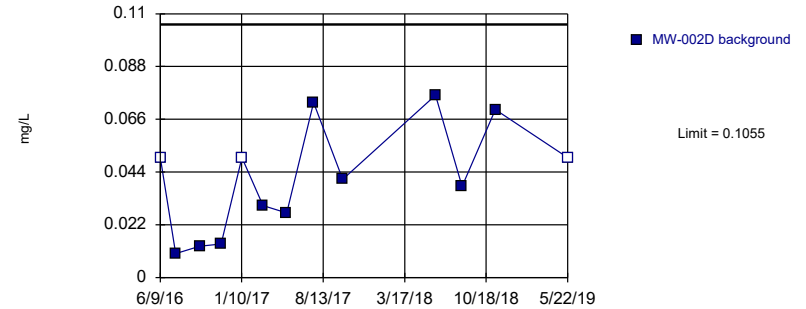


Background Data Summary: Mean=0.03067, Std. Dev.=0.01353, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9738, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Prediction Limit

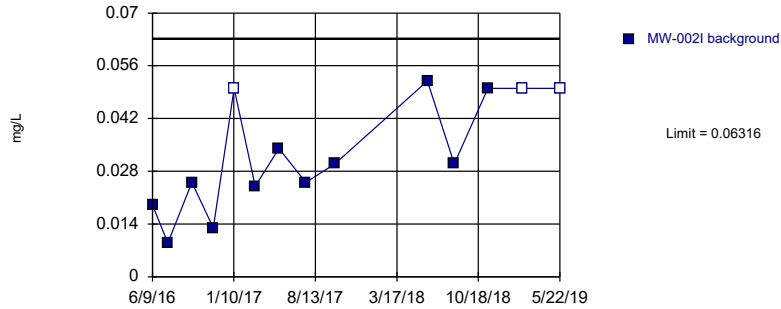
Intrawell Parametric, MW-002D



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.0392, Std. Dev.=0.0242, n=13, 23.08% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9328, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

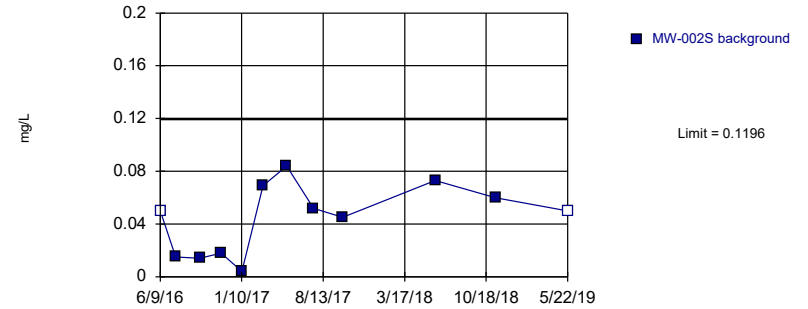
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.02636, Std. Dev.=0.01374, n=14, 21.43% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8889, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

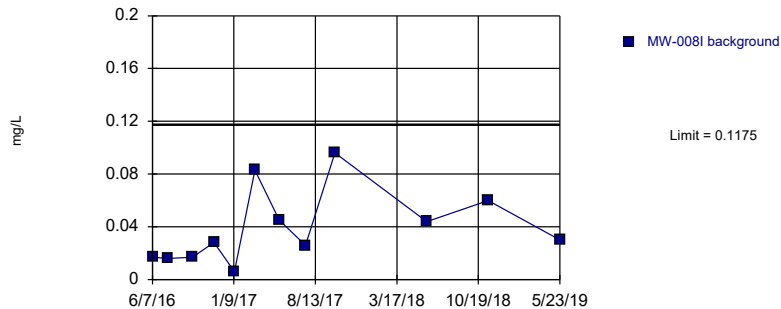
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.0434, Std. Dev.=0.0272, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9307, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

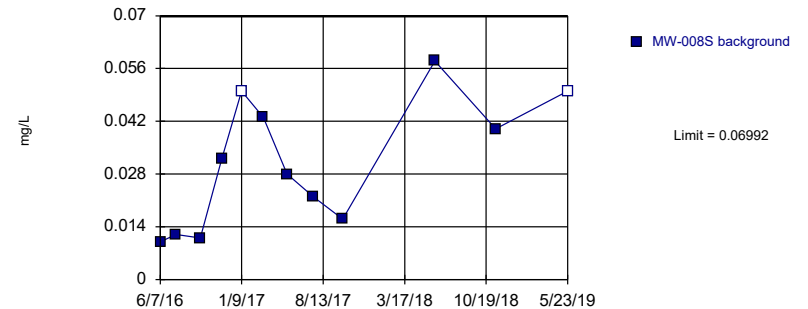
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=0.039, Std. Dev.=0.02803, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8919, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

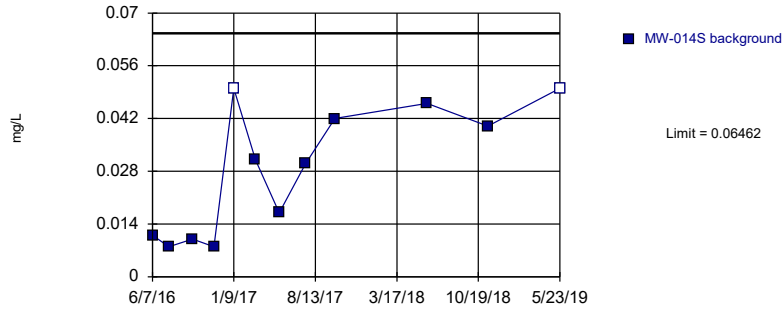
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.0272, Std. Dev.=0.01526, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9207, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

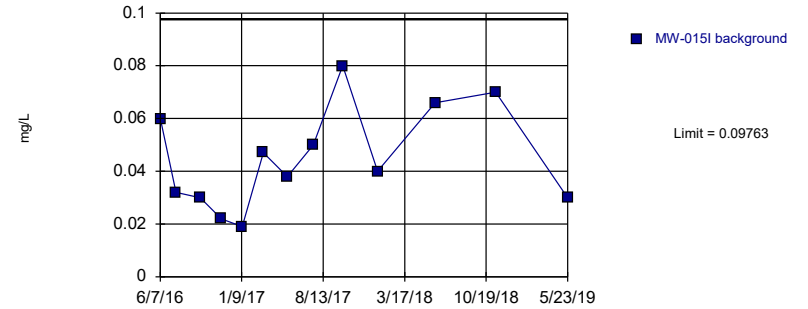
Prediction Limit
 Intrawell Parametric, MW-014S (bg)



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.0243, Std. Dev.=0.0144, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8674, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

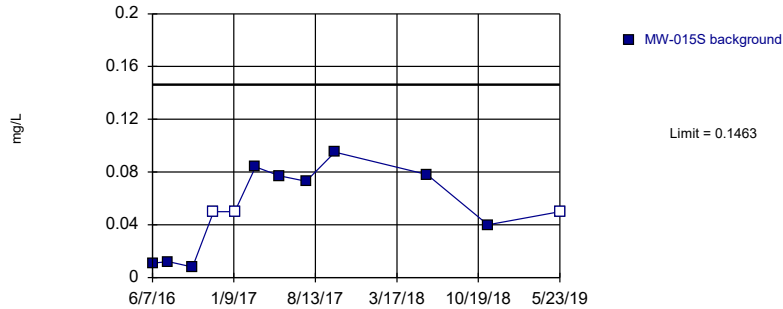
Prediction Limit
 Intrawell Parametric, MW-015I



Background Data Summary: Mean=0.04492, Std. Dev.=0.01924, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9485, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

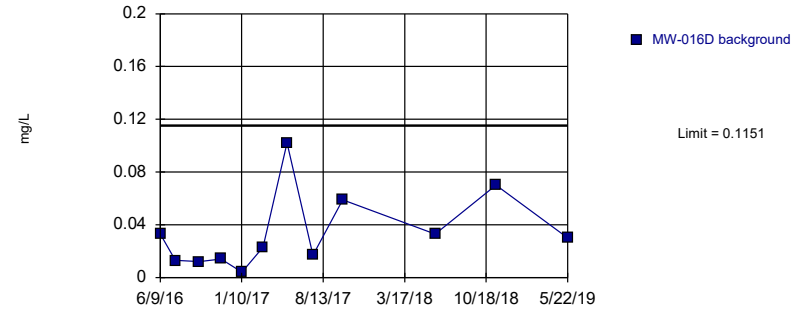
Prediction Limit
 Intrawell Parametric, MW-015S



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.05311, Std. Dev.=0.03327, n=12, 25% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.911, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

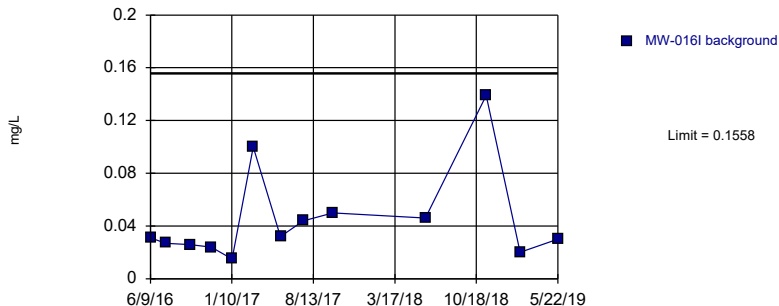
Prediction Limit
 Intrawell Parametric, MW-016D



Background Data Summary: Mean=0.03417, Std. Dev.=0.02892, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8503, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

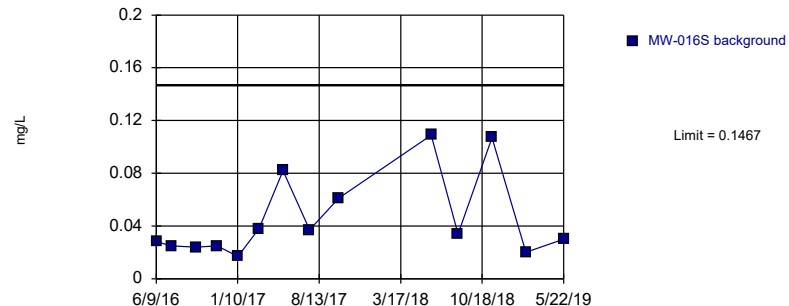
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary (based on square root transformation): Mean=0.2007, Std. Dev.=0.07084, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8276, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

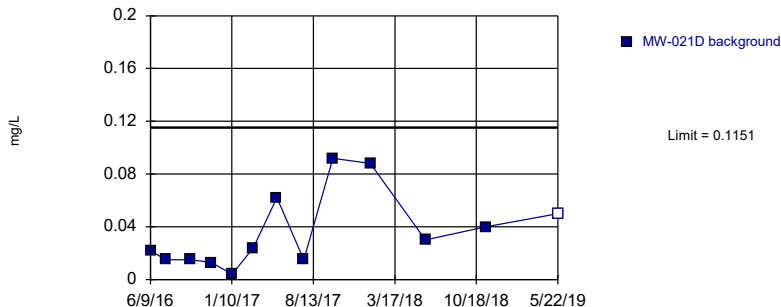
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary (based on square root transformation): Mean=0.2033, Std. Dev.=0.06711, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8381, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

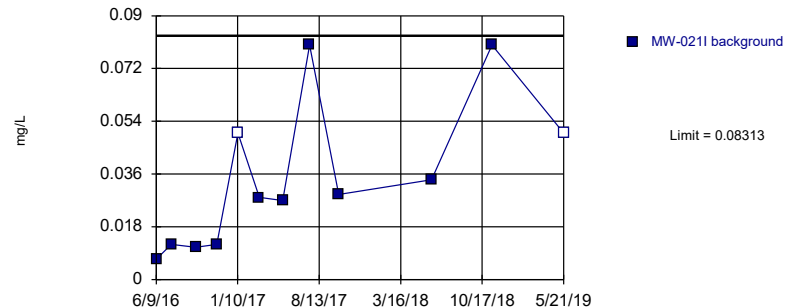
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=0.03615, Std. Dev.=0.02884, n=13, 7.692% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.859, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

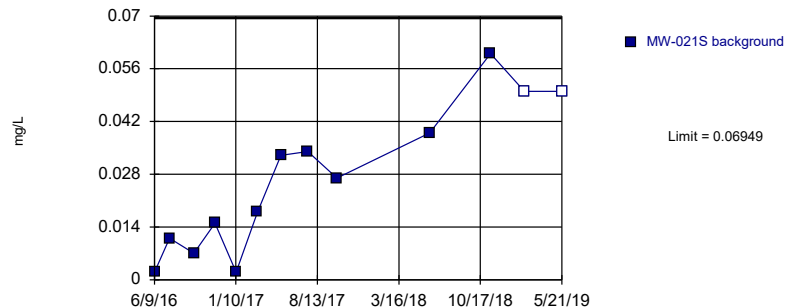
Prediction Limit
Intrawell Parametric, MW-021I



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.02566, Std. Dev.=0.02052, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8725, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

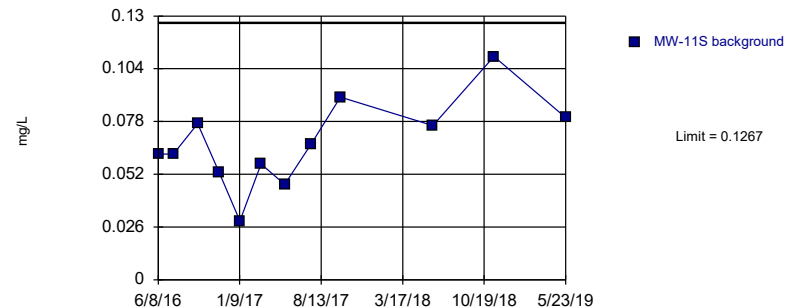
Prediction Limit
 Intrawell Parametric, MW-021S



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.02255, Std. Dev.=0.01714, n=13, 15.38% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9402, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

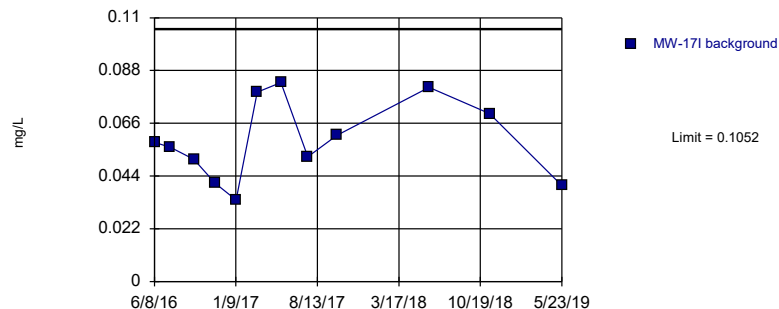
Prediction Limit
 Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=0.0675, Std. Dev.=0.02114, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9855, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

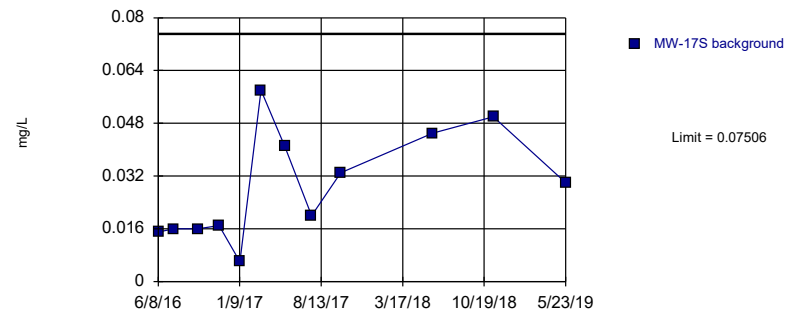
Prediction Limit
 Intrawell Parametric, MW-171



Background Data Summary: Mean=0.05883, Std. Dev.=0.01656, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9408, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

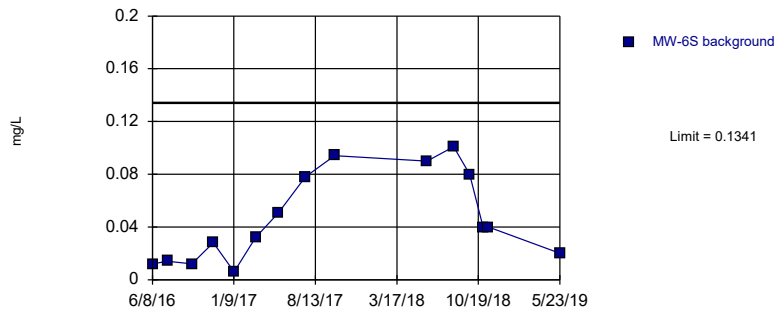
Prediction Limit
 Intrawell Parametric, MW-17S



Background Data Summary: Mean=0.02892, Std. Dev.=0.01648, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9283, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
 Rockport Landfill Client: Geosyntec Data: Rockport_LF

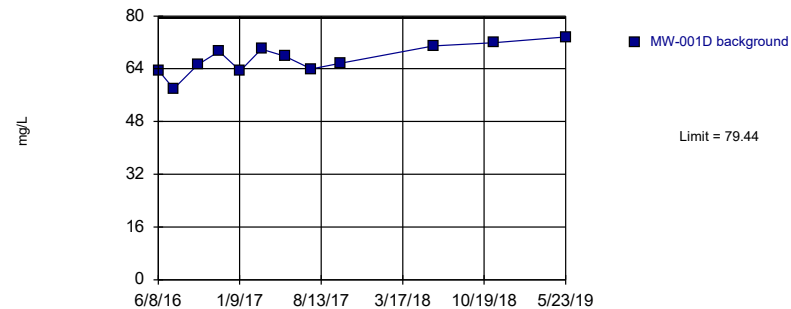
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=0.04653, Std. Dev.=0.03346, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8902, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Boron, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

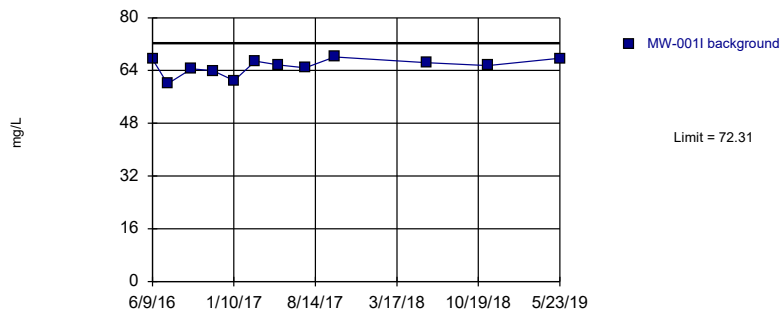
Prediction Limit
Intrawell Parametric, MW-001D



Background Data Summary: Mean=66.93, Std. Dev.=4.467, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9636, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

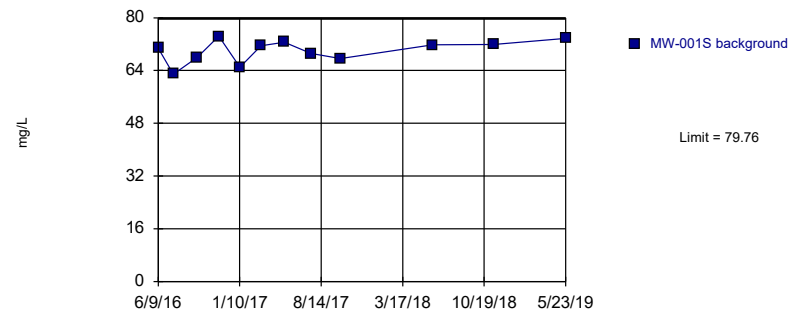
Prediction Limit
Intrawell Parametric, MW-0011



Background Data Summary: Mean=65.15, Std. Dev.=2.559, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9002, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

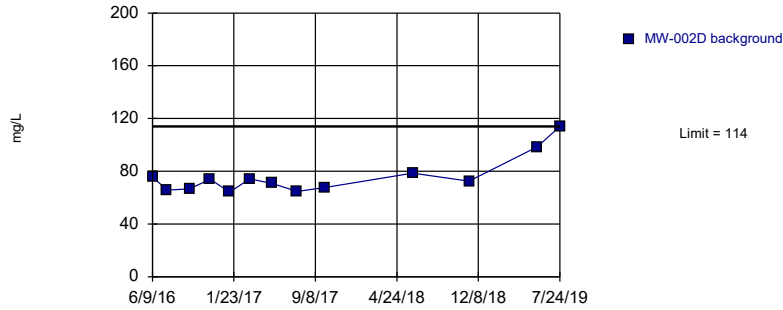
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=69.94, Std. Dev.=3.505, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9355, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

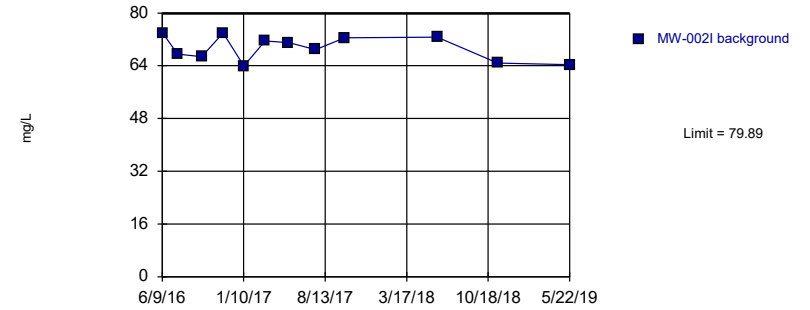
Prediction Limit
Intrawell Non-parametric, MW-002D



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 13 background values. Well-constituent pair annual alpha = 0.01929. Individual comparison alpha = 0.009692 (1 of 2). Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

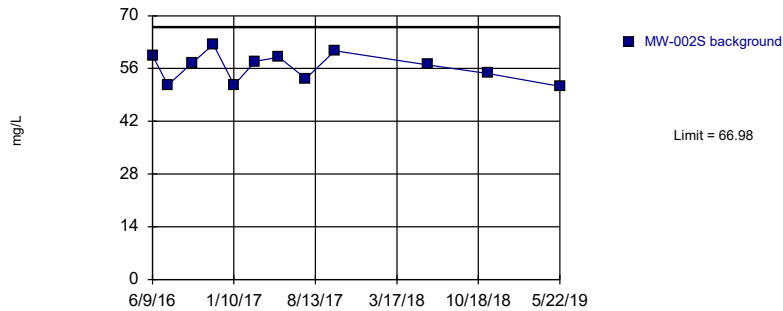
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=69.32, Std. Dev.=3.776, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9048, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

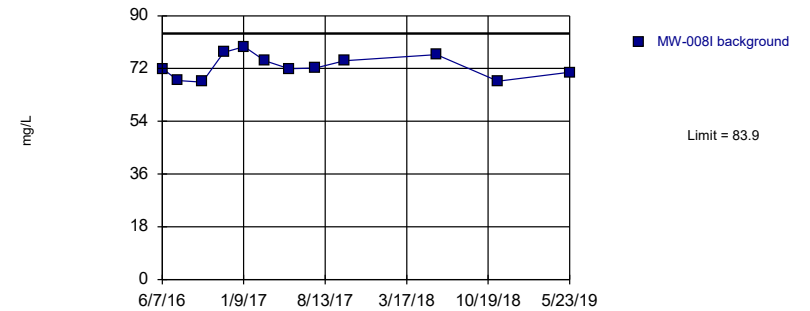
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary: Mean=56.36, Std. Dev.=3.795, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.931, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

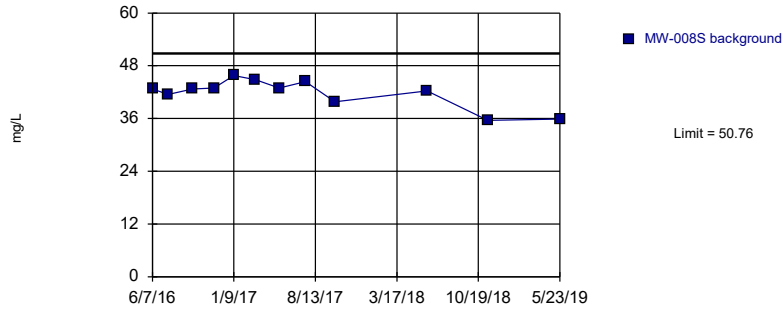
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=72.74, Std. Dev.=3.986, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9444, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

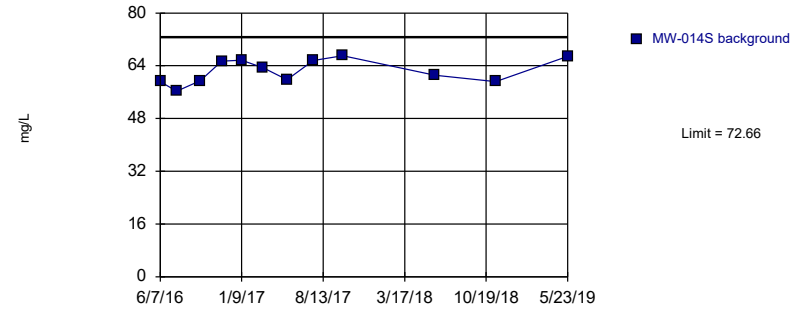
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=41.78, Std. Dev.=3.211, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8645, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

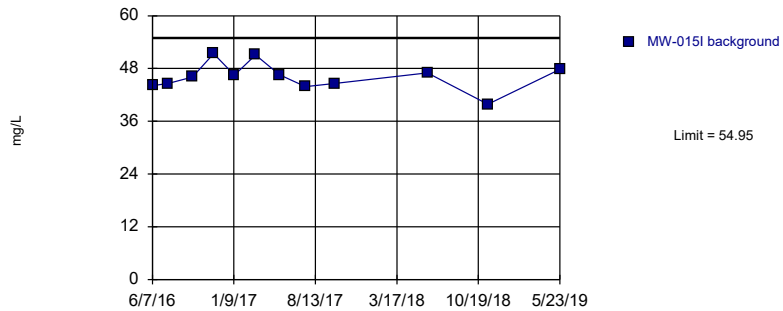
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=62.43, Std. Dev.=3.657, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8988, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

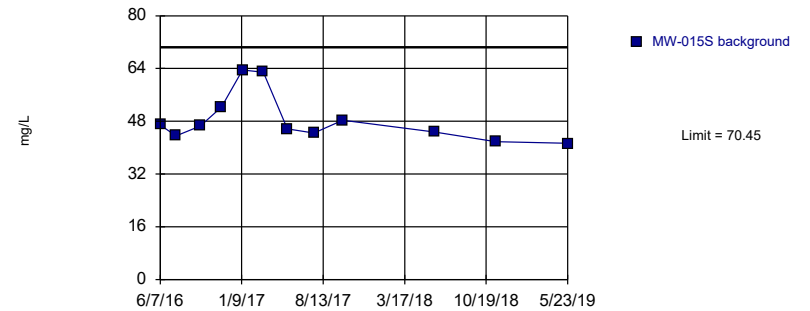
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=46.13, Std. Dev.=3.147, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9428, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:55 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

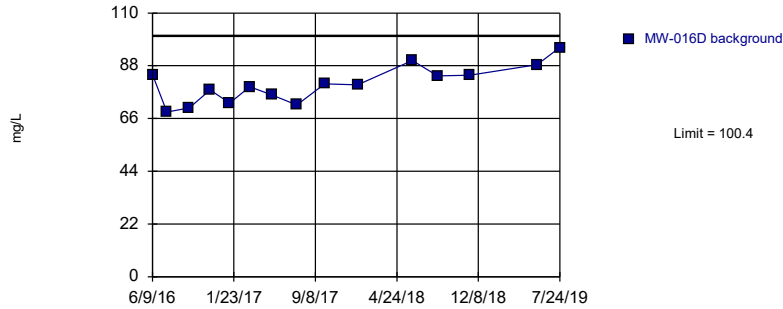
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary (based on square root transformation): Mean=6.947, Std. Dev.=0.5166, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8134, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

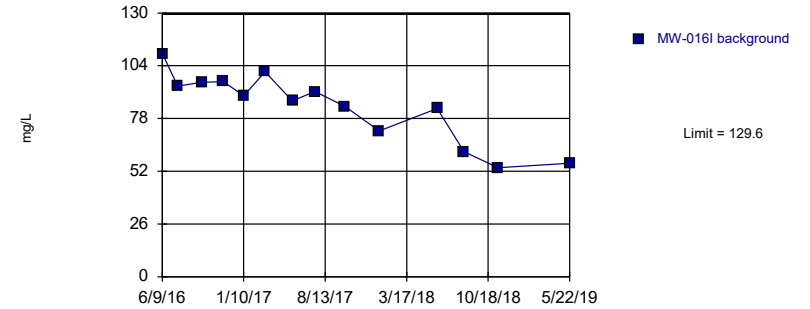
Prediction Limit
Intrawell Parametric, MW-016D



Background Data Summary: Mean=80.21, Std. Dev.=7.728, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9705, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

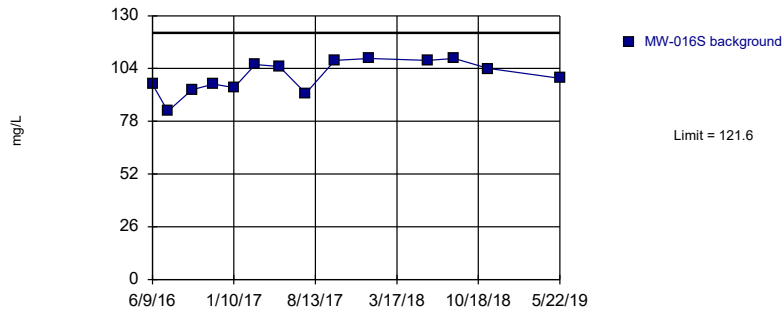
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=83.89, Std. Dev.=17.08, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9266, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

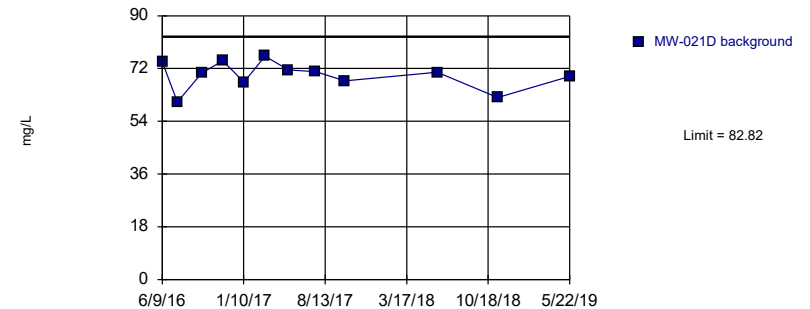
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=100.3, Std. Dev.=7.95, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9068, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

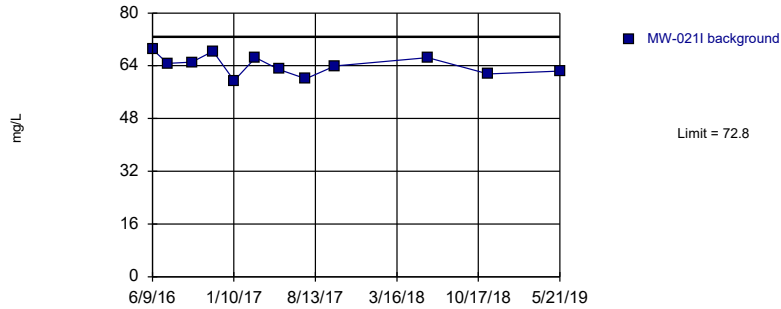
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=69.64, Std. Dev.=4.707, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9347, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

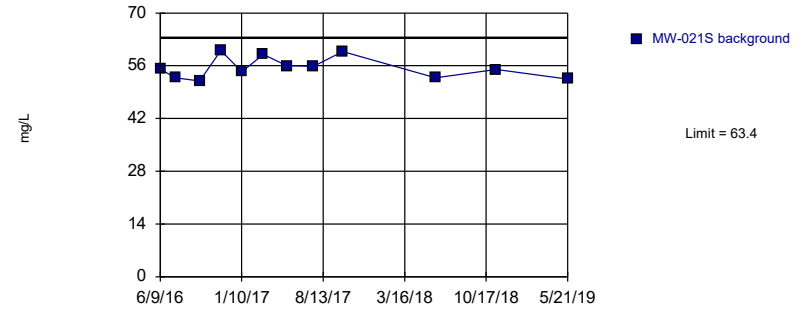
Prediction Limit
Intrawell Parametric, MW-0211



Background Data Summary: Mean=64.21, Std. Dev.=3.068, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9682, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

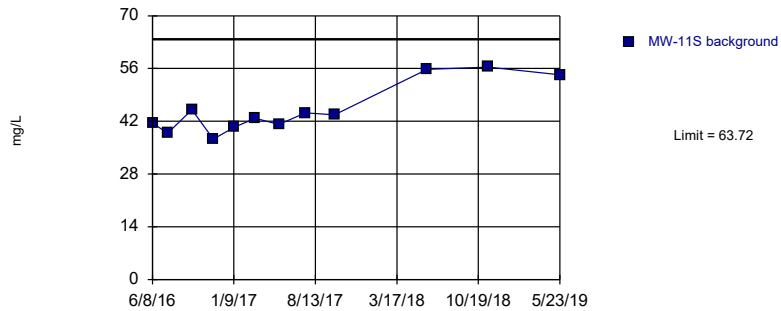
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=55.44, Std. Dev.=2.841, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8942, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

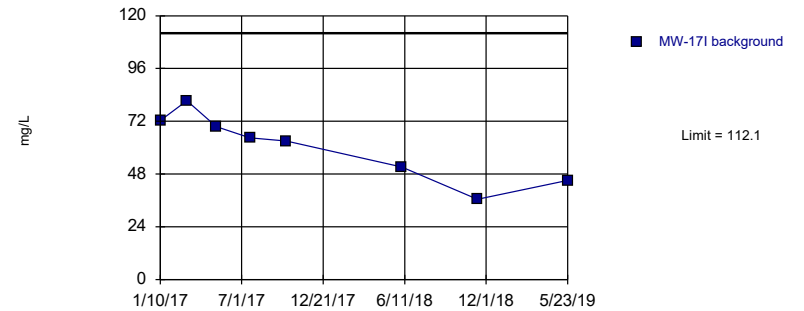
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=45.13, Std. Dev.=6.64, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8462, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

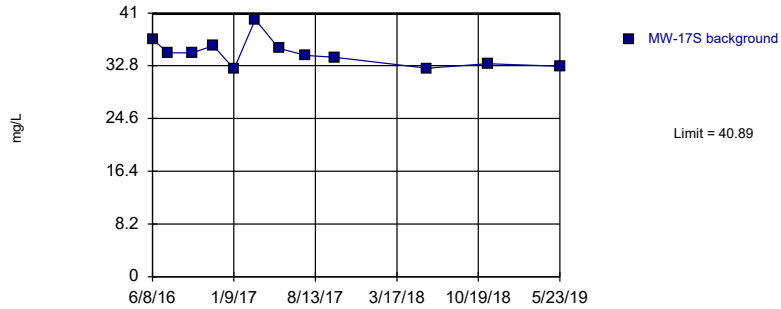
Prediction Limit
Intrawell Parametric, MW-17I



Background Data Summary: Mean=60.44, Std. Dev.=15.02, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9659, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

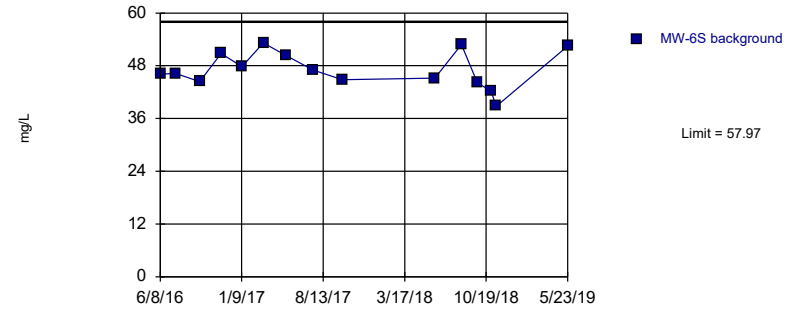
Prediction Limit Intrawell Parametric, MW-17S



Background Data Summary: Mean=34.74, Std. Dev.=2.196, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9024, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

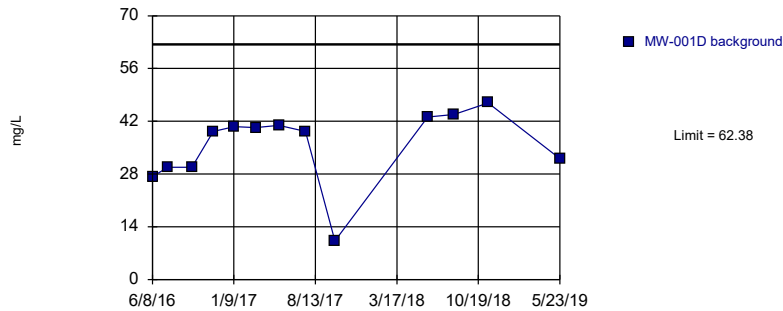
Prediction Limit Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=47.09, Std. Dev.=4.158, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9541, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Calcium, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

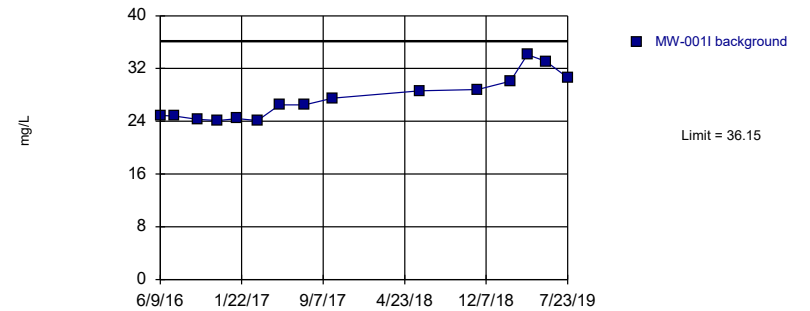
Prediction Limit Intrawell Parametric, MW-001D



Background Data Summary: Mean=35.65, Std. Dev.=9.756, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8517, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

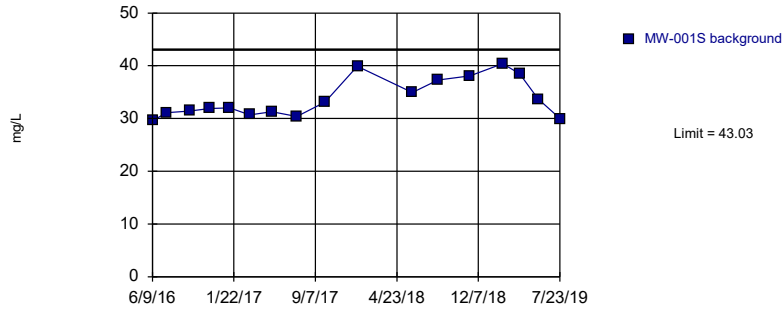
Prediction Limit Intrawell Parametric, MW-001I



Background Data Summary: Mean=27.49, Std. Dev.=3.308, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8901, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

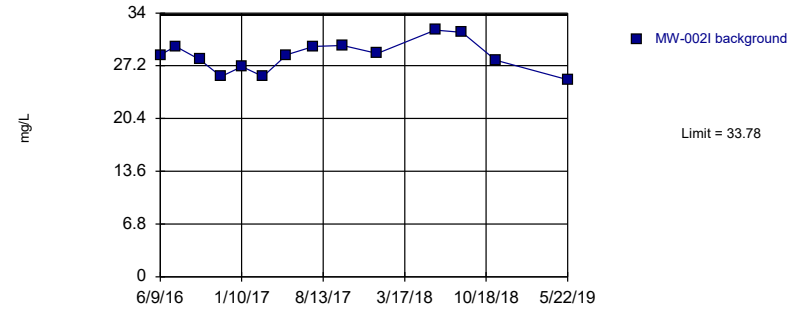
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=33.78, Std. Dev.=3.663, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8727, critical = 0.851. Kappa = 2.524 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

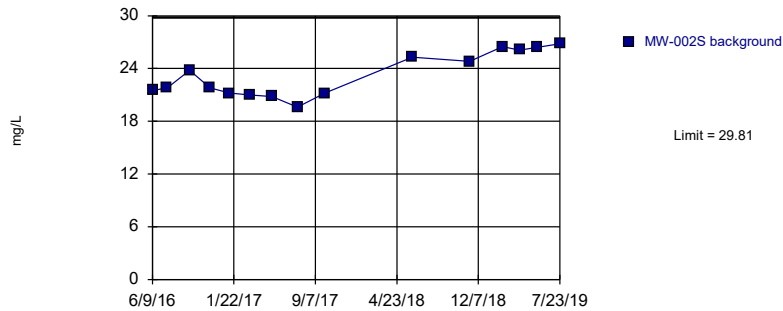
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=28.46, Std. Dev.=1.987, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9511, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

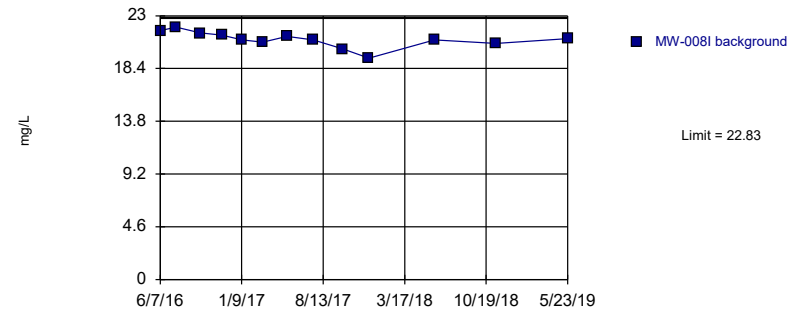
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary: Mean=23.24, Std. Dev.=2.51, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

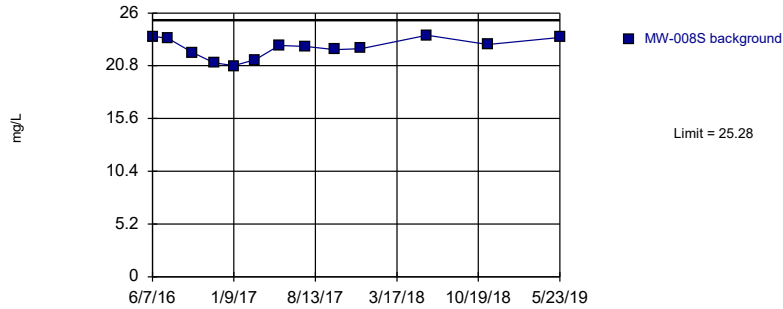
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=20.93, Std. Dev.=0.6945, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9435, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

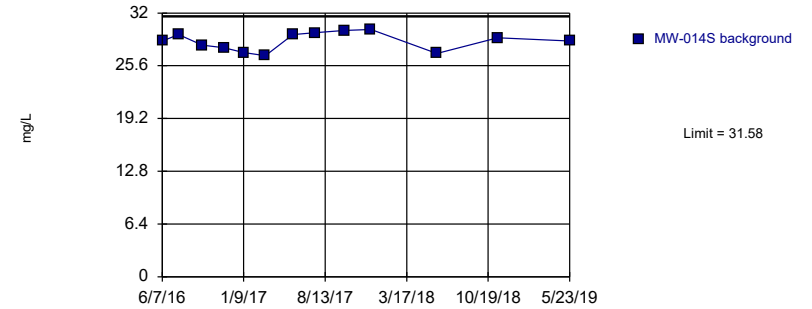
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=22.56, Std. Dev.=0.9921, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9293, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

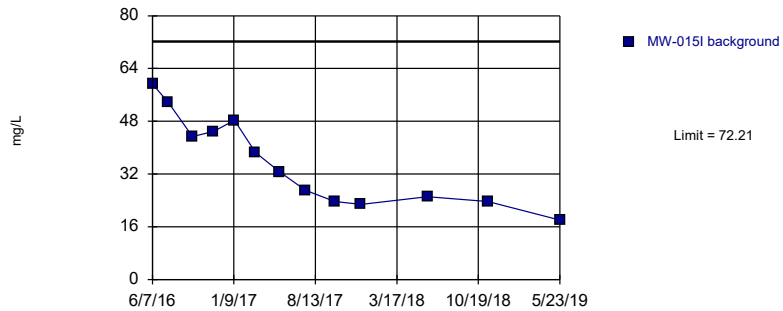
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=28.58, Std. Dev.=1.096, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9299, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

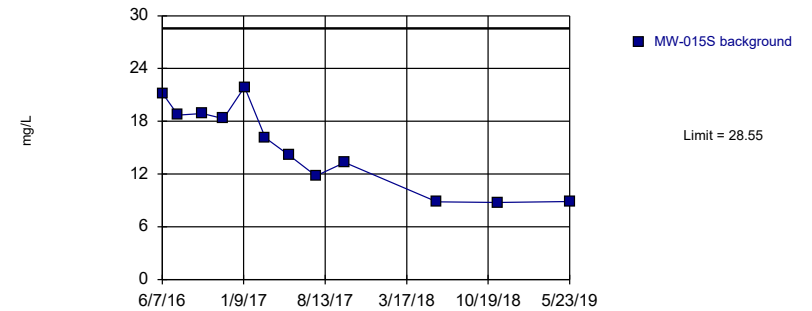
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=35.48, Std. Dev.=13.41, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9227, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

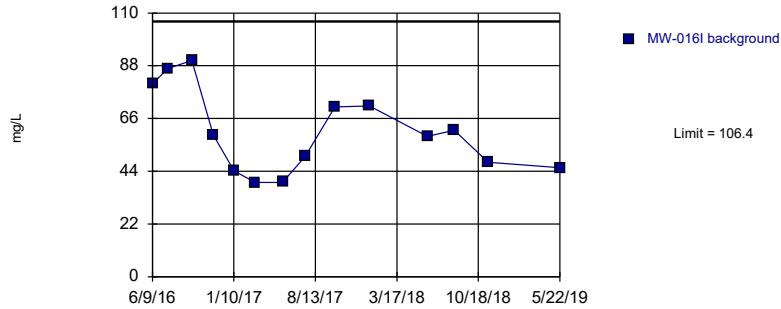
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary: Mean=15.07, Std. Dev.=4.815, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9132, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

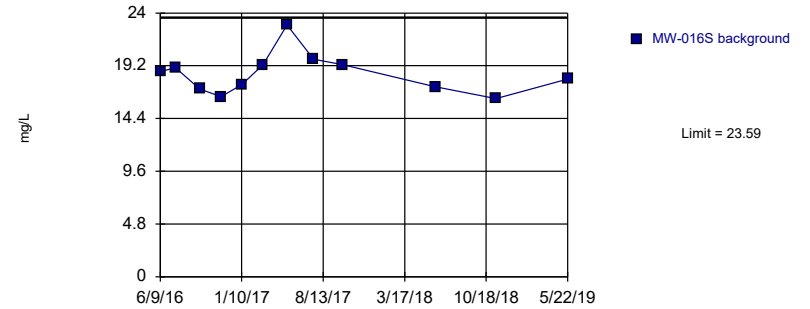
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=60.32, Std. Dev.=17.21, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9244, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

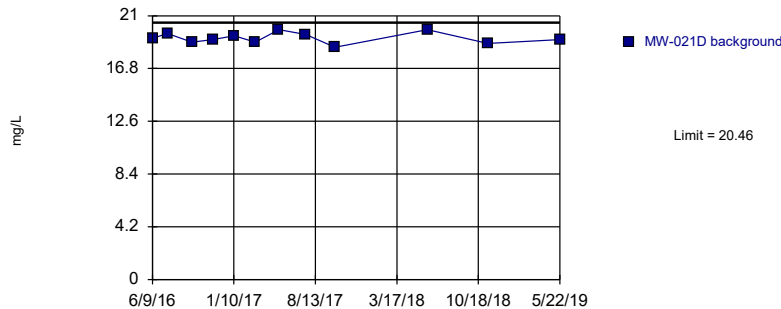
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=18.46, Std. Dev.=1.833, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9079, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

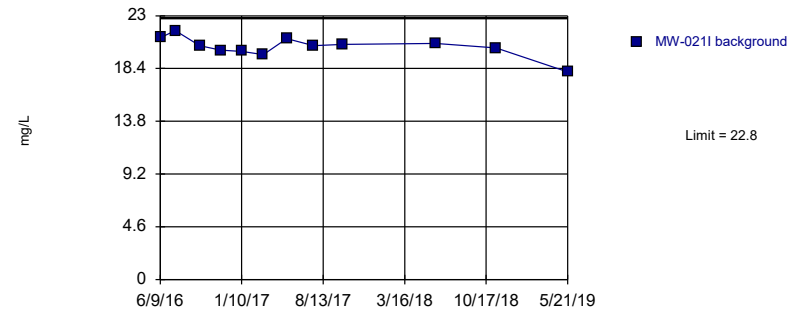
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=19.23, Std. Dev.=0.4376, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9604, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

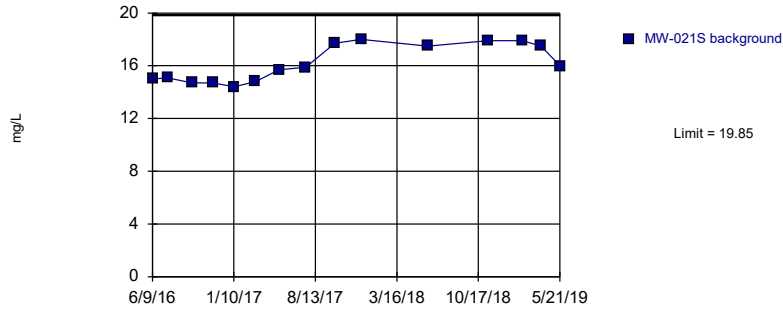
Prediction Limit
Intrawell Parametric, MW-021I



Background Data Summary: Mean=20.29, Std. Dev.=0.8959, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9204, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

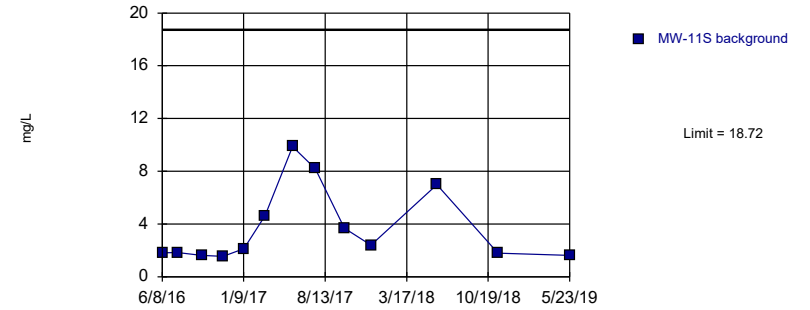
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=16.19, Std. Dev.=1.398, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8477, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

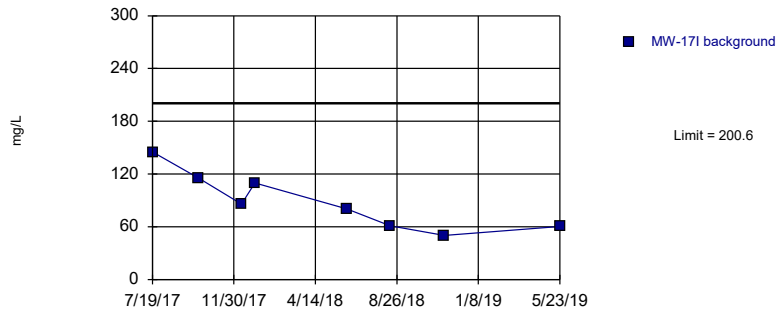
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary (based on natural log transformation): Mean=1.075, Std. Dev.=0.6769, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8336, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

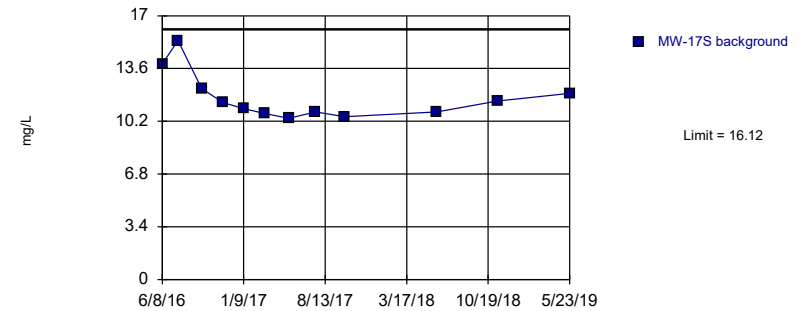
Prediction Limit
Intrawell Parametric, MW-171



Background Data Summary: Mean=88.45, Std. Dev.=32.64, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9376, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

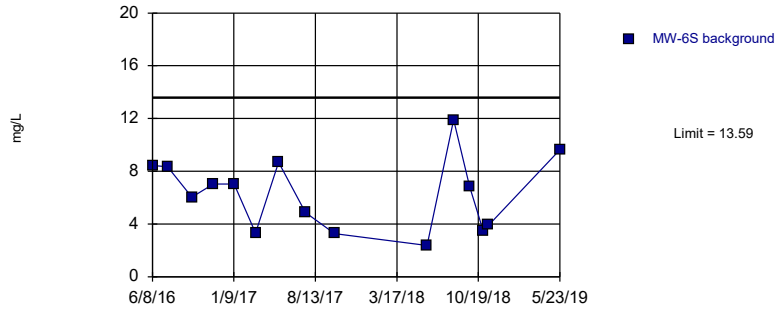
Prediction Limit
Intrawell Parametric, MW-17S



Background Data Summary (based on square root transformation): Mean=3.418, Std. Dev.=0.2133, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8189, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

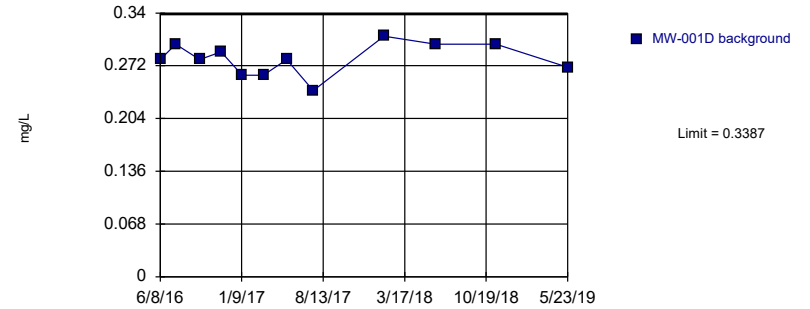
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=6.349, Std. Dev.=2.767, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9518, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

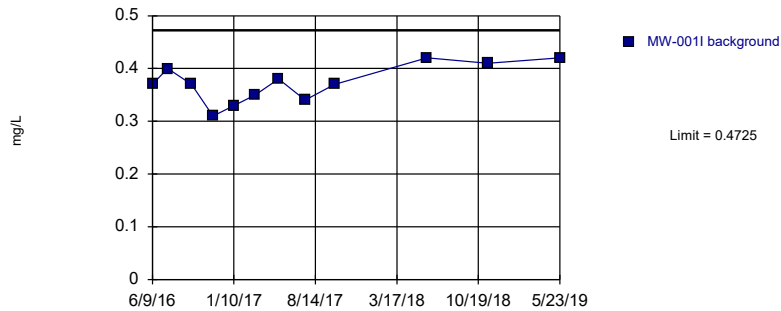
Prediction Limit
Intrawell Parametric, MW-001D



Background Data Summary: Mean=0.2808, Std. Dev.=0.02065, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9481, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

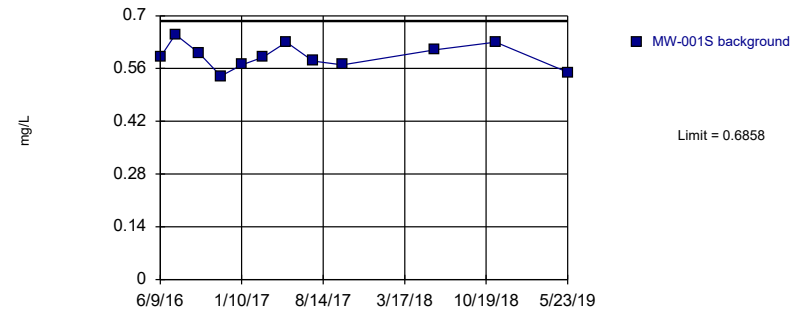
Prediction Limit
Intrawell Parametric, MW-0011



Background Data Summary: Mean=0.3725, Std. Dev.=0.03571, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.95, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

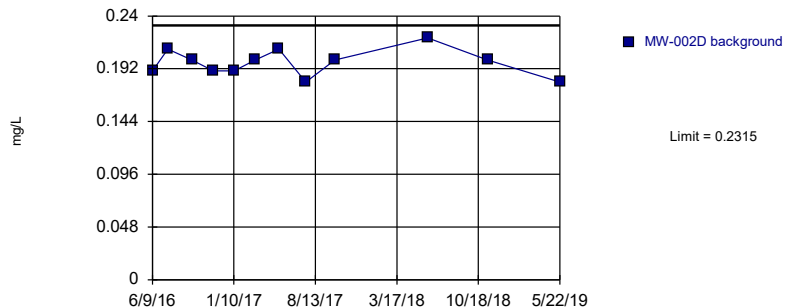
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=0.5925, Std. Dev.=0.03334, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9736, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

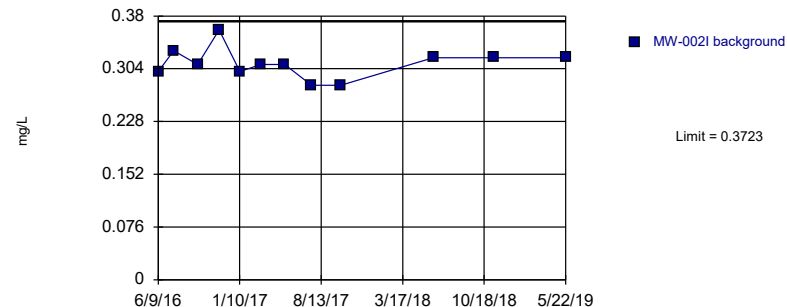
Prediction Limit
Intrawell Parametric, MW-002D



Background Data Summary: Mean=0.1975, Std. Dev.=0.01215, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

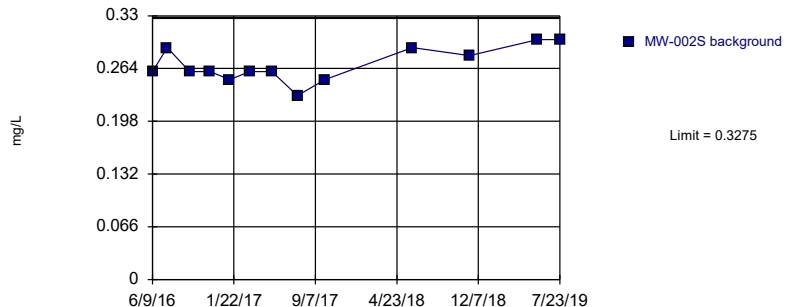
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=0.3117, Std. Dev.=0.02167, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9272, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

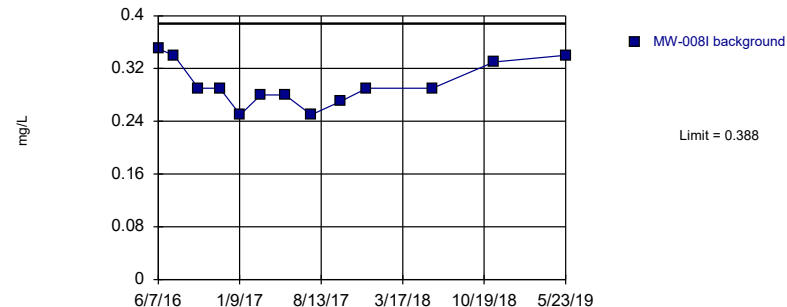
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary: Mean=0.2685, Std. Dev.=0.02154, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9078, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

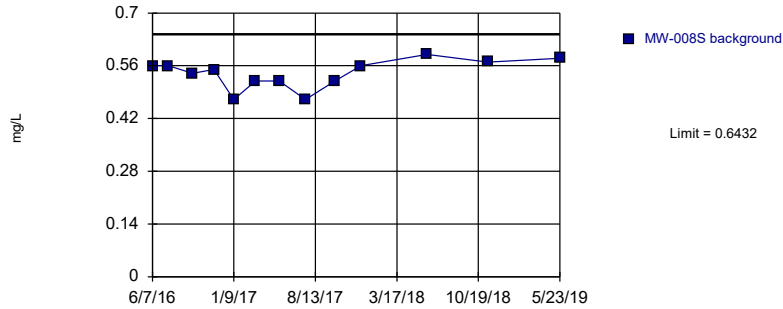
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=0.2962, Std. Dev.=0.03355, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8963, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

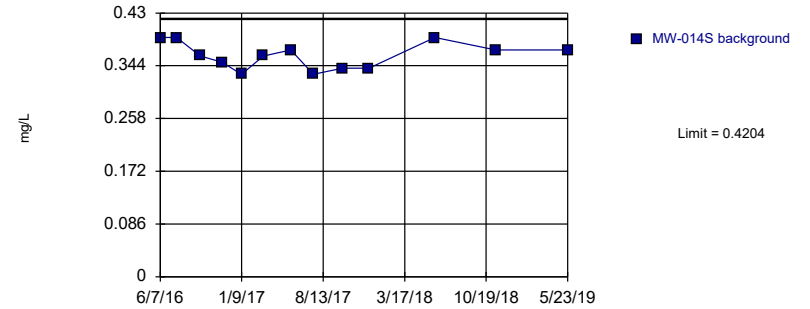
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=0.5392, Std. Dev.=0.03796, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9071, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

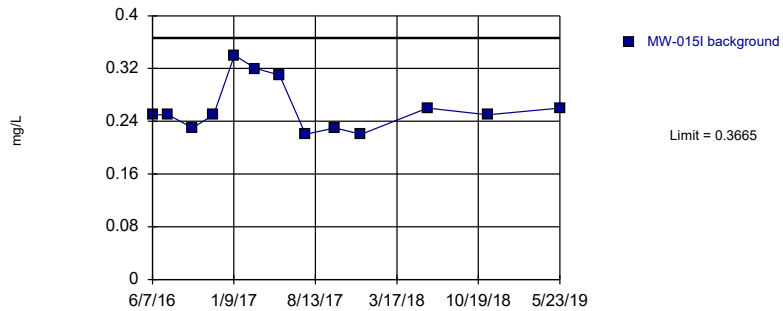
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=0.3608, Std. Dev.=0.02178, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9113, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

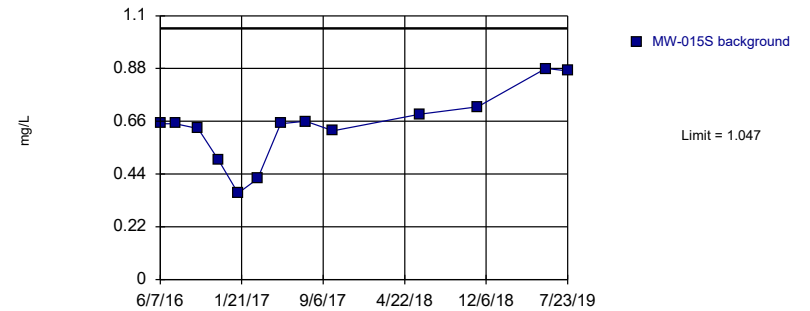
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=0.2608, Std. Dev.=0.03861, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8466, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

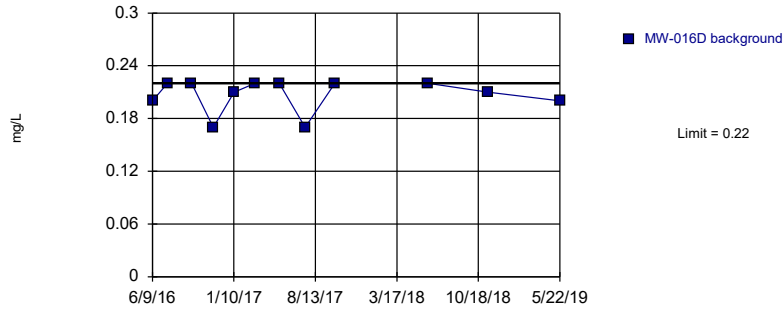
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary: Mean=0.6385, Std. Dev.=0.1492, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9238, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

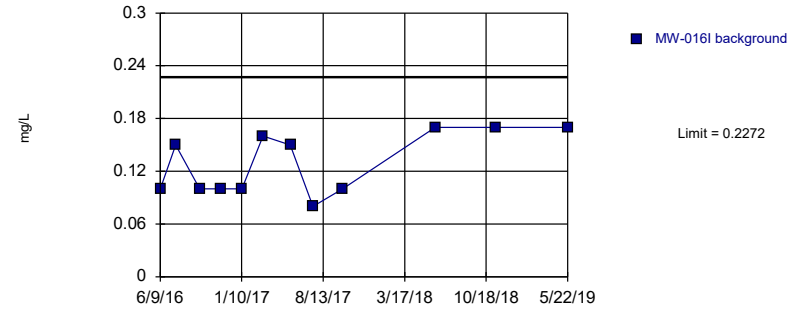
Prediction Limit
Intrawell Non-parametric, MW-016D



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.02143. Individual comparison alpha = 0.01077 (1 of 2). Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

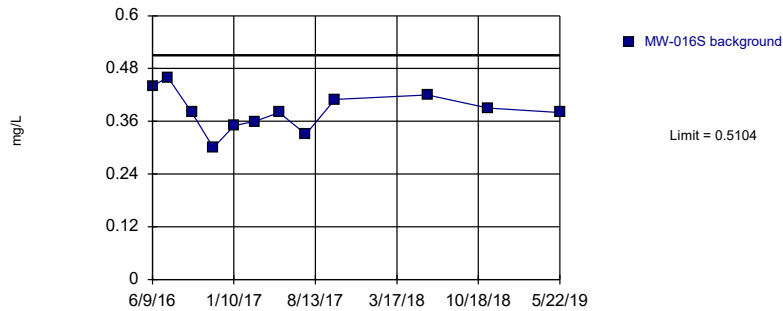
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=0.1292, Std. Dev.=0.03502, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8113, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

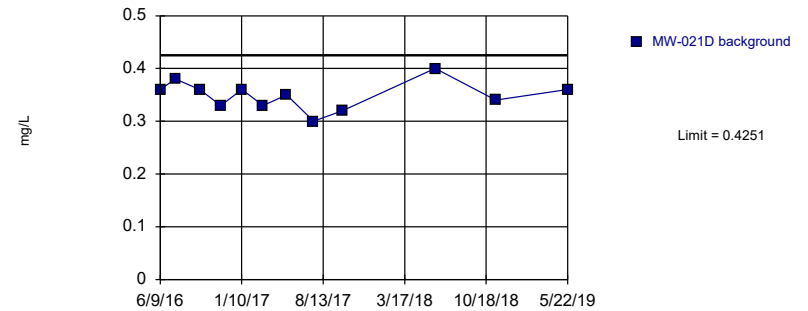
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=0.3833, Std. Dev.=0.04539, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9855, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

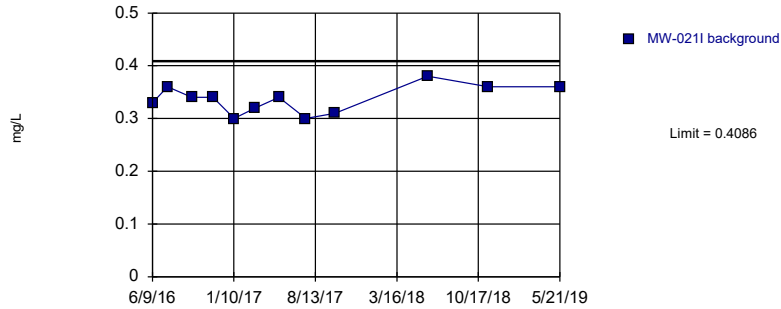
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=0.3492, Std. Dev.=0.02712, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9711, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

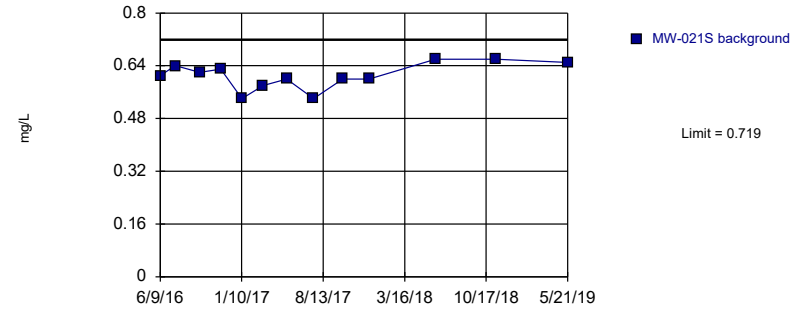
Prediction Limit
Intrawell Parametric, MW-0211



Background Data Summary: Mean=0.3367, Std. Dev.=0.0257, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9423, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

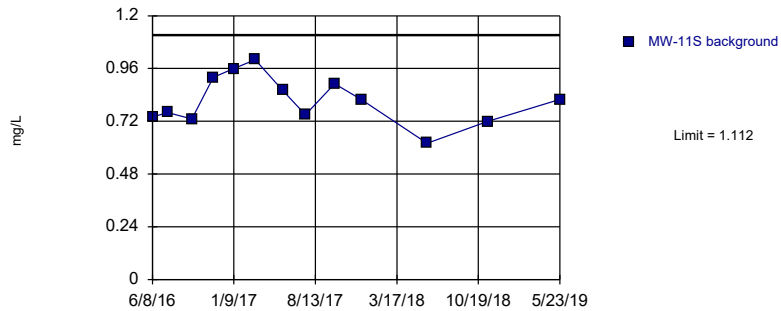
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=0.61, Std. Dev.=0.03979, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9212, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

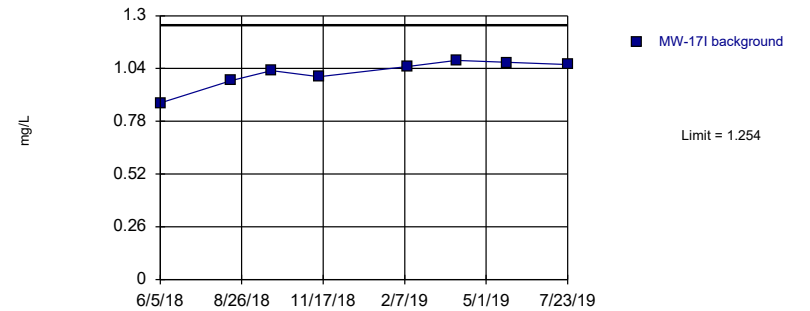
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=0.8146, Std. Dev.=0.1084, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9711, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

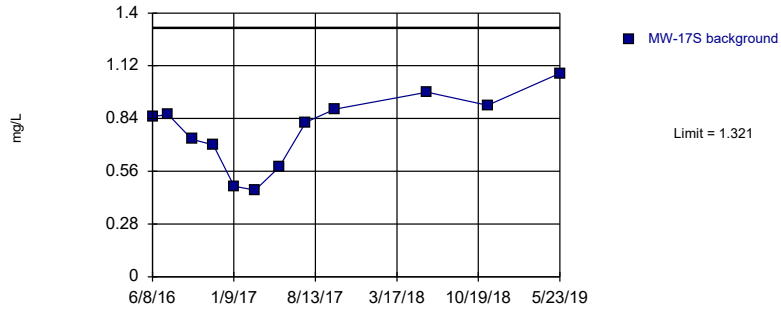
Prediction Limit
Intrawell Parametric, MW-17I



Background Data Summary: Mean=1.018, Std. Dev.=0.06882, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8428, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:56 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

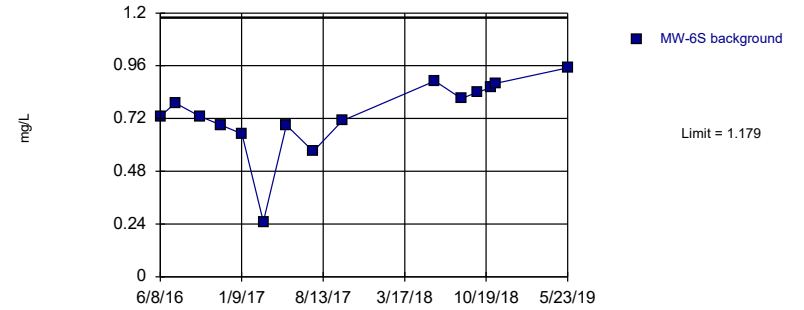
Prediction Limit
Intrawell Parametric, MW-17S



Background Data Summary: Mean=0.7783, Std. Dev.=0.1938, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.949, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

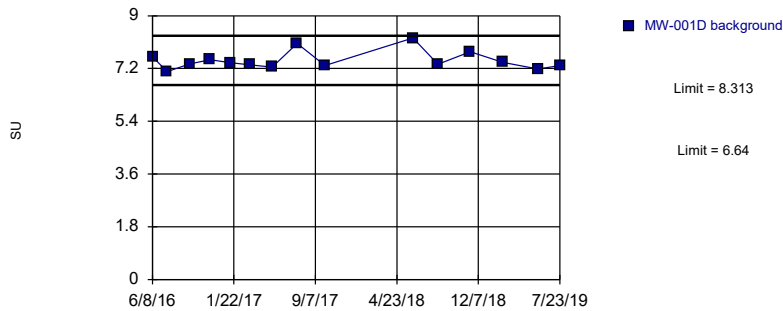
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=0.736, Std. Dev.=0.1692, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8602, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Fluoride, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

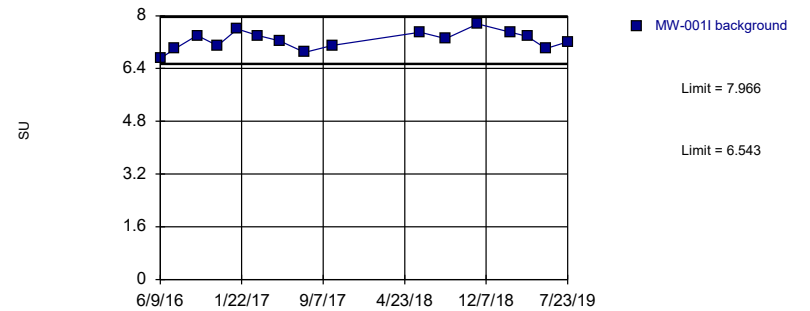
Prediction Limit
Intrawell Parametric, MW-001D



Background Data Summary: Mean=7.477, Std. Dev.=0.3196, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8468, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

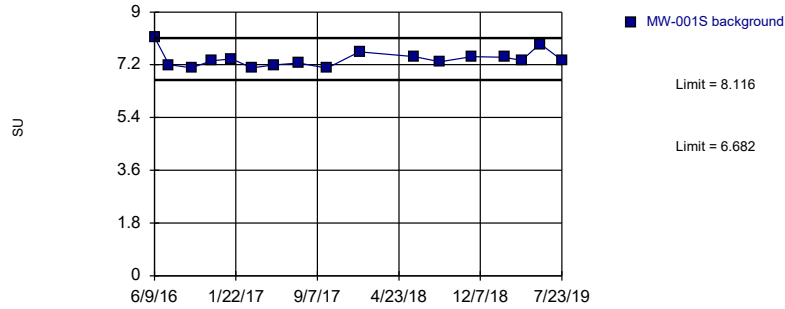
Prediction Limit
Intrawell Parametric, MW-001I



Background Data Summary: Mean=7.254, Std. Dev.=0.2784, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9877, critical = 0.844. Kappa = 2.556 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

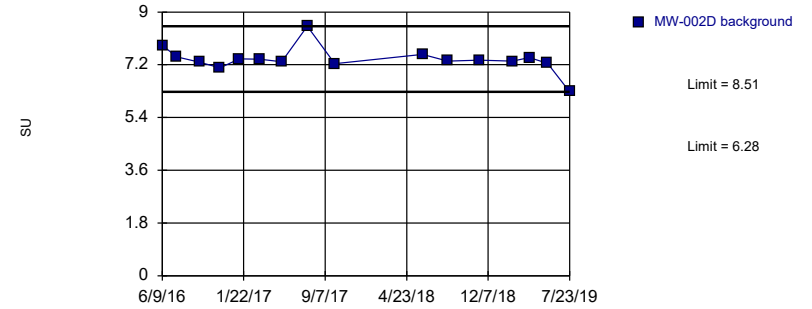
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=7.399, Std. Dev.=0.2841, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8743, critical = 0.851. Kappa = 2.524 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

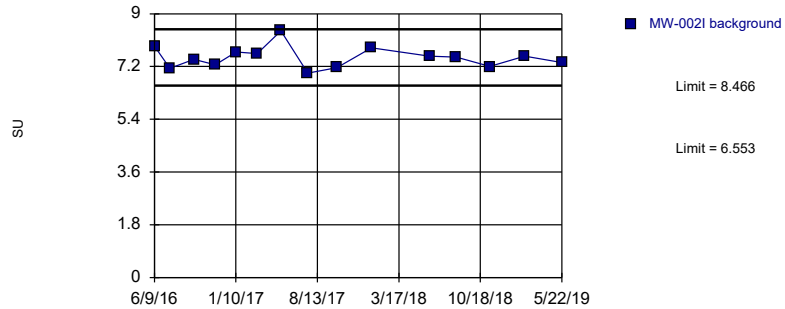
Prediction Limit
Intrawell Non-parametric, MW-002D



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 16 background values. Well-constituent pair annual alpha = 0.02574. Individual comparison alpha = 0.01291 (1 of 2). Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

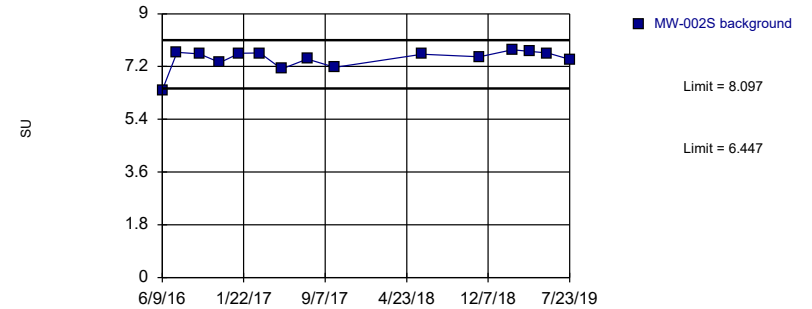
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=7.509, Std. Dev.=0.3654, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

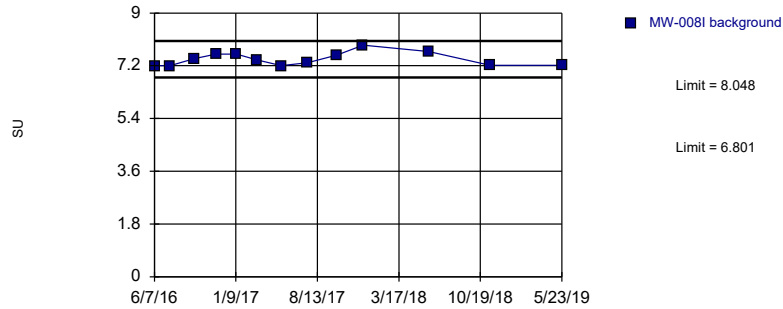
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary (based on x^6 transformation): Mean=176756, Std. Dev.=40112, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8459, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

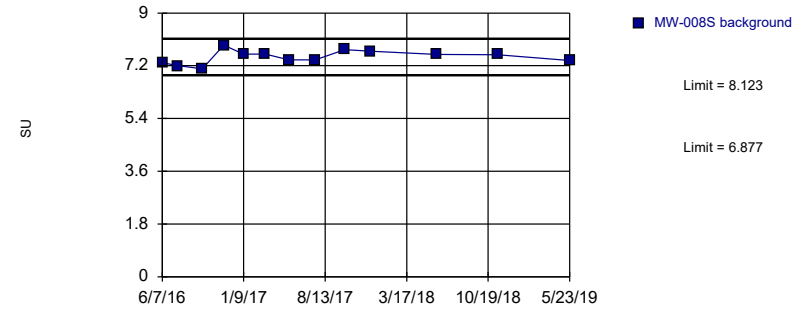
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=7.425, Std. Dev.=0.2278, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.882, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

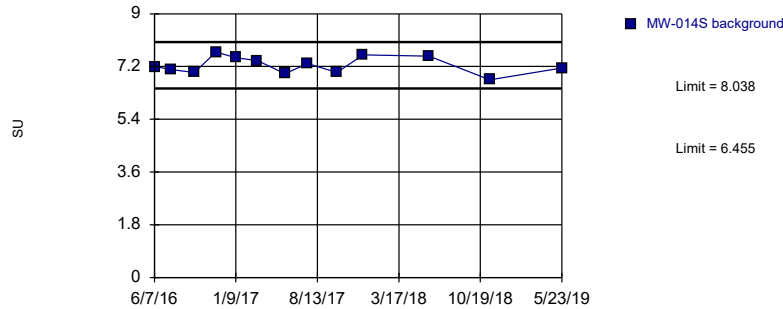
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=7.5, Std. Dev.=0.2276, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9737, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

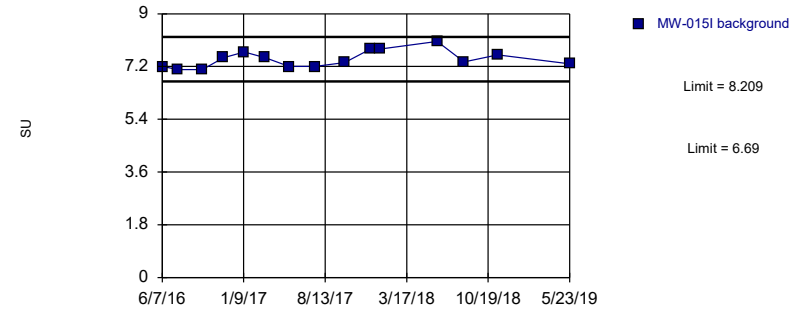
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=7.246, Std. Dev.=0.289, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9666, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

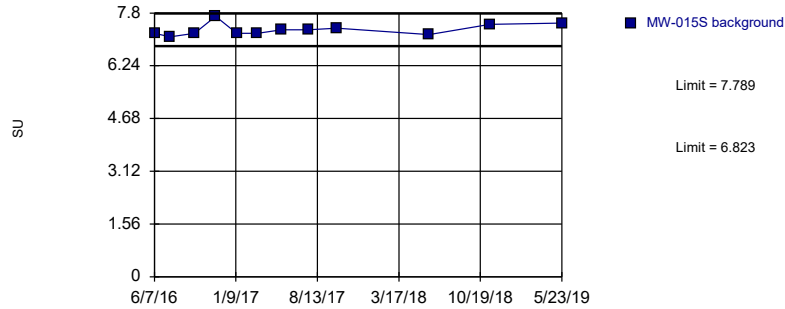
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=7.449, Std. Dev.=0.2901, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9292, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

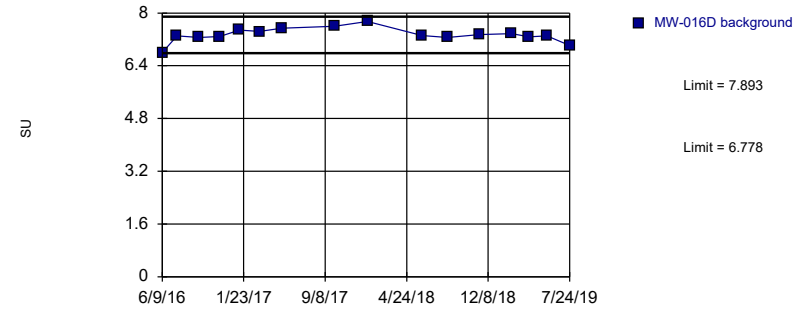
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary: Mean=7.306, Std. Dev.=0.1725, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8864, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

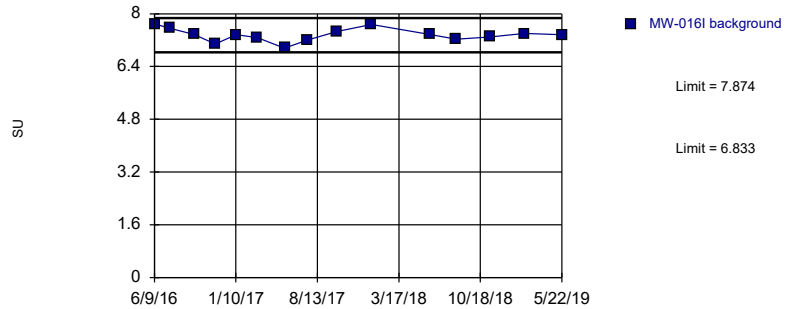
Prediction Limit
Intrawell Parametric, MW-016D



Background Data Summary: Mean=7.336, Std. Dev.=0.218, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9272, critical = 0.844. Kappa = 2.556 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

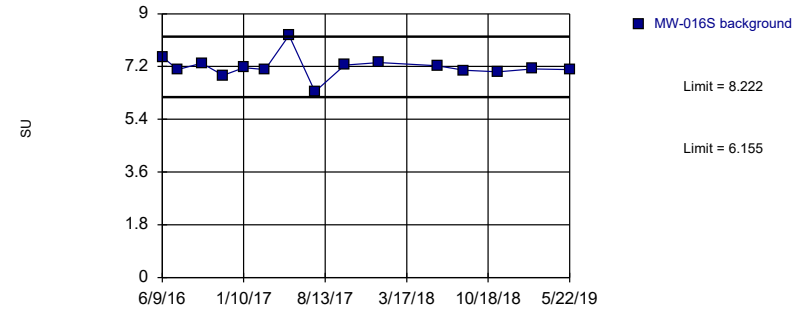
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=7.353, Std. Dev.=0.1988, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9635, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

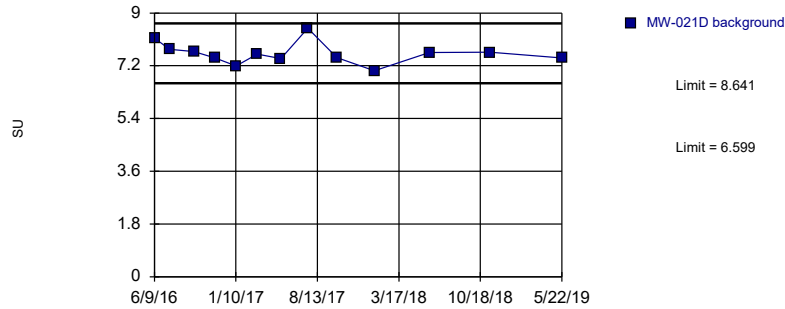
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=7.189, Std. Dev.=0.3948, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8429, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

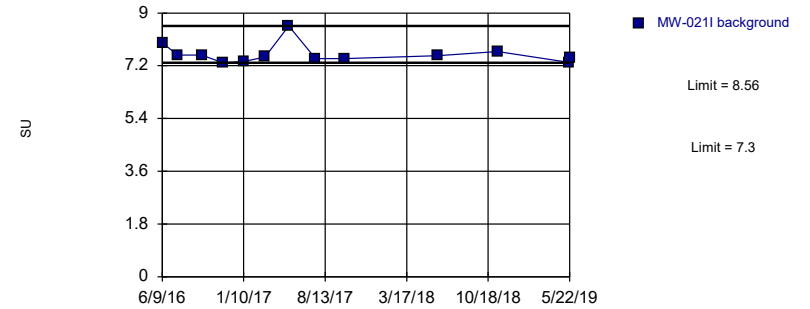
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=7.62, Std. Dev.=0.3728, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9188, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

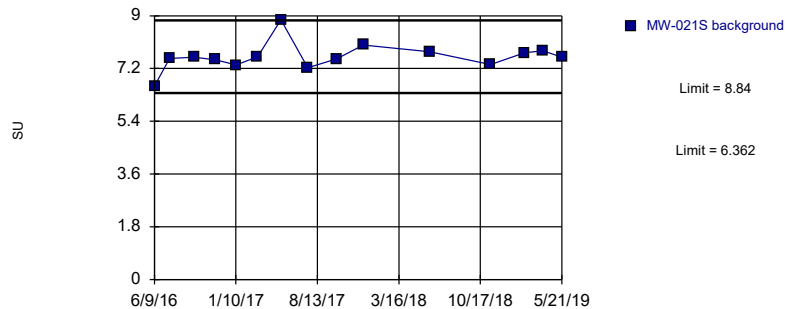
Prediction Limit
Intrawell Non-parametric, MW-021I



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 13 background values. Well-constituent pair annual alpha = 0.03858. Individual comparison alpha = 0.01938 (1 of 2). Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

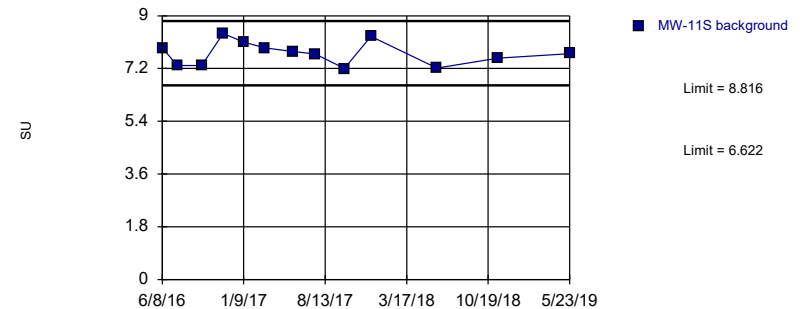
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=7.601, Std. Dev.=0.4734, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.878, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

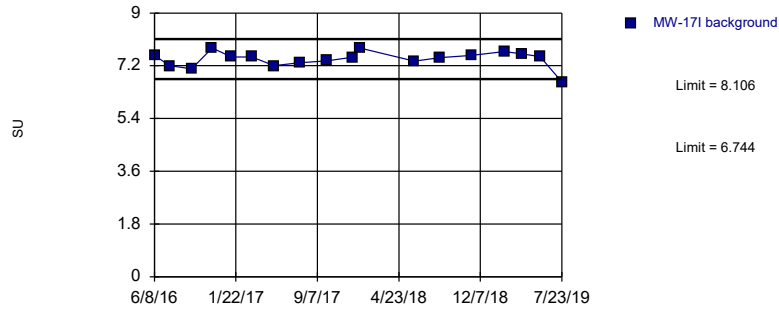
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=7.719, Std. Dev.=0.4004, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9382, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

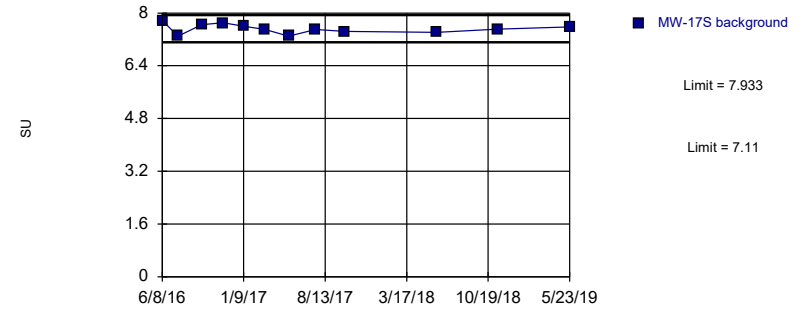
Prediction Limit
Intrawell Parametric, MW-17I



Background Data Summary: Mean=7.425, Std. Dev.=0.2731, n=18. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9039, critical = 0.858. Kappa = 2.492 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

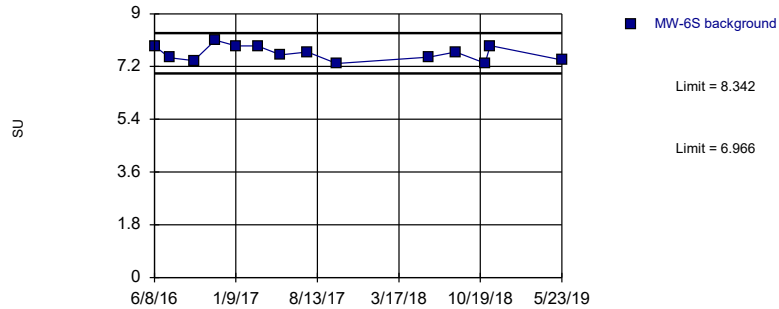
Prediction Limit
Intrawell Parametric, MW-17S



Background Data Summary: Mean=7.522, Std. Dev.=0.1471, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.967, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

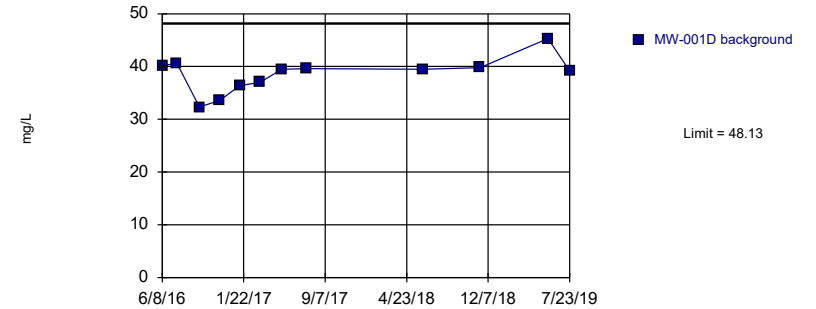
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=7.654, Std. Dev.=0.2569, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9313, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: pH, field Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

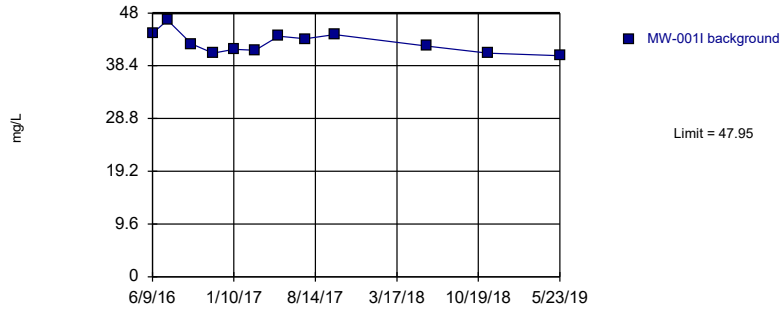
Prediction Limit
Intrawell Parametric, MW-001D



Background Data Summary: Mean=38.58, Std. Dev.=3.411, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9146, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

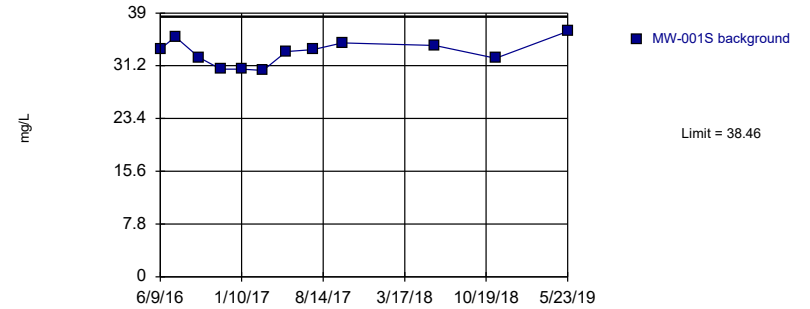
Prediction Limit
Intrawell Parametric, MW-001I



Background Data Summary: Mean=42.57, Std. Dev.=1.922, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9315, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

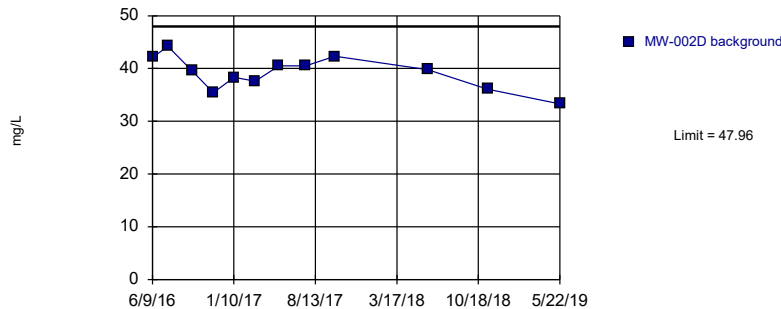
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=33.15, Std. Dev.=1.895, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9476, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

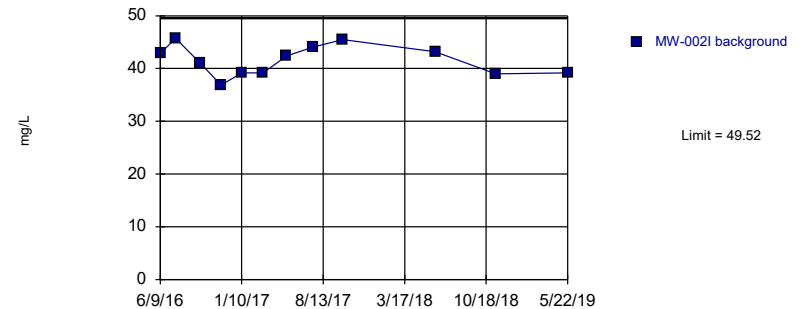
Prediction Limit
Intrawell Parametric, MW-002D



Background Data Summary: Mean=39.14, Std. Dev.=3.149, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9797, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

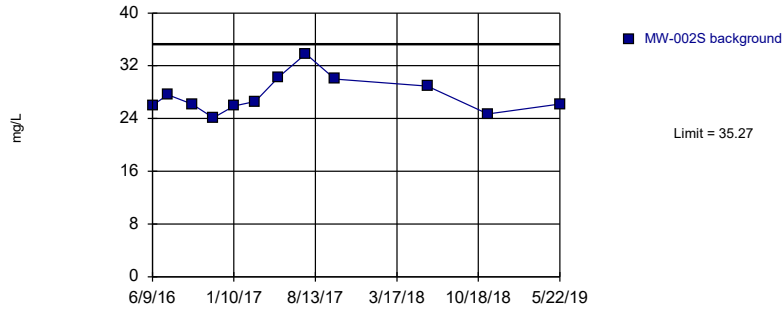
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=41.53, Std. Dev.=2.852, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9344, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

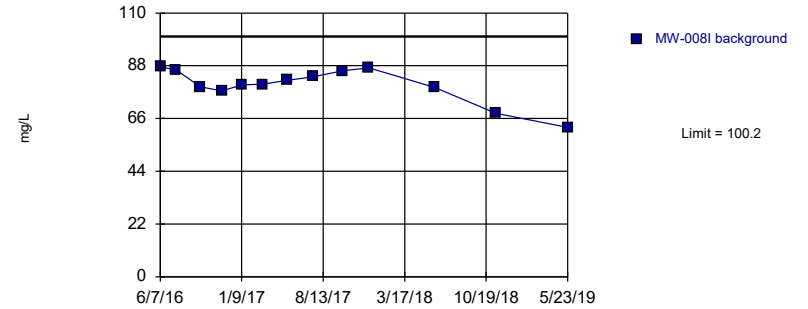
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary: Mean=27.53, Std. Dev.=2.766, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.907, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

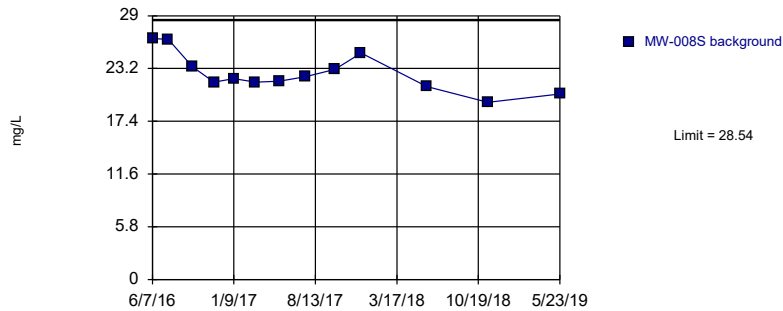
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=79.89, Std. Dev.=7.398, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.852, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

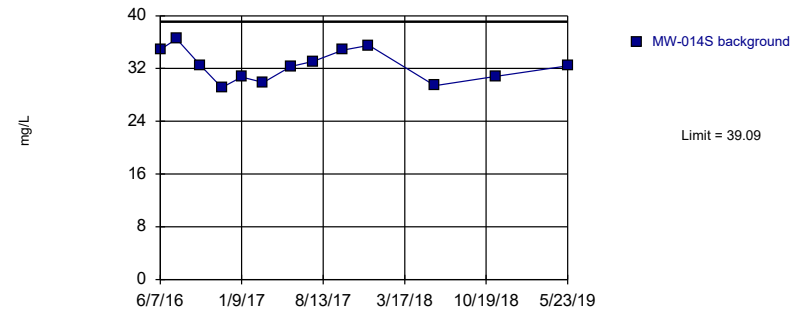
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=22.69, Std. Dev.=2.136, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9236, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

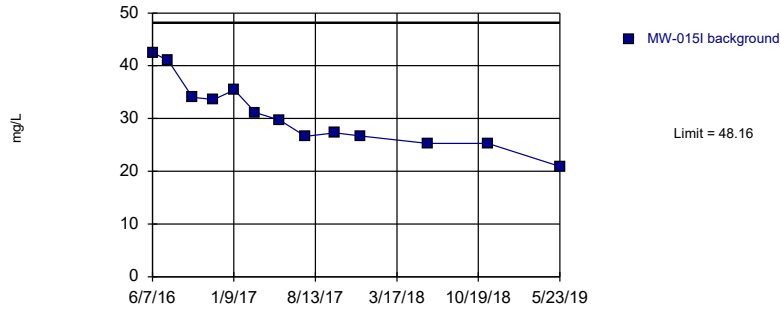
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=32.45, Std. Dev.=2.424, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

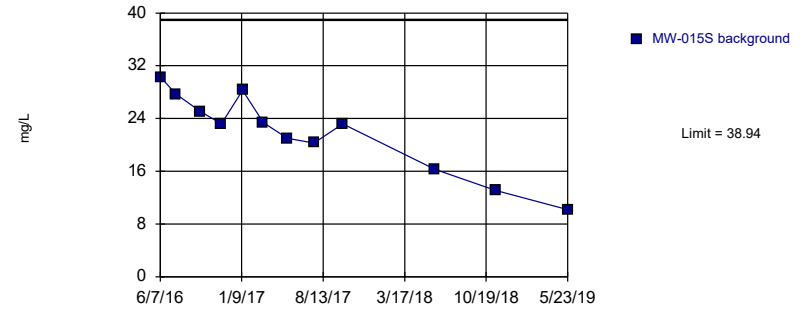
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=30.72, Std. Dev.=6.368, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9463, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

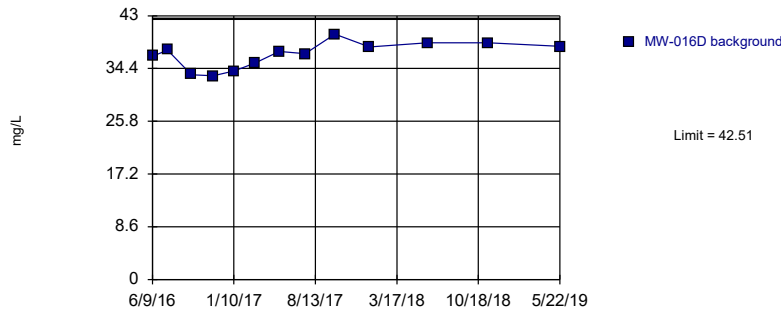
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary: Mean=21.84, Std. Dev.=6.106, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9481, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

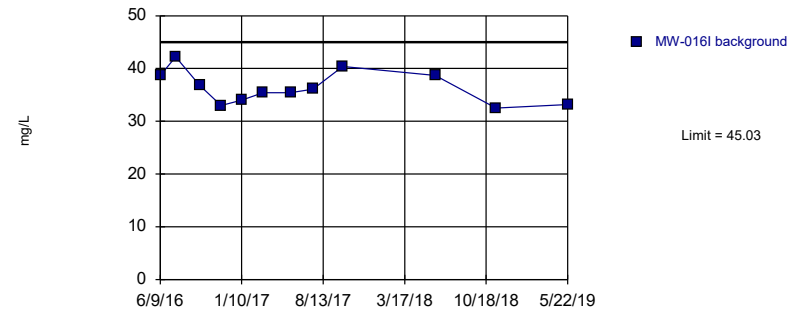
Prediction Limit
Intrawell Parametric, MW-016D



Background Data Summary: Mean=36.68, Std. Dev.=2.13, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9362, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

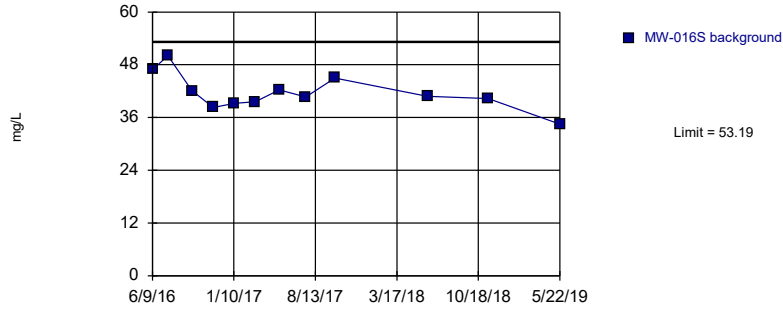
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=36.37, Std. Dev.=3.093, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9423, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

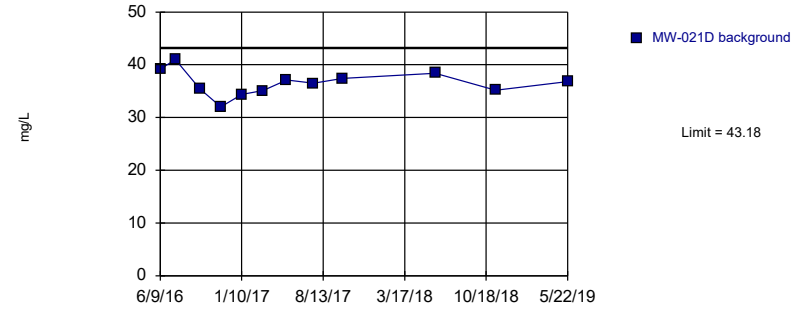
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=41.65, Std. Dev.=4.121, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9553, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

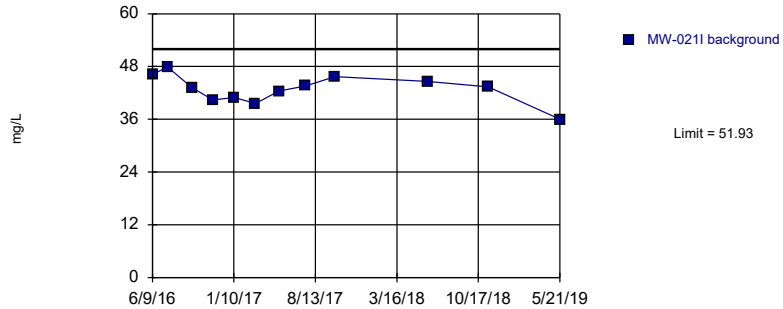
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=36.55, Std. Dev.=2.368, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9871, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

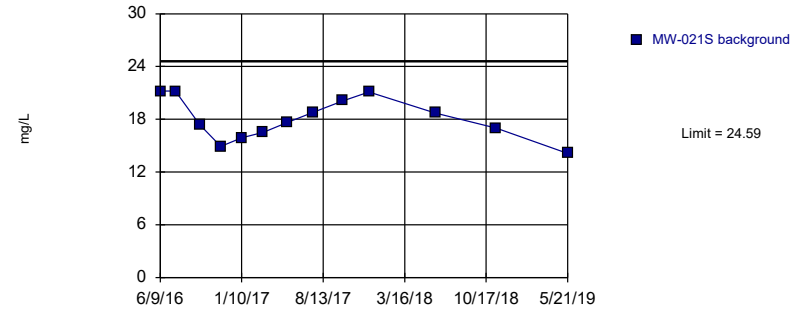
Prediction Limit
Intrawell Parametric, MW-0211



Background Data Summary: Mean=42.83, Std. Dev.=3.247, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9761, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

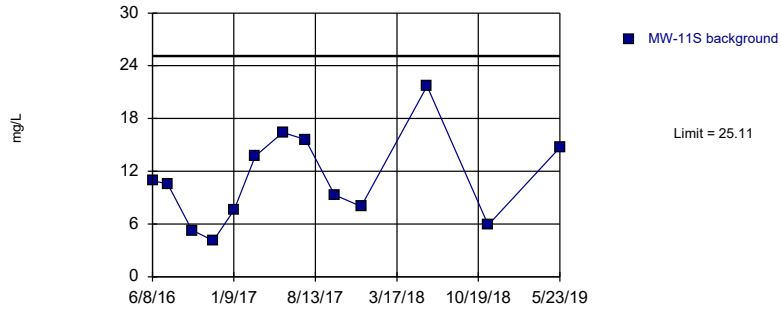
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=18.04, Std. Dev.=2.391, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9413, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

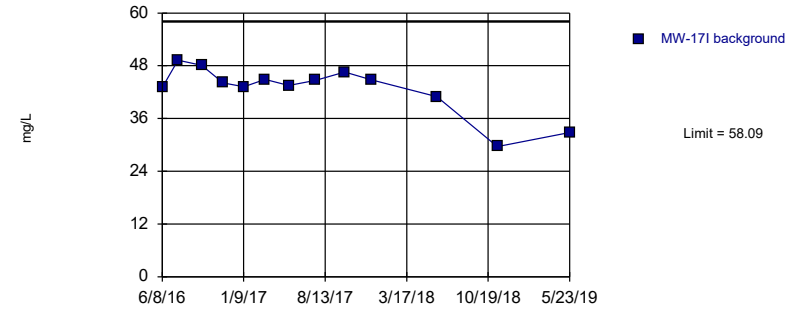
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=11.06, Std. Dev.=5.127, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9583, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

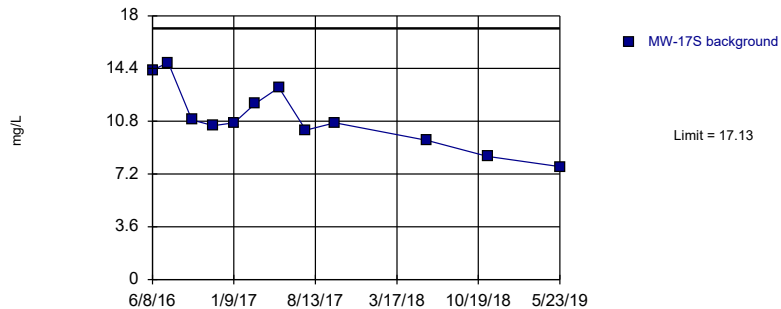
Prediction Limit
Intrawell Parametric, MW-171



Background Data Summary: Mean=42.75, Std. Dev.=5.603, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.817, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

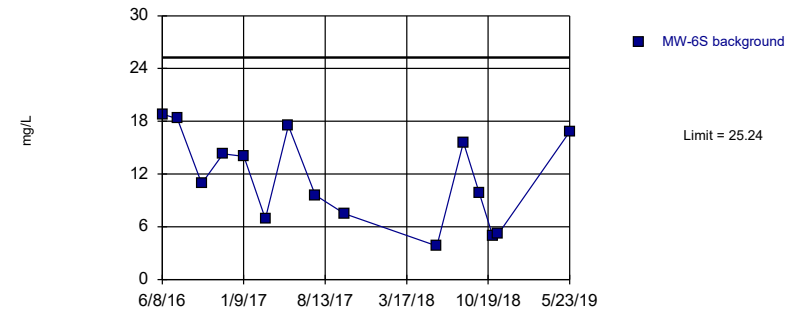
Prediction Limit
Intrawell Parametric, MW-17S



Background Data Summary: Mean=11.07, Std. Dev.=2.167, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9528, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

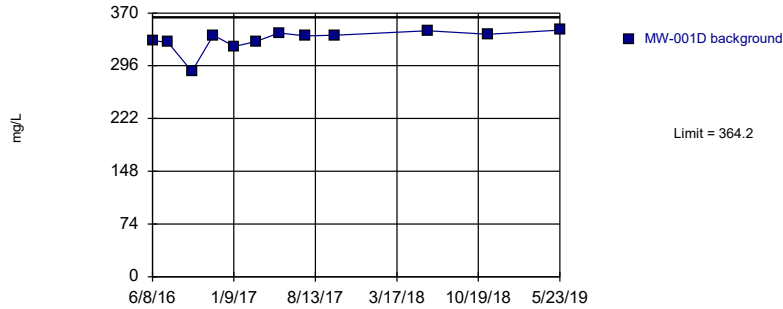
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=11.59, Std. Dev.=5.216, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9253, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Sulfate, total Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

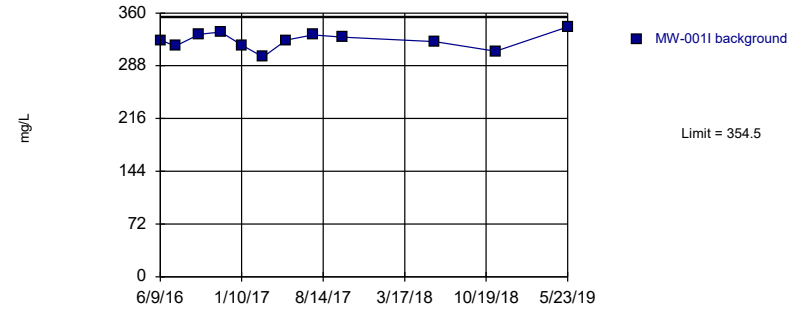
Prediction Limit
Intrawell Parametric, MW-001D



Background Data Summary (based on x⁵ transformation): Mean=4.1e12, Std. Dev.=8.1e11, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8196, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

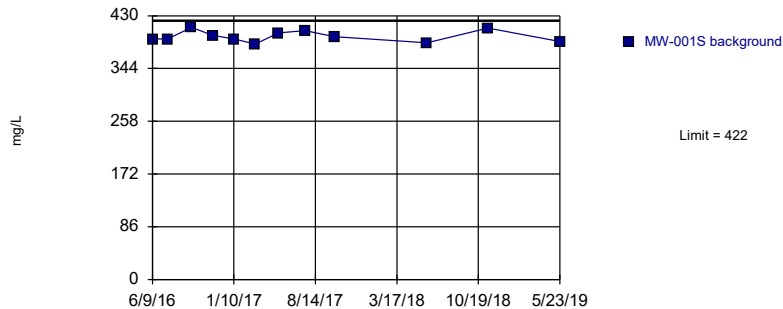
Prediction Limit
Intrawell Parametric, MW-001I



Background Data Summary: Mean=322.4, Std. Dev.=11.45, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9823, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

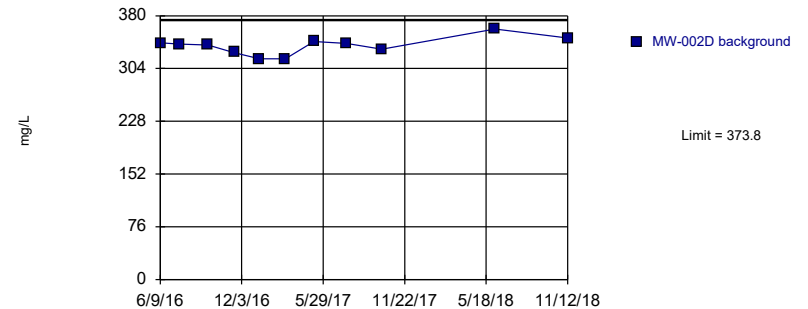
Prediction Limit
Intrawell Parametric, MW-001S



Background Data Summary: Mean=396.4, Std. Dev.=9.12, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.935, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

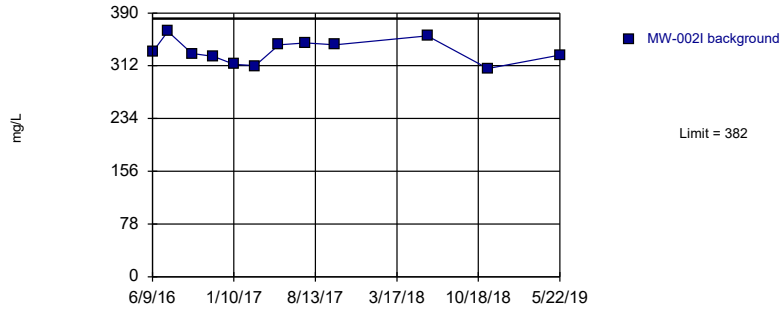
Prediction Limit
Intrawell Parametric, MW-002D



Background Data Summary: Mean=336.8, Std. Dev.=12.69, n=11. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9483, critical = 0.792. Kappa = 2.915 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:57 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

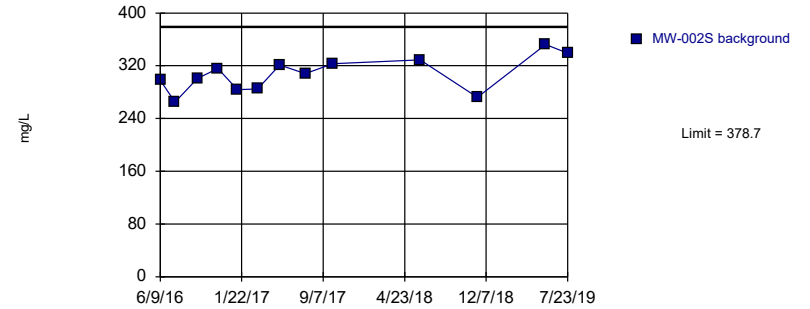
Prediction Limit
Intrawell Parametric, MW-002I



Background Data Summary: Mean=333.4, Std. Dev.=17.34, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9617, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

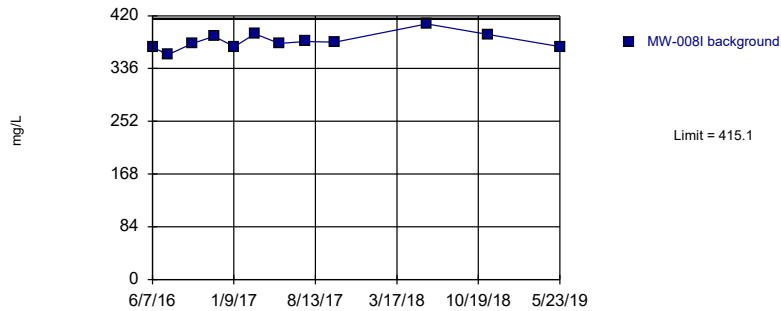
Prediction Limit
Intrawell Parametric, MW-002S



Background Data Summary: Mean=307.2, Std. Dev.=26.12, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9803, critical = 0.814. Kappa = 2.739 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

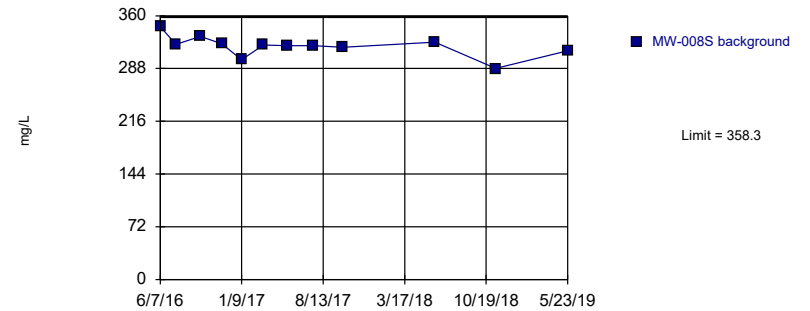
Prediction Limit
Intrawell Parametric, MW-008I (bg)



Background Data Summary: Mean=379.5, Std. Dev.=12.72, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9516, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

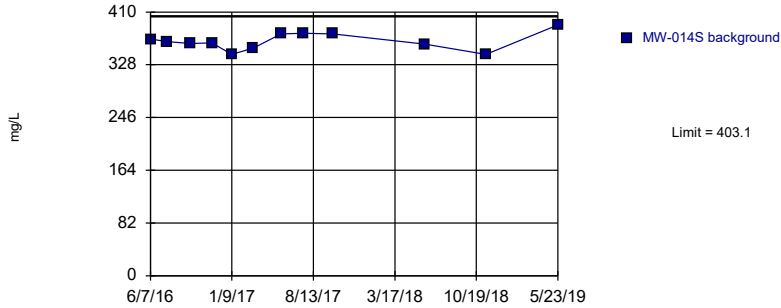
Prediction Limit
Intrawell Parametric, MW-008S (bg)



Background Data Summary: Mean=318.3, Std. Dev.=14.31, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9261, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

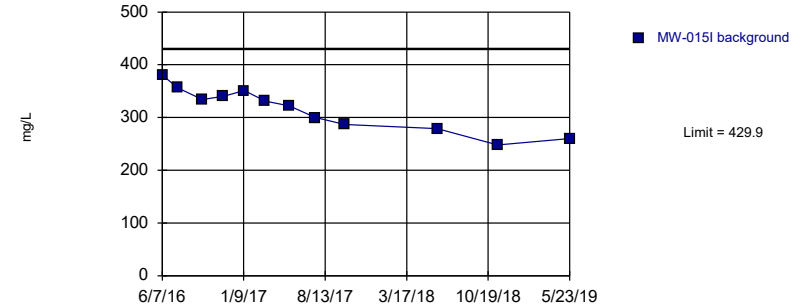
Prediction Limit
Intrawell Parametric, MW-014S (bg)



Background Data Summary: Mean=364.7, Std. Dev.=13.73, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9582, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

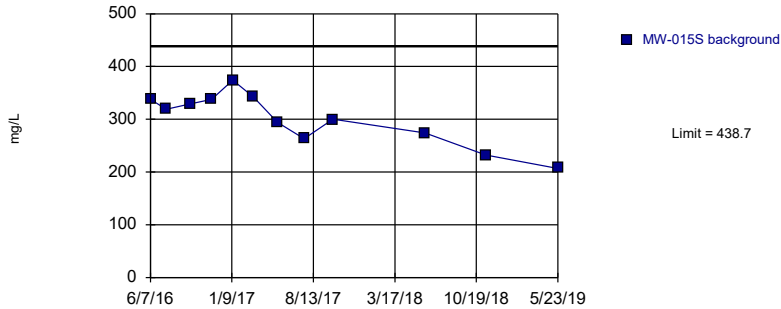
Prediction Limit
Intrawell Parametric, MW-015I



Background Data Summary: Mean=315.7, Std. Dev.=40.8, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9648, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

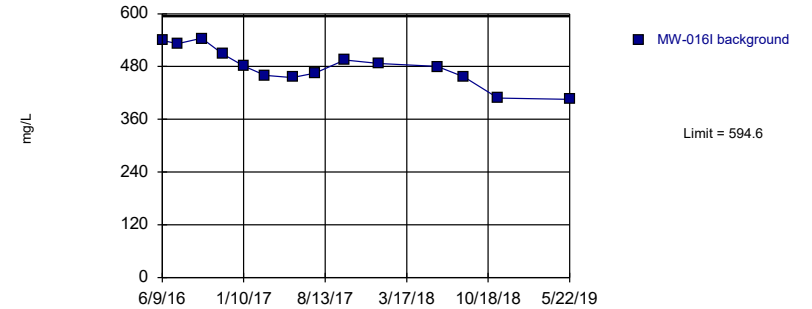
Prediction Limit
Intrawell Parametric, MW-015S



Background Data Summary: Mean=300.8, Std. Dev.=49.24, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9544, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

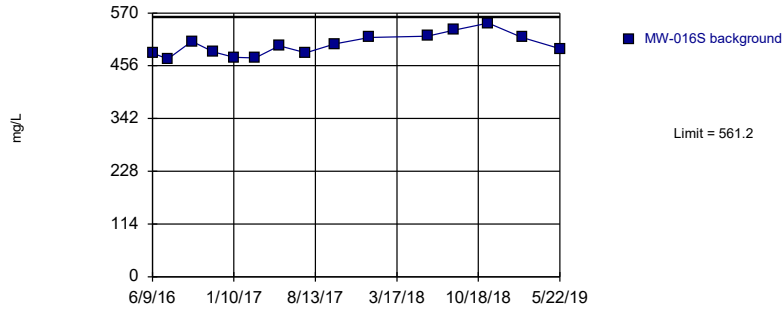
Prediction Limit
Intrawell Parametric, MW-016I



Background Data Summary: Mean=479.6, Std. Dev.=42.94, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9477, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

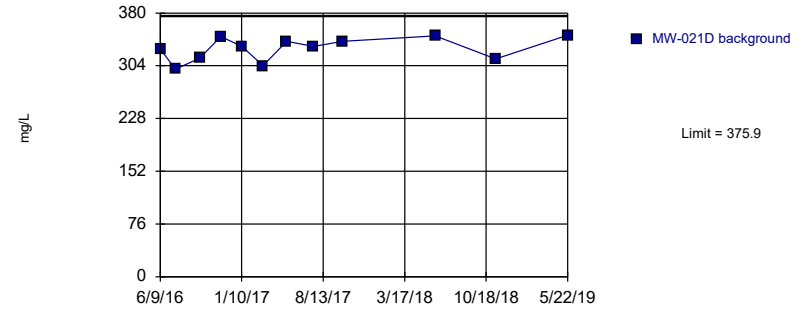
Prediction Limit
Intrawell Parametric, MW-016S



Background Data Summary: Mean=500.7, Std. Dev.=23.13, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9481, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

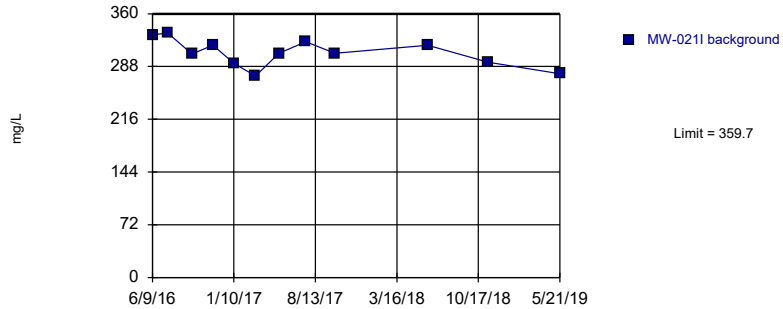
Prediction Limit
Intrawell Parametric, MW-021D



Background Data Summary: Mean=328.6, Std. Dev.=16.89, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9109, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

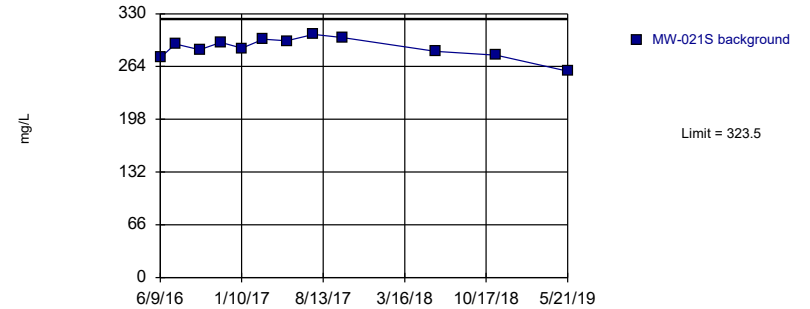
Prediction Limit
Intrawell Parametric, MW-0211



Background Data Summary: Mean=306.4, Std. Dev.=19.05, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9545, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

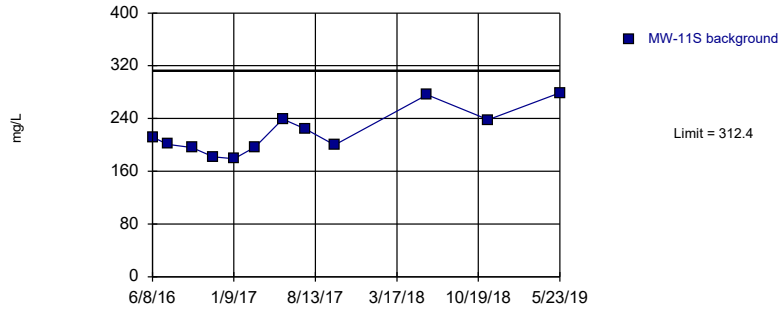
Prediction Limit
Intrawell Parametric, MW-021S



Background Data Summary: Mean=287.5, Std. Dev.=12.85, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9358, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

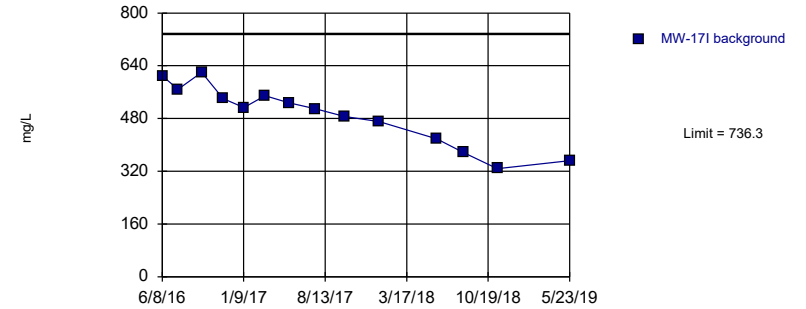
Prediction Limit
Intrawell Parametric, MW-11S (bg)



Background Data Summary: Mean=218.6, Std. Dev.=33.51, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8953, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

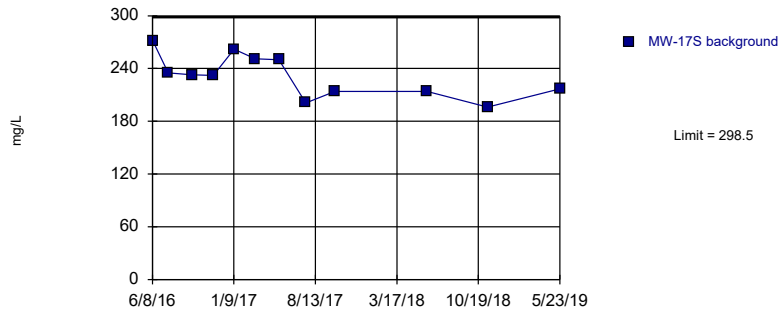
Prediction Limit
Intrawell Parametric, MW-17I



Background Data Summary: Mean=490.6, Std. Dev.=91.76, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9437, critical = 0.825. Kappa = 2.678 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

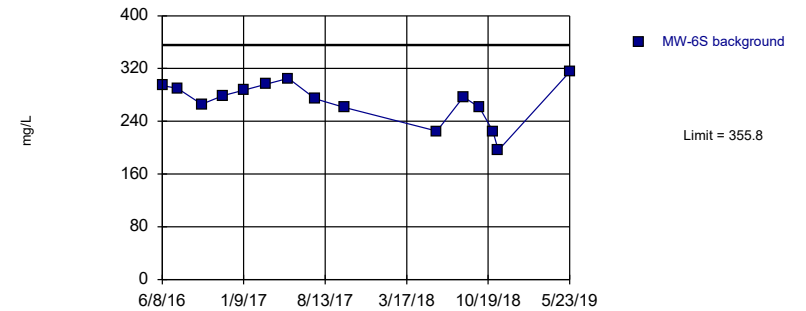
Prediction Limit
Intrawell Parametric, MW-17S



Background Data Summary: Mean=231.4, Std. Dev.=23.97, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9619, critical = 0.805. Kappa = 2.8 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

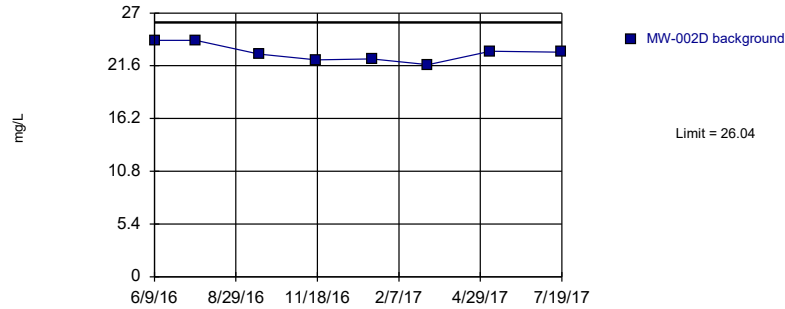
Prediction Limit
Intrawell Parametric, MW-6S (bg)



Background Data Summary: Mean=270.1, Std. Dev.=32.78, n=15. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.92, critical = 0.835. Kappa = 2.617 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 12:58 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

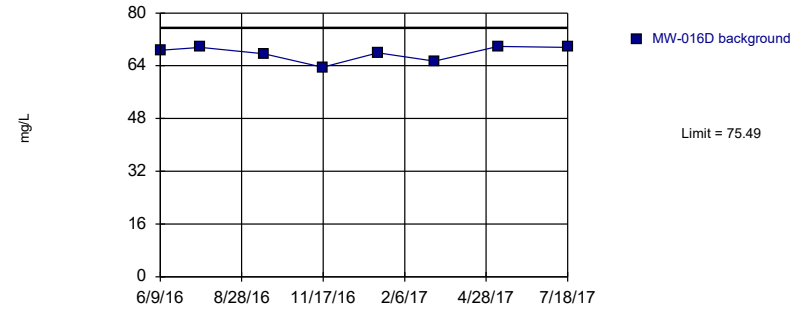
Prediction Limit
Intrawell Parametric, MW-002D



Background Data Summary: Mean=22.94, Std. Dev.=0.9039, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9222, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:59 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

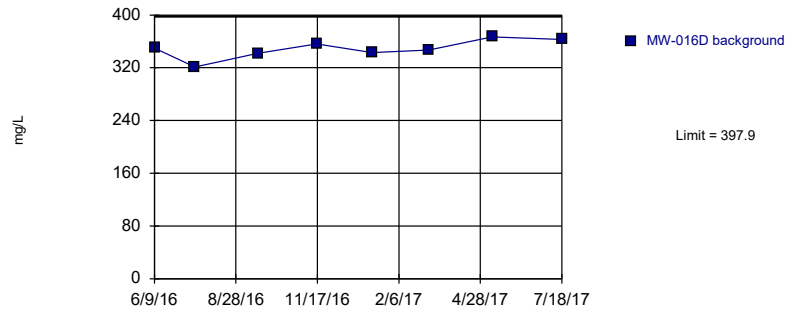
Prediction Limit
Intrawell Parametric, MW-016D



Background Data Summary: Mean=67.79, Std. Dev.=2.241, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8717, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Chloride, total Analysis Run 1/28/2020 12:59 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Prediction Limit Intrawell Parametric, MW-016D



Background Data Summary: Mean=348.6, Std. Dev.=14.35, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9452, critical = 0.749. Kappa = 3.436 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.0004702. Assumes 1 future value.

Constituent: Total Dissolved Solids [TDS] Analysis Run 1/28/2020 1:00 PM View: Intrawell
Rockport Landfill Client: Geosyntec Data: Rockport_LF

Memorandum

Date: May 15, 2020

To: David Miller (AEP)

Copies to: Justin Jent (AEP)

From: Allison Kreinberg (Geosyntec)

Subject: Evaluation of Detection Monitoring Data at Rockport Plant's Landfill (LF)

In accordance with the United States Environmental Protection Agency's (USEPA's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (40 CFR 257 Subpart D, "CCR rule"), the second semi-annual detection monitoring event at the Landfill (LF), an existing CCR unit at the Rockport Power Plant located in Rockport, Indiana was completed on November 14-15 and November 22, 2019. Based on the results, verification sampling was completed on February 17-18, 2020.

Background values for the LF were previously calculated in January 2018. After a minimum of four detection monitoring events, the results of those events were compared to the existing background and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the calculation of these revised background values are described in Geosyntec's *Statistical Analysis Summary* report, dated February 27, 2020.

To achieve an acceptably high statistical power while maintaining a site-wide false-positive rate (SWFPR) of 10% per year or less, prediction limits were calculated based on a one-of-two retesting procedure. With this procedure, a statistically significant increase (SSI) is concluded only if both samples in a series of two exceed the UPL (or are below the LPL for pH). In practice, if the initial result did not exceed the UPL, a second sample was not collected or analyzed.

Detection monitoring results and the relevant background values are compared in Table 1 and noted exceedances are described in the list below.

- Chloride concentrations exceeded the intrawell UPL of 26.0 mg/L in both the initial (56.5 mg/L) and second (76.3 mg/L) samples collected at MW-002D, and the intrawell UPL of 75.5 mg/L in both the initial (127 mg/L) and second (133 mg/L) samples collected at MW-016D. SSIs over background are concluded for chloride at MW-002D and MW-016D.
- Fluoride concentrations exceeded the intrawell UPL of 0.719 mg/L in both the initial (0.730 mg/L) and second (0.79 mg/L) samples collected at MW-021S. An SSI over background is concluded for fluoride at MW-021S.
- Total dissolved solids (TDS) concentrations exceeded the intrawell UPL of 422 mg/L in both the initial (444 mg/L) and second (442 mg/L) samples collected at MW-001S, and the intrawell UPL of 398 mg/L in both the initial (537 mg/L) and second (579 mg/L) samples collected at MW-016D. SSIs over background are concluded for TDS at MW-002D and MW-016D.

In response to the exceedances noted above, the Rockport LF CCR unit will either transition to assessment monitoring or an alternative source demonstration (ASD) for chloride, fluoride, and TDS will be conducted in accordance with 40 CFR 257.94(e)(2). If the ASD is successful, the Rockport LF will remain in detection monitoring.

The statistical analysis was conducted within 90 days of completion of sampling and analysis in accordance with 40 CFR 257.93(h)(2). A certification of these statistics by a qualified professional engineer is provided in Attachment A.

**Table 1: Detection Monitoring Data Evaluation
Rockport - Landfill**

Parameter	Unit	Description	MW-001D		MW-001I	MW-001S		MW-002D		MW-002I	MW-002S	MW-015I	MW-015S
			11/22/2019	2/17/2020	11/22/2019	11/22/2019	2/18/2020	11/14/2019	2/18/2020	11/14/2019	11/14/2019	11/15/2019	11/15/2019
Boron	mg/L	Intrawell Background Value (UPL)	0.151		0.122	0.0686		0.106		0.0632	0.120	0.0976	0.146
		Detection Monitoring Result	0.0400	--	0.0200	0.0200	--	0.0200	--	0.0200	0.0300	0.0300	0.0200
Calcium	mg/L	Intrawell Background Value (UPL)	79.4		72.3	79.8		114		79.9	67.0	55.0	70.5
		Detection Monitoring Result	72.5	--	66.7	69.8	--	76.9	--	63.4	59.2	45.2	40.2
Chloride	mg/L	Intrawell Background Value (UPL)	62.4		36.2	43.0		26.0		33.8	29.8	72.2	28.6
		Detection Monitoring Result	49.1	--	35.0	30.6	--	56.5	76.3	23.3	27.3	16.9	9.48
Fluoride	mg/L	Intrawell Background Value (UPL)	0.339		0.473	0.686		0.232		0.372	0.328	0.367	1.05
		Detection Monitoring Result	0.270	--	0.370	0.570	--	0.180	--	0.330	0.280	0.270	0.700
pH	SU	Intrawell Background Value (UPL)	8.3		8.0	8.1		8.5		8.5	8.1	8.2	7.8
		Intrawell Background Value (LPL)	6.6		6.5	6.7		6.3		6.6	6.4	6.7	6.8
		Detection Monitoring Result	7.3	--	7.1	6.9	--	7.3	--	7.4	7.5	7.4	7.4
Sulfate	mg/L	Intrawell Background Value (UPL)	48.1		48.0	38.5		48.0		49.5	35.3	48.2	38.9
		Detection Monitoring Result	41.2	--	39.7	35.9	--	38.9	--	39.3	27.8	17.6	8.40
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	364		355	422		374		382	379	430	439
		Detection Monitoring Result	398	257	348	444	442	356	--	296	336	248	234

Parameter	Unit	Description	MW-016D		MW-016I	MW-016S	MW-17I	MW-17S	MW-021D	MW-021I	MW-021S	
			11/15/2019	2/18/2020	11/15/2019	11/15/2019	11/15/2019	11/15/2019	11/14/2019	11/14/2019	11/14/2019	2/18/2020
Boron	mg/L	Intrawell Background Value (UPL)	0.115		0.156	0.147	0.105	0.0751	0.115	0.0831	0.0695	
		Detection Monitoring Result	0.0300	--	0.0200	0.0200	0.0400	0.0200	0.0200	0.0200	0.0200	--
Calcium	mg/L	Intrawell Background Value (UPL)	100		130	122	112	40.9	82.8	72.8	63.4	
		Detection Monitoring Result	100	--	41.0	92.2	43.9	28.7	69.4	56.5	50.4	--
Chloride	mg/L	Intrawell Background Value (UPL)	75.5		106	23.6	201	16.1	20.5	22.8	19.9	
		Detection Monitoring Result	127	133	31.2	20.7	41.2	12.6	19.2	17.5	17.4	--
Fluoride	mg/L	Intrawell Background Value (UPL)	0.220		0.227	0.510	1.25	1.32	0.425	0.409	0.719	
		Detection Monitoring Result	0.170	--	0.140	0.320	0.950	0.960	0.320	0.380	0.730	0.79
pH	SU	Intrawell Background Value (UPL)	7.9		7.9	8.2	8.1	7.9	8.6	8.6	8.8	
		Intrawell Background Value (LPL)	6.8		6.8	6.2	6.7	7.1	6.6	7.3	6.4	
		Detection Monitoring Result	7.3	--	7.4	7.0	7.4	7.6	7.4	7.5	7.5	--
Sulfate	mg/L	Intrawell Background Value (UPL)	42.5		45.0	53.2	58.1	17.1	43.2	51.9	24.6	
		Detection Monitoring Result	40.8	--	25.2	35.2	23.2	6.20	38.6	35.5	15.8	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	398		595	561	736	299	376	360	324	
		Detection Monitoring Result	537	579	343	497	309	207	323	262	241	--

Notes

UPL: Upper prediction limit

LPL: Lower prediction limit

Bold values exceed the background value.

Background values are shaded gray.

--: not analyzed

ATTACHMENT A

Certification by Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

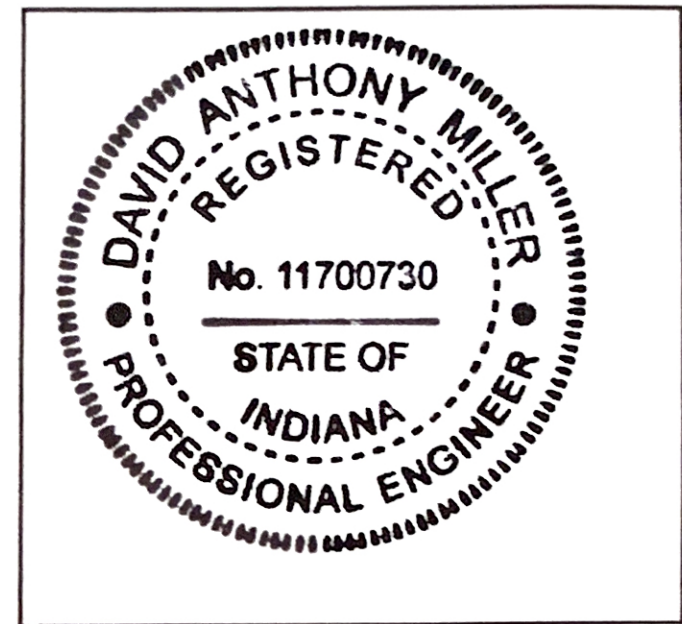
I certify that the selected statistical method, described above and in the February 27, 2020 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Rockport LF CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



11700730

License Number

INDIANA

Licensing State

05.18.2020

Date

Memorandum

Date: August 4, 2020
To: David Miller (AEP)
Copies to: Justin Jent (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Evaluation of Detection Monitoring Data at Rockport Plant's Landfill (LF)

In accordance with the United States Environmental Protection Agency's (USEPA's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (40 CFR 257 Subpart D, "CCR rule"), the first semi-annual detection monitoring event at the Landfill (LF), an existing CCR unit at the Rockport Power Plant located in Rockport, Indiana was completed on May 18-19, 2020. Based on the results, verification sampling was completed on July 15-16, 2020.

Background values for the LF were previously calculated in January 2018. After a minimum of four detection monitoring events, the results of those events were compared to the existing background and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the calculation of these revised background values are described in Geosyntec's *Statistical Analysis Summary* report, dated February 27, 2020.

To achieve an acceptably high statistical power while maintaining a site-wide false-positive rate (SWFPR) of 10% per year or less, prediction limits were calculated based on a one-of-two retesting procedure. With this procedure, a statistically significant increase (SSI) is concluded only if both samples in a series of two exceed the UPL (or are below the LPL for pH). In practice, if the initial result did not exceed the UPL, a second sample was not collected or analyzed.

Detection monitoring results and the relevant background values are compared in Table 1 and noted exceedances are described in the list below.

- Calcium concentrations exceeded the intrawell UPL of 100 mg/L in both the initial (108 mg/L) and second (102 mg/L) samples collected at MW-016D. An SSI over background is concluded for calcium at MW-016D.
- Chloride concentrations exceeded the intrawell UPL of 26.0 mg/L in both the initial (93.6 mg/L) and second (96.2 mg/L) samples collected at MW-002D, the intrawell UPL of 75.5 mg/L in both the initial (135 mg/L) and second (133 mg/L) samples collected at MW-016D, and the intrawell UPL of 23.6 mg/L in both the initial (26.7 mg/L) and second (25.8 mg/L) samples collected at MW-016S. SSIs over background are concluded for chloride at MW-002D, MW-016D, and MW-016S.
- Fluoride concentrations exceeded the intrawell UPL of 0.72 mg/L in both the initial (0.76 mg/L) and second (0.77 mg/L) samples collected at MW-021S. An SSI over background is concluded for fluoride at MW-021S.
- Total dissolved solids (TDS) concentrations exceeded the intrawell UPL of 374 mg/L in both the initial (399 mg/L) and second (411 mg/L) samples collected at MW-002D, and the intrawell UPL of 398 mg/L in both the initial (558 mg/L) and second (519 mg/L) samples collected at MW-016D. SSIs over background are concluded for TDS at MW-002D and MW-016D.

In response to the exceedances noted above, the Rockport LF CCR unit will either transition to assessment monitoring or an alternative source demonstration (ASD) for calcium, chloride, fluoride, and TDS will be conducted in accordance with 40 CFR 257.94(e)(2). If the ASD is successful, the Rockport LF will remain in detection monitoring.

The statistical analysis was conducted within 90 days of completion of sampling and analysis in accordance with 40 CFR 257.93(h)(2). A certification of these statistics by a qualified professional engineer is provided in Attachment A.

**Table 1: Detection Monitoring Data Evaluation
Rockport Plant - Landfill**

Parameter	Unit	Description	MW-001D	MW-001I		MW-001S	MW-002D		MW-002I	MW-002S		MW-015I	MW-015S
			5/19/2020	5/19/2020	7/16/2020	5/19/2020	5/18/2020	7/15/2020	5/18/2020	5/18/2020	7/15/2020	5/19/2020	5/19/2020
Boron	mg/L	Intrawell Background Value (UPL)	0.151	0.122		0.0686	0.106		0.0632	0.120		0.0976	0.146
		Detection Monitoring Result	0.040	0.020	--	0.020	0.020	--	0.020	0.020	--	0.030	0.020
Calcium	mg/L	Intrawell Background Value (UPL)	79.4	72.3		79.8	114		79.9	67.0		55.0	70.5
		Detection Monitoring Result	59.9	71.2	--	72.0	88.7	--	61.9	53.7	--	49.2	42.4
Chloride	mg/L	Intrawell Background Value (UPL)	62.4	36.2		43.0	26.0		33.8	29.8		72.2	28.6
		Detection Monitoring Result	23.8	37.7	35.4	34.7	93.6	96.2	24.4	28.9	--	19.0	10.3
Fluoride	mg/L	Intrawell Background Value (UPL)	0.34	0.47		0.69	0.23		0.37	0.33		0.37	1.05
		Detection Monitoring Result	0.30	0.40	--	0.55	0.21	--	0.36	0.34	0.33	0.25	0.86
pH	SU	Intrawell Background Value (UPL)	8.3	8.0		8.1	8.5		8.5	8.1		8.2	7.8
		Intrawell Background Value (LPL)	6.6	6.5		6.7	6.3		6.6	6.4		6.7	6.8
		Detection Monitoring Result	7.1	7.2	--	7.0	7.8	--	7.8	7.4	--	7.5	7.6
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	364	355		422	374		382	379		430	439
		Detection Monitoring Result	261	323	--	350	399	411	297	344	--	253	218
Sulfate	mg/L	Intrawell Background Value (UPL)	48.1	48.0		38.5	48.0		49.5	35.3		48.2	38.9
		Detection Monitoring Result	23.3	40.1	--	37.1	36.2	--	40.5	24.9	--	17.8	9.1

Parameter	Unit	Description	MW-016D		MW-016I	MW-016S		MW-021D	MW-021I	MW-021S	
			5/19/2020	7/15/2020	5/19/2020	5/19/2020	7/15/2020	5/19/2020	5/19/2020	5/19/2020	7/15/2020
Boron	mg/L	Intrawell Background Value (UPL)	0.115		0.156	0.147		0.115	0.0831	0.0695	
		Detection Monitoring Result	0.030	--	0.020	0.030	--	0.020	0.020	0.020	--
Calcium	mg/L	Intrawell Background Value (UPL)	100		130	122		82.8	72.8	63.4	
		Detection Monitoring Result	108	102	51.9	104	--	69.2	58.5	49.1	--
Chloride	mg/L	Intrawell Background Value (UPL)	75.5		106	23.6		20.5	22.8	19.9	
		Detection Monitoring Result	135	133	31.3	26.7	25.8	19.9	19.3	18.0	--
Fluoride	mg/L	Intrawell Background Value (UPL)	0.22		0.23	0.51		0.43	0.41	0.72	
		Detection Monitoring Result	0.17	--	0.14	0.34	--	0.26	0.35	0.76	0.77
pH	SU	Intrawell Background Value (UPL)	7.9		7.9	8.2		8.6	8.6	8.8	
		Intrawell Background Value (LPL)	6.8		6.8	6.2		6.6	7.3	6.4	
		Detection Monitoring Result	7.7	--	7.8	7.5	--	7.6	7.4	8.1	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	398		595	561		376	360	324	
		Detection Monitoring Result	558	519	350	470	--	328	283	238	--
Sulfate	mg/L	Intrawell Background Value (UPL)	42.5		45.0	53.2		43.2	51.9	24.6	
		Detection Monitoring Result	40.1	--	25.8	34.9	--	33.3	38.8	15.1	--

Notes:
 UPL: Upper prediction limit
 LPL: Lower prediction limit
Bold values exceed the background value.
 Background values are shaded gray.

ATTACHMENT A

Certification by a Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

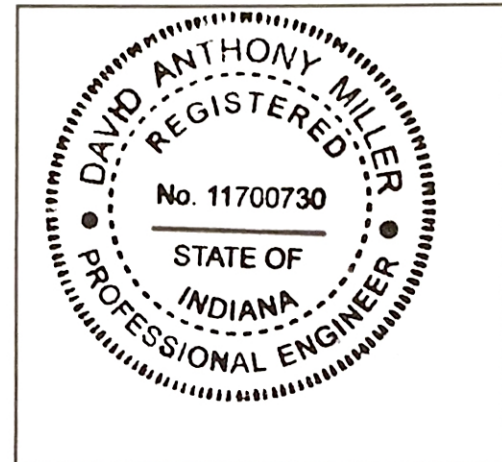
I certify that the selected statistical method, described above and in the February 27, 2020 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Rockport LF CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



11700730

License Number

INDIANA

Licensing State

08.06.2020

Date

APPENDIX 3 – Alternate Source Demonstrations

Alternate source demonstrations that have been completed as of January 31, 2021 follow.



Alternative Source Demonstration for Appendix III Constituents, CCR Landfill

American Electric Power Service Corporation
Rockport Generating Station, Rockport, Spencer County, Indiana
Project # 7650202784

Prepared for:

American Electric Power Service Corporation

1 Riverside Plaza, Columbus, Ohio 43215

2 June 2020



2 June 2020

Mr. David Miller
Director, Land Environment & Remediation Services
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215
Email: damiller@aep.com

Wood Environment & Infrastructure Solutions, Inc.
2456 Fortune Drive, Suite 100
Lexington, KY 40509
USA
T: 859-255-3308
www.woodplc.com

Dear Mr. Miller:

Wood Environment & Infrastructure Solutions, Inc. (Wood) has prepared this Alternative Source Demonstration (ASD) for the CCR Landfill located at the AEP Rockport Plant in Rockport, Indiana. As detailed in this report, the results of this ASD conclude that statistically significant increases (SSIs) identified in samples from the waste boundary monitoring wells are not caused by releases from the CCR Landfill. We are available to discuss the details of this report at your convenience should you require additional information.

We very much appreciate working with AEP on this project. If you require additional information about this report, please feel free to contact Kathleen Regan at (859) 566-3724.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Konrad W. Quast, PhD
Senior Hydrogeologist

Kathleen D. Regan, PE
Senior Associate Engineer
Project Manager

Attachments

/kdr

cc: Justin Jent, PE, American Electric Power Service Corporation



Alternative Source Demonstration for Appendix III Constituents, CCR Landfill

American Electric Power Service Corporation
Rockport Generating Station, Rockport, Spencer County, Indiana
Project # 7650202784

Prepared for:

American Electric Power Service Corporation
1 Riverside Plaza, Columbus, Ohio 43215

Prepared by:

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2 June 2020

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Executive Summary

American Electric Power (AEP) operates two units at the Rockport Plant for management of coal combustion residuals (CCR): the bottom ash ponds (BAP), and the CCR Landfill. Both are regulated under the federal CCR Rule (40 CFR Part 257) that became effective in October 2015 and modified in July 2018.

The CCR Landfill has been in the detection phase of groundwater monitoring as part of its compliance with the rule. The most recent statistical analysis of Appendix III constituents identified eight statistically significant increases (SSIs) above background, distributed among seven waste boundary monitoring wells. Four waste boundary monitoring wells exhibited SSIs for chloride (MW-1I, MW-2S, MW-2D and MW-16D). One of the six wells, MW-16D, also exhibited a SSI for total dissolved solids (TDS). The remaining SSI was observed for fluoride in monitoring well MW-17I, which did not exhibit any other SSI.

This alternative source demonstration (ASD) evaluates the occurrence of SSIs in terms of site geochemistry, hydrogeologic setting, and with respect to supplementary data collected to support the evaluation. Based on the analysis presented in this ASD, CCR Landfill leachate can be excluded as a source of Appendix III SSLs for the following reasons:

- Boron occurs naturally at low concentration in site groundwater, in similar concentrations in background and downgradient wells. Boron occurs at concentrations approximately three orders-of-magnitude in the Landfill leachate as compared to site groundwater, and is a conservative ion, making it an excellent indicator for impacts from landfill leachate impacts in groundwater. If landfill leachate were impacting groundwater, boron would be expected to be observed in multiple waste boundary wells and at statistically significant concentrations above background. It does not.
- Sulfate is another typical indicator for CCR leachate impacts, which also occurs naturally in site groundwater (at similar concentration ranges in background and downgradient wells) and is elevated in the CCR Landfill leachate at concentrations approximately three orders-of-magnitude above background monitoring wells. No SSIs for sulfate were determined in any of the waste boundary well samples.
- Chloride is a naturally occurring and conservative ion, which occurs in the CCR Landfill leachate at concentrations about two orders-of-magnitude above groundwater concentrations. Spatial trends indicate that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas. However, because the SSIs indicated for chloride are not associated with SSIs for boron and sulfate, the CCR Landfill leachate is not considered a source for the chloride detected in groundwater.
- The same conclusion can be drawn regarding calcium, total dissolved solids (TDS) and fluoride, for which occasional SSIs are not consistently associated with boron, sulfate, or each other. The SSIs indicated for these constituents appear to be related to the natural variation in groundwater quality, along with a spatial trend of increasing TDS with distance from recharge area.
- The conclusions listed above are also supported by the analytical results for isotope ratios of boron and strontium in leachate and groundwater samples. While only a single set of samples to date have been collected, the indication in downgradient wells, including wells that have shown SSIs, is that the leachate is distinctly different from that of background and downgradient groundwater, and supports no release from the landfill to groundwater.

1.0 Objective

American Electric Power (AEP) operates a CCR Landfill that is used for the management of coal combustion residuals (CCR). The landfill is regulated under the federal CCR Rule (40 CFR Part 257) that became effective in October 2015. During the initial phase of groundwater monitoring (detection monitoring), the CCR Rule requires the owners or operators of regulated units to collect at least eight independent samples from at least one background location and at least three waste boundary wells, analyzed for constituents listed in Appendix III and Appendix IV of the CCR rule. That sampling was completed in July 2017.

Four rounds of detection monitoring have been conducted at the landfill. Each round consists of an initial sampling event, followed by one or two rounds of verification samples based on the results of the initial events. Following completion of the verification sampling for each event, a statistical analysis is conducted to assess whether statistically significant increases (SSIs) above background are detected in the waste boundary monitoring wells for Appendix III constituents. For each semiannual sampling round where SSIs are detected, an alternate source demonstration (ASD) has been performed to assess whether these SSIs were the result of a release of leachate from the CCR landfill.

Previous ASDs performed by Geosyntec and Wood Environment & Infrastructure Solutions, Inc. (Wood) have indicated that the source of previously-identified SSIs result from natural variation in groundwater quality or potential impacts from historical oil and gas operations. The most recent ASD was completed by Wood in December 2019 for the detection monitoring event of November 2018, with verification samples taken in February and April 2019.

The first semiannual detection monitoring samples for 2019 were taken in May 2019, with verification samples taken in July and September 2019. Again, a statistical evaluation of monitoring results identified SSIs for several Appendix III constituents. The objective of this ASD is to review these results, and to assess whether the findings of the June 2019 ASD remain valid; that is, that the SSIs detected in the waste boundary wells, from detection monitoring samples collected in November 2019 and verified in February 2020 samples, are not the result of a release from the landfill.

1.1 Scope

As stated in 40 CFR 257.94(e)(2), the CCR Rule allows 90 days after the initial identification of Appendix III SSIs for the owner or operator to demonstrate that a source other than the regulated unit is responsible for identified SSIs. The regulations allow the ASD to address a number of potential causes of SSIs other than a release from the regulated unit, including error[s] in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

The scope of this ASD is focused on evaluating the second 2019 semiannual detection monitoring results (including verification samples) and assessing whether the data are consistent with the assessment conducted in the most recent ASD report (Wood, June 2019). The ASD will be undertaken to assess, through multiple lines of evidence, whether an alternative source for the SSIs can be supported, following the guidelines published in October 2017 by the Electric Research Power Institute (EPRI, Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites). This report does not include evaluations of potential errors in sampling and analysis, or the statistical approaches which were used to identify the SSIs.

1.2 Approach

The ASD presented in this document is based on a geochemical and hydrologic evaluation of groundwater quality at the CCR Landfill. The purpose of this ASD is to evaluate the identified SSIs within

the larger geochemical context of the CCR Landfill groundwater flow system, in order to assess the likelihood that these SSIs are the result of releases from the CCR Landfill. In addition to the groundwater analytical data collected for compliance with the CCR rule, used to support the statistical evaluation, Wood relied on supplemental analytical data, including analyses of the CCR Landfill leachate and monitoring well groundwater analyses of the isotopes of boron and strontium.

1.3 Report Organization

This ASD has been prepared following the *Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites* (EPRI, 2017) to the extent applicable. **Section 2** presents a summary the CCR Landfill setting, and a summary of the results from the statistical evaluation of the Appendix III detection monitoring parameters. **Section 3** presents the primary and secondary lines of evidence developed from a geochemical evaluation of the site. **Section 4** presents the technical findings of the ASD and includes certification by an Indiana-licensed Professional Engineer (PE). References are included in **Section 4**.

2.0 Background

2.1 Site Description

The Rockport Power Plant is located in southwest Indiana in Spencer County, on property extending into three Townships: Ohio, Hammond and Grass. Two CCR-regulated units are located on the property, two adjacent bottom ash ponds (BAP) and the CCR Landfill. The general layout of the property and the locations of the CCR units are shown on **Figure 1**. The CCR Landfill, or Landfill, is located about 8,000 feet (1.5 miles) northeast of the generating plant. **Figure 2** shows the general layout of the CCR Landfill and the monitoring well locations.

2.1.1 Landfill Operation

The CCR Landfill is an active disposal unit that primarily contains fly ash, with materials generated by the emission control systems added beginning in 2007. These materials include sodium sulfate generated by the removal of sulfur dioxide by the dry sorbent injection (DSI) system, and granular brominated activated carbon used for mercury removal. To a lesser extent, some bottom ash has also been placed within the CCR Landfill. As shown on **Figure 2**, the active portion of the CCR Landfill directly adjoins a closed portion of the landfill to the northeast.

The CCR Landfill is currently permitted by the Indiana Department of Environmental Management (IDEM) Office of Land Quality, Solid Waste Permits Section, as a Restricted Waste Site (RWS) under Indiana Administrative Code (IAC) 329 Title 10 (Solid Waste CCR Landfill Disposal Facilities) Rule 9-4. The active CCR Landfill is permitted as a RWS Type I, which requires a liner and leachate collection system. The permit was most recently renewed on 10 February 2015.

Leachate from the CCR Landfill cells is collected in lined ponds located north and west of the active CCR Landfill area. These ponds also collect storm water runoff from the CCR Landfill area. Prior to discharge, the leachate commingled with runoff is transferred to the Leachate Treatment Pond (north of the West Leachate Pond). Effluent from the Leachate Treatment Pond is discharged and monitored under National Pollution Discharge Elimination System (NPDES) Permit No. IN0051845 at Station 002.

2.1.2 Groundwater Flow

The principal groundwater flow zone underlying the CCR Landfill consists of the saturated section of the unconsolidated glaciofluvial sand and sand and gravel valley train sediments that fill the Ohio River valley in this area. The depth to water in this zone typically ranges from 20 to 35 feet (ft) below ground surface (BGS), and the saturated thickness (which generally increases to the southeast) ranges from less than 15 ft to more than 80 ft. A generalized cross-section is presented in **Figure 3**.

Groundwater primarily occurs under unconfined conditions, or semi-confined conditions where the saturated zone is directly overlain by surficial silt and clay. Piezometric data collected from clustered monitoring wells indicate that vertical gradients within the saturated zone are minor, and groundwater flow is primarily horizontal. Groundwater flows into the plant and landfill area from the north, northwest and west, continues flowing under the property generally to the south and east, towards Honey Creek and/or the Ohio River. A potentiometric surface map from the November 2019 sampling event is presented on **Figure 4**.

2.1.3 Existing Groundwater Monitoring System

In 2015, when the CCR Rule took effect, a monitoring well network was already present at the CCR Landfill for groundwater monitoring under IDEM permit. While the valley train sediments are considered a single well-connected aquifer system, the saturated thickness of the sediments allowed for wells at the CCR Landfill to be installed in clusters, to monitor up to three levels (shallow – “S”, intermediate – “I”, and deep – “D”) within the principal flow zone. However, the valley train sediments that make up the flow zone thin to the north, leaving less saturated overburden upgradient of the CCR Landfill. As a result, only one or two levels could be monitored in some locations.

The official CCR groundwater monitoring network for the CCR Landfill includes five background or cross-gradient wells (MW-6S, MW-8S/I, MW-11S and MW-14S) and 16 waste boundary wells (MW-1S/I/D, MW-2S/I/D, MW-15S/I, MW-16S/I/D, MW-17S/I and MW-21S/I/D). At most locations, the saturated overburden was thick enough to allow installation of screens at three different levels, with the deepest wells being completed just above bedrock at depths of 88 to 100 ft BGS. Two clusters, MW-15 and MW-17, are located just east of the CCR Landfill in an area of relatively shallow bedrock. Therefore, the deeper wells at these locations (designated “I”) have completed depths just above bedrock at 66 to 67 ft BGS. A comprehensive summary of analytical data for the groundwater monitoring network since June 2016 is presented on **Table A-1** in **Appendix A**.

2.2 Summary of Previous SSIs and ASDs

Eight baseline monitoring events and one initial detection monitoring event for the CCR Landfill were completed prior to 17 October 2017. On behalf of AEP, Geosyntec submitted these results to Groundwater Stats Consulting, LLC for statistical analysis. Oversight on the use of statistical calculations was provided by Dr. Kirk Cameron of MacStat Consulting, Ltd. According to the report (*Statistical Analysis Summary, Landfill*, Geosyntec 2018), the initial eight rounds of baseline data were used to calculate the upper prediction limits (UPLs) for each of the Appendix III constituents to represent background values. Results from each detection monitoring event conducted to date have been compared to the UPLs established from the eight baseline rounds in order to identify SSIs compared to background.

Following completion of the first detection monitoring event, the initial statistical evaluation identified 11 SSIs for calcium (2), chloride (7), fluoride (1) and TDS (3). On 4 January 2019, Geosyntec prepared an ASD focusing on statistical methods. Geosyntec evaluated the new data and based on multiple lines of evidence, revised the statistical approach for some monitoring wells. Initially, the statistical evaluation included a mixture of interwell (between wells) and intrawell (within one well) techniques. The interwell

analysis compares data from waste boundary wells against a background data set composed of results from upgradient and cross-gradient well data. The intrawell approach compares each waste boundary well against a background composed of its own historical data and is used to detect statistically significant increases within samples from an individual well over time (Horsey, HR et. al., 2001). Spatial and temporal variability observed in samples from the background monitoring wells caused Geosyntec to select an intrawell approach for all Appendix III constituents in all waste boundary monitoring wells.

After using an intrawell approach, the number of SSIs was reduced to eight, distributed among seven waste boundary wells. In January 2019 Geosyntec published an ASD to document changes to the statistical methodologies and attributed the observed SSIs to impacts from historic oil and gas operations. Since the statistical methods were revised, results from all subsequent detection monitoring events have been analyzed following the same approach. A summary of the SSIs identified in each of the four detection monitoring events is presented below, in **Exhibit 2-1**.

Exhibit 2-1. Monitoring Wells and Appendix III Parameters with SSIs

Parameter	MW-1S	MW-1I	MW-2S	MW-2D	MW-16S	MW-16D	MW-17I	MW-21S
Calcium				◆		◆		
Chloride	◆◆	◆◆◆	◆◆◆	◆◆◆★		◆◆◆★		◆
Fluoride							◆◆◆	★
TDS	★			◆	◆	◆◆◆★		

- ◆ June 2018, after verification
- ◆ November 2018, after verification
- ◆ May 2019, after verification
- ★ November 2019, after verification

As shown in **Exhibit 2-1**, there is significant overlap between the SSIs identified in each semiannual sampling event, as well as several key differences.

- The November 2019 event (plus verification samples) had the fewest number of SSIs identified to date: only five constituents in four monitoring wells.
- No SSIs were identified for calcium, which previously had been identified samples from monitoring well MW-2D and MW-16D.
- A new SSI for TDS was identified for monitoring well MW-1S, which previously had not been identified.
- A new SSI for fluoride was identified for monitoring well MW-21S, which previously had not been identified.

Wood has reviewed its December 2019 ASD with respect to the statistical evaluation of the new semiannual sampling event. The evaluation presented in the December 2019 ASD report is still valid, even in light of the new SSIs identified for TDS and fluoride. Wood has updated the geochemical analysis that forms the basis of the ASD and has included updated graphics to support the findings in this current ASD report.

3.0 Alternative Source Demonstration

The ASD presented below relies on multiple lines of evidence that the SSIs identified in the statistical analysis are not caused by releases of landfill leachate into the groundwater flow system. When taken as a whole, these lines of evidence present a compelling case that the SSIs are not a result of a release from the landfill, but a result of natural variation in groundwater quality, a result of historical oil and gas operations, or from storm water ponds. This ASD follows the approach of Wood's June 2019 report, updated with data collected for the second semiannual sampling event for 2019.

In order to evaluate the potential of a release from the CCR Landfill to groundwater, Wood evaluated groundwater quality data, including isotopes, in the context of the geochemical characteristics of CCR Landfill leachate. The results of this evaluation support that CCR Landfill leachate at the Rockport site can be ruled out as a source of the SSIs identified in waste boundary monitoring wells, through primary and supporting lines of evidence, each of which are described in more detail within this section.

Primary lines of evidence focus on the relationship between source material that could be released into the subsurface (in this case, landfill leachate) and the type and distribution of SSIs identified in groundwater. The lines of evidence supporting the conclusion of this ASD can be summarized as follows:

- SSIs are not identified for the site-specific primary indicator constituents of the Rockport CCR Landfill leachate.
- Geochemical evaluations of the CCR Landfill support that leachate has not affected water quality.
 - Conservative ion ratios and major ion chemistry do not indicate a release from the CCR Landfill.
 - Isotopes of boron and strontium do not indicate a release from the CCR Landfill.

Each of these lines of evidence are described in detail below.

3.1 SSIs Are Not Identified for Primary Indicator Constituents

The primary indicators for CCR leachate typically have much higher concentrations in leachate than in natural groundwater. They are mobile and relatively non-reactive in groundwater, so that groundwater impacted by a CCR leachate release should have elevated concentrations of the indicator constituents relative to background and with relatively similar contributions. The elevated concentrations would be expected to result in SSIs identified by statistical evaluation of the data from the downgradient waste boundary wells, and the SSIs would be expected to be generally consistent between downgradient wells. The primary lines of evidence presented below compare the occurrence of SSIs in groundwater to the composition of landfill leachate.

3.1.1 Site-Specific Leachate Analysis for Primary Indicator Constituents

The composition of landfill leachate is governed by the types of materials placed in the unit and identifying the leachate's primary constituents is key to assessing a potential release to groundwater. Since all Appendix III constituents are naturally occurring, the best indicators of CCR impacts are those constituents that are found at concentrations much higher in the source material than are seen in natural groundwater. AEP conducted sampling of its leachate collection system to identify relative concentrations of Appendix III and IV constituents in the Rockport CCR Landfill leachate.

The leachate collection system for the Landfill discharges into the North and West Leachate Collection Ponds, shown on **Figure 2**, discharge to the Leachate Treatment Pond, directly north of the West Leachate Pond. Five samples were collected from both the West and North Leachate Collection Ponds between 31 October 2018 and 20 March 2019 and results are detailed on **Table A-2** in **Appendix A**. A summary of the range of Appendix III constituent results for leachate pond samples, compared to background and waste boundary well samples, is provided below in **Exhibit 3-1**.

Exhibit 3-1. Summary of Landfill Leachate Pond and Groundwater Concentrations for Appendix III Constituents

Parameter, Units in mg/L	Range for Leachate Ponds		Range for Upgradient (Background) Wells		Range for Downgradient Waste Boundary Wells	
	Min	Max	Min	Max	Min	Max
Boron	9.18	12.3	<0.004	0.115	0.001	0.139
Calcium	166	368	35.6	79.5	28.7	114
Chloride	847	1,250	1.54	30.0	8.78	214
Fluoride	<1.50	<1.50	0.25	1.0	0.064	1.08
Total Dissolved Solids (TDS)	22,100	30,900	179	408	196	620
Sulfate	14,100	19,000	2.7	87.1	6.2	54.7

Because the CCR Landfill leachate ponds also receive some storm water runoff, concentrations in at least some of these samples are likely to be diluted compared to concentrated leachate from landfilled materials (depending on the amount of recent rainfall). Nevertheless, pond samples serve as reliable indicators of the relative composition of leachate. As seen in **Exhibit 3-1**, boron and sulfate occur at concentrations as much as three orders-of-magnitude above background groundwater levels. Results for chloride and TDS are as much as two orders-of-magnitude above background concentrations. Calcium and fluoride concentrations are within the same orders-of-magnitude as those detected in background groundwater. These results indicate that boron and sulfate are the best indicator constituents of CCR impacts, followed by TDS and chloride, based on their elevated occurrence in landfill leachate compared to natural groundwater.

3.1.2 Occurrence of Primary Indicator Constituents in Waste Boundary Monitoring Well Samples

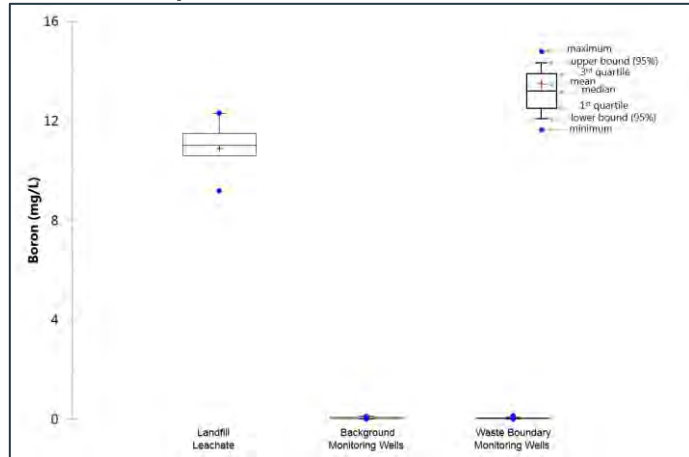
Four primary indicator compounds are identified for the Rockport CCR Landfill leachate: boron, sulfate, TDS and chloride. Six SSIs have been identified for chloride, one for TDS and one for fluoride. However, no SSIs were identified in waste boundary wells for either boron or sulfate. Given the predominance of boron and sulfate in the CCR Landfill leachate, and that neither of these constituents are elevated above background, it is concluded that Landfill leachate is not the source of the observed SSIs. This assumption is supported by a more in-depth review of the indicator constituents, presented below.

Boron

No SSIs have been identified for boron. Boron has been identified in background wells at concentrations ranging from <0.004 to 0.115 mg/L. Concentrations in waste boundary well samples range from 0.001 to 0.139 mg/L. Landfill leachate boron concentrations are much higher and range from 9.18 to 12.3 mg/L. The boron results are plotted graphically on **Exhibit 3-2**, which illustrates the range of results for leachate (at the left of the chart) compared to and background and waste boundary groundwater samples. It should be noted that the highest concentration of boron observed in waste boundary groundwater samples (0.139 mg/L) occurred in MW-16I and did not represent an SSI for that well.

If a release of landfill leachate had occurred, boron concentrations in waste boundary well samples should be clearly higher than the range of background well results, and SSIs would likely be found in at least some of the monitoring wells with other identified SSIs.

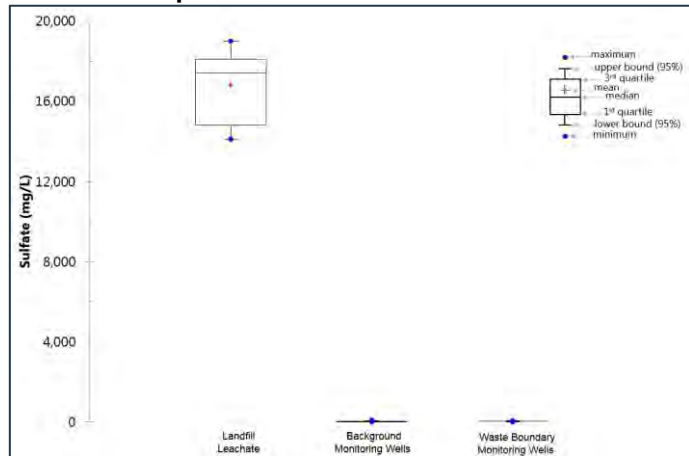
Exhibit 3-2. CCR monitoring well and landfill leachate ponds boron concentrations



Sulfate

No SSIs have been identified for sulfate. Sulfate has been identified in background wells at concentrations ranging from 2.7 to 87.1 mg/L. Concentrations in waste boundary well samples range from 6.2 to 54.7 mg/L. Landfill leachate sulfate concentrations are orders of magnitude higher and range from 14,100 to 19,000 mg/L. The sulfate results are plotted graphically on **Exhibit 3-3**, which clearly shows that leachate concentrations of sulfate are orders-of-magnitude higher than all groundwater samples, and that no discernable difference is present between the background and waste boundary samples. Furthermore, the highest monitoring well concentrations are seen in samples from background

Exhibit 3-3. CCR monitoring well and landfill leachate ponds sulfate concentrations



It is expected that a release of landfill leachate would elevate groundwater concentrations of all Appendix III constituents present in the leachate in relatively similar proportions. Even if all constituents were not exhibiting statistically significant increases, a pattern of related SSIs would be observed if the increases were caused by landfill leachate. Since all SSIs occurred in absence of a boron or sulfate SSI, and the highest groundwater sulfate concentrations are associated with a background well, it is concluded that the reported SSIs are caused by the natural variation in groundwater quality, potentially impacted by historical oil and gas operations which are assumed to have high chloride and TDS and little to no sulfate, and not by releases from the CCR Landfill.

3.2 Geochemical Evaluations

While the CCR rule requires the use of statistical analyses of samples collected from groundwater monitoring wells to assess potential impacts from CCR units (SSIs), the approach does not consider the site specific hydrogeochemical interactions that can often be complex due to simultaneous operations and natural variation within the context of the local hydrogeologic setting. Since geochemical evaluations rely on interpretation of graphical data, the discussion includes reduced size exhibits imbedded in the text. Full size exhibits are included in **Appendix B**. The major observations and conclusions from the geochemical evaluation are summarized in the sections below.

3.2.1 Indicator Parameter Cross-Plots and Major Ion Chemistry

To aid in the interpretation of individual Appendix III and other potential indicator parameters for the assessment of potential releases from the CCR Landfill, ratios of selected Appendix III indicator parameters were calculated and plotted versus concentrations of the conservative ion chloride, and major ion chemistry was assessed as a whole system using Piper trilinear diagrams. The use of these plotting techniques typically provides groupings of end members (sources of water such as background groundwater or landfill leachate), and potential trends of mixing that are not readily identifiable by analysis of individual indicator parameters on their own.

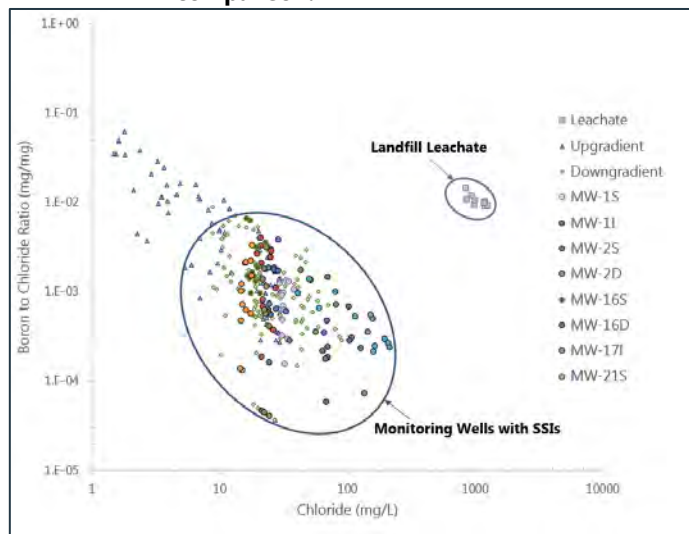
Plots of the B/Cl and SO₄/Cl ratios versus chloride in waste boundary monitoring wells show distinct end member groupings from that of the landfill leachate and support the conclusion that there are no discernable impacts from the CCR Landfill on any of the waste boundary monitoring wells. The graphics presented here include data for all wells in the CCR Landfill system and show that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas represented by upgradient monitoring wells.

Boron to Chloride ratio Versus Chloride Concentration

The plotting of B/Cl versus chloride groundwater data shows primarily a single large cluster that trends perpendicular to the composition of leachate samples and is hypothesized as background and natural variability (**Exhibit 3-4**). The data are plotted on log-log scales due to the large range of concentrations and ratios making the separation in groupings appear closer than they are. The Landfill leachate clearly plots as a separate grouping of water quality having greater B/Cl ratios, while the monitoring well data plots along a trend of what can be described as natural variability. Background monitoring well MW-11S plots as upgradient recharge having lower chloride concentration and a higher B/Cl ratio.

Moving along the flow path to downgradient monitoring wells, this is followed by a trend of increasing chloride concentrations and salinity with decreasing B/Cl ratios due to geochemical evolution of groundwater and potential mixing with water associated with historic oil and gas operations and or storm water ponds. While chloride increases, boron does not increase at the same

Exhibit 3-4. Boron to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.

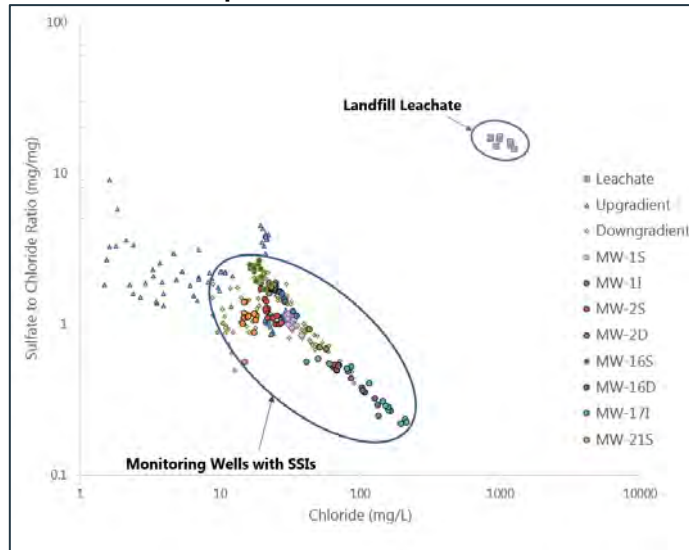


rate, resulting in the decreasing trend of B/Cl ratios as chloride concentrations and residence time increases. Thus, it is hypothesized that MW-11S represents an extreme end member of recent recharge, or relatively fresh groundwater, and after flow through the shallow overburden groundwater evolves geochemically to a lower B/Cl ratio, as chloride increases, approaching the larger background cluster values that represent older more mineralized groundwater without a significant source of boron in the aquifer matrix. The extreme end of the groundwater dataset trend is represented by MW-17I, MW-16D, and MW-2D due to higher chloride concentrations, but with lower B/Cl ratios. This plot supports that these wells are not impacted by CCR Landfill leachate but could be influenced by infiltration from the storm water holding ponds or flushing of salts from water holding ponds associated with historic oil and gas operations. If there were impacts from the landfill to groundwater, one would expect a trend of B/Cl ratios versus chloride moving from the groundwater trend toward the leachate values, but this does not occur.

Sulfate to Chloride Ratio Versus Chloride Concentration

Plotting of the SO_4/Cl ratio versus chloride shows similar results to the B/Cl ratios versus chloride concentration plot supporting the conclusion that there are no discernable impacts from the CCR Landfill on groundwater (**Exhibit 3-5**). The SO_4/Cl ratios for leachate group separately and are much higher than groundwater values. The SO_4/Cl ratios for leachate are typically around 15 mg/mg or higher, while groundwater ratios are below a value of 6 mg/mg. Similar to B/Cl ratios, the SO_4/Cl ratios versus chloride plot along a trend line of decreasing ratios as chloride and residence time increases. The extreme end of the groundwater data set trend is represented by MW-17I, MW-16D, and MW-2D variability due to higher chloride concentrations that is clearly different from leachate. Additionally, there is no trend of mixing of even small quantities of leachate with groundwater which would be shown by a deviation from the groundwater trend toward leachate, and the separation is distinct between downgradient groundwater and leachate.

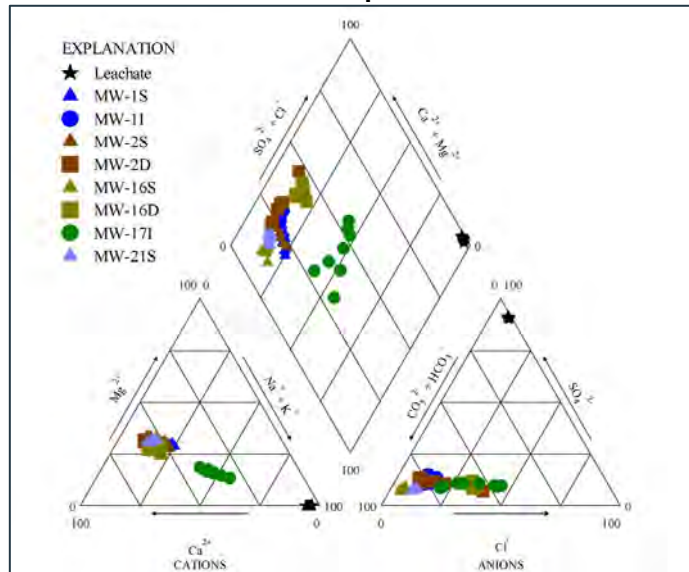
Exhibit 3-5. Sulfate to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.



CCR Landfill Major Ion Water Quality

Starting with the sixth round of sampling, additional analytes were included in the analyses making it possible to create major ion Piper trilinear diagrams for graphical comparison of water types for the CCR Landfill monitoring wells and leachate samples. Inferences of different groundwater source end members are supported by the Piper diagram shown on **Exhibit 3-6**. All of the major ion chemistry is plotted on a single diagram for downgradient monitoring wells with SSIs and results are supportive of the observations found when reviewing the cross-plots of ion ratios versus chloride concentrations. Leachate plots as a sodium sulfate water type while the monitoring wells identified with SSIs in this ASD are associated with a calcium bicarbonate water type with the exception of MW-17I. Monitoring well MW-17I shows a different major ion water type that is influenced by greater contributions of sodium and chloride, but not sulfate. The higher sodium and chloride is potentially related to the influence of upgradient stormwater ponds or historic oil and gas operations.

Exhibit 3-6. Piper diagram of major ion water quality for CCR Landfill monitoring wells with SSIs and leachate for comparison.



3.2.2 Isotope Analyses of CCR Related Water Quality and Materials

General Overview of Isotope Analyses

Water samples were collected from selected CCR Landfill monitoring wells and CCR Landfill leachate and submitted for isotope analyses of boron, strontium, and oxygen and hydrogen of water. The results of the isotope analyses serve as additional supporting lines of evidence for interpretations made using major ion and indicator parameter concentrations and reinforce the lack of leachate impacts to groundwater at the CCR Landfill.

Boron and its isotope ratio ($\delta^{11}\text{B}$) have been successfully used to identify groundwater pollution sources versus background or naturally occurring detections of constituents of concern (Davidson and Bassett 1993; Vengosh et al. 1994; Kendall et al., 1995; Ruhl et al. 2014; Harkness et al. 2017). In particular, boron isotopes have been successfully used to assess CCR related impacts in groundwater. Similarly, strontium and its isotopes ($^{87}\text{Sr}/^{86}\text{Sr}$) have also been successfully used to identify different groundwater source end members, mixing, and to determine anthropogenic versus geogenic processes associated with constituents of concern and associated with CCR impacts to groundwater (Kendall and Bullen 1995; Ruhl et al. 2014; Meredith 2016; Harkness et al. 2017; Nigro et al. 2017).

CCR Landfill Isotope Results

Stable isotope analyses are typically performed on a pair of isotopes (e.g. ^{11}B and ^{10}B , or ^{87}Sr and ^{86}Sr) and are reported as a ratio relative to internal standards, in per mil (‰) using Greek "delta" notation (δ). Deviations based on analysis of the standard are corrected for, to provide values that can be compared

between different laboratories and equipment. Isotopes commonly reported relative to a standard include boron (eq. 1), where the standard for boron is the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) NIST SRM 951:

$$\delta^{11}B(\text{‰}) = \frac{\left(\frac{^{11}B}{^{10}B}\right)_{\text{Sample}} - \left(\frac{^{11}B}{^{10}B}\right)_{\text{Standard}}}{\left(\frac{^{11}B}{^{10}B}\right)_{\text{Standard}}} \times 1000 \quad \text{eq. 1}$$

Isotope ratios of strontium can be reported relative to a standard value but are commonly reported as the actual ratio $^{87}\text{Sr}/^{86}\text{Sr}$. The values for strontium reported here are the actual ratios, but they have been corrected to the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) NIST SRM 987.

Background monitoring wells for the CCR Landfill show lower boron concentrations and higher $\delta^{11}\text{B}$ values compared to Landfill leachate samples (**Exhibit 3-7**). While only a limited number of background and waste boundary wells were tested (including MW-17I with a previous and current SSI, and MW-21S with a previously reported SSI), there is a clear distinction between all the CCR Landfill monitoring wells and the Landfill leachate which indicates that the wells represented are not impacted by the Landfill, and that boron in the monitoring wells is of a different source other than leachate.

In addition, while there is a variation in the leachate boron concentrations, the $\delta^{11}\text{B}$ values remain approximately equivalent. This supports the hypothesis that boron $\delta^{11}\text{B}$ values in leachate are dominated by the CCR materials. The range of observed concentrations is related to the amount of water generating the leachate or potentially dilution by fresh water derived from stormwater runoff. The result is a range of boron concentrations having a similar $\delta^{11}\text{B}$ value distinctly different from groundwater in both background and downgradient monitoring wells.

Strontium isotope results also support the boron isotope, major ion, and indicator parameter interpretations that there are no identifiable impacts on groundwater from the landfill. There are noticeably lower strontium concentrations and ratios for all CCR Landfill monitoring wells sampled compared to Landfill leachate (**Exhibit 3-8**).

Exhibit 3-7. Boron isotope ratio ($\delta^{11}\text{B}$) versus boron concentration for CCR Landfill leachate and monitoring wells for comparison.

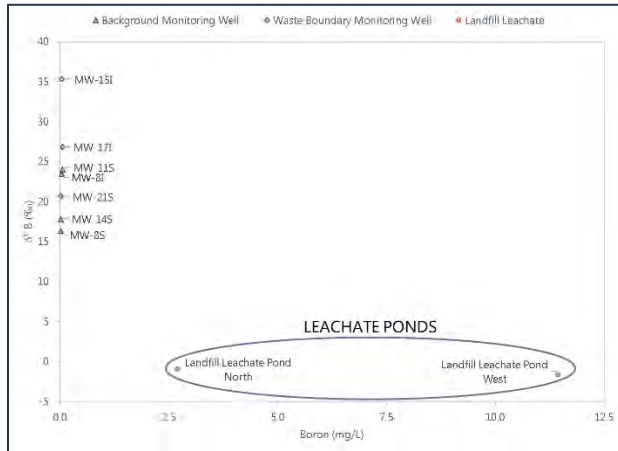
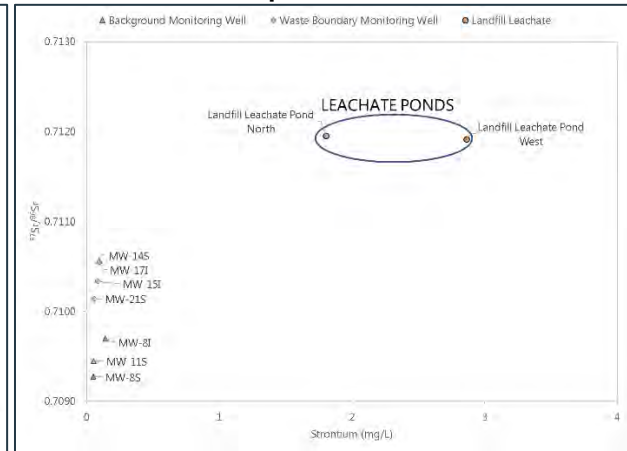


Exhibit 3-8. Strontium isotope ratio ($^{87}\text{Sr}/^{86}\text{Sr}$) versus strontium concentration for CCR Landfill leachate and monitoring wells for comparison.



3.3 Hydraulic Connection to the landfill

The groundwater monitoring network and the relationship of the wells to the regulated landfill are shown on **Figure 2**. Recent potentiometric flow data available for the site consistently indicate a local groundwater flow direction in the vicinity of MW-17 to the south and southeast. Four potentiometric surface maps are presented on **Figures 4 through 7**. As shown on these figures, well cluster MW-17 is located cross-gradient from the landfill and at least sometimes downgradient of the borrow area storm water ponds. Therefore, groundwater monitored by this well cluster is hypothesized to be unaffected by potential releases from the landfill unit. Additionally, other downgradient monitoring wells are likely impacted by the storm water ponds causing SSIs related to TDS and chloride.

4.0 Summary

As summarized in **Exhibit 2-1** above, in the initial detection monitoring event, SSIs were identified in only five of 16 downgradient monitoring wells, for the following Appendix III constituents (the number of SSIs is indicated in parentheses): chloride (2), fluoride (1) and TDS (2). The following statements summarize how the lines of evidence discussed above apply to each of the constituents with identified SSIs:

- Boron occurs naturally at low concentration in site groundwater, in similar concentrations in background and downgradient wells. Boron occurs at concentrations approximately three orders-of-magnitude in the CCR Landfill leachate as compared to site groundwater, and is a conservative ion, making it an excellent indicator for impacts from landfill leachate impacts in groundwater. If Landfill leachate were impacting groundwater, boron would be expected to be detected in multiple waste boundary wells and at statistically significant concentrations above background, but it does not and the boron that is present has been shown to be isotopically different.
- Sulfate is another common indicator for CCR leachate impacts, which also occurs naturally in site groundwater (at similar concentration ranges in background and downgradient wells) and is elevated in the CCR Landfill leachate at concentrations approximately three orders-of-magnitude above background monitoring wells. No SSIs for sulfate were determined in any of the waste boundary well samples.

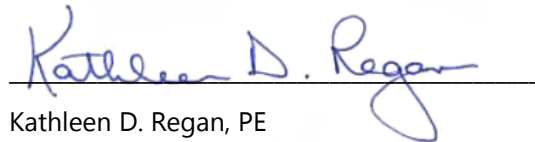
- Chloride is a naturally occurring and conservative ion, which occurs in the CCR Landfill leachate at concentrations about two orders-of-magnitude above groundwater concentrations. Spatial trends can be observed in **Exhibits 3-4** and **3-5** and indicate that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas. However, because the SSIs indicated for chloride are not associated with SSIs for boron and sulfate, the CCR Landfill leachate is not considered a source for the chloride detected in groundwater.
- The same conclusion can be drawn regarding calcium, TDS and fluoride, for which occasional SSIs are not consistently associated with boron, sulfate, or each other. The SSIs indicated for these constituents appear to be related to the natural variation in groundwater quality, along with a spatial trend of increasing TDS with distance from recharge area.

4.1 Conclusion

This ASD has demonstrated, through multiple lines of evidence, that the SSIs identified in the statistical analysis of the second detection monitoring event data are not the result of a release of leachate from the CCR Landfill. Therefore, the unit will continue in detection monitoring.

4.2 Professional Engineer Certification

I certify that the above described Alternative Source demonstration is appropriate for evaluating the groundwater monitoring data for the Rockport Plant CCR Landfill and that the requirements of 40 CFR 257.95(h)(8)(3)(ii) have been met.



Kathleen D. Regan, PE
Indiana Registered Engineer PE1400182

2 June 2020

Date

5.0 References

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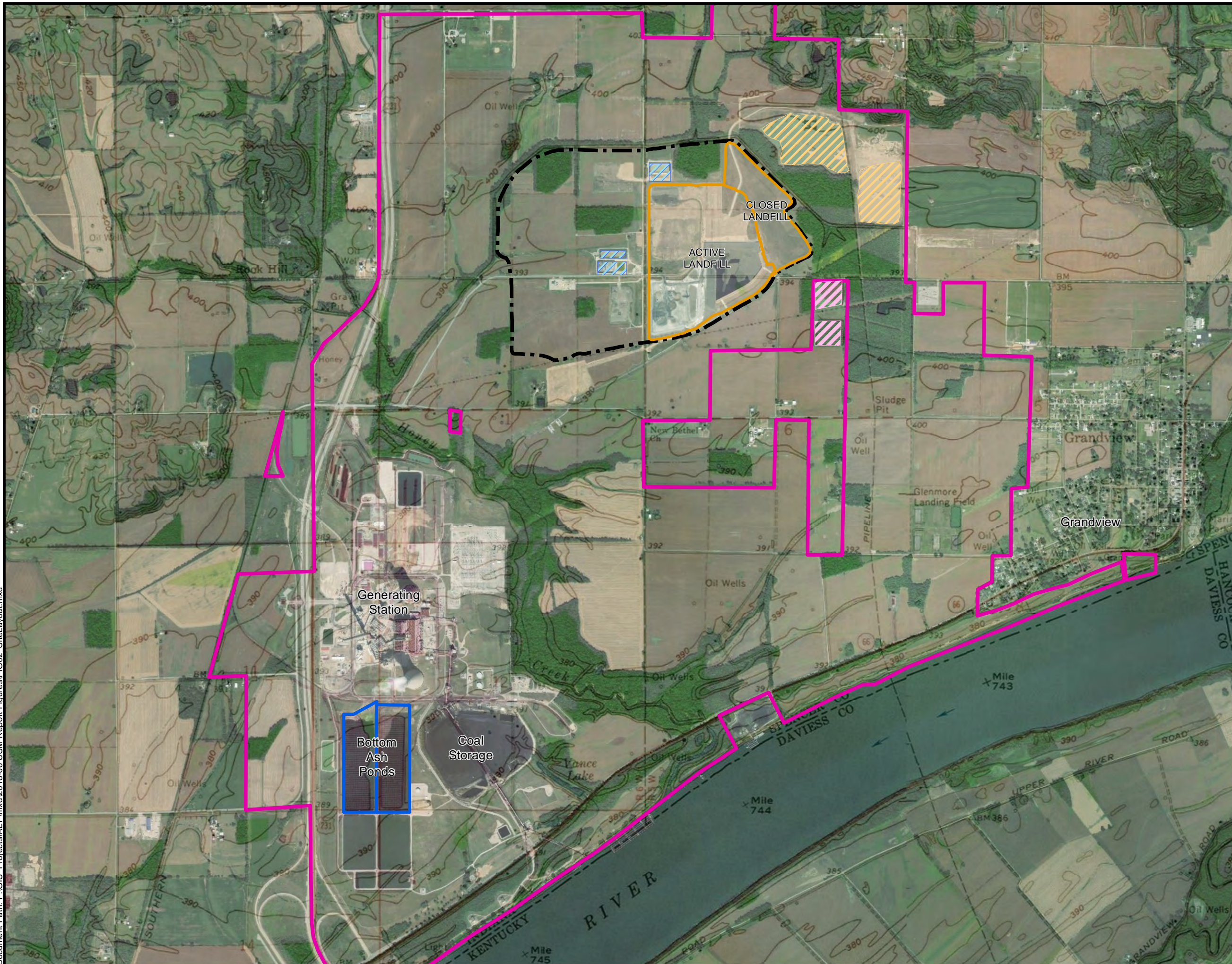
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Figures

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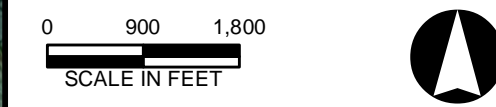


- Legend**
- Stormwater Ponds
 - Landfill Leachate Ponds
 - Grandview Wastewater Ponds
 - Property Boundary
 - Bottom Ash Ponds (BAP)
 - Landfill Area 1A (Active and Closed)
 - 1984 Landfill Permit Boundary (Area 1)

Data Sources

Date of Photography: 2016
 Source of Photography: U.S. Department of Agriculture, National Agriculture Imagery Program (NAIP)

USGS Rockport and Lewisport (IN/KY) Topographic Quadrangle Maps



SITE LAYOUT

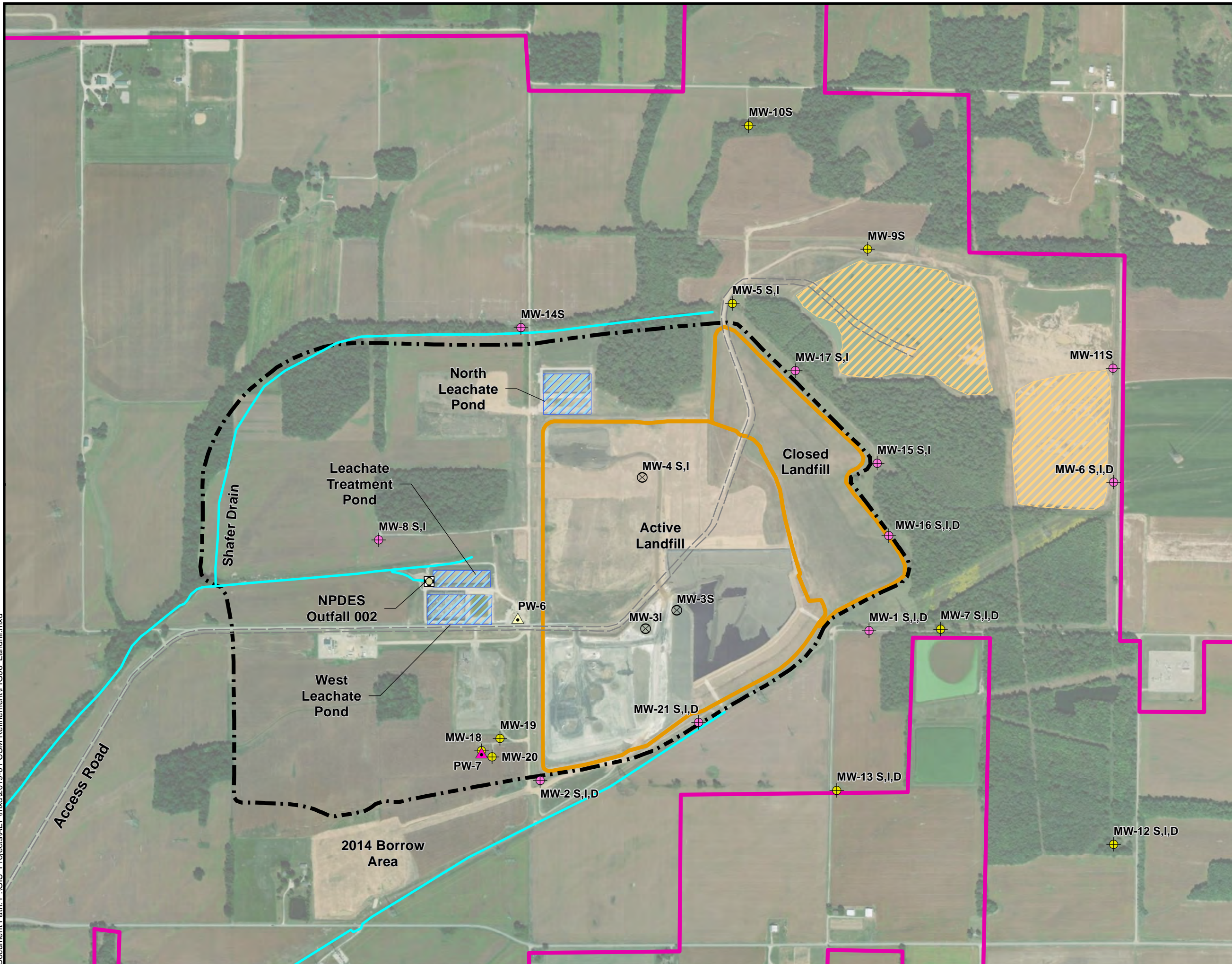
AEP - ROCKPORT, IN
PROJECT NUMBER: 7650202784

SCALE	1" = 1,800'	FIG. 1
DATE	9/4/2018	
DRAWN BY	TMR	
APPROVED BY	KDR	

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- Legend**
- Landfill - Monitoring Well
 - Landfill - CCR Monitoring Well
 - Landfill - Augmentation Water Supply Well
 - Landfill - Dust Control Water Supply Well
 - Abandoned Monitoring Well
 - NPDES Outfall 002
 - Access Road
 - Drains / Ditches
 - Stormwater Ponds
 - Landfill Leachate Ponds
 - Property Boundary
 - 1984 Landfill Permit Boundary (Area 1)
 - Landfill Area 1A (Active and Closed)

Data Sources

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: USGS Rockport and Lewisport (IN/KY) Topographic Quadrangle Maps, 1964, photorevised 1982

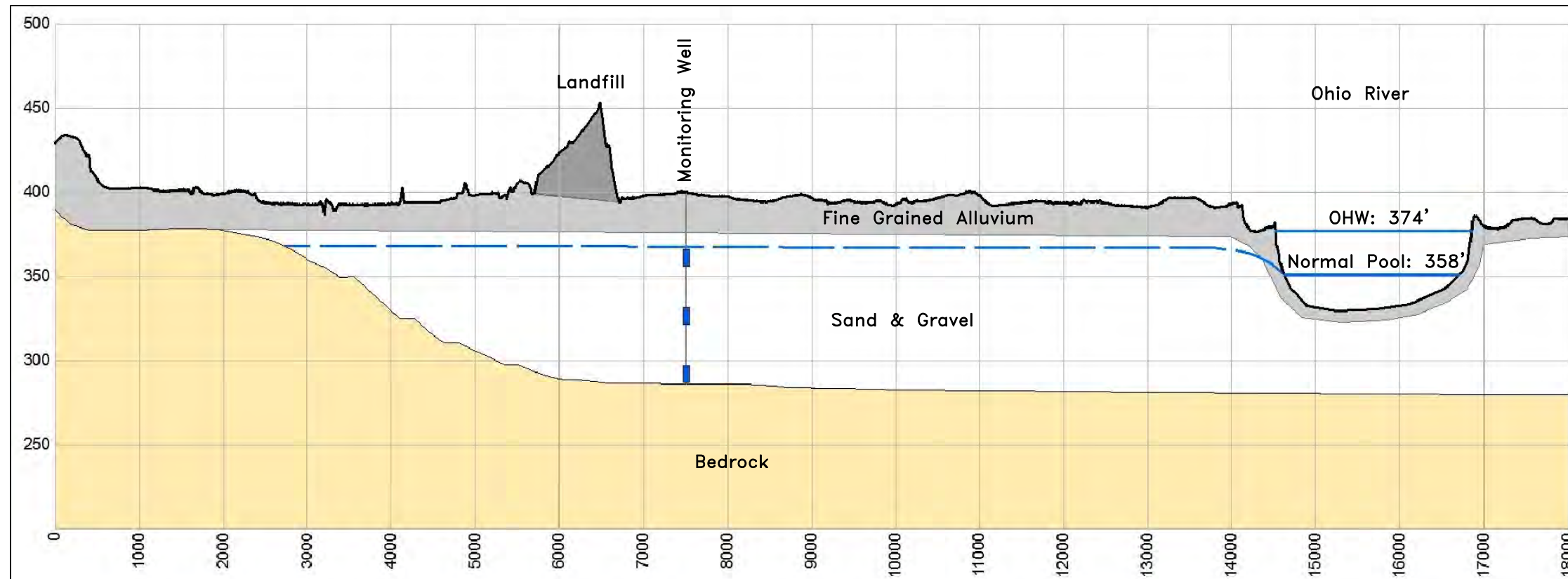
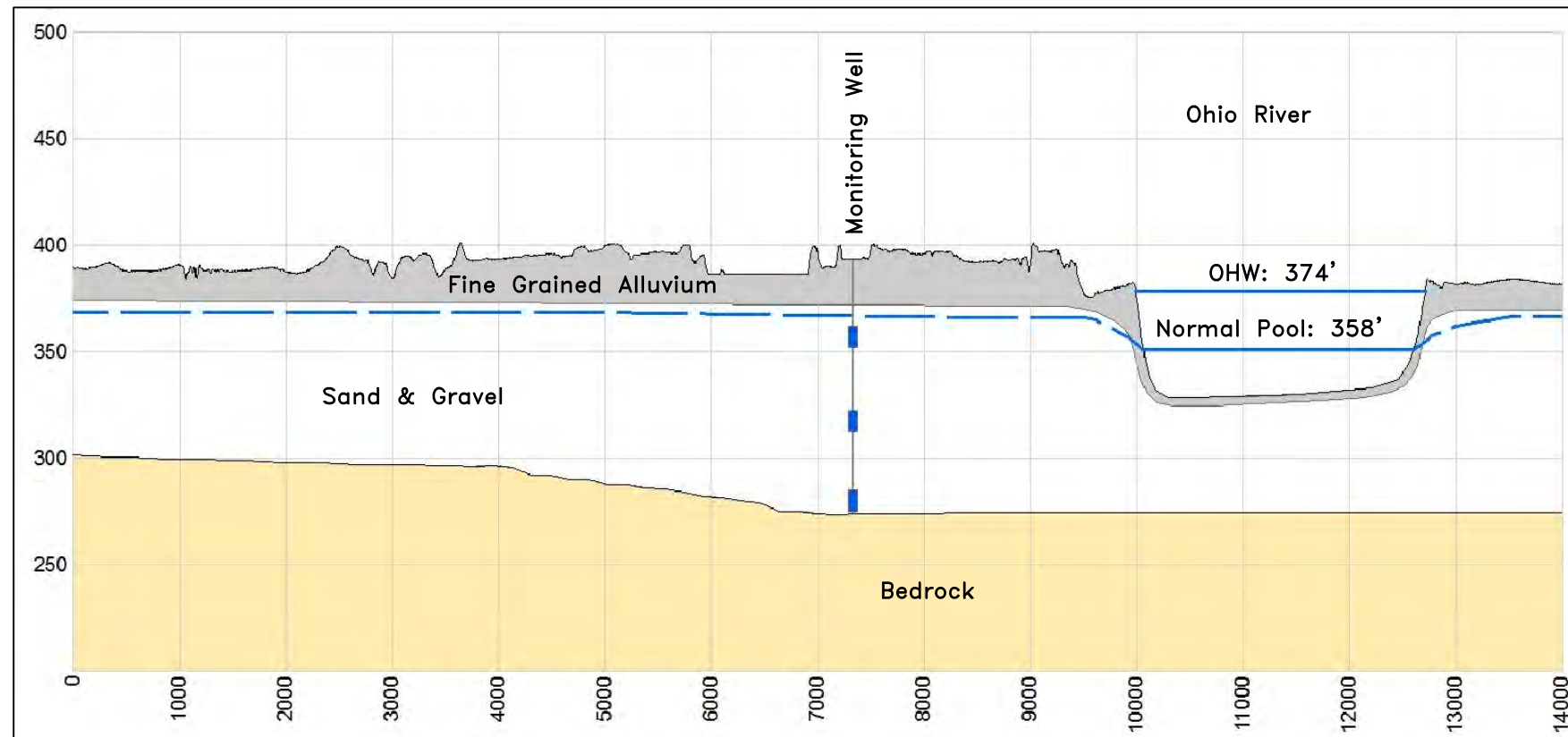


LANDFILL LAYOUT
AEP - ROCKPORT, IN
PROJECT NUMBER: 7650202784

SCALE	1" = 800'	FIG. 2
DATE	3/6/2019	
DRAWN BY	TMR	
APPROVED BY	KDR	

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SCALE: As Shown
VERTICAL EXAGGERATION: 4X



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**BOTTOM ASH PONDS
AEP - ROCKPORT, INDIANA**

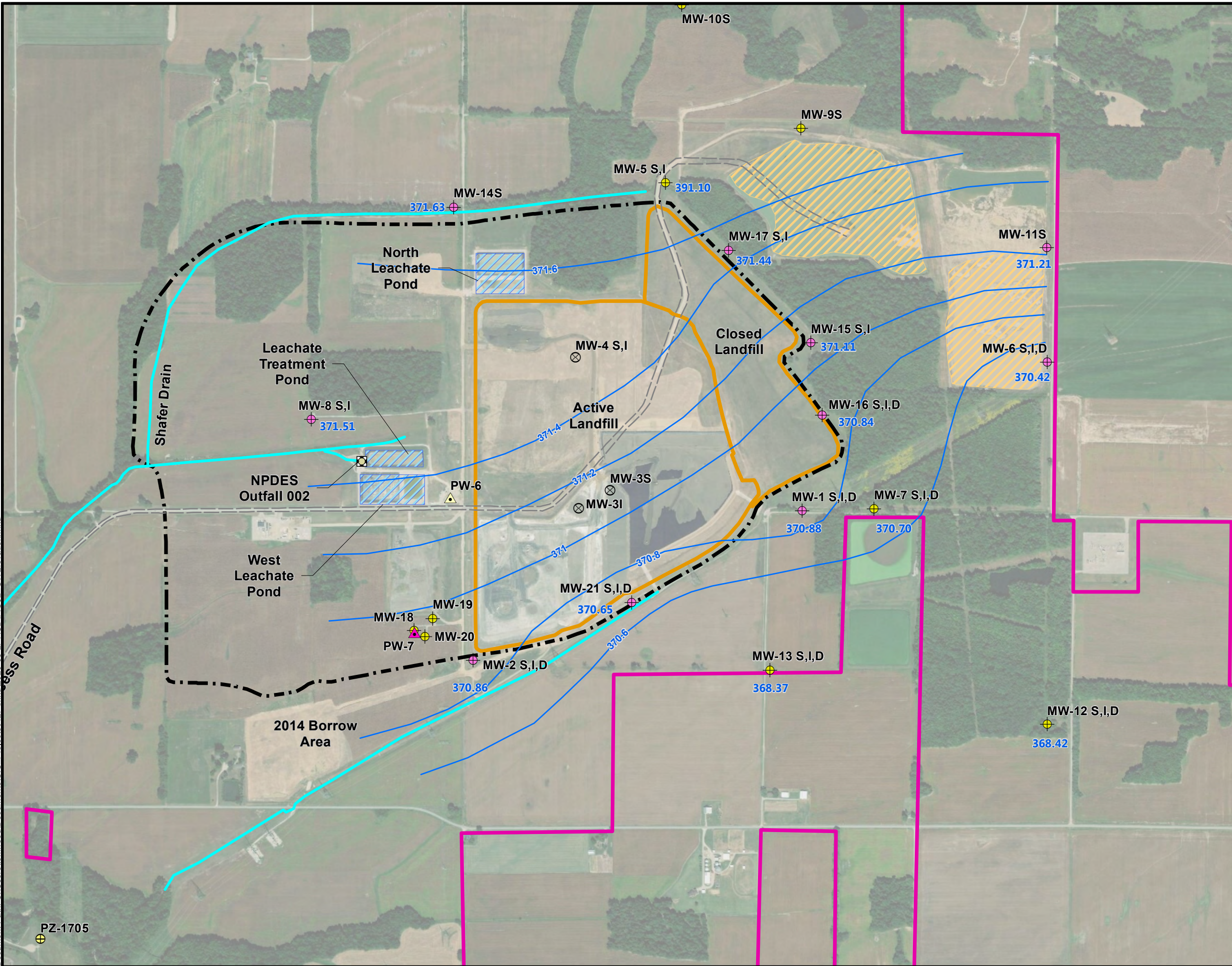
GENERALIZED CROSS-SECTIONS

PROJECT NUMBER: 7650202784
















SCALE	As Shown
DATE	9/28/2017
DRAWN BY	TMR
APPROVED BY	ALD

**FIG
3**

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Legend

-  Piezometer
-  Landfill - Monitoring Well
-  Landfill - CCR Monitoring Well
-  Landfill - Augmentation Water Supply Well
-  Landfill - Dust Control Water Supply Well
-  Abandoned Monitoring Well
-  NPDES Outfall 002
-  Groundwater Elevation Contour (11/14/2019), contour interval: 0.2 feet
-  Access Road
-  Drains / Ditches
-  Stormwater Ponds
-  Landfill Leachate Ponds
-  Property Boundary
-  1984 Landfill Permit Boundary (Area 1)
-  Landfill Area 1A (Active and Closed)

Data Sources

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: USGS Rockport and Lewisport (IN/KY) Topographic Quadrangle Maps, 1964, photorevised 1982



POTENTIOMETRIC SURFACE CONTOURS
14 NOVEMBER 2019
 AEP - ROCKPORT, IN
 PROJECT NUMBER: 7650202784

SCALE	1" = 800'
DATE	5/27/2020
DRAWN BY	TMR
APPROVED BY	KDR

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Appendices



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**Appendix A
Analytical Data Tables**

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	1/3/2018	6/6/2018	8/16/2018	11/14/2018	2/13/2019	4/1/2019
Field Parameters																		
Elevation	ft NGVD	--	--	369.45	369.29	368.81	368.29	367.61	367.69	367.66	368.33	368.01	366.11	369.43	369.91	368.71	369.68	370.56
pH	S.U.	--	7.09 - 8.14	8.14	7.2	7.09	7.34	7.4	7.1	7.19	7.26	7.08	7.64	7.48	7.3	7.48	7.46	7.35
Specific Conductance	µmhos/cm	--	--	687	612	703	657	470	300	567	536	635	686	590	658	535	530	892
Turbidity	NTU	--	--	0.23	1.5	0.34	0.65	1	2	0.63	0.78	0.4	1.31	1.12	0	0.56	0.8	1.15
Dissolved Oxygen	mg/L	--	--	3.37	4	2.82	3.46	5	4	2.48	2.72	3	3.06	0.61	4.59	2.3	1.1	1.09
Temperature	°C	--	--	15.04	18.9	19.09	15.17	14.8	15.7	16.81	15.81	15.63	12.81	16.23	15.38	14.7	14.9	14.6
ORP	mV	--	--	89.2	111	77.1	52.9	105	46	53.7	16.2	43.8	-20.8	-76.5	302	100.5	172	126.4
Laboratory Parameters																		
Antimony	µg/L	6	--	0.03	0.2	0.02	0.02	0.04	0.04	0.05	0.02	--	--	--	--	0.05	--	--
Arsenic	µg/L	10	--	0.43	0.69	0.38	0.38	0.43	0.76	0.5	0.39	--	--	--	--	0.34	--	--
Barium	µg/L	2000	--	18.5	21.9	17.2	17.9	17.7	36.5	22.3	17.3	--	--	--	--	17.8	--	--
Beryllium	µg/L	4	--	<0.01	0.16	<0.005	<0.005	<0.005	0.023	0.01	<0.004	--	--	--	--	0.03	--	--
Cadmium	µg/L	5	--	0.02	0.22	0.005	0.007	0.02	0.09	0.22	0.01	--	--	--	--	<0.01	--	--
Chromium	µg/L	100	--	0.3	0.7	0.3	0.207	0.72	1.38	0.552	0.255	--	--	--	--	0.25	--	--
Cobalt	µg/L	6	--	0.171	0.398	0.014	0.01	0.052	1.21	0.164	0.02	--	--	--	--	<0.02	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.15	0.74	--	0.09	--	1.3	--	--
Lead	µg/L	15	--	0.204	0.572	0.01	0.022	0.076	1.26	0.526	0.033	--	--	--	--	0.12	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	--	--	--
Molybdenum	µg/L	100	--	0.65	0.8	0.68	0.74	0.59	0.97	1.64	0.64	--	--	--	--	0.6	--	--
Selenium	µg/L	50	--	1.1	1.1	0.9	0.9	1	1.1	1.1	1.2	--	--	--	--	0.8	--	--
Thallium	µg/L	2	--	<0.02	0.168	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	--	--	--	--	<0.1	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	4.5	--	0.7	--	2	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	19.5	19.7	22.4	--	19.5	--	19.7	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	5.55	4.29	--	3.8	--	1	--	--
Boron	mg/L	--	0.048	0.037	0.015	0.022	0.02	0.005	0.03	0.031	0.028	0.044	--	0.046	--	0.04	--	--
Calcium	mg/L	--	(79.5) 79	70.7	62.9	68	74.4	65	71.5	72.6	69.2	67.6	--	71.8	--	71.9	--	--
Lithium	mg/L	0.04	--	0.004	0.024	0.002	0.01	0.008	0.01	0.009	0.0007	--	--	--	--	0.03	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	27.3	26.9	26.9	25.6	--	26.8	--	26.8	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0015	--	--	0.0027	--	0.0022	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.32	1.24	1.16	1.15	--	1.19	--	1.16	--	--
Sodium	mg/L	--	--	--	--	--	--	--	40.6	35.2	39.6	36.1	--	31.2	--	35	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.11	0.12	0.105	0.104	--	0.11	--	0.108	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	278	273	271	269	--	250	--	273	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.086	0.108	0.104	0.109	--	0.106	--	0.1	--	--
Chloride	mg/L	--	(29.6) 33	29.6	31.1	31.4	31.9	32	30.7	31.3	30.4	33.1	39.9	34.9	37.3	38.1	40.4	38.5
Fluoride	mg/L	4	0.677	0.59	0.65	0.6	0.54	0.57	0.59	0.63	0.58	0.57	--	0.61	--	0.63	--	--
TDS	mg/L	--	(412.7) 419	392	392	411	398	392	384	402	406	396	--	386	--	410	--	--
Sulfate	mg/L	--	(36.95) 37	33.7	35.5	32.4	30.7	30.7	30.5	33.3	33.6	34.6	--	34.2	--	32.3	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	--	<0.07	--	--
Radium-228	pCi/L	--	--	-0.185	0.445	0.244	-0.00464	0.447	-0.172	-0.122	0.133	--	--	--	--	-0.0731	--	--
Radium-226	pCi/L	--	--	0.0665	0.374	-0.00261	0.296	0.487	0.0407	0.0324	0.176	--	--	--	--	0.108	--	--
Radium-226/228	pCi/L	5	--	-0.1185	0.819	0.24139	0.29136	0.934	-0.1313	-0.0896	0.309	--	--	--	--	0.108	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	0.4	--	1.65	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	9	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--	0.8	--	6.24	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.049	0.014	--	<0.002	--	0.035	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0001	0.0002	<0.0001	0.0002	--	<0.0002	--	0.0026	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	5/23/2019	7/23/2019	11/22/2019	2/18/2020
Field Parameters							
Elevation	ft NGVD	--	--	371.82	372.42	370.88	369.32
pH	S.U.	--	7.09 - 8.14	7.91	7.36	6.93	7.12
Specific Conductance	µmhos/cm	--	--	593	618	612	1386
Turbidity	NTU	--	--	0.05	1.6	1.4	0.47
Dissolved Oxygen	mg/L	--	--	0.87	1.5	5.7	4.6
Temperature	°C	--	--	15.6	18.2	13.8	12.43
ORP	mV	--	--	-28.8	57	-98	118.1
Laboratory Parameters							
Antimony	µg/L	6	--	0.02	--	0.03	--
Arsenic	µg/L	10	--	0.29	--	0.34	--
Barium	µg/L	2000	--	17.6	--	18	--
Beryllium	µg/L	4	--	<0.02	--	<0.02	--
Cadmium	µg/L	5	--	<0.01	--	0.01	--
Chromium	µg/L	100	--	0.2	--	0.2	--
Cobalt	µg/L	6	--	<0.02	--	0.02	--
Copper	µg/L	--	--	0.13	--	0.3	--
Lead	µg/L	15	--	0.03	--	0.1	--
Mercury	µg/L	2	--	<0.002	--	<0.002	--
Molybdenum	µg/L	100	--	1	--	0.6	--
Selenium	µg/L	50	--	0.7	--	0.8	--
Thallium	µg/L	2	--	<0.1	--	<0.1	--
Zinc	µg/L	--	--	7.8	--	0.8	--
Silica (Dissolved)	mg/L	--	--	<0.06	--	18.9	--
Aluminum	µg/L	--	--	2	--	6	--
Boron	mg/L	--	0.048	<0.02	--	<0.02	--
Calcium	mg/L	--	(79.5) 79	73.7	--	69.8	--
Lithium	mg/L	0.04	--	0.02	--	0.0046	--
Magnesium	mg/L	--	--	26.7	--	26	--
Manganese	mg/L	--	--	0.001	--	0.0034	--
Potassium	mg/L	--	--	1.24	--	1.2	--
Sodium	mg/L	--	--	25.8	--	42.7	--
Strontium	mg/L	--	--	0.106	--	0.108	--
Alkalinity	mg/L	--	--	303	--	314	--
Bromide	mg/L	--	--	0.1	--	0.09	--
Chloride	mg/L	--	(29.6) 33	33.7	30	30.6	--
Fluoride	mg/L	4	0.677	0.55	--	0.57	--
TDS	mg/L	--	(412.7) 419	388	--	444	442
Sulfate	mg/L	--	(36.95) 37	36.3	--	35.9	--
Sulfide	mg/L	--	--	<0.1	--	<0.2	--
Radium-228	pCi/L	--	--	0.173	--	0.158	--
Radium-226	pCi/L	--	--	1.09	--	0.055	--
Radium-226/228	pCi/L	5	--	1.263	--	0.213	--
Copper (Dissolved)	µg/L	--	--	0.26	--	0.4	--
Zinc (Dissolved)	µg/L	--	--	0.7	--	0.9	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	<5	--
Iron (Dissolved)	mg/L	--	--	<0.003	--	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.0004	--	<0.0005	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-1I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	6/6/2018	8/16/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.42	369.25	368.8	368.24	367.58	367.63	367.62	368.28	367.25	369.39	397.45
pH	S.U.	--	6.43 - 7.90	6.7	7	7.4	7.09	7.6	7.4	7.24	6.89	7.1	7.5	7.31
Specific Conductance	µmhos/cm	--	--	461	479	570	544	370	500	443	402	424	480	533
Turbidity	NTU	--	--	0.9	0.7	0.24	0.35	1	1	0.6	0.36	1	0.32	0
Dissolved Oxygen	mg/L	--	--	0.4	0.3	1.07	0	0.3	1	0.46	27.63	0.5	0.87	0.22
Temperature	°C	--	--	17.5	18.2	16.99	14.53	14.4	15.7	15.44	16.52	16.4	16.25	16.03
ORP	mV	--	--	-21	205	-2.1	4.4	10	36	-26.2	-118.8	-23	-102.2	253
Laboratory Parameters														
Antimony	µg/L	6	--	0.04	0.04	0.01	0.02	0.02	0.01	0.04	0.02	--	--	--
Arsenic	µg/L	10	--	0.86	0.78	0.92	0.8	0.82	0.69	0.89	0.86	--	--	--
Barium	µg/L	2000	--	85.5	86.1	84.9	93.4	90.5	76.7	85	94.3	--	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.08	0.1	0.02	0.02	0.02	0.05	0.01	0.007	--	--	--
Chromium	µg/L	100	--	0.2	1	0.2	0.051	0.39	0.686	0.155	0.112	--	--	--
Cobalt	µg/L	6	--	0.341	0.364	0.401	0.381	0.424	0.054	0.558	0.569	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.12	0.2	0.48	--
Lead	µg/L	15	--	0.851	1.25	0.156	0.059	0.099	0.427	0.068	0.137	--	--	--
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	2.47	2.85	2.89	3.27	3.33	1.82	2.87	2.85	--	--	--
Selenium	µg/L	50	--	<0.03	0.04	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	--	--	--
Thallium	µg/L	2	--	0.03	0.02	0.02	0.03	0.104	0.03	0.02	0.02	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	1	4.2	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	18.5	18.9	20.7	17.8	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	1	2	2.96	--
Boron	mg/L	--	0.093	0.075	0.014	0.018	0.015	0.004	0.045	0.049	0.047	0.018	0.11	0.056
Calcium	mg/L	--	(79.5) 71	67.4	60	64.5	63.9	60.9	66.9	65.7	64.8	68.1	66.4	--
Lithium	mg/L	0.04	--	0.005	0.022	0.007	0.005	0.005	0.006	0.008	0.0005	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	20.8	21.2	20.6	21.5	21	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.599	--	0.316	--
Potassium	mg/L	--	--	--	--	--	--	--	1.34	1.08	0.98	0.92	1.31	--
Sodium	mg/L	--	--	--	--	--	--	--	19.8	19.5	19.1	19.2	18.1	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0934	0.0926	0.086	0.0911	0.093	--
Alkalinity	mg/L	--	--	--	--	--	--	--	222	225	226	222	230	--
Bromide	mg/L	--	--	--	--	--	--	--	0.061	0.087	0.081	0.072	0.081	--
Chloride	mg/L	--	(29.6) 27.4	24.9	24.8	24.3	24.1	24.4	24.1	26.5	26.5	27.5	28.6	--
Fluoride	mg/L	4	0.428	0.37	0.4	0.37	0.31	0.33	0.35	0.38	0.34	0.37	0.42	--
TDS	mg/L	--	(412.7) 349	323	315	331	334	316	300	323	330	327	321	--
Sulfate	mg/L	--	(47.8) 48	44.3	46.7	42.4	40.7	41.4	41.2	43.8	43.3	44.1	42	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	--
Radium-228	pCi/L	--	--	0.0603	0.105	1.42	0.662	0.108	-0.0752	0.3	2.21	--	--	--
Radium-226	pCi/L	--	--	0.33	1.57	0.276	0.65	0.513	0.15	0.33	0.323	--	--	--
Radium-226/228	pCi/L	5	--	0.3903	1.675	1.696	1.312	0.621	0.0748	0.63	2.533	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.37	--	0.4	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.3	--	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.51	--	1	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.03	<0.0004	0.035	0.048	0.011	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.583	0.1	0.455	0.445	0.303	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/14/2018	2/13/2019	4/1/2019	5/23/2019	7/23/2019	9/11/2019	11/22/2019
Field Parameters										
Elevation	ft NGVD	--	--	368.74	369.73	370.51	371.86	372.45	--	370.95
pH	S.U.	--	6.43 - 7.90	7.75	7.5	7.37	7.01	7.21	7.25	7.05
Specific Conductance	µmhos/cm	--	--	425	443	802	503	493	481	491
Turbidity	NTU	--	--	0.61	1	1.06	0.06	2.1	0.58	1.7
Dissolved Oxygen	mg/L	--	--	0.19	2	1.28	0.73	0.57	0.26	2.1
Temperature	°C	--	--	14.68	14.7	14.6	16.79	16.4	17.5	14
ORP	mV	--	--	62.9	155	134.2	5.2	27	-35.8	-206
Laboratory Parameters										
Antimony	µg/L	6	--	<0.02	--	--	<0.02	--	--	<0.02
Arsenic	µg/L	10	--	0.82	--	--	0.73	--	--	0.71
Barium	µg/L	2000	--	85.6	--	--	83.8	--	--	11
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02
Cadmium	µg/L	5	--	0.02	--	--	<0.01	--	--	0.03
Chromium	µg/L	100	--	<0.04	--	--	0.04	--	--	0.2
Cobalt	µg/L	6	--	0.48	--	--	0.368	--	--	0.838
Copper	µg/L	--	--	0.22	--	--	0.08	--	--	0.5
Lead	µg/L	15	--	0.07	--	--	<0.02	--	--	0.291
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002
Molybdenum	µg/L	100	--	2.96	--	--	2.38	--	--	3.1
Selenium	µg/L	50	--	<0.03	--	--	<0.03	--	--	<0.03
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1
Zinc	µg/L	--	--	1	--	--	0.9	--	--	3
Silica (Dissolved)	mg/L	--	--	18.2	--	--	18	--	--	17.5
Aluminum	µg/L	--	--	3	--	--	<1	--	--	<5
Boron	mg/L	--	0.093	0.05	--	--	0.02	--	--	<0.02
Calcium	mg/L	--	(79.5) 71	65.5	--	--	67.7	--	--	66.7
Lithium	mg/L	0.04	--	0.03	--	--	<0.009	--	--	0.00355
Magnesium	mg/L	--	--	20.6	--	--	20.6	--	--	20.7
Manganese	mg/L	--	--	0.515	--	--	0.37	--	--	0.784
Potassium	mg/L	--	--	0.97	--	--	0.98	--	--	0.9
Sodium	mg/L	--	--	18.5	--	--	18.2	--	--	18.1
Strontium	mg/L	--	--	0.0882	--	--	0.0912	--	--	0.0917
Alkalinity	mg/L	--	--	227	--	--	243	--	--	210
Bromide	mg/L	--	--	0.08	--	--	0.09	--	--	0.08
Chloride	mg/L	--	(29.6) 27.4	28.8	30.1	34.1	33.1	30.6	33.5	35
Fluoride	mg/L	4	0.428	0.41	--	--	0.42	--	--	0.37
TDS	mg/L	--	(412.7) 349	308	--	--	341	--	--	348
Sulfate	mg/L	--	(47.8) 48	40.7	--	--	40.2	--	--	39.7
Sulfide	mg/L	--	--	<0.07	--	--	<0.1	--	--	<0.2
Radium-228	pCi/L	--	--	0.415	--	--	0.71	--	--	0.546
Radium-226	pCi/L	--	--	0.288	--	--	0.37	--	--	0.421
Radium-226/228	pCi/L	5	--	0.703	--	--	1.08	--	--	0.967
Copper (Dissolved)	µg/L	--	--	0.12	--	--	0.43	--	--	<0.2
Zinc (Dissolved)	µg/L	--	--	0.9	--	--	<0.7	--	--	1
Aluminum (Dissolved)	µg/L	--	--	<1	--	--	1	--	--	<5
Iron (Dissolved)	mg/L	--	--	0.053	--	--	0.034	--	--	0.05
Manganese (Dissolved)	mg/L	--	--	0.508	--	--	0.397	--	--	0.758

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.6	369.43	368.97	368.42	367.75	367.81	367.81	368.34	367.44	366.27
pH	S.U.	--	6.74 - 8.16	7.6	7.1	7.36	7.5	7.4	7.33	7.25	8.06	7.3	7.68
Specific Conductance	µmhos/cm	--	--	496	471	464	842	400	558	394	525	448	539
Turbidity	NTU	--	--	8.8	2	6.27	4	5	1.93	2.15	2.47	2	3.89
Dissolved Oxygen	mg/L	--	--	0.5	0.2	0.55	0.8	2	0.25	0.53	0.81	0.4	1.83
Temperature	°C	--	--	19.4	16.7	15.77	14.8	14.7	15.14	15.84	21.46	16.5	6.7
ORP	mV	--	--	63	220	92.8	252	182	49.6	132.7	152.8	-14	-5.3
Laboratory Parameters													
Antimony	µg/L	6	--	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	--	--
Arsenic	µg/L	10	--	1.29	0.73	1.07	0.65	0.77	0.58	0.75	0.59	--	--
Barium	µg/L	2000	--	255	147	160	147	162	139	142	139	--	--
Beryllium	µg/L	4	--	0.01	<0.005	0.007	<0.005	<0.005	<0.005	0.006	<0.004	--	--
Cadmium	µg/L	5	--	0.13	0.07	0.04	0.04	0.15	0.04	0.04	0.05	--	--
Chromium	µg/L	100	--	0.3	1.5	0.3	0.072	0.439	0.687	0.174	0.131	--	--
Cobalt	µg/L	6	--	3.64	0.373	0.836	0.329	0.577	0.173	0.44	0.212	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.93	1.02	--
Lead	µg/L	15	--	1.13	1.37	0.5	0.222	0.807	1.92	0.419	0.355	--	--
Mercury	µg/L	2	--	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	3.44	3.59	3.6	3.24	2.43	3.4	3.05	2.94	--	--
Selenium	µg/L	50	--	0.07	0.03	0.07	0.03	0.03	0.03	0.06	<0.03	--	--
Thallium	µg/L	2	--	0.04	0.02	0.056	0.02	0.05	0.03	0.04	0.03	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.5	4.5	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	18.9	19.4	21.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	8.08	14.6	--
Boron	mg/L	--	0.066	0.017	0.015	0.016	0.018	0.006	0.055	0.046	0.019	0.002	--
Calcium	mg/L	--	(79.5) 75	63.6	57.9	65.2	69.3	63.4	70	67.8	63.9	65.7	--
Lithium	mg/L	0.04	--	<0.0002	0.017	0.0005	0.004	0.007	0.007	0.009	0.002	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21.9	22.2	20.7	20.9	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.511	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.13	1.13	0.89	0.89	--
Sodium	mg/L	--	--	--	--	--	--	--	19.4	19.3	18.8	18	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0985	0.101	0.0885	0.092	--
Alkalinity	mg/L	--	--	--	--	--	--	--	206	202	206	220	--
Bromide	mg/L	--	--	--	--	--	--	--	0.09	0.115	0.109	0.03	--
Chloride	mg/L	--	(29.6) 50	27.3	29.8	29.8	39.3	40.6	40.3	40.9	39.3	10.3	--
Fluoride	mg/L	4	0.321	0.28	0.3	0.28	0.29	0.26	0.26	0.28	0.24	0.85	0.31
TDS	mg/L	--	(412.7) 369	331	329	288	339	323	330	342	338	339	--
Sulfate	mg/L	--	(45.1) 45	40.2	40.6	32.3	33.6	36.4	37	39.5	39.6	10.4	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.558	0.06	0.525	0.566	0.315	0.0844	0.511	0.444	--	--
Radium-226	pCi/L	--	--	0.526	0.135	0.932	6.73	0.334	0.154	0.213	0.502	--	--
Radium-226/228	pCi/L	5	--	1.084	0.195	1.457	7.296	0.649	0.2384	0.724	0.946	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.58	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	4.2	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.052	0.012	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.553	0.62	0.486	0.616	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2018	8/16/2018	11/14/2018	2/13/2019	5/23/2019	7/23/2019	11/22/2019	2/17/2020
Field Parameters											
Elevation	ft NGVD	--	--	369.56	369.94	368.73	369.71	371.84	372.45	367.22	369.34
pH	S.U.	--	6.74 - 8.16	8.24	7.35	7.77	7.41	7.18	7.3	7.26	7.38
Specific Conductance	µmhos/cm	--	--	508	568	457	317	0.504	510	609	817
Turbidity	NTU	--	--	1.71	0	1.03	2	0.3	1.5	2.53	0.98
Dissolved Oxygen	mg/L	--	--	0.25	0.26	0.2	10	3.68	2.1	3.57	6.09
Temperature	°C	--	--	15.85	16.71	14.06	14	17.02	16.7	14.31	13.25
ORP	mV	--	--	-112	200	53	188	55.9	44	51.3	211.2
Laboratory Parameters											
Antimony	µg/L	6	--	--	--	0.03	--	0.05	--	0.04	--
Arsenic	µg/L	10	--	--	--	0.62	--	0.47	--	0.57	--
Barium	µg/L	2000	--	--	--	101	--	99.2	--	101	--
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	--	<0.02	--
Cadmium	µg/L	5	--	--	--	0.02	--	0.02	--	0.03	--
Chromium	µg/L	100	--	--	--	0.07	--	0.1	--	0.2	--
Cobalt	µg/L	6	--	--	--	0.04	--	0.058	--	0.097	--
Copper	µg/L	--	--	0.55	--	0.75	--	0.83	--	0.4	--
Lead	µg/L	15	--	--	--	0.07	--	0.138	--	0.2	--
Mercury	µg/L	2	--	--	--	--	--	<0.002	--	<0.002	--
Molybdenum	µg/L	100	--	--	--	2	--	1	--	1	--
Selenium	µg/L	50	--	--	--	0.04	--	0.09	--	0.08	--
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	--	<0.1	--
Zinc	µg/L	--	--	2	--	1	--	65.9	--	2	--
Silica (Dissolved)	mg/L	--	--	17.9	--	19	--	17.8	--	18.5	--
Aluminum	µg/L	--	--	16.1	--	<1	--	4	--	<5	--
Boron	mg/L	--	0.066	0.103	0.02	0.1	<0.02	0.02	--	0.04	--
Calcium	mg/L	--	(79.5) 75	70.9	--	71.9	--	73.6	--	72.5	--
Lithium	mg/L	0.04	--	--	--	0.01	--	0.01	--	0.0038	--
Magnesium	mg/L	--	--	20.4	--	22.1	--	18.3	--	22.2	--
Manganese	mg/L	--	--	0.216	--	0.138	--	0.169	--	0.163	--
Potassium	mg/L	--	--	1.34	--	1.71	--	1.23	--	1.3	--
Sodium	mg/L	--	--	18.2	--	20.9	--	18.7	--	26	--
Strontium	mg/L	--	--	0.359	--	0.272	--	0.553	--	0.194	--
Alkalinity	mg/L	--	--	218	--	222	--	208	--	260	--
Bromide	mg/L	--	--	0.113	--	0.1	--	0.09	--	0.1	--
Chloride	mg/L	--	(29.6) 50	43.1	43.8	46.9	43.8	32.1	--	49.1	--
Fluoride	mg/L	4	0.321	0.3	--	0.3	--	0.27	--	0.27	--
TDS	mg/L	--	(412.7) 369	345	--	340	--	346	--	398	257
Sulfate	mg/L	--	(45.1) 45	39.5	--	39.8	--	45.3	39.2	41.2	--
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	--	<0.2	--
Radium-228	pCi/L	--	--	--	--	0.295	--	0.55	--	0.197	--
Radium-226	pCi/L	--	--	--	--	0.0679	--	0.652	--	0.11	--
Radium-226/228	pCi/L	5	--	--	--	0.3629	--	1.202	--	0.307	--
Copper (Dissolved)	µg/L	--	--	0.98	--	0.78	--	0.8	--	2.19	--
Zinc (Dissolved)	µg/L	--	--	11.8	--	2	--	2	--	3	--
Aluminum (Dissolved)	µg/L	--	--	2	--	5.05	--	3	--	<5	--
Iron (Dissolved)	mg/L	--	--	<0.002	--	0.02	--	<0.003	--	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.0605	--	0.144	--	0.148	--	0.131	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/9/2017	5/9/2017	7/19/2017	10/4/2017	6/6/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.34	369.03	369.02	368.77	366.24	368.15	368.06	368.22	366.68	369.94
pH	S.U.	--	6.30 - 8.44	6.4	7.68	7.63	7.34	7.65	7.66	7.12	7.46	7.17	7.62
Specific Conductance	µmhos/cm	--	--	423	465	440	459	341	522	354	409	509	470
Turbidity	NTU	--	--	3.1	1.85	0.51	0.96	0.74	1.31	2.68	4.81	1.55	1.84
Dissolved Oxygen	mg/L	--	--	2.8	1.85	4.67	3.91	4.18	3.63	4.52	2.62	2.63	4.66
Temperature	°C	--	--	17.5	16.34	15.81	16.03	15.1	15.73	15.67	16.06	16.42	16.48
ORP	mV	--	--	34	64	90.4	-19	165	13.1	165.7	-5.9	26.6	59.1
Laboratory Parameters													
Antimony	µg/L	6	--	<0.02	0.02	0.04	0.02	0.02	0.02	0.04	0.12	--	--
Arsenic	µg/L	10	--	0.97	1.09	0.94	0.94	0.92	0.95	0.95	0.96	--	--
Barium	µg/L	2000	--	16	14	12.4	12.4	11	12.3	12.3	13.6	--	--
Beryllium	µg/L	4	--	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.01	0.01	0.02	0.02	0.09	0.009	0.01	0.03	--	--
Chromium	µg/L	100	--	0.4	0.6	0.3	0.337	0.329	0.67	0.37	0.41	--	--
Cobalt	µg/L	6	--	0.177	0.09	0.017	0.019	0.014	0.051	0.064	0.121	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.33	0.2	1.58
Lead	µg/L	15	--	0.158	0.105	0.101	0.022	0.063	0.042	0.047	0.243	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	2.03	2.39	2.07	1.91	2.14	1.92	1.75	1.81	--	--
Selenium	µg/L	50	--	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	--	--
Thallium	µg/L	2	--	<0.02	<0.01	<0.01	<0.01	0.074	<0.01	<0.01	0.03	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	3.3	5.3
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	28.6	28.8	31.9	26.7
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	36.6	14.7	15.3
Boron	mg/L	--	0.109	<0.002	0.015	0.014	0.018	0.004	0.069	0.084	0.052	0.045	0.073
Calcium	mg/L	--	(79.5) 66	59.4	51.6	57.4	62.4	51.6	57.9	59	53.3	60.7	57
Lithium	mg/L	0.04	--	0.0004	0.018	0.005	0.008	0.009	0.0007	0.002	0.005	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21.2	21.9	19.5	22.8	21.3
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0124	--	0.0063
Potassium	mg/L	--	--	--	--	--	--	--	0.73	0.81	0.65	0.64	0.68
Sodium	mg/L	--	--	--	--	--	--	--	13.4	14	11.8	16.3	22.1
Strontium	mg/L	--	--	--	--	--	--	--	0.0837	0.0855	0.0756	0.0888	0.0906
Alkalinity	mg/L	--	--	--	--	--	--	--	174	191	188	207	215
Bromide	mg/L	--	--	--	--	--	--	--	0.02	0.071	0.116	0.06	0.063
Chloride	mg/L	--	(29.6) 24	21.5	21.8	23.8	21.8	21.2	21	20.8	19.6	21.2	25.3
Fluoride	mg/L	4	0.299	0.26	0.29	0.26	0.26	0.25	0.26	0.26	0.23	0.25	0.29
TDS	mg/L	--	(412.7) 343	298	265	301	316	284	285	321	308	323	329
Sulfate	mg/L	--	(35.08) 35	26	27.6	26.2	24.1	25.9	26.6	30.3	33.8	30	28.9
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4
Radium-228	pCi/L	--	--	-0.035	0.54	0	0.228	0.343	0.0555	-0.0726	0.631	--	--
Radium-226	pCi/L	--	--		0.12	0.172	0.143	0.311	0.465	0.434	0.0617	--	--
Radium-226/228	pCi/L	5	--	-0.035	0.66	0.172	0.371	0.654	0.5205	0.3614	0.6927	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	0.27
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	0.6
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	2
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.053	0.013	<0.002
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0001	<0.0001	<0.0001	0.0021	0.0003

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/13/2019	4/1/2019	5/22/2019	7/23/2019	9/11/2019	11/14/2019
Field Parameters										
Elevation	ft NGVD	--	--	367.91	368.87	369.97	371.02	371.37	370.52	370.86
pH	S.U.	--	6.30 - 8.44	7.53	7.77	7.72	7.66	7.45	7.33	7.54
Specific Conductance	µmhos/cm	--	--	425	451	491	500	486	473	657
Turbidity	NTU	--	--	2.15	0.8	1.51	1.08	1.7	0.83	0.2
Dissolved Oxygen	mg/L	--	--	3.7	3.1	4.7	5.77	1.3	1.78	3.59
Temperature	°C	--	--	14.51	14.6	14.5	15.93	16.2	16.4	15.18
ORP	mV	--	--	23	71	-17.9	-3.2	55	7.7	4
Laboratory Parameters										
Antimony	µg/L	6	--	0.04	--	--	0.03	--	--	<0.02
Arsenic	µg/L	10	--	0.82	--	--	0.78	--	--	0.76
Barium	µg/L	2000	--	16.5	--	--	18	--	--	19.3
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02
Cadmium	µg/L	5	--	0.11	--	--	0.08	--	--	<0.01
Chromium	µg/L	100	--	0.1	--	--	0.1	--	--	0.255
Cobalt	µg/L	6	--	<0.02	--	--	0.02	--	--	<0.02
Copper	µg/L	--	--	0.28	--	--	0.56	--	--	<0.2
Lead	µg/L	15	--	0.04	--	--	0.133	--	--	<0.05
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002
Molybdenum	µg/L	100	--	2	--	--	2	--	--	1
Selenium	µg/L	50	--	0.2	--	--	1	--	--	1.1
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1
Zinc	µg/L	--	--	89.4	--	--	7.5	--	--	<0.7
Silica (Dissolved)	mg/L	--	--	26.8	--	--	25	--	--	25.2
Aluminum	µg/L	--	--	7.27	--	--	6.68	--	--	<5
Boron	mg/L	--	0.109	0.06	--	--	<0.02	--	--	0.03
Calcium	mg/L	--	(79.5) 66	54.7	--	--	51.3	--	--	59.2
Lithium	mg/L	0.04	--	<0.009	--	--	<0.009	--	--	0.00413
Magnesium	mg/L	--	--	20.9	--	--	19	--	--	20.4
Manganese	mg/L	--	--	0.0025	--	--	0.0017	--	--	0.001
Potassium	mg/L	--	--	0.68	--	--	0.66	--	--	0.7
Sodium	mg/L	--	--	23.7	--	--	26	--	--	32.9
Strontium	mg/L	--	--	0.086	--	--	0.0803	--	--	0.0909
Alkalinity	mg/L	--	--	207	--	--	220	--	--	221
Bromide	mg/L	--	--	<0.04	--	--	<0.04	--	--	0.08
Chloride	mg/L	--	(29.6) 24	24.8	26.5	26.1	26.4	26.8	26.6	27.3
Fluoride	mg/L	4	0.299	0.28	--	--	0.3	--	--	0.28
TDS	mg/L	--	(412.7) 343	272	--	--	352	339	--	336
Sulfate	mg/L	--	(35.08) 35	24.7	--	--	26.2	--	--	27.8
Sulfide	mg/L	--	--	<0.1	--	--	<0.1	--	--	<0.2
Radium-228	pCi/L	--	--	0.146	--	--	0.54	--	--	0.161
Radium-226	pCi/L	--	--	0.0173	--	--	0.0674	--	--	0.0407
Radium-226/228	pCi/L	5	--	0.1633	--	--	0.6074	--	--	0.2017
Copper (Dissolved)	µg/L	--	--	1.84	--	--	0.87	--	--	1.84
Zinc (Dissolved)	µg/L	--	--	5	--	--	4	--	--	2
Aluminum (Dissolved)	µg/L	--	--	1	--	--	5.16	--	--	<5
Iron (Dissolved)	mg/L	--	--	0.003	--	--	0.003	--	--	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0005	--	--	0.0009	--	--	<0.0005

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-2I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	1/3/2018	6/6/2018	8/16/2018
Field Parameters															
Elevation	ft NGVD	--	--	369.26	368.97	368.94	368.7	366.31	368.06	368.01	368.16	366.64	365.54	369.85	369.32
pH	S.U.	--	6.43 - 8.69	7.89	7.14	7.45	7.26	7.7	7.64	8.42	6.98	7.16	7.84	7.55	7.52
Specific Conductance	µmhos/cm	--	--	581	542	513	495	370	557	383	431	553	568	802	614
Turbidity	NTU	--	--	2.02	1.41	0.94	1.83	3.99	16	24.3	6.25	10.3	1.3	0.91	0
Dissolved Oxygen	mg/L	--	--	1.54	7.64	1.96	3.62	--	10.86	1.97	22.85	0.71	1.12	1.1	0.06
Temperature	°C	--	--	15.88	15.93	17.11	15.97	14.38	14.74	15.42	16.34	15.68	11.06	15.3	16.03
ORP	mV	--	--	65.9	29.8	-29.6	-11.6	161.9	-52.8	156.9	-180.6	-63.4	-51.8	-55.4	-46
Laboratory Parameters															
Antimony	µg/L	6	--	0.06	0.06	0.07	0.13	0.1	0.1	0.15	0.11	--	--	--	--
Arsenic	µg/L	10	--	0.64	0.68	0.55	0.61	0.65	0.74	0.9	0.76	--	--	--	--
Barium	µg/L	2000	--	78.5	84	67.1	60.1	59.4	58.4	59.3	62.9	--	--	--	--
Beryllium	µg/L	4	--	<0.005	0.006	<0.005	<0.005	<0.005	0.01	0.022	0.02	--	--	--	--
Cadmium	µg/L	5	--	0.03	0.05	0.05	0.07	0.16	0.22	0.09	0.05	--	--	--	--
Chromium	µg/L	100	--	0.2	0.6	0.1	0.143	0.154	1.01	0.829	0.567	--	--	--	--
Cobalt	µg/L	6	--	0.606	0.76	0.415	0.26	0.28	0.581	1.28	0.995	--	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	2.21	1.82	--	0.2	--
Lead	µg/L	15	--	0.208	0.454	0.178	0.231	0.383	0.588	1.39	1.19	--	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	--	--	--	--
Molybdenum	µg/L	100	--	4.91	5	4.21	3.14	2.07	2.06	2.17	2.07	--	--	--	--
Selenium	µg/L	50	--	0.7	0.7	0.6	0.4	0.2	0.2	0.4	0.2	--	--	--	--
Thallium	µg/L	2	--	0.051	0.04	0.04	0.02	0.03	0.03	0.04	0.064	--	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.4	3.4	--	20.8	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	16.3	16.8	18.9	--	16.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	315	244	--	9.39	--
Boron	mg/L	--	0.043	0.019	0.009	0.025	0.013	<0.002	0.024	0.034	0.025	0.03	--	0.052	0.03
Calcium	mg/L	--	(79.5) 78	74	67.5	66.8	73.9	63.9	71.5	71	68.9	72.5	--	72.7	--
Lithium	mg/L	0.04	--	0.005	0.021	0.002	0.006	0.007	0.005	0.007	<0.0002	--	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	22.8	23.6	22.8	23.7	--	23.7	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.463	--	--	0.564	--
Potassium	mg/L	--	--	--	--	--	--	--	1.09	1.2	1.01	1.05	--	1.14	--
Sodium	mg/L	--	--	--	--	--	--	--	14.7	15.3	15.8	16.8	--	16.9	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0919	0.0977	0.0885	0.0946	--	0.0959	--
Alkalinity	mg/L	--	--	--	--	--	--	--	223	218	236	252	--	254	--
Bromide	mg/L	--	--	--	--	--	--	--	0.05	0.071	0.072	0.075	--	0.077	--
Chloride	mg/L	--	(29.6) 32	28.6	29.7	28	25.8	27.1	25.8	28.6	29.7	29.8	28.8	31.8	31.5
Fluoride	mg/L	4	0.371	0.3	0.33	0.31	0.36	0.3	0.31	0.31	0.28	0.28	--	0.32	--
TDS	mg/L	--	(412.7) 375	332	363	330	326	314	312	343	346	343	--	356	--
Sulfate	mg/L	--	(48.53) 49	42.9	54.7	41.1	36.9	39.2	39.2	42.4	44.1	45.5	--	43.2	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	--
Radium-228	pCi/L	--	--	-0.0463	0.62	0.241	0.137	0.648	0.146	0.163	0.195	--	--	--	--
Radium-226	pCi/L	--	--	0.398	0.342	0.267	0.288	0.197	0.289	0.328	0.341	--	--	--	--
Radium-226/228	pCi/L	5	--	0.3517	0.962	0.508	0.425	0.845	0.435	0.491	0.536	--	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	1.96	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.3	--	--	21.7	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	154	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.053	0.016	0.03	0.054	--	0.238	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.258	0.331	0.333	0.323	--	0.563	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/13/2019	5/22/2019	11/14/2019
Field Parameters							
Elevation	ft NGVD	--	--	367.97	368.87	371.17	371.18
pH	S.U.	--	6.43 - 8.69	7.2	7.55	7.34	7.39
Specific Conductance	µmhos/cm	--	--	434	435	481	576
Turbidity	NTU	--	--	17.03	2.8	0	4.1
Dissolved Oxygen	mg/L	--	--	0.13	10	0.71	0.33
Temperature	°C	--	--	14.25	14.3	16.09	15.93
ORP	mV	--	--	36.8	-17	-83.8	-115
Laboratory Parameters							
Antimony	µg/L	6	--	0.02	--	0.03	0.05
Arsenic	µg/L	10	--	0.49	--	0.4	0.39
Barium	µg/L	2000	--	95	--	102	90.8
Beryllium	µg/L	4	--	<0.02	--	<0.02	<0.02
Cadmium	µg/L	5	--	0.04	--	0.003	0.12
Chromium	µg/L	100	--	0.327	--	0.06	0.1
Cobalt	µg/L	6	--	0.492	--	0.347	0.141
Copper	µg/L	--	--	1.52	--	0.24	<0.2
Lead	µg/L	15	--	0.467	--	0.143	0.07
Mercury	µg/L	2	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	2	--	2.13	2.14
Selenium	µg/L	50	--	0.2	--	0.05	0.9
Thallium	µg/L	2	--	<0.1	--	<0.1	<0.1
Zinc	µg/L	--	--	35.2	--	7.4	1
Silica (Dissolved)	mg/L	--	--	16.9	--	15.9	15
Aluminum	µg/L	--	--	91.9	--	6.25	<5
Boron	mg/L	--	0.043	0.05	<0.02	<0.02	<0.02
Calcium	mg/L	--	(79.5) 78	64.8	--	64.3	63.4
Lithium	mg/L	0.04	--	<0.009	--	<0.009	0.00402
Magnesium	mg/L	--	--	21.2	--	20.4	19.4
Manganese	mg/L	--	--	0.576	--	0.699	0.272
Potassium	mg/L	--	--	0.89	--	0.92	0.9
Sodium	mg/L	--	--	15.3	--	13.5	13.2
Strontium	mg/L	--	--	0.0864	--	0.083	0.0803
Alkalinity	mg/L	--	--	247	--	241	208
Bromide	mg/L	--	--	0.06	--	0.05	0.04
Chloride	mg/L	--	(29.6) 32	27.9	31.5	25.4	23.3
Fluoride	mg/L	4	0.371	0.32	--	0.32	0.33
TDS	mg/L	--	(412.7) 375	308	--	328	296
Sulfate	mg/L	--	(48.53) 49	39	--	39.2	39.3
Sulfide	mg/L	--	--	<0.1	--	<0.1	<0.2
Radium-228	pCi/L	--	--	0.291	--	0.451	0.191
Radium-226	pCi/L	--	--	0.258	--	0.194	0.0689
Radium-226/228	pCi/L	5	--	0.549	--	0.645	0.2599
Copper (Dissolved)	µg/L	--	--	0.2	--	0.64	1.08
Zinc (Dissolved)	µg/L	--	--	2	--	0.9	2
Aluminum (Dissolved)	µg/L	--	--	<1	--	1	<5
Iron (Dissolved)	mg/L	--	--	0.037	--	0.02	<0.02
Manganese (Dissolved)	mg/L	--	--	0.565	--	0.643	0.251

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-2D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	6/7/2018	8/16/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.22	368.96	368.9	368.68	366.41	368.04	367.96	367.95	366.6	369.84	369.25
pH	S.U.	--	6.45 -8.63	7.86	7.47	7.29	7.1	7.4	7.39	7.3	8.51	7.24	7.55	7.33
Specific Conductance	µmhos/cm	--	--	586	524	551	516	386	568	388	516	428	460	830
Turbidity	NTU	--	--	2.31	3.15	3.5	0.79	3.45	2.67	2.32	1.72	1.82	5.05	0
Dissolved Oxygen	mg/L	--	--	0.45	0.31	1.77	0.31	5.47	0.79	0.87	0.45	0.84	6.83	0.74
Temperature	°C	--	--	15.8	15.79	19.32	15.58	14.22	14.45	15.65	16.06	15.71	15.35	17.83
ORP	mV	--	--	-2.7	-168.3	45	-0.7	206.9	-87.3	143.6	-24.8	-41	32.3	-24
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.06	0.02	0.02	0.03	0.03	0.04	0.02	--	--	--
Arsenic	µg/L	10	--	0.78	0.82	0.81	0.61	0.62	0.59	0.65	0.62	--	--	--
Barium	µg/L	2000	--	185	195	180	172	157	160	159	169	--	--	--
Beryllium	µg/L	4	--	<0.005	0.006	0.007	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.12	0.12	0.07	0.1	0.26	0.09	0.08	0.08	--	--	--
Chromium	µg/L	100	--	0.2	0.4	0.3	0.05	0.277	0.562	0.188	0.162	--	--	--
Cobalt	µg/L	6	--	0.473	0.439	0.425	0.212	0.327	0.252	0.335	0.353	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.16	1.96	2.09	--
Lead	µg/L	15	--	0.648	0.359	0.247	0.021	0.378	0.045	0.144	0.075	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	2.11	2.16	1.97	2.09	1.8	2.13	1.9	1.89	--	--	--
Selenium	µg/L	50	--	<0.03	<0.03	0.05	0.09	0.08	0.03	0.06	0.04	--	--	--
Thallium	µg/L	2	--	0.02	0.02	0.03	0.01	0.02	0.02	0.02	0.02	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	6	3.5	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.5	17.9	20.5	17.4	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	17.5	20.7	70.5	--
Boron	mg/L	--	0.074	<0.002	0.01	0.013	0.014	<0.002	0.03	0.027	0.073	0.041	0.076	0.038
Calcium	mg/L	--	(79.5) 81	75.6	65.8	66.7	73.9	64.2	74.2	70.8	64.7	67.7	78.6	--
Lithium	mg/L	0.04	--	0.002	0.018	0.002	0.007	0.007	0.008	0.011	0.0006	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	24.3	23.9	21.9	22.6	26.4	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.657	--	0.943	--
Potassium	mg/L	--	--	--	--	--	--	--	1.17	1.21	1.32	1.1	1.28	--
Sodium	mg/L	--	--	--	--	--	--	--	17.3	16.9	16	15.8	16.4	--
Strontium	mg/L	--	--	--	--	--	--	--	0.104	0.104	0.0894	0.0952	0.111	--
Alkalinity	mg/L	--	--	--	--	--	--	--	249	248	261	248	263	--
Bromide	mg/L	--	--	--	--	--	--	--	0.06	0.079	0.156	0.083	0.073	--
Chloride	mg/L	--	(29.6) 25	24.2	24.2	22.8	22.2	22.3	21.7	23.1	23	22.4	43.1	93.0 ?
Fluoride	mg/L	4	0.222	0.19	0.21	0.2	0.19	0.19	0.2	0.21	0.18	0.2	0.22	--
TDS	mg/L	--	(412.7) 358	341	339	338	327	318	318	343	340	332	361	--
Sulfate	mg/L	--	(46.44) 46	42.1	44.2	39.6	35.4	38.3	37.6	40.5	40.5	42.3	39.8	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	--
Radium-228	pCi/L	--	--	0.0495	0.195	0.451	0.473	0.506	1.11	0.0264	0.257	--	--	--
Radium-226	pCi/L	--	--	-0.0267	0.133	-0.00345	1.77	0.772	0.185	0.429	0.115	--	--	--
Radium-226/228	pCi/L	5	--	0.0228	0.328	0.44755	2.243	1.278	1.295	0.4554	0.372	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.11	--	0.12	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.8	--	0.5	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.14	--	2.75	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.055	0.017	0.005	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.565	0.602	0.662	0.619	0.621	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/12/2018	2/13/2019	5/22/2019	7/24/2019	9/11/2019	11/14/2019	2/18/2020
Field Parameters										
Elevation	ft NGVD	--	--	367.91	368.89	371.01	371.37	-----	371.11	-----
pH	S.U.	--	6.45 -8.63	7.36	7.32	7.25	6.28	7.15	7.3	7.08
Specific Conductance	µmhos/cm	--	--	464	391	803	834	705	726	1377
Turbidity	NTU	--	--	5.4	2.1	1.25	3	1.9	9.2	2.13
Dissolved Oxygen	mg/L	--	--	0.86	0.37	2.29	0.9	0.58	0.3	0.57
Temperature	°C	--	--	14.61	13.7	15.57	15.8	16.5	14.94	12.75
ORP	mV	--	--	-25.4	-164	-71.2	8	-109	-73	-76.4
Laboratory Parameters										
Antimony	µg/L	6	--	0.03	--	<0.02	--	--	0.04	--
Arsenic	µg/L	10	--	0.58	--	0.53	--	--	0.62	--
Barium	µg/L	2000	--	190	--	248	--	--	193	--
Beryllium	µg/L	4	--	<0.02	--	<0.02	--	--	<0.02	--
Cadmium	µg/L	5	--	0.17	--	0.3	--	--	0.19	--
Chromium	µg/L	100	--	0.2	--	<0.04	--	--	0.334	--
Cobalt	µg/L	6	--	0.5	--	0.488	--	--	0.537	--
Copper	µg/L	--	--	0.22	--	0.18	--	--	0.4	--
Lead	µg/L	15	--	0.14	--	0.129	--	--	0.416	--
Mercury	µg/L	2	--	--	--	<0.002	--	--	<0.002	--
Molybdenum	µg/L	100	--	2	--	2	--	--	2.28	--
Selenium	µg/L	50	--	<0.03	--	<0.03	--	--	0.04	--
Thallium	µg/L	2	--	<0.1	--	<0.1	--	--	<0.1	--
Zinc	µg/L	--	--	0.9	--	533	--	--	2	--
Silica (Dissolved)	mg/L	--	--	17.8	--	17.1	--	--	16.5	--
Aluminum	µg/L	--	--	15.4	--	3	--	--	10	--
Boron	mg/L	--	0.074	0.07	--	<0.02	--	--	0.02	--
Calcium	mg/L	--	(79.5) 81	72.4	--	98.5	114	103	76.9	--
Lithium	mg/L	0.04	--	<0.009	--	0.02	--	--	0.00298	--
Magnesium	mg/L	--	--	24.5	--	32.2	--	--	24.7	--
Manganese	mg/L	--	--	0.717	--	0.941	--	--	0.855	--
Potassium	mg/L	--	--	0.99	--	1.2	--	--	1	--
Sodium	mg/L	--	--	14.8	--	20.7	--	--	16.9	--
Strontium	mg/L	--	--	0.102	--	0.138	--	--	0.108	--
Alkalinity	mg/L	--	--	247	--	261	--	--	252	--
Bromide	mg/L	--	--	<0.04	--	0.08	--	--	0.06	--
Chloride	mg/L	--	(29.6) 25	51.3	40.9	135	156	110	56.5	76.3
Fluoride	mg/L	4	0.222	0.2	--	0.18	--	SSI ↓	0.18	--
TDS	mg/L	--	(412.7) 358	348	--	531	540	443	356	--
Sulfate	mg/L	--	(46.44) 46	36.1	--	33.3	--	--	38.9	--
Sulfide	mg/L	--	--	<0.1	--	<0.1	--	--	<0.2	--
Radium-228	pCi/L	--	--	0.0387	--	0.553	--	--	0.803	--
Radium-226	pCi/L	--	--	0.245	--	0.207	--	--	0.334	--
Radium-226/228	pCi/L	5	--	0.2837	--	0.76	--	--	1.137	--
Copper (Dissolved)	µg/L	--	--	0.11	--	0.39	--	--	1.64	--
Zinc (Dissolved)	µg/L	--	--	1	--	3	--	--	2	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	1	--	--	<5	--
Iron (Dissolved)	mg/L	--	--	0.007	--	0.009	--	--	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.702	--	0.948	--	--	0.8	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-6S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/18/2016	9/20/2016	11/16/2016	1/10/2017	3/8/2017	5/8/2017	7/18/2017	10/3/2017	6/5/2018	8/15/2018	9/26/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.59	368.99	368.14	367.39	367.54	367.81	368.48	367.6	369.94	370.04	368.35
pH	S.U.	--	7.9	7.5	7.4	8.1	7.9	7.9	7.6	7.7	7.3	7.52	7.7	7.9
Specific Conductance	µmhos/cm	--	--	401	430	741	360	300	441	292	347	330	483	321
Turbidity	NTU	--	--	1	0.5	1	2	1	1	1	1	0.47	0	8
Dissolved Oxygen	mg/L	--	--	7.1	5.7	1	6	5	5	7	7	5.82	8.1	5.1
Temperature	°C	--	--	16.8	19	15	14.8	14.7	15.5	15.2	16.4	16.28	16	15.5
ORP	mV	--	--	53	71	258	146	36	49	74	0.3	-9.3	155	133
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.03	0.03	0.03	0.03	0.03	0.02	--	--	0.03	0.03
Arsenic	µg/L	10	--	0.26	0.26	0.26	0.28	0.26	0.28	0.27	--	--	0.25	0.25
Barium	µg/L	2000	--	13.6	13.6	14.1	14.8	15.8	15.4	14.3	--	--	14.8	13.5
Beryllium	µg/L	4	--	0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	<0.004	<0.02
Cadmium	µg/L	5	--	0.25	0.02	0.02	0.008	0.05	0.009	0.04	--	--	0.06	0.04
Chromium	µg/L	100	--	0.4	0.3	0.2	0.599	1.37	0.583	0.291	--	--	0.42	0.265
Cobalt	µg/L	6	--	0.052	0.019	0.027	0.045	0.049	0.061	0.026	--	--	0.039	<0.02
Copper	µg/L	--	--	--	--	--	--	--	--	0.37	0.31	0.46	0.42	0.29
Lead	µg/L	15	--	0.074	0.034	0.05	0.032	0.113	0.083	0.056	--	--	0.247	0.03
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--
Molybdenum	µg/L	100	--	3.28	3.34	2.8	2.93	3.29	2.73	4.36	--	--	2.22	2.37
Selenium	µg/L	50	--	0.3	0.2	0.3	0.4	0.7	0.8	0.4	--	--	0.4	0.2
Thallium	µg/L	2	--	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	--	--	0.01	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	1	0.5	2.5	1	0.7
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	14.4	14.6	16.9	15.4	15.2	16.8
Aluminum	µg/L	--	--	--	--	--	--	--	--	8.57	17.8	10.4	13.8	3
Boron	mg/L	--	0.012	0.014	0.012	0.028	0.006	0.032	0.051	0.078	0.094	0.09	0.101	0.08
Calcium	mg/L	--	46.1	46.3	44.4	50.8	47.8	53.2	50.3	47	44.8	45.2	52.8	44.1
Lithium	mg/L	0.04	--	0.015	0.004	0.006	0.014	0.009	0.011	<0.0002	--	--	0.005	0.02
Magnesium	mg/L	--	--	--	--	--	--	23.3	23.5	20.9	19.8	19.3	24	18.8
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0007	--	0.0024	0.0021	<0.0002
Potassium	mg/L	--	--	--	--	--	--	0.7	0.75	0.82	0.78	0.57	0.91	0.71
Sodium	mg/L	--	--	--	--	--	--	38.9	34.9	26.3	23.2	15.6	25.6	26.1
Strontium	mg/L	--	--	--	--	--	--	0.0661	0.067	0.0574	0.0548	0.0555	0.065	0.051
Alkalinity	mg/L	--	--	--	--	--	--	260	272	241	249	237	267	241
Bromide	mg/L	--	--	--	--	--	--	<0.02	0.072	<0.05	0.04	0.03	0.04	<0.04
Chloride	mg/L	--	8.44	8.35	6.04	7.04	7.03	3.32	8.68	4.88	3.28	2.38	11.9	6.83
Fluoride	mg/L	4	0.73	0.79	0.73	0.69	0.65	0.25	0.69	0.57	0.71	0.89	0.81	0.84
TDS	mg/L	--	294	290	266	279	287	296	305	274	261	225	277	261
Sulfate	mg/L	--	18.8	18.3	10.9	14.3	14	6.9	17.5	9.6	7.5	3.8	15.6	9.8
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.4	<0.1
Radium-228	pCi/L	--	--	0.101	0.798	-0.249	0.501	0.297	-0.337	0.954	--	--	0.328	0.367
Radium-226	pCi/L	--	--	0	0.0671	0.202	0.0815	-0.00471	0.12	-0.0229	--	--	0.0553	0.089
Radium-226/228	pCi/L	5	--	0.101	0.8651	-0.047	0.5825	0.29229	-0.217	0.954	--	--	0.3833	0.456
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	1.85	--	0.4	2.17	1.86
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.2	--	0.9	3.1	3
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	4.34	--	1	2.51	109
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.023	<0.002	0.003	0.163
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	<0.0001	0.0002	0.0007	0.0015	<0.0002	0.0121

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/1/2018	11/14/2018	12/12/2018	5/23/2019	11/14/2019
Field Parameters								
Elevation	ft NGVD	--	--	368.89	368.72	368.4	372.52	370.42
pH	S.U.	--	7.9	7.31	7.91	7.46	7.42	7.29
Specific Conductance	µmhos/cm	--	--	430	221	464	473	452
Turbidity	NTU	--	--	0.51	0.4	0.53	1.4	0.21
Dissolved Oxygen	mg/L	--	--	7.53	5.5	4.42	6.4	5.85
Temperature	°C	--	--	15.04	14.4	14.71	16.6	14.4
ORP	mV	--	--	115.3	126	196	70	291.1
Laboratory Parameters								
Antimony	µg/L	6	--	0.02	0.03	0.03	0.03	0.03
Arsenic	µg/L	10	--	0.23	0.23	0.24	0.22	0.23
Barium	µg/L	2000	--	12.1	11.8	13.4	15.9	15
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.01	<0.01	<0.01	0.03	<0.01
Chromium	µg/L	100	--	0.221	0.218	0.212	0.285	0.284
Cobalt	µg/L	6	--	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	µg/L	--	--	0.17	0.18	0.26	0.51	<0.2
Lead	µg/L	15	--	<0.02	0.02	<0.02	0.04	<0.05
Mercury	µg/L	2	--	--	--	-----	<0.002	<0.002
Molybdenum	µg/L	100	--	2.38	2.18	2.2	2	2
Selenium	µg/L	50	--	0.2	0.2	0.4	0.6	0.4
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	<0.7	1	2	<0.7	<0.7
Silica (Dissolved)	mg/L	--	--	15.3	15.2	15.9	15.8	15
Aluminum	µg/L	--	--	2	5.28	3	2	<5
Boron	mg/L	--	0.012	0.04	0.04	0.102	0.02	<0.02
Calcium	mg/L	--	46.1	42.3	38.8	46.8	52.5	47.8
Lithium	mg/L	0.04	--	<0.009	0.01	<0.009	0.02	0.00645
Magnesium	mg/L	--	--	19.3	17.5	20.8	22.9	20
Manganese	mg/L	--	--	0.0007	0.0002	0.0003	0.0003	<0.0005
Potassium	mg/L	--	--	0.5	0.92	0.86	0.62	0.4
Sodium	mg/L	--	--	22	20.2	23.3	25.5	29.6
Strontium	mg/L	--	--	0.0519	0.0524	0.0595	0.691	0.0627
Alkalinity	mg/L	--	--	230	242	247	264	262
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	8.44	3.52	3.91	6.48	9.64	5.36
Fluoride	mg/L	4	0.73	0.86	0.88	0.88	0.95	0.9
TDS	mg/L	--	294	225	196	240	315	277
Sulfate	mg/L	--	18.8	4.9	5.2	10	16.8	12
Sulfide	mg/L	--	--	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.354	0.387	-0.368	0.343	-0.011
Radium-226	pCi/L	--	--	0.0398	0.0239	0.0533	0.0431	0.0416
Radium-226/228	pCi/L	5	--	0.3938	0.4109	0.0533	0.3861	0.0416
Copper (Dissolved)	µg/L	--	--	0.14	0.53	0.17	1.22	0.4
Zinc (Dissolved)	µg/L	--	--	0.7	<0.7	2	1	0.9
Aluminum (Dissolved)	µg/L	--	--	1	2	8.1	1	<5
Iron (Dissolved)	mg/L	--	--	<0.003	0.005	0.01	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0003	<0.0002	0.0007	0.0002	<0.0005

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/25/2018	10/31/2018	11/15/2018	12/12/2018	5/23/2019	11/14/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.18	368.75	368.62	368.48	372.32	370.28
pH	S.U.	--	7.6	7.8	7.25	7.35	7.44	7.66	7.32
Specific Conductance	µmhos/cm	--	--	332	467	344	458	453	374
Turbidity	NTU	--	--	6.5	0.76	0.74	0.25	0.36	0.46
Dissolved Oxygen	mg/L	--	--	1.7	0.27	2.78	0.79	1.02	2.15
Temperature	°C	--	--	16.4	15.9	14.2	14.71	16.5	14.4
ORP	mV	--	--	149	24.9	140.5	163	168.8	301.7
Laboratory Parameters									
Antimony	µg/L	6	--	0.25	0.25	0.25	0.23	0.23	0.2
Arsenic	µg/L	10	--	0.2	0.2	0.19	0.19	0.19	0.19
Barium	µg/L	2000	--	31.9	32.2	31.9	30.5	35.8	28.5
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.11	0.01	0.01	0.01	0.01	0.02
Chromium	µg/L	100	--	0.05	0.1	<0.04	0.05	0.07	0.222
Cobalt	µg/L	6	--	0.313	0.452	0.42	0.362	0.436	0.525
Copper	µg/L	--	--	2.36	0.78	0.92	1.21	0.6	0.7
Lead	µg/L	15	--	0.05	0.118	<0.02	<0.02	<0.02	<0.05
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	5.31	4.7	4.46	4.17	4.4	4.43
Selenium	µg/L	50	--	0.6	0.7	0.8	0.6	0.6	0.4
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Zinc	µg/L	--	--	3	<0.7	0.7	2	1	1
Silica (Dissolved)	mg/L	--	--	19.9	18.1	18.8	18.6	18.1	16.6
Aluminum	µg/L	--	--	6.57	5.88	5.54	3	4	<5
Boron	mg/L	--	0.06	0.06	0.04	0.03	0.06	<0.02	<0.02
Calcium	mg/L	--	42.2	43.1	42.4	43.1	47.2	47.4	44.7
Lithium	mg/L	0.04	--	0.01	<0.009	0.034	<0.009	0.01	0.0054
Magnesium	mg/L	--	--	13.9	15.1	14.6	16.1	15.7	14
Manganese	mg/L	--	--	0.185	0.24	0.247	0.249	0.272	0.276
Potassium	mg/L	--	--	0.93	0.76	0.78	0.88	1.13	0.8
Sodium	mg/L	--	--	35.7	35.9	32.9	32.7	29.9	26.6
Strontium	mg/L	--	--	0.0482	0.0528	0.0549	0.061	0.0622	0.0582
Alkalinity	mg/L	--	--	267	259	246	257	278	227
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	5.18	2.91	3.47	3.94	3.84	2.7	2.26
Fluoride	mg/L	4	0.89	0.88	0.86	0.86	0.86	0.85	0.89
TDS	mg/L	--	281	274	245	248	245	268	224
Sulfate	mg/L	--	9.9	5.4	4.9	6.3	7.3	4.1	4.1
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.218	0.216	0.675	0.488	0.496	0.296
Radium-226	pCi/L	--	--	0.35	0.323	0.638	0.489	0.557	0.215
Radium-226/228	pCi/L	5	--	0.568	0.539	1.313	0.977	1.053	0.511
Copper (Dissolved)	µg/L	--	--	2.79	1.09	0.86	0.74	2.58	0.5
Zinc (Dissolved)	µg/L	--	--	4	1	<0.7	<0.7	3	0.9
Aluminum (Dissolved)	µg/L	--	--	30.9	1	8.05	4	4	<5
Iron (Dissolved)	mg/L	--	--	0.064	<0.003	0.003	0.004	0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.254	0.232	0.246	0.231	0.256	0.238

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/25/2018	10/31/2018	11/14/2018	12/12/2018	5/23/2019	11/14/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.15	368.72	369.6	368.44	372.31	370.23
pH	S.U.	--	7.5	7.7	7.21	7.54	7.4	7.55	7.73
Specific Conductance	µmhos/cm	--	--	369	521	365	513	681	730
Turbidity	NTU	--	--	9	0	8.4	0.25	1.2	1.2
Dissolved Oxygen	mg/L	--	--	0.4	0.34	0.42	0.15	0.9	2.19
Temperature	°C	--	--	16.2	16	13.5	15.07	18.6	14.1
ORP	mV	--	--	155	54.3	131	110	145	126.6
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	0.03	0.03	0.02	<0.02	0.05
Arsenic	µg/L	10	--	0.89	1.3	1.05	0.93	0.94	1.08
Barium	µg/L	2000	--	77.1	75.7	73.6	76.5	112	76
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.03	0.01	0.02	0.01	0.01	0.01
Chromium	µg/L	100	--	0.04	0.346	0.2	0.05	0.08	0.09
Cobalt	µg/L	6	--	0.392	0.806	0.598	0.404	0.578	0.429
Copper	µg/L	--	--	0.45	1.18	1.6	1.64	0.17	0.5
Lead	µg/L	15	--	<0.02	0.205	0.167	<0.02	<0.02	<0.05
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002
Molybdenum	µg/L	100	--	3.23	2.79	2.83	3.02	2.81	3.13
Selenium	µg/L	50	--	7.3	8.5	8.2	4.3	0.09	9.3
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	<0.7	2	73.1	2	<0.7	<0.7
Silica (Dissolved)	mg/L	--	--	19.5	17.5	17.6	18	18.2	16.5
Aluminum	µg/L	--	--	2	142	70.3	3	1	6
Boron	mg/L	--	0.094	0.05	0.03	0.05	0.115	0.03	0.02
Calcium	mg/L	--	61.9	61.7	57.2	53.1	60.1	78.9	62
Lithium	mg/L	0.04	--	0.02	0.009	0.01	<0.009	0.01	0.00722
Magnesium	mg/L	--	--	16.8	16.9	15.2	17.1	22.1	17.4
Manganese	mg/L	--	--	0.147	0.145	0.156	0.144	0.278	0.12
Potassium	mg/L	--	--	1.2	1.04	1.43	1.47	1.29	1.05
Sodium	mg/L	--	--	29	27.8	26.5	29	35.5	30
Strontium	mg/L	--	--	0.0919	0.093	0.0927	0.102	0.14	0.0949
Alkalinity	mg/L	--	--	260	260	266	271	305	265
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	0.07	<0.04
Chloride	mg/L	--	12.3	10.9	10.2	10	10.8	25.1	12.2
Fluoride	mg/L	4	0.39	0.41	0.41	0.42	0.42	0.36	0.41
TDS	mg/L	--	331	310	295	276	296	408	310
Sulfate	mg/L	--	27.3	24.1	23	22.2	23.6	39.5	25.4
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.29	0.21	0.275	-0.0272	0.586	0.179
Radium-226	pCi/L	--	--	0.295	0.122	0.102	0.423	0.543	0.108
Radium-226/228	pCi/L	5	--	0.585	0.332	0.377	0.423	0.423	0.423
Copper (Dissolved)	µg/L	--	--	1.27	0.44	0.7	0.5	0.53	0.4
Zinc (Dissolved)	µg/L	--	--	2	0.9	2	2	1	2
Aluminum (Dissolved)	µg/L	--	--	31.6	3	2	45.3	15.6	10
Iron (Dissolved)	mg/L	--	--	0.082	<0.003	0.004	0.117	0.007	<0.02
Manganese (Dissolved)	mg/L	--	--	0.127	0.137	0.135	0.142	0.263	0.123

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/14/2018	12/12/2018	5/22/2019	11/22/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.5	368.76	368.68	368.47	371.91	370.7
pH	S.U.	--	7.4	7.4	7.33	7.31	7.3	8.39	7.33
Specific Conductance	µmhos/cm	--	--	417	611	455	629	527	580
Turbidity	NTU	--	--	106	104	42.6	44	4.77	34.3
Dissolved Oxygen	mg/L	--	--	0.4	0.32	0.7	0.23	0.65	3.61
Temperature	°C	--	--	15.4	15.01	13.9	14.43	14.69	13.49
ORP	mV	--	--	106	85.4	48.2	92	0.1	56.1
Laboratory Parameters									
Antimony	µg/L	6	--	0.14	0.15	0.06	0.09	0.02	0.09
Arsenic	µg/L	10	--	1.48	2.01	0.7	1.06	0.11	0.97
Barium	µg/L	2000	--	18.7	24.3	12.9	15.4	8.42	15.5
Beryllium	µg/L	4	--	0.101	0.127	0.05	0.07	<0.02	0.06
Cadmium	µg/L	5	--	0.05	0.06	0.02	0.05	0.02	0.04
Chromium	µg/L	100	--	2.08	2.45	0.831	1.48	0.1	1.38
Cobalt	µg/L	6	--	6.48	9.82	3.47	4.98	0.255	4.77
Copper	µg/L	--	--	4.4	5.36	1.91	2.76	0.51	2.82
Lead	µg/L	15	--	4.69	6.69	2.38	3.56	0.205	3.4
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Selenium	µg/L	50	--	0.6	0.8	0.3	0.4	0.2	0.5
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	7.9	9.5	14	5	39.1	5.3
Silica (Dissolved)	mg/L	--	--	20.8	18.7	18.6	19.3	18.4	17.9
Aluminum	µg/L	--	--	1520	1850	681	1170	39.3	954
Boron	mg/L	--	0.079	0.04	0.07	0.135	0.08	0.03	<0.02
Calcium	mg/L	--	70.2	73.7	68.3	66.2	67.1	62.4	67.6
Lithium	mg/L	0.04	--	0.02	0.01	<0.009	<0.009	<0.009	0.00447
Magnesium	mg/L	--	--	25.4	25.7	24.3	24.6	21.7	25
Manganese	mg/L	--	--	0.334	0.49	0.182	0.248	0.0145	0.263
Potassium	mg/L	--	--	1.33	1.39	1.81	1.3	0.87	1.09
Sodium	mg/L	--	--	17.9	19.1	18.9	18.7	17	17
Strontium	mg/L	--	--	0.083	0.0857	0.0883	0.0874	0.0803	0.086
Alkalinity	mg/L	--	--	256	261	255	261	242	254
Bromide	mg/L	--	--	0.09	0.09	0.09	0.09	0.1	0.08
Chloride	mg/L	--	32.8	32.2	33.5	33.2	33.6	35.4	30.5
Fluoride	mg/L	4	0.52	0.54	0.53	0.54	0.55	0.55	0.54
TDS	mg/L	--	358	370	358	354	353	353	383
Sulfate	mg/L	--	32	32.2	33.1	33.1	33.7	34.1	33.6
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.48	0.601	0.254	0.191	0.27	0.8
Radium-226	pCi/L	--	--	0.271	0.245	0.211	0.507	0.0334	0.142
Radium-226/228	pCi/L	5	--	0.751	0.846	0.465	0.698	0.3034	0.942
Copper (Dissolved)	µg/L	--	--	1.01	0.07	1.62	0.2	0.17	<0.2
Zinc (Dissolved)	µg/L	--	--	2	<0.7	3	<0.7	<0.7	<0.7
Aluminum (Dissolved)	µg/L	--	--	311	3	2	3	2	<5
Iron (Dissolved)	mg/L	--	--	0.618	0.004	0.005	0.007	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0797	0.0021	0.0012	0.0026	0.0009	<0.005

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/15/2018	12/12/2018	5/22/2019	5/22/2019	11/22/2019
Field Parameters										
Elevation	ft NGVD	--	--	369.01	368.51	368.5	368.27	371.73	371.73	370.49
pH	S.U.	--	7.4	7.5	7.3	7.03	7.27	8.4	8.4	7.24
Specific Conductance	µmhos/cm	--	--	419	613	460	645	573	573	609
Turbidity	NTU	--	--	19	14.4	7.05	19.9	1.6	1.6	19.5
Dissolved Oxygen	mg/L	--	--	0.3	0.36	0.95	0.21	0.7	0.7	3.5
Temperature	°C	--	--	15.5	15.17	13.78	14.46	15.1	15.1	13.66
ORP	mV	--	--	57	-19.2	68.4	44	-71.2	-71.2	3.7
Laboratory Parameters										
Antimony	µg/L	6	--	0.02	0.03	<0.02	<0.02	0.02	0.02	0.04
Arsenic	µg/L	10	--	0.28	0.43	0.24	0.26	0.23	0.23	0.3
Barium	µg/L	2000	--	175	230	162	147	116	116	246
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.05	0.06	0.03	0.03	0.35	0.35	0.12
Chromium	µg/L	100	--	0.2	0.315	0.09	0.07	0.09	0.09	0.281
Cobalt	µg/L	6	--	3.07	8.34	1.11	1.67	1.1	1.1	4.36
Copper	µg/L	--	--	0.55	1.45	0.59	0.76	0.4	0.4	0.8
Lead	µg/L	15	--	0.45	0.6	0.05	0.145	0.228	0.228	0.596
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002	<0.002
Molybdenum	µg/L	100	--	4.2	4.31	<0.4	3.45	3.63	3.63	6.45
Selenium	µg/L	50	--	0.05	0.09	0.05	0.05	0.04	0.04	0.09
Thallium	µg/L	2	--	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2
Zinc	µg/L	--	--	2	15.1	1	2	3	3	3
Silica (Dissolved)	mg/L	--	--	20.5	18.1	18.5	18.8	18.4	18.4	17.7
Aluminum	µg/L	--	--	74.1	304	69.9	39.5	27.7	27.7	85.4
Boron	mg/L	--	0.07	0.04	0.06	0.09	0.08	0.03	0.03	<0.02
Calcium	mg/L	--	75.3	75.4	68.8	68.8	73.7	73.7	73.7	70.9
Lithium	mg/L	0.04	--	0.01	<0.009	<0.009	<0.009	<0.009	<0.009	0.00382
Magnesium	mg/L	--	--	21.9	21.7	21.4	22.8	21.5	21.5	21.9
Manganese	mg/L	--	--	2.76	4	1.08	2.89	0.821	0.821	4.56
Potassium	mg/L	--	--	1.22	0.97	1.57	1.19	1.08	1.08	1.21
Sodium	mg/L	--	--	19.8	20.1	21.5	21.3	18.1	18.1	19
Strontium	mg/L	--	--	0.0928	0.0932	0.1	0.103	0.11	0.11	0.1
Alkalinity	mg/L	--	--	236	237	233	229	232	232	225
Bromide	mg/L	--	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chloride	mg/L	--	45	45.8	48.2	47.6	48.8	49	49	51.6
Fluoride	mg/L	4	0.33	0.34	0.34	0.35	0.35	0.33	0.33	0.3
TDS	mg/L	--	312	348	338	354	347	376	376	380
Sulfate	mg/L	--	38.4	38.9	38.9	39	39.1	43.1	43.1	42.4
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	-0.0705	0.369	0.123	0.089	0.643	0.643	0.0399
Radium-226	pCi/L	--	--	4.16	0.513	0.605	0.934	0.155	0.155	0.575
Radium-226/228	pCi/L	5	--	4.16	0.882	0.728	1.023	0.798	0.798	0.6149
Copper (Dissolved)	µg/L	--	--	0.93	0.24	1.56	0.72	0.15	0.15	<0.2
Zinc (Dissolved)	µg/L	--	--	2	0.9	3	2	2	2	0.9
Aluminum (Dissolved)	µg/L	--	--	1	10.6	2	137	2	2	<5
Iron (Dissolved)	mg/L	--	--	<0.003	0.01	0.006	0.128	<0.003	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.172	0.51	0.243	3.9	0.121	0.121	0.284

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/12/2018	5/22/2019	11/22/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.08	368.65	368.57	368.35	371.82	372.93
pH	S.U.	--	7.2	7.5	6.91	7.26	7.18	7.91	7.12
Specific Conductance	µmhos/cm	--	--	419	617	444	622	549	931
Turbidity	NTU	--	--	10.8	1.02	5.96	0	0.01	1.75
Dissolved Oxygen	mg/L	--	--	0.7	3.72	11.3	0.52	2	3.49
Temperature	°C	--	--	15.2	14.79	13.32	15.23	16.25	13.37
ORP	mV	--	--	57	26.4	26.4	-5	-40.4	27.7
Laboratory Parameters									
Antimony	µg/L	6	--	0.04	0.03	0.04	0.06	0.02	0.02
Arsenic	µg/L	10	--	0.91	0.8	0.87	0.85	0.72	0.47
Barium	µg/L	2000	--	286	283	268	320	284	385
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.02	0.02	0.04	<0.01	<0.01	0.01
Chromium	µg/L	100	--	0.2	0.334	0.1	0.1	0.07	4.04
Cobalt	µg/L	6	--	2.52	2.46	2.24	2.24	1.88	2.43
Copper	µg/L	--	--	0.34	0.44	0.57	1.59	0.08	<0.2
Lead	µg/L	15	--	0.1	0.164	0.101	0.144	<0.02	<0.05
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	4.09	9.76	7.38	5.43	3.49	2.61
Selenium	µg/L	50	--	0.05	0.05	0.03	<0.03	<0.03	<0.03
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	2	4	3	5.1	0.9
Silica (Dissolved)	mg/L	--	--	216	19.2	19.9	19.8	19.2	18.8
Aluminum	µg/L	--	--	31.4	56.7	16.5	<1	1	<5
Boron	mg/L	--	0.06	0.04	0.05	0.07	0.04	0.02	<0.02
Calcium	mg/L	--	80.1	79.2	75	62.8	77.4	76.7	106
Lithium	mg/L	0.04	--	<0.009	0.01	0.02	<0.009	<0.009	0.00426
Magnesium	mg/L	--	--	25	25.8	21	25.7	24.3	35
Manganese	mg/L	--	--	1.89	1.66	1.34	1.51	1.49	1.64
Potassium	mg/L	--	--	1.22	1.07	1.39	1.25	0.94	1.12
Sodium	mg/L	--	--	14.2	15.4	12.9	15.3	13.9	19.3
Strontium	mg/L	--	--	0.137	0.141	0.125	0.146	0.138	0.204
Alkalinity	mg/L	--	--	273	293	296	300	296	287
Bromide	mg/L	--	--	0.09	0.08	0.08	0.08	0.009	0.365
Chloride	mg/L	--	17.3	17.5	17.2	16.9	17.2	19.1	139
Fluoride	mg/L	4	0.27	0.26	0.26	0.26	0.27	0.26	0.22
TDS	mg/L	--	359	358	3.46	340	344	371	514
Sulfate	mg/L	--	36.9	36.3	36	35.4	35.5	35.2	34.3
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.36	0.202	0.548	0.159	0.89	0.084
Radium-226	pCi/L	--	--	0.983	0.107	0.45	0.717	0.265	0.328
Radium-226/228	pCi/L	5	--	1.343	0.309	0.998	0.876	1.155	0.412
Copper (Dissolved)	µg/L	--	--	0.55	0.17	2.01	0.18	0.77	<0.2
Zinc (Dissolved)	µg/L	--	--	2	2	4	1	3	0.9
Aluminum (Dissolved)	µg/L	--	--	6.36	6.44	2	3	2	<5
Iron (Dissolved)	mg/L	--	--	0.103	0.081	0.08	0.093	0.072	0.06
Manganese (Dissolved)	mg/L	--	--	1.76	1.6	1.47	1.35	1.5	1.58

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-8S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/19/2016	9/21/2016	11/17/2016	1/9/2017	3/7/2017	5/9/2017	7/18/2017	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019	11/21/2019
Field Parameters																
Elevation	ft NGVD	--	--	369.78	369.44	369.25	368.53	368.39	368.39	368.81	367.5	366.59	369.59	368.9	371.48	371.51
pH	S.U.	--	7.3	7.2	7.1	7.9	7.6	7.6	7.4	7.4	7.75	7.7	7.59	7.58	7.38	7.43
Specific Conductance	µmhos/cm	--	--	516	540	811	450	260	444	410	395	460	400	354	440	495
Turbidity	NTU	--	--	1.1	2	2	3	4	8	1	2.46	6	3.48	2.6	0.69	53.7
Dissolved Oxygen	mg/L	--	--	3.2	3.6	1	2	4	2	3.2	3.12	0.8	2.1	3.8	6.54	6.51
Temperature	°C	--	--	20.7	21.6	16.2	14	14.2	15.6	15.8	16.57	14.1	15.05	14.4	16.17	12.82
ORP	mV	--	--	29	18	275	131	50	50	65	29.9	-17	-33.7	158	54.2	110.9
Laboratory Parameters																
Antimony	µg/L	6	--	0.3	0.02	0.03	0.02	0.04	0.03	0.02	--	--	--	0.05	<0.02	0.04
Arsenic	µg/L	10	--	1.78	1.33	1.26	1.56	1.53	2.09	1.19	--	--	--	1.61	1.52	1.97
Barium	µg/L	2000	--	13.1	12.2	10.9	13.8	14.5	16.9	10.9	--	--	--	10.4	9.22	16.6
Beryllium	µg/L	4	--	0.232	<0.005	<0.005	0.006	0.009	0.01	<0.004	--	--	--	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.31	0.02	0.05	0.01	0.26	0.09	0.13	--	--	--	0.03	<0.01	0.03
Chromium	µg/L	100	--	0.6	0.4	0.156	1.04	0.881	0.423	0.277	--	--	--	0.578	0.235	0.378
Cobalt	µg/L	6	--	0.453	0.125	0.113	0.447	0.433	0.981	0.052	--	--	--	0.207	0.058	0.669
Copper	µg/L	--	--	--	--	--	--	--	--	0.18	0.12	--	0.25	1.7	0.13	0.5
Lead	µg/L	15	--	0.364	0.066	0.065	0.19	0.278	0.389	0.038	--	--	--	0.152	0.03	0.33
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.015	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	1.1	0.8	0.71	0.77	1.56	0.75	0.83	--	--	--	0.9	0.9	0.5
Selenium	µg/L	50	--	0.6	0.2	0.2	0.2	0.2	0.3	0.2	--	--	--	0.5	0.6	1
Thallium	µg/L	2	--	0.276	0.03	<0.01	0.01	0.17	<0.01	<0.01	--	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	0.7	0.6	--	1	3	2	2
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	21.5	21.2	24.7	--	21.7	21.4	<0.06	20.9
Aluminum	µg/L	--	--	--	--	--	--	--	--	7.37	10.6	--	53	31	8.03	164
Boron	mg/L	--	0.01	0.012	0.011	0.032	<0.002	0.043	0.028	0.022	0.016	--	0.058	0.04	<0.02	<0.02
Calcium	mg/L	--	42.7	41.5	42.7	42.9	45.8	44.8	42.9	44.4	39.8	--	42.3	35.6	35.9	39
Lithium	mg/L	0.04	--	0.025	0.001	0.002	0.002	0.006	0.006	0.001	--	--	--	<0.009	0.02	0.00311
Magnesium	mg/L	--	--	--	--	--	--	19.6	20	20	17.6	--	18.8	16	16.1	16.9
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0021	--	--	0.0323	0.0154	0.0033	0.0413
Potassium	mg/L	--	--	--	--	--	--	0.91	0.89	0.77	0.65	--	0.82	0.88	0.76	1
Sodium	mg/L	--	--	--	--	--	--	41.2	40.5	42.1	43.2	--	40.1	34.6	37.4	39.7
Strontium	mg/L	--	--	--	--	--	--	0.0562	0.0564	0.0543	0.0494	--	0.0555	0.0464	0.0458	0.0478
Alkalinity	mg/L	--	--	--	--	--	--	162	181	167	171	--	181	159	150	173
Bromide	mg/L	--	--	--	--	--	--	0.03	0.062	0.04	0.06	--	<0.02	<0.04	<0.04	0.1
Chloride	mg/L	--	23.7	23.5	22.1	21.1	20.8	21.4	22.8	22.7	22.4	22.5	23.8	22.9	23.6	23.1
Fluoride	mg/L	4	0.56	0.56	0.54	0.55	0.47	0.52	0.52	0.47	0.52	0.56	0.59	0.57	0.58	0.49
TDS	mg/L	--	345	321	332	322	300	320	319	319	317	--	324	288	312	324
Sulfate	mg/L	--	26.5	26.4	23.4	21.7	22.1	21.7	21.8	22.3	23.1	24.9	21.2	19.5	20.4	20
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.455	1.16	0.343	0.394	0.26	-0.175	1.5	--	--	--	0.346	0.113	0.0252
Radium-226	pCi/L	--	--	0.122	0.131	0.147	0.282	0.0561	0.127	0.153	--	--	--	0.137	0.0183	0.296
Radium-226/228	pCi/L	5	--	0.577	1.291	0.49	0.676	0.3161	-0.048	1.653	--	--	--	0.483	0.1313	0.3212
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.96	--	--	0.44	0.29	0.48	<0.2
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.5	--	--	0.7	2	2	0.7
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2	--	--	1	1	7.36	10
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.004	<0.0004	<0.0004	0.014	--	0.002	0.003	0.007	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	0.0002	0.0004	0.0002	0.0004	--	0.0012	0.0006	0.0007	<0.0005

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-8I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/19/2016	9/21/2016	11/17/2016	1/9/2017	3/6/2017	5/9/2017	7/18/2017	10/4/2017	12/12/2017	6/4/2018	11/14/2018	5/23/2019	11/22/2019
Field Parameters																
Elevation	ft NGVD	--	--	370.06	369.7	369.51	368.84	368.68	368.68	369.07	367.78	366.87	369.85	367.78	371.38	371.37
pH	S.U.	--	7.2	7.2	7.44	7.6	7.6	7.4	7.2	7.3	7.56	7.9	7.68	7.22	7.22	6.73
Specific Conductance	µmhos/cm	--	--	580	455	968	420	80	507	485	471	390	619	453	607	525
Turbidity	NTU	--	--	9	3.29	1	5	10	2	1	6.26	1	3.18	9	2.4	8
Dissolved Oxygen	mg/L	--	--	0.6	0.17	0.8	1	4.5	0.3	0.2	0.31	9.7	2.46	0.37	2.53	1.3
Temperature	°C	--	--	21	15.39	17.1	14	14.4	15	16.2	15.51	14.4	17.42	13.8	19.41	13.6
ORP	mV	--	--	-60	-63.9	-1	29	25	52	-15	-67.4	111	-75.3	190	-8.1	-185
Laboratory Parameters																
Antimony	µg/L	6	--	0.27	0.07	0.1	0.08	0.08	0.08	0.07	--	--	--	0.17	0.17	0.16
Arsenic	µg/L	10	--	11.5	2.08	1.39	2.58	2.78	2.09	1.31	--	--	--	3.41	1.07	1.6
Barium	µg/L	2000	--	70.1	57	58.4	54.9	56.9	57.8	60.4	--	--	--	57.9	63.8	58.5
Beryllium	µg/L	4	--	0.119	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.28	0.02	0.04	0.02	0.04	0.05	0.02	--	--	--	0.15	0.02	0.08
Chromium	µg/L	100	--	0.5	0.1	0.055	0.817	0.511	0.23	0.077	--	--	--	0.07	0.05	0.1
Cobalt	µg/L	6	--	0.961	0.643	0.646	0.671	0.656	0.77	0.672	--	--	--	1.01	0.55	0.741
Copper	µg/L	--	--	--	--	--	--	--	--	0.11	0.13	--	0.42	1.45	0.2	0.5
Lead	µg/L	15	--	0.242	0.02	0.032	0.025	0.032	0.054	0.01	--	--	--	0.111	<0.02	<0.05
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	3	2.34	2.47	2.31	2.73	2.29	2.58	--	--	--	2.7	2.72	2.43
Selenium	µg/L	50	--	7.5	2.7	3	2.3	2.9	4.5	4.7	--	--	--	2.5	3.7	1.4
Thallium	µg/L	2	--	0.166	0.03	0.03	0.04	0.05	0.03	0.03	--	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	0.7	0.9	--	3.2	9.2	21.9	3
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	14.6	14.7	17.1	--	16.4	14.1	<0.06	13.3
Aluminum	µg/L	--	--	--	--	--	--	--	--	2	1	--	0.8	8.7	<1	<5
Boron	mg/L	--	0.017	0.016	0.017	0.028	0.006	0.083	0.045	0.026	0.096	--	0.044	0.06	0.03	0.02
Calcium	mg/L	--	72	67.9	67.4	77.5	79.5	74.7	71.9	72.2	74.7	--	76.7	67.7	70.7	66.9
Lithium	mg/L	0.04	--	0.007	0.008	0.009	0.005	0.01	0.001	<0.0002	--	--	--	0.02	0.02	0.00419
Magnesium	mg/L	--	--	--	--	--	--	22.3	22.9	22.2	22.5	--	23.5	21.4	22.4	20.7
Manganese	mg/L	--	--	--	--	--	--	--	--	0.357	--	--	0.32	0.509	0.407	0.443
Potassium	mg/L	--	--	--	--	--	--	1.84	1.73	1.48	2.02	--	1.6	2.28	1.76	1.76
Sodium	mg/L	--	--	--	--	--	--	29.4	28.5	29.7	28.6	--	32.5	31.5	31.6	29.2
Strontium	mg/L	--	--	--	--	--	--	0.146	0.148	0.14	0.146	--	0.152	0.139	0.138	0.129
Alkalinity	mg/L	--	--	--	--	--	--	245	246	247	237	--	268	250	250	268
Bromide	mg/L	--	--	--	--	--	--	0.04	0.065	0.062	0.064	--	0.05	<0.04	<0.04	<0.04
Chloride	mg/L	--	21.7	22	21.5	21.3	20.9	20.7	21.2	20.9	20.1	19.3	20.9	20.6	21	19.7
Fluoride	mg/L	4	0.35	0.34	0.29	0.29	0.25	0.28	0.28	0.25	0.27	0.29	0.29	0.33	0.34	0.3
TDS	mg/L	--	370	358	376	387	371	391	376	379	378	--	407	390	371	381
Sulfate	mg/L	--	87.5	86.3	79.2	77.5	80	80.3	81.9	83.4	85.9	87.1	79	68.2	62.3	68.3
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.4275	0.157	0.42	1.1	0.372	0.45	0.616	--	--	--	0.354	0.43	0.479
Radium-226	pCi/L	--	--	0.824	0.521	0.746	0.725	0.643	0.561	0.463	--	--	--	0.676	0.663	0.723
Radium-226/228	pCi/L	5	--	1.2515	0.678	1.166	1.825	1.015	1.011	1.079	--	--	--	1.03	1.093	1.202
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.52	--	--	0.27	0.17	0.45	<0.2
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.4	--	--	16.8	<0.7	2	0.9
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.46	--	--	<0.8	<1	2	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	0.36	0.405	0.35	0.515	--	1.08	0.213	0.334	0.333
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	0.349	0.39	0.324	0.363	--	0.31	0.358	0.368	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-11S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/18/2016	9/20/2016	11/16/2016	1/9/2017	3/7/2017	5/19/2017	7/18/2017	10/3/2017	12/12/2017	6/5/2018	11/14/2018	5/23/2019	11/15/2019
Field Parameters																
Elevation	ft NGVD	--	--	369.93	369.4	368.47	367.7	367.51	367.92	368.57	367.86	366.6	369.69	369.27	373.25	371.21
pH	S.U.	--	7.9	7.3	7.3	8.4	8.1	7.9	7.78	7.7	7.2	8.3	7.21	7.55	7.71	7.76
Specific Conductance	µmhos/cm	--	--	272	330	433	200	70	307	386	267	260	360	309	440	533
Turbidity	NTU	--	--	0.81	0.4	1	0.8	0.3	2.64	0.4	0.5	0.6	0.39	0.2	1	1.97
Dissolved Oxygen	mg/L	--	--	9.3	7.4	2	7	7	6.99	6.1	8	19.4	6.94	6.9	9	5.53
Temperature	°C	--	--	16.1	22.4	14.7	14.8	15	15.7	17.1	15.4	13.4	14.97	13.25	17.3	15.3
ORP	mV	--	--	24	167	227	126	47	75.6	73	-13	73	-2.7	152	240	114.7
Laboratory Parameters																
Antimony	µg/L	6	--	0.04	0.04	0.05	0.04	0.04	0.04	<0.05	--	--	--	0.05	0.05	0.04
Arsenic	µg/L	10	--	0.53	0.42	0.45	0.52	0.52	0.48	0.5	--	--	--	0.38	0.36	0.43
Barium	µg/L	2000	--	9.79	11.3	7.91	6.52	7.09	7.73	8.16	--	--	--	12.5	13.7	10.8
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.02	--	--	--	<0.02	0.03	<0.02
Cadmium	µg/L	5	--	0.03	0.03	0.02	0.01	0.007	0.03	<0.02	--	--	--	0.03	0.02	<0.01
Chromium	µg/L	100	--	0.5	0.8	0.416	0.725	1.25	0.567	0.568	--	--	--	0.384	0.483	0.468
Cobalt	µg/L	6	--	0.043	0.029	0.027	0.022	0.027	0.03	0.02	--	--	--	<0.02	0.03	<0.02
Copper	µg/L	--	--	--	--	--	--	--	--	0.44	0.26	--	0.25	0.44	2.07	0.3
Lead	µg/L	15	--	0.02	0.046	0.027	0.02	0.02	0.023	0.06	--	--	--	0.03	<0.02	<0.05
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	0.002	0.002	<0.002	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	4.36	3.37	4.71	6.09	6.03	4.86	4.69	--	--	--	2.4	2.04	2.15
Selenium	µg/L	50	--	0.08	0.1	0.07	0.05	0.2	0.2	0.3	--	--	--	0.04	<0.03	0.06
Thallium	µg/L	2	--	0.01	0.01	0.02	0.01	0.01	0.01	0.2	--	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	7	<0.4	--	2	<0.7	<0.7	0.8
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	24.9	24.4	27.3	--	25.8	26.6	24.5	25
Aluminum	µg/L	--	--	--	--	--	--	--	--	10	3.63	--	2	3	3	<5
Boron	mg/L	--	0.062	0.062	0.077	0.053	0.029	0.057	0.047	0.067	0.09	--	0.076	0.11	0.08	0.052
Calcium	mg/L	--	41.6	38.8	45.1	37.3	40.4	42.8	41.2	44.2	43.7	--	55.8	56.4	54.3	47.6
Lithium	mg/L	0.04	--	0.024	0.004	0.005	0.003	0.013	0.009	0.002	--	--	--	0.01	0.01	0.00669
Magnesium	mg/L	--	--	--	--	--	--	17.2	17.7	18.8	17.6	--	24.8	19.5	17.7	17
Manganese	mg/L	--	--	--	--	--	--	--	--	<0.0001	--	--	<0.0002	0.0004	<0.0002	0.0006
Potassium	mg/L	--	--	--	--	--	--	0.42	0.42	0.42	0.48	--	0.37	0.88	0.4	0.5
Sodium	mg/L	--	--	--	--	--	--	5.72	5.58	6.82	7.26	--	7.11	5.35	4.43	4.47
Strontium	mg/L	--	--	--	--	--	--	0.0508	0.0535	0.0532	0.0537	--	0.0706	0.0774	0.0707	0.0638
Alkalinity	mg/L	--	--	--	--	--	--	153	175	187	167	--	226	246	235	223
Bromide	mg/L	--	--	--	--	--	--	<0.02	<0.06	<0.02	<0.02	--	<0.02	<0.04	<0.4	<0.04
Chloride	mg/L	--	1.82	1.83	1.62	1.54	2.12	4.63	9.87	8.19	3.68	2.4	6.98	1.79	1.62	1.48
Fluoride	mg/L	4	0.74	0.76	0.73	0.92	0.96	1	0.86	0.75	0.89	0.82	0.62	0.72	0.82	0.77
TDS	mg/L	--	212	201	196	182	179	197	239	224	200	--	276	238	279	216
Sulfate	mg/L	--	10.9	10.6	5.3	4.1	7.6	13.7	16.4	15.6	9.3	8	21.7	5.9	14.7	2.7
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.231	0.741	0.179	1.96	0.0959	0.0337	0.771	--	--	--	0.419	0.805	1.72
Radium-226	pCi/L	--	--	0.584	-0.0127	0.109	0.141	0.0906	0.091	0.0225	--	--	--	0.217	0.0772	0.0737
Radium-226/228	pCi/L	5	--	0.815	0.7283	0.288	2.101	0.1865	0.1247	0.7935	--	--	--	0.636	0.8822	1.7937
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.82	--	--	0.63	0.71	0.26	0.3
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	9	--	--	2	1	<0.7	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	66.5	--	--	2.92	3	2	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.014	--	0.008	0.04	0.004	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	0.0002	0.0001	<0.0002	--	<0.002	0.0005	<0.0002	<0.0005

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-12S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	11/1/2018	11/14/2008	12/11/2018	5/22/2019	11/21/2019
Field Parameters									
Elevation	ft NGVD	--	--	367.81	367.96	367.93	368.21	372.14	368.42
pH	S.U.	--	7.2	5.9	7.6	6.83	7.12	7.31	7.52
Specific Conductance	µmhos/cm	--	--	522	551	517	816	757	728
Turbidity	NTU	--	--	9	1.14	2.14	23.7	13.8	5.1
Dissolved Oxygen	mg/L	--	--	0.2	3.13	0.36	0.29	0	10.83
Temperature	°C	--	--	14.5	14.05	13.16	13.36	14.8	12.81
ORP	mV	--	--	68	-34.8	184.2	-10	9	144.1
Laboratory Parameters									
Antimony	µg/L	6	--	0.06	0.03	0.17	0.06	0.07	0.19
Arsenic	µg/L	10	--	0.3	0.27	0.25	0.61	0.45	0.44
Barium	µg/L	2000	--	26.8	26.3	25.3	31	29.7	28.8
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.06	0.05	0.13	0.04	0.09	0.09
Chromium	µg/L	100	--	0.276	0.1	0.1	0.639	0.476	0.315
Cobalt	µg/L	6	--	0.642	0.4783	0.439	1.23	0.924	0.955
Copper	µg/L	--	--	0.5	0.36	0.55	1.08	1.59	1.2
Lead	µg/L	15	--	0.34	0.08	0.08	0.904	0.538	0.526
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002
Molybdenum	µg/L	100	--	2	2	2	2	1	1
Selenium	µg/L	50	--	0.2	0.07	0.1	0.2	0.09	0.3
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	0.8	2	2	19.3	8.2
Silica (Dissolved)	mg/L	--	--	21.5	20	20	20.3	19.3	18.8
Aluminum	µg/L	--	--	45.2	8.53	3	291	119	106
Boron	mg/L	--	0.067	0.04	0.07	0.03	0.12	0.02	0.03
Calcium	mg/L	--	86.3	87	86.4	80.2	89.3	84.9	88.7
Lithium	mg/L	0.04	--	0.01	0.01	0.01	<0.009	0.01	0.00591
Magnesium	mg/L	--	--	31.6	33.7	30.5	33	30.3	32.3
Manganese	mg/L	--	--	0.0864	0.0758	0.0811	0.106	0.163	0.116
Potassium	mg/L	--	--	1.18	1.26	1.57	1.87	1.19	1.49
Sodium	mg/L	--	--	30.2	33.9	32.1	32.4	30.5	29.6
Strontium	mg/L	--	--	0.103	0.111	0.114	0.119	0.114	0.114
Alkalinity	mg/L	--	--	392	358	374	361	354	348
Bromide	mg/L	--	--	0.1	0.1	0.1	0.1	0.1	0.2
Chloride	mg/L	--	30.1	30.1	29.9	29.4	29.5	29.7	28.7
Fluoride	mg/L	4	0.35	0.36	0.36	0.37	0.36	0.38	0.32
TDS	mg/L	--	445	446	434	422	437	455	456
Sulfate	mg/L	--	37.2	37.1	37.1	36.4	36.7	37.4	37.8
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.562	0.306	0.941	0.569	0.568	0.613
Radium-226	pCi/L	--	--	0.5	0.202	0.244	0.314	0.379	0.226
Radium-226/228	pCi/L	5	--	1.062	0.508	1.185	0.883	0.947	0.839
Copper (Dissolved)	µg/L	--	--	0.66	0.38	1.41	0.7	0.33	1.96
Zinc (Dissolved)	µg/L	--	--	3	2	3	4	7.5	5
Aluminum (Dissolved)	µg/L	--	--	2	1	1	76.2	2	<5
Iron (Dissolved)	mg/L	--	--	0.025	0.01	0.006	0.238	0.05	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0847	0.0797	0.0677	0.103	0.144	0.0388

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-12I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	11/1/2018	11/14/2018	12/11/2018	5/22/2019	11/14/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.85	367.84	367.81	368.16	371.95	368.3
pH	S.U.	--	0	7.15	7.74	7.01	7.12	7.27	7.33
Specific Conductance	µmhos/cm	--	--	662	622	579	901	882	811
Turbidity	NTU	--	--	1.48	8.76	2.54	2.3	39.5	3
Dissolved Oxygen	mg/L	--	--	1.2	2.68	9.27	1.99	0.2	2.59
Temperature	°C	--	--	15.21	13.94	12.9	12.92	14.8	13.7
ORP	mV	--	--	-35.1	-87.8	-54.9	-52	-57	-10.1
Laboratory Parameters									
Antimony	µg/L	6	--	<0.01	<0.02	<0.02	<0.02	0.12	0.03
Arsenic	µg/L	10	--	10.1	9.24	8.79	9.32	12.6	10.3
Barium	µg/L	2000	--	370	374	365	377	395	393
Beryllium	µg/L	4	--	0.006	<0.02	0.02	<0.02	0.04	<0.02
Cadmium	µg/L	5	--	<0.005	0.02	<0.01	0.17	0.16	0.02
Chromium	µg/L	100	--	0.101	0.289	0.05	0.2	1.32	0.2
Cobalt	µg/L	6	--	1.5	1.67	1.42	1.58	2.7	1.54
Copper	µg/L	--	--	1.15	1.23	0.44	0.56	8.39	1
Lead	µg/L	15	--	0.063	0.21	0.03	0.07	1.47	0.07
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002
Molybdenum	µg/L	100	--	2.92	2.87	2.87	3.13	2.8	3.01
Selenium	µg/L	50	--	0.04	0.06	<0.003	<0.03	0.1	<0.03
Thallium	µg/L	2	--	0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	2	1	3	6.3	17.5
Silica (Dissolved)	mg/L	--	--	20.9	18.8	19.2	12.6	19	17.8
Aluminum	µg/L	--	--	48.8	64.6	5.87	5.67	581	10
Boron	mg/L	--	0.115	0.062	0.115	0.03	0.05	0.03	0.02
Calcium	mg/L	--	94.1	100	94.8	90.9	95.6	99.2	93.9
Lithium	mg/L	0.04	--	0.009	<0.009	0.03	0.01	0.01	0.00469
Magnesium	mg/L	--	--	32.5	32.6	30.5	31	31.5	29.9
Manganese	mg/L	--	--	1.17	1.2	1.08	1.12	2.13	1.08
Potassium	mg/L	--	--	2.03	2.43	2.28	2.26	2.13	1.9
Sodium	mg/L	--	--	43.2	45	43.9	42	45.7	49.4
Strontium	mg/L	--	--	0.134	0.138	0.144	0.142	0.15	0.14
Alkalinity	mg/L	--	--	433	448	433	441	458	431
Bromide	mg/L	--	--	0.139	0.1	0.1	0.1	0.1	0.1
Chloride	mg/L	--	33	34	33.9	33.7	33.1	33.4	32.8
Fluoride	mg/L	4	0.24	0.25	0.25	0.25	0.23	0.25	0.22
TDS	mg/L	--	499	506	493	484	485	532	484
Sulfate	mg/L	--	31.5	30.9	31	30.7	31	32.5	32.3
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	-0.0683	0.788	1.19	1.04	1.17	0.863
Radium-226	pCi/L	--	--	0.463	0.516	0.51	0.83	0.565	0.578
Radium-226/228	pCi/L	5	--	0.463	1.304	1.7	1.87	1.735	1.441
Copper (Dissolved)	µg/L	--	--	0.19	0.35	0.42	1.08	0.64	1.68
Zinc (Dissolved)	µg/L	--	--	1	10.2	2	8.1	1	3
Aluminum (Dissolved)	µg/L	--	--	2.36	5.95	2	3	16.6	<5
Iron (Dissolved)	mg/L	--	--	1.15	1.18	1.09	1.16	1.51	1.15
Manganese (Dissolved)	mg/L	--	--	1.12	1.16	1.06	1.16	1.11	1.14

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-12D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/14/2018	12/11/2018	5/22/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	367.91	367.91	367.86	368.25	372.03	368.34
pH	S.U.	--	7.3	7.16	8.06	7.08	7.17	7.41	7.42
Specific Conductance	µmhos/cm	--	--	530	510	449	717	686	850
Turbidity	NTU	--	--	9.68	12.7	5.25	2.2	1.4	7.41
Dissolved Oxygen	mg/L	--	--	1.68	1.41	4.9	1.4	0.7	7.97
Temperature	°C	--	--	15.56	15.16	12	12.56	15.1	13.4
ORP	mV	--	--	-52.6	-90.9	-40.8	-69	-56	89.2
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	0.06	<0.02	<0.02	0.02	0.25
Arsenic	µg/L	10	--	11.9	9.78	9.95	9.64	13.3	7.64
Barium	µg/L	2000	--	282	268	272	271	282	273
Beryllium	µg/L	4	--	0.006	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	0.05	<0.01	0.01	0.04	0.08
Chromium	µg/L	100	--	0.108	0.266	0.1	0.2	0.06	0.453
Cobalt	µg/L	6	--	0.462	0.538	0.378	0.4	0.554	0.679
Copper	µg/L	--	--	0.51	41	0.64	0.24	0.46	2.74
Lead	µg/L	15	--	0.127	0.329	0.111	0.05	0.02	0.502
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	3.09	2.96	2.94	3.13	3.57	4.24
Selenium	µg/L	50	--	<0.03	0.07	<0.03	<0.03	<0.03	0.06
Thallium	µg/L	2	--	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	3	2	0.8	1	11.5
Silica (Dissolved)	mg/L	--	--	21.1	18.9	19.5	19.5	18.8	17.8
Aluminum	µg/L	--	--	14	53.9	26.1	5.83	3	105
Boron	mg/L	--	0.098	0.112	0.09	0.03	0.09	<0.02	<0.02
Calcium	mg/L	--	90.8	95.1	86.9	86.1	82.9	84.5	80.3
Lithium	mg/L	0.04	--	0.013	<0.009	<0.009	<0.009	0.02	0.00169
Magnesium	mg/L	--	--	30.3	29.6	28.5	26.7	26.5	27.2
Manganese	mg/L	--	--	0.989	0.902	0.878	0.743	0.979	0.933
Potassium	mg/L	--	--	1.16	0.89	1.34	1.45	0.76	0.8
Sodium	mg/L	--	--	10.5	11.3	11	10.2	9.06	9.66
Strontium	mg/L	--	--	0.161	0.161	0.171	0.158	0.147	0.142
Alkalinity	mg/L	--	--	373	353	371	384	368	347
Bromide	mg/L	--	--	0.081	0.08	0.07	0.07	0.07	0.1
Chloride	mg/L	--	16.1	17.2	17	16.6	16.7	15.9	16.1
Fluoride	mg/L	4	0.27	0.26	0.26	0.26	0.26	0.26	0.23
TDS	mg/L	--	328	386	381	374	380	393	376
Sulfate	mg/L	--	15.6	14.2	14.2	13.8	13.9	14.8	15.9
Sulfide	mg/L	--	--	<0.04	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.643	0.405	0.589	1.69	0.698	0.529
Radium-226	pCi/L	--	--	0.702	0.454	0.608	0.766	0.548	0.574
Radium-226/228	pCi/L	5	--	1.345	0.859	1.197	2.456	1.246	1.103
Copper (Dissolved)	µg/L	--	--	0.35	0.21	0.12	0.44	0.25	<0.2
Zinc (Dissolved)	µg/L	--	--	3.3	2	1	1	0.7	4
Aluminum (Dissolved)	µg/L	--	--	7.24	2	2	5.13	1	<5
Iron (Dissolved)	mg/L	--	--	1.29	0.965	0.996	1.12	1.62	0.616
Manganese (Dissolved)	mg/L	--	--	0.994	0.88	0.801	0.832	1.03	0.906

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-13I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/11/2018	5/21/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	368.83	368.45	368.41	368.31	371.99	369.9
pH	S.U.	--	7.5	7.36	8.12	7.21	7.36	7.54	7.53
Specific Conductance	µmhos/cm	--	--	411	397	451	555	522	470
Turbidity	NTU	--	--	2.14	0.93	0.31	0.45	1.4	0
Dissolved Oxygen	mg/L	--	--	0.37	1.15	8.64	0.57	0.4	2.3
Temperature	°C	--	--	15.71	15.25	13.17	14.13	16.5	14.3
ORP	mV	--	--	-15.8	-74.3	44.5	-72	-30	280.1
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	<0.02	<0.02	0.04	<0.2	0.02
Arsenic	µg/L	10	--	1.74	1.66	1.6	1.84	2.41	1.9
Barium	µg/L	2000	--	149	139	141	144	151	133
Beryllium	µg/L	4	--	0.006	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	µg/L	100	--	0.04	0.1	0.06	0.07	<0.04	0.08
Cobalt	µg/L	6	--	0.5	0.554	0.477	0.574	0.577	0.486
Copper	µg/L	--	--	0.39	0.62	0.1	0.58	0.09	<0.2
Lead	µg/L	15	--	0.01	0.04	<0.02	<0.02	<0.02	<0.05
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	4.49	4.23	4.09	4.29	4.11	4.01
Selenium	µg/L	50	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Thallium	µg/L	2	--	0.04	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	20.1	61.3	<0.7	2	<0.7	0.7
Silica (Dissolved)	mg/L	--	--	19.6	17.9	17.9	18.4	17.6	16.8
Aluminum	µg/L	--	--	2.54	10.6	2	<1	1	<5
Boron	mg/L	--	0.042	0.09	0.05	<0.02	0.04	0.02	<0.02
Calcium	mg/L	--	67.5	66	58.1	59.7	65.6	67.9	58.5
Lithium	mg/L	0.04	--	0.018	0.01	<0.009	<0.009	<0.009	0.00378
Magnesium	mg/L	--	--	20.4	19.1	19.2	20.9	19.4	19.2
Manganese	mg/L	--	--	0.491	0.448	0.447	0.523	0.469	0.448
Potassium	mg/L	--	--	1.23	0.93	1.32	1.24	0.99	0.9
Sodium	mg/L	--	--	15.2	15.4	15.6	16.4	15.7	15.5
Strontium	mg/L	--	--	0.0781	0.0744	0.0834	0.0879	0.0831	0.0803
Alkalinity	mg/L	--	--	231	228	231	241	235	222
Bromide	mg/L	--	--	0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	20	20.6	20.5	20.3	20.4	20.1	19.9
Fluoride	mg/L	4	0.38	0.38	0.38	0.38	0.38	0.37	0.32
TDS	mg/L	--	297	319	305	310	310	318	321
Sulfate	mg/L	--	40.6	41.6	41.5	41.3	40.7	41.6	42.4
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	-0.268	0.658	0.682	0.3	0.76	0.0456
Radium-226	pCi/L	--	--	0.456	0.509	0.669	0.589	0.646	0.361
Radium-226/228	pCi/L	5	--	0.456	1.167	1.351	0.889	1.406	0.4066
Copper (Dissolved)	µg/L	--	--	0.11	0.39	0.2	0.2	0.15	0.3
Zinc (Dissolved)	µg/L	--	--	0.7	6.3	<0.7	3	<0.7	2
Aluminum (Dissolved)	µg/L	--	--	1	1	1	5	<1	<5
Iron (Dissolved)	mg/L	--	--	0.185	0.189	0.193	0.26	0.278	0.149
Manganese (Dissolved)	mg/L	--	--	0.493	0.467	0.461	0.483	0.418	0.468

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-13D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/11/2018	5/21/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	368.79	368.43	368.39	368.29	371.95	369.89
pH	S.U.	--	7.4	7.03	8.11	7.17	7.29	7.45	7.55
Specific Conductance	µmhos/cm	--	--	406	382	427	540	524	466
Turbidity	NTU	--	--	5.34	10.6	4.66	3.22	2	2
Dissolved Oxygen	mg/L	--	--	1.34	1.4	5.45	0.51	1.7	1.8
Temperature	°C	--	--	16.29	14.99	12.18	14.06	18.7	13.9
ORP	mV	--	--	-71.4	-95.1	-48.5	-94	-48	50.3
Laboratory Parameters									
Antimony	µg/L	6	--	0.01	0.02	0.05	0.03	0.07	0.03
Arsenic	µg/L	10	--	6.44	5.62	7.55	5.3	20.8	5.96
Barium	µg/L	2000	--	206	204	198	219	265	223
Beryllium	µg/L	4	--	0.007	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	0.04	<0.01	<0.01	<0.01	<0.01
Chromium	µg/L	100	--	0.071	0.353	0.209	0.06	0.2	0.09
Cobalt	µg/L	6	--	1.15	1.31	1.05	0.935	1.1	0.951
Copper	µg/L	--	--	0.26	1.02	0.55	0.28	1.11	<0.2
Lead	µg/L	15	--	0.071	0.438	0.173	<0.02	0.07	<0.05
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	2.88	2.59	2.77	3.23	3.21	2.92
Selenium	µg/L	50	--	<0.03	0.1	0.07	<0.03	0.04	<0.03
Thallium	µg/L	2	--	0.02	<0.1	>0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	0.6	2	1	2	1	5.7
Silica (Dissolved)	mg/L	--	--	19.3	17.6	17.9	17.9	17.4	16.3
Aluminum	µg/L	--	--	21.8	162	58.8	2	12.4	<5
Boron	mg/L	--	0.037	0.071	0.111	119	0.03	0.02	<0.02
Calcium	mg/L	--	65.9	68.9	63.4	60.8	67.4	66.2	60.6
Lithium	mg/L	0.04	--	0.016	<0.009	<0.009	<0.009	<0.009	0.00217
Magnesium	mg/L	--	--	21.8	21.7	20.1	22.5	19.7	20.6
Manganese	mg/L	--	--	0.762	0.669	0.648	0.677	0.997	0.709
Potassium	mg/L	--	--	1.06	1.14	1.45	1.16	0.82	0.9
Sodium	mg/L	--	--	11.2	11.6	11.4	11.2	9.25	11.9
Strontium	mg/L	--	--	0.0852	0.0867	0.0913	0.098	0.0882	0.0875
Alkalinity	mg/L	--	--	231	243	223	252	237	238
Bromide	mg/L	--	--	0.05	<0.04	<0.04	<0.04	<0.04	0.09
Chloride	mg/L	--	16.3	17	16.9	16.6	16.5	15.9	17.4
Fluoride	mg/L	4	0.28	0.27	0.27	0.28	0.27	0.26	0.23
TDS	mg/L	--	287	296	299	296	305	303	303
Sulfate	mg/L	--	35.5	34.8	34.7	34.1	33.3	33.9	37
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.141	-0.293	-0.157	0.226	0.844	1.49
Radium-226	pCi/L	--	--	0.501	0.356	0.242	0.389	0.586	0.219
Radium-226/228	pCi/L	5	--	0.642	0.356	0.242	0.615	1.43	1.709
Copper (Dissolved)	µg/L	--	--	0.07	0.11	0.09	0.21	0.56	<0.2
Zinc (Dissolved)	µg/L	--	--	0.5	1	<0.7	1	<0.7	0.9
Aluminum (Dissolved)	µg/L	--	--	11	3	2	20.5	1	<5
Iron (Dissolved)	mg/L	--	--	1.29	0.915	0.995	1.13	0.866	0.937
Manganese (Dissolved)	mg/L	--	--	0.74	0.625	0.702	0.612	0.777	0.746

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-14S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/20/2016	9/21/2016	11/17/2016	1/9/2017	3/7/2017	5/19/2017	7/18/2017	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019	11/16/2019
Field Parameters																
Elevation	ft NGVD	--	--	370.07	369.7	369.34	368.92	368.49	368.63	369.88	368.43	368.41	368.94	369.27	371.36	371.63
pH	S.U.	--	7.2	7.1	7	7.7	7.5	7.4	6.95	7.3	7	7.6	7.55	7.55	7.15	7.51
Specific Conductance	µmhos/cm	--	--	576	640	955	530	80	441	496	488	490	450	309	604	655
Turbidity	NTU	--	--	3.9	6	1	2	0.7	2.07	1	0.5	1	0.6	0.2	0.61	9.8
Dissolved Oxygen	mg/L	--	--	3.8	3.3	1	3.4	3	3.82	3.7	4	10.2	5.42	6.9	2.57	0.455
Temperature	°C	--	--	18.7	22.6	15.2	14.4	13.9	14.54	15.9	15.3	13.5	14.98	13.25	17.01	12.4
ORP	mV	--	--	43	53	282	147	75	55.6	67	-23	133	-7.9	152	-203.7	-9
Laboratory Parameters																
Antimony	µg/L	6	--	0.02	0.02	0.03	0.02	0.02	0.06	<0.05	--	--	--	<0.02	<0.02	0.03
Arsenic	µg/L	10	--	1.54	1.29	0.75	0.91	0.76	0.75	0.7	--	--	--	0.64	0.62	0.62
Barium	µg/L	2000	--	31	27.8	26.3	27	26.3	25	27	--	--	--	27	28.9	32.9
Beryllium	µg/L	4	--	0.008	0.005	<0.005	<0.005	<0.005	<0.004	<0.02	--	--	--	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.21	0.07	0.03	0.05	0.01	0.08	<0.02	--	--	--	0.05	0.01	<0.01
Chromium	µg/L	100	--	0.3	0.3	0.162	0.575	0.66	0.301	0.258	--	--	--	0.2	0.2	0.438
Cobalt	µg/L	6	--	0.573	0.333	0.088	0.187	0.083	0.065	0.03	--	--	--	0.03	0.03	0.04
Copper	µg/L	--	--	--	--	--	--	--	--	2.38	0.15	--	0.38	0.24	0.25	<0.2
Lead	µg/L	15	--	0.307	0.31	0.549	0.115	0.061	0.071	0.116	--	--	--	0.05	0.04	<0.05
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	1.51	1.43	1.26	1.62	1.84	1.35	1.67	--	--	--	1	1	1
Selenium	µg/L	50	--	1.4	1.2	1.2	1.1	1.1	1.2	1.3	--	--	--	1.1	0.9	0.9
Thallium	µg/L	2	--	<0.01	<0.01	0.02	0.054	0.055	0.01	0.07	--	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	9	0.8	--	1	1	<0.7	<0.7
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	20.3	20.2	23.3	--	20.4	20.2	<0.06	19.3
Aluminum	µg/L	--	--	--	--	--	--	--	--	11.4	2	--	5.75	7.32	4	5
Boron	mg/L	--	0.011	0.008	0.01	0.008	<0.002	0.031	0.017	0.03	0.042	--	0.046	0.04	<0.02	<0.02
Calcium	mg/L	--	59.2	56.3	59.5	65.4	65.7	63.4	59.8	65.6	67	--	61.1	59.2	66.9	65.1
Lithium	mg/L	0.04	--	0.018	0.006	0.004	0.006	0.005	0.001	<0.0002	--	--	--	<0.009	0.01	0.00367
Magnesium	mg/L	--	--	--	--	--	--	27.6	28.1	29.3	29.9	--	27.4	26.4	30	29.8
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0006	--	--	0.0014	0.0015	0.0008	0.002
Potassium	mg/L	--	--	--	--	--	--	0.5	0.54	0.49	0.59	--	0.51	0.55	0.53	0.5
Sodium	mg/L	--	--	--	--	--	--	33	29.4	30.1	29.9	--	29.2	24.9	23.3	23.7
Strontium	mg/L	--	--	--	--	--	--	0.101	0.102	0.103	0.106	--	0.101	0.0954	0.109	0.111
Alkalinity	mg/L	--	--	--	--	--	--	232	258	257	249	--	260	259	275	252
Bromide	mg/L	--	--	--	--	--	--	<0.02	<0.06	0.03	0.04	--	<0.02	<0.04	<0.04	<0.04
Chloride	mg/L	--	28.6	29.4	28.1	27.8	27.2	26.8	29.4	29.6	29.9	30	27.1	29	28.6	28.9
Fluoride	mg/L	4	0.39	0.39	0.36	0.35	0.33	0.36	0.37	0.33	0.34	0.34	0.39	0.37	0.37	0.38
TDS	mg/L	--	368	364	361	362	344	354	376	377	376	--	360	344	390	374
Sulfate	mg/L	--	34.9	36.5	32.5	29.1	30.7	29.9	32.3	33.1	34.8	35.5	29.4	30.8	32.4	32.8
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	-0.343	0.769	0.693	0.601	-0.193	-0.019	1.73	--	--	--	0.334	0.271	1.1
Radium-226	pCi/L	--	--	0.594	0.131	0.413	0.179	0.0525	0.0316	0.153	--	--	--	0.0534	0.0483	0.112
Radium-226/228	pCi/L	5	--	0.251	0.9	1.106	0.78	-0.1405	0.0126	1.883	--	--	--	0.3874	0.3193	1.212
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.94	--	--	0.43	0.64	0.31	0.6
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	7	--	--	5.7	3	<0.7	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	11.3	--	--	1	<1	1	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.016	--	0.002	<0.003	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	0.0021	0.0001	<0.0002	--	<0.0002	0.0005	<0.0002	<0.0005

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-15S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/7/2017	5/10/2017	7/19/2017	10/4/2017	6/5/2018	11/13/2018	5/23/2019	7/23/2019	9/11/2019	11/15/2019
Field Parameters																		
Elevation	ft NGVD	--	--	370	369.87	369.49	368.87	367.92	367.84	367.86	368.75	367.84	396.63	368.96	371.96	372.79	372.26	371.11
pH	S.U.	--	7.1 - 7.7	7.2	7.1	7.2	7.7	7.2	7.2	7.3	7.3	7.35	7.16	7.46	7.5	5.74	7.38	7.38
Specific Conductance	µmhos/cm	--	--	512	512	510	904	470	60	419	368	393	416	317	348	362	269	467
Turbidity	NTU	--	--	7.6	2.2	1	1	1	0.5	2	2	2.34	0.33	0.41	1.51	8.3	3	10
Dissolved Oxygen	mg/L	--	--	0.5	0.5	1	1	1	6	0.4	0.3	0.07	1.9	0.77	0.4	1	0	0
Temperature	°C	--	--	16.5	17.7	19.1	15.5	13.8	13.9	14.6	15.7	14.7	14.96	12.94	15.21	15.8	16.55	13.4
ORP	mV	--	--	57	124	181	-10	179	64	65	24	18.1	-37.7	19.3	-218	47	63	64
Laboratory Parameters																		
Antimony	µg/L	6	--	0.04	0.04	0.02	0.04	0.04	0.03	0.04	0.02	--	--	<0.02	0.02	--	--	0.03
Arsenic	µg/L	10	--	0.32	0.24	0.21	0.18	0.26	0.21	0.21	0.23	--	--	0.13	0.12	--	--	0.16
Barium	µg/L	2000	--	4.71	5.85	3.21	3.27	6.05	4.98	3.54	3.11	--	--	2.46	2.54	--	--	3.17
Beryllium	µg/L	4	--	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.004	--	--	<0.02	<0.02	--	--	<0.02
Cadmium	µg/L	5	--	0.14	0.25	0.05	0.05	0.06	0.04	0.05	0.05	--	--	0.04	0.1	--	--	0.06
Chromium	µg/L	100	--	0.2	1.7	0.5	0.058	0.493	0.934	0.198	0.096	--	--	0.05	0.08	--	--	0.1
Cobalt	µg/L	6	--	3.03	1.17	1.09	0.794	1.75	1.26	1.2	1.25	--	--	0.74	0.775	--	--	2.15
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.4	0.26	0.24	0.37	0.32	--	--	0.2
Lead	µg/L	15	--	0.286	0.101	0.098	0.037	0.039	0.024	0.062	0.083	--	--	0.03	0.05	--	--	0.1
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	<0.002	--	--	<0.002
Molybdenum	µg/L	100	--	2.52	2.89	2.54	1.57	0.78	1.17	2.08	2.87	--	--	2.54	3.47	--	--	2.18
Selenium	µg/L	50	--	0.4	0.7	0.5	0.3	0.3	0.5	0.5	0.2	--	--	0.1	0.06	--	--	0.2
Thallium	µg/L	2	--	0.03	<0.01	0.02	0.02	0.03	0.04	0.02	0.02	--	--	<0.1	<0.1	--	--	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	--	3.5	1	21	2	2	--	--	2
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	13.1	12.7	15.8	13.1	12.4	<0.06	--	--	11.9
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	15.9	6.68	4.42	6.41	11.7	--	--	10
Boron	mg/L	--	0.15	0.011	0.012	0.008	<0.002	<0.002	0.084	0.077	0.073	0.095	0.078	0.04	<0.02	--	--	<0.02
Calcium	mg/L	--	(79.5) 71	46.9	43.6	46.6	52.3	63.6	62.9	45.7	44.4	48.3	44.7	41.8	41.3	--	--	40.2
Lithium	mg/L	0.04	--	0.007	0.022	0.005	0.005	0.008	0.008	0.003	0.0009	--	--	<0.009	<0.009	--	--	0.00357
Magnesium	mg/L	--	--	--	--	--	--	--	28.2	19.3	17.2	18.5	16.9	15.1	13.9	--	--	15.1
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.489	--	0.391	0.444	0.452	--	--	0.743
Potassium	mg/L	--	--	--	--	--	--	--	1.07	1.11	1.03	1.27	0.93	1.16	0.68	--	--	0.8
Sodium	mg/L	--	--	--	--	--	--	--	35.5	44.7	39.2	42.3	35.9	27.2	17.3	--	--	19.7
Strontium	mg/L	--	--	--	--	--	--	--	0.0903	0.0711	0.061	0.0662	0.0638	0.0574	0.0502	--	--	0.0522
Alkalinity	mg/L	--	--	--	--	--	--	--	294	257	235	267	239	226	197	--	--	209
Bromide	mg/L	--	--	--	--	--	--	--	0.04	0.062	0.05	0.074	0.03	<0.04	<0.04	--	--	<0.04
Chloride	mg/L	--	(29.6) 26	21.2	18.7	18.9	18.3	21.9	16.1	14.1	11.8	13.3	8.84	8.78	8.88	--	--	9.48
Fluoride	mg/L	4	0.86	0.65	0.65	0.63	0.5	0.36	0.42	0.65	0.66	0.62	0.69	0.72	0.88	0.87	0.81	0.7
TDS	mg/L	--	(412.7) 407	338	319	329	338	374	342	294	263	300	274	232	207	--	--	234
Sulfate	mg/L	--	(33.67) 34	30.3	27.7	25.1	23.2	28.3	23.4	21	20.3	23.2	16.3	13.1	10.2	--	--	8.4
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.07	<0.1	--	--	<0.2
Radium-228	pCi/L	--	--	0.0335	-0.092	0.302	1.11	-0.0122	-0.108	0.106	-0.0928	--	--	0.482	0.439	--	--	1.47
Radium-226	pCi/L	--	--	0.384	--	0.116	0.139	0.189	0.0973	0.135	0.0916	--	--	-0.0262	0.282	--	--	0.0996
Radium-226/228	pCi/L	5	--	0.4175	-0.092	0.418	1.249	0.1768	-0.0107	0.241	0.0916	--	--	0.482	0.721	--	--	1.5696
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.37	--	0.51	1.59	0.53	--	--	2.06
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.6	--	1	2	<0.7	--	--	2
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	3.7	--	2	3	2	--	--	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.014	<0.002	0.004	<0.003	--	--	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.448	0.361	0.284	0.379	0.349	0.332	0.289	--	--	0.257

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL
Field Parameters			
Elevation	ft NGVD	--	--
pH	S.U.	--	7.1 - 7.7
Specific Conductance	µmhos/cm	--	--
Turbidity	NTU	--	--
Dissolved Oxygen	mg/L	--	--
Temperature	°C	--	--
ORP	mV	--	--
Laboratory Parameters			
Antimony	µg/L	6	--
Arsenic	µg/L	10	--
Barium	µg/L	2000	--
Beryllium	µg/L	4	--
Cadmium	µg/L	5	--
Chromium	µg/L	100	--
Cobalt	µg/L	6	--
Copper	µg/L	--	--
Lead	µg/L	15	--
Mercury	µg/L	2	--
Molybdenum	µg/L	100	--
Selenium	µg/L	50	--
Thallium	µg/L	2	--
Zinc	µg/L	--	--
Silica (Dissolved)	mg/L	--	--
Aluminum	µg/L	--	--
Boron	mg/L	--	0.15
Calcium	mg/L	--	(79.5) 71
Lithium	mg/L	0.04	--
Magnesium	mg/L	--	--
Manganese	mg/L	--	--
Potassium	mg/L	--	--
Sodium	mg/L	--	--
Strontium	mg/L	--	--
Alkalinity	mg/L	--	--
Bromide	mg/L	--	--
Chloride	mg/L	--	(29.6) 26
Fluoride	mg/L	4	0.86
TDS	mg/L	--	(412.7) 407
Sulfate	mg/L	--	(33.67) 34
Sulfide	mg/L	--	--
Radium-228	pCi/L	--	--
Radium-226	pCi/L	--	--
Radium-226/228	pCi/L	5	--
Copper (Dissolved)	µg/L	--	--
Zinc (Dissolved)	µg/L	--	--
Aluminum (Dissolved)	µg/L	--	--
Iron (Dissolved)	mg/L	--	--
Manganese (Dissolved)	mg/L	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2016	7/19/2016	9/21/2016	11/16/2016	1/10/2017	3/7/2017	5/10/2017	7/18/2017	10/4/2017	12/12/2017	1/3/2018
Field Parameters														
Elevation	ft NGVD	--	--	370	369.88	369.51	368.86	368.12	368.07	368.27	368.74	367.82	366.73	366.49
pH	S.U.	--	6.77 - 7.86	7.2	7.1	7.1	7.5	7.7	7.5	7.2	7.2	7.34	7.8	7.79
Specific Conductance	µmhos/cm	--	--	555	574	530	874	420	60	457	400	368	350	474
Turbidity	NTU	--	--	0.9	0.6	0.7	0.2	1	2	1	1	1.09	1	1.12
Dissolved Oxygen	mg/L	--	--	0.2	0.4	0.4	1.3	0.2	2	0.3	0.3	0.49	0.9	0.41
Temperature	°C	--	--	15.1	18.2	17.6	15.6	13.9	13.6	14.8	16.3	14.68	12.8	12.38
ORP	mV	--	--	52.5	-86	-54	259	-87	-42	51	-50	-79.7	-52	-77.2
Laboratory Parameters														
Antimony	µg/L	6	--	0.01	0.25	0.01	0.04	0.01	0.02	0.02	0.02	--	--	--
Arsenic	µg/L	10	--	25.2	27.9	21.1	23.6	20.2	20.4	20.2	23.6	--	--	--
Barium	µg/L	2000	--	118	132	119	107	91.2	88.9	86.1	94.8	--	--	--
Beryllium	µg/L	4	--	<0.005	0.165	<0.005	0.005	<0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.02	0.23	0.009	0.06	0.005	0.03	0.03	0.02	--	--	--
Chromium	µg/L	100	--	0.2	0.5	0.1	0.132	0.35	0.7	0.134	0.089	--	--	--
Cobalt	µg/L	6	--	1.24	1.66	1.32	1.03	1	0.903	1.02	1.25	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.26	0.1	--	--
Lead	µg/L	15	--	0.026	0.254	0.026	0.213	0.01	0.065	0.09	0.082	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	5.76	6.74	5.75	6.73	7.63	7.91	6.52	5.58	--	--	--
Selenium	µg/L	50	--	<0.03	0.2	<0.03	<0.03	<0.03	0.07	0.04	<0.03	--	--	--
Thallium	µg/L	2	--	0.04	0.273	0.03	0.04	0.04	0.112	0.03	0.04	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	0.7	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	15	14	16.1	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	9.25	6.63	--	--
Boron	mg/L	--	0.072	0.06	0.032	0.03	0.022	0.019	0.047	0.038	0.05	0.08	--	0.04
Calcium	mg/L	--	(79.5) 54	44.1	44.6	46.1	51.4	46.5	51.1	46.6	43.9	44.6	--	--
Lithium	mg/L	0.04	--	0.005	0.018	0.004	0.004	0.011	0.006	0.002	<0.0002	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	13.3	12.7	11.1	11.2	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.134	--	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.01	1.02	0.94	1.05	--	--
Sodium	mg/L	--	--	--	--	--	--	--	62.3	56.1	51.8	45.4	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0865	0.088	0.0841	0.0871	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	229	239	224	202	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.084	0.101	0.081	0.067	--	--
Chloride	mg/L	--	(29.6) 70	59.3	53.8	43.4	44.9	48.3	38.5	32.7	27.1	23.7	22.8	--
Fluoride	mg/L	4	0.382	0.25	0.25	0.23	0.25	0.34	0.32	0.31	0.22	0.23	0.22	--
TDS	mg/L	--	(412.7) 398	380	356	334	340	351	331	322	300	287	--	--
Sulfate	mg/L	--	(47.44) 47	42.5	41	34	33.6	35.4	31.1	29.7	26.6	27.3	26.7	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	--
Radium-228	pCi/L	--	--	0.254	0.455	0.076	1.23	0.682	0.155	-0.367	1.49	--	--	--
Radium-226	pCi/L	--	--	0.609	0.636	0.428	0.517	0.187	0.71	0.189	0.153	--	--	--
Radium-226/228	pCi/L	5	--	0.863	1.091	0.504	1.747	0.869	0.865	-0.178	1.643	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.1	--	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.19	--	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.742	0.709	0.789	0.949	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.138	0.139	0.112	0.119	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2016	11/13/2018	5/23/2019	11/15/2019
Field Parameters								
Elevation	ft NGVD	--	--	369.64	370.28	369.01	372.01	371.09
pH	S.U.	--	6.77 - 7.86	8.06	7.36	7.6	7.29	7.38
Specific Conductance	µmhos/cm	--	--	420	527	412	414	495
Turbidity	NTU	--	--	0.88	0	0.18	0.95	7
Dissolved Oxygen	mg/L	--	--	1.89	0.25	0.31	1.61	0
Temperature	°C	--	--	14.9	17.77	12.52	18.94	13.7
ORP	mV	--	--	-94	-63	-63.7	-207.7	-85
Laboratory Parameters								
Antimony	µg/L	6	--	--	--	<0.02	<0.02	0.04
Arsenic	µg/L	10	--	--	--	23.8	25.8	26.5
Barium	µg/L	2000	--	--	--	93.3	95	88.9
Beryllium	µg/L	4	--	--	--	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	--	--	<0.01	0.01	0.05
Chromium	µg/L	100	--	--	--	<0.04	0.06	0.1
Cobalt	µg/L	6	--	--	--	1.12	1.12	1.07
Copper	µg/L	--	--	0.15	--	0.12	0.1	0.6
Lead	µg/L	15	--	--	--	0.03	<0.02	0.2
Mercury	µg/L	2	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	--	--	5.03	5.63	5.95
Selenium	µg/L	50	--	--	--	0.04	<0.03	0.04
Thallium	µg/L	2	--	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	2.5	--	0.8	7.9	2
Silica (Dissolved)	mg/L	--	--	13.9	--	13.8	<0.06	12.5
Aluminum	µg/L	--	--	4.24	--	7.01	3	21.2
Boron	mg/L	--	0.072	0.066	--	0.07	0.03	0.03
Calcium	mg/L	--	(79.5) 54	47	--	39.9	47.8	45.2
Lithium	mg/L	0.04	--	--	--	<0.009	0.01	0.00289
Magnesium	mg/L	--	--	11.8	--	9.98	11.7	11
Manganese	mg/L	--	--	0.13	--	0.106	0.128	0.116
Potassium	mg/L	--	--	0.96	--	1.21	0.9	0.9
Sodium	mg/L	--	--	42	--	29.9	29.9	24.2
Strontium	mg/L	--	--	0.0955	--	0.0827	0.0942	0.0887
Alkalinity	mg/L	--	--	226	--	199	208	198
Bromide	mg/L	--	--	0.071	--	0.06	0.04	<0.04
Chloride	mg/L	--	(29.6) 70	25.1	--	23.7	18	16.9
Fluoride	mg/L	4	0.382	0.26	--	0.25	0.26	0.27
TDS	mg/L	--	(412.7) 398	279	--	248	260	248
Sulfate	mg/L	--	(47.44) 47	25.3	--	25.3	20.9	17.6
Sulfide	mg/L	--	--	<0.4	--	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	--	--	0.283	0.423	1.63
Radium-226	pCi/L	--	--	--	--	0.0962	0.557	0.194
Radium-226/228	pCi/L	5	--	--	--	0.3792	0.98	1.824
Copper (Dissolved)	µg/L	--	--	0.36	--	0.2	0.83	<0.2
Zinc (Dissolved)	µg/L	--	--	2	--	0.8	1	1
Aluminum (Dissolved)	µg/L	--	--	1	--	1	2	<5
Iron (Dissolved)	mg/L	--	--	0.879	--	0.848	0.826	0.623
Manganese (Dissolved)	mg/L	--	--	0.126	--	0.121	0.116	0.118

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/10/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.7	369.61	369.16	368.56	367.84	367.87	367.88	368.53	367.58	366.38
pH	S.U.	--	5.88 - 8.55	7.53	7.1	7.31	6.9	7.16	7.1	8.26	6.34	7.25	7.34
Specific Conductance	µmhos/cm	--	--	0.822	764	719	669	677	804	581	595	647	872
Turbidity	NTU	--	--	0.74	0.34	5.21	0.5	0.25	0.42	1.78	0.57	0.72	0.54
Dissolved Oxygen	mg/L	--	--	0.34	0.4	7.29	0.62	0.55	0.18	0.69	22.45	0.31	0.82
Temperature	°C	--	--	15.7	16.39	17.48	16.91	14.47	18.48	16.01	15.63	15.99	14.46
ORP	mV	--	--	112.4	56.2	153.4	233.5	83	56.1	177.3	-118.9	13.6	-12.2
Laboratory Parameters													
Antimony	µg/L	6	--	0.03	0.03	0.25	0.02	0.02	0.02	0.02	0.02	--	--
Arsenic	µg/L	10	--	0.37	0.37	0.38	0.34	0.42	0.31	0.39	0.33	--	--
Barium	µg/L	2000	--	32.3	29.9	29.5	25.3	25.1	25.7	29.8	25.6	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.03	0.03	0.1	0.006	0.008	0.004	0.01	0.04	--	--
Chromium	µg/L	100	--	0.2	0.5	0.3	1.03	0.081	0.463	0.196	0.101	--	--
Cobalt	µg/L	6	--	0.073	0.025	0.07	0.028	0.014	0.012	0.063	0.01	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.1	0.19	--
Lead	µg/L	15	--	0.074	0.057	0.182	<0.004	0.039	0.006	0.027	0.01	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	1.15	1.21	1.11	1.19	1.21	1.32	1.14	0.98	--	--
Selenium	µg/L	50	--	0.6	0.6	0.8	0.4	0.4	0.4	0.3	0.4	--	--
Thallium	µg/L	2	--	0.01	<0.01	<0.01	<0.01	0.02	0.02	0.01	0.01	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	2	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	24	24.1	27.6	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	2.1	7.43	--
Boron	mg/L	--	0.088	0.028	0.025	0.024	0.025	0.017	0.038	0.082	0.037	0.061	--
Calcium	mg/L	--	(79.5) 114	96.2	83	93.5	96.4	94.6	106	105	91.8	108	109
Lithium	mg/L	0.04	--	0.007	0.031	0.005	0.018	0.013	0.013	0.008	0.01	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	36.4	36.6	31.4	38.2	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0028	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.01	1.3	0.97	1.03	--
Sodium	mg/L	--	--	--	--	--	--	--	36.9	36.7	28.7	35.7	--
Strontium	mg/L	--	--	--	--	--	--	--	0.129	0.132	0.108	0.133	--
Alkalinity	mg/L	--	--	--	--	--	--	--	423	431	436	438	--
Bromide	mg/L	--	--	--	--	--	--	--	0.1	0.158	0.162	0.206	--
Chloride	mg/L	--	(29.6) 24	18.7	19	17.1	16.4	17.5	19.3	22.9	19.8	19.3	--
Fluoride	mg/L	4	0.506	0.44	0.46	0.38	0.3	0.35	0.36	0.38	0.33	0.41	--
TDS	mg/L	--	(412.7) 517	483	471	509	486	474	473	499	484	503	517
Sulfate	mg/L	--	(52.4) 52	46.9	50.1	42.1	38.3	39.2	39.6	42.3	40.7	45	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	-0.0274	0.34	-0.131	0.0963	1.8	0.169	-0.045	2.76	--	--
Radium-226	pCi/L	--	--	0.163	0.707	0.0255	0.198	0.193	0.113	0.145	0.0933	--	--
Radium-226/228	pCi/L	5	--	0.1356	1.047	-0.1055	0.2943	1.993	0.282	0.1	2.8533	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.1	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.9	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.051	0.015	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0013	0.0145	0.0007	0.0127	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.62	370.12	368.86	369.84	371.94	370.84
pH	S.U.	--	5.88 - 8.55	7.23	7.07	7.02	7.12	7.1	7
Specific Conductance	µmhos/cm	--	--	770	920	720	570	774	961
Turbidity	NTU	--	--	2.2	0	0.3	1.3	0.18	4.2
Dissolved Oxygen	mg/L	--	--	7.8	0	1.35	0.41	0.34	0.39
Temperature	°C	--	--	15.73	17.04	14.2	14.4	14.54	12.05
ORP	mV	--	--	-36.9	147	142	183	-211.4	121
Laboratory Parameters									
Antimony	µg/L	6	--	--	--	0.05	--	0.03	0.03
Arsenic	µg/L	10	--	--	--	0.34	--	0.26	0.3
Barium	µg/L	2000	--	--	--	29.9	--	21.9	27.2
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	<0.02
Cadmium	µg/L	5	--	--	--	0.08	--	0.01	0.05
Chromium	µg/L	100	--	--	--	0.07	--	0.1	0.09
Cobalt	µg/L	6	--	--	--	<0.02	--	<0.02	0.059
Copper	µg/L	--	--	1.19	--	1.46	--	0.66	0.3
Lead	µg/L	15	--	--	--	0.112	--	<0.02	0.07
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	--	--	0.9	--	0.9	0.8
Selenium	µg/L	50	--	--	--	3.2	--	0.6	1
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	<0.1
Zinc	µg/L	--	--	5	--	31.6	--	<0.7	0.8
Silica (Dissolved)	mg/L	--	--	24.9	--	24.9	--	23.3	22.3
Aluminum	µg/L	--	--	5.68	--	3	--	1	<5
Boron	mg/L	--	0.088	0.109	0.034	0.107	0.02	0.03	0.02
Calcium	mg/L	--	(79.5) 114	108	109	104	--	99.2	92.2
Lithium	mg/L	0.04	--	--	--	0.02	--	0.01	0.00639
Magnesium	mg/L	--	--	38.8	--	37.4	--	34.5	35.5
Manganese	mg/L	--	--	0.0062	--	0.004	--	0.0035	0.0115
Potassium	mg/L	--	--	1.1	--	1.28	--	0.95	0.9
Sodium	mg/L	--	--	38	--	44.4	--	29.4	29.6
Strontium	mg/L	--	--	0.137	--	0.138	--	0.21	0.118
Alkalinity	mg/L	--	--	463	--	510	--	478	445
Bromide	mg/L	--	--	0.118	--	0.1	--	0.08	0.1
Chloride	mg/L	--	(29.6) 24	17.3	--	16.2	--	18	20.7
Fluoride	mg/L	4	0.506	0.42	--	0.39	--	0.38	0.32
TDS	mg/L	--	(412.7) 517	520	533	548	517	493	497
Sulfate	mg/L	--	(52.4) 52	40.8	--	40.3	--	34.5	35.2
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	<0.2
Radium-228	pCi/L	--	--	--	--	0.0697	--	0.299	0.179
Radium-226	pCi/L	--	--	--	--	0.0503	--	0.0904	0.0453
Radium-226/228	pCi/L	5	--	--	--	0.12	--	0.3894	0.2243
Copper (Dissolved)	µg/L	--	--	1.21	--	2.59	--	0.38	1.7
Zinc (Dissolved)	µg/L	--	--	5.2	--	4	--	<0.7	2
Aluminum (Dissolved)	µg/L	--	--	1	--	1	--	3	<5
Iron (Dissolved)	mg/L	--	--	0.004	--	<0.003	--	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0047	--	0.0023	--	<0.0027	0.0009

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/19/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.79	369.62	369.18	368.57	367.84	367.87	367.87	368.58	367.58	366.39
pH	S.U.	--	6.73 - 7.90	7.69	7.56	7.37	7.08	7.36	7.28	6.96	7.2	7.46	7.68
Specific Conductance	µmhos/cm	--	--	957	870	867	702	674	779	569	665	644	821
Turbidity	NTU	--	--	0.42	0.46	1.37	1.4	0.18	1.41	2.27	3.15	0.7	1.9
Dissolved Oxygen	mg/L	--	--	0.29	8.08	0.68	0.53	0.46	0.34	0.21	0.29	0.28	0.38
Temperature	°C	--	--	16.2	16.86	15.43	15.64	14.71	15.19	15.48	15.99	15.71	13.08
ORP	mV	--	--	224.4	-158.9	54.7	242.3	86.1	53.5	49.8	-3.1	4.1	-25.6
Laboratory Parameters													
Antimony	µg/L	6	--	0.02	0.01	0.01	0.05	0.01	0.02	0.06	0.02	--	--
Arsenic	µg/L	10	--	0.71	0.75	0.75	0.67	0.72	0.68	0.7	0.73	--	--
Barium	µg/L	2000	--	267	267	262	234	220	221	206	238	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.06	0.03	0.03	0.05	0.04	0.03	0.08	0.03	--	--
Chromium	µg/L	100	--	0.1	0.2	0.1	0.082	0.085	0.422	0.204	0.118	--	--
Cobalt	µg/L	6	--	0.602	0.627	0.576	0.546	0.514	0.58	0.56	0.599	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.56	0.46	--
Lead	µg/L	15	--	0.023	0.025	0.023	0.053	0.01	0.034	0.153	0.065	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	1.02	1.02	1.03	0.93	1	1.17	0.91	1.07	--	--
Selenium	µg/L	50	--	0.2	0.2	0.1	0.2	0.1	0.2	0.4	0.2	--	--
Thallium	µg/L	2	--	0.085	0.06	0.074	0.069	0.071	0.075	0.075	0.07	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2.7	0.8	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	19.9	20	22.8	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	15.5	14	--
Boron	mg/L	--	0.107	0.031	0.027	0.026	0.024	0.015	0.1	0.032	0.044	0.05	--
Calcium	mg/L	--	(79.5) 114	110	93.9	95.9	96.2	89.3	101	86.7	91.3	84	71.9
Lithium	mg/L	0.04	--	0.005	0.005	0.006	0.013	0.01	0.013	0.01	0.003	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	27.6	24.7	25.6	23	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	1.03	--	--
Potassium	mg/L	--	--	--	--	--	--	--	2.9	2.47	2.62	3.21	--
Sodium	mg/L	--	--	--	--	--	--	--	46.2	41.4	50	69.2	--
Strontium	mg/L	--	--	--	--	--	--	--	0.155	0.139	0.14	0.135	--
Alkalinity	mg/L	--	--	--	--	--	--	--	368	376	369	359	--
Bromide	mg/L	--	--	--	--	--	--	--	0.1	0.152	0.154	0.206	--
Chloride	mg/L	--	(29.6) 114	80.4	86.8	90.2	59.1	44.1	39.3	37.9	50.2	70.8	71.2
Fluoride	mg/L	4	0.192	0.1	0.15	0.1	0.1	0.1	0.16	0.1	0.08	0.1	--
TDS	mg/L	--	(412.7) 589	539	532	544	508	481	460	461	465	495	487
Sulfate	mg/L	--	(43.51) 44	38.7	42.2	36.8	33	34	35.4	35.1	36.1	40.4	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.357	1	0.977	0.174	2.27	0.182	0.427	0.513	--	--
Radium-226	pCi/L	--	--	0.235	0.576	0.248	0.413	0.362	0.399	0.511	0.274	--	--
Radium-226/228	pCi/L	5	--	0.592	1.576	1.225	0.587	2.632	0.581	0.938	0.787	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.14	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.051	0.014	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	1.03	1.06	1.04	0.873	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.62	370.06	368.78	369.77	371.86	370.76
pH	S.U.	--	6.73 - 7.90	7.37	7.23	7.3	7.4	7.31	7.35
Specific Conductance	µmhos/cm	--	--	720	797	545	476	641	659
Turbidity	NTU	--	--	0.89	0	0.41	0.8	0.2	1.1
Dissolved Oxygen	mg/L	--	--	0.46	0	0.95	0.36	0.25	0.01
Temperature	°C	--	--	15.93	15.56	14.42	14.5	14.58	12
ORP	mV	--	--	-68.4	120	148	122	-21107	137
Laboratory Parameters									
Antimony	µg/L	6	--	--	--	<0.02	--	<0.02	0.03
Arsenic	µg/L	10	--	--	--	0.66	--	0.64	0.72
Barium	µg/L	2000	--	--	--	153	--	151	126
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	<0.02
Cadmium	µg/L	5	--	--	--	0.02	--	0.02	0.04
Chromium	µg/L	100	--	--	--	0.05	--	<0.04	0.1
Cobalt	µg/L	6	--	--	--	0.336	--	0.346	0.58
Copper	µg/L	--	--	0.62	--	0.45	--	0.46	1.34
Lead	µg/L	15	--	--	--	<0.02	--	0.02	0.1
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	--	--	1	--	1	1
Selenium	µg/L	50	--	--	--	0.2	--	0.1	0.4
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	<0.1
Zinc	µg/L	--	--	0.6	--	0.8	--	<0.7	1
Silica (Dissolved)	mg/L	--	--	19.8	--	18.5	--	18	17.2
Aluminum	µg/L	--	--	10.2	--	5	--	4	10
Boron	mg/L	--	0.107	0.046	--	0.139	0.02	0.03	0.02
Calcium	mg/L	--	(79.5) 114	82.9	61.6	53.7	--	56	41
Lithium	mg/L	0.04	--	--	--	<0.009	--	0.02	0.00427
Magnesium	mg/L	--	--	23.1	--	14.8	--	15.1	11.4
Manganese	mg/L	--	--	0.902	--	0.613	--	0.626	0.685
Potassium	mg/L	--	--	3.05	--	3.16	--	2.55	2.2
Sodium	mg/L	--	--	66	--	74.4	--	68.4	58.9
Strontium	mg/L	--	--	0.136	--	0.09	--	0.0898	0.0688
Alkalinity	mg/L	--	--	359	--	300	--	261	252
Bromide	mg/L	--	--	0.168	--	0.1	--	0.1	0.1
Chloride	mg/L	--	(29.6) 114	58.6	61.1	47.8	--	45.5	31.2
Fluoride	mg/L	4	0.192	0.17	--	0.17	--	0.17	0.14
TDS	mg/L	--	(412.7) 589	480	456	408	--	405	343
Sulfate	mg/L	--	(43.51) 44	38.7	--	32.5	--	33.2	25.2
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	<0.2
Radium-228	pCi/L	--	--	--	--	0.483	--	0.269	0.482
Radium-226	pCi/L	--	--	--	--	0.162	--	0.156	0.212
Radium-226/228	pCi/L	5	--	--	--	0.645	--	0.425	0.694
Copper (Dissolved)	µg/L	--	--	0.57	--	1.43	--	1.14	0.3
Zinc (Dissolved)	µg/L	--	--	0.7	--	2	--	<0.7	1
Aluminum (Dissolved)	µg/L	--	--	0.8	--	1	--	1	<5
Iron (Dissolved)	mg/L	--	--	0.024	--	0.004	--	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	0.849	--	0.616	--	0.615	0.447

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/17/2016	1/11/2017	3/8/2017	5/10/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.85	369.68	369.23	368.64	367.91	367.94	367.96	368.64	367.68	366.47
pH	S.U.	--	6.04 - 9.13	6.8	7.31	7.26	7.29	7.48	7.44	7.54	9.03	7.6	7.74
Specific Conductance	µmhos/cm	--	--	519	582	538	613	525	614	436	597	516	692
Turbidity	NTU	--	--	1.8	0.24	0.31	0.55	0.4	0.81	1.74	0.41	2.95	1.85
Dissolved Oxygen	mg/L	--	--	0.4	--	1.33	0.55	0.49	0.11	0.29	0.32	0.21	0.47
Temperature	°C	--	--	16.8	16.96	16.04	15.1	14.55	15.2	15.46	15.62	15.77	13.14
ORP	mV	--	--	-19	23.5	35.7	108	14.6	2.1	36.6	108.9	-26.4	-36.7
Laboratory Parameters													
Antimony	µg/L	6	--	0.02	0.02	0.02	0.02	0.01	0.02	0.03	0.03	--	--
Arsenic	µg/L	10	--	0.48	0.4	0.31	0.32	0.34	0.31	0.33	0.39	--	--
Barium	µg/L	2000	--	240	246	221	217	210	224	212	247	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.08	0.08	0.02	0.05	0.02	0.01	0.07	0.1	--	--
Chromium	µg/L	100	--	0.3	0.4	0.1	1.21	0.112	0.188	0.151	0.141	--	--
Cobalt	µg/L	6	--	0.617	0.547	0.418	0.452	0.354	0.401	0.466	0.571	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	2.21	0.11	--
Lead	µg/L	15	--	0.078	0.04	0.021	0.066	0.008	0.022	0.07	0.103	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	2.06	2.31	1.96	1.98	1.99	2.27	1.9	2.03	--	--
Selenium	µg/L	50	--	0.04	0.04	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	--	--
Thallium	µg/L	2	--	0.03	0.069	0.02	0.02	0.02	0.04	0.02	0.02	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	12.8	52.4	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.1	17.6	20.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	6.2	3.72	--
Boron	mg/L	--	0.113	0.033	0.013	0.012	0.014	0.004	0.023	0.102	0.017	0.059	--
Calcium	mg/L	--	(79.5) 88	84.3	68.7	70.5	77.9	72.4	79.2	75.8	71.7	80.4	80.1
Lithium	mg/L	0.04	--	0.001	0.013	0.003	0.006	0.013	0.007	0.008	0.0006	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	22.4	22.2	21	23.3	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.975	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.12	1.54	0.97	1.33	--
Sodium	mg/L	--	--	--	--	--	--	--	22.3	21.6	22.1	24.7	--
Strontium	mg/L	--	--	--	--	--	--	--	0.142	0.143	0.128	0.146	--
Alkalinity	mg/L	--	--	--	--	--	--	--	202	210	215	195	--
Bromide	mg/L	--	--	--	--	--	--	--	0.15	0.204	<0.05	0.233	--
Chloride	mg/L	--	(29.6) 73	68.7	69.6	67.6	63.6	67.9	65.4	69.9	69.6	81.5	86
Fluoride	mg/L	4	0.251	0.2	0.22	0.22	0.17	0.21	0.22	0.22	0.17	0.22	--
TDS	mg/L	--	(412.7) 384	350	321	342	356	343	347	367	363	383	--
Sulfate	mg/L	--	(39.69) 40	36.4	37.4	33.4	33.2	34	35.3	37.2	36.8	40	37.9
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	-0.173	0.294	1.1	0.285	0.92	0.583	-0.121	0.222	--	--
Radium-226	pCi/L	--	--	0.0514	--	0.248	0.624	0.796	0.228	0.151	0.292	--	--
Radium-226/228	pCi/L	5	--	-0.1216	0.294	1.348	0.909	1.716	0.811	0.03	0.514	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.18	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.004	0.002	0.098	0.051	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.862	0.948	0.989	0.947	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	4/1/2019	5/22/2019	7/23/2019	9/11/2019	11/15/2019	2/18/2020
Field Parameters													
Elevation	ft NGVD	--	--	369.69	370.13	368.87	369.84	370.82	371.96	372.67	-----	370.78	369.44
pH	S.U.	--	6.04 - 9.13	7.32	7.26	7.35	7.37	7.28	7.31	7.02	7.28	7.31	7.17
Specific Conductance	µmhos/cm	--	--	690	782	607	510	945	755	731	813	1070	1869
Turbidity	NTU	--	--	0.9	0	0.35	1.4	0.91	0.3	1.9	0.43	0.3	0.2
Dissolved Oxygen	mg/L	--	--	0.44	0	0.94	1.48	0.64	0.26	0.5	0.36	0.01	0.42
Temperature	°C	--	--	15.94	15.88	14.45	13.2	13.5	14.43	15.9	17.5	14.4	11.76
ORP	mV	--	--	-70.7	-11	62.8	60	-16.7	-216.5	50	-52.5	45	109.3
Laboratory Parameters													
Antimony	µg/L	6	--	--	--	<0.02	--	--	0.02	--	--	0.02	--
Arsenic	µg/L	10	--	--	--	0.32	--	--	0.39	--	--	0.35	--
Barium	µg/L	2000	--	--	--	270	--	--	286	--	--	348	--
Beryllium	µg/L	4	--	--	--	<0.02	--	--	<0.02	--	--	<0.02	--
Cadmium	µg/L	5	--	--	--	0.04	--	--	<0.01	--	--	0.05	--
Chromium	µg/L	100	--	--	--	0.05	--	--	0.25	--	--	0.1	--
Cobalt	µg/L	6	--	--	--	0.472	--	--	0.64	--	--	0.632	--
Copper	µg/L	--	--	0.07	--	0.23	--	--	0.17	--	--	<0.2	--
Lead	µg/L	15	--	--	--	0.03	--	--	0.02	--	--	<0.05	--
Mercury	µg/L	2	--	--	--	--	--	--	<0.002	--	--	<0.002	--
Molybdenum	µg/L	100	--	--	--	2	--	--	2	--	--	2	--
Selenium	µg/L	50	--	--	--	0.03	--	--	<0.03	--	--	<0.03	--
Thallium	µg/L	2	--	--	--	<0.1	--	--	<0.1	--	--	<0.1	--
Zinc	µg/L	--	--	7.1	--	15.4	--	--	1	--	--	2	--
Silica (Dissolved)	mg/L	--	--	18.5	--	18.2	--	--	17.9	--	--	17.1	--
Aluminum	µg/L	--	--	2.86	--	1	--	--	2	--	--	<5	--
Boron	mg/L	--	0.113	0.033	--	0.07	--	--	0.03	--	--	0.03	--
Calcium	mg/L	--	(79.5) 88	90.2	83.8	84.1	--	--	88.5	95.6	109	100	--
Lithium	mg/L	0.04	--	--	--	<0.009	--	--	0.02	--	--	0.00427	--
Magnesium	mg/L	--	--	27.1	--	24.3	--	--	25.4	--	--	28.3	--
Manganese	mg/L	--	--	1.2	--	1	--	--	1.17	--	--	1.04	--
Potassium	mg/L	--	--	1.22	--	1.27	--	--	1.27	--	--	1.57	--
Sodium	mg/L	--	--	26.7	--	30	--	--	30.8	--	--	44.6	--
Strontium	mg/L	--	--	0.18	--	0.166	--	--	0.176	--	--	0.203	--
Alkalinity	mg/L	--	--	235	--	238	--	--	249	--	--	304	--
Bromide	mg/L	--	--	0.303	--	0.275	--	--	0.344	--	--	0.425	--
Chloride	mg/L	--	(29.6) 73	108	99.7	102	109	107	104	106	125	127	133
Fluoride	mg/L	4	0.251	0.22	--	0.21	--	--	0.2	--	--	0.17	--
TDS	mg/L	--	(412.7) 384	434	447	434	439	429	460	457	523	537	579
Sulfate	mg/L	--	(39.69) 40	38.6	--	38.6	--	--	38	--	--	40.8	38.9
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	--	<0.1	--	--	<0.2	--
Radium-228	pCi/L	--	--	--	--	0.138	--	--	0.688	--	--	0.411	--
Radium-226	pCi/L	--	--	--	--	0.179	--	--	0.551	--	--	0.158	--
Radium-226/228	pCi/L	5	--	--	--	0.317	--	--	1.239	--	--	0.569	--
Copper (Dissolved)	µg/L	--	--	0.35	--	1.5	--	--	0.25	--	--	1.98	--
Zinc (Dissolved)	µg/L	--	--	1	--	3	--	--	<0.7	--	--	3	--
Aluminum (Dissolved)	µg/L	--	--	2	--	2	--	--	<1	--	--	<5	--
Iron (Dissolved)	mg/L	--	--	0.058	--	0.023	--	--	0.067	--	--	<0.02	--
Manganese (Dissolved)	mg/L	--	--	1.19	--	1	--	--	1.23	--	--	1.07	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-17S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/20/2016	9/20/2016	11/16/2016	1/10/2017	3/7/2017	5/9/2017	7/19/2017	10/4/2017	6/5/2018	11/13/2018	5/23/2019	11/15/2019
Field Parameters																
Elevation	ft NGVD	--	--	370.14	370.11	369.81	369.37	368.47	368.21	368.24	368.89	373.03	369.48	368.74	371.85	371.44
pH	S.U.	--	7.11 - 7.97	7.77	7.3	7.65	7.7	7.6	7.5	7.3	7.5	7.44	7.41	7.51	7.58	7.64
Specific Conductance	µmhos/cm	--	--	350	373	344	146	310	60	357	287	351	319	280	322	396
Turbidity	NTU	--	--	0.6	0.7	0.79	1	1	1	3	1	0.47	0.4	0.89	0	4
Dissolved Oxygen	mg/L	--	--	0.6	1.2	0.37	0.1	0.2	1	0.2	0.2	0.38	10.12	1.07	1.56	1.3
Temperature	°C	--	--	14.7	17.9	14.55	14.7	13.8	13.5	14.9	14.3	16.82	14.39	13.45	15	13.4
ORP	mV	--	--	80	44	49.4	-40	62	47	45	30	-50.3	-84.3	121	-48.2	38
Laboratory Parameters																
Antimony	µg/L	6	--	0.01	0.03	0.02	0.03	0.03	0.04	0.04	0.02	--	--	0.02	0.02	0.02
Arsenic	µg/L	10	--	0.24	0.26	0.22	0.2	0.21	0.2	0.22	0.22	--	--	0.17	0.18	0.24
Barium	µg/L	2000	--	2.12	2.74	2.24	2.4	3.45	3.94	4.37	2.25	--	--	2.11	2.3	2.2
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.02	0.08	0.01	0.02	0.02	0.09	0.02	0.06	--	--	0.02	0.03	0.03
Chromium	µg/L	100	--	0.5	0.2	0.1	0.066	0.489	0.776	0.233	0.124	--	--	0.07	0.06	0.1
Cobalt	µg/L	6	--	0.047	0.105	0.034	0.029	0.04	0.076	0.138	0.053	--	--	0.05	0.04	0.157
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.38	0.69	0.23	0.21	0.39	0.5
Lead	µg/L	15	--	0.024	0.098	0.025	0.02	0.02	0.079	0.108	0.038	--	--	0.03	0.05	0.1
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	3.98	4.2	4.08	3.39	0.44	0.7	1.14	4.38	--	--	3.73	4.78	4.67
Selenium	µg/L	50	--	0.07	0.06	0.08	0.1	0.2	0.1	0.1	0.08	--	--	0.3	0.2	0.4
Thallium	µg/L	2	--	0.01	0.01	0.01	0.053	0.02	0.02	<0.01	0.03	--	--	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	5.7	0.7	<0.7	14.4	1
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	14	13.7	15.8	13.5	13.2	<0.06	12.2
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	9.55	10.2	4.01	2	17.4	21.3
Boron	mg/L	--	0.065	0.015	0.016	0.016	0.017	0.006	0.058	0.041	0.02	0.033	0.045	0.05	0.03	0.02
Calcium	mg/L	--	(79.5) 41	36.9	34.8	34.8	35.9	32.3	40	35.5	34.4	34.1	32.4	33.1	32.7	28.7
Lithium	mg/L	0.04	--	<0.0002	0.02	0.003	0.004	0.003	0.008	0.003	<0.0002	--	--	<0.009	0.01	0.00355
Magnesium	mg/L	--	--	--	--	--	--	--	19.2	17.5	13.7	12.9	13	13.7	12.9	11.2
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0428	--	0.0311	0.0418	0.0377	0.179
Potassium	mg/L	--	--	--	--	--	--	--	0.88	0.79	0.49	0.47	0.5	0.59	0.62	0.6
Sodium	mg/L	--	--	--	--	--	--	--	42.5	35.3	31.9	27.7	24.5	25.8	26.5	26.8
Strontium	mg/L	--	--	--	--	--	--	--	0.0566	0.0529	0.0363	0.0345	0.0357	0.0374	0.0347	0.031
Alkalinity	mg/L	--	--	--	--	--	--	--	231	221	196	189	188	202	193	174
Bromide	mg/L	--	--	--	--	--	--	--	0.02	0.05	<0.02	<0.02	0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	(29.6) 16	13.9	15.4	12.3	11.4	11	10.7	10.4	10.8	10.5	10.8	11.5	12	12.6
Fluoride	mg/L	4	1.08	0.85	0.86	0.73	0.7	0.48	0.46	0.58	0.82	0.89	0.98	0.91	1.08	0.96
TDS	mg/L	--	(412.7) 269	272	235	233	232	262	251	250	201	214	214	196	217	2.07
Sulfate	mg/L	--	(16.46) 16.5	14.3	14.8	10.9	10.5	10.7	12	13.1	10.2	10.7	9.5	8.4	7.7	6.2
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.783	-0.0129	0.027	0.791	-0.155	0.36	0.315	1.07	--	--	-0.0735	0.34	1.03
Radium-226	pCi/L	--	--	0.253	0.0439	0.0489	0.803	0.17	0.11	0.118	0.678	--	--	0.0202	0.0449	0.0579
Radium-226/228	pCi/L	5	--	1.036	0.031	0.0759	1.594	0.015	0.47	0.433	1.748	--	--	0.0202	0.0202	1.0879
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.35	--	0.56	0.7	2.05	<0.2
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	1	1	<0.7	0.9
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.2	--	6.2	2	1	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.026	0.004	0.004	0.01	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0028	0.0013	0.0322	0.0881	0.0304	0.041	0.0332	0.0662

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-17I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/20/2016	9/20/2016	11/16/2016	1/10/2017	3/7/2017	5/9/2017	7/19/2017	10/4/2017	12/12/2017	1/3/2018	6/5/2018	8/16/2018	9/26/2018
Field Parameters																	
Elevation	ft NGVD	--	--	370.09	370.13	369.82	369.12	368.47	368.23	368.25	368.89	368.07	367.23	366.84	369.46	370.64	370.06
pH	S.U.	--	6.82 - 7.96	7.55	7.2	7.1	7.8	7.5	7.5	7.2	7.3	7.37	7.49	7.8	7.36	7.48	7.48
Specific Conductance	µmhos/cm	--	--	839	914	1000	607	670	60	768	678	786	530	848	652	728	453
Turbidity	NTU	--	--	13.4	9.8	--	0.1	2	9	2	1	74.99	1.74	12	1.28	0	0.58
Dissolved Oxygen	mg/L	--	--	0.8	0.8	0.9	1.3	0.3	1	0.3	0.2	0.26	0.1	2.34	0.2	0.17	0.37
Temperature	°C	--	--	14.1	16.4	18.3	14.4	13.7	13.8	14.7	14.7	17.05	8.97	7.25	15.11	17.06	14.18
ORP	mV	--	--	116	-73	-40	204	-52	8	46	-59	-90.8	-54	-40.5	-99.8	-69	-77.9
Laboratory Parameters																	
Antimony	µg/L	6	--	0.07	0.05	0.04	0.03	0.02	0.02	0.02	0.02	--	--	--	--	--	--
Arsenic	µg/L	10	--	7.14	7.41	6.45	3.38	3.94	4.61	3.61	3.76	--	--	--	--	--	--
Barium	µg/L	2000	--	168	190	198	149	148	159	133	140	--	--	--	--	--	--
Beryllium	µg/L	4	--	0.02	0.006	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--	--	--	--
Cadmium	µg/L	5	--	0.12	0.13	0.04	0.04	0.008	0.007	0.03	0.02	--	--	--	--	--	--
Chromium	µg/L	100	--	0.6	2.1	0.1	0.059	0.254	0.776	0.196	0.127	--	--	--	--	--	--
Cobalt	µg/L	6	--	1.24	0.778	0.472	0.37	0.391	0.406	0.394	0.372	--	--	--	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.26	0.24	--	--	0.52	--	--
Lead	µg/L	15	--	1.19	0.284	0.133	0.049	0.02	0.026	0.115	0.02	--	--	--	--	--	--
Mercury	µg/L	2	--	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	--	--
Molybdenum	µg/L	100	--	3.6	3.66	3.08	3.37	3.2	3.62	3.26	3.42	--	--	--	--	--	--
Selenium	µg/L	50	--	0.1	0.05	0.05	<0.03	<0.03	0.05	0.03	<0.03	--	--	--	--	--	--
Thallium	µg/L	2	--	0.03	0.02	0.02	0.056	0.02	0.02	0.01	0.05	--	--	--	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.3	30.8	--	--	2.4	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.1	17	19.8	--	--	16.5	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	3.39	21.5	--	--	5.91	--	--
Boron	mg/L	--	0.098	0.058	0.056	0.051	0.041	0.034	0.079	0.083	0.052	0.061	--	--	0.081	--	--
Calcium	mg/L	--	(79.5) 96	73.7	83.1	88.9	80	72.3	81.4	69.6	64.4	63	--	--	51.2	--	--
Lithium	mg/L	0.04	--	<0.0002	0.004	0.005	0.006	0.009	0.008	0.005	<0.0002	--	--	--	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21	19.6	17.4	16.5	--	--	13.4	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.155	--	--	--	0.122	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.28	1.36	1.04	1.12	--	--	0.94	--	--
Sodium	mg/L	--	--	--	--	--	--	--	101	93.6	95.4	94.6	--	--	89.1	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.153	0.14	0.119	0.12	--	--	0.104	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	221	226	229	245	--	--	238	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.347	0.396	0.372	0.283	--	--	0.213	--	--
Chloride	mg/L	--	(29.6) 241	195	209	214	164	159	158	151	145	115	86	110	80.2	61.1	--
Fluoride	mg/L	4	0.656	0.57	0.56	0.52	0.56	0.56	0.58	0.61	0.63	0.66	0.76	0.65	0.87	0.98	1.03
TDS	mg/L	--	(412.7) 657	609	569	620	540	513	549	528	509	486	--	471	418	376	--
Sulfate	mg/L	--	(50.8) 51	43.1	49.3	48.1	44.1	43.2	44.9	43.5	44.7	46.6	44.8	--	41	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.615	0.386	1	0.499	0.531	0.33	0.191	0.791	--	--	--	--	--	--
Radium-226	pCi/L	--	--	1.31	0.781	0.587	0.263	0.979	0.693	0.816	0.0231	--	--	--	--	--	--
Radium-226/228	pCi/L	5	--	1.925	1.167	1.587	0.762	1.51	1.023	1.007	0.8141	--	--	--	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.33	--	--	--	0.57	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.2	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	--	2.64	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.896	0.909	0.741	0.603	--	--	0.546	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.185	0.188	0.141	0.144	--	--	0.113	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-17I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/11/2019	4/1/2019	5/23/2019	7/23/2019	9/11/2019	11/15/2019
Field Parameters										
Elevation	ft NGVD	--	--	369.35	369.89	369.89	372.03	373.11	-----	371.6
pH	S.U.	--	6.82 - 7.96	7.55	7.68	7.68	7.51	6.65	7.63	7.44
Specific Conductance	µmhos/cm	--	--	450	391	391	570	488	363	654
Turbidity	NTU	--	--	7.42	6.9	6.9	3.67	6.4	5	7
Dissolved Oxygen	mg/L	--	--	0.76	0.47	0.47	0.91	1.1	0	0
Temperature	°C	--	--	12.6	13.5	13.5	17.85	14.8	15.49	13
ORP	mV	--	--	-77.4	-55	-55	-94.3	-5.3	-112	-87
Laboratory Parameters										
Antimony	µg/L	6	--	0.02	--	--	0.02	--	--	0.06
Arsenic	µg/L	10	--	3.65	--	--	3.72	--	--	4.5
Barium	µg/L	2000	--	86.8	--	--	91.8	--	--	87.9
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02
Cadmium	µg/L	5	--	0.03	--	--	<0.01	--	--	0.05
Chromium	µg/L	100	--	<0.04	--	--	<0.04	--	--	0.1
Cobalt	µg/L	6	--	0.186	--	--	0.22	--	--	0.306
Copper	µg/L	--	--	0.26	--	--	0.07	--	--	0.5
Lead	µg/L	15	--	0.03	--	--	0.02	--	--	0.2
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002
Molybdenum	µg/L	100	--	4.09	--	--	3.01	--	--	2.4
Selenium	µg/L	50	--	<0.03	--	--	<0.03	--	--	0.03
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1
Zinc	µg/L	--	--	2	--	--	15.1	--	--	2
Silica (Dissolved)	mg/L	--	--	15.8	--	--	<0.06	--	--	14
Aluminum	µg/L	--	--	2	--	--	1	--	--	7
Boron	mg/L	--	0.098	0.07	--	--	0.04	--	--	0.04
Calcium	mg/L	--	(79.5) 96	36.5	--	--	45.1	--	--	43.9
Lithium	mg/L	0.04	--	<0.009	--	--	0.01	--	--	0.00504
Magnesium	mg/L	--	--	9.44	--	--	11.8	--	--	12
Manganese	mg/L	--	--	0.0779	--	--	0.112	--	--	0.121
Potassium	mg/L	--	--	0.83	--	--	0.84	--	--	0.9
Sodium	mg/L	--	--	74.7	--	--	60.5	--	--	49.7
Strontium	mg/L	--	--	0.0796	--	--	0.098	--	--	0.103
Alkalinity	mg/L	--	--	231	--	--	201	--	--	205
Bromide	mg/L	--	--	0.1	--	--	0.2	--	--	2
Chloride	mg/L	--	(29.6) 241	50.1	--	--	60.2	--	--	41.2
Fluoride	mg/L	4	0.656	1.00	1.05	1.08	1.07	1.06	1.08	0.95
TDS	mg/L	--	(412.7) 657	328	--	--	352	--	--	309
Sulfate	mg/L	--	(50.8) 51	29.6	--	--	32.8	--	--	23.2
Sulfide	mg/L	--	--	<0.1	--	--	<0.1	--	--	<0.02
Radium-228	pCi/L	--	--	0.275	--	--	-0.107	--	--	1.33
Radium-226	pCi/L	--	--	0.351	--	--	0.403	--	--	0.184
Radium-226/228	pCi/L	5	--	0.626	--	--	0.403	--	--	1.514
Copper (Dissolved)	µg/L	--	--	1.62	--	--	1.24	--	--	2.03
Zinc (Dissolved)	µg/L	--	--	3	--	--	3	--	--	3
Aluminum (Dissolved)	µg/L	--	--	3	--	--	5.77	--	--	<5
Iron (Dissolved)	mg/L	--	--	0.348	--	--	0.418	--	--	0.364
Manganese (Dissolved)	mg/L	--	--	0.0765	--	--	0.106	--	--	0.114

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-21S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	12/12/2017	6/6/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.38	369.28	368.85	368.52	367.76	366.84	367.86	368.72	367.13	366.24	369.54
pH	S.U.	--	5.99 - 9.07	6.6	7.54	7.59	7.5	7.32	7.6	8.86	7.23	7.53	8	7.77
Specific Conductance	µmhos/cm	--	--	387	450	454	501	410	540	344	398	402	390	400
Turbidity	NTU	--	--	2.5	0.91	0.78	0.46	1.03	2.6	0.71	2.28	3.31	6	2.1
Dissolved Oxygen	mg/L	--	--	2.3	4.37	5.67	4.46	6.66	4.2	3.36	32.59	4.01	6.2	3.36
Temperature	°C	--	--	16.4	17.49	18.53	18.78	15.15	14.9	16.27	18.01	16.21	14.9	16.2
ORP	mV	--	--	36	13.1	48.9	46.9	198.4	150	160.1	-167.7	76.7	56	43
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.02	0.02	0.02	0.03	0.03	0.04	0.05	--	--	0.04
Arsenic	µg/L	10	--	0.53	0.47	0.46	0.43	0.47	0.49	0.47	0.42	--	--	0.45
Barium	µg/L	2000	--	18.5	19.6	19.4	19.1	19.3	21.9	17.7	21.9	--	--	18.5
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.004	<0.04	--	--	<0.004
Cadmium	µg/L	5	--	0.02	0.02	0.006	0.02	0.01	0.01	0.01	0.01	--	--	0.01
Chromium	µg/L	100	--	0.4	0.7	0.3	0.292	0.401	0.536	0.3	0.272	--	--	0.233
Cobalt	µg/L	6	--	0.104	0.033	0.03	0.023	0.022	0.053	0.027	0.006	--	--	0.02
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.27	0.35	--	0.52
Lead	µg/L	15	--	0.095	0.042	0.025	0.023	0.024	0.095	0.023	0.024	--	--	0.024
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	1.78	1.85	1.74	1.63	1.74	2	1.62	2.31	--	--	2.04
Selenium	µg/L	50	--	0.7	0.5	0.2	0.2	0.1	0.1	0.1	0.2	--	--	0.3
Thallium	µg/L	2	--	0.01	0.01	<0.01	<0.01	0.058	<0.01	<0.01	<0.01	--	--	<0.01
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	214	--	3.7
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	23.5	22.8	26.2	--	22.5
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	1	16.5	--	6.55
Boron	mg/L	--	0.046	0.002	0.011	0.007	0.015	0.002	0.018	0.033	0.034	0.027	--	0.039
Calcium	mg/L	--	(79.5) 62	55.1	52.8	52	60	54.4	59	56	55.9	59.8	--	52.8
Lithium	mg/L	0.04	--	0.003	0.013	0.003	0.009	0.007	0.002	0.005	<0.0002	--	--	0.005
Magnesium	mg/L	--	--	--	--	--	--	--	21.3	20.5	20.7	21.8	--	19.2
Manganese	mg/L	--	--	--	--	--	--	--	--	--	<0.0001	--	--	0.0008
Potassium	mg/L	--	--	--	--	--	--	--	0.6	0.69	0.57	0.61	--	0.58
Sodium	mg/L	--	--	--	--	--	--	--	18.9	16.6	20.6	19.3	--	15.5
Strontium	mg/L	--	--	--	--	--	--	--	0.0604	0.0601	0.58	0.061	--	0.0554
Alkalinity	mg/L	--	--	--	--	--	--	--	202	195	212	210	--	183
Bromide	mg/L	--	--	--	--	--	--	--	<0.02	0.03	0.061	<0.02	--	0.02
Chloride	mg/L	--	(29.6) 16	15	15.1	14.7	14.7	14.4	14.8	15.7	15.9	17.7	18	17.5
Fluoride	mg/L	4	0.689	0.61	0.064	0.62	0.63	0.54	0.58	0.6	0.54	0.6	0.6	0.66
TDS	mg/L	--	(412.7) 313	275	292	285	294	287	298	296	304	300	--	283
Sulfate	mg/L	--	23.6	21.2	21.1	17.4	14.9	15.9	16.5	17.6	18.8	20.1	21.1	18.7
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4
Radium-228	pCi/L	--	--	0.129	0.0598	0.213	0.14	1.71	-0.0315	0.0831	0.989	--	--	--
Radium-226	pCi/L	--	--	0.0309	0.513	0.239	0.344	0.357	0.0305	0.152	0.109	--	--	--
Radium-226/228	pCi/L	5	--	0.1599	0.5728	0.452	0.484	2.067	-0.001	0.2351	1.098	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.2	--	--	0.29
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	5.1	--	--	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	18.3	--	--	1
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.008	0.017	--	0.005
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0001	0.0001	0.0029	<0.0002	--	<0.0002

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-21S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/14/2018	2/12/2019	4/1/2019	5/21/2019	11/14/2019	2/18/2020
Field Parameters									
Elevation	ft NGVD	--	--	368.42	370.37	371.3	371.43	370.65	369.05
pH	S.U.	--	5.99 - 9.07	7.34	7.74	7.8	7.59	7.54	7.53
Specific Conductance	µmhos/cm	--	--	380	318	404	424	530	856
Turbidity	NTU	--	--	1.67	2.8	2.45	0.29	2.8	8.71
Dissolved Oxygen	mg/L	--	--	9.55	7.1	3.89	5.26	7	6.64
Temperature	°C	--	--	14.14	15.2	14.3	15.98	15.5	11.8
ORP	mV	--	--	165.5	189	21.1	-194.8	121	132.4
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	--	--	<0.02	0.03	--
Arsenic	µg/L	10	--	0.44	--	--	0.44	0.46	--
Barium	µg/L	2000	--	17.8	--	--	15.9	16.2	--
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.01	--	--	0.01	0.01	--
Chromium	µg/L	100	--	0.232	--	--	0.287	0.418	--
Cobalt	µg/L	6	--	0.06	--	--	0.02	0.03	--
Copper	µg/L	--	--	0.53	--	--	0.13	0.4	--
Lead	µg/L	15	--	0.07	--	--	0.02	<0.05	--
Mercury	µg/L	2	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	2	--	--	2	2	--
Selenium	µg/L	50	--	0.3	--	--	0.1	0.1	--
Thallium	µg/L	2	--	<0.1	--	--	<0.1	<0.1	--
Zinc	µg/L	--	--	0.8	--	--	<0.7	<0.7	--
Silica (Dissolved)	mg/L	--	--	23.2	--	--	21.3	18.8	--
Aluminum	µg/L	--	--	17	--	--	5.26	10	--
Boron	mg/L	--	0.046	0.06	<0.02	--	<0.02	<0.02	--
Calcium	mg/L	--	(79.5) 62	55	--	--	52.5	50.4	--
Lithium	mg/L	0.04	--	0.03	--	--	<0.009	0.00321	--
Magnesium	mg/L	--	--	19.6	--	--	17	17.3	--
Manganese	mg/L	--	--	0.0041	--	--	0.0009	0.002	--
Potassium	mg/L	--	--	0.88	--	--	0.55	0.3	--
Sodium	mg/L	--	--	17.1	--	--	13	15.3	--
Strontium	mg/L	--	--	0.0553	--	--	0.0506	0.0508	--
Alkalinity	mg/L	--	--	193	--	--	167	171	--
Bromide	mg/L	--	--	<0.04	--	--	<0.04	<0.04	--
Chloride	mg/L	--	(29.6) 16	17.9	17.9	17.5	16	17.4	--
Fluoride	mg/L	4	0.689	0.66	--	--	0.65	0.73	0.79
TDS	mg/L	--	(412.7) 313	278	--	--	258	241	--
Sulfate	mg/L	--	23.6	17.0	--	--	14.1	15.8	--
Sulfide	mg/L	--	--	<0.07	--	--	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.0549	--	--	0.366	0.39	--
Radium-226	pCi/L	--	--	0.0246	--	--	-0.0257	0.0413	--
Radium-226/228	pCi/L	5	--	0.0795	--	--	0.366	0.4313	--
Copper (Dissolved)	µg/L	--	--	0.13	--	--	0.27	<0.2	--
Zinc (Dissolved)	µg/L	--	--	<0.7	--	--	<0.7	0.8	--
Aluminum (Dissolved)	µg/L	--	--	2	--	--	5	<5	--
Iron (Dissolved)	mg/L	--	--	<0.003	--	--	<0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	<0.0002	--	--	<0.0002	<0.0005	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-21I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	6/6/2018	11/13/2018	5/21/2019	11/14/2019
Field Parameters																
Elevation	ft NGVD	--	--	369.3	369.19	368.77	368.43	367.68	367.8	368.03	368.24	367	369.44	368.39	371.41	370.62
pH	S.U.	--	6.63 - 8.69	7.99	7.56	7.56	7.3	7.35	7.5	8.56	7.44	7.44	7.54	7.69	7.31	7.48
Specific Conductance	µmhos/cm	--	--	548	500	488	432	397	520	361	422	399	430	402	403	526
Turbidity	NTU	--	--	0.73	0.65	1.04	0.97	2.82	2.5	1.34	1.02	3.21	1.71	1.18	0	4
Dissolved Oxygen	mg/L	--	--	0.5	1.63	1.49	1.88	1.53	0.3	0.55	0.76	0.2	0.17	0.22	0.36	0.4
Temperature	°C	--	--	16.88	17.39	16.17	16.95	13.68	15.1	16.39	17.11	15.47	15.55	14.87	16.34	15.6
ORP	mV	--	--	-9.2	-185.2	-16.7	105.2	21.1	-3	160.7	2.1	-10.3	-13.4	8.7	67.5	31
Laboratory Parameters																
Antimony	µg/L	6	--	0.02	0.02	0.02	0.02	0.02	0.03	0.05	0.03	--	0.02	<0.02	<0.02	0.05
Arsenic	µg/L	10	--	1.55	1.67	1.55	1.41	1.39	1.08	1.19	1.38	--	0.98	1.63	0.65	1.12
Barium	µg/L	2000	--	127	136	121	126	126	123	116	123	--	121	120	106	110
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.004	<0.004	--	<0.004	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.02	0.02	0.02	0.04	0.02	0.01	0.01	0.01	--		0.03	0.01	0.07
Chromium	µg/L	100	--	0.1	0.2	0.1	0.386	1.04	0.349	0.125	0.143	--	0.061	0.1	0.1	0.2
Cobalt	µg/L	6	--	0.514	0.558	0.422	0.524	0.437	0.437	0.412	0.517	--	0.398	0.685	0.275	0.664
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.07	0.09	0.11	0.51	0.77	0.3
Lead	µg/L	15	--	0.02	0.021	0.046	0.035	<0.004	0.01	0.022	0.033	--	0.026	0.181	0.02	0.08
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	4.92	5.25	4.46	4.4	4.63	4.31	4.06	4.18	--	4.69	5.13	5.01	4.85
Selenium	µg/L	50	--	<0.03	0.05	0.03	0.09	0.07	0.07	0.05	0.05	--	<0.03	<0.03	<0.03	0.1
Thallium	µg/L	2	--	0.03	0.03	0.02	0.02	0.04	0.02	0.03	0.03	--	0.03	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	--	0.6	0.9	1	11.1	1	1
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.8	18.1	19.7	17.6	17.7	16.6	15.4
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	4.55	2.56	3.39	17.2	6.03	10
Boron	mg/L	--	0.092	0.007	0.012	0.011	0.012	<0.002	0.028	0.027	0.08	0.029	0.034	0.08	<0.02	<0.02
Calcium	mg/L	--	(979.5) 73	69	64.7	65.1	68.4	59.5	66.5	62.9	60.1	63.9	66.5	61.5	62.4	56.5
Lithium	mg/L	0.04	--	<0.0002	0.019	0.004	0.006	0.005	0.007	0.008	0.004	--	0.007	<0.009	<0.009	0.00335
Magnesium	mg/L	--	--	--	--	--	--	--	20.9	20.1	18.4	20	21.2	19.3	17.5	16.8
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.428	--	0.476	0.535	0.371	0.582
Potassium	mg/L	--	--	--	--	--	--	--	0.92	1.08	1.26	0.8	0.9	1.21	0.82	0.7
Sodium	mg/L	--	--	--	--	--	--	--	16	15.4	13	15	15.5	14.7	13.3	14.4
Strontium	mg/L	--	--	--	--	--	--	--	0.0931	0.0922	0.0805	0.0889	0.096	0.0887	0.0829	0.0797
Alkalinity	mg/L	--	--	--	--	--	--	--	212	222	221	215	230	224	199	199
Bromide	mg/L	--	--	--	--	--	--	--	0.03	0.05	<0.02	0.04	0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	(79.5) 22	21.1	21.7	20.4	20	19.9	19.6	21	20.4	20.5	20.6	20.2	18.1	17.5
Fluoride	mg/L	4	0.38	0.33	0.36	0.34	0.34	0.3	0.32	0.34	0.3	0.31	0.38	0.36	0.36	0.38
TDS	mg/L	--	(412.7) 359	331	334	305	317	292	275	306	322	306	317	294	278	262
Sulfate	mg/L	--	50	46.2	47.9	43.2	40.4	41	39.6	42.4	43.6	45.7	44.6	43.4	36	35.5
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.126	0.036	0.676	0.0796	1.78	0.281	0.108	0.45	--	--	0.638	0.458	0.113
Radium-226	pCi/L	--	--	0.223	1.37	0.305	0.576	0.953	0.601	0.483	0.775	--	--	0.315	0.284	0.579
Radium-226/228	pCi/L	5	--	0.349	1.406	0.981	0.6556	2.733	0.882	0.591	1.225	--	--	0.953	0.742	0.692
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.09	--	0.11	0.23	0.21	<0.2
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.7	--	1	1	<0.7	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	<0.8	<1	4	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.019	<0.0004	0.078	0.062	0.024	0.028	<0.003	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.37	0.427	0.425	0.441	0.427	0.441	0.346	0.315

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-21D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	1/3-11/18	6/6/2018	11/13/2018	5/22/2019	11/14/2019
Field Parameters																	
Elevation	ft NGVD	--	--	369.44	369.34	368.92	368.59	367.86	368.07	367.86	368.42	367.17	366.66	369.58	368.38	371.4	370.64
pH	S.U.	--	6.71 - 8.73	8.14	7.76	7.69	7.47	7.19	7.6	7.44	8.48	7.48	7.03	7.65	7.66	7.47	7.41
Specific Conductance	µmhos/cm	--	--	591	544	478	585	441	60	493	531	449	564	470	451	511	670
Turbidity	NTU	--	--	2.82	0.48	1.93	0.33	3.09	1.9	1.42	0.55	1.01	1.11	2.43	1.87	0.87	11
Dissolved Oxygen	mg/L	--	--	0.53	0.17	0.49	0	1.82	0.2	0.22	0.47	0.31	18.7	0.18	0.33	1.88	0
Temperature	°C	--	--	15.24	16.81	15.93	15.25	12.99	15	16.7	17.58	16.26	14.93	15.45	14.15	15.44	16.2
ORP	mV	--	--	80.4	26.3	78.1	51.1	141.4	51	40	168.3	21.3	170.4	25.1	23.2	37.3	56
Laboratory Parameters																	
Antimony	µg/L	6	--	0.08	0.08	0.06	0.06	0.07	0.07	0.08	0.12	--	--	0.11	0.07	0.08	0.19
Arsenic	µg/L	10	--	1.07	1.06	0.95	0.86	0.99	0.92	0.97	1.04	--	--	0.84	0.89	1.04	1.08
Barium	µg/L	2000	--	241	240	226	206	220	220	216	226	--	--	218	201	202	203
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.004	<0.004	--	--	0.005	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.02	0.03	0.02	0.03	0.02	0.02	0.04	0.02	--	--	0.13	0.02	0.03	0.16
Chromium	µg/L	100	--	0.2	0.3	0.1	0.05	0.124	0.433	0.165	0.11	--	--	0.091	0.06	<0.04	0.759
Cobalt	µg/L	6	--	0.216	0.21	0.195	0.171	0.202	0.182	0.208	0.203	--	--	0.196	0.224	0.234	0.397
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.11	2.7	--	1.16	0.16	0.16	1.02
Lead	µg/L	15	--	0.107	0.075	0.066	0.056	0.091	0.092	0.118	0.089	--	--	0.229	0.1	0.09	0.776
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	6.31	6.66	6.13	5.33	6.09	5.68	5.07	5.29	--	--	5.17	4.76	5.37	5.29
Selenium	µg/L	50	--	0.2	0.2	0.3	0.3	0.2	0.5	0.6	0.5	--	--	0.2	0.05	0.04	0.08
Thallium	µg/L	2	--	0.03	0.02	0.03	0.02	0.04	0.02	0.02	0.03	--	--	0.03	<0.1	<0.1	0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	187	--	6.5	1	1	4
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.5	17.6	19.6	--	17.6	17	16.9	16
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	6.79	14.1	--	17.2	9.86	5	65.5
Boron	mg/L	--	0.071	0.022	0.015	0.015	0.013	0.004	0.024	0.107	0.015	0.092	0.088	0.03	0.04	<0.02	<0.02
Calcium	mg/L	--	(79.5) 83	74.2	60.6	70.4	74.7	67.3	76.2	71.5	70.9	67.8	--	70.7	62.1	69.3	69.4
Lithium	mg/L	0.04	--	0.002	0.025	0.005	0.007	0.009	0.005	0.013	0.0005	--	--	0.006	0.01	<0.009	0.0044
Magnesium	mg/L	--	--	--	--	--	--	--	25	24.3	23.9	22.7	--	23.6	21.3	23.1	22.3
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.592	--	--	0.596	0.634	0.717	0.803
Potassium	mg/L	--	--	--	--	--	--	--	2.11	2.41	2.44	3.91	--	1.97	3.95	2.81	3.49
Sodium	mg/L	--	--	--	--	--	--	--	18.1	17.2	19.7	20.8	--	15.7	17.7	15.1	17.2
Strontium	mg/L	--	--	--	--	--	--	--	0.144	0.142	0.144	0.168	--	0.147	0.191	0.189	0.21
Alkalinity	mg/L	--	--	--	--	--	--	--	247	271	277	262	--	268	268	286	266
Bromide	mg/L	--	--	--	--	--	--	--	<0.05	0.08	0.07	<0.05	--	0.05	0.05	0.04	0.05
Chloride	mg/L	--	(29.6) 20	19.2	19.6	18.9	19.1	19.4	18.9	19.9	19.5	18.5	--	19.9	18.8	19.1	19.2
Fluoride	mg/L	4	0.407	0.36	0.38	0.36	0.33	0.36	0.33	0.35	0.3	0.32	--	0.4	0.34	0.36	0.32
TDS	mg/L	--	(412.7) 365	328	299	315	346	332	304	339	332	339	--	347	314	348	323
Sulfate	mg/L	--	43.22	39.2	41	35.5	32	34.4	35.1	37.1	36.5	37.4	--	38.4	35.2	36.8	38.6
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2
Radium-228	pCi/L	--	--	0.441	0.77	0.604	0.688	0.722	0.518	0.0415	0.501	--	--	--	1.47	0.59	0.525
Radium-226	pCi/L	--	--	0.126	0.658	0.23	0.39	0.422	0.42	0.408	0.355	--	--	--	0.469	0.669	0.403
Radium-226/228	pCi/L	5	--	0.567	1.428	0.834	1.078	1.144	0.938	0.4495	0.856	--	--	--	1.939	1.259	0.928
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.39	--	--	0.08	1.33	0.85	<0.2
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.4	--	--	0.7	3	3	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.16	--	--	2	1	2	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.053	0.016	--	<0.002	0.007	0.005	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.616	0.625	0.62	0.646	--	0.567	0.657	0.684	0.611

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Notes:

Data tabulated by AEP

GWPS - Groundwater Protection Standard

MCL - USEPA Maximum Contaminant Levels

RSL - USEPA Generic Tables for Residential Tapwater, May 2018, TR=1E-06, THQ=1.0

Field Parameter Units

ft NGVD - Feet, National Geodetic Vertical Datum of 1929 (also known as mean sea level (MSL))

°C - degrees Celcius

S.U. - Standard Units

µmhos/cm - micromhos per centimeter

mg/L - milligrams per liter

ORP - milliVolts (mV)

NTU - Nephelometric Turbidity Units

Laboratory Parameter Units

pCi/L picoCuries per Liter

Table A-2
Summary of Leachate Pond Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Source: American Electric Power

Parameter	Unit	Combined North/West Leachate Pond			North Leachate Pond					West Leachate Pond
		7/13/2016	7/19/2016	1/24/2017	7/13/2016	7/19/2016	9/14/2016	1/24/2017	9/29/2017	9/29/2017
Boron	mg/L	1.19	2.17	2.77	0.634	0.684	0.818	2.07	2.7	11.44
Calcium	mg/L	22.8	41.3	149	19.9	22.5	21.8	80.8	-	-
Chloride	mg/L	38.5	63.7	191	17.3	19.7	9.31	18.4	-	-
Fluoride	mg/L	0.27	0.41	0.32	0.25	0.2	0.57	0.23	-	-
Total Dissolved Solids	mg/L	918	1870	1870	332	434	310	656	-	-
Sulfate	mg/L	617	1180	1020	168	254	97.6	365	-	-
pH	SU	-	-	-	-	-	-	-	-	-

Notes:

mg/L: milligrams per liter

SU: standard unit

-: Not sampled

Laboratory data reports incorrectly identified Combined North/West Leachate Pond as North/South Leachate Pond. There is no South Leachate Pond.

Prepared by: kdr 6/1/2020

Checked by: tmr 6/1/2020

Table A-3
Summary of Isotope Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Sample Identifier	B (mg/L)	$\delta^{11}\text{B}$	Sr (mg/L)	$^{87}\text{Sr}/^{86}\text{Sr}$
Landfill Leachate Pond North	2.7	-0.93	1.80	0.711955
Landfill Leachate Pond West	11.4	-1.64	2.86	0.711919
MW-17I	0.058	26.86	0.093	0.710547
MW-8I	0.037	23.51	0.140	0.709697
MW-8S	0.020	16.33	0.048	0.709272
MW-11S	0.060	24.01	0.052	0.709447
MW-14S	0.017	17.78	0.094	0.710566
MW-15I	0.042	35.32	0.082	0.710333
MW-21S	0.016	20.66	0.055	0.710142

Note: monitoring well boron concentrations are averages of first eight rounds of sampling.



wood.

Appendix B
Full Size Geochemical Exhibits

Exhibit 3-4. Boron to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.

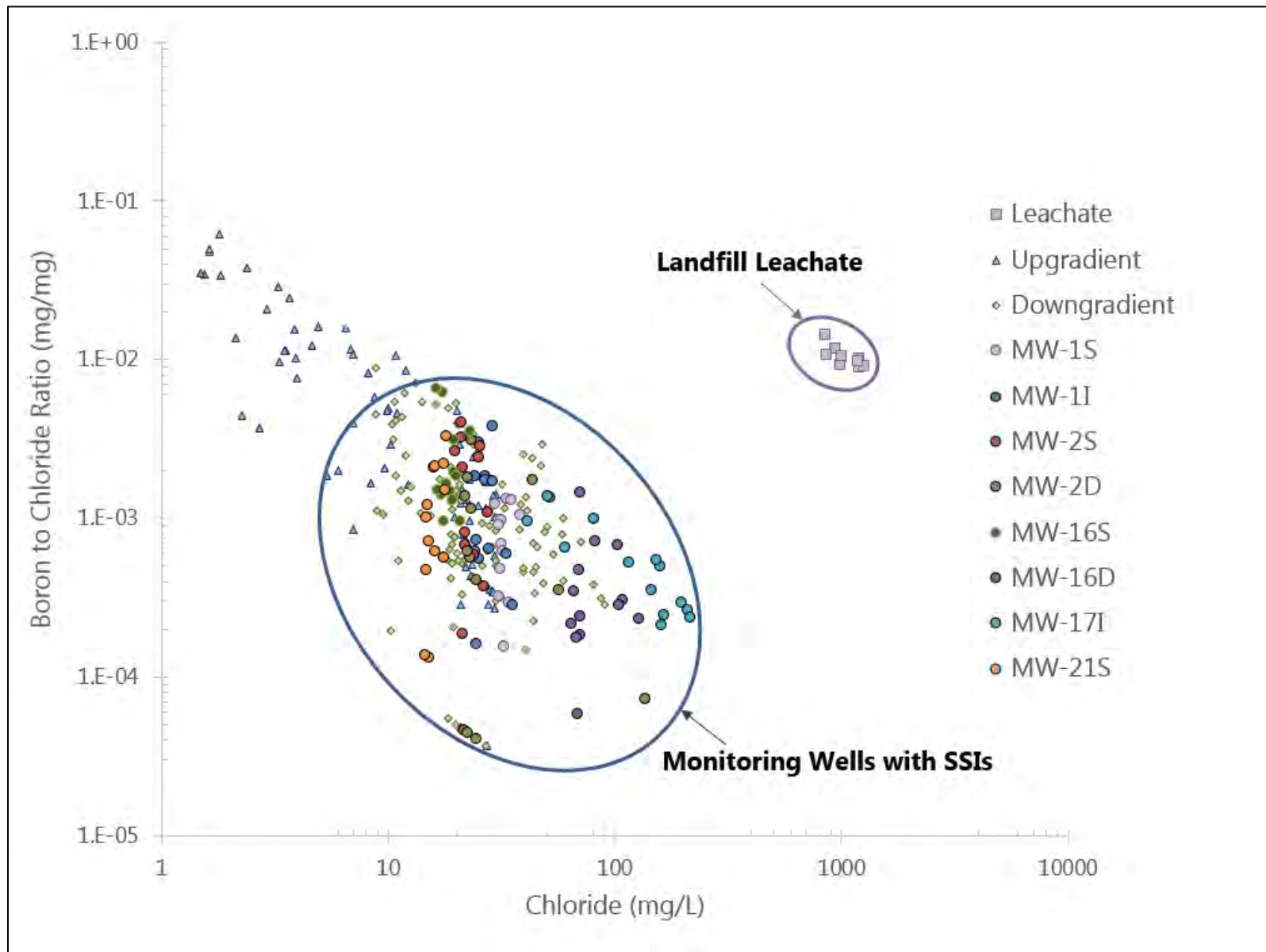


Exhibit 3-5. Sulfate to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.

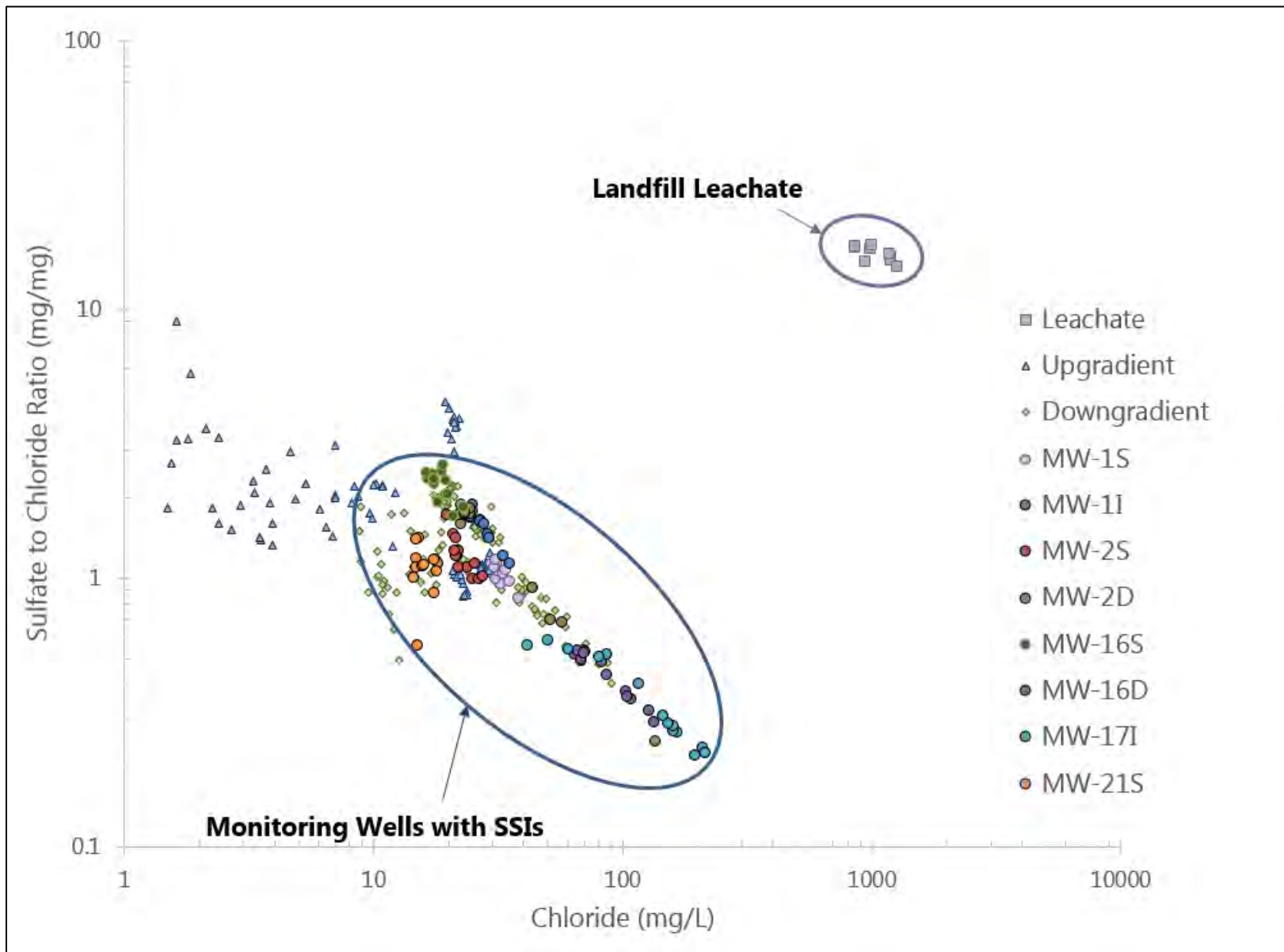


Exhibit 3-6. Piper diagram of major ion water quality for CCR Landfill monitoring wells with SSIs and leachate for comparison.

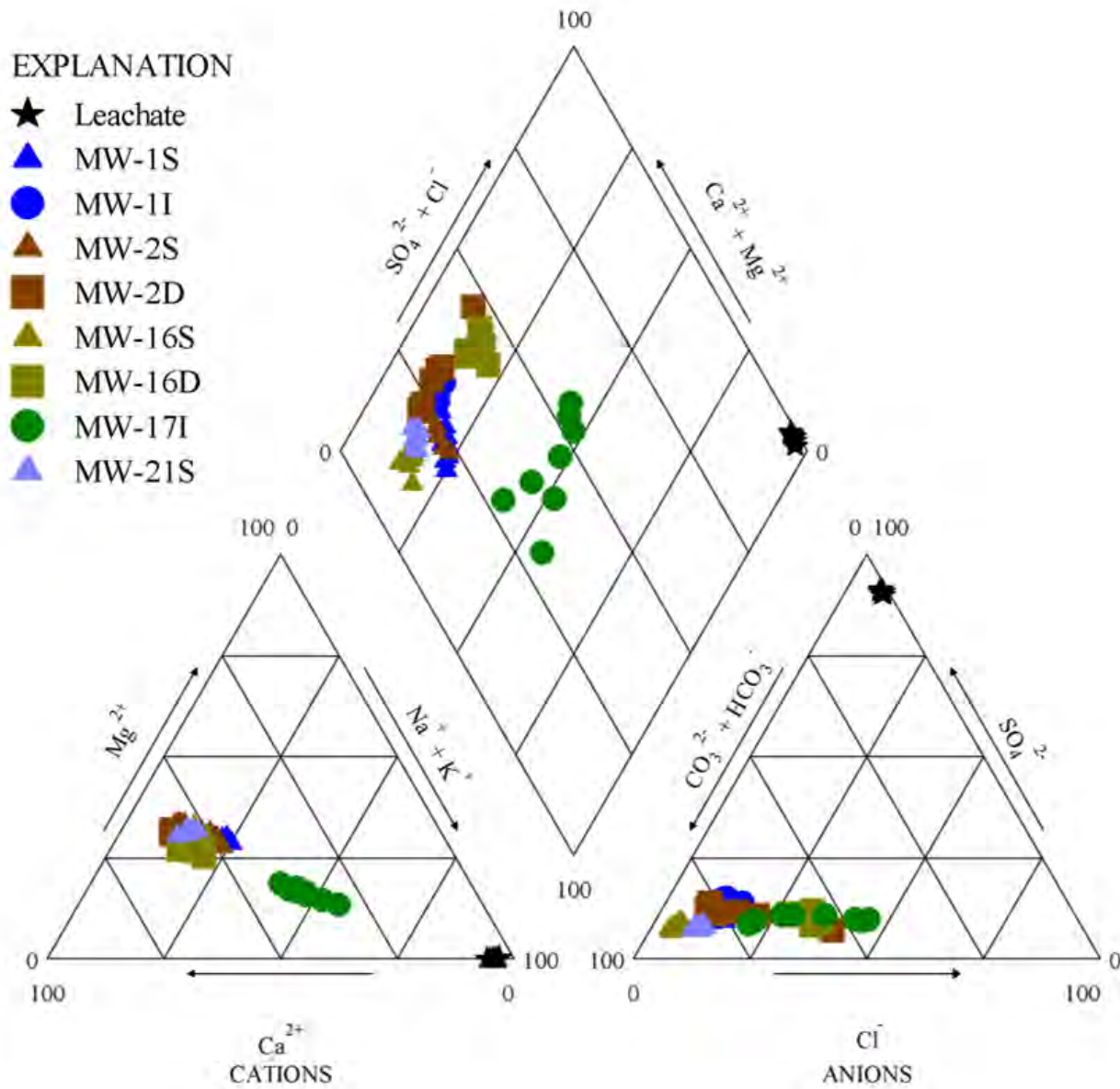


Exhibit 3-7. Boron isotope ratio ($\delta^{11}\text{B}$) versus boron concentration for CCR Landfill leachate and monitoring wells for comparison.

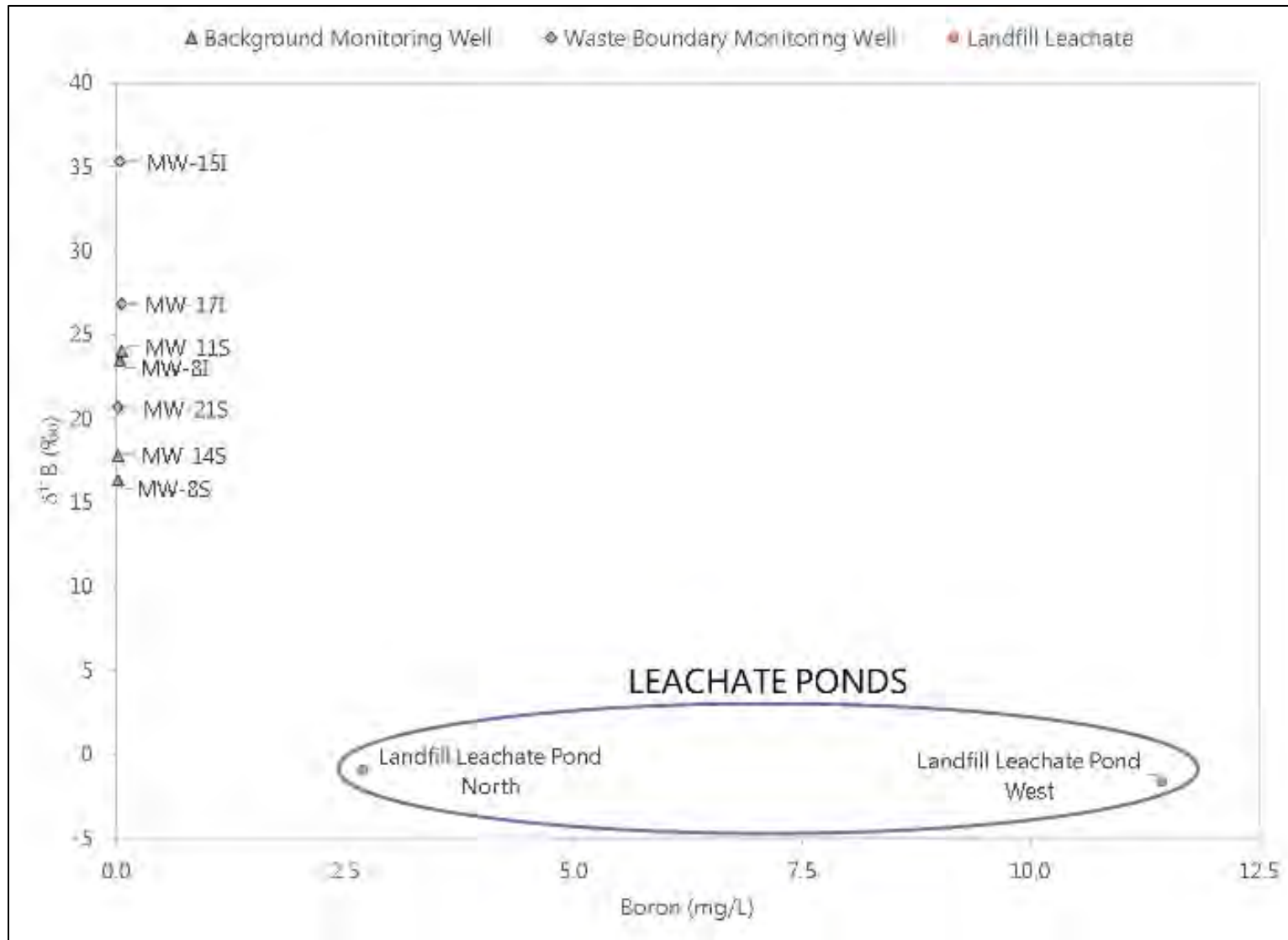
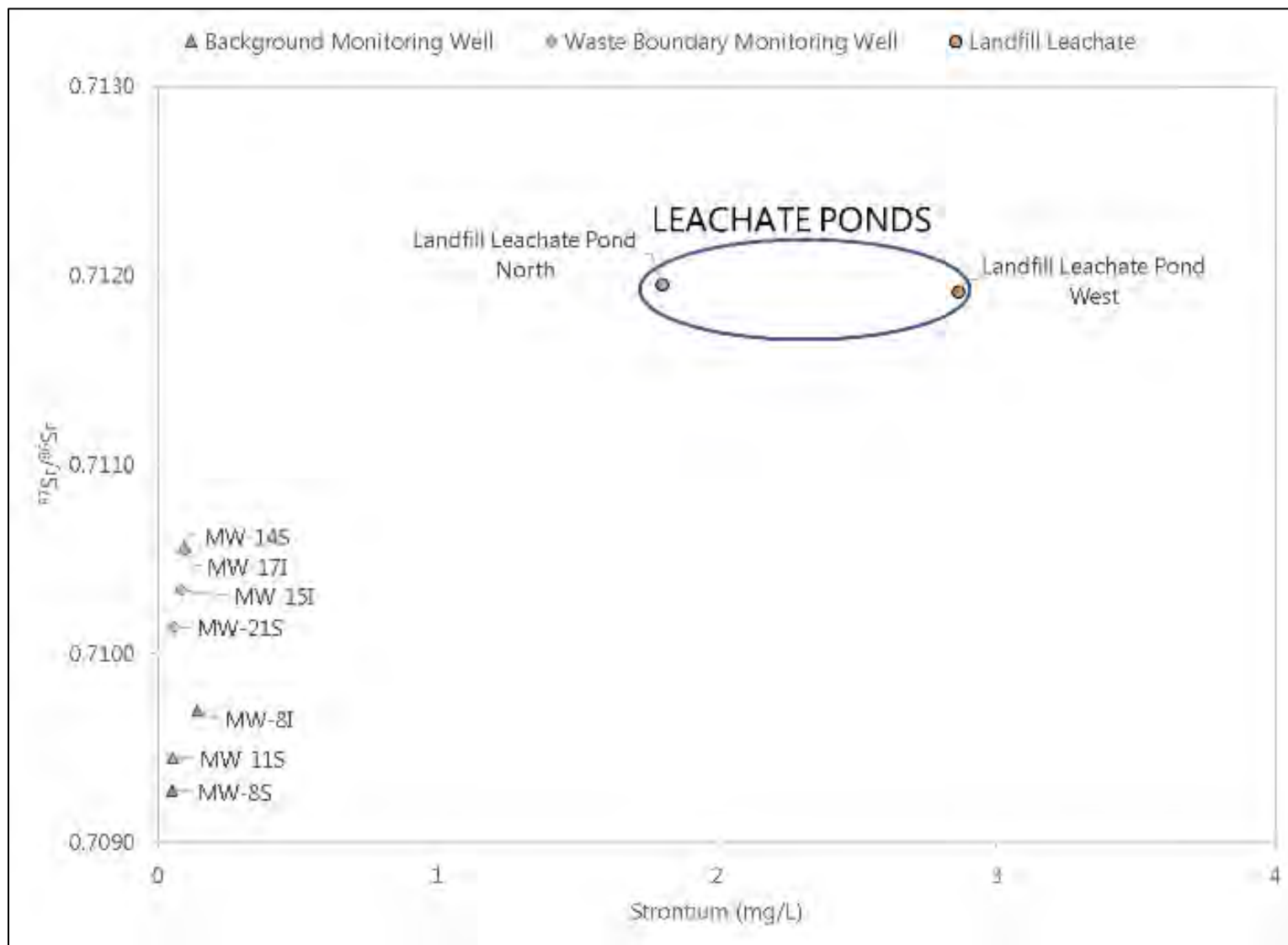


Exhibit 3-8. Strontium isotope ratio ($^{87}\text{Sr}/^{86}\text{Sr}$) versus strontium concentration for CCR Landfill leachate and monitoring wells for comparison.





Alternative Source Demonstration for Appendix III Constituents, CCR Landfill

American Electric Power Service Corporation
Rockport Generating Station, Rockport, Spencer County, Indiana
Project # 7650202784

Prepared for:

American Electric Power Service Corporation

1 Riverside Plaza, Columbus, Ohio 43215

30 October 2020



30 October 2020

Mr. David Miller
Director, Land Environment & Remediation Services
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215
Email: damiller@aep.com

Wood Environment & Infrastructure Solutions, Inc.
2456 Fortune Drive, Suite 100
Lexington, KY 40509
USA
T: 859-255-3308
www.woodplc.com

Dear Mr. Miller:

Wood Environment & Infrastructure Solutions, Inc. (Wood) has prepared this Alternative Source Demonstration (ASD) for the CCR Landfill located at the AEP Rockport Plant in Rockport, Indiana. As detailed in this report, the results of this ASD conclude that statistically significant increases (SSIs) identified in samples from the waste boundary monitoring wells are not caused by releases from the CCR Landfill. We are available to discuss the details of this report at your convenience should you require additional information.

We very much appreciate working with AEP on this project. If you require additional information about this report, please feel free to contact Kathleen Regan at (859) 566-3724.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Konrad W. Quast, PhD
Senior Hydrogeologist

Kathleen D. Regan, PE
Senior Associate Engineer
Project Manager

Attachments

/kdr

cc: Justin Jent, PE, American Electric Power Service Corporation



Alternative Source Demonstration for Appendix III Constituents, CCR Landfill

American Electric Power Service Corporation
Rockport Generating Station, Rockport, Spencer County, Indiana
Project # 7650202784

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30 October 2020

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Executive Summary

American Electric Power (AEP) operates two units at the Rockport Plant for management of coal combustion residuals (CCR): the bottom ash ponds (BAP), and the CCR Landfill. Both are regulated under the federal CCR Rule (40 CFR Part 257) that became effective in October 2015 and modified in July 2018.

The CCR Landfill has been in the detection phase of groundwater monitoring as part of its compliance with the rule. The most recent statistical analysis of Appendix III constituents identified seven statistically significant increases (SSIs) above background, distributed among four waste boundary monitoring wells. Three waste boundary monitoring wells exhibited SSIs for chloride (MW-2D, MW-16S, and MW-16D). Two of the three wells with a reported SSI for chloride, MW-2D and MW-16D, also exhibited a SSI for total dissolved solids (TDS). Monitoring well MW-16D was also reported to have a third SSI for calcium. The remaining SSI was observed for fluoride in monitoring well MW-21S, which did not exhibit any other SSI.

This alternative source demonstration (ASD) evaluates the occurrence of SSIs in terms of site geochemistry, hydrogeologic setting, and with respect to supplementary data collected to support the evaluation. Based on the analysis presented in this ASD, CCR Landfill leachate can be excluded as a source of Appendix III SSLs for the following reasons:

- Boron occurs naturally at low concentration in site groundwater, in similar concentrations in background and downgradient wells. Boron occurs at concentrations approximately three orders-of-magnitude greater in the Landfill leachate as compared to site groundwater, and is a conservative ion, making it an excellent indicator for impacts from landfill leachate in groundwater. If landfill leachate were impacting groundwater, boron would be expected to be observed in multiple waste boundary wells and at statistically significant concentrations above background. It does not.
- Sulfate is another typical indicator for CCR leachate impacts, which also occurs naturally in site groundwater (at similar concentration ranges in background and downgradient wells) and is elevated in the CCR Landfill leachate at concentrations approximately three orders-of-magnitude above background monitoring wells. No SSIs for sulfate were determined in any of the waste boundary well samples.
- Chloride is a naturally occurring and conservative ion, which occurs in the CCR Landfill leachate at concentrations about two orders-of-magnitude above groundwater concentrations. Spatial trends indicate that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas. However, because the SSIs indicated for chloride are not associated with SSIs for boron and sulfate, the CCR Landfill leachate is not considered a source for the chloride detected in groundwater.
- The same conclusion can be drawn regarding calcium, total dissolved solids (TDS) and fluoride, for which occasional SSIs are not consistently associated with boron, sulfate, or each other. The SSIs indicated for these constituents appear to be related to the natural variation in groundwater quality, along with a spatial trend of increasing TDS with distance from recharge area.
- The conclusions listed above are also supported by the analytical results for isotope ratios of boron and strontium in leachate and groundwater samples from a previous sampling event. While only a single set of samples to date have been collected, the indication in downgradient wells, including wells that have shown SSIs, is that the leachate is distinctly different from that of background and downgradient groundwater, and supports no release from the landfill to groundwater.



1.0 Objective

American Electric Power (AEP) operates a CCR Landfill that is used for the management of coal combustion residuals (CCR). The landfill is regulated under the federal CCR Rule (40 CFR Part 257) that became effective in October 2015. During the initial phase of groundwater monitoring (detection monitoring), the CCR Rule requires the owners or operators of regulated units to collect at least eight independent samples from at least one background location and at least three waste boundary wells, analyzed for constituents listed in Appendix III and Appendix IV of the CCR rule. That sampling was completed in July 2017.

Four rounds of detection monitoring have been conducted at the landfill. Each round consists of an initial sampling event, followed by one or two rounds of verification samples based on the results of the initial events. Following completion of the verification sampling for each event, a statistical analysis is conducted to assess whether statistically significant increases (SSIs) above background are detected in the waste boundary monitoring wells for Appendix III constituents. For each semiannual sampling round where SSIs are detected, an alternate source demonstration (ASD) has been performed to assess whether these SSIs were the result of a release of leachate from the CCR landfill.

Previous ASDs performed by Geosyntec and Wood Environment & Infrastructure Solutions, Inc. (Wood) have indicated that the source of previously-identified SSIs result from natural variation in groundwater quality or potential impacts from historical oil and gas operations. The most recent ASD was completed by Wood in December 2019 for the detection monitoring event of November 2018, with verification samples taken in February and April 2019.

The first semiannual detection monitoring samples for 2020 were taken in May 2020, with verification samples taken in July 2020. Again, a statistical evaluation of monitoring results identified SSIs for several Appendix III constituents. The objective of this ASD is to review these results, and to assess whether the findings of the previous ASDs remain valid; that is, that the SSIs detected in the waste boundary wells, from detection monitoring samples collected in May 2020 and verified in July 2020 samples, are not the result of a release from the landfill.

1.1 Scope

As stated in 40 CFR 257.94(e)(2), the CCR Rule allows 90 days after the initial identification of Appendix III SSIs for the owner or operator to demonstrate that a source other than the regulated unit is responsible for identified SSIs. The regulations allow the ASD to address a number of potential causes of SSIs other than a release from the regulated unit, including error[s] in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

The scope of this ASD is focused on evaluating the first 2020 semiannual detection monitoring results (including verification samples) and assessing whether the data are consistent with the assessment conducted in the most recent ASD report (Wood, June 2020). The ASD will be undertaken to assess, through multiple lines of evidence, whether an alternative source for the SSIs can be supported, following the guidelines published in October 2017 by the Electric Research Power Institute (EPRI, Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites). This report does not include evaluations of potential errors in sampling and analysis, or the statistical approaches which were used to identify the SSIs.

1.2 Approach

The ASD presented in this document is based on a geochemical and hydrologic evaluation of groundwater quality at the CCR Landfill. The purpose of this ASD is to evaluate the identified SSIs within

the larger geochemical context of the CCR Landfill groundwater flow system, in order to assess the likelihood that these SSIs are the result of releases from the CCR Landfill. In addition to the groundwater analytical data collected for compliance with the CCR rule, used to support the statistical evaluation, Wood relied on supplemental analytical data, including analyses of the CCR Landfill leachate and monitoring well groundwater analyses of the isotopes of boron and strontium.

1.3 Report Organization

This ASD has been prepared following the *Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites* (EPRI, 2017) to the extent applicable. **Section 2** presents a summary the CCR Landfill setting, and a summary of the results from the statistical evaluation of the Appendix III detection monitoring parameters. **Section 3** presents the primary and secondary lines of evidence developed from a geochemical evaluation of the site. **Section 4** presents the technical findings of the ASD and includes certification by an Indiana-licensed Professional Engineer (PE). References are included in **Section 4**.

2.0 Background

2.1 Site Description

The Rockport Power Plant is located in southwest Indiana in Spencer County, on property extending into three Townships: Ohio, Hammond and Grass. Two CCR-regulated units are located on the property, two adjacent bottom ash ponds (BAP) and the CCR Landfill. The general layout of the property and the locations of the CCR units are shown on **Figure 1**. The CCR Landfill, or Landfill, is located about 8,000 feet (1.5 miles) northeast of the generating plant. **Figure 2** shows the general layout of the CCR Landfill and the monitoring well locations.

2.1.1 Landfill Operation

The CCR Landfill is an active disposal unit that primarily contains fly ash, with materials generated by the emission control systems added beginning in 2007. These materials include sodium sulfate generated by the removal of sulfur dioxide by the dry sorbent injection (DSI) system, and granular brominated activated carbon used for mercury removal. To a lesser extent, some bottom ash has also been placed within the CCR Landfill. As shown on **Figure 2**, the active portion of the CCR Landfill directly adjoins a closed portion of the landfill to the northeast.

The CCR Landfill is currently permitted by the Indiana Department of Environmental Management (IDEM) Office of Land Quality, Solid Waste Permits Section, as a Restricted Waste Site (RWS) under Indiana Administrative Code (IAC) 329 Title 10 (Solid Waste CCR Landfill Disposal Facilities) Rule 9-4. The active CCR Landfill is permitted as a RWS Type I, which requires a liner and leachate collection system. The permit was most recently renewed on 10 February 2015.

Leachate from the CCR Landfill cells is collected in lined ponds located north and west of the active CCR Landfill area. These ponds also collect storm water runoff from the CCR Landfill area. Prior to discharge, the leachate commingled with runoff is transferred to the Leachate Treatment Pond (north of the West Leachate Pond). Effluent from the Leachate Treatment Pond is discharged and monitored under National Pollution Discharge Elimination System (NPDES) Permit No. IN0051845 at Station 002.

2.1.2 Groundwater Flow

The principal groundwater flow zone underlying the CCR Landfill consists of the saturated section of the unconsolidated glaciofluvial sand and sand and gravel valley train sediments that fill the Ohio River valley in this area. The depth to water in this zone typically ranges from 20 to 35 feet (ft) below ground surface (BGS), and the saturated thickness (which generally increases to the southeast) ranges from less than 15 ft to more than 80 ft. A generalized cross-section is presented in **Figure 3**.

Groundwater primarily occurs under unconfined conditions, or semi-confined conditions where the saturated zone is directly overlain by surficial silt and clay. Piezometric data collected from clustered monitoring wells indicate that vertical gradients within the saturated zone are minor, and groundwater flow is primarily horizontal. Groundwater flows into the plant and landfill area from the north, northwest and west, continues flowing under the property generally to the south and east, towards Honey Creek and/or the Ohio River. A potentiometric surface map from 19 May 2020 is presented on **Figure 4**.

2.1.3 Existing Groundwater Monitoring System

In 2015, when the CCR Rule took effect, a monitoring well network was already present at the CCR Landfill for groundwater monitoring under IDEM permit. While the valley train sediments are considered a single well-connected aquifer system, the saturated thickness of the sediments allowed for wells at the CCR Landfill to be installed in clusters, to monitor up to three levels (shallow – “S”, intermediate – “I”, and deep – “D”) within the principal flow zone. However, the valley train sediments that make up the flow zone thin to the north, leaving less saturated overburden upgradient of the CCR Landfill. As a result, only one or two levels could be monitored in some locations.

The official CCR groundwater monitoring network for the CCR Landfill includes five background or cross-gradient wells (MW-6S, MW-8S/I, MW-11S and MW-14S) and 16 waste boundary wells (MW-1S/I/D, MW-2S/I/D, MW-15S/I, MW-16S/I/D, MW-17S/I and MW-21S/I/D). At most locations, the saturated overburden was thick enough to allow installation of screens at three different levels, with the deepest wells being completed just above bedrock at depths of 88 to 100 ft BGS. Two clusters, MW-15 and MW-17, are located just east of the CCR Landfill in an area of relatively shallow bedrock. Therefore, the deeper wells at these locations (designated “I”) have completed depths just above bedrock at 66 to 67 ft BGS. A comprehensive summary of analytical data for the groundwater monitoring network since June 2016 is presented on **Table A-1** in **Appendix A**.

2.2 Summary of Previous SSIs and ASDs

Eight baseline monitoring events and one initial detection monitoring event for the CCR Landfill were completed prior to 17 October 2017. On behalf of AEP, Geosyntec submitted these results to Groundwater Stats Consulting, LLC for statistical analysis. Oversight on the use of statistical calculations was provided by Dr. Kirk Cameron of MacStat Consulting, Ltd. According to the report (*Statistical Analysis Summary, Landfill*, Geosyntec 2018), the initial eight rounds of baseline data were used to calculate the upper prediction limits (UPLs) for each of the Appendix III constituents to represent background values. Results from each detection monitoring event conducted to date have been compared to the UPLs established from the eight baseline rounds in order to identify SSIs compared to background.

Following completion of the first detection monitoring event, the initial statistical evaluation identified 11 SSIs for calcium (2), chloride (7), fluoride (1) and TDS (3). On 4 January 2019, Geosyntec prepared an ASD focusing on statistical methods. Geosyntec evaluated the new data and based on multiple lines of evidence, revised the statistical approach for some monitoring wells. Initially, the statistical evaluation included a mixture of interwell (between wells) and intrawell (within one well) techniques. The interwell analysis compares data from waste boundary wells against a background data set composed of results

from upgradient and cross-gradient well data. The intrawell approach compares each waste boundary well against a background composed of its own historical data and is used to detect statistically significant increases within samples from an individual well over time (Horsey, HR et. al., 2001). Spatial and temporal variability observed in samples from the background monitoring wells caused Geosyntec to select an intrawell approach for all Appendix III constituents in all waste boundary monitoring wells.

After using an intrawell approach, the number of SSIs was reduced to eight, distributed among seven waste boundary wells. In January 2019 Geosyntec published an ASD to document changes to the statistical methodologies and attributed the observed SSIs to impacts from historic oil and gas operations. Since the statistical methods were revised, results from all subsequent detection monitoring events have been analyzed following the same approach. A summary of the SSIs identified in each of the four detection monitoring events is presented below, in **Exhibit 2-1**.

Exhibit 2-1. Monitoring Wells and Appendix III Parameters with SSIs

Parameter	MW-1S	MW-1I	MW-2S	MW-2D	MW-16S	MW-16D	MW-17I	MW-21S
Calcium				◆		◆ ★		
Chloride	◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆ ◆ ◆ ★	★	◆ ◆ ◆ ◆ ◆ ★		◆
Fluoride							◆ ◆ ◆	◆ ★
TDS	◆			◆ ★	◆	◆ ◆ ◆ ◆ ◆ ★		

- ◆ June 2018, after verification
- ◆ November 2018, after verification
- ◆ May 2019, after verification
- ◆ November 2019, after verification
- ★ May 2020, after verification

As shown in **Exhibit 2-1**, all SSIs identified in the first round of 2020 were also identified in previous semi-annual sampling events, with one exception (MW-16S). A new SSI for chloride was identified in the first round of 2020 for monitoring well MW-16S, which previously had not been identified.

Wood has reviewed its June 2020 ASD with respect to the statistical evaluation of the new semiannual sampling event. The evaluation presented in the June 2020 ASD report is still valid, even in light of the new SSI identified for chloride in monitoring well MW-16S. Wood has updated the geochemical analysis that forms the basis of the ASD and has included updated graphics to support the findings in this current ASD report.

3.0 Alternative Source Demonstration

The ASD presented below relies on multiple lines of evidence that the SSIs identified in the statistical analysis are not caused by releases of landfill leachate into the groundwater flow system. When taken as a whole, these lines of evidence present a compelling case that the SSIs are not a result of a release from the landfill, but a result of natural variation in groundwater quality, a result of historical oil and gas operations, or from storm water ponds. This ASD follows the approach of Wood's June 2020 report, updated with data collected for the first semiannual sampling event for 2020.

In order to evaluate the potential of a release from the CCR Landfill to groundwater, Wood evaluated groundwater quality data, including isotopes, in the context of the geochemical characteristics of CCR Landfill leachate. The results of this evaluation support that CCR Landfill leachate at the Rockport site can

be ruled out as a source of the SSIs identified in waste boundary monitoring wells, through primary and supporting lines of evidence, each of which are described in more detail within this section.

Primary lines of evidence focus on the relationship between source material that could be released into the subsurface (in this case, landfill leachate) and the type and distribution of SSIs identified in groundwater. The lines of evidence supporting the conclusion of this ASD can be summarized as follows:

- SSIs are not identified for the site-specific primary indicator constituents of the Rockport CCR Landfill leachate.
- Geochemical evaluations of the CCR Landfill support that leachate has not affected water quality.
 - Conservative ion ratios and major ion chemistry do not indicate a release from the CCR Landfill.
 - Isotopes of boron and strontium do not indicate a release from the CCR Landfill.

Each of these lines of evidence are described in detail below.

3.1 SSIs Are Not Identified for Primary Indicator Constituents

The primary indicators for CCR leachate typically have much higher concentrations in leachate than in natural groundwater. They are mobile and relatively non-reactive in groundwater, so that groundwater impacted by a CCR leachate release should have elevated concentrations of the indicator constituents relative to background and with relatively similar contributions. The elevated concentrations would be expected to result in SSIs identified by statistical evaluation of the data from the downgradient waste boundary wells, and the SSIs would be expected to be generally consistent between downgradient wells. The primary lines of evidence presented below compare the occurrence of SSIs in groundwater to the composition of landfill leachate.

3.1.1 Site-Specific Leachate Analysis for Primary Indicator Constituents

The composition of landfill leachate is governed by the types of materials placed in the unit and identifying the leachate’s primary constituents is key to assessing a potential release to groundwater. Since all Appendix III constituents are naturally occurring, the best indicators of CCR impacts are those constituents that are found at concentrations much higher in the source material than are seen in natural groundwater. AEP conducted sampling of its leachate collection system to identify relative concentrations of Appendix III and IV constituents in the Rockport CCR Landfill leachate.

The leachate collection system for the Landfill discharges into the North and West Leachate Collection Ponds, shown on **Figure 2**, discharge to the Leachate Treatment Pond, directly north of the West Leachate Pond. Five samples were collected from both the West and North Leachate Collection Ponds between 31 October 2018 and 20 March 2019 and results are detailed on **Table A-2** in **Appendix A**. A summary of the range of Appendix III constituent results for leachate pond samples, compared to background and waste boundary well samples, is provided below in **Exhibit 3-1**.

Exhibit 3-1. Summary of Landfill Leachate Pond and Groundwater Concentrations for Appendix III Constituents

Parameter, Units in mg/L	Range for Leachate Ponds		Range for Upgradient (Background) Wells		Range for Downgradient Waste Boundary Wells	
	Min	Max	Min	Max	Min	Max
Boron	9.18	12.3	<0.002	0.115	<0.002	0.139
Calcium	166	368	35.6	79.5	28.7	114
Chloride	847	1,250	1.54	30.0	8.78	214

Exhibit 3-1. Summary of Landfill Leachate Pond and Groundwater Concentrations for Appendix III Constituents

Parameter, Units in mg/L	Range for Leachate Ponds		Range for Upgradient (Background) Wells		Range for Downgradient Waste Boundary Wells	
	Min	Max	Min	Max	Min	Max
Fluoride	<1.50	<1.50	0.25	1.02	0.064	1.08
Total Dissolved Solids (TDS)	22,100	30,900	179	411	196	620
Sulfate	14,100	19,000	1.6	87.1	6.2	54.7

Because the CCR Landfill leachate ponds also receive some storm water runoff, concentrations in at least some of these samples are likely to be diluted compared to concentrated leachate from landfilled materials (depending on the amount of recent rainfall). Nevertheless, pond samples serve as reliable indicators of the relative composition of leachate. As seen in **Exhibit 3-1**, boron and sulfate occur at concentrations as much as three orders-of-magnitude above background groundwater levels. Results for chloride and TDS are as much as two orders-of-magnitude above background concentrations. Calcium and fluoride concentrations are within the same orders-of-magnitude as those detected in background groundwater. These results indicate that boron and sulfate are the best indicator constituents of CCR impacts, followed by TDS and chloride, based on their elevated occurrence in landfill leachate compared to natural groundwater.

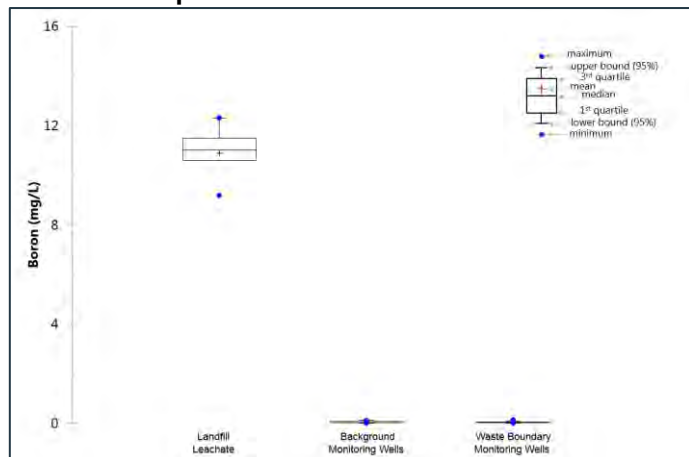
3.1.2 Occurrence of Primary indicator Constituents in Waste Boundary Monitoring Well Samples

Four primary indicator constituents are identified for the Rockport CCR Landfill leachate: boron, sulfate, TDS and chloride. Six SSIs have been identified for chloride, one for TDS and one for fluoride. However, no SSIs were identified in waste boundary wells for either boron or sulfate. Given the predominance of boron and sulfate in the CCR Landfill leachate, and that neither of these constituents are elevated above background, it is concluded that Landfill leachate is not the source of the observed SSIs. This assumption is supported by a more in-depth review of the indicator constituents, presented below.

Boron

No SSIs have been identified for boron. Boron has been identified in background wells at concentrations ranging from <0.002 to 0.115 mg/L. Concentrations in waste boundary well samples range from <0.002 to 0.139 mg/L. Landfill leachate boron concentrations are much higher and range from 9.18 to 12.3 mg/L. The boron results are plotted graphically on **Exhibit 3-2**, which illustrates the range of results for leachate (at the left of the chart) compared to and background and waste boundary groundwater samples. It should be noted that the highest concentration of boron observed in waste boundary groundwater samples (0.139 mg/L) occurred in MW-16I and did not represent an SSI for that well.

Exhibit 3-2. CCR monitoring well and landfill leachate ponds boron concentrations

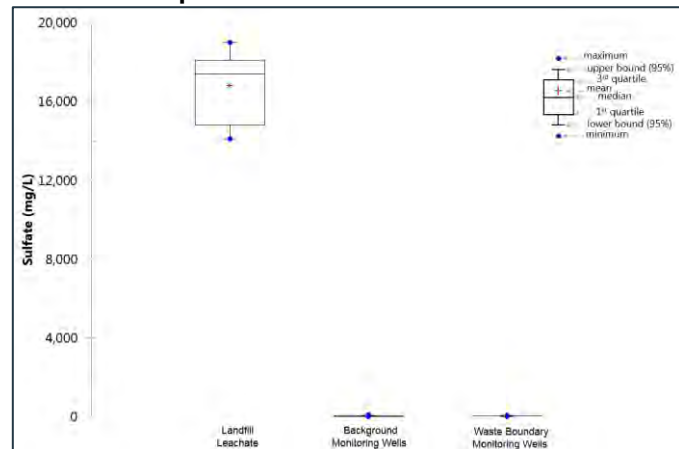


If a release of landfill leachate had occurred, boron concentrations in waste boundary well samples should be clearly higher than the range of background well results, and SSIs would likely be found in at least some of the monitoring wells with other identified SSIs.

Sulfate

No SSIs have been identified for sulfate. Sulfate has been identified in background wells at concentrations ranging from 1.6 to 87.1 mg/L. Concentrations in waste boundary well samples range from 6.2 to 54.7 mg/L. Landfill leachate sulfate concentrations are orders of magnitude higher and range from 14,100 to 19,000 mg/L. The sulfate results are plotted graphically on **Exhibit 3-3**, which clearly shows that leachate concentrations of sulfate are orders-of-magnitude higher than all groundwater samples, and that no discernable difference is present between the background and waste boundary samples. Furthermore, the highest monitoring well concentrations are seen in samples from background well MW-8I (62.3 to 87.1 mg/L).

Exhibit 3-3. CCR monitoring well and landfill leachate ponds sulfate concentrations



It is expected that a release of landfill leachate would elevate groundwater concentrations of all Appendix III constituents present in the leachate in relatively similar proportions. Even if all constituents were not exhibiting statistically significant increases, a pattern of related SSIs would be observed if the increases were caused by landfill leachate. Since all SSIs occurred in absence of a boron or sulfate SSI, and the highest groundwater sulfate concentrations are associated with a background well, it is concluded that the reported SSIs are caused by the natural variation in groundwater quality, potentially impacted by historical oil and gas operations which are assumed to have high chloride and TDS and little to no sulfate, and not by releases from the CCR Landfill.

3.2 Geochemical Evaluations

While the CCR rule requires the use of statistical analyses of samples collected from groundwater monitoring wells to assess potential impacts from CCR units (SSIs), the approach does not consider the site specific hydrogeochemical interactions that can often be complex due to simultaneous operations and natural variation within the context of the local hydrogeologic setting. Since geochemical evaluations rely on interpretation of graphical data, the discussion includes reduced size exhibits imbedded in the text. Full size exhibits are included in **Appendix B**. The major observations and conclusions from the geochemical evaluation are summarized in the sections below.

3.2.1 Indicator Parameter Cross-Plots

To aid in the interpretation of individual Appendix III and other potential indicator parameters for the assessment of potential releases from the CCR Landfill, ratios of selected Appendix III indicator parameters were calculated and plotted versus concentrations of the conservative ion chloride. The use of these plotting techniques typically provides groupings of end members (sources of water such as background

groundwater or landfill leachate), and potential trends of mixing that are not readily identifiable by analysis of individual indicator parameters on their own.

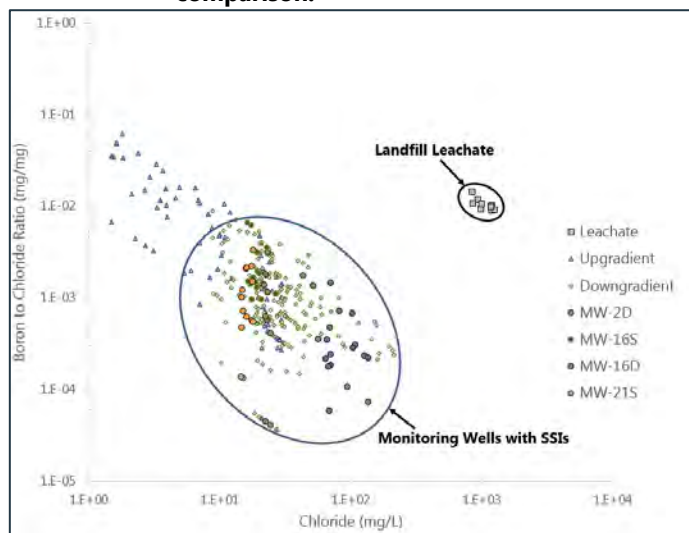
Plots of the B/Cl and SO₄/Cl ratios versus chloride in waste boundary monitoring wells show distinct end member groupings from that of the landfill leachate and support the conclusion that there are no discernable impacts from the CCR Landfill on any of the waste boundary monitoring wells. The graphics presented here include data for all wells in the CCR Landfill system and show that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas represented by upgradient monitoring wells.

Boron to Chloride ratio Versus Chloride Concentration

The plotting of B/Cl versus chloride groundwater data shows primarily a single large cluster that trends perpendicular to the composition of leachate samples and is hypothesized as background and natural variability (**Exhibit 3-4**). The data are plotted on log-log scales due to the large range of concentrations and ratios making the separation in groupings appear closer than they are. The Landfill leachate clearly plots as a separate grouping of water quality having greater B/Cl ratios, while the monitoring well data plots along a trend of what can be described as natural variability. Background monitoring well MW-11S plots as upgradient recharge having lower chloride concentration and a higher B/Cl ratio.

Moving along the flow path to downgradient monitoring wells, this is followed by a trend of increasing chloride concentrations and salinity with decreasing B/Cl ratios due to geochemical evolution of groundwater and potential mixing with water associated with historic oil and gas operations and or storm water ponds. While chloride increases, boron does not increase at the same rate, resulting in the decreasing trend of B/Cl ratios as chloride concentrations and residence time increases. Thus, it is hypothesized that MW-11S represents an extreme end member of recent recharge, or relatively fresh groundwater, and after flow through the shallow overburden groundwater evolves geochemically to a lower B/Cl ratio, as chloride increases, approaching the larger background cluster values that represent older more mineralized groundwater without a significant source of boron in the aquifer matrix. The extreme end of the groundwater dataset trend is represented by MW-17I, MW-16D, and MW-2D due to higher chloride concentrations, but with lower B/Cl ratios. This plot supports that these wells are not impacted by CCR Landfill leachate but could be influenced by infiltration from the storm water holding ponds or flushing of salts from water holding ponds associated with historic oil and gas operations. If there were impacts from the landfill to groundwater, one would expect a trend of B/Cl ratios versus chloride moving from the groundwater trend toward the leachate values, but this does not occur.

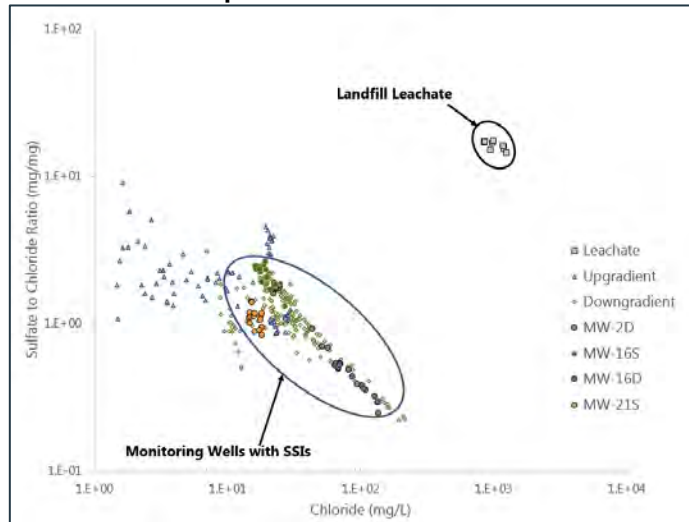
Exhibit 3-4. Boron to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.



Sulfate to Chloride Ratio Versus Chloride Concentration

Plotting of the SO_4/Cl ratio versus chloride shows similar results to the B/Cl ratios versus chloride concentration plot supporting the conclusion that there are no discernable impacts from the CCR Landfill on groundwater (**Exhibit 3-5**). The SO_4/Cl ratios for leachate group separately and are much higher than groundwater values. The SO_4/Cl ratios for leachate are typically around 15 mg/mg or higher, while groundwater ratios are below a value of 6 mg/mg. Similar to B/Cl ratios, the SO_4/Cl ratios versus chloride plot along a trend line of decreasing ratios as chloride and residence time increases. The extreme end of the groundwater data set trend is represented by MW-17I, MW-16D, and MW-2D variability due to higher chloride concentrations that is clearly different from leachate. Additionally, there is no trend of mixing of even small quantities of leachate with groundwater which would be shown by a deviation from the groundwater trend toward leachate, and the separation is distinct between downgradient groundwater and leachate.

Exhibit 3-5. Sulfate to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.



3.2.2 Isotope Analyses of CCR Related Water Quality and Materials

General Overview of Isotope Analyses

Water samples were collected from selected CCR Landfill monitoring wells and CCR Landfill leachate and submitted for isotope analyses of boron, strontium, and oxygen and hydrogen of water. The results of the isotope analyses serve as additional supporting lines of evidence for interpretations made using major ion and indicator parameter concentrations and reinforce the lack of leachate impacts to groundwater at the CCR Landfill.

Boron and its isotope ratio ($\delta^{11}\text{B}$) have been successfully used to identify groundwater pollution sources versus background or naturally occurring detections of constituents of concern (Davidson and Bassett 1993; Vengosh et al. 1994; Kendall et al., 1995; Buszka et al. 2007; Ruhl et al. 2014; Harkness et al. 2017). In particular, boron isotopes have been successfully used to assess CCR related impacts in groundwater. Similarly, strontium and its isotopes ($^{87}\text{Sr}/^{86}\text{Sr}$) have also been successfully used to identify different groundwater source end members, mixing, and to determine anthropogenic versus geogenic processes associated with constituents of concern and associated with CCR impacts to groundwater (Kendall and Bullen 1995; Ruhl et al. 2014; Meredith 2016; Harkness et al. 2017; Nigroa et al. 2017).

CCR Landfill Isotope Results

Stable isotope analyses are typically performed on a pair of isotopes (e.g. ^{11}B and ^{10}B , or ^{87}Sr and ^{86}Sr) and are reported as a ratio relative to internal standards, in per mil (‰) using Greek “delta” notation (δ). Deviations based on analysis of the standard are corrected for, to provide values that can be compared between different laboratories and equipment. Isotopes commonly reported relative to a standard include

boron (eq. 1), where the standard for boron is the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) NIST SRM 951:

$$\delta^{11}B(\text{‰}) = \frac{\left(\frac{^{11}B}{^{10}B}\right)_{\text{Sample}} - \left(\frac{^{11}B}{^{10}B}\right)_{\text{Standard}}}{\left(\frac{^{11}B}{^{10}B}\right)_{\text{Standard}}} \times 1000 \quad \text{eq. 1}$$

Isotope ratios of strontium can be reported relative to a standard value but are commonly reported as the actual ratio $^{87}\text{Sr}/^{86}\text{Sr}$. The values for strontium reported here are the actual ratios, but they have been corrected to the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) NIST SRM 987.

Background monitoring wells for the CCR Landfill show lower boron concentrations and higher $\delta^{11}\text{B}$ values compared to Landfill leachate samples (**Exhibit 3-7**). While only a limited number of background and waste boundary wells were tested (including MW-17I with a previous and current SSI, and MW-21S with a previously reported SSI), there is a clear distinction between all the CCR Landfill monitoring wells and the Landfill leachate which indicates that the wells represented are not impacted by the Landfill, and that boron in the monitoring wells is of a different source other than leachate.

In addition, while there is a variation in the leachate boron concentrations, the $\delta^{11}\text{B}$ values remain approximately equivalent. This supports the hypothesis that boron is $\delta^{11}\text{B}$ values in leachate are dominated by the CCR materials. The range of observed concentrations is related to the amount of water generating the leachate or potentially dilution by fresh water derived from stormwater runoff. The result is a range of boron concentrations having a similar $\delta^{11}\text{B}$ value distinctly different from groundwater in both background and downgradient monitoring wells.

Strontium isotope results also support the boron isotope, major ion, and indicator parameter interpretations that there are no identifiable impacts on groundwater from the landfill. There are noticeably lower strontium concentrations and ratios for all CCR Landfill monitoring wells sampled compared to Landfill leachate (**Exhibit 3-8**).

Exhibit 3-6. Boron isotope ratio ($\delta^{11}\text{B}$) versus boron concentration for CCR Landfill leachate and monitoring wells for comparison.

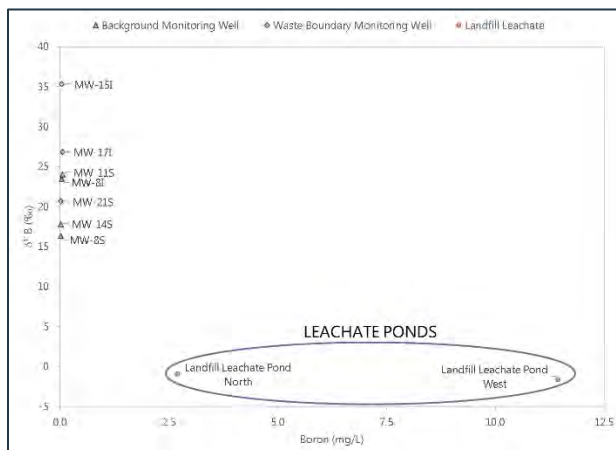
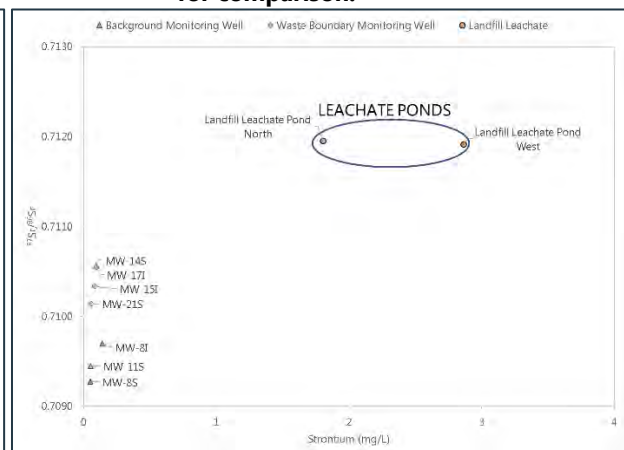


Exhibit 3-7. Strontium isotope ratio ($^{87}\text{Sr}/^{86}\text{Sr}$) versus strontium concentration for CCR Landfill leachate and monitoring wells for comparison.



3.3 Hydraulic Connection to the landfill

The groundwater monitoring network and the relationship of the wells to the regulated landfill are shown on **Figure 2**. Recent potentiometric flow data available for the site consistently indicate a local groundwater flow direction to the south and southeast as shown on **Figure 4**. As shown on this figure, several well clusters downgradient from the landfill are also downgradient of the borrow area storm water ponds. Groundwater monitored by the well clusters downgradient of the storm water ponds are concluded to be unaffected by potential releases from the landfill unit but maybe impacted by the storm water ponds which likely has water with higher salinity, TDS and chloride.

4.0 Summary

As summarized in **Exhibit 2-1** above, in the first semiannual detection monitoring event of 2020, SSIs were identified in only three of 16 downgradient monitoring wells, for the following Appendix III constituents (the number of SSIs is indicated in parentheses): chloride (3), calcium (1), fluoride (1), and TDS (2). The following statements summarize how the lines of evidence discussed above apply to each of the constituents with identified SSIs:

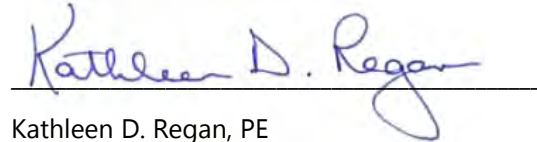
- Boron occurs naturally at low concentration in site groundwater, in similar concentrations in background and downgradient wells. Boron occurs at concentrations approximately three orders-of-magnitude in the CCR Landfill leachate as compared to site groundwater, and is a conservative ion, making it an excellent indicator for impacts from landfill leachate impacts in groundwater. If Landfill leachate were impacting groundwater, boron would be expected to be detected in multiple waste boundary wells and at statistically significant concentrations above background, but it does not and the boron that is present has been shown to be isotopically different.
- Sulfate is another common indicator for CCR leachate impacts, which also occurs naturally in site groundwater (at similar concentration ranges in background and downgradient wells) and is elevated in the CCR Landfill leachate at concentrations approximately three orders-of-magnitude above background monitoring wells. No SSIs for sulfate were determined in any of the waste boundary well samples.
- Chloride is a naturally occurring and conservative ion, which occurs in the CCR Landfill leachate at concentrations about two orders-of-magnitude above groundwater concentrations. Spatial trends can be observed in **Exhibits 3-4** and **3-5** and indicate that chloride concentrations tend to increase in groundwater moving downgradient from recharge areas. However, because the SSIs indicated for chloride are not associated with SSIs for boron and sulfate, the CCR Landfill leachate is not considered a source for the chloride detected in groundwater.
- The same conclusion can be drawn regarding calcium, TDS and fluoride, for which occasional SSIs are not consistently associated with boron, sulfate, or each other. The SSIs indicated for these constituents appear to be related to the natural variation in groundwater quality, along with a spatial trend of increasing TDS with distance from recharge area.

4.1 Conclusion

This ASD has demonstrated, through multiple lines of evidence, that the SSIs identified in the statistical analysis of the second detection monitoring event data are not the result of a release of leachate from the CCR Landfill. Therefore, the unit will continue in detection monitoring.

4.2 Professional Engineer Certification

I certify that the above described Alternative Source demonstration is appropriate for evaluating the groundwater monitoring data for the Rockport Plant CCR Landfill and that the requirements of 40 CFR 257.95(h)(8)(3)(ii) have been met.



30 October 2020

Kathleen D. Regan, PE
Indiana Registered Engineer PE1400182

Date

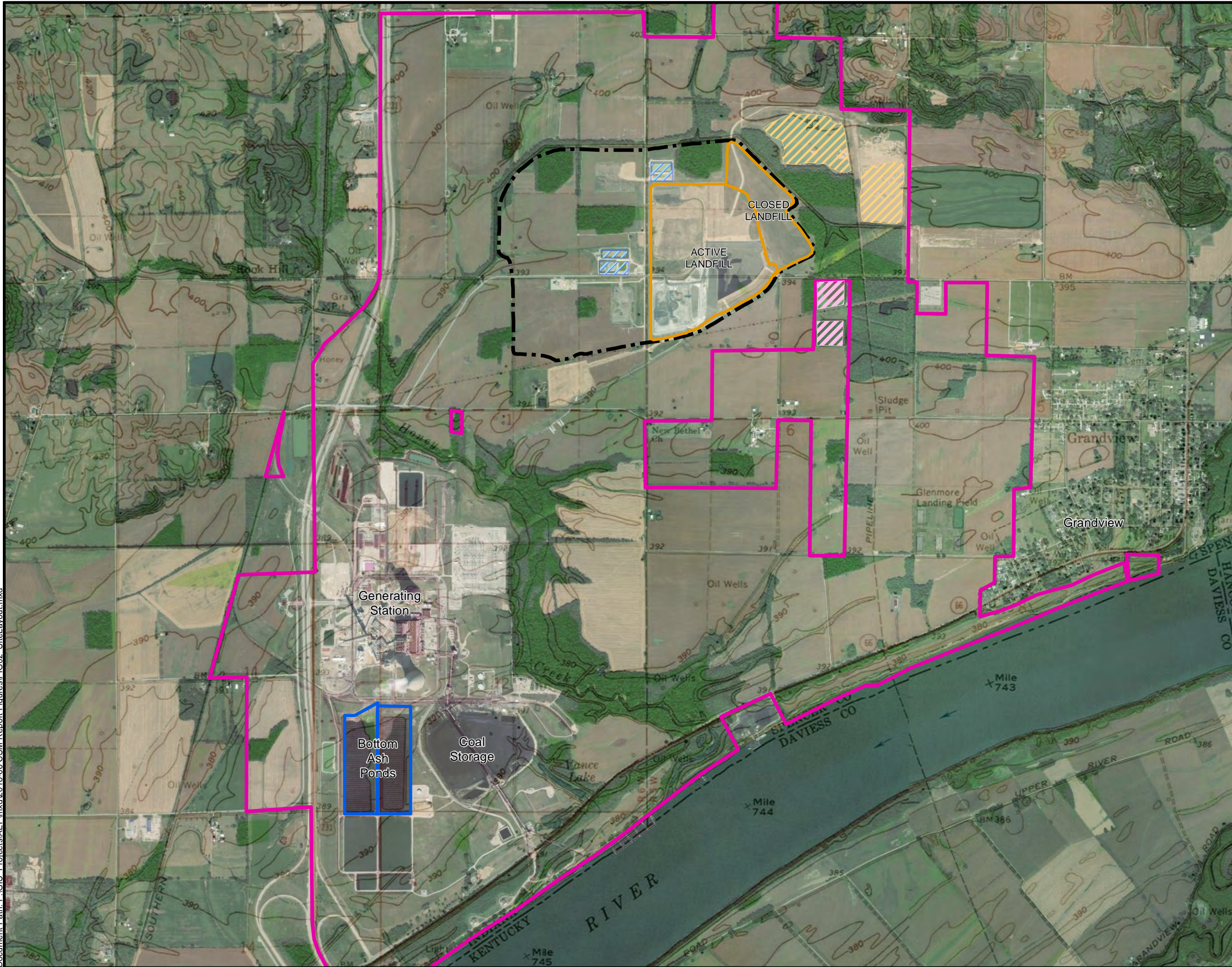
5.0 References

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wood.

Figures



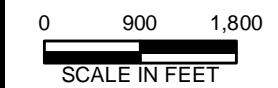
Legend

- Stormwater Ponds
- Landfill Leachate Ponds
- Grandview Wastewater Ponds
- Property Boundary
- Bottom Ash Ponds (BAP)
- Landfill Area 1A (Active and Closed)
- 1984 Landfill Permit Boundary (Area 1)

Data Sources

Date of Photography: 2016
 Source of Photography: U.S. Department of Agriculture, National Agriculture Imagery Program (NAIP)

USGS Rockport and Lewisport (IN/KY) Topographic Quadrangle Maps



SITE LAYOUT

AEP - ROCKPORT, IN
 PROJECT NUMBER: 7650202784

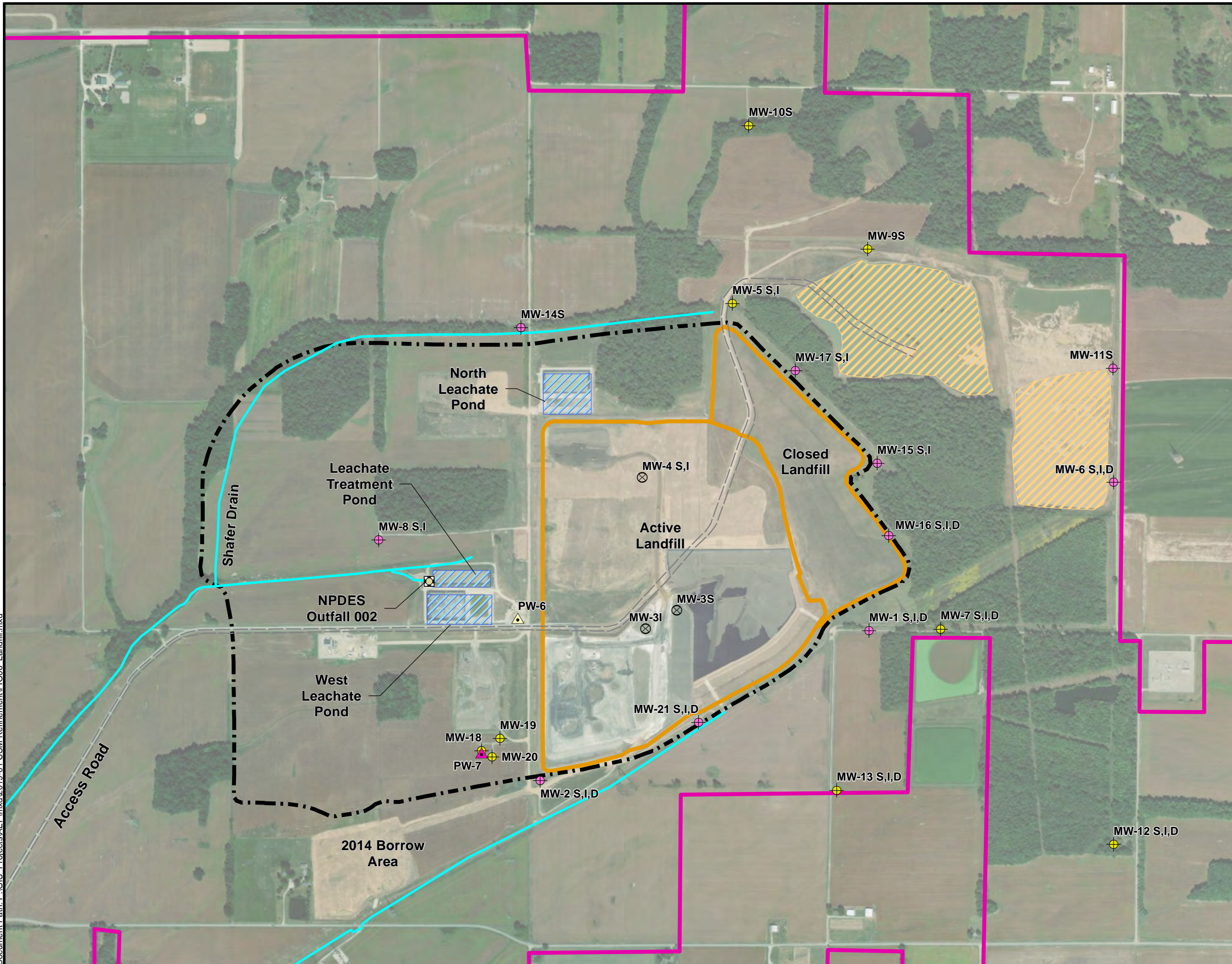
SCALE	1" = 1,800'
DATE	9/4/2018
DRAWN BY	TMR
APPROVED BY	KDR

FIG. 1



2456 Fortune Drive, Suite 100
 Lexington, Kentucky 40509
 Phone: (859) 255-3308

Document Path: P:\GIS Projects\AEP\mxd\2019-01 CSM Refinement\FIG06_Landfill.mxd



- Legend**
- Landfill - Monitoring Well
 - Landfill - CCR Monitoring Well
 - Landfill - Augmentation Water Supply Well
 - Landfill - Dust Control Water Supply Well
 - Abandoned Monitoring Well
 - NPDES Outfall 002
 - Access Road
 - Drains / Ditches
 - Stormwater Ponds
 - Landfill Leachate Ponds
 - Property Boundary
 - 1984 Landfill Permit Boundary (Area 1)
 - Landfill Area 1A (Active and Closed)

Data Sources

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: USGS Rockport and Lewisport (IN/KY) Topographic Quadrangle Maps, 1964, photorevised 1982

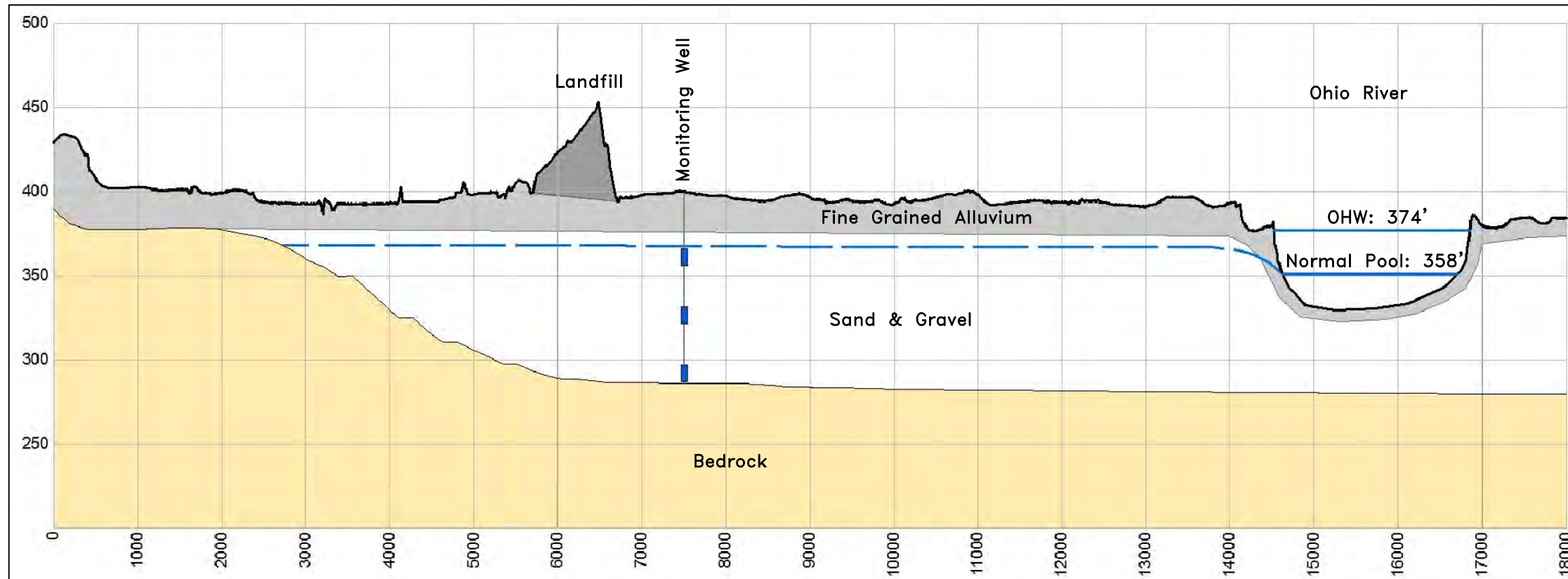


LANDFILL LAYOUT
AEP - ROCKPORT, IN
PROJECT NUMBER: 7650202784

SCALE	1" = 800'	FIG. 2
DATE	3/6/2019	
DRAWN BY	TMR	
APPROVED BY	KDR	

wood.

2456 Fortune Drive, Suite 100
Lexington, Kentucky 40509
Phone: (859) 255-3308



SCALE: As Shown
VERTICAL EXAGGERATION: 4X



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Phone: (859) 255-3308

**CCR LANDFILL
AEP - ROCKPORT, INDIANA**

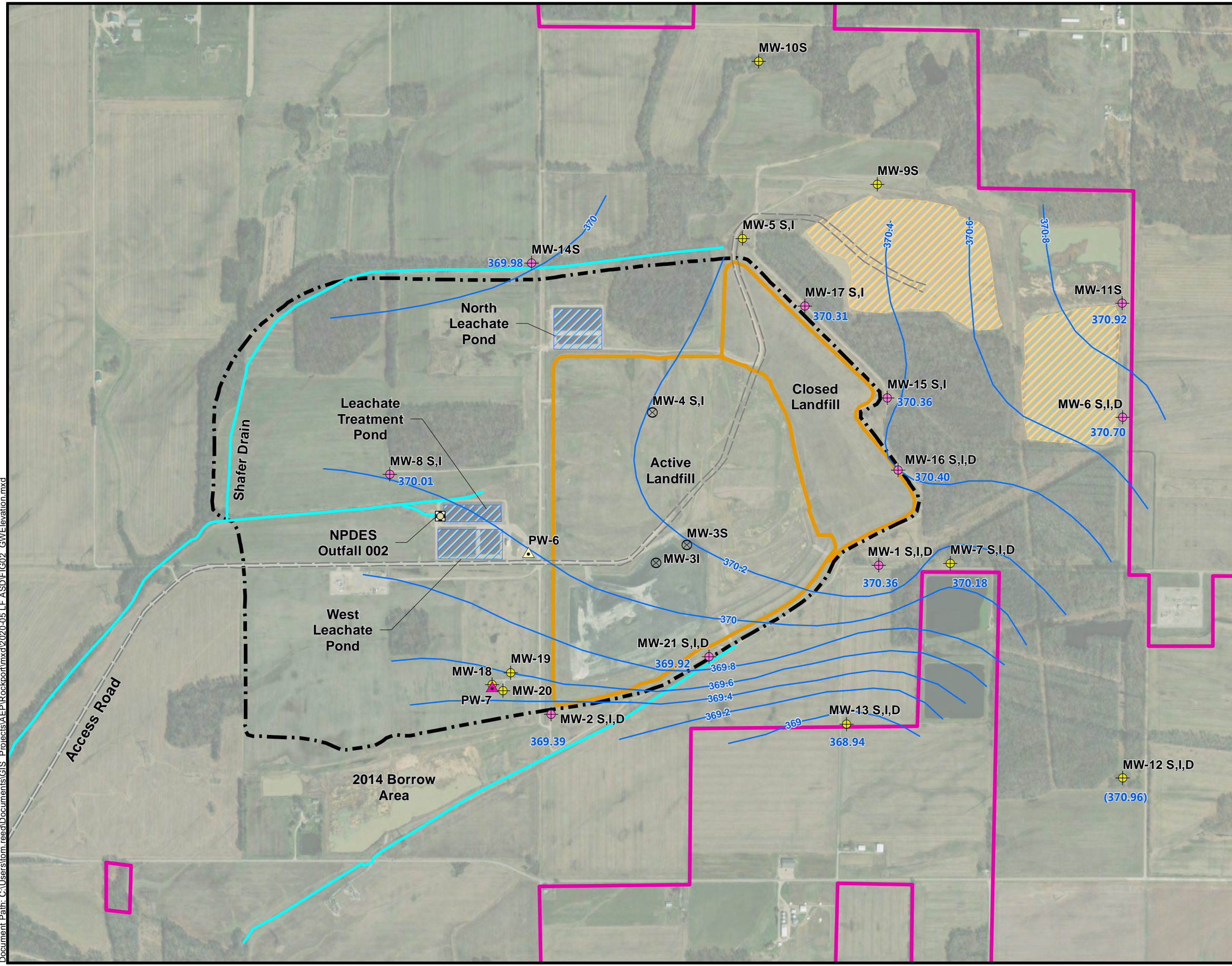
GENERALIZED CROSS-SECTION

PROJECT NUMBER: 7650202784

SCALE	As Shown
DATE	9/28/2017
DRAWN BY	TMR
APPROVED BY	ALD

**FIG
3**

Document Path: C:\Users\stom.read\Documents\GIS - Projects\AEP\Rockport\mxd\2020-05 LF ASD\FIG02_GWElevation.mxd



- Legend**
- Landfill - Monitoring Well
 - Landfill - CCR Monitoring Well
 - Landfill - Augmentation Water Supply Well
 - Landfill - Dust Control Water Supply Well
 - Abandoned Monitoring Well
 - NPDES Outfall 002
 - Groundwater Elevation Contour (05/19/2020), contour interval: 0.2 feet
 - Access Road
 - Drains / Ditches
 - Stormwater Ponds
 - Landfill Leachate Ponds
 - Property Boundary
 - 1984 Landfill Permit Boundary (Area 1)
 - Landfill Area 1A (Active and Closed)

Notes

Groundwater elevations in parentheses were considered anomalous and were not used in contouring.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: USGS Rockport and Lewisport (IN/KY)



**POTENTIOMETRIC SURFACE
CONTOURS
19 MAY 2020**

AEP - ROCKPORT, IN

PROJECT NUMBER: 7650202784

SCALE	1" = 800'	FIG. (
DATE	10/29/2020	
DRAWN BY	TMR	
APPROVED BY	KDR	

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Appendices



wood.

**Appendix A
Analytical Data Tables**

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	1/3/2018	6/6/2018	8/16/2018	11/14/2018	2/13/2019	4/1/2019
Field Parameters																		
Elevation	ft NGVD	--	--	369.45	369.29	368.81	368.29	367.61	367.69	367.66	368.33	368.01	366.11	369.43	369.91	368.71	369.68	370.56
pH	S.U.	--	7.09 - 8.14	8.14	7.2	7.09	7.34	7.4	7.1	7.19	7.26	7.08	7.64	7.48	7.3	7.48	7.46	7.35
Specific Conductance	µmhos/cm	--	--	687	612	703	657	470	300	567	536	635	686	590	658	535	530	892
Turbidity	NTU	--	--	0.23	1.5	0.34	0.65	1	2	0.63	0.78	0.4	1.31	1.12	0	0.56	0.8	1.15
Dissolved Oxygen	mg/L	--	--	3.37	4	2.82	3.46	5	4	2.48	2.72	3	3.06	0.61	4.59	2.3	1.1	1.09
Temperature	°C	--	--	15.04	18.9	19.09	15.17	14.8	15.7	16.81	15.81	15.63	12.81	16.23	15.38	14.7	14.9	14.6
ORP	mV	--	--	89.2	111	77.1	52.9	105	46	53.7	16.2	43.8	-20.8	-76.5	302	100.5	172	126.4
Laboratory Parameters																		
Antimony	µg/L	6	--	0.03	0.2	0.02	0.02	0.04	0.04	0.05	0.02	--	--	--	--	0.05	--	--
Arsenic	µg/L	10	--	0.43	0.69	0.38	0.38	0.43	0.76	0.5	0.39	--	--	--	--	0.34	--	--
Barium	µg/L	2000	--	18.5	21.9	17.2	17.9	17.7	36.5	22.3	17.3	--	--	--	--	17.8	--	--
Beryllium	µg/L	4	--	<0.01	0.16	<0.005	<0.005	<0.005	0.023	0.01	<0.004	--	--	--	--	0.03	--	--
Cadmium	µg/L	5	--	0.02	0.22	0.005	0.007	0.02	0.09	0.22	0.01	--	--	--	--	<0.01	--	--
Chromium	µg/L	100	--	0.3	0.7	0.3	0.207	0.72	1.38	0.552	0.255	--	--	--	--	0.25	--	--
Cobalt	µg/L	6	--	0.171	0.398	0.014	0.01	0.052	1.21	0.164	0.02	--	--	--	--	<0.02	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.15	0.74	--	0.09	--	1.3	--	--
Lead	µg/L	15	--	0.204	0.572	0.01	0.022	0.076	1.26	0.526	0.033	--	--	--	--	0.12	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	--	--	--
Molybdenum	µg/L	100	--	0.65	0.8	0.68	0.74	0.59	0.97	1.64	0.64	--	--	--	--	0.6	--	--
Selenium	µg/L	50	--	1.1	1.1	0.9	0.9	1	1.1	1.1	1.2	--	--	--	--	0.8	--	--
Thallium	µg/L	2	--	<0.02	0.168	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	--	--	--	--	<0.1	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	4.5	--	0.7	--	2	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	19.5	19.7	22.4	--	19.5	--	19.7	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	5.55	4.29	--	3.8	--	1	--	--
Boron	mg/L	--	0.048	0.037	0.015	0.022	0.02	0.005	0.03	0.031	0.028	0.044	--	0.046	--	0.04	--	--
Calcium	mg/L	--	(79.5) 79	70.7	62.9	68	74.4	65	71.5	72.6	69.2	67.6	--	71.8	--	71.9	--	--
Lithium	mg/L	0.04	--	0.004	0.024	0.002	0.01	0.008	0.01	0.009	0.0007	--	--	--	--	0.03	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	27.3	26.9	26.9	25.6	--	26.8	--	26.8	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0015	--	--	0.0027	--	0.0022	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.32	1.24	1.16	1.15	--	1.19	--	1.16	--	--
Sodium	mg/L	--	--	--	--	--	--	--	40.6	35.2	39.6	36.1	--	31.2	--	35	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.11	0.12	0.105	0.104	--	0.11	--	0.108	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	278	273	271	269	--	250	--	273	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.086	0.108	0.104	0.109	--	0.106	--	0.1	--	--
Chloride	mg/L	--	(29.6) 33	29.6	31.1	31.4	31.9	32	30.7	31.3	30.4	33.1	39.9	34.9	37.3	38.1	40.4	38.5
Fluoride	mg/L	4	0.677	0.59	0.65	0.6	0.54	0.57	0.59	0.63	0.58	0.57	--	0.61	--	0.63	--	--
TDS	mg/L	--	(412.7) 419	392	392	411	398	392	384	402	406	396	--	386	--	410	--	--
Sulfate	mg/L	--	(36.95) 37	33.7	35.5	32.4	30.7	30.7	30.5	33.3	33.6	34.6	--	34.2	--	32.3	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	--	<0.07	--	--
Radium-228	pCi/L	--	--	-0.185	0.445	0.244	-0.00464	0.447	-0.172	-0.122	0.133	--	--	--	--	-0.0731	--	--
Radium-226	pCi/L	--	--	0.0665	0.374	-0.00261	0.296	0.487	0.0407	0.0324	0.176	--	--	--	--	0.108	--	--
Radium-226/228	pCi/L	5	--	-0.1185	0.819	0.24139	0.29136	0.934	-0.1313	-0.0896	0.309	--	--	--	--	0.108	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	0.4	--	1.65	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	9	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--	0.8	--	6.24	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.049	0.014	--	<0.002	--	0.035	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0001	0.0002	<0.0001	0.0002	--	<0.0002	--	0.0026	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	5/23/2019	7/23/2019	2/18/2020	5/19/2020
Field Parameters							
Elevation	ft NGVD	--	--	371.82	372.42	370.36	370.78
pH	S.U.	--	7.09 - 8.14	7.91	7.36	7.12	7.04
Specific Conductance	µmhos/cm	--	--	593	618	1386	440
Turbidity	NTU	--	--	0.05	1.6	0.47	0
Dissolved Oxygen	mg/L	--	--	0.87	1.5	4.6	1.68
Temperature	°C	--	--	15.6	18.2	12.43	15.36
ORP	mV	--	--	-28.8	57	118.1	140
Laboratory Parameters							
Antimony	µg/L	6	--	0.02	--	--	--
Arsenic	µg/L	10	--	0.29	--	--	--
Barium	µg/L	2000	--	17.6	--	--	--
Beryllium	µg/L	4	--	<0.02	--	--	--
Cadmium	µg/L	5	--	<0.01	--	--	--
Chromium	µg/L	100	--	0.2	--	--	--
Cobalt	µg/L	6	--	<0.02	--	--	--
Copper	µg/L	--	--	0.13	--	--	--
Lead	µg/L	15	--	0.03	--	--	--
Mercury	µg/L	2	--	<0.002	--	--	--
Molybdenum	µg/L	100	--	1	--	--	--
Selenium	µg/L	50	--	0.7	--	--	--
Thallium	µg/L	2	--	<0.1	--	--	--
Zinc	µg/L	--	--	7.8	--	--	--
Silica (Dissolved)	mg/L	--	--	<0.06	--	--	--
Aluminum	µg/L	--	--	2	--	--	--
Boron	mg/L	--	0.048	<0.02	--	--	0.02
Calcium	mg/L	--	(79.5) 79	73.7	--	--	72
Lithium	mg/L	0.04	--	0.02	--	--	--
Magnesium	mg/L	--	--	26.7	--	--	--
Manganese	mg/L	--	--	0.001	--	--	--
Potassium	mg/L	--	--	1.24	--	--	--
Sodium	mg/L	--	--	25.8	--	--	--
Strontium	mg/L	--	--	0.106	--	--	--
Alkalinity	mg/L	--	--	303	--	--	--
Bromide	mg/L	--	--	0.1	--	--	--
Chloride	mg/L	--	(29.6) 33	33.7	30	--	34.7
Fluoride	mg/L	4	0.677	0.55	--	--	0.55
TDS	mg/L	--	(412.7) 419	388	--	442	350
Sulfate	mg/L	--	(36.95) 37	36.3	--	--	37.1
Sulfide	mg/L	--	--	<0.1	--	--	--
Radium-228	pCi/L	--	--	0.173	--	--	--
Radium-226	pCi/L	--	--	1.09	--	--	--
Radium-226/228	pCi/L	5	--	1.263	--	--	--
Copper (Dissolved)	µg/L	--	--	0.26	--	--	--
Zinc (Dissolved)	µg/L	--	--	0.7	--	--	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	--	--
Iron (Dissolved)	mg/L	--	--	<0.003	--	--	--
Manganese (Dissolved)	mg/L	--	--	0.0004	--	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-1I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	6/6/2018	8/16/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.42	369.25	368.8	368.24	367.58	367.63	367.62	368.28	367.25	369.39	397.45
pH	S.U.	--	6.43 - 7.90	6.7	7	7.4	7.09	7.6	7.4	7.24	6.89	7.1	7.5	7.31
Specific Conductance	µmhos/cm	--	--	461	479	570	544	370	500	443	402	424	480	533
Turbidity	NTU	--	--	0.9	0.7	0.24	0.35	1	1	0.6	0.36	1	0.32	0
Dissolved Oxygen	mg/L	--	--	0.4	0.3	1.07	0	0.3	1	0.46	27.63	0.5	0.87	0.22
Temperature	°C	--	--	17.5	18.2	16.99	14.53	14.4	15.7	15.44	16.52	16.4	16.25	16.03
ORP	mV	--	--	-21	205	-2.1	4.4	10	36	-26.2	-118.8	-23	-102.2	253
Laboratory Parameters														
Antimony	µg/L	6	--	0.04	0.04	0.01	0.02	0.02	0.01	0.04	0.02	--	--	--
Arsenic	µg/L	10	--	0.86	0.78	0.92	0.8	0.82	0.69	0.89	0.86	--	--	--
Barium	µg/L	2000	--	85.5	86.1	84.9	93.4	90.5	76.7	85	94.3	--	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.08	0.1	0.02	0.02	0.02	0.05	0.01	0.007	--	--	--
Chromium	µg/L	100	--	0.2	1	0.2	0.051	0.39	0.686	0.155	0.112	--	--	--
Cobalt	µg/L	6	--	0.341	0.364	0.401	0.381	0.424	0.054	0.558	0.569	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.12	0.2	0.48	--
Lead	µg/L	15	--	0.851	1.25	0.156	0.059	0.099	0.427	0.068	0.137	--	--	--
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	2.47	2.85	2.89	3.27	3.33	1.82	2.87	2.85	--	--	--
Selenium	µg/L	50	--	<0.03	0.04	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	--	--	--
Thallium	µg/L	2	--	0.03	0.02	0.02	0.03	0.104	0.03	0.02	0.02	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	1	4.2	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	18.5	18.9	20.7	17.8	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	1	2	2.96	--
Boron	mg/L	--	0.093	0.075	0.014	0.018	0.015	0.004	0.045	0.049	0.047	0.018	0.11	0.056
Calcium	mg/L	--	(79.5) 71	67.4	60	64.5	63.9	60.9	66.9	65.7	64.8	68.1	66.4	--
Lithium	mg/L	0.04	--	0.005	0.022	0.007	0.005	0.005	0.006	0.008	0.0005	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	20.8	21.2	20.6	21.5	21	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.599	--	0.316	--
Potassium	mg/L	--	--	--	--	--	--	--	1.34	1.08	0.98	0.92	1.31	--
Sodium	mg/L	--	--	--	--	--	--	--	19.8	19.5	19.1	19.2	18.1	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0934	0.0926	0.086	0.0911	0.093	--
Alkalinity	mg/L	--	--	--	--	--	--	--	222	225	226	222	230	--
Bromide	mg/L	--	--	--	--	--	--	--	0.061	0.087	0.081	0.072	0.081	--
Chloride	mg/L	--	(29.6) 27.4	24.9	24.8	24.3	24.1	24.4	24.1	26.5	26.5	27.5	28.6	--
Fluoride	mg/L	4	0.428	0.37	0.4	0.37	0.31	0.33	0.35	0.38	0.34	0.37	0.42	--
TDS	mg/L	--	(412.7) 349	323	315	331	334	316	300	323	330	327	321	--
Sulfate	mg/L	--	(47.8) 48	44.3	46.7	42.4	40.7	41.4	41.2	43.8	43.3	44.1	42	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	--
Radium-228	pCi/L	--	--	0.0603	0.105	1.42	0.662	0.108	-0.0752	0.3	2.21	--	--	--
Radium-226	pCi/L	--	--	0.33	1.57	0.276	0.65	0.513	0.15	0.33	0.323	--	--	--
Radium-226/228	pCi/L	5	--	0.3903	1.675	1.696	1.312	0.621	0.0748	0.63	2.533	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.37	--	0.4	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.3	--	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.51	--	1	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.03	<0.0004	0.035	0.048	0.011	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.583	0.1	0.455	0.445	0.303	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/14/2018	2/13/2019	4/1/2019	5/23/2019	7/23/2019	9/11/2019	11/22/2019	5/19/2020	7/16/2020
Field Parameters												
Elevation	ft NGVD	--	--	368.74	369.73	370.51	371.86	372.45	--	370.95	370.40	370.81
pH	S.U.	--	6.43 - 7.90	7.75	7.5	7.37	7.01	7.21	7.25	7.05	7.22	7.44
Specific Conductance	µmhos/cm	--	--	425	443	802	503	493	481	491	566	575
Turbidity	NTU	--	--	0.61	1	1.06	0.06	2.1	0.58	1.7	0	2.96
Dissolved Oxygen	mg/L	--	--	0.19	2	1.28	0.73	0.57	0.26	2.1	0.28	1.64
Temperature	°C	--	--	14.68	14.7	14.6	16.79	16.4	17.5	14	15.23	17.24
ORP	mV	--	--	62.9	155	134.2	5.2	27	-35.8	-206	42	18
Laboratory Parameters												
Antimony	µg/L	6	--	<0.02	--	--	<0.02	--	--	<0.02	--	--
Arsenic	µg/L	10	--	0.82	--	--	0.73	--	--	0.71	--	--
Barium	µg/L	2000	--	85.6	--	--	83.8	--	--	11	--	--
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02	--	--
Cadmium	µg/L	5	--	0.02	--	--	<0.01	--	--	0.03	--	--
Chromium	µg/L	100	--	<0.04	--	--	0.04	--	--	0.2	--	--
Cobalt	µg/L	6	--	0.48	--	--	0.368	--	--	0.838	--	--
Copper	µg/L	--	--	0.22	--	--	0.08	--	--	0.5	--	--
Lead	µg/L	15	--	0.07	--	--	<0.02	--	--	0.291	--	--
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002	--	--
Molybdenum	µg/L	100	--	2.96	--	--	2.38	--	--	3.1	--	--
Selenium	µg/L	50	--	<0.03	--	--	<0.03	--	--	<0.03	--	--
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1	--	--
Zinc	µg/L	--	--	1	--	--	0.9	--	--	3	--	--
Silica (Dissolved)	mg/L	--	--	18.2	--	--	18	--	--	17.5	--	--
Aluminum	µg/L	--	--	3	--	--	<1	--	--	<5	--	--
Boron	mg/L	--	0.093	0.05	--	--	0.02	--	--	0.01	0.02	--
Calcium	mg/L	--	(79.5) 71	65.5	--	--	67.7	--	--	66.7	71.2	--
Lithium	mg/L	0.04	--	0.03	--	--	<0.009	--	--	0.00355	--	--
Magnesium	mg/L	--	--	20.6	--	--	20.6	--	--	20.7	--	--
Manganese	mg/L	--	--	0.515	--	--	0.37	--	--	0.784	--	--
Potassium	mg/L	--	--	0.97	--	--	0.98	--	--	0.9	--	--
Sodium	mg/L	--	--	18.5	--	--	18.2	--	--	18.1	--	--
Strontium	mg/L	--	--	0.0882	--	--	0.0912	--	--	0.0917	--	--
Alkalinity	mg/L	--	--	227	--	--	243	--	--	210	--	--
Bromide	mg/L	--	--	0.08	--	--	0.09	--	--	0.08	--	--
Chloride	mg/L	--	(29.6) 27.4	28.8	30.1	34.1	33.1	30.6	33.5	35	37.7	35.4
Fluoride	mg/L	4	0.428	0.41	--	--	0.42	--	--	0.37	0.4	0.39
TDS	mg/L	--	(412.7) 349	308	--	--	341	--	--	348	323	340
Sulfate	mg/L	--	(47.8) 48	40.7	--	--	40.2	--	--	39.7	40.1	--
Sulfide	mg/L	--	--	<0.07	--	--	<0.1	--	--	<0.2	--	--
Radium-228	pCi/L	--	--	0.415	--	--	0.71	--	--	0.546	--	--
Radium-226	pCi/L	--	--	0.288	--	--	0.37	--	--	0.421	--	--
Radium-226/228	pCi/L	5	--	0.703	--	--	1.08	--	--	0.967	--	--
Copper (Dissolved)	µg/L	--	--	0.12	--	--	0.43	--	--	<0.2	--	--
Zinc (Dissolved)	µg/L	--	--	0.9	--	--	<0.7	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	--	1	--	--	<5	--	--
Iron (Dissolved)	mg/L	--	--	0.053	--	--	0.034	--	--	0.05	--	--
Manganese (Dissolved)	mg/L	--	--	0.508	--	--	0.397	--	--	0.758	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/19/2016	9/20/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.6	369.43	368.97	368.42	367.75	367.81	367.81	368.34	367.44	366.27
pH	S.U.	--	6.74 - 8.16	7.6	7.1	7.36	7.5	7.4	7.33	7.25	8.06	7.3	7.68
Specific Conductance	µmhos/cm	--	--	496	471	464	842	400	558	394	525	448	539
Turbidity	NTU	--	--	8.8	2	6.27	4	5	1.93	2.15	2.47	2	3.89
Dissolved Oxygen	mg/L	--	--	0.5	0.2	0.55	0.8	2	0.25	0.53	0.81	0.4	1.83
Temperature	°C	--	--	19.4	16.7	15.77	14.8	14.7	15.14	15.84	21.46	16.5	6.7
ORP	mV	--	--	63	220	92.8	252	182	49.6	132.7	152.8	-14	-5.3
Laboratory Parameters													
Antimony	µg/L	6	--	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	--	--
Arsenic	µg/L	10	--	1.29	0.73	1.07	0.65	0.77	0.58	0.75	0.59	--	--
Barium	µg/L	2000	--	255	147	160	147	162	139	142	139	--	--
Beryllium	µg/L	4	--	0.01	<0.005	0.007	<0.005	<0.005	<0.005	0.006	<0.004	--	--
Cadmium	µg/L	5	--	0.13	0.07	0.04	0.04	0.15	0.04	0.04	0.05	--	--
Chromium	µg/L	100	--	0.3	1.5	0.3	0.072	0.439	0.687	0.174	0.131	--	--
Cobalt	µg/L	6	--	3.64	0.373	0.836	0.329	0.577	0.173	0.44	0.212	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.93	1.02	--
Lead	µg/L	15	--	1.13	1.37	0.5	0.222	0.807	1.92	0.419	0.355	--	--
Mercury	µg/L	2	--	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	3.44	3.59	3.6	3.24	2.43	3.4	3.05	2.94	--	--
Selenium	µg/L	50	--	0.07	0.03	0.07	0.03	0.03	0.03	0.06	<0.03	--	--
Thallium	µg/L	2	--	0.04	0.02	0.056	0.02	0.05	0.03	0.04	0.03	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.5	4.5	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	18.9	19.4	21.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	8.08	14.6	--
Boron	mg/L	--	0.066	0.017	0.015	0.016	0.018	0.006	0.055	0.046	0.019	0.002	--
Calcium	mg/L	--	(79.5) 75	63.6	57.9	65.2	69.3	63.4	70	67.8	63.9	65.7	--
Lithium	mg/L	0.04	--	<0.0002	0.017	0.0005	0.004	0.007	0.007	0.009	0.002	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21.9	22.2	20.7	20.9	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.511	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.13	1.13	0.89	0.89	--
Sodium	mg/L	--	--	--	--	--	--	--	19.4	19.3	18.8	18	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0985	0.101	0.0885	0.092	--
Alkalinity	mg/L	--	--	--	--	--	--	--	206	202	206	220	--
Bromide	mg/L	--	--	--	--	--	--	--	0.09	0.115	0.109	0.03	--
Chloride	mg/L	--	(29.6) 50	27.3	29.8	29.8	39.3	40.6	40.3	40.9	39.3	10.3	--
Fluoride	mg/L	4	0.321	0.28	0.3	0.28	0.29	0.26	0.26	0.28	0.24	0.85	0.31
TDS	mg/L	--	(412.7) 369	331	329	288	339	323	330	342	338	339	--
Sulfate	mg/L	--	(45.1) 45	40.2	40.6	32.3	33.6	36.4	37	39.5	39.6	10.4	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.558	0.06	0.525	0.566	0.315	0.0844	0.511	0.444	--	--
Radium-226	pCi/L	--	--	0.526	0.135	0.932	6.73	0.334	0.154	0.213	0.502	--	--
Radium-226/228	pCi/L	5	--	1.084	0.195	1.457	7.296	0.649	0.2384	0.724	0.946	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.58	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	4.2	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.052	0.012	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.553	0.62	0.486	0.616	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-1D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2018	8/16/2018	11/14/2018	2/13/2019	5/23/2019	7/23/2019	11/22/2019	2/17/2020	5/19/2020
Field Parameters												
Elevation	ft NGVD	--	--	369.56	369.94	368.73	369.71	371.84	372.45	367.22	369.34	370.40
pH	S.U.	--	6.74 - 8.16	8.24	7.35	7.77	7.41	7.18	7.3	7.26	7.38	7.05
Specific Conductance	µmhos/cm	--	--	508	568	457	317	0.504	510	609	817	454
Turbidity	NTU	--	--	1.71	0	1.03	2	0.3	1.5	2.53	0.98	0
Dissolved Oxygen	mg/L	--	--	0.25	0.26	0.2	10	3.68	2.1	3.57	6.09	9.13
Temperature	°C	--	--	15.85	16.71	14.06	14	17.02	16.7	14.31	13.25	15.71
ORP	mV	--	--	-112	200	53	188	55.9	44	51.3	211.2	152
Laboratory Parameters												
Antimony	µg/L	6	--	--	--	0.03	--	0.05	--	0.04	--	--
Arsenic	µg/L	10	--	--	--	0.62	--	0.47	--	0.57	--	--
Barium	µg/L	2000	--	--	--	101	--	99.2	--	101	--	--
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	--	<0.02	--	--
Cadmium	µg/L	5	--	--	--	0.02	--	0.02	--	0.03	--	--
Chromium	µg/L	100	--	--	--	0.07	--	0.1	--	0.2	--	--
Cobalt	µg/L	6	--	--	--	0.04	--	0.058	--	0.097	--	--
Copper	µg/L	--	--	0.55	--	0.75	--	0.83	--	0.4	--	--
Lead	µg/L	15	--	--	--	0.07	--	0.138	--	0.2	--	--
Mercury	µg/L	2	--	--	--	--	--	<0.002	--	<0.002	--	--
Molybdenum	µg/L	100	--	--	--	2	--	1	--	1	--	--
Selenium	µg/L	50	--	--	--	0.04	--	0.09	--	0.08	--	--
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	--	<0.1	--	--
Zinc	µg/L	--	--	2	--	1	--	65.9	--	2	--	--
Silica (Dissolved)	mg/L	--	--	17.9	--	19	--	17.8	--	18.5	--	--
Aluminum	µg/L	--	--	16.1	--	<1	--	4	--	<5	--	--
Boron	mg/L	--	0.066	0.103	0.02	0.1	<0.02	0.02	--	0.04	--	0.04
Calcium	mg/L	--	(79.5) 75	70.9	--	71.9	--	73.6	--	72.5	--	59.9
Lithium	mg/L	0.04	--	--	--	0.01	--	0.01	--	0.0038	--	--
Magnesium	mg/L	--	--	20.4	--	22.1	--	18.3	--	22.2	--	--
Manganese	mg/L	--	--	0.216	--	0.138	--	0.169	--	0.163	--	--
Potassium	mg/L	--	--	1.34	--	1.71	--	1.23	--	1.3	--	--
Sodium	mg/L	--	--	18.2	--	20.9	--	18.7	--	26	--	--
Strontium	mg/L	--	--	0.359	--	0.272	--	0.553	--	0.194	--	--
Alkalinity	mg/L	--	--	218	--	222	--	208	--	260	--	--
Bromide	mg/L	--	--	0.113	--	0.1	--	0.09	--	0.1	--	--
Chloride	mg/L	--	(29.6) 50	43.1	43.8	46.9	43.8	32.1	--	49.1	--	23.8
Fluoride	mg/L	4	0.321	0.3	--	0.3	--	0.27	--	0.27	--	0.3
TDS	mg/L	--	(412.7) 369	345	--	340	--	346	--	398	257	261
Sulfate	mg/L	--	(45.1) 45	39.5	--	39.8	--	45.3	39.2	41.2	--	23.3
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	--	<0.2	--	--
Radium-228	pCi/L	--	--	--	--	0.295	--	0.55	--	0.197	--	--
Radium-226	pCi/L	--	--	--	--	0.0679	--	0.652	--	0.11	--	--
Radium-226/228	pCi/L	5	--	--	--	0.3629	--	1.202	--	0.307	--	--
Copper (Dissolved)	µg/L	--	--	0.98	--	0.78	--	0.8	--	2.19	--	--
Zinc (Dissolved)	µg/L	--	--	11.8	--	2	--	2	--	3	--	--
Aluminum (Dissolved)	µg/L	--	--	2	--	5.05	--	3	--	<5	--	--
Iron (Dissolved)	mg/L	--	--	<0.002	--	0.02	--	<0.003	--	<0.02	--	--
Manganese (Dissolved)	mg/L	--	--	0.0605	--	0.144	--	0.148	--	0.131	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-2S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/9/2017	5/9/2017	7/19/2017	10/4/2017	6/6/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.34	369.03	369.02	368.77	366.24	368.15	368.06	368.22	366.68	369.94
pH	S.U.	--	6.30 - 8.44	6.4	7.68	7.63	7.34	7.65	7.66	7.12	7.46	7.17	7.62
Specific Conductance	µmhos/cm	--	--	423	465	440	459	341	522	354	409	509	470
Turbidity	NTU	--	--	3.1	1.85	0.51	0.96	0.74	1.31	2.68	4.81	1.55	1.84
Dissolved Oxygen	mg/L	--	--	2.8	1.85	4.67	3.91	4.18	3.63	4.52	2.62	2.63	4.66
Temperature	°C	--	--	17.5	16.34	15.81	16.03	15.1	15.73	15.67	16.06	16.42	16.48
ORP	mV	--	--	34	64	90.4	-19	165	13.1	165.7	-5.9	26.6	59.1
Laboratory Parameters													
Antimony	µg/L	6	--	<0.02	0.02	0.04	0.02	0.02	0.02	0.04	0.12	--	--
Arsenic	µg/L	10	--	0.97	1.09	0.94	0.94	0.92	0.95	0.95	0.96	--	--
Barium	µg/L	2000	--	16	14	12.4	12.4	11	12.3	12.3	13.6	--	--
Beryllium	µg/L	4	--	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.01	0.01	0.02	0.02	0.09	0.009	0.01	0.03	--	--
Chromium	µg/L	100	--	0.4	0.6	0.3	0.337	0.329	0.67	0.37	0.41	--	--
Cobalt	µg/L	6	--	0.177	0.09	0.017	0.019	0.014	0.051	0.064	0.121	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.33	0.2	1.58
Lead	µg/L	15	--	0.158	0.105	0.101	0.022	0.063	0.042	0.047	0.243	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	2.03	2.39	2.07	1.91	2.14	1.92	1.75	1.81	--	--
Selenium	µg/L	50	--	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	--	--
Thallium	µg/L	2	--	<0.02	<0.01	<0.01	<0.01	0.074	<0.01	<0.01	0.03	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	3.3	5.3
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	28.6	28.8	31.9	26.7
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	36.6	14.7	15.3
Boron	mg/L	--	0.109	<0.002	0.015	0.014	0.018	0.004	0.069	0.084	0.052	0.045	0.073
Calcium	mg/L	--	(79.5) 66	59.4	51.6	57.4	62.4	51.6	57.9	59	53.3	60.7	57
Lithium	mg/L	0.04	--	0.0004	0.018	0.005	0.008	0.009	0.0007	0.002	0.005	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21.2	21.9	19.5	22.8	21.3
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0124	--	0.0063
Potassium	mg/L	--	--	--	--	--	--	--	0.73	0.81	0.65	0.64	0.68
Sodium	mg/L	--	--	--	--	--	--	--	13.4	14	11.8	16.3	22.1
Strontium	mg/L	--	--	--	--	--	--	--	0.0837	0.0855	0.0756	0.0888	0.0906
Alkalinity	mg/L	--	--	--	--	--	--	--	174	191	188	207	215
Bromide	mg/L	--	--	--	--	--	--	--	0.02	0.071	0.116	0.06	0.063
Chloride	mg/L	--	(29.6) 24	21.5	21.8	23.8	21.8	21.2	21	20.8	19.6	21.2	25.3
Fluoride	mg/L	4	0.299	0.26	0.29	0.26	0.26	0.25	0.26	0.26	0.23	0.25	0.29
TDS	mg/L	--	(412.7) 343	298	265	301	316	284	285	321	308	323	329
Sulfate	mg/L	--	(35.08) 35	26	27.6	26.2	24.1	25.9	26.6	30.3	33.8	30	28.9
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4
Radium-228	pCi/L	--	--	-0.035	0.54	0	0.228	0.343	0.0555	-0.0726	0.631	--	--
Radium-226	pCi/L	--	--		0.12	0.172	0.143	0.311	0.465	0.434	0.0617	--	--
Radium-226/228	pCi/L	5	--	-0.035	0.66	0.172	0.371	0.654	0.5205	0.3614	0.6927	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	0.27
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	0.6
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	2
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.053	0.013	<0.002
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0001	<0.0001	<0.0001	0.0021	0.0003

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/13/2019	4/1/2019	5/22/2019	7/23/2019	9/11/2019	11/14/2019	5/18/2020	7/16/2020
Field Parameters												
Elevation	ft NGVD	--	--	367.91	368.87	369.97	371.02	371.37	370.52	370.86	369.39	377.69
pH	S.U.	--	6.30 - 8.44	7.53	7.77	7.72	7.66	7.45	7.33	7.54	7.43	7.55
Specific Conductance	µmhos/cm	--	--	425	451	491	500	486	473	657	462	584
Turbidity	NTU	--	--	2.15	0.8	1.51	1.08	1.7	0.83	0.2	1.64	0.53
Dissolved Oxygen	mg/L	--	--	3.7	3.1	4.7	5.77	1.3	1.78	3.59	2.3	3.24
Temperature	°C	--	--	14.51	14.6	14.5	15.93	16.2	16.4	15.18	16.64	14.96
ORP	mV	--	--	23	71	-17.9	-3.2	55	7.7	4	27	48
Laboratory Parameters												
Antimony	µg/L	6	--	0.04	--	--	0.03	--	--	<0.02	--	--
Arsenic	µg/L	10	--	0.82	--	--	0.78	--	--	0.76	--	--
Barium	µg/L	2000	--	16.5	--	--	18	--	--	19.3	--	--
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02	--	--
Cadmium	µg/L	5	--	0.11	--	--	0.08	--	--	<0.01	--	--
Chromium	µg/L	100	--	0.1	--	--	0.1	--	--	0.255	--	--
Cobalt	µg/L	6	--	<0.02	--	--	0.02	--	--	<0.02	--	--
Copper	µg/L	--	--	0.28	--	--	0.56	--	--	<0.2	--	--
Lead	µg/L	15	--	0.04	--	--	0.133	--	--	<0.05	--	--
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002	--	--
Molybdenum	µg/L	100	--	2	--	--	2	--	--	1	--	--
Selenium	µg/L	50	--	0.2	--	--	1	--	--	1.1	--	--
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1	--	--
Zinc	µg/L	--	--	89.4	--	--	7.5	--	--	<0.7	--	--
Silica (Dissolved)	mg/L	--	--	26.8	--	--	25	--	--	25.2	--	--
Aluminum	µg/L	--	--	7.27	--	--	6.68	--	--	<5	--	--
Boron	mg/L	--	0.109	0.06	--	--	<0.02	--	--	0.03	0.02	--
Calcium	mg/L	--	(79.5) 66	54.7	--	--	51.3	--	--	59.2	53.7	--
Lithium	mg/L	0.04	--	<0.009	--	--	<0.009	--	--	0.00413	--	--
Magnesium	mg/L	--	--	20.9	--	--	19	--	--	20.4	--	--
Manganese	mg/L	--	--	0.0025	--	--	0.0017	--	--	0.001	--	--
Potassium	mg/L	--	--	0.68	--	--	0.66	--	--	0.7	--	--
Sodium	mg/L	--	--	23.7	--	--	26	--	--	32.9	--	--
Strontium	mg/L	--	--	0.086	--	--	0.0803	--	--	0.0909	--	--
Alkalinity	mg/L	--	--	207	--	--	220	--	--	221	--	--
Bromide	mg/L	--	--	<0.04	--	--	<0.04	--	--	0.08	--	--
Chloride	mg/L	--	(29.6) 24	24.8	26.5	26.1	26.4	26.8	26.6	27.3	28.9	28.7
Fluoride	mg/L	4	0.299	0.28	--	--	0.3	--	--	0.28	0.34	0.33
TDS	mg/L	--	(412.7) 343	272	--	--	352	339	--	336	344	347
Sulfate	mg/L	--	(35.08) 35	24.7	--	--	26.2	--	--	27.8	24.9	--
Sulfide	mg/L	--	--	<0.1	--	--	<0.1	--	--	<0.2	--	--
Radium-228	pCi/L	--	--	0.146	--	--	0.54	--	--	0.161	--	--
Radium-226	pCi/L	--	--	0.0173	--	--	0.0674	--	--	0.0407	--	--
Radium-226/228	pCi/L	5	--	0.1633	--	--	0.6074	--	--	0.2017	--	--
Copper (Dissolved)	µg/L	--	--	1.84	--	--	0.87	--	--	1.84	--	--
Zinc (Dissolved)	µg/L	--	--	5	--	--	4	--	--	2	--	--
Aluminum (Dissolved)	µg/L	--	--	1	--	--	5.16	--	--	<5	--	--
Iron (Dissolved)	mg/L	--	--	0.003	--	--	0.003	--	--	<0.02	--	--
Manganese (Dissolved)	mg/L	--	--	0.0005	--	--	0.0009	--	--	<0.0005	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-2I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	1/3/2018	6/6/2018	8/16/2018
Field Parameters															
Elevation	ft NGVD	--	--	369.26	368.97	368.94	368.7	366.31	368.06	368.01	368.16	366.64	365.54	369.85	369.32
pH	S.U.	--	6.43 - 8.69	7.89	7.14	7.45	7.26	7.7	7.64	8.42	6.98	7.16	7.84	7.55	7.52
Specific Conductance	µmhos/cm	--	--	581	542	513	495	370	557	383	431	553	568	802	614
Turbidity	NTU	--	--	2.02	1.41	0.94	1.83	3.99	16	24.3	6.25	10.3	1.3	0.91	0
Dissolved Oxygen	mg/L	--	--	1.54	7.64	1.96	3.62	--	10.86	1.97	22.85	0.71	1.12	1.1	0.06
Temperature	°C	--	--	15.88	15.93	17.11	15.97	14.38	14.74	15.42	16.34	15.68	11.06	15.3	16.03
ORP	mV	--	--	65.9	29.8	-29.6	-11.6	161.9	-52.8	156.9	-180.6	-63.4	-51.8	-55.4	-46
Laboratory Parameters															
Antimony	µg/L	6	--	0.06	0.06	0.07	0.13	0.1	0.1	0.15	0.11	--	--	--	--
Arsenic	µg/L	10	--	0.64	0.68	0.55	0.61	0.65	0.74	0.9	0.76	--	--	--	--
Barium	µg/L	2000	--	78.5	84	67.1	60.1	59.4	58.4	59.3	62.9	--	--	--	--
Beryllium	µg/L	4	--	<0.005	0.006	<0.005	<0.005	<0.005	0.01	0.022	0.02	--	--	--	--
Cadmium	µg/L	5	--	0.03	0.05	0.05	0.07	0.16	0.22	0.09	0.05	--	--	--	--
Chromium	µg/L	100	--	0.2	0.6	0.1	0.143	0.154	1.01	0.829	0.567	--	--	--	--
Cobalt	µg/L	6	--	0.606	0.76	0.415	0.26	0.28	0.581	1.28	0.995	--	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	2.21	1.82	--	0.2	--
Lead	µg/L	15	--	0.208	0.454	0.178	0.231	0.383	0.588	1.39	1.19	--	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	--	--	--	--
Molybdenum	µg/L	100	--	4.91	5	4.21	3.14	2.07	2.06	2.17	2.07	--	--	--	--
Selenium	µg/L	50	--	0.7	0.7	0.6	0.4	0.2	0.2	0.4	0.2	--	--	--	--
Thallium	µg/L	2	--	0.051	0.04	0.04	0.02	0.03	0.03	0.04	0.064	--	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.4	3.4	--	20.8	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	16.3	16.8	18.9	--	16.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	315	244	--	9.39	--
Boron	mg/L	--	0.043	0.019	0.009	0.025	0.013	<0.002	0.024	0.034	0.025	0.03	--	0.052	0.03
Calcium	mg/L	--	(79.5) 78	74	67.5	66.8	73.9	63.9	71.5	71	68.9	72.5	--	72.7	--
Lithium	mg/L	0.04	--	0.005	0.021	0.002	0.006	0.007	0.005	0.007	<0.0002	--	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	22.8	23.6	22.8	23.7	--	23.7	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.463	--	--	0.564	--
Potassium	mg/L	--	--	--	--	--	--	--	1.09	1.2	1.01	1.05	--	1.14	--
Sodium	mg/L	--	--	--	--	--	--	--	14.7	15.3	15.8	16.8	--	16.9	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0919	0.0977	0.0885	0.0946	--	0.0959	--
Alkalinity	mg/L	--	--	--	--	--	--	--	223	218	236	252	--	254	--
Bromide	mg/L	--	--	--	--	--	--	--	0.05	0.071	0.072	0.075	--	0.077	--
Chloride	mg/L	--	(29.6) 32	28.6	29.7	28	25.8	27.1	25.8	28.6	29.7	29.8	28.8	31.8	31.5
Fluoride	mg/L	4	0.371	0.3	0.33	0.31	0.36	0.3	0.31	0.31	0.28	0.28	--	0.32	--
TDS	mg/L	--	(412.7) 375	332	363	330	326	314	312	343	346	343	--	356	--
Sulfate	mg/L	--	(48.53) 49	42.9	54.7	41.1	36.9	39.2	39.2	42.4	44.1	45.5	--	43.2	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	--
Radium-228	pCi/L	--	--	-0.0463	0.62	0.241	0.137	0.648	0.146	0.163	0.195	--	--	--	--
Radium-226	pCi/L	--	--	0.398	0.342	0.267	0.288	0.197	0.289	0.328	0.341	--	--	--	--
Radium-226/228	pCi/L	5	--	0.3517	0.962	0.508	0.425	0.845	0.435	0.491	0.536	--	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	1.96	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.3	--	--	21.7	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	154	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.053	0.016	0.03	0.054	--	0.238	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.258	0.331	0.333	0.323	--	0.563	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-2I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/13/2019	5/22/2019	11/14/2019	5/18/2020
Field Parameters								
Elevation	ft NGVD	--	--	367.97	368.87	371.17	371.18	369.44
pH	S.U.	--	6.43 - 8.69	7.2	7.55	7.34	7.39	7.8
Specific Conductance	µmhos/cm	--	--	434	435	481	576	420
Turbidity	NTU	--	--	17.03	2.8	0	4.1	2.08
Dissolved Oxygen	mg/L	--	--	0.13	10	0.71	0.33	5.14
Temperature	°C	--	--	14.25	14.3	16.09	15.93	15.94
ORP	mV	--	--	36.8	-17	-83.8	-115	-58
Laboratory Parameters								
Antimony	µg/L	6	--	0.02	--	0.03	0.05	--
Arsenic	µg/L	10	--	0.49	--	0.4	0.39	--
Barium	µg/L	2000	--	95	--	102	90.8	--
Beryllium	µg/L	4	--	<0.02	--	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.04	--	0.003	0.12	--
Chromium	µg/L	100	--	0.327	--	0.06	0.1	--
Cobalt	µg/L	6	--	0.492	--	0.347	0.141	--
Copper	µg/L	--	--	1.52	--	0.24	<0.2	--
Lead	µg/L	15	--	0.467	--	0.143	0.07	--
Mercury	µg/L	2	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	2	--	2.13	2.14	--
Selenium	µg/L	50	--	0.2	--	0.05	0.9	--
Thallium	µg/L	2	--	<0.1	--	<0.1	<0.1	--
Zinc	µg/L	--	--	35.2	--	7.4	1	--
Silica (Dissolved)	mg/L	--	--	16.9	--	15.9	15	--
Aluminum	µg/L	--	--	91.9	--	6.25	<5	--
Boron	mg/L	--	0.043	0.05	<0.02	<0.02	0.01	<0.02
Calcium	mg/L	--	(79.5) 78	64.8	--	64.3	63.4	61.9
Lithium	mg/L	0.04	--	<0.009	--	<0.009	0.00402	--
Magnesium	mg/L	--	--	21.2	--	20.4	19.4	--
Manganese	mg/L	--	--	0.576	--	0.699	0.272	--
Potassium	mg/L	--	--	0.89	--	0.92	0.9	--
Sodium	mg/L	--	--	15.3	--	13.5	13.2	--
Strontium	mg/L	--	--	0.0864	--	0.083	0.0803	--
Alkalinity	mg/L	--	--	247	--	241	208	--
Bromide	mg/L	--	--	0.06	--	0.05	0.04	--
Chloride	mg/L	--	(29.6) 32	27.9	31.5	25.4	23.3	24.4
Fluoride	mg/L	4	0.371	0.32	--	0.32	0.33	0.36
TDS	mg/L	--	(412.7) 375	308	--	328	296	297
Sulfate	mg/L	--	(48.53) 49	39	--	39.2	39.3	40.5
Sulfide	mg/L	--	--	<0.1	--	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.291	--	0.451	0.191	--
Radium-226	pCi/L	--	--	0.258	--	0.194	0.0689	--
Radium-226/228	pCi/L	5	--	0.549	--	0.645	0.2599	--
Copper (Dissolved)	µg/L	--	--	0.2	--	0.64	1.08	--
Zinc (Dissolved)	µg/L	--	--	2	--	0.9	2	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	1	<5	--
Iron (Dissolved)	mg/L	--	--	0.037	--	0.02	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.565	--	0.643	0.251	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	6/7/2018	8/16/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.22	368.96	368.9	368.68	366.41	368.04	367.96	367.95	366.6	369.84	369.25
pH	S.U.	--	6.45 -8.63	7.86	7.47	7.29	7.1	7.4	7.39	7.3	8.51	7.24	7.55	7.33
Specific Conductance	µmhos/cm	--	--	586	524	551	516	386	568	388	516	428	460	830
Turbidity	NTU	--	--	2.31	3.15	3.5	0.79	3.45	2.67	2.32	1.72	1.82	5.05	0
Dissolved Oxygen	mg/L	--	--	0.45	0.31	1.77	0.31	5.47	0.79	0.87	0.45	0.84	6.83	0.74
Temperature	°C	--	--	15.8	15.79	19.32	15.58	14.22	14.45	15.65	16.06	15.71	15.35	17.83
ORP	mV	--	--	-2.7	-168.3	45	-0.7	206.9	-87.3	143.6	-24.8	-41	32.3	-24
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.06	0.02	0.02	0.03	0.03	0.04	0.02	--	--	--
Arsenic	µg/L	10	--	0.78	0.82	0.81	0.61	0.62	0.59	0.65	0.62	--	--	--
Barium	µg/L	2000	--	185	195	180	172	157	160	159	169	--	--	--
Beryllium	µg/L	4	--	<0.005	0.006	0.007	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.12	0.12	0.07	0.1	0.26	0.09	0.08	0.08	--	--	--
Chromium	µg/L	100	--	0.2	0.4	0.3	0.05	0.277	0.562	0.188	0.162	--	--	--
Cobalt	µg/L	6	--	0.473	0.439	0.425	0.212	0.327	0.252	0.335	0.353	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.16	1.96	2.09	--
Lead	µg/L	15	--	0.648	0.359	0.247	0.021	0.378	0.045	0.144	0.075	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	2.11	2.16	1.97	2.09	1.8	2.13	1.9	1.89	--	--	--
Selenium	µg/L	50	--	<0.03	<0.03	0.05	0.09	0.08	0.03	0.06	0.04	--	--	--
Thallium	µg/L	2	--	0.02	0.02	0.03	0.01	0.02	0.02	0.02	0.02	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	6	3.5	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.5	17.9	20.5	17.4	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	17.5	20.7	70.5	--
Boron	mg/L	--	0.074	<0.002	0.01	0.013	0.014	<0.002	0.03	0.027	0.073	0.041	0.076	0.038
Calcium	mg/L	--	(79.5) 81	75.6	65.8	66.7	73.9	64.2	74.2	70.8	64.7	67.7	78.6	--
Lithium	mg/L	0.04	--	0.002	0.018	0.002	0.007	0.007	0.008	0.011	0.0006	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	24.3	23.9	21.9	22.6	26.4	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.657	--	0.943	--
Potassium	mg/L	--	--	--	--	--	--	--	1.17	1.21	1.32	1.1	1.28	--
Sodium	mg/L	--	--	--	--	--	--	--	17.3	16.9	16	15.8	16.4	--
Strontium	mg/L	--	--	--	--	--	--	--	0.104	0.104	0.0894	0.0952	0.111	--
Alkalinity	mg/L	--	--	--	--	--	--	--	249	248	261	248	263	--
Bromide	mg/L	--	--	--	--	--	--	--	0.06	0.079	0.156	0.083	0.073	--
Chloride	mg/L	--	(29.6) 25	24.2	24.2	22.8	22.2	22.3	21.7	23.1	23	22.4	43.1	93.0 ?
Fluoride	mg/L	4	0.222	0.19	0.21	0.2	0.19	0.19	0.2	0.21	0.18	0.2	0.22	--
TDS	mg/L	--	(412.7) 358	341	339	338	327	318	318	343	340	332	361	--
Sulfate	mg/L	--	(46.44) 46	42.1	44.2	39.6	35.4	38.3	37.6	40.5	40.5	42.3	39.8	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	--
Radium-228	pCi/L	--	--	0.0495	0.195	0.451	0.473	0.506	1.11	0.0264	0.257	--	--	--
Radium-226	pCi/L	--	--	-0.0267	0.133	-0.00345	1.77	0.772	0.185	0.429	0.115	--	--	--
Radium-226/228	pCi/L	5	--	0.0228	0.328	0.44755	2.243	1.278	1.295	0.4554	0.372	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.11	--	0.12	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.8	--	0.5	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.14	--	2.75	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.055	0.017	0.005	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.565	0.602	0.662	0.619	0.621	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-2D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/12/2018	2/13/2019	5/22/2019	7/24/2019	9/11/2019	11/14/2019	2/18/2020	5/18/2020	7/15/2020
Field Parameters												
Elevation	ft NGVD	--	--	367.91	368.89	371.01	371.37	-----	371.11	-----	369.47	370.67
pH	S.U.	--	6.45 -8.63	7.36	7.32	7.25	6.28	7.15	7.3	7.08	7.76	7.26
Specific Conductance	µmhos/cm	--	--	464	391	803	834	705	726	1377	617	781
Turbidity	NTU	--	--	5.4	2.1	1.25	3	1.9	9.2	2.13	2.92	0.88
Dissolved Oxygen	mg/L	--	--	0.86	0.37	2.29	0.9	0.58	0.3	0.57	0.07	0
Temperature	°C	--	--	14.61	13.7	15.57	15.8	16.5	14.94	12.75	15.06	15.56
ORP	mV	--	--	-25.4	-164	-71.2	8	-109	-73	-76.4	-90	-40
Laboratory Parameters												
Antimony	µg/L	6	--	0.03	--	<0.02	--	--	0.04	--	--	--
Arsenic	µg/L	10	--	0.58	--	0.53	--	--	0.62	--	--	--
Barium	µg/L	2000	--	190	--	248	--	--	193	--	--	--
Beryllium	µg/L	4	--	<0.02	--	<0.02	--	--	<0.02	--	--	--
Cadmium	µg/L	5	--	0.17	--	0.3	--	--	0.19	--	--	--
Chromium	µg/L	100	--	0.2	--	<0.04	--	--	0.334	--	--	--
Cobalt	µg/L	6	--	0.5	--	0.488	--	--	0.537	--	--	--
Copper	µg/L	--	--	0.22	--	0.18	--	--	0.4	--	--	--
Lead	µg/L	15	--	0.14	--	0.129	--	--	0.416	--	--	--
Mercury	µg/L	2	--	--	--	<0.002	--	--	<0.002	--	--	--
Molybdenum	µg/L	100	--	2	--	2	--	--	2.28	--	--	--
Selenium	µg/L	50	--	<0.03	--	<0.03	--	--	0.04	--	--	--
Thallium	µg/L	2	--	<0.1	--	<0.1	--	--	<0.1	--	--	--
Zinc	µg/L	--	--	0.9	--	533	--	--	2	--	--	--
Silica (Dissolved)	mg/L	--	--	17.8	--	17.1	--	--	16.5	--	--	--
Aluminum	µg/L	--	--	15.4	--	3	--	--	10	--	--	--
Boron	mg/L	--	0.074	0.07	--	<0.02	--	--	0.02	--	<0.02	--
Calcium	mg/L	--	(79.5) 81	72.4	--	98.5	114	103	76.9	--	88.7	--
Lithium	mg/L	0.04	--	<0.009	--	0.02	--	--	0.00298	--	--	--
Magnesium	mg/L	--	--	24.5	--	32.2	--	--	24.7	--	--	--
Manganese	mg/L	--	--	0.717	--	0.941	--	--	0.855	--	--	--
Potassium	mg/L	--	--	0.99	--	1.2	--	--	1	--	--	--
Sodium	mg/L	--	--	14.8	--	20.7	--	--	16.9	--	--	--
Strontium	mg/L	--	--	0.102	--	0.138	--	--	0.108	--	--	--
Alkalinity	mg/L	--	--	247	--	261	--	--	252	--	--	--
Bromide	mg/L	--	--	<0.04	--	0.08	--	--	0.06	--	--	--
Chloride	mg/L	--	(29.6) 25	51.3	40.9	135	156	110	56.5	76.3	93.6	96.2
Fluoride	mg/L	4	0.222	0.2	--	0.18	--	SSI ↓	0.18	--	0.21	0.2
TDS	mg/L	--	(412.7) 358	348	--	531	540	443	356	--	399	411
Sulfate	mg/L	--	(46.44) 46	36.1	--	33.3	--	--	38.9	--	36.2	--
Sulfide	mg/L	--	--	<0.1	--	<0.1	--	--	<0.2	--	--	--
Radium-228	pCi/L	--	--	0.0387	--	0.553	--	--	0.803	--	--	--
Radium-226	pCi/L	--	--	0.245	--	0.207	--	--	0.334	--	--	--
Radium-226/228	pCi/L	5	--	0.2837	--	0.76	--	--	1.137	--	--	--
Copper (Dissolved)	µg/L	--	--	0.11	--	0.39	--	--	1.64	--	--	--
Zinc (Dissolved)	µg/L	--	--	1	--	3	--	--	2	--	--	--
Aluminum (Dissolved)	µg/L	--	--	<1	--	1	--	--	<5	--	--	--
Iron (Dissolved)	mg/L	--	--	0.007	--	0.009	--	--	<0.02	--	--	--
Manganese (Dissolved)	mg/L	--	--	0.702	--	0.948	--	--	0.8	--	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-5S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018
Field Parameters				
Elevation	ft NGVD	--	--	392.55
pH	S.U.	--	7.56	7.56
Specific Conductance	µmhos/cm	--	--	1202
Turbidity	NTU	--	--	0.43
Dissolved Oxygen	mg/L	--	--	1.09
Temperature	°C	--	--	12.53
ORP	mV	--	--	71.3
Laboratory Parameters				
Antimony	µg/L	6	--	0.1
Arsenic	µg/L	10	--	0.85
Barium	µg/L	2000	--	158
Beryllium	µg/L	4	--	<0.02
Cadmium	µg/L	5	--	0.08
Chromium	µg/L	100	--	<0.04
Cobalt	µg/L	6	--	8.15
Copper	µg/L	--	--	0.43
Lead	µg/L	15	--	0.05
Mercury	µg/L	2	--	--
Molybdenum	µg/L	100	--	1
Selenium	µg/L	50	--	0.8
Thallium	µg/L	2	--	<0.1
Zinc	µg/L	--	--	5
Silica (Dissolved)	mg/L	--	--	21.5
Aluminum	µg/L	--	--	2
Boron	mg/L	--	0.102	0.102
Calcium	mg/L	--	86.3	86.3
Lithium	mg/L	0.04	--	<0.009
Magnesium	mg/L	--	--	22.2
Manganese	mg/L	--	--	0.522
Potassium	mg/L	--	--	1.78
Sodium	mg/L	--	--	188
Strontium	mg/L	--	--	0.3
Alkalinity	mg/L	--	--	229
Bromide	mg/L	--	--	1.05
Chloride	mg/L	--	364	364
Fluoride	mg/L	4	0.21	0.21
TDS	mg/L	--	840	840
Sulfate	mg/L	--	41.2	41.2
Sulfide	mg/L	--	--	<0.1
Radium-228	pCi/L	--	--	0.915
Radium-226	pCi/L	--	--	0.799
Radium-226/228	pCi/L	5	--	1.714
Copper (Dissolved)	µg/L	--	--	0.11
Zinc (Dissolved)	µg/L	--	--	6.1
Aluminum (Dissolved)	µg/L	--	--	2
Iron (Dissolved)	mg/L	--	--	0.01
Manganese (Dissolved)	mg/L	--	--	0.555

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-6S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/18/2016	9/20/2016	11/16/2016	1/10/2017	3/8/2017	5/8/2017	7/18/2017	10/3/2017	6/5/2018	8/15/2018	9/26/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.59	368.99	368.14	367.39	367.54	367.81	368.48	367.6	369.94	370.04	368.35
pH	S.U.	--	7.9	7.5	7.4	8.1	7.9	7.9	7.6	7.7	7.3	7.52	7.7	7.9
Specific Conductance	µmhos/cm	--	--	401	430	741	360	300	441	292	347	330	483	321
Turbidity	NTU	--	--	1	0.5	1	2	1	1	1	1	0.47	0	8
Dissolved Oxygen	mg/L	--	--	7.1	5.7	1	6	5	5	7	7	5.82	8.1	5.1
Temperature	°C	--	--	16.8	19	15	14.8	14.7	15.5	15.2	16.4	16.28	16	15.5
ORP	mV	--	--	53	71	258	146	36	49	74	0.3	-9.3	155	133
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.03	0.03	0.03	0.03	0.03	0.02	--	--	0.03	0.03
Arsenic	µg/L	10	--	0.26	0.26	0.26	0.28	0.26	0.28	0.27	--	--	0.25	0.25
Barium	µg/L	2000	--	13.6	13.6	14.1	14.8	15.8	15.4	14.3	--	--	14.8	13.5
Beryllium	µg/L	4	--	0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	<0.004	<0.02
Cadmium	µg/L	5	--	0.25	0.02	0.02	0.008	0.05	0.009	0.04	--	--	0.06	0.04
Chromium	µg/L	100	--	0.4	0.3	0.2	0.599	1.37	0.583	0.291	--	--	0.42	0.265
Cobalt	µg/L	6	--	0.052	0.019	0.027	0.045	0.049	0.061	0.026	--	--	0.039	<0.02
Copper	µg/L	--	--	--	--	--	--	--	--	0.37	0.31	0.46	0.42	0.29
Lead	µg/L	15	--	0.074	0.034	0.05	0.032	0.113	0.083	0.056	--	--	0.247	0.03
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--
Molybdenum	µg/L	100	--	3.28	3.34	2.8	2.93	3.29	2.73	4.36	--	--	2.22	2.37
Selenium	µg/L	50	--	0.3	0.2	0.3	0.4	0.7	0.8	0.4	--	--	0.4	0.2
Thallium	µg/L	2	--	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	--	--	0.01	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	1	0.5	2.5	1	0.7
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	14.4	14.6	16.9	15.4	15.2	16.8
Aluminum	µg/L	--	--	--	--	--	--	--	--	8.57	17.8	10.4	13.8	3
Boron	mg/L	--	0.012	0.014	0.012	0.028	0.006	0.032	0.051	0.078	0.094	0.09	0.101	0.08
Calcium	mg/L	--	46.1	46.3	44.4	50.8	47.8	53.2	50.3	47	44.8	45.2	52.8	44.1
Lithium	mg/L	0.04	--	0.015	0.004	0.006	0.014	0.009	0.011	<0.0002	--	--	0.005	0.02
Magnesium	mg/L	--	--	--	--	--	--	23.3	23.5	20.9	19.8	19.3	24	18.8
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0007	--	0.0024	0.0021	<0.0002
Potassium	mg/L	--	--	--	--	--	--	0.7	0.75	0.82	0.78	0.57	0.91	0.71
Sodium	mg/L	--	--	--	--	--	--	38.9	34.9	26.3	23.2	15.6	25.6	26.1
Strontium	mg/L	--	--	--	--	--	--	0.0661	0.067	0.0574	0.0548	0.0555	0.065	0.051
Alkalinity	mg/L	--	--	--	--	--	--	260	272	241	249	237	267	241
Bromide	mg/L	--	--	--	--	--	--	<0.02	0.072	<0.05	0.04	0.03	0.04	<0.04
Chloride	mg/L	--	8.44	8.35	6.04	7.04	7.03	3.32	8.68	4.88	3.28	2.38	11.9	6.83
Fluoride	mg/L	4	0.73	0.79	0.73	0.69	0.65	0.25	0.69	0.57	0.71	0.89	0.81	0.84
TDS	mg/L	--	294	290	266	279	287	296	305	274	261	225	277	261
Sulfate	mg/L	--	18.8	18.3	10.9	14.3	14	6.9	17.5	9.6	7.5	3.8	15.6	9.8
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.4	<0.1
Radium-228	pCi/L	--	--	0.101	0.798	-0.249	0.501	0.297	-0.337	0.954	--	--	0.328	0.367
Radium-226	pCi/L	--	--	0	0.0671	0.202	0.0815	-0.00471	0.12	-0.0229	--	--	0.0553	0.089
Radium-226/228	pCi/L	5	--	0.101	0.8651	-0.047	0.5825	0.29229	-0.217	0.954	--	--	0.3833	0.456
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	1.85	--	0.4	2.17	1.86
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.2	--	0.9	3.1	3
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	4.34	--	1	2.51	109
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.023	<0.002	0.003	0.163
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	<0.0001	0.0002	0.0007	0.0015	<0.0002	0.0121

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/1/2018	11/14/2018	12/12/2018	5/23/2019	11/14/2019	5/19/2020
Field Parameters									
Elevation	ft NGVD	--	--	368.89	368.72	368.4	372.52	370.42	370.70
pH	S.U.	--	7.9	7.31	7.91	7.46	7.42	7.29	7.67
Specific Conductance	µmhos/cm	--	--	430	221	464	473	452	373
Turbidity	NTU	--	--	0.51	0.4	0.53	1.4	0.21	5.46
Dissolved Oxygen	mg/L	--	--	7.53	5.5	4.42	6.4	5.85	7.17
Temperature	°C	--	--	15.04	14.4	14.71	16.6	14.4	15.47
ORP	mV	--	--	115.3	126	196	70	291.1	150
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	0.03	0.03	0.03	0.03	--
Arsenic	µg/L	10	--	0.23	0.23	0.24	0.22	0.23	--
Barium	µg/L	2000	--	12.1	11.8	13.4	15.9	15	--
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.01	<0.01	<0.01	0.03	<0.01	--
Chromium	µg/L	100	--	0.221	0.218	0.212	0.285	0.284	--
Cobalt	µg/L	6	--	<0.02	<0.02	<0.02	<0.02	<0.02	--
Copper	µg/L	--	--	0.17	0.18	0.26	0.51	<0.2	--
Lead	µg/L	15	--	<0.02	0.02	<0.02	0.04	<0.05	--
Mercury	µg/L	2	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	2.38	2.18	2.2	2	2	--
Selenium	µg/L	50	--	0.2	0.2	0.4	0.6	0.4	--
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	<0.7	1	2	<0.7	<0.7	--
Silica (Dissolved)	mg/L	--	--	15.3	15.2	15.9	15.8	15	--
Aluminum	µg/L	--	--	2	5.28	3	2	<5	--
Boron	mg/L	--	0.012	0.04	0.04	0.102	0.02	0.01	<0.02
Calcium	mg/L	--	46.1	42.3	38.8	46.8	52.5	47.8	43.1
Lithium	mg/L	0.04	--	<0.009	0.01	<0.009	0.02	0.00645	--
Magnesium	mg/L	--	--	19.3	17.5	20.8	22.9	20	--
Manganese	mg/L	--	--	0.0007	0.0002	0.0003	0.0003	<0.0005	--
Potassium	mg/L	--	--	0.5	0.92	0.86	0.62	0.4	--
Sodium	mg/L	--	--	22	20.2	23.3	25.5	29.6	--
Strontium	mg/L	--	--	0.0519	0.0524	0.0595	0.691	0.0627	--
Alkalinity	mg/L	--	--	230	242	247	264	262	--
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	8.44	3.52	3.91	6.48	9.64	5.36	1.49
Fluoride	mg/L	4	0.73	0.86	0.88	0.88	0.95	0.9	1.02
TDS	mg/L	--	294	225	196	240	315	277	214
Sulfate	mg/L	--	18.8	4.9	5.2	10	16.8	12	1.6
Sulfide	mg/L	--	--	<0.1	<0.07	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.354	0.387	-0.368	0.343	-0.011	--
Radium-226	pCi/L	--	--	0.0398	0.0239	0.0533	0.0431	0.0416	--
Radium-226/228	pCi/L	5	--	0.3938	0.4109	0.0533	0.3861	0.0416	--
Copper (Dissolved)	µg/L	--	--	0.14	0.53	0.17	1.22	0.4	--
Zinc (Dissolved)	µg/L	--	--	0.7	<0.7	2	1	0.9	--
Aluminum (Dissolved)	µg/L	--	--	1	2	8.1	1	<5	--
Iron (Dissolved)	mg/L	--	--	<0.003	0.005	0.01	<0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.0003	<0.0002	0.0007	0.0002	<0.0005	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/25/2018	10/31/2018	11/15/2018	12/12/2018	5/23/2019	11/14/2019	5/20/2020
Field Parameters										
Elevation	ft NGVD	--	--	369.18	368.75	368.62	368.48	372.32	370.28	370.42
pH	S.U.	--	7.6	7.8	7.25	7.35	7.44	7.66	7.32	7.49
Specific Conductance	µmhos/cm	--	--	332	467	344	458	453	374	431
Turbidity	NTU	--	--	6.5	0.76	0.74	0.25	0.36	0.46	0.4
Dissolved Oxygen	mg/L	--	--	1.7	0.27	2.78	0.79	1.02	2.15	2.34
Temperature	°C	--	--	16.4	15.9	14.2	14.71	16.5	14.4	14.57
ORP	mV	--	--	149	24.9	140.5	163	168.8	301.7	188
Laboratory Parameters										
Antimony	µg/L	6	--	0.25	0.25	0.25	0.23	0.23	0.2	--
Arsenic	µg/L	10	--	0.2	0.2	0.19	0.19	0.19	0.19	--
Barium	µg/L	2000	--	31.9	32.2	31.9	30.5	35.8	28.5	--
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.11	0.01	0.01	0.01	0.01	0.02	--
Chromium	µg/L	100	--	0.05	0.1	<0.04	0.05	0.07	0.222	--
Cobalt	µg/L	6	--	0.313	0.452	0.42	0.362	0.436	0.525	--
Copper	µg/L	--	--	2.36	0.78	0.92	1.21	0.6	0.7	--
Lead	µg/L	15	--	0.05	0.118	<0.02	<0.02	<0.02	<0.05	--
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	5.31	4.7	4.46	4.17	4.4	4.43	--
Selenium	µg/L	50	--	0.6	0.7	0.8	0.6	0.6	0.4	--
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	--
Zinc	µg/L	--	--	3	<0.7	0.7	2	1	1	--
Silica (Dissolved)	mg/L	--	--	19.9	18.1	18.8	18.6	18.1	16.6	--
Aluminum	µg/L	--	--	6.57	5.88	5.54	3	4	<5	--
Boron	mg/L	--	0.06	0.06	0.04	0.03	0.06	<0.02	0.01	<0.02
Calcium	mg/L	--	42.2	43.1	42.4	43.1	47.2	47.4	44.7	50.8
Lithium	mg/L	0.04	--	0.01	<0.009	0.034	<0.009	0.01	0.0054	--
Magnesium	mg/L	--	--	13.9	15.1	14.6	16.1	15.7	14	--
Manganese	mg/L	--	--	0.185	0.24	0.247	0.249	0.272	0.276	--
Potassium	mg/L	--	--	0.93	0.76	0.78	0.88	1.13	0.8	--
Sodium	mg/L	--	--	35.7	35.9	32.9	32.7	29.9	26.6	--
Strontium	mg/L	--	--	0.0482	0.0528	0.0549	0.061	0.0622	0.0582	--
Alkalinity	mg/L	--	--	267	259	246	257	278	227	--
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	5.18	2.91	3.47	3.94	3.84	2.7	2.26	3.09
Fluoride	mg/L	4	0.89	0.88	0.86	0.86	0.86	0.85	0.89	0.94
TDS	mg/L	--	281	274	245	248	245	268	224	229
Sulfate	mg/L	--	9.9	5.4	4.9	6.3	7.3	4.1	4.1	7.1
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.218	0.216	0.675	0.488	0.496	0.296	--
Radium-226	pCi/L	--	--	0.35	0.323	0.638	0.489	0.557	0.215	--
Radium-226/228	pCi/L	5	--	0.568	0.539	1.313	0.977	1.053	0.511	--
Copper (Dissolved)	µg/L	--	--	2.79	1.09	0.86	0.74	2.58	0.5	--
Zinc (Dissolved)	µg/L	--	--	4	1	<0.7	<0.7	3	0.9	--
Aluminum (Dissolved)	µg/L	--	--	30.9	1	8.05	4	4	<5	--
Iron (Dissolved)	mg/L	--	--	0.064	<0.003	0.003	0.004	0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.254	0.232	0.246	0.231	0.256	0.238	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-6D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/25/2018	10/31/2018	11/14/2018	12/12/2018	5/23/2019	11/14/2019	5/18/2020
Field Parameters										
Elevation	ft NGVD	--	--	369.15	368.72	369.6	368.44	372.31	370.23	370.6
pH	S.U.	--	7.5	7.7	7.21	7.54	7.4	7.55	7.73	7.34
Specific Conductance	µmhos/cm	--	--	369	521	365	513	681	730	539
Turbidity	NTU	--	--	9	0	8.4	0.25	1.2	1.2	0.44
Dissolved Oxygen	mg/L	--	--	0.4	0.34	0.42	0.15	0.9	2.19	9.55
Temperature	°C	--	--	16.2	16	13.5	15.07	18.6	14.1	14.64
ORP	mV	--	--	155	54.3	131	110	145	126.6	127
Laboratory Parameters										
Antimony	µg/L	6	--	0.02	0.03	0.03	0.02	<0.02	0.05	--
Arsenic	µg/L	10	--	0.89	1.3	1.05	0.93	0.94	1.08	--
Barium	µg/L	2000	--	77.1	75.7	73.6	76.5	112	76	--
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.03	0.01	0.02	0.01	0.01	0.01	--
Chromium	µg/L	100	--	0.04	0.346	0.2	0.05	0.08	0.09	--
Cobalt	µg/L	6	--	0.392	0.806	0.598	0.404	0.578	0.429	--
Copper	µg/L	--	--	0.45	1.18	1.6	1.64	0.17	0.5	--
Lead	µg/L	15	--	<0.02	0.205	0.167	<0.02	<0.02	<0.05	--
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002	--
Molybdenum	µg/L	100	--	3.23	2.79	2.83	3.02	2.81	3.13	--
Selenium	µg/L	50	--	7.3	8.5	8.2	4.3	0.09	9.3	--
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	<0.7	2	73.1	2	<0.7	<0.7	--
Silica (Dissolved)	mg/L	--	--	19.5	17.5	17.6	18	18.2	16.5	--
Aluminum	µg/L	--	--	2	142	70.3	3	1	6	--
Boron	mg/L	--	0.094	0.05	0.03	0.05	0.115	0.03	0.02	<0.02
Calcium	mg/L	--	61.9	61.7	57.2	53.1	60.1	78.9	62	62.4
Lithium	mg/L	0.04	--	0.02	0.009	0.01	<0.009	0.01	0.00722	--
Magnesium	mg/L	--	--	16.8	16.9	15.2	17.1	22.1	17.4	--
Manganese	mg/L	--	--	0.147	0.145	0.156	0.144	0.278	0.12	--
Potassium	mg/L	--	--	1.2	1.04	1.43	1.47	1.29	1.05	--
Sodium	mg/L	--	--	29	27.8	26.5	29	35.5	30	--
Strontium	mg/L	--	--	0.0919	0.093	0.0927	0.102	0.14	0.0949	--
Alkalinity	mg/L	--	--	260	260	266	271	305	265	--
Bromide	mg/L	--	--	<0.04	<0.04	<0.04	<0.04	0.07	<0.04	--
Chloride	mg/L	--	12.3	10.9	10.2	10	10.8	25.1	12.2	15.6
Fluoride	mg/L	4	0.39	0.41	0.41	0.42	0.42	0.36	0.41	0.43
TDS	mg/L	--	331	310	295	276	296	408	310	311
Sulfate	mg/L	--	27.3	24.1	23	22.2	23.6	39.5	25.4	29.8
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.29	0.21	0.275	-0.0272	0.586	0.179	--
Radium-226	pCi/L	--	--	0.295	0.122	0.102	0.423	0.543	0.108	--
Radium-226/228	pCi/L	5	--	0.585	0.332	0.377	0.423	0.423	0.423	--
Copper (Dissolved)	µg/L	--	--	1.27	0.44	0.7	0.5	0.53	0.4	--
Zinc (Dissolved)	µg/L	--	--	2	0.9	2	2	1	2	--
Aluminum (Dissolved)	µg/L	--	--	31.6	3	2	45.3	15.6	10	--
Iron (Dissolved)	mg/L	--	--	0.082	<0.003	0.004	0.117	0.007	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.127	0.137	0.135	0.142	0.263	0.123	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/14/2018	12/12/2018	5/22/2019
Field Parameters								
Elevation	ft NGVD	--	--	369.5	368.76	368.68	368.47	371.91
pH	S.U.	--	7.4	7.4	7.33	7.31	7.3	8.39
Specific Conductance	µmhos/cm	--	--	417	611	455	629	527
Turbidity	NTU	--	--	106	104	42.6	44	4.77
Dissolved Oxygen	mg/L	--	--	0.4	0.32	0.7	0.23	0.65
Temperature	°C	--	--	15.4	15.01	13.9	14.43	14.69
ORP	mV	--	--	106	85.4	48.2	92	0.1
Laboratory Parameters								
Antimony	µg/L	6	--	0.14	0.15	0.06	0.09	0.02
Arsenic	µg/L	10	--	1.48	2.01	0.7	1.06	0.11
Barium	µg/L	2000	--	18.7	24.3	12.9	15.4	8.42
Beryllium	µg/L	4	--	0.101	0.127	0.05	0.07	<0.02
Cadmium	µg/L	5	--	0.05	0.06	0.02	0.05	0.02
Chromium	µg/L	100	--	2.08	2.45	0.831	1.48	0.1
Cobalt	µg/L	6	--	6.48	9.82	3.47	4.98	0.255
Copper	µg/L	--	--	4.4	5.36	1.91	2.76	0.51
Lead	µg/L	15	--	4.69	6.69	2.38	3.56	0.205
Mercury	µg/L	2	--	--	--	--	--	<0.002
Molybdenum	µg/L	100	--	<0.4	<0.4	<0.4	<0.4	<0.4
Selenium	µg/L	50	--	0.6	0.8	0.3	0.4	0.2
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	7.9	9.5	14	5	39.1
Silica (Dissolved)	mg/L	--	--	20.8	18.7	18.6	19.3	18.4
Aluminum	µg/L	--	--	1520	1850	681	1170	39.3
Boron	mg/L	--	0.079	0.04	0.07	0.135	0.08	0.03
Calcium	mg/L	--	70.2	73.7	68.3	66.2	67.1	62.4
Lithium	mg/L	0.04	--	0.02	0.01	<0.009	<0.009	<0.009
Magnesium	mg/L	--	--	25.4	25.7	24.3	24.6	21.7
Manganese	mg/L	--	--	0.334	0.49	0.182	0.248	0.0145
Potassium	mg/L	--	--	1.33	1.39	1.81	1.3	0.87
Sodium	mg/L	--	--	17.9	19.1	18.9	18.7	17
Strontium	mg/L	--	--	0.083	0.0857	0.0883	0.0874	0.0803
Alkalinity	mg/L	--	--	256	261	255	261	242
Bromide	mg/L	--	--	0.09	0.09	0.09	0.09	0.1
Chloride	mg/L	--	32.8	32.2	33.5	33.2	33.6	35.4
Fluoride	mg/L	4	0.52	0.54	0.53	0.54	0.55	0.55
TDS	mg/L	--	358	370	358	354	353	353
Sulfate	mg/L	--	32	32.2	33.1	33.1	33.7	34.1
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1
Radium-228	pCi/L	--	--	0.48	0.601	0.254	0.191	0.27
Radium-226	pCi/L	--	--	0.271	0.245	0.211	0.507	0.0334
Radium-226/228	pCi/L	5	--	0.751	0.846	0.465	0.698	0.3034
Copper (Dissolved)	µg/L	--	--	1.01	0.07	1.62	0.2	0.17
Zinc (Dissolved)	µg/L	--	--	2	<0.7	3	<0.7	<0.7
Aluminum (Dissolved)	µg/L	--	--	311	3	2	3	2
Iron (Dissolved)	mg/L	--	--	0.618	0.004	0.005	0.007	<0.003
Manganese (Dissolved)	mg/L	--	--	0.0797	0.0021	0.0012	0.0026	0.0009

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/15/2018	12/12/2018	5/22/2019
Field Parameters								
Elevation	ft NGVD	--	--	369.01	368.51	368.5	368.27	371.73
pH	S.U.	--	7.4	7.5	7.3	7.03	7.27	8.4
Specific Conductance	µmhos/cm	--	--	419	613	460	645	573
Turbidity	NTU	--	--	19	14.4	7.05	19.9	1.6
Dissolved Oxygen	mg/L	--	--	0.3	0.36	0.95	0.21	0.7
Temperature	°C	--	--	15.5	15.17	13.78	14.46	15.1
ORP	mV	--	--	57	-19.2	68.4	44	-71.2
Laboratory Parameters								
Antimony	µg/L	6	--	0.02	0.03	<0.02	<0.02	0.02
Arsenic	µg/L	10	--	0.28	0.43	0.24	0.26	0.23
Barium	µg/L	2000	--	175	230	162	147	116
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.05	0.06	0.03	0.03	0.35
Chromium	µg/L	100	--	0.2	0.315	0.09	0.07	0.09
Cobalt	µg/L	6	--	3.07	8.34	1.11	1.67	1.1
Copper	µg/L	--	--	0.55	1.45	0.59	0.76	0.4
Lead	µg/L	15	--	0.45	0.6	0.05	0.145	0.228
Mercury	µg/L	2	--	--	--	--	--	<0.002
Molybdenum	µg/L	100	--	4.2	4.31	<0.4	3.45	3.63
Selenium	µg/L	50	--	0.05	0.09	0.05	0.05	0.04
Thallium	µg/L	2	--	<0.1	0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	2	15.1	1	2	3
Silica (Dissolved)	mg/L	--	--	20.5	18.1	18.5	18.8	18.4
Aluminum	µg/L	--	--	74.1	304	69.9	39.5	27.7
Boron	mg/L	--	0.07	0.04	0.06	0.09	0.08	0.03
Calcium	mg/L	--	75.3	75.4	68.8	68.8	73.7	73.7
Lithium	mg/L	0.04	--	0.01	<0.009	<0.009	<0.009	<0.009
Magnesium	mg/L	--	--	21.9	21.7	21.4	22.8	21.5
Manganese	mg/L	--	--	2.76	4	1.08	2.89	0.821
Potassium	mg/L	--	--	1.22	0.97	1.57	1.19	1.08
Sodium	mg/L	--	--	19.8	20.1	21.5	21.3	18.1
Strontium	mg/L	--	--	0.0928	0.0932	0.1	0.103	0.11
Alkalinity	mg/L	--	--	236	237	233	229	232
Bromide	mg/L	--	--	0.1	0.1	0.1	0.1	0.1
Chloride	mg/L	--	45	45.8	48.2	47.6	48.8	49
Fluoride	mg/L	4	0.33	0.34	0.34	0.35	0.35	0.33
TDS	mg/L	--	312	348	338	354	347	376
Sulfate	mg/L	--	38.4	38.9	38.9	39	39.1	43.1
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1
Radium-228	pCi/L	--	--	-0.0705	0.369	0.123	0.089	0.643
Radium-226	pCi/L	--	--	4.16	0.513	0.605	0.934	0.155
Radium-226/228	pCi/L	5	--	4.16	0.882	0.728	1.023	0.798
Copper (Dissolved)	µg/L	--	--	0.93	0.24	1.56	0.72	0.15
Zinc (Dissolved)	µg/L	--	--	2	0.9	3	2	2
Aluminum (Dissolved)	µg/L	--	--	1	10.6	2	137	2
Iron (Dissolved)	mg/L	--	--	<0.003	0.01	0.006	0.128	<0.003
Manganese (Dissolved)	mg/L	--	--	0.172	0.51	0.243	3.9	0.121

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-7D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/12/2018	5/22/2019
Field Parameters								
Elevation	ft NGVD	--	--	369.08	368.65	368.57	368.35	371.82
pH	S.U.	--	7.2	7.5	6.91	7.26	7.18	7.91
Specific Conductance	µmhos/cm	--	--	419	617	444	622	549
Turbidity	NTU	--	--	10.8	1.02	5.96	0	0.01
Dissolved Oxygen	mg/L	--	--	0.7	3.72	11.3	0.52	2
Temperature	°C	--	--	15.2	14.79	13.32	15.23	16.25
ORP	mV	--	--	57	26.4	26.4	-5	-40.4
Laboratory Parameters								
Antimony	µg/L	6	--	0.04	0.03	0.04	0.06	0.02
Arsenic	µg/L	10	--	0.91	0.8	0.87	0.85	0.72
Barium	µg/L	2000	--	286	283	268	320	284
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.02	0.02	0.04	<0.01	<0.01
Chromium	µg/L	100	--	0.2	0.334	0.1	0.1	0.07
Cobalt	µg/L	6	--	2.52	2.46	2.24	2.24	1.88
Copper	µg/L	--	--	0.34	0.44	0.57	1.59	0.08
Lead	µg/L	15	--	0.1	0.164	0.101	0.144	<0.02
Mercury	µg/L	2	--	--	--	--	--	<0.002
Molybdenum	µg/L	100	--	4.09	9.76	7.38	5.43	3.49
Selenium	µg/L	50	--	0.05	0.05	0.03	<0.03	<0.03
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	2	4	3	5.1
Silica (Dissolved)	mg/L	--	--	216	19.2	19.9	19.8	19.2
Aluminum	µg/L	--	--	31.4	56.7	16.5	<1	1
Boron	mg/L	--	0.06	0.04	0.05	0.07	0.04	0.02
Calcium	mg/L	--	80.1	79.2	75	62.8	77.4	76.7
Lithium	mg/L	0.04	--	<0.009	0.01	0.02	<0.009	<0.009
Magnesium	mg/L	--	--	25	25.8	21	25.7	24.3
Manganese	mg/L	--	--	1.89	1.66	1.34	1.51	1.49
Potassium	mg/L	--	--	1.22	1.07	1.39	1.25	0.94
Sodium	mg/L	--	--	14.2	15.4	12.9	15.3	13.9
Strontium	mg/L	--	--	0.137	0.141	0.125	0.146	0.138
Alkalinity	mg/L	--	--	273	293	296	300	296
Bromide	mg/L	--	--	0.09	0.08	0.08	0.08	0.009
Chloride	mg/L	--	17.3	17.5	17.2	16.9	17.2	19.1
Fluoride	mg/L	4	0.27	0.26	0.26	0.26	0.27	0.26
TDS	mg/L	--	359	358	3.46	340	344	371
Sulfate	mg/L	--	36.9	36.3	36	35.4	35.5	35.2
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.07	<0.1
Radium-228	pCi/L	--	--	0.36	0.202	0.548	0.159	0.89
Radium-226	pCi/L	--	--	0.983	0.107	0.45	0.717	0.265
Radium-226/228	pCi/L	5	--	1.343	0.309	0.998	0.876	1.155
Copper (Dissolved)	µg/L	--	--	0.55	0.17	2.01	0.18	0.77
Zinc (Dissolved)	µg/L	--	--	2	2	4	1	3
Aluminum (Dissolved)	µg/L	--	--	6.36	6.44	2	3	2
Iron (Dissolved)	mg/L	--	--	0.103	0.081	0.08	0.093	0.072
Manganese (Dissolved)	mg/L	--	--	1.76	1.6	1.47	1.35	1.5

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-8S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/19/2016	9/21/2016	11/17/2016	1/9/2017	3/7/2017	5/9/2017	7/18/2017	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019	11/21/2019	5/19/2020
Field Parameters																	
Elevation	ft NGVD	--	--	369.78	369.44	369.25	368.53	368.39	368.39	368.81	367.5	366.59	369.59	368.9	371.48	371.51	370.01
pH	S.U.	--	7.3	7.2	7.1	7.9	7.6	7.6	7.4	7.4	7.75	7.7	7.59	7.58	7.38	7.43	6.29
Specific Conductance	µmhos/cm	--	--	516	540	811	450	260	444	410	395	460	400	354	440	495	567
Turbidity	NTU	--	--	1.1	2	2	3	4	8	1	2.46	6	3.48	2.6	0.69	53.7	0
Dissolved Oxygen	mg/L	--	--	3.2	3.6	1	2	4	2	3.2	3.12	0.8	2.1	3.8	6.54	6.51	4.63
Temperature	°C	--	--	20.7	21.6	16.2	14	14.2	15.6	15.8	16.57	14.1	15.05	14.4	16.17	12.82	14.81
ORP	mV	--	--	29	18	275	131	50	50	65	29.9	-17	-33.7	158	54.2	110.9	164
Laboratory Parameters																	
Antimony	µg/L	6	--	0.3	0.02	0.03	0.02	0.04	0.03	0.02	--	--	--	0.05	<0.02	0.04	--
Arsenic	µg/L	10	--	1.78	1.33	1.26	1.56	1.53	2.09	1.19	--	--	--	1.61	1.52	1.97	--
Barium	µg/L	2000	--	13.1	12.2	10.9	13.8	14.5	16.9	10.9	--	--	--	10.4	9.22	16.6	--
Beryllium	µg/L	4	--	0.232	<0.005	<0.005	0.006	0.009	0.01	<0.004	--	--	--	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.31	0.02	0.05	0.01	0.26	0.09	0.13	--	--	--	0.03	<0.01	0.03	--
Chromium	µg/L	100	--	0.6	0.4	0.156	1.04	0.881	0.423	0.277	--	--	--	0.578	0.235	0.378	--
Cobalt	µg/L	6	--	0.453	0.125	0.113	0.447	0.433	0.981	0.052	--	--	--	0.207	0.058	0.669	--
Copper	µg/L	--	--	--	--	--	--	--	--	0.18	0.12	--	0.25	1.7	0.13	0.5	--
Lead	µg/L	15	--	0.364	0.066	0.065	0.19	0.278	0.389	0.038	--	--	--	0.152	0.03	0.33	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.015	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	1.1	0.8	0.71	0.77	1.56	0.75	0.83	--	--	--	0.9	0.9	0.5	--
Selenium	µg/L	50	--	0.6	0.2	0.2	0.2	0.2	0.3	0.2	--	--	--	0.5	0.6	1	--
Thallium	µg/L	2	--	0.276	0.03	<0.01	0.01	0.17	<0.01	<0.01	--	--	--	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	0.7	0.6	--	1	3	2	2	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	21.5	21.2	24.7	--	21.7	21.4	<0.06	20.9	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	7.37	10.6	--	53	31	8.03	164	--
Boron	mg/L	--	0.01	0.012	0.011	0.032	<0.002	0.043	0.028	0.022	0.016	--	0.058	0.04	<0.02	0.01	<0.02
Calcium	mg/L	--	42.7	41.5	42.7	42.9	45.8	44.8	42.9	44.4	39.8	--	42.3	35.6	35.9	39	42.2
Lithium	mg/L	0.04	--	0.025	0.001	0.002	0.002	0.006	0.006	0.001	--	--	--	<0.009	0.02	0.00311	--
Magnesium	mg/L	--	--	--	--	--	--	19.6	20	20	17.6	--	18.8	16	16.1	16.9	--
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0021	--	--	0.0323	0.0154	0.0033	0.0413	--
Potassium	mg/L	--	--	--	--	--	--	0.91	0.89	0.77	0.65	--	0.82	0.88	0.76	1	--
Sodium	mg/L	--	--	--	--	--	--	41.2	40.5	42.1	43.2	--	40.1	34.6	37.4	39.7	--
Strontium	mg/L	--	--	--	--	--	--	0.0562	0.0564	0.0543	0.0494	--	0.0555	0.0464	0.0458	0.0478	--
Alkalinity	mg/L	--	--	--	--	--	--	162	181	167	171	--	181	159	150	173	--
Bromide	mg/L	--	--	--	--	--	--	0.03	0.062	0.04	0.06	--	<0.02	<0.04	<0.04	0.1	--
Chloride	mg/L	--	23.7	23.5	22.1	21.1	20.8	21.4	22.8	22.7	22.4	22.5	23.8	22.9	23.6	23.1	27.2
Fluoride	mg/L	4	0.56	0.56	0.54	0.55	0.47	0.52	0.52	0.47	0.52	0.56	0.59	0.57	0.58	0.49	0.5
TDS	mg/L	--	345	321	332	322	300	320	319	319	317	--	324	288	312	324	342
Sulfate	mg/L	--	26.5	26.4	23.4	21.7	22.1	21.7	21.8	22.3	23.1	24.9	21.2	19.5	20.4	20	23.8
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.1	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.455	1.16	0.343	0.394	0.26	-0.175	1.5	--	--	--	0.346	0.113	0.0252	--
Radium-226	pCi/L	--	--	0.122	0.131	0.147	0.282	0.0561	0.127	0.153	--	--	--	0.137	0.0183	0.296	--
Radium-226/228	pCi/L	5	--	0.577	1.291	0.49	0.676	0.3161	-0.048	1.653	--	--	--	0.483	0.1313	0.3212	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.96	--	--	0.44	0.29	0.48	<0.2	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.5	--	--	0.7	2	2	0.7	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2	--	--	1	1	7.36	10	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.004	<0.0004	<0.0004	0.014	--	0.002	0.003	0.007	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	0.0002	0.0004	0.0002	0.0004	--	0.0012	0.0006	0.0007	<0.0005	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-8I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/19/2016	9/21/2016	11/17/2016	1/9/2017	3/6/2017	5/9/2017	7/18/2017	10/4/2017	12/12/2017	6/4/2018	11/14/2018	5/23/2019	11/22/2019	5/19/2020
Field Parameters																	
Elevation	ft NGVD	--	--	370.06	369.7	369.51	368.84	368.68	368.68	369.07	367.78	366.87	369.85	367.78	371.38	371.37	369.87
pH	S.U.	--	7.2	7.2	7.44	7.6	7.6	7.4	7.2	7.3	7.56	7.9	7.68	7.22	7.22	6.73	7.83
Specific Conductance	µmhos/cm	--	--	580	455	968	420	80	507	485	471	390	619	453	607	525	601
Turbidity	NTU	--	--	9	3.29	1	5	10	2	1	6.26	1	3.18	9	2.4	8	0
Dissolved Oxygen	mg/L	--	--	0.6	0.17	0.8	1	4.5	0.3	0.2	0.31	9.7	2.46	0.37	2.53	1.3	0
Temperature	°C	--	--	21	15.39	17.1	14	14.4	15	16.2	15.51	14.4	17.42	13.8	19.41	13.6	15.09
ORP	mV	--	--	-60	-63.9	-1	29	25	52	-15	-67.4	111	-75.3	190	-8.1	-185	21
Laboratory Parameters																	
Antimony	µg/L	6	--	0.27	0.07	0.1	0.08	0.08	0.08	0.07	--	--	--	0.17	0.17	0.16	--
Arsenic	µg/L	10	--	11.5	2.08	1.39	2.58	2.78	2.09	1.31	--	--	--	3.41	1.07	1.6	--
Barium	µg/L	2000	--	70.1	57	58.4	54.9	56.9	57.8	60.4	--	--	--	57.9	63.8	58.5	--
Beryllium	µg/L	4	--	0.119	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.28	0.02	0.04	0.02	0.04	0.05	0.02	--	--	--	0.15	0.02	0.08	--
Chromium	µg/L	100	--	0.5	0.1	0.055	0.817	0.511	0.23	0.077	--	--	--	0.07	0.05	0.1	--
Cobalt	µg/L	6	--	0.961	0.643	0.646	0.671	0.656	0.77	0.672	--	--	--	1.01	0.55	0.741	--
Copper	µg/L	--	--	--	--	--	--	--	--	0.11	0.13	--	0.42	1.45	0.2	0.5	--
Lead	µg/L	15	--	0.242	0.02	0.032	0.025	0.032	0.054	0.01	--	--	--	0.111	<0.02	<0.05	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	3	2.34	2.47	2.31	2.73	2.29	2.58	--	--	--	2.7	2.72	2.43	--
Selenium	µg/L	50	--	7.5	2.7	3	2.3	2.9	4.5	4.7	--	--	--	2.5	3.7	1.4	--
Thallium	µg/L	2	--	0.166	0.03	0.03	0.04	0.05	0.03	0.03	--	--	--	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	0.7	0.9	--	3.2	9.2	21.9	3	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	14.6	14.7	17.1	--	16.4	14.1	<0.06	13.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	2	1	--	0.8	8.7	<1	<5	--
Boron	mg/L	--	0.017	0.016	0.017	0.028	0.006	0.083	0.045	0.026	0.096	--	0.044	0.06	0.03	0.02	0.02
Calcium	mg/L	--	72	67.9	67.4	77.5	79.5	74.7	71.9	72.2	74.7	--	76.7	67.7	70.7	66.9	68.8
Lithium	mg/L	0.04	--	0.007	0.008	0.009	0.005	0.01	0.001	<0.0002	--	--	--	0.02	0.02	0.00419	--
Magnesium	mg/L	--	--	--	--	--	--	22.3	22.9	22.2	22.5	--	23.5	21.4	22.4	20.7	--
Manganese	mg/L	--	--	--	--	--	--	--	--	0.357	--	--	0.32	0.509	0.407	0.443	--
Potassium	mg/L	--	--	--	--	--	--	1.84	1.73	1.48	2.02	--	1.6	2.28	1.76	1.76	--
Sodium	mg/L	--	--	--	--	--	--	29.4	28.5	29.7	28.6	--	32.5	31.5	31.6	29.2	--
Strontium	mg/L	--	--	--	--	--	--	0.146	0.148	0.14	0.146	--	0.152	0.139	0.138	0.129	--
Alkalinity	mg/L	--	--	--	--	--	--	245	246	247	237	--	268	250	250	268	--
Bromide	mg/L	--	--	--	--	--	--	0.04	0.065	0.062	0.064	--	0.05	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	21.7	22	21.5	21.3	20.9	20.7	21.2	20.9	20.1	19.3	20.9	20.6	21	19.7	20.4
Fluoride	mg/L	4	0.35	0.34	0.29	0.29	0.25	0.28	0.28	0.25	0.27	0.29	0.29	0.33	0.34	0.3	0.32
TDS	mg/L	--	370	358	376	387	371	391	376	379	378	--	407	390	371	381	357
Sulfate	mg/L	--	87.5	86.3	79.2	77.5	80	80.3	81.9	83.4	85.9	87.1	79	68.2	62.3	68.3	61.7
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.4275	0.157	0.42	1.1	0.372	0.45	0.616	--	--	--	0.354	0.43	0.479	--
Radium-226	pCi/L	--	--	0.824	0.521	0.746	0.725	0.643	0.561	0.463	--	--	--	0.676	0.663	0.723	--
Radium-226/228	pCi/L	5	--	1.2515	0.678	1.166	1.825	1.015	1.011	1.079	--	--	--	1.03	1.093	1.202	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.52	--	--	0.27	0.17	0.45	<0.2	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.4	--	--	16.8	<0.7	2	0.9	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	2.46	--	--	<0.8	<1	2	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	0.36	0.405	0.35	0.515	--	1.08	0.213	0.334	0.333	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	0.349	0.39	0.324	0.363	--	0.31	0.358	0.368	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-11S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/18/2016	9/20/2016	11/16/2016	1/9/2017	3/7/2017	5/19/2017	7/18/2017	10/3/2017	12/12/2017	6/5/2018	11/14/2018	5/23/2019	11/15/2019	5/20/2020
Field Parameters																	
Elevation	ft NGVD	--	--	369.93	369.4	368.47	367.7	367.51	367.92	368.57	367.86	366.6	369.69	369.27	373.25	371.21	
pH	S.U.	--	7.9	7.3	7.3	8.4	8.1	7.9	7.78	7.7	7.2	8.3	7.21	7.55	7.71	7.76	7.4
Specific Conductance	µmhos/cm	--	--	272	330	433	200	70	307	386	267	260	360	309	440	533	435
Turbidity	NTU	--	--	0.81	0.4	1	0.8	0.3	2.64	0.4	0.5	0.6	0.39	0.2	1	1.97	0.18
Dissolved Oxygen	mg/L	--	--	9.3	7.4	2	7	7	6.99	6.1	8	19.4	6.94	6.9	9	5.53	8.95
Temperature	°C	--	--	16.1	22.4	14.7	14.8	15	15.7	17.1	15.4	13.4	14.97	13.25	17.3	15.3	13.75
ORP	mV	--	--	24	167	227	126	47	75.6	73	-13	73	-2.7	152	240	114.7	216
Laboratory Parameters																	
Antimony	µg/L	6	--	0.04	0.04	0.05	0.04	0.04	0.04	<0.05	--	--	--	0.05	0.05	0.04	--
Arsenic	µg/L	10	--	0.53	0.42	0.45	0.52	0.52	0.48	0.5	--	--	--	0.38	0.36	0.43	--
Barium	µg/L	2000	--	9.79	11.3	7.91	6.52	7.09	7.73	8.16	--	--	--	12.5	13.7	10.8	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.02	--	--	--	<0.02	0.03	<0.02	--
Cadmium	µg/L	5	--	0.03	0.03	0.02	0.01	0.007	0.03	<0.02	--	--	--	0.03	0.02	<0.01	--
Chromium	µg/L	100	--	0.5	0.8	0.416	0.725	1.25	0.567	0.568	--	--	--	0.384	0.483	0.468	--
Cobalt	µg/L	6	--	0.043	0.029	0.027	0.022	0.027	0.03	0.02	--	--	--	<0.02	0.03	<0.02	--
Copper	µg/L	--	--	--	--	--	--	--	--	0.44	0.26	--	0.25	0.44	2.07	0.3	--
Lead	µg/L	15	--	0.02	0.046	0.027	0.02	0.02	0.023	0.06	--	--	--	0.03	<0.02	<0.05	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	0.002	0.002	<0.002	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	4.36	3.37	4.71	6.09	6.03	4.86	4.69	--	--	--	2.4	2.04	2.15	--
Selenium	µg/L	50	--	0.08	0.1	0.07	0.05	0.2	0.2	0.3	--	--	--	0.04	<0.03	0.06	--
Thallium	µg/L	2	--	0.01	0.01	0.02	0.01	0.01	0.01	0.2	--	--	--	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	7	<0.4	--	2	<0.7	<0.7	0.8	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	24.9	24.4	27.3	--	25.8	26.6	24.5	25	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	10	3.63	--	2	3	3	<5	--
Boron	mg/L	--	0.062	0.062	0.077	0.053	0.029	0.057	0.047	0.067	0.09	--	0.076	0.11	0.08	0.052	0.04
Calcium	mg/L	--	41.6	38.8	45.1	37.3	40.4	42.8	41.2	44.2	43.7	--	55.8	56.4	54.3	47.6	55.8
Lithium	mg/L	0.04	--	0.024	0.004	0.005	0.003	0.013	0.009	0.002	--	--	--	0.01	0.01	0.00669	--
Magnesium	mg/L	--	--	--	--	--	--	17.2	17.7	18.8	17.6	--	24.8	19.5	17.7	17	--
Manganese	mg/L	--	--	--	--	--	--	--	--	<0.0001	--	--	<0.0002	0.0004	<0.0002	0.0006	--
Potassium	mg/L	--	--	--	--	--	--	0.42	0.42	0.42	0.48	--	0.37	0.88	0.4	0.5	--
Sodium	mg/L	--	--	--	--	--	--	5.72	5.58	6.82	7.26	--	7.11	5.35	4.43	4.47	--
Strontium	mg/L	--	--	--	--	--	--	0.0508	0.0535	0.0532	0.0537	--	0.0706	0.0774	0.0707	0.0638	--
Alkalinity	mg/L	--	--	--	--	--	--	153	175	187	167	--	226	246	235	223	--
Bromide	mg/L	--	--	--	--	--	--	<0.02	<0.06	<0.02	<0.02	--	<0.02	<0.04	<0.4	<0.04	--
Chloride	mg/L	--	1.82	1.83	1.62	1.54	2.12	4.63	9.87	8.19	3.68	2.4	6.98	1.79	1.62	1.48	2.68
Fluoride	mg/L	4	0.74	0.76	0.73	0.92	0.96	1	0.86	0.75	0.89	0.82	0.62	0.72	0.82	0.77	0.58
TDS	mg/L	--	212	201	196	182	179	197	239	224	200	--	276	238	279	216	246
Sulfate	mg/L	--	10.9	10.6	5.3	4.1	7.6	13.7	16.4	15.6	9.3	8	21.7	5.9	14.7	2.7	13.5
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.231	0.741	0.179	1.96	0.0959	0.0337	0.771	--	--	--	0.419	0.805	1.72	--
Radium-226	pCi/L	--	--	0.584	-0.0127	0.109	0.141	0.0906	0.091	0.0225	--	--	--	0.217	0.0772	0.0737	--
Radium-226/228	pCi/L	5	--	0.815	0.7283	0.288	2.101	0.1865	0.1247	0.7935	--	--	--	0.636	0.8822	1.7937	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.82	--	--	0.63	0.71	0.26	0.3	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	9	--	--	2	1	<0.7	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	66.5	--	--	2.92	3	2	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.014	--	0.008	0.04	0.004	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	0.0002	0.0001	<0.0002	--	<0.002	0.0005	<0.0002	<0.0005	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-12S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	11/1/2018	11/14/2008	12/11/2018	5/22/2019	11/21/2019
Field Parameters									
Elevation	ft NGVD	--	--	367.81	367.96	367.93	368.21	372.14	368.42
pH	S.U.	--	7.2	5.9	7.6	6.83	7.12	7.31	7.52
Specific Conductance	µmhos/cm	--	--	522	551	517	816	757	728
Turbidity	NTU	--	--	9	1.14	2.14	23.7	13.8	5.1
Dissolved Oxygen	mg/L	--	--	0.2	3.13	0.36	0.29	0	10.83
Temperature	°C	--	--	14.5	14.05	13.16	13.36	14.8	12.81
ORP	mV	--	--	68	-34.8	184.2	-10	9	144.1
Laboratory Parameters									
Antimony	µg/L	6	--	0.06	0.03	0.17	0.06	0.07	0.19
Arsenic	µg/L	10	--	0.3	0.27	0.25	0.61	0.45	0.44
Barium	µg/L	2000	--	26.8	26.3	25.3	31	29.7	28.8
Beryllium	µg/L	4	--	<0.02	<0.02	<0.02	0.02	<0.02	<0.02
Cadmium	µg/L	5	--	0.06	0.05	0.13	0.04	0.09	0.09
Chromium	µg/L	100	--	0.276	0.1	0.1	0.639	0.476	0.315
Cobalt	µg/L	6	--	0.642	0.4783	0.439	1.23	0.924	0.955
Copper	µg/L	--	--	0.5	0.36	0.55	1.08	1.59	1.2
Lead	µg/L	15	--	0.34	0.08	0.08	0.904	0.538	0.526
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002
Molybdenum	µg/L	100	--	2	2	2	2	1	1
Selenium	µg/L	50	--	0.2	0.07	0.1	0.2	0.09	0.3
Thallium	µg/L	2	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	0.8	2	2	19.3	8.2
Silica (Dissolved)	mg/L	--	--	21.5	20	20	20.3	19.3	18.8
Aluminum	µg/L	--	--	45.2	8.53	3	291	119	106
Boron	mg/L	--	0.067	0.04	0.07	0.03	0.12	0.02	0.03
Calcium	mg/L	--	86.3	87	86.4	80.2	89.3	84.9	88.7
Lithium	mg/L	0.04	--	0.01	0.01	0.01	<0.009	0.01	0.00591
Magnesium	mg/L	--	--	31.6	33.7	30.5	33	30.3	32.3
Manganese	mg/L	--	--	0.0864	0.0758	0.0811	0.106	0.163	0.116
Potassium	mg/L	--	--	1.18	1.26	1.57	1.87	1.19	1.49
Sodium	mg/L	--	--	30.2	33.9	32.1	32.4	30.5	29.6
Strontium	mg/L	--	--	0.103	0.111	0.114	0.119	0.114	0.114
Alkalinity	mg/L	--	--	392	358	374	361	354	348
Bromide	mg/L	--	--	0.1	0.1	0.1	0.1	0.1	0.2
Chloride	mg/L	--	30.1	30.1	29.9	29.4	29.5	29.7	28.7
Fluoride	mg/L	4	0.35	0.36	0.36	0.37	0.36	0.38	0.32
TDS	mg/L	--	445	446	434	422	437	455	456
Sulfate	mg/L	--	37.2	37.1	37.1	36.4	36.7	37.4	37.8
Sulfide	mg/L	--	--	<0.1	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.562	0.306	0.941	0.569	0.568	0.613
Radium-226	pCi/L	--	--	0.5	0.202	0.244	0.314	0.379	0.226
Radium-226/228	pCi/L	5	--	1.062	0.508	1.185	0.883	0.947	0.839
Copper (Dissolved)	µg/L	--	--	0.66	0.38	1.41	0.7	0.33	1.96
Zinc (Dissolved)	µg/L	--	--	3	2	3	4	7.5	5
Aluminum (Dissolved)	µg/L	--	--	2	1	1	76.2	2	<5
Iron (Dissolved)	mg/L	--	--	0.025	0.01	0.006	0.238	0.05	<0.02
Manganese (Dissolved)	mg/L	--	--	0.0847	0.0797	0.0677	0.103	0.144	0.0388

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-12I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	11/1/2018	11/14/2018	12/11/2018	5/22/2019	11/14/2019
Field Parameters									
Elevation	ft NGVD	--	--	369.85	367.84	367.81	368.16	371.95	368.3
pH	S.U.	--	0	7.15	7.74	7.01	7.12	7.27	7.33
Specific Conductance	µmhos/cm	--	--	662	622	579	901	882	811
Turbidity	NTU	--	--	1.48	8.76	2.54	2.3	39.5	3
Dissolved Oxygen	mg/L	--	--	1.2	2.68	9.27	1.99	0.2	2.59
Temperature	°C	--	--	15.21	13.94	12.9	12.92	14.8	13.7
ORP	mV	--	--	-35.1	-87.8	-54.9	-52	-57	-10.1
Laboratory Parameters									
Antimony	µg/L	6	--	<0.01	<0.02	<0.02	<0.02	0.12	0.03
Arsenic	µg/L	10	--	10.1	9.24	8.79	9.32	12.6	10.3
Barium	µg/L	2000	--	370	374	365	377	395	393
Beryllium	µg/L	4	--	0.006	<0.02	0.02	<0.02	0.04	<0.02
Cadmium	µg/L	5	--	<0.005	0.02	<0.01	0.17	0.16	0.02
Chromium	µg/L	100	--	0.101	0.289	0.05	0.2	1.32	0.2
Cobalt	µg/L	6	--	1.5	1.67	1.42	1.58	2.7	1.54
Copper	µg/L	--	--	1.15	1.23	0.44	0.56	8.39	1
Lead	µg/L	15	--	0.063	0.21	0.03	0.07	1.47	0.07
Mercury	µg/L	2	--	--	--	--	--	0.002	<0.002
Molybdenum	µg/L	100	--	2.92	2.87	2.87	3.13	2.8	3.01
Selenium	µg/L	50	--	0.04	0.06	<0.003	<0.03	0.1	<0.03
Thallium	µg/L	2	--	0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	2	1	3	6.3	17.5
Silica (Dissolved)	mg/L	--	--	20.9	18.8	19.2	12.6	19	17.8
Aluminum	µg/L	--	--	48.8	64.6	5.87	5.67	581	10
Boron	mg/L	--	0.115	0.062	0.115	0.03	0.05	0.03	0.02
Calcium	mg/L	--	94.1	100	94.8	90.9	95.6	99.2	93.9
Lithium	mg/L	0.04	--	0.009	<0.009	0.03	0.01	0.01	0.00469
Magnesium	mg/L	--	--	32.5	32.6	30.5	31	31.5	29.9
Manganese	mg/L	--	--	1.17	1.2	1.08	1.12	2.13	1.08
Potassium	mg/L	--	--	2.03	2.43	2.28	2.26	2.13	1.9
Sodium	mg/L	--	--	43.2	45	43.9	42	45.7	49.4
Strontium	mg/L	--	--	0.134	0.138	0.144	0.142	0.15	0.14
Alkalinity	mg/L	--	--	433	448	433	441	458	431
Bromide	mg/L	--	--	0.139	0.1	0.1	0.1	0.1	0.1
Chloride	mg/L	--	33	34	33.9	33.7	33.1	33.4	32.8
Fluoride	mg/L	4	0.24	0.25	0.25	0.25	0.23	0.25	0.22
TDS	mg/L	--	499	506	493	484	485	532	484
Sulfate	mg/L	--	31.5	30.9	31	30.7	31	32.5	32.3
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	-0.0683	0.788	1.19	1.04	1.17	0.863
Radium-226	pCi/L	--	--	0.463	0.516	0.51	0.83	0.565	0.578
Radium-226/228	pCi/L	5	--	0.463	1.304	1.7	1.87	1.735	1.441
Copper (Dissolved)	µg/L	--	--	0.19	0.35	0.42	1.08	0.64	1.68
Zinc (Dissolved)	µg/L	--	--	1	10.2	2	8.1	1	3
Aluminum (Dissolved)	µg/L	--	--	2.36	5.95	2	3	16.6	<5
Iron (Dissolved)	mg/L	--	--	1.15	1.18	1.09	1.16	1.51	1.15
Manganese (Dissolved)	mg/L	--	--	1.12	1.16	1.06	1.16	1.11	1.14

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-12D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/30/2018	11/14/2018	12/11/2018	5/22/2019	11/15/2019
Field Parameters									
Elevation	ft NGVD	--	--	367.91	367.91	367.86	368.25	372.03	368.34
pH	S.U.	--	7.3	7.16	8.06	7.08	7.17	7.41	7.42
Specific Conductance	µmhos/cm	--	--	530	510	449	717	686	850
Turbidity	NTU	--	--	9.68	12.7	5.25	2.2	1.4	7.41
Dissolved Oxygen	mg/L	--	--	1.68	1.41	4.9	1.4	0.7	7.97
Temperature	°C	--	--	15.56	15.16	12	12.56	15.1	13.4
ORP	mV	--	--	-52.6	-90.9	-40.8	-69	-56	89.2
Laboratory Parameters									
Antimony	µg/L	6	--	0.02	0.06	<0.02	<0.02	0.02	0.25
Arsenic	µg/L	10	--	11.9	9.78	9.95	9.64	13.3	7.64
Barium	µg/L	2000	--	282	268	272	271	282	273
Beryllium	µg/L	4	--	0.006	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	0.05	<0.01	0.01	0.04	0.08
Chromium	µg/L	100	--	0.108	0.266	0.1	0.2	0.06	0.453
Cobalt	µg/L	6	--	0.462	0.538	0.378	0.4	0.554	0.679
Copper	µg/L	--	--	0.51	41	0.64	0.24	0.46	2.74
Lead	µg/L	15	--	0.127	0.329	0.111	0.05	0.02	0.502
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002
Molybdenum	µg/L	100	--	3.09	2.96	2.94	3.13	3.57	4.24
Selenium	µg/L	50	--	<0.03	0.07	<0.03	<0.03	<0.03	0.06
Thallium	µg/L	2	--	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	1	3	2	0.8	1	11.5
Silica (Dissolved)	mg/L	--	--	21.1	18.9	19.5	19.5	18.8	17.8
Aluminum	µg/L	--	--	14	53.9	26.1	5.83	3	105
Boron	mg/L	--	0.098	0.112	0.09	0.03	0.09	<0.02	<0.02
Calcium	mg/L	--	90.8	95.1	86.9	86.1	82.9	84.5	80.3
Lithium	mg/L	0.04	--	0.013	<0.009	<0.009	<0.009	0.02	0.00169
Magnesium	mg/L	--	--	30.3	29.6	28.5	26.7	26.5	27.2
Manganese	mg/L	--	--	0.989	0.902	0.878	0.743	0.979	0.933
Potassium	mg/L	--	--	1.16	0.89	1.34	1.45	0.76	0.8
Sodium	mg/L	--	--	10.5	11.3	11	10.2	9.06	9.66
Strontium	mg/L	--	--	0.161	0.161	0.171	0.158	0.147	0.142
Alkalinity	mg/L	--	--	373	353	371	384	368	347
Bromide	mg/L	--	--	0.081	0.08	0.07	0.07	0.07	0.1
Chloride	mg/L	--	16.1	17.2	17	16.6	16.7	15.9	16.1
Fluoride	mg/L	4	0.27	0.26	0.26	0.26	0.26	0.26	0.23
TDS	mg/L	--	328	386	381	374	380	393	376
Sulfate	mg/L	--	15.6	14.2	14.2	13.8	13.9	14.8	15.9
Sulfide	mg/L	--	--	<0.04	<0.1	<0.07	<0.1	<0.1	<0.2
Radium-228	pCi/L	--	--	0.643	0.405	0.589	1.69	0.698	0.529
Radium-226	pCi/L	--	--	0.702	0.454	0.608	0.766	0.548	0.574
Radium-226/228	pCi/L	5	--	1.345	0.859	1.197	2.456	1.246	1.103
Copper (Dissolved)	µg/L	--	--	0.35	0.21	0.12	0.44	0.25	<0.2
Zinc (Dissolved)	µg/L	--	--	3.3	2	1	1	0.7	4
Aluminum (Dissolved)	µg/L	--	--	7.24	2	2	5.13	1	<5
Iron (Dissolved)	mg/L	--	--	1.29	0.965	0.996	1.12	1.62	0.616
Manganese (Dissolved)	mg/L	--	--	0.994	0.88	0.801	0.832	1.03	0.906

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-13I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/11/2018	5/21/2019
Field Parameters								
Elevation	ft NGVD	--	--	368.83	368.45	368.41	368.31	371.99
pH	S.U.	--	7.5	7.36	8.12	7.21	7.36	7.54
Specific Conductance	µmhos/cm	--	--	411	397	451	555	522
Turbidity	NTU	--	--	2.14	0.93	0.31	0.45	1.4
Dissolved Oxygen	mg/L	--	--	0.37	1.15	8.64	0.57	0.4
Temperature	°C	--	--	15.71	15.25	13.17	14.13	16.5
ORP	mV	--	--	-15.8	-74.3	44.5	-72	-30
Laboratory Parameters								
Antimony	µg/L	6	--	0.02	<0.02	<0.02	0.04	<0.2
Arsenic	µg/L	10	--	1.74	1.66	1.6	1.84	2.41
Barium	µg/L	2000	--	149	139	141	144	151
Beryllium	µg/L	4	--	0.006	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	<0.01	<0.01	<0.01	<0.01
Chromium	µg/L	100	--	0.04	0.1	0.06	0.07	<0.04
Cobalt	µg/L	6	--	0.5	0.554	0.477	0.574	0.577
Copper	µg/L	--	--	0.39	0.62	0.1	0.58	0.09
Lead	µg/L	15	--	0.01	0.04	<0.02	<0.02	<0.02
Mercury	µg/L	2	--	--	--	--	--	<0.002
Molybdenum	µg/L	100	--	4.49	4.23	4.09	4.29	4.11
Selenium	µg/L	50	--	<0.03	<0.03	<0.03	<0.03	<0.03
Thallium	µg/L	2	--	0.04	<0.1	<0.1	<0.1	<0.1
Zinc	µg/L	--	--	20.1	61.3	<0.7	2	<0.7
Silica (Dissolved)	mg/L	--	--	19.6	17.9	17.9	18.4	17.6
Aluminum	µg/L	--	--	2.54	10.6	2	<1	1
Boron	mg/L	--	0.042	0.09	0.05	<0.02	0.04	0.02
Calcium	mg/L	--	67.5	66	58.1	59.7	65.6	67.9
Lithium	mg/L	0.04	--	0.018	0.01	<0.009	<0.009	<0.009
Magnesium	mg/L	--	--	20.4	19.1	19.2	20.9	19.4
Manganese	mg/L	--	--	0.491	0.448	0.447	0.523	0.469
Potassium	mg/L	--	--	1.23	0.93	1.32	1.24	0.99
Sodium	mg/L	--	--	15.2	15.4	15.6	16.4	15.7
Strontium	mg/L	--	--	0.0781	0.0744	0.0834	0.0879	0.0831
Alkalinity	mg/L	--	--	231	228	231	241	235
Bromide	mg/L	--	--	0.04	<0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	20	20.6	20.5	20.3	20.4	20.1
Fluoride	mg/L	4	0.38	0.38	0.38	0.38	0.38	0.37
TDS	mg/L	--	297	319	305	310	310	318
Sulfate	mg/L	--	40.6	41.6	41.5	41.3	40.7	41.6
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.07	<0.1
Radium-228	pCi/L	--	--	-0.268	0.658	0.682	0.3	0.76
Radium-226	pCi/L	--	--	0.456	0.509	0.669	0.589	0.646
Radium-226/228	pCi/L	5	--	0.456	1.167	1.351	0.889	1.406
Copper (Dissolved)	µg/L	--	--	0.11	0.39	0.2	0.2	0.15
Zinc (Dissolved)	µg/L	--	--	0.7	6.3	<0.7	3	<0.7
Aluminum (Dissolved)	µg/L	--	--	1	1	1	5	<1
Iron (Dissolved)	mg/L	--	--	0.185	0.189	0.193	0.26	0.278
Manganese (Dissolved)	mg/L	--	--	0.493	0.467	0.461	0.483	0.418

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-13D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	9/26/2018	10/31/2018	11/15/2018	12/11/2018	5/21/2019
Field Parameters								
Elevation	ft NGVD	--	--	368.79	368.43	368.39	368.29	371.95
pH	S.U.	--	7.4	7.03	8.11	7.17	7.29	7.45
Specific Conductance	µmhos/cm	--	--	406	382	427	540	524
Turbidity	NTU	--	--	5.34	10.6	4.66	3.22	2
Dissolved Oxygen	mg/L	--	--	1.34	1.4	5.45	0.51	1.7
Temperature	°C	--	--	16.29	14.99	12.18	14.06	18.7
ORP	mV	--	--	-71.4	-95.1	-48.5	-94	-48
Laboratory Parameters								
Antimony	µg/L	6	--	0.01	0.02	0.05	0.03	0.07
Arsenic	µg/L	10	--	6.44	5.62	7.55	5.3	20.8
Barium	µg/L	2000	--	206	204	198	219	265
Beryllium	µg/L	4	--	0.007	<0.02	<0.02	<0.02	<0.02
Cadmium	µg/L	5	--	<0.005	0.04	<0.01	<0.01	<0.01
Chromium	µg/L	100	--	0.071	0.353	0.209	0.06	0.2
Cobalt	µg/L	6	--	1.15	1.31	1.05	0.935	1.1
Copper	µg/L	--	--	0.26	1.02	0.55	0.28	1.11
Lead	µg/L	15	--	0.071	0.438	0.173	<0.02	0.07
Mercury	µg/L	2	--	--	--	--	--	<0.002
Molybdenum	µg/L	100	--	2.88	2.59	2.77	3.23	3.21
Selenium	µg/L	50	--	<0.03	0.1	0.07	<0.03	0.04
Thallium	µg/L	2	--	0.02	<0.1	>0.1	<0.1	<0.1
Zinc	µg/L	--	--	0.6	2	1	2	1
Silica (Dissolved)	mg/L	--	--	19.3	17.6	17.9	17.9	17.4
Aluminum	µg/L	--	--	21.8	162	58.8	2	12.4
Boron	mg/L	--	0.037	0.071	0.111	119	0.03	0.02
Calcium	mg/L	--	65.9	68.9	63.4	60.8	67.4	66.2
Lithium	mg/L	0.04	--	0.016	<0.009	<0.009	<0.009	<0.009
Magnesium	mg/L	--	--	21.8	21.7	20.1	22.5	19.7
Manganese	mg/L	--	--	0.762	0.669	0.648	0.677	0.997
Potassium	mg/L	--	--	1.06	1.14	1.45	1.16	0.82
Sodium	mg/L	--	--	11.2	11.6	11.4	11.2	9.25
Strontium	mg/L	--	--	0.0852	0.0867	0.0913	0.098	0.0882
Alkalinity	mg/L	--	--	231	243	223	252	237
Bromide	mg/L	--	--	0.05	<0.04	<0.04	<0.04	<0.04
Chloride	mg/L	--	16.3	17	16.9	16.6	16.5	15.9
Fluoride	mg/L	4	0.28	0.27	0.27	0.28	0.27	0.26
TDS	mg/L	--	287	296	299	296	305	303
Sulfate	mg/L	--	35.5	34.8	34.7	34.1	33.3	33.9
Sulfide	mg/L	--	--	<0.4	<0.1	<0.07	<0.07	<0.1
Radium-228	pCi/L	--	--	0.141	-0.293	-0.157	0.226	0.844
Radium-226	pCi/L	--	--	0.501	0.356	0.242	0.389	0.586
Radium-226/228	pCi/L	5	--	0.642	0.356	0.242	0.615	1.43
Copper (Dissolved)	µg/L	--	--	0.07	0.11	0.09	0.21	0.56
Zinc (Dissolved)	µg/L	--	--	0.5	1	<0.7	1	<0.7
Aluminum (Dissolved)	µg/L	--	--	11	3	2	20.5	1
Iron (Dissolved)	mg/L	--	--	1.29	0.915	0.995	1.13	0.866
Manganese (Dissolved)	mg/L	--	--	0.74	0.625	0.702	0.612	0.777

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-14S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	7/20/2016	9/21/2016	11/17/2016	1/9/2017	3/7/2017	5/19/2017	7/18/2017	10/4/2017	12/12/2017	6/5/2018	11/13/2018	5/23/2019	11/16/2019	5/19/2020
Field Parameters																	
Elevation	ft NGVD	--	--	370.07	369.7	369.34	368.92	368.49	368.63	369.88	368.43	368.41	368.94	369.27	371.36	371.63	369.98
pH	S.U.	--	7.2	7.1	7	7.7	7.5	7.4	6.95	7.3	7	7.6	7.55	7.55	7.15	7.51	7.68
Specific Conductance	µmhos/cm	--	--	576	640	955	530	80	441	496	488	490	450	309	604	655	550
Turbidity	NTU	--	--	3.9	6	1	2	0.7	2.07	1	0.5	1	0.6	0.2	0.61	9.8	0.52
Dissolved Oxygen	mg/L	--	--	3.8	3.3	1	3.4	3	3.82	3.7	4	10.2	5.42	6.9	2.57	0.455	3.22
Temperature	°C	--	--	18.7	22.6	15.2	14.4	13.9	14.54	15.9	15.3	13.5	14.98	13.25	17.01	12.4	15.74
ORP	mV	--	--	43	53	282	147	75	55.6	67	-23	133	-7.9	152	-203.7	-9	150
Laboratory Parameters																	
Antimony	µg/L	6	--	0.02	0.02	0.03	0.02	0.02	0.06	<0.05	--	--	--	<0.02	<0.02	0.03	--
Arsenic	µg/L	10	--	1.54	1.29	0.75	0.91	0.76	0.75	0.7	--	--	--	0.64	0.62	0.62	--
Barium	µg/L	2000	--	31	27.8	26.3	27	26.3	25	27	--	--	--	27	28.9	32.9	--
Beryllium	µg/L	4	--	0.008	0.005	<0.005	<0.005	<0.005	<0.004	<0.02	--	--	--	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.21	0.07	0.03	0.05	0.01	0.08	<0.02	--	--	--	0.05	0.01	<0.01	--
Chromium	µg/L	100	--	0.3	0.3	0.162	0.575	0.66	0.301	0.258	--	--	--	0.2	0.2	0.438	--
Cobalt	µg/L	6	--	0.573	0.333	0.088	0.187	0.083	0.065	0.03	--	--	--	0.03	0.03	0.04	--
Copper	µg/L	--	--	--	--	--	--	--	--	2.38	0.15	--	0.38	0.24	0.25	<0.2	--
Lead	µg/L	15	--	0.307	0.31	0.549	0.115	0.061	0.071	0.116	--	--	--	0.05	0.04	<0.05	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	1.51	1.43	1.26	1.62	1.84	1.35	1.67	--	--	--	1	1	1	--
Selenium	µg/L	50	--	1.4	1.2	1.2	1.1	1.1	1.2	1.3	--	--	--	1.1	0.9	0.9	--
Thallium	µg/L	2	--	<0.01	<0.01	0.02	0.054	0.055	0.01	0.07	--	--	--	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	9	0.8	--	1	1	<0.7	<0.7	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	20.3	20.2	23.3	--	20.4	20.2	<0.06	19.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	11.4	2	--	5.75	7.32	4	5	--
Boron	mg/L	--	0.011	0.008	0.01	0.008	<0.002	0.031	0.017	0.03	0.042	--	0.046	0.04	<0.02	0.01	<0.02
Calcium	mg/L	--	59.2	56.3	59.5	65.4	65.7	63.4	59.8	65.6	67	--	61.1	59.2	66.9	65.1	66.6
Lithium	mg/L	0.04	--	0.018	0.006	0.004	0.006	0.005	0.001	<0.0002	--	--	--	<0.009	0.01	0.00367	--
Magnesium	mg/L	--	--	--	--	--	--	27.6	28.1	29.3	29.9	--	27.4	26.4	30	29.8	--
Manganese	mg/L	--	--	--	--	--	--	--	--	0.0006	--	--	0.0014	0.0015	0.0008	0.002	--
Potassium	mg/L	--	--	--	--	--	--	0.5	0.54	0.49	0.59	--	0.51	0.55	0.53	0.5	--
Sodium	mg/L	--	--	--	--	--	--	33	29.4	30.1	29.9	--	29.2	24.9	23.3	23.7	--
Strontium	mg/L	--	--	--	--	--	--	0.101	0.102	0.103	0.106	--	0.101	0.0954	0.109	0.111	--
Alkalinity	mg/L	--	--	--	--	--	--	232	258	257	249	--	260	259	275	252	--
Bromide	mg/L	--	--	--	--	--	--	<0.02	<0.06	0.03	0.04	--	<0.02	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	28.6	29.4	28.1	27.8	27.2	26.8	29.4	29.6	29.9	30	27.1	29	28.6	28.9	28.6
Fluoride	mg/L	4	0.39	0.39	0.36	0.35	0.33	0.36	0.37	0.33	0.34	0.34	0.39	0.37	0.37	0.38	0.33
TDS	mg/L	--	368	364	361	362	344	354	376	377	376	--	360	344	390	374	411
Sulfate	mg/L	--	34.9	36.5	32.5	29.1	30.7	29.9	32.3	33.1	34.8	35.5	29.4	30.8	32.4	32.8	32.5
Sulfide	mg/L	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.1	<0.1	<0.2	--
Radium-228	pCi/L	--	--	-0.343	0.769	0.693	0.601	-0.193	-0.019	1.73	--	--	--	0.334	0.271	1.1	--
Radium-226	pCi/L	--	--	0.594	0.131	0.413	0.179	0.0525	0.0316	0.153	--	--	--	0.0534	0.0483	0.112	--
Radium-226/228	pCi/L	5	--	0.251	0.9	1.106	0.78	-0.1405	0.0126	1.883	--	--	--	0.3874	0.3193	1.212	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	0.94	--	--	0.43	0.64	0.31	0.6	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	7	--	--	5.7	3	<0.7	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	11.3	--	--	1	<1	1	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.016	--	0.002	<0.003	<0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	<0.0001	0.0021	0.0001	<0.0002	--	<0.0002	0.0005	<0.0002	<0.0005	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/7/2017	5/10/2017	7/19/2017	10/4/2017	6/5/2018	11/13/2018	5/23/2019	7/23/2019	9/11/2019	11/15/2019
Field Parameters																		
Elevation	ft NGVD	--	--	370	369.87	369.49	368.87	367.92	367.84	367.86	368.75	367.84	396.63	368.96	371.96	372.79	372.26	371.11
pH	S.U.	--	7.1 - 7.7	7.2	7.1	7.2	7.7	7.2	7.2	7.3	7.3	7.35	7.16	7.46	7.5	5.74	7.38	7.38
Specific Conductance	µmhos/cm	--	--	512	512	510	904	470	60	419	368	393	416	317	348	362	269	467
Turbidity	NTU	--	--	7.6	2.2	1	1	1	0.5	2	2	2.34	0.33	0.41	1.51	8.3	3	10
Dissolved Oxygen	mg/L	--	--	0.5	0.5	1	1	1	6	0.4	0.3	0.07	1.9	0.77	0.4	1	0	0
Temperature	°C	--	--	16.5	17.7	19.1	15.5	13.8	13.9	14.6	15.7	14.7	14.96	12.94	15.21	15.8	16.55	13.4
ORP	mV	--	--	57	124	181	-10	179	64	65	24	18.1	-37.7	19.3	-218	47	63	64
Laboratory Parameters																		
Antimony	µg/L	6	--	0.04	0.04	0.02	0.04	0.04	0.03	0.04	0.02	--	--	<0.02	0.02	--	--	0.03
Arsenic	µg/L	10	--	0.32	0.24	0.21	0.18	0.26	0.21	0.21	0.23	--	--	0.13	0.12	--	--	0.16
Barium	µg/L	2000	--	4.71	5.85	3.21	3.27	6.05	4.98	3.54	3.11	--	--	2.46	2.54	--	--	3.17
Beryllium	µg/L	4	--	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.004	--	--	<0.02	<0.02	--	--	<0.02
Cadmium	µg/L	5	--	0.14	0.25	0.05	0.05	0.06	0.04	0.05	0.05	--	--	0.04	0.1	--	--	0.06
Chromium	µg/L	100	--	0.2	1.7	0.5	0.058	0.493	0.934	0.198	0.096	--	--	0.05	0.08	--	--	0.1
Cobalt	µg/L	6	--	3.03	1.17	1.09	0.794	1.75	1.26	1.2	1.25	--	--	0.74	0.775	--	--	2.15
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.4	0.26	0.24	0.37	0.32	--	--	0.2
Lead	µg/L	15	--	0.286	0.101	0.098	0.037	0.039	0.024	0.062	0.083	--	--	0.03	0.05	--	--	0.1
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	<0.002	--	--	<0.002
Molybdenum	µg/L	100	--	2.52	2.89	2.54	1.57	0.78	1.17	2.08	2.87	--	--	2.54	3.47	--	--	2.18
Selenium	µg/L	50	--	0.4	0.7	0.5	0.3	0.3	0.5	0.5	0.2	--	--	0.1	0.06	--	--	0.2
Thallium	µg/L	2	--	0.03	<0.01	0.02	0.02	0.03	0.04	0.02	0.02	--	--	<0.1	<0.1	--	--	<0.1
Zinc	µg/L	--	--	--	--	--	--	--	--	--	3.5	1	21	2	2	--	--	2
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	13.1	12.7	15.8	13.1	12.4	<0.06	--	--	11.9
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	15.9	6.68	4.42	6.41	11.7	--	--	10
Boron	mg/L	--	0.15	0.011	0.012	0.008	<0.002	<0.002	0.084	0.077	0.073	0.095	0.078	0.04	<0.02	--	--	0.01
Calcium	mg/L	--	(79.5) 71	46.9	43.6	46.6	52.3	63.6	62.9	45.7	44.4	48.3	44.7	41.8	41.3	--	--	40.2
Lithium	mg/L	0.04	--	0.007	0.022	0.005	0.005	0.008	0.008	0.003	0.0009	--	--	<0.009	<0.009	--	--	0.00357
Magnesium	mg/L	--	--	--	--	--	--	--	28.2	19.3	17.2	18.5	16.9	15.1	13.9	--	--	15.1
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.489	--	0.391	0.444	0.452	--	--	0.743
Potassium	mg/L	--	--	--	--	--	--	--	1.07	1.11	1.03	1.27	0.93	1.16	0.68	--	--	0.8
Sodium	mg/L	--	--	--	--	--	--	--	35.5	44.7	39.2	42.3	35.9	27.2	17.3	--	--	19.7
Strontium	mg/L	--	--	--	--	--	--	--	0.0903	0.0711	0.061	0.0662	0.0638	0.0574	0.0502	--	--	0.0522
Alkalinity	mg/L	--	--	--	--	--	--	--	294	257	235	267	239	226	197	--	--	209
Bromide	mg/L	--	--	--	--	--	--	--	0.04	0.062	0.05	0.074	0.03	<0.04	<0.04	--	--	<0.04
Chloride	mg/L	--	(29.6) 26	21.2	18.7	18.9	18.3	21.9	16.1	14.1	11.8	13.3	8.84	8.78	8.88	--	--	9.48
Fluoride	mg/L	4	0.86	0.65	0.65	0.63	0.5	0.36	0.42	0.65	0.66	0.62	0.69	0.72	0.88	0.87	0.81	0.7
TDS	mg/L	--	(412.7) 407	338	319	329	338	374	342	294	263	300	274	232	207	--	--	234
Sulfate	mg/L	--	(33.67) 34	30.3	27.7	25.1	23.2	28.3	23.4	21	20.3	23.2	16.3	13.1	10.2	--	--	8.4
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.07	<0.1	--	--	<0.2
Radium-228	pCi/L	--	--	0.0335	-0.092	0.302	1.11	-0.0122	-0.108	0.106	-0.0928	--	--	0.482	0.439	--	--	1.47
Radium-226	pCi/L	--	--	0.384	--	0.116	0.139	0.189	0.0973	0.135	0.0916	--	--	-0.0262	0.282	--	--	0.0996
Radium-226/228	pCi/L	5	--	0.4175	-0.092	0.418	1.249	0.1768	-0.0107	0.241	0.0916	--	--	0.482	0.721	--	--	1.5696
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.37	--	0.51	1.59	0.53	--	--	2.06
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.6	--	1	2	<0.7	--	--	2
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	3.7	--	2	3	2	--	--	<5
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.014	<0.002	0.004	<0.003	--	--	<0.02
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.448	0.361	0.284	0.379	0.349	0.332	0.289	--	--	0.257

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	5/19/2020
Field Parameters				
Elevation	ft NGVD	--	--	370.36
pH	S.U.	--	7.1 - 7.7	7.55
Specific Conductance	µmhos/cm	--	--	400
Turbidity	NTU	--	--	0
Dissolved Oxygen	mg/L	--	--	0
Temperature	°C	--	--	14.71
ORP	mV	--	--	135
Laboratory Parameters				
Antimony	µg/L	6	--	--
Arsenic	µg/L	10	--	--
Barium	µg/L	2000	--	--
Beryllium	µg/L	4	--	--
Cadmium	µg/L	5	--	--
Chromium	µg/L	100	--	--
Cobalt	µg/L	6	--	--
Copper	µg/L	--	--	--
Lead	µg/L	15	--	--
Mercury	µg/L	2	--	--
Molybdenum	µg/L	100	--	--
Selenium	µg/L	50	--	--
Thallium	µg/L	2	--	--
Zinc	µg/L	--	--	--
Silica (Dissolved)	mg/L	--	--	--
Aluminum	µg/L	--	--	--
Boron	mg/L	--	0.15	<0.02
Calcium	mg/L	--	(79.5) 71	42.4
Lithium	mg/L	0.04	--	--
Magnesium	mg/L	--	--	--
Manganese	mg/L	--	--	--
Potassium	mg/L	--	--	--
Sodium	mg/L	--	--	--
Strontium	mg/L	--	--	--
Alkalinity	mg/L	--	--	--
Bromide	mg/L	--	--	--
Chloride	mg/L	--	(29.6) 26	10.3
Fluoride	mg/L	4	0.86	0.86
TDS	mg/L	--	(412.7) 407	218
Sulfate	mg/L	--	(33.67) 34	9.1
Sulfide	mg/L	--	--	--
Radium-228	pCi/L	--	--	--
Radium-226	pCi/L	--	--	--
Radium-226/228	pCi/L	5	--	--
Copper (Dissolved)	µg/L	--	--	--
Zinc (Dissolved)	µg/L	--	--	--
Aluminum (Dissolved)	µg/L	--	--	--
Iron (Dissolved)	mg/L	--	--	--
Manganese (Dissolved)	mg/L	--	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-15I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/7/2016	7/19/2016	9/21/2016	11/16/2016	1/10/2017	3/7/2017	5/10/2017	7/18/2017	10/4/2017	12/12/2017	1/3/2018
Field Parameters														
Elevation	ft NGVD	--	--	370	369.88	369.51	368.86	368.12	368.07	368.27	368.74	367.82	366.73	366.49
pH	S.U.	--	6.77 - 7.86	7.2	7.1	7.1	7.5	7.7	7.5	7.2	7.2	7.34	7.8	7.79
Specific Conductance	µmhos/cm	--	--	555	574	530	874	420	60	457	400	368	350	474
Turbidity	NTU	--	--	0.9	0.6	0.7	0.2	1	2	1	1	1.09	1	1.12
Dissolved Oxygen	mg/L	--	--	0.2	0.4	0.4	1.3	0.2	2	0.3	0.3	0.49	0.9	0.41
Temperature	°C	--	--	15.1	18.2	17.6	15.6	13.9	13.6	14.8	16.3	14.68	12.8	12.38
ORP	mV	--	--	52.5	-86	-54	259	-87	-42	51	-50	-79.7	-52	-77.2
Laboratory Parameters														
Antimony	µg/L	6	--	0.01	0.25	0.01	0.04	0.01	0.02	0.02	0.02	--	--	--
Arsenic	µg/L	10	--	25.2	27.9	21.1	23.6	20.2	20.4	20.2	23.6	--	--	--
Barium	µg/L	2000	--	118	132	119	107	91.2	88.9	86.1	94.8	--	--	--
Beryllium	µg/L	4	--	<0.005	0.165	<0.005	0.005	<0.005	<0.005	<0.004	<0.004	--	--	--
Cadmium	µg/L	5	--	0.02	0.23	0.009	0.06	0.005	0.03	0.03	0.02	--	--	--
Chromium	µg/L	100	--	0.2	0.5	0.1	0.132	0.35	0.7	0.134	0.089	--	--	--
Cobalt	µg/L	6	--	1.24	1.66	1.32	1.03	1	0.903	1.02	1.25	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.26	0.1	--	--
Lead	µg/L	15	--	0.026	0.254	0.026	0.213	0.01	0.065	0.09	0.082	--	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	5.76	6.74	5.75	6.73	7.63	7.91	6.52	5.58	--	--	--
Selenium	µg/L	50	--	<0.03	0.2	<0.03	<0.03	<0.03	0.07	0.04	<0.03	--	--	--
Thallium	µg/L	2	--	0.04	0.273	0.03	0.04	0.04	0.112	0.03	0.04	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	0.7	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	15	14	16.1	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	9.25	6.63	--	--
Boron	mg/L	--	0.072	0.06	0.032	0.03	0.022	0.019	0.047	0.038	0.05	0.08	--	0.04
Calcium	mg/L	--	(79.5) 54	44.1	44.6	46.1	51.4	46.5	51.1	46.6	43.9	44.6	--	--
Lithium	mg/L	0.04	--	0.005	0.018	0.004	0.004	0.011	0.006	0.002	<0.0002	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	13.3	12.7	11.1	11.2	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.134	--	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.01	1.02	0.94	1.05	--	--
Sodium	mg/L	--	--	--	--	--	--	--	62.3	56.1	51.8	45.4	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0865	0.088	0.0841	0.0871	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	229	239	224	202	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.084	0.101	0.081	0.067	--	--
Chloride	mg/L	--	(29.6) 70	59.3	53.8	43.4	44.9	48.3	38.5	32.7	27.1	23.7	22.8	--
Fluoride	mg/L	4	0.382	0.25	0.25	0.23	0.25	0.34	0.32	0.31	0.22	0.23	0.22	--
TDS	mg/L	--	(412.7) 398	380	356	334	340	351	331	322	300	287	--	--
Sulfate	mg/L	--	(47.44) 47	42.5	41	34	33.6	35.4	31.1	29.7	26.6	27.3	26.7	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	--
Radium-228	pCi/L	--	--	0.254	0.455	0.076	1.23	0.682	0.155	-0.367	1.49	--	--	--
Radium-226	pCi/L	--	--	0.609	0.636	0.428	0.517	0.187	0.71	0.189	0.153	--	--	--
Radium-226/228	pCi/L	5	--	0.863	1.091	0.504	1.747	0.869	0.865	-0.178	1.643	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.28	--	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.1	--	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.19	--	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.742	0.709	0.789	0.949	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.138	0.139	0.112	0.119	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-15I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2016	11/13/2018	5/23/2019	11/15/2019	5/19/2020
Field Parameters									
Elevation	ft NGVD	--	--	369.64	370.28	369.01	372.01	371.09	370.42
pH	S.U.	--	6.77 - 7.86	8.06	7.36	7.6	7.29	7.38	7.49
Specific Conductance	µmhos/cm	--	--	420	527	412	414	495	435
Turbidity	NTU	--	--	0.88	0	0.18	0.95	7	0
Dissolved Oxygen	mg/L	--	--	1.89	0.25	0.31	1.61	0	0
Temperature	°C	--	--	14.9	17.77	12.52	18.94	13.7	14.47
ORP	mV	--	--	-94	-63	-63.7	-207.7	-85	-39
Laboratory Parameters									
Antimony	µg/L	6	--	--	--	<0.02	<0.02	0.04	
Arsenic	µg/L	10	--	--	--	23.8	25.8	26.5	
Barium	µg/L	2000	--	--	--	93.3	95	88.9	
Beryllium	µg/L	4	--	--	--	<0.02	<0.02	<0.02	
Cadmium	µg/L	5	--	--	--	<0.01	0.01	0.05	
Chromium	µg/L	100	--	--	--	<0.04	0.06	0.1	
Cobalt	µg/L	6	--	--	--	1.12	1.12	1.07	
Copper	µg/L	--	--	0.15	--	0.12	0.1	0.6	
Lead	µg/L	15	--	--	--	0.03	<0.02	0.2	
Mercury	µg/L	2	--	--	--	--	<0.002	<0.002	
Molybdenum	µg/L	100	--	--	--	5.03	5.63	5.95	
Selenium	µg/L	50	--	--	--	0.04	<0.03	0.04	
Thallium	µg/L	2	--	--	--	<0.1	<0.1	<0.1	
Zinc	µg/L	--	--	2.5	--	0.8	7.9	2	
Silica (Dissolved)	mg/L	--	--	13.9	--	13.8	<0.06	12.5	
Aluminum	µg/L	--	--	4.24	--	7.01	3	21.2	
Boron	mg/L	--	0.072	0.066	--	0.07	0.03	0.03	0.03
Calcium	mg/L	--	(79.5) 54	47	--	39.9	47.8	45.2	49.2
Lithium	mg/L	0.04	--	--	--	<0.009	0.01	0.00289	
Magnesium	mg/L	--	--	11.8	--	9.98	11.7	11	
Manganese	mg/L	--	--	0.13	--	0.106	0.128	0.116	
Potassium	mg/L	--	--	0.96	--	1.21	0.9	0.9	
Sodium	mg/L	--	--	42	--	29.9	29.9	24.2	
Strontium	mg/L	--	--	0.0955	--	0.0827	0.0942	0.0887	
Alkalinity	mg/L	--	--	226	--	199	208	198	
Bromide	mg/L	--	--	0.071	--	0.06	0.04	<0.04	
Chloride	mg/L	--	(29.6) 70	25.1	--	23.7	18	16.9	19
Fluoride	mg/L	4	0.382	0.26	--	0.25	0.26	0.27	0.25
TDS	mg/L	--	(412.7) 398	279	--	248	260	248	253
Sulfate	mg/L	--	(47.44) 47	25.3	--	25.3	20.9	17.6	17.8
Sulfide	mg/L	--	--	<0.4	--	<0.07	<0.1	<0.2	
Radium-228	pCi/L	--	--	--	--	0.283	0.423	1.63	
Radium-226	pCi/L	--	--	--	--	0.0962	0.557	0.194	
Radium-226/228	pCi/L	5	--	--	--	0.3792	0.98	1.824	
Copper (Dissolved)	µg/L	--	--	0.36	--	0.2	0.83	<0.2	
Zinc (Dissolved)	µg/L	--	--	2	--	0.8	1	1	
Aluminum (Dissolved)	µg/L	--	--	1	--	1	2	<5	
Iron (Dissolved)	mg/L	--	--	0.879	--	0.848	0.826	0.623	
Manganese (Dissolved)	mg/L	--	--	0.126	--	0.121	0.116	0.118	

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/10/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.7	369.61	369.16	368.56	367.84	367.87	367.88	368.53	367.58	366.38
pH	S.U.	--	5.88 - 8.55	7.53	7.1	7.31	6.9	7.16	7.1	8.26	6.34	7.25	7.34
Specific Conductance	µmhos/cm	--	--	0.822	764	719	669	677	804	581	595	647	872
Turbidity	NTU	--	--	0.74	0.34	5.21	0.5	0.25	0.42	1.78	0.57	0.72	0.54
Dissolved Oxygen	mg/L	--	--	0.34	0.4	7.29	0.62	0.55	0.18	0.69	22.45	0.31	0.82
Temperature	°C	--	--	15.7	16.39	17.48	16.91	14.47	18.48	16.01	15.63	15.99	14.46
ORP	mV	--	--	112.4	56.2	153.4	233.5	83	56.1	177.3	-118.9	13.6	-12.2
Laboratory Parameters													
Antimony	µg/L	6	--	0.03	0.03	0.25	0.02	0.02	0.02	0.02	0.02	--	--
Arsenic	µg/L	10	--	0.37	0.37	0.38	0.34	0.42	0.31	0.39	0.33	--	--
Barium	µg/L	2000	--	32.3	29.9	29.5	25.3	25.1	25.7	29.8	25.6	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.03	0.03	0.1	0.006	0.008	0.004	0.01	0.04	--	--
Chromium	µg/L	100	--	0.2	0.5	0.3	1.03	0.081	0.463	0.196	0.101	--	--
Cobalt	µg/L	6	--	0.073	0.025	0.07	0.028	0.014	0.012	0.063	0.01	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.1	0.19	--
Lead	µg/L	15	--	0.074	0.057	0.182	<0.004	0.039	0.006	0.027	0.01	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	1.15	1.21	1.11	1.19	1.21	1.32	1.14	0.98	--	--
Selenium	µg/L	50	--	0.6	0.6	0.8	0.4	0.4	0.4	0.3	0.4	--	--
Thallium	µg/L	2	--	0.01	<0.01	<0.01	<0.01	0.02	0.02	0.01	0.01	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	2	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	24	24.1	27.6	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	2.1	7.43	--
Boron	mg/L	--	0.088	0.028	0.025	0.024	0.025	0.017	0.038	0.082	0.037	0.061	--
Calcium	mg/L	--	(79.5) 114	96.2	83	93.5	96.4	94.6	106	105	91.8	108	109
Lithium	mg/L	0.04	--	0.007	0.031	0.005	0.018	0.013	0.013	0.008	0.01	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	36.4	36.6	31.4	38.2	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0028	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.01	1.3	0.97	1.03	--
Sodium	mg/L	--	--	--	--	--	--	--	36.9	36.7	28.7	35.7	--
Strontium	mg/L	--	--	--	--	--	--	--	0.129	0.132	0.108	0.133	--
Alkalinity	mg/L	--	--	--	--	--	--	--	423	431	436	438	--
Bromide	mg/L	--	--	--	--	--	--	--	0.1	0.158	0.162	0.206	--
Chloride	mg/L	--	(29.6) 24	18.7	19	17.1	16.4	17.5	19.3	22.9	19.8	19.3	--
Fluoride	mg/L	4	0.506	0.44	0.46	0.38	0.3	0.35	0.36	0.38	0.33	0.41	--
TDS	mg/L	--	(412.7) 517	483	471	509	486	474	473	499	484	503	517
Sulfate	mg/L	--	(52.4) 52	46.9	50.1	42.1	38.3	39.2	39.6	42.3	40.7	45	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	-0.0274	0.34	-0.131	0.0963	1.8	0.169	-0.045	2.76	--	--
Radium-226	pCi/L	--	--	0.163	0.707	0.0255	0.198	0.193	0.113	0.145	0.0933	--	--
Radium-226/228	pCi/L	5	--	0.1356	1.047	-0.1055	0.2943	1.993	0.282	0.1	2.8533	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.1	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.9	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.051	0.015	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0013	0.0145	0.0007	0.0127	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019	11/15/2019	5/19/2020	7/15/2020
Field Parameters											
Elevation	ft NGVD	--	--	369.62	370.12	368.86	369.84	371.94	370.84	370.40	370.95
pH	S.U.	--	5.88 - 8.55	7.23	7.07	7.02	7.12	7.1	7	7.54	7.06
Specific Conductance	µmhos/cm	--	--	770	920	720	570	774	961	675	823
Turbidity	NTU	--	--	2.2	0	0.3	1.3	0.18	4.2	1.54	2.35
Dissolved Oxygen	mg/L	--	--	7.8	0	1.35	0.41	0.34	0.39	0.48	1.63
Temperature	°C	--	--	15.73	17.04	14.2	14.4	14.54	12.05	15.03	18.03
ORP	mV	--	--	-36.9	147	142	183	-211.4	121	110	57
Laboratory Parameters											
Antimony	µg/L	6	--	--	--	0.05	--	0.03	0.03	--	--
Arsenic	µg/L	10	--	--	--	0.34	--	0.26	0.3	--	--
Barium	µg/L	2000	--	--	--	29.9	--	21.9	27.2	--	--
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	<0.02	--	--
Cadmium	µg/L	5	--	--	--	0.08	--	0.01	0.05	--	--
Chromium	µg/L	100	--	--	--	0.07	--	0.1	0.09	--	--
Cobalt	µg/L	6	--	--	--	<0.02	--	<0.02	0.059	--	--
Copper	µg/L	--	--	1.19	--	1.46	--	0.66	0.3	--	--
Lead	µg/L	15	--	--	--	0.112	--	<0.02	0.07	--	--
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	--	--	0.9	--	0.9	0.8	--	--
Selenium	µg/L	50	--	--	--	3.2	--	0.6	1	--	--
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	<0.1	--	--
Zinc	µg/L	--	--	5	--	31.6	--	<0.7	0.8	--	--
Silica (Dissolved)	mg/L	--	--	24.9	--	24.9	--	23.3	22.3	--	--
Aluminum	µg/L	--	--	5.68	--	3	--	1	<5	--	--
Boron	mg/L	--	0.088	0.109	0.034	0.107	0.02	0.03	0.02	0.03	--
Calcium	mg/L	--	(79.5) 114	108	109	104	--	99.2	92.2	104	--
Lithium	mg/L	0.04	--	--	--	0.02	--	0.01	0.00639	--	--
Magnesium	mg/L	--	--	38.8	--	37.4	--	34.5	35.5	--	--
Manganese	mg/L	--	--	0.0062	--	0.004	--	0.0035	0.0115	--	--
Potassium	mg/L	--	--	1.1	--	1.28	--	0.95	0.9	--	--
Sodium	mg/L	--	--	38	--	44.4	--	29.4	29.6	--	--
Strontium	mg/L	--	--	0.137	--	0.138	--	0.21	0.118	--	--
Alkalinity	mg/L	--	--	463	--	510	--	478	445	--	--
Bromide	mg/L	--	--	0.118	--	0.1	--	0.08	0.1	--	--
Chloride	mg/L	--	(29.6) 24	17.3	--	16.2	--	18	20.7	26.7	25.8
Fluoride	mg/L	4	0.506	0.42	--	0.39	--	0.38	0.32	0.34	0.37
TDS	mg/L	--	(412.7) 517	520	533	548	517	493	497	470	489
Sulfate	mg/L	--	(52.4) 52	40.8	--	40.3	--	34.5	35.2	34.9	--
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	<0.2	--	--
Radium-228	pCi/L	--	--	--	--	0.0697	--	0.299	0.179	--	--
Radium-226	pCi/L	--	--	--	--	0.0503	--	0.0904	0.0453	--	--
Radium-226/228	pCi/L	5	--	--	--	0.12	--	0.3894	0.2243	--	--
Copper (Dissolved)	µg/L	--	--	1.21	--	2.59	--	0.38	1.7	--	--
Zinc (Dissolved)	µg/L	--	--	5.2	--	4	--	<0.7	2	--	--
Aluminum (Dissolved)	µg/L	--	--	1	--	1	--	3	<5	--	--
Iron (Dissolved)	mg/L	--	--	0.004	--	<0.003	--	<0.003	<0.02	--	--
Manganese (Dissolved)	mg/L	--	--	0.0047	--	0.0023	--	<0.0027	0.0009	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/20/2016	9/21/2016	11/17/2016	1/11/2017	3/8/2017	5/19/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.79	369.62	369.18	368.57	367.84	367.87	367.87	368.58	367.58	366.39
pH	S.U.	--	6.73 - 7.90	7.69	7.56	7.37	7.08	7.36	7.28	6.96	7.2	7.46	7.68
Specific Conductance	µmhos/cm	--	--	957	870	867	702	674	779	569	665	644	821
Turbidity	NTU	--	--	0.42	0.46	1.37	1.4	0.18	1.41	2.27	3.15	0.7	1.9
Dissolved Oxygen	mg/L	--	--	0.29	8.08	0.68	0.53	0.46	0.34	0.21	0.29	0.28	0.38
Temperature	°C	--	--	16.2	16.86	15.43	15.64	14.71	15.19	15.48	15.99	15.71	13.08
ORP	mV	--	--	224.4	-158.9	54.7	242.3	86.1	53.5	49.8	-3.1	4.1	-25.6
Laboratory Parameters													
Antimony	µg/L	6	--	0.02	0.01	0.01	0.05	0.01	0.02	0.06	0.02	--	--
Arsenic	µg/L	10	--	0.71	0.75	0.75	0.67	0.72	0.68	0.7	0.73	--	--
Barium	µg/L	2000	--	267	267	262	234	220	221	206	238	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.06	0.03	0.03	0.05	0.04	0.03	0.08	0.03	--	--
Chromium	µg/L	100	--	0.1	0.2	0.1	0.082	0.085	0.422	0.204	0.118	--	--
Cobalt	µg/L	6	--	0.602	0.627	0.576	0.546	0.514	0.58	0.56	0.599	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.56	0.46	--
Lead	µg/L	15	--	0.023	0.025	0.023	0.053	0.01	0.034	0.153	0.065	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	1.02	1.02	1.03	0.93	1	1.17	0.91	1.07	--	--
Selenium	µg/L	50	--	0.2	0.2	0.1	0.2	0.1	0.2	0.4	0.2	--	--
Thallium	µg/L	2	--	0.085	0.06	0.074	0.069	0.071	0.075	0.075	0.07	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2.7	0.8	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	19.9	20	22.8	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	15.5	14	--
Boron	mg/L	--	0.107	0.031	0.027	0.026	0.024	0.015	0.1	0.032	0.044	0.05	--
Calcium	mg/L	--	(79.5) 114	110	93.9	95.9	96.2	89.3	101	86.7	91.3	84	71.9
Lithium	mg/L	0.04	--	0.005	0.005	0.006	0.013	0.01	0.013	0.01	0.003	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	27.6	24.7	25.6	23	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	1.03	--	--
Potassium	mg/L	--	--	--	--	--	--	--	2.9	2.47	2.62	3.21	--
Sodium	mg/L	--	--	--	--	--	--	--	46.2	41.4	50	69.2	--
Strontium	mg/L	--	--	--	--	--	--	--	0.155	0.139	0.14	0.135	--
Alkalinity	mg/L	--	--	--	--	--	--	--	368	376	369	359	--
Bromide	mg/L	--	--	--	--	--	--	--	0.1	0.152	0.154	0.206	--
Chloride	mg/L	--	(29.6) 114	80.4	86.8	90.2	59.1	44.1	39.3	37.9	50.2	70.8	71.2
Fluoride	mg/L	4	0.192	0.1	0.15	0.1	0.1	0.1	0.16	0.1	0.08	0.1	--
TDS	mg/L	--	(412.7) 589	539	532	544	508	481	460	461	465	495	487
Sulfate	mg/L	--	(43.51) 44	38.7	42.2	36.8	33	34	35.4	35.1	36.1	40.4	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.357	1	0.977	0.174	2.27	0.182	0.427	0.513	--	--
Radium-226	pCi/L	--	--	0.235	0.576	0.248	0.413	0.362	0.399	0.511	0.274	--	--
Radium-226/228	pCi/L	5	--	0.592	1.576	1.225	0.587	2.632	0.581	0.938	0.787	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.14	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.051	0.014	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	1.03	1.06	1.04	0.873	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	5/22/2019	11/15/2019	5/19/2020
Field Parameters										
Elevation	ft NGVD	--	--	369.62	370.06	368.78	369.77	371.86	370.76	370.89
pH	S.U.	--	6.73 - 7.90	7.37	7.23	7.3	7.4	7.31	7.35	7.79
Specific Conductance	µmhos/cm	--	--	720	797	545	476	641	659	481
Turbidity	NTU	--	--	0.89	0	0.41	0.8	0.2	1.1	1.22
Dissolved Oxygen	mg/L	--	--	0.46	0	0.95	0.36	0.25	0.01	0.12
Temperature	°C	--	--	15.93	15.56	14.42	14.5	14.58	12	14.85
ORP	mV	--	--	-68.4	120	148	122	-21107	137	114
Laboratory Parameters										
Antimony	µg/L	6	--	--	--	<0.02	--	<0.02	0.03	--
Arsenic	µg/L	10	--	--	--	0.66	--	0.64	0.72	--
Barium	µg/L	2000	--	--	--	153	--	151	126	--
Beryllium	µg/L	4	--	--	--	<0.02	--	<0.02	<0.02	--
Cadmium	µg/L	5	--	--	--	0.02	--	0.02	0.04	--
Chromium	µg/L	100	--	--	--	0.05	--	<0.04	0.1	--
Cobalt	µg/L	6	--	--	--	0.336	--	0.346	0.58	--
Copper	µg/L	--	--	0.62	--	0.45	--	0.46	1.34	--
Lead	µg/L	15	--	--	--	<0.02	--	0.02	0.1	--
Mercury	µg/L	2	--	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	--	--	1	--	1	1	--
Selenium	µg/L	50	--	--	--	0.2	--	0.1	0.4	--
Thallium	µg/L	2	--	--	--	<0.1	--	<0.1	<0.1	--
Zinc	µg/L	--	--	0.6	--	0.8	--	<0.7	1	--
Silica (Dissolved)	mg/L	--	--	19.8	--	18.5	--	18	17.2	--
Aluminum	µg/L	--	--	10.2	--	5	--	4	10	--
Boron	mg/L	--	0.107	0.046	--	0.139	0.02	0.03	0.02	0.02
Calcium	mg/L	--	(79.5) 114	82.9	61.6	53.7	--	56	41	51.9
Lithium	mg/L	0.04	--	--	--	<0.009	--	0.02	0.00427	--
Magnesium	mg/L	--	--	23.1	--	14.8	--	15.1	11.4	--
Manganese	mg/L	--	--	0.902	--	0.613	--	0.626	0.685	--
Potassium	mg/L	--	--	3.05	--	3.16	--	2.55	2.2	--
Sodium	mg/L	--	--	66	--	74.4	--	68.4	58.9	--
Strontium	mg/L	--	--	0.136	--	0.09	--	0.0898	0.0688	--
Alkalinity	mg/L	--	--	359	--	300	--	261	252	--
Bromide	mg/L	--	--	0.168	--	0.1	--	0.1	0.1	--
Chloride	mg/L	--	(29.6) 114	58.6	61.1	47.8	--	45.5	31.2	31.3
Fluoride	mg/L	4	0.192	0.17	--	0.17	--	0.17	0.14	0.14
TDS	mg/L	--	(412.7) 589	480	456	408	--	405	343	350
Sulfate	mg/L	--	(43.51) 44	38.7	--	32.5	--	33.2	25.2	25.8
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	<0.1	<0.2	--
Radium-228	pCi/L	--	--	--	--	0.483	--	0.269	0.482	--
Radium-226	pCi/L	--	--	--	--	0.162	--	0.156	0.212	--
Radium-226/228	pCi/L	5	--	--	--	0.645	--	0.425	0.694	--
Copper (Dissolved)	µg/L	--	--	0.57	--	1.43	--	1.14	0.3	--
Zinc (Dissolved)	µg/L	--	--	0.7	--	2	--	<0.7	1	--
Aluminum (Dissolved)	µg/L	--	--	0.8	--	1	--	1	<5	--
Iron (Dissolved)	mg/L	--	--	0.024	--	0.004	--	<0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	0.849	--	0.616	--	0.615	0.447	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/20/2016	11/17/2016	1/11/2017	3/8/2017	5/10/2017	7/18/2017	10/4/2017	1/3/2018
Field Parameters													
Elevation	ft NGVD	--	--	369.85	369.68	369.23	368.64	367.91	367.94	367.96	368.64	367.68	366.47
pH	S.U.	--	6.04 - 9.13	6.8	7.31	7.26	7.29	7.48	7.44	7.54	9.03	7.6	7.74
Specific Conductance	µmhos/cm	--	--	519	582	538	613	525	614	436	597	516	692
Turbidity	NTU	--	--	1.8	0.24	0.31	0.55	0.4	0.81	1.74	0.41	2.95	1.85
Dissolved Oxygen	mg/L	--	--	0.4	--	1.33	0.55	0.49	0.11	0.29	0.32	0.21	0.47
Temperature	°C	--	--	16.8	16.96	16.04	15.1	14.55	15.2	15.46	15.62	15.77	13.14
ORP	mV	--	--	-19	23.5	35.7	108	14.6	2.1	36.6	108.9	-26.4	-36.7
Laboratory Parameters													
Antimony	µg/L	6	--	0.02	0.02	0.02	0.02	0.01	0.02	0.03	0.03	--	--
Arsenic	µg/L	10	--	0.48	0.4	0.31	0.32	0.34	0.31	0.33	0.39	--	--
Barium	µg/L	2000	--	240	246	221	217	210	224	212	247	--	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--
Cadmium	µg/L	5	--	0.08	0.08	0.02	0.05	0.02	0.01	0.07	0.1	--	--
Chromium	µg/L	100	--	0.3	0.4	0.1	1.21	0.112	0.188	0.151	0.141	--	--
Cobalt	µg/L	6	--	0.617	0.547	0.418	0.452	0.354	0.401	0.466	0.571	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	2.21	0.11	--
Lead	µg/L	15	--	0.078	0.04	0.021	0.066	0.008	0.022	0.07	0.103	--	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--
Molybdenum	µg/L	100	--	2.06	2.31	1.96	1.98	1.99	2.27	1.9	2.03	--	--
Selenium	µg/L	50	--	0.04	0.04	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	--	--
Thallium	µg/L	2	--	0.03	0.069	0.02	0.02	0.02	0.04	0.02	0.02	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	12.8	52.4	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.1	17.6	20.3	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	6.2	3.72	--
Boron	mg/L	--	0.113	0.033	0.013	0.012	0.014	0.004	0.023	0.102	0.017	0.059	--
Calcium	mg/L	--	(79.5) 88	84.3	68.7	70.5	77.9	72.4	79.2	75.8	71.7	80.4	80.1
Lithium	mg/L	0.04	--	0.001	0.013	0.003	0.006	0.013	0.007	0.008	0.0006	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	22.4	22.2	21	23.3	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.975	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.12	1.54	0.97	1.33	--
Sodium	mg/L	--	--	--	--	--	--	--	22.3	21.6	22.1	24.7	--
Strontium	mg/L	--	--	--	--	--	--	--	0.142	0.143	0.128	0.146	--
Alkalinity	mg/L	--	--	--	--	--	--	--	202	210	215	195	--
Bromide	mg/L	--	--	--	--	--	--	--	0.15	0.204	<0.05	0.233	--
Chloride	mg/L	--	(29.6) 73	68.7	69.6	67.6	63.6	67.9	65.4	69.9	69.6	81.5	86
Fluoride	mg/L	4	0.251	0.2	0.22	0.22	0.17	0.21	0.22	0.22	0.17	0.22	--
TDS	mg/L	--	(412.7) 384	350	321	342	356	343	347	367	363	383	--
Sulfate	mg/L	--	(39.69) 40	36.4	37.4	33.4	33.2	34	35.3	37.2	36.8	40	37.9
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	-0.173	0.294	1.1	0.285	0.92	0.583	-0.121	0.222	--	--
Radium-226	pCi/L	--	--	0.0514	--	0.248	0.624	0.796	0.228	0.151	0.292	--	--
Radium-226/228	pCi/L	5	--	-0.1216	0.294	1.348	0.909	1.716	0.811	0.03	0.514	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.18	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.004	0.002	0.098	0.051	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.862	0.948	0.989	0.947	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-16D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/6/2018	8/16/2018	11/14/2018	2/11/2019	4/1/2019	5/22/2019	7/23/2019	9/11/2019	11/15/2019	2/18/2020	5/19/2020	7/15/2020
Field Parameters															
Elevation	ft NGVD	--	--	369.69	370.13	368.87	369.84	370.82	371.96	372.67	-----	370.78	369.44	370.44	370.98
pH	S.U.	--	6.04 - 9.13	7.32	7.26	7.35	7.37	7.28	7.31	7.02	7.28	7.31	7.17	7.7	7.22
Specific Conductance	µmhos/cm	--	--	690	782	607	510	945	755	731	813	1070	1869	799	969
Turbidity	NTU	--	--	0.9	0	0.35	1.4	0.91	0.3	1.9	0.43	0.3	0.2	0.39	0.41
Dissolved Oxygen	mg/L	--	--	0.44	0	0.94	1.48	0.64	0.26	0.5	0.36	0.01	0.42	0.18	0
Temperature	°C	--	--	15.94	15.88	14.45	13.2	13.5	14.43	15.9	17.5	14.4	11.76	14.81	17.56
ORP	mV	--	--	-70.7	-11	62.8	60	-16.7	-216.5	50	-52.5	45	109.3	-22	-3
Laboratory Parameters															
Antimony	µg/L	6	--	--	--	<0.02	--	--	0.02	--	--	0.02	--	--	--
Arsenic	µg/L	10	--	--	--	0.32	--	--	0.39	--	--	0.35	--	--	--
Barium	µg/L	2000	--	--	--	270	--	--	286	--	--	348	--	--	--
Beryllium	µg/L	4	--	--	--	<0.02	--	--	<0.02	--	--	<0.02	--	--	--
Cadmium	µg/L	5	--	--	--	0.04	--	--	<0.01	--	--	0.05	--	--	--
Chromium	µg/L	100	--	--	--	0.05	--	--	0.25	--	--	0.1	--	--	--
Cobalt	µg/L	6	--	--	--	0.472	--	--	0.64	--	--	0.632	--	--	--
Copper	µg/L	--	--	0.07	--	0.23	--	--	0.17	--	--	<0.2	--	--	--
Lead	µg/L	15	--	--	--	0.03	--	--	0.02	--	--	<0.05	--	--	--
Mercury	µg/L	2	--	--	--	--	--	--	<0.002	--	--	<0.002	--	--	--
Molybdenum	µg/L	100	--	--	--	2	--	--	2	--	--	2	--	--	--
Selenium	µg/L	50	--	--	--	0.03	--	--	<0.03	--	--	<0.03	--	--	--
Thallium	µg/L	2	--	--	--	<0.1	--	--	<0.1	--	--	<0.1	--	--	--
Zinc	µg/L	--	--	7.1	--	15.4	--	--	1	--	--	2	--	--	--
Silica (Dissolved)	mg/L	--	--	18.5	--	18.2	--	--	17.9	--	--	17.1	--	--	--
Aluminum	µg/L	--	--	2.86	--	1	--	--	2	--	--	<5	--	--	--
Boron	mg/L	--	0.113	0.033	--	0.07	--	--	0.03	--	--	0.03	--	0.03	--
Calcium	mg/L	--	(79.5) 88	90.2	83.8	84.1	--	--	88.5	95.6	109	100	--	108	102
Lithium	mg/L	0.04	--	--	--	<0.009	--	--	0.02	--	--	0.00427	--	--	--
Magnesium	mg/L	--	--	27.1	--	24.3	--	--	25.4	--	--	28.3	--	--	--
Manganese	mg/L	--	--	1.2	--	1	--	--	1.17	--	--	1.04	--	--	--
Potassium	mg/L	--	--	1.22	--	1.27	--	--	1.27	--	--	1.57	--	--	--
Sodium	mg/L	--	--	26.7	--	30	--	--	30.8	--	--	44.6	--	--	--
Strontium	mg/L	--	--	0.18	--	0.166	--	--	0.176	--	--	0.203	--	--	--
Alkalinity	mg/L	--	--	235	--	238	--	--	249	--	--	304	--	--	--
Bromide	mg/L	--	--	0.303	--	0.275	--	--	0.344	--	--	0.425	--	--	--
Chloride	mg/L	--	(29.6) 73	108	99.7	102	109	107	104	106	125	127	133	135	133
Fluoride	mg/L	4	0.251	0.22	--	0.21	--	--	0.2	--	--	0.17	--	0.17	0.2
TDS	mg/L	--	(412.7) 384	434	447	434	439	429	460	457	523	537	579	558	519
Sulfate	mg/L	--	(39.69) 40	38.6	--	38.6	--	--	38	--	--	40.8	38.9	40.1	--
Sulfide	mg/L	--	--	<0.4	--	<0.07	--	--	<0.1	--	--	<0.2	--	--	--
Radium-228	pCi/L	--	--	--	--	0.138	--	--	0.688	--	--	0.411	--	--	--
Radium-226	pCi/L	--	--	--	--	0.179	--	--	0.551	--	--	0.158	--	--	--
Radium-226/228	pCi/L	5	--	--	--	0.317	--	--	1.239	--	--	0.569	--	--	--
Copper (Dissolved)	µg/L	--	--	0.35	--	1.5	--	--	0.25	--	--	1.98	--	--	--
Zinc (Dissolved)	µg/L	--	--	1	--	3	--	--	<0.7	--	--	3	--	--	--
Aluminum (Dissolved)	µg/L	--	--	2	--	2	--	--	<1	--	--	<5	--	--	--
Iron (Dissolved)	mg/L	--	--	0.058	--	0.023	--	--	0.067	--	--	<0.02	--	--	--
Manganese (Dissolved)	mg/L	--	--	1.19	--	1	--	--	1.23	--	--	1.07	--	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-17S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/20/2016	9/20/2016	11/16/2016	1/10/2017	3/7/2017	5/9/2017	7/19/2017	10/4/2017	6/5/2018	11/13/2018	5/23/2019	11/15/2019	5/19/2020
Field Parameters																	
Elevation	ft NGVD	--	--	370.14	370.11	369.81	369.37	368.47	368.21	368.24	368.89	373.03	369.48	368.74	371.85	371.44	370.99
pH	S.U.	--	7.11 - 7.97	7.77	7.3	7.65	7.7	7.6	7.5	7.3	7.5	7.44	7.41	7.51	7.58	7.64	7.8
Specific Conductance	µmhos/cm	--	--	350	373	344	146	310	60	357	287	351	319	280	322	396	358
Turbidity	NTU	--	--	0.6	0.7	0.79	1	1	1	3	1	0.47	0.4	0.89	0	4	0.7
Dissolved Oxygen	mg/L	--	--	0.6	1.2	0.37	0.1	0.2	1	0.2	0.2	0.38	10.12	1.07	1.56	1.3	0
Temperature	°C	--	--	14.7	17.9	14.55	14.7	13.8	13.5	14.9	14.3	16.82	14.39	13.45	15	13.4	14.43
ORP	mV	--	--	80	44	49.4	-40	62	47	45	30	-50.3	-84.3	121	-48.2	38	23
Laboratory Parameters																	
Antimony	µg/L	6	--	0.01	0.03	0.02	0.03	0.03	0.04	0.04	0.02	--	--	0.02	0.02	0.02	--
Arsenic	µg/L	10	--	0.24	0.26	0.22	0.2	0.21	0.2	0.22	0.22	--	--	0.17	0.18	0.24	--
Barium	µg/L	2000	--	2.12	2.74	2.24	2.4	3.45	3.94	4.37	2.25	--	--	2.11	2.3	2.2	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.02	0.08	0.01	0.02	0.02	0.09	0.02	0.06	--	--	0.02	0.03	0.03	--
Chromium	µg/L	100	--	0.5	0.2	0.1	0.066	0.489	0.776	0.233	0.124	--	--	0.07	0.06	0.1	--
Cobalt	µg/L	6	--	0.047	0.105	0.034	0.029	0.04	0.076	0.138	0.053	--	--	0.05	0.04	0.157	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.38	0.69	0.23	0.21	0.39	0.5	--
Lead	µg/L	15	--	0.024	0.098	0.025	0.02	0.02	0.079	0.108	0.038	--	--	0.03	0.05	0.1	--
Mercury	µg/L	2	--	<0.002	0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	3.98	4.2	4.08	3.39	0.44	0.7	1.14	4.38	--	--	3.73	4.78	4.67	--
Selenium	µg/L	50	--	0.07	0.06	0.08	0.1	0.2	0.1	0.1	0.08	--	--	0.3	0.2	0.4	--
Thallium	µg/L	2	--	0.01	0.01	0.01	0.053	0.02	0.02	<0.01	0.03	--	--	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	5.7	0.7	<0.7	14.4	1	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	14	13.7	15.8	13.5	13.2	<0.06	12.2	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	9.55	10.2	4.01	2	17.4	21.3	--
Boron	mg/L	--	0.065	0.015	0.016	0.016	0.017	0.006	0.058	0.041	0.02	0.033	0.045	0.05	0.03	0.02	0.02
Calcium	mg/L	--	(79.5) 41	36.9	34.8	34.8	35.9	32.3	40	35.5	34.4	34.1	32.4	33.1	32.7	28.7	32.8
Lithium	mg/L	0.04	--	<0.0002	0.02	0.003	0.004	0.003	0.008	0.003	<0.0002	--	--	<0.009	0.01	0.00355	--
Magnesium	mg/L	--	--	--	--	--	--	--	19.2	17.5	13.7	12.9	13	13.7	12.9	11.2	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0428	--	0.0311	0.0418	0.0377	0.179	--
Potassium	mg/L	--	--	--	--	--	--	--	0.88	0.79	0.49	0.47	0.5	0.59	0.62	0.6	--
Sodium	mg/L	--	--	--	--	--	--	--	42.5	35.3	31.9	27.7	24.5	25.8	26.5	26.8	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0566	0.0529	0.0363	0.0345	0.0357	0.0374	0.0347	0.031	--
Alkalinity	mg/L	--	--	--	--	--	--	--	231	221	196	189	188	202	193	174	--
Bromide	mg/L	--	--	--	--	--	--	--	0.02	0.05	<0.02	<0.02	0.04	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	(29.6) 16	13.9	15.4	12.3	11.4	11	10.7	10.4	10.8	10.5	10.8	11.5	12	12.6	12.7
Fluoride	mg/L	4	1.08	0.85	0.86	0.73	0.7	0.48	0.46	0.58	0.82	0.89	0.98	0.91	1.08	0.96	0.95
TDS	mg/L	--	(412.7) 269	272	235	233	232	262	251	250	201	214	214	196	217	207	200
Sulfate	mg/L	--	(16.46) 16.5	14.3	14.8	10.9	10.5	10.7	12	13.1	10.2	10.7	9.5	8.4	7.7	6.2	6.5
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.1	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.783	-0.0129	0.027	0.791	-0.155	0.36	0.315	1.07	--	--	-0.0735	0.34	1.03	--
Radium-226	pCi/L	--	--	0.253	0.0439	0.0489	0.803	0.17	0.11	0.118	0.678	--	--	0.0202	0.0449	0.0579	--
Radium-226/228	pCi/L	5	--	1.036	0.031	0.0759	1.594	0.015	0.47	0.433	1.748	--	--	0.0202	0.0202	1.0879	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.35	--	0.56	0.7	2.05	<0.2	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	1	1	<0.7	0.9	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.2	--	6.2	2	1	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	<0.0004	0.026	0.004	0.004	0.01	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.0028	0.0013	0.0322	0.0881	0.0304	0.041	0.0332	0.0662	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-171

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/8/2016	7/20/2016	9/20/2016	11/16/2016	1/10/2017	3/7/2017	5/9/2017	7/19/2017	10/4/2017	12/12/2017	1/3/2018	6/5/2018	8/16/2018	9/26/2018
Field Parameters																	
Elevation	ft NGVD	--	--	370.09	370.13	369.82	369.12	368.47	368.23	368.25	368.89	368.07	367.23	366.84	369.46	370.64	370.06
pH	S.U.	--	6.82 - 7.96	7.55	7.2	7.1	7.8	7.5	7.5	7.2	7.3	7.37	7.49	7.8	7.36	7.48	7.48
Specific Conductance	µmhos/cm	--	--	839	914	1000	607	670	60	768	678	786	530	848	652	728	453
Turbidity	NTU	--	--	13.4	9.8	--	0.1	2	9	2	1	74.99	1.74	12	1.28	0	0.58
Dissolved Oxygen	mg/L	--	--	0.8	0.8	0.9	1.3	0.3	1	0.3	0.2	0.26	0.1	2.34	0.2	0.17	0.37
Temperature	°C	--	--	14.1	16.4	18.3	14.4	13.7	13.8	14.7	14.7	17.05	8.97	7.25	15.11	17.06	14.18
ORP	mV	--	--	116	-73	-40	204	-52	8	46	-59	-90.8	-54	-40.5	-99.8	-69	-77.9
Laboratory Parameters																	
Antimony	µg/L	6	--	0.07	0.05	0.04	0.03	0.02	0.02	0.02	0.02	--	--	--	--	--	--
Arsenic	µg/L	10	--	7.14	7.41	6.45	3.38	3.94	4.61	3.61	3.76	--	--	--	--	--	--
Barium	µg/L	2000	--	168	190	198	149	148	159	133	140	--	--	--	--	--	--
Beryllium	µg/L	4	--	0.02	0.006	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	--	--	--	--	--	--
Cadmium	µg/L	5	--	0.12	0.13	0.04	0.04	0.008	0.007	0.03	0.02	--	--	--	--	--	--
Chromium	µg/L	100	--	0.6	2.1	0.1	0.059	0.254	0.776	0.196	0.127	--	--	--	--	--	--
Cobalt	µg/L	6	--	1.24	0.778	0.472	0.37	0.391	0.406	0.394	0.372	--	--	--	--	--	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.26	0.24	--	--	0.52	--	--
Lead	µg/L	15	--	1.19	0.284	0.133	0.049	0.02	0.026	0.115	0.02	--	--	--	--	--	--
Mercury	µg/L	2	--	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	--	--
Molybdenum	µg/L	100	--	3.6	3.66	3.08	3.37	3.2	3.62	3.26	3.42	--	--	--	--	--	--
Selenium	µg/L	50	--	0.1	0.05	0.05	<0.03	<0.03	0.05	0.03	<0.03	--	--	--	--	--	--
Thallium	µg/L	2	--	0.03	0.02	0.02	0.056	0.02	0.02	0.01	0.05	--	--	--	--	--	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	4.3	30.8	--	--	2.4	--	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.1	17	19.8	--	--	16.5	--	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	3.39	21.5	--	--	5.91	--	--
Boron	mg/L	--	0.098	0.058	0.056	0.051	0.041	0.034	0.079	0.083	0.052	0.061	--	--	0.081	--	--
Calcium	mg/L	--	(79.5) 96	73.7	83.1	88.9	80	72.3	81.4	69.6	64.4	63	--	--	51.2	--	--
Lithium	mg/L	0.04	--	<0.0002	0.004	0.005	0.006	0.009	0.008	0.005	<0.0002	--	--	--	--	--	--
Magnesium	mg/L	--	--	--	--	--	--	--	21	19.6	17.4	16.5	--	--	13.4	--	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.155	--	--	--	0.122	--	--
Potassium	mg/L	--	--	--	--	--	--	--	1.28	1.36	1.04	1.12	--	--	0.94	--	--
Sodium	mg/L	--	--	--	--	--	--	--	101	93.6	95.4	94.6	--	--	89.1	--	--
Strontium	mg/L	--	--	--	--	--	--	--	0.153	0.14	0.119	0.12	--	--	0.104	--	--
Alkalinity	mg/L	--	--	--	--	--	--	--	221	226	229	245	--	--	238	--	--
Bromide	mg/L	--	--	--	--	--	--	--	0.347	0.396	0.372	0.283	--	--	0.213	--	--
Chloride	mg/L	--	(29.6) 241	195	209	214	164	159	158	151	145	115	86	110	80.2	61.1	--
Fluoride	mg/L	4	0.656	0.57	0.56	0.52	0.56	0.56	0.58	0.61	0.63	0.66	0.76	0.65	0.87	0.98	1.03
TDS	mg/L	--	(412.7) 657	609	569	620	540	513	549	528	509	486	--	471	418	376	--
Sulfate	mg/L	--	(50.8) 51	43.1	49.3	48.1	44.1	43.2	44.9	43.5	44.7	46.6	44.8	--	41	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	--	<0.4	--	--
Radium-228	pCi/L	--	--	0.615	0.386	1	0.499	0.531	0.33	0.191	0.791	--	--	--	--	--	--
Radium-226	pCi/L	--	--	1.31	0.781	0.587	0.263	0.979	0.693	0.816	0.0231	--	--	--	--	--	--
Radium-226/228	pCi/L	5	--	1.925	1.167	1.587	0.762	1.51	1.023	1.007	0.8141	--	--	--	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.33	--	--	--	0.57	--	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.2	--	--	--	1	--	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2	--	--	--	2.64	--	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.896	0.909	0.741	0.603	--	--	0.546	--	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.185	0.188	0.141	0.144	--	--	0.113	--	--

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-17I

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/13/2018	2/11/2019	4/1/2019	5/23/2019	7/23/2019	9/11/2019	11/15/2019	5/19/2020
Field Parameters											
Elevation	ft NGVD	--	--	369.35	369.89	369.89	372.03	373.11	-----	371.60	370.47
pH	S.U.	--	6.82 - 7.96	7.55	7.68	7.68	7.51	6.65	7.63	7.44	7.94
Specific Conductance	µmhos/cm	--	--	450	391	391	570	488	363	654	487
Turbidity	NTU	--	--	7.42	6.9	6.9	3.67	6.4	5	7	1.02
Dissolved Oxygen	mg/L	--	--	0.76	0.47	0.47	0.91	1.1	0	0	0
Temperature	°C	--	--	12.6	13.5	13.5	17.85	14.8	15.49	13	14.72
ORP	mV	--	--	-77.4	-55	-55	-94.3	-5.3	-112	-87	-56
Laboratory Parameters											
Antimony	µg/L	6	--	0.02	--	--	0.02	--	--	0.06	--
Arsenic	µg/L	10	--	3.65	--	--	3.72	--	--	4.5	--
Barium	µg/L	2000	--	86.8	--	--	91.8	--	--	87.9	--
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	--	--	<0.02	--
Cadmium	µg/L	5	--	0.03	--	--	<0.01	--	--	0.05	--
Chromium	µg/L	100	--	<0.04	--	--	<0.04	--	--	0.1	--
Cobalt	µg/L	6	--	0.186	--	--	0.22	--	--	0.306	--
Copper	µg/L	--	--	0.26	--	--	0.07	--	--	0.5	--
Lead	µg/L	15	--	0.03	--	--	0.02	--	--	0.2	--
Mercury	µg/L	2	--	--	--	--	<0.002	--	--	<0.002	--
Molybdenum	µg/L	100	--	4.09	--	--	3.01	--	--	2.4	--
Selenium	µg/L	50	--	<0.03	--	--	<0.03	--	--	0.03	--
Thallium	µg/L	2	--	<0.1	--	--	<0.1	--	--	<0.1	--
Zinc	µg/L	--	--	2	--	--	15.1	--	--	2	--
Silica (Dissolved)	mg/L	--	--	15.8	--	--	<0.06	--	--	14	--
Aluminum	µg/L	--	--	2	--	--	1	--	--	7	--
Boron	mg/L	--	0.098	0.07	--	--	0.04	--	--	0.04	0.04
Calcium	mg/L	--	(79.5) 96	36.5	--	--	45.1	--	--	43.9	40.3
Lithium	mg/L	0.04	--	<0.009	--	--	0.01	--	--	0.00504	--
Magnesium	mg/L	--	--	9.44	--	--	11.8	--	--	12	--
Manganese	mg/L	--	--	0.0779	--	--	0.112	--	--	0.121	--
Potassium	mg/L	--	--	0.83	--	--	0.84	--	--	0.9	--
Sodium	mg/L	--	--	74.7	--	--	60.5	--	--	49.7	--
Strontium	mg/L	--	--	0.0796	--	--	0.098	--	--	0.103	--
Alkalinity	mg/L	--	--	231	--	--	201	--	--	205	--
Bromide	mg/L	--	--	0.1	--	--	0.2	--	--	2	--
Chloride	mg/L	--	(29.6) 241	50.1	--	--	60.2	--	--	41.2	32.8
Fluoride	mg/L	4	0.656	1.00	1.05	1.08	1.07	1.06	1.08	0.95	1.07
TDS	mg/L	--	(412.7) 657	328	--	--	352	--	--	309	273
Sulfate	mg/L	--	(50.8) 51	29.6	--	--	32.8	--	--	23.2	20.7
Sulfide	mg/L	--	--	<0.1	--	--	<0.1	--	--	<0.02	--
Radium-228	pCi/L	--	--	0.275	--	--	-0.107	--	--	1.33	--
Radium-226	pCi/L	--	--	0.351	--	--	0.403	--	--	0.184	--
Radium-226/228	pCi/L	5	--	0.626	--	--	0.403	--	--	1.514	--
Copper (Dissolved)	µg/L	--	--	1.62	--	--	1.24	--	--	2.03	--
Zinc (Dissolved)	µg/L	--	--	3	--	--	3	--	--	3	--
Aluminum (Dissolved)	µg/L	--	--	3	--	--	5.77	--	--	<5	--
Iron (Dissolved)	mg/L	--	--	0.348	--	--	0.418	--	--	0.364	--
Manganese (Dissolved)	mg/L	--	--	0.0765	--	--	0.106	--	--	0.114	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-21S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	12/12/2017	6/6/2018
Field Parameters														
Elevation	ft NGVD	--	--	369.38	369.28	368.85	368.52	367.76	366.84	367.86	368.72	367.13	366.24	369.54
pH	S.U.	--	5.99 - 9.07	6.6	7.54	7.59	7.5	7.32	7.6	8.86	7.23	7.53	8	7.77
Specific Conductance	µmhos/cm	--	--	387	450	454	501	410	540	344	398	402	390	400
Turbidity	NTU	--	--	2.5	0.91	0.78	0.46	1.03	2.6	0.71	2.28	3.31	6	2.1
Dissolved Oxygen	mg/L	--	--	2.3	4.37	5.67	4.46	6.66	4.2	3.36	32.59	4.01	6.2	3.36
Temperature	°C	--	--	16.4	17.49	18.53	18.78	15.15	14.9	16.27	18.01	16.21	14.9	16.2
ORP	mV	--	--	36	13.1	48.9	46.9	198.4	150	160.1	-167.7	76.7	56	43
Laboratory Parameters														
Antimony	µg/L	6	--	0.03	0.02	0.02	0.02	0.03	0.03	0.04	0.05	--	--	0.04
Arsenic	µg/L	10	--	0.53	0.47	0.46	0.43	0.47	0.49	0.47	0.42	--	--	0.45
Barium	µg/L	2000	--	18.5	19.6	19.4	19.1	19.3	21.9	17.7	21.9	--	--	18.5
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.004	<0.04	--	--	<0.004
Cadmium	µg/L	5	--	0.02	0.02	0.006	0.02	0.01	0.01	0.01	0.01	--	--	0.01
Chromium	µg/L	100	--	0.4	0.7	0.3	0.292	0.401	0.536	0.3	0.272	--	--	0.233
Cobalt	µg/L	6	--	0.104	0.033	0.03	0.023	0.022	0.053	0.027	0.006	--	--	0.02
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.27	0.35	--	0.52
Lead	µg/L	15	--	0.095	0.042	0.025	0.023	0.024	0.095	0.023	0.024	--	--	0.024
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	1.78	1.85	1.74	1.63	1.74	2	1.62	2.31	--	--	2.04
Selenium	µg/L	50	--	0.7	0.5	0.2	0.2	0.1	0.1	0.1	0.2	--	--	0.3
Thallium	µg/L	2	--	0.01	0.01	<0.01	<0.01	0.058	<0.01	<0.01	<0.01	--	--	<0.01
Zinc	µg/L	--	--	--	--	--	--	--	--	--	2	214	--	3.7
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	23.5	22.8	26.2	--	22.5
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	1	16.5	--	6.55
Boron	mg/L	--	0.046	0.002	0.011	0.007	0.015	0.002	0.018	0.033	0.034	0.027	--	0.039
Calcium	mg/L	--	(79.5) 62	55.1	52.8	52	60	54.4	59	56	55.9	59.8	--	52.8
Lithium	mg/L	0.04	--	0.003	0.013	0.003	0.009	0.007	0.002	0.005	<0.0002	--	--	0.005
Magnesium	mg/L	--	--	--	--	--	--	--	21.3	20.5	20.7	21.8	--	19.2
Manganese	mg/L	--	--	--	--	--	--	--	--	--	<0.0001	--	--	0.0008
Potassium	mg/L	--	--	--	--	--	--	--	0.6	0.69	0.57	0.61	--	0.58
Sodium	mg/L	--	--	--	--	--	--	--	18.9	16.6	20.6	19.3	--	15.5
Strontium	mg/L	--	--	--	--	--	--	--	0.0604	0.0601	0.58	0.061	--	0.0554
Alkalinity	mg/L	--	--	--	--	--	--	--	202	195	212	210	--	183
Bromide	mg/L	--	--	--	--	--	--	--	<0.02	0.03	0.061	<0.02	--	0.02
Chloride	mg/L	--	(29.6) 16	15	15.1	14.7	14.7	14.4	14.8	15.7	15.9	17.7	18	17.5
Fluoride	mg/L	4	0.689	0.61	0.064	0.62	0.63	0.54	0.58	0.6	0.54	0.6	0.6	0.66
TDS	mg/L	--	(412.7) 313	275	292	285	294	287	298	296	304	300	--	283
Sulfate	mg/L	--	23.6	21.2	21.1	17.4	14.9	15.9	16.5	17.6	18.8	20.1	21.1	18.7
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4
Radium-228	pCi/L	--	--	0.129	0.0598	0.213	0.14	1.71	-0.0315	0.0831	0.989	--	--	--
Radium-226	pCi/L	--	--	0.0309	0.513	0.239	0.344	0.357	0.0305	0.152	0.109	--	--	--
Radium-226/228	pCi/L	5	--	0.1599	0.5728	0.452	0.484	2.067	-0.001	0.2351	1.098	--	--	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.2	--	--	0.29
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	5.1	--	--	1
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	18.3	--	--	1
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.008	0.017	--	0.005
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0001	0.0001	0.0029	<0.0002	--	<0.0002

**Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana**

MW-21S

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	11/14/2018	2/12/2019	4/1/2019	5/21/2019	11/14/2019	2/18/2020	5/19/2020	7/16/2020
Field Parameters											
Elevation	ft NGVD	--	--	368.42	370.37	371.3	371.43	370.65	369.05	369.92	400.27
pH	S.U.	--	5.99 - 9.07	7.34	7.74	7.8	7.59	7.54	7.53	8.11	7.93
Specific Conductance	µmhos/cm	--	--	380	318	404	424	530	856	347	416
Turbidity	NTU	--	--	1.67	2.8	2.45	0.29	2.8	8.71	0.65	0.46
Dissolved Oxygen	mg/L	--	--	9.55	7.1	3.89	5.26	7	6.64	5.6	7.8
Temperature	°C	--	--	14.14	15.2	14.3	15.98	15.5	11.8	12.23	15.6
ORP	mV	--	--	165.5	189	21.1	-194.8	121	132.4	136	141
Laboratory Parameters											
Antimony	µg/L	6	--	0.02	--	--	<0.02	0.03	--	--	--
Arsenic	µg/L	10	--	0.44	--	--	0.44	0.46	--	--	--
Barium	µg/L	2000	--	17.8	--	--	15.9	16.2	--	--	--
Beryllium	µg/L	4	--	<0.02	--	--	<0.02	<0.02	--	--	--
Cadmium	µg/L	5	--	0.01	--	--	0.01	0.01	--	--	--
Chromium	µg/L	100	--	0.232	--	--	0.287	0.418	--	--	--
Cobalt	µg/L	6	--	0.06	--	--	0.02	0.03	--	--	--
Copper	µg/L	--	--	0.53	--	--	0.13	0.4	--	--	--
Lead	µg/L	15	--	0.07	--	--	0.02	<0.05	--	--	--
Mercury	µg/L	2	--	--	--	--	<0.002	<0.002	--	--	--
Molybdenum	µg/L	100	--	2	--	--	2	2	--	--	--
Selenium	µg/L	50	--	0.3	--	--	0.1	0.1	--	--	--
Thallium	µg/L	2	--	<0.1	--	--	<0.1	<0.1	--	--	--
Zinc	µg/L	--	--	0.8	--	--	<0.7	<0.7	--	--	--
Silica (Dissolved)	mg/L	--	--	23.2	--	--	21.3	18.8	--	--	--
Aluminum	µg/L	--	--	17	--	--	5.26	10	--	--	--
Boron	mg/L	--	0.046	0.06	<0.02	--	<0.02	0.01	--	<0.02	--
Calcium	mg/L	--	(79.5) 62	55	--	--	52.5	50.4	--	49.1	--
Lithium	mg/L	0.04	--	0.03	--	--	<0.009	0.00321	--	--	--
Magnesium	mg/L	--	--	19.6	--	--	17	17.3	--	--	--
Manganese	mg/L	--	--	0.0041	--	--	0.0009	0.002	--	--	--
Potassium	mg/L	--	--	0.88	--	--	0.55	0.3	--	--	--
Sodium	mg/L	--	--	17.1	--	--	13	15.3	--	--	--
Strontium	mg/L	--	--	0.0553	--	--	0.0506	0.0508	--	--	--
Alkalinity	mg/L	--	--	193	--	--	167	171	--	--	--
Bromide	mg/L	--	--	<0.04	--	--	<0.04	<0.04	--	--	--
Chloride	mg/L	--	(29.6) 16	17.9	17.9	17.5	16	17.4	--	18	16.1
Fluoride	mg/L	4	0.689	0.66	--	--	0.65	0.73	0.79	0.76	0.77
TDS	mg/L	--	(412.7) 313	278	--	--	258	241	--	238	228
Sulfate	mg/L	--	23.6	17.0	--	--	14.1	15.8	--	15.1	--
Sulfide	mg/L	--	--	<0.07	--	--	<0.1	<0.2	--	--	--
Radium-228	pCi/L	--	--	0.0549	--	--	0.366	0.39	--	--	--
Radium-226	pCi/L	--	--	0.0246	--	--	-0.0257	0.0413	--	--	--
Radium-226/228	pCi/L	5	--	0.0795	--	--	0.366	0.4313	--	--	--
Copper (Dissolved)	µg/L	--	--	0.13	--	--	0.27	<0.2	--	--	--
Zinc (Dissolved)	µg/L	--	--	<0.7	--	--	<0.7	0.8	--	--	--
Aluminum (Dissolved)	µg/L	--	--	2	--	--	5	<5	--	--	--
Iron (Dissolved)	mg/L	--	--	<0.003	--	--	<0.003	<0.02	--	--	--
Manganese (Dissolved)	mg/L	--	--	<0.0002	--	--	<0.0002	<0.0005	--	--	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-211

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	6/6/2018	11/13/2018	5/21/2019	11/14/2019	5/19/2020
Field Parameters																	
Elevation	ft NGVD	--	--	369.3	369.19	368.77	368.43	367.68	367.8	368.03	368.24	367	369.44	368.39	371.41	370.62	369.92
pH	S.U.	--	6.63 - 8.69	7.99	7.56	7.56	7.3	7.35	7.5	8.56	7.44	7.44	7.54	7.69	7.31	7.48	7.38
Specific Conductance	µmhos/cm	--	--	548	500	488	432	397	520	361	422	399	430	402	403	526	386
Turbidity	NTU	--	--	0.73	0.65	1.04	0.97	2.82	2.5	1.34	1.02	3.21	1.71	1.18	0	4	1.08
Dissolved Oxygen	mg/L	--	--	0.5	1.63	1.49	1.88	1.53	0.3	0.55	0.76	0.2	0.17	0.22	0.36	0.4	2.47
Temperature	°C	--	--	16.88	17.39	16.17	16.95	13.68	15.1	16.39	17.11	15.47	15.55	14.87	16.34	15.6	14.95
ORP	mV	--	--	-9.2	-185.2	-16.7	105.2	21.1	-3	160.7	2.1	-10.3	-13.4	8.7	67.5	31	109
Laboratory Parameters																	
Antimony	µg/L	6	--	0.02	0.02	0.02	0.02	0.02	0.03	0.05	0.03	--	0.02	<0.02	<0.02	0.05	--
Arsenic	µg/L	10	--	1.55	1.67	1.55	1.41	1.39	1.08	1.19	1.38	--	0.98	1.63	0.65	1.12	--
Barium	µg/L	2000	--	127	136	121	126	126	123	116	123	--	121	120	106	110	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.004	<0.004	--	<0.004	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.02	0.02	0.02	0.04	0.02	0.01	0.01	0.01	--	0.03	0.01	0.07	--	
Chromium	µg/L	100	--	0.1	0.2	0.1	0.386	1.04	0.349	0.125	0.143	--	0.061	0.1	0.1	0.2	--
Cobalt	µg/L	6	--	0.514	0.558	0.422	0.524	0.437	0.437	0.412	0.517	--	0.398	0.685	0.275	0.664	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.07	0.09	0.11	0.51	0.77	0.3	--
Lead	µg/L	15	--	0.02	0.021	0.046	0.035	<0.004	0.01	0.022	0.033	--	0.026	0.181	0.02	0.08	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	4.92	5.25	4.46	4.4	4.63	4.31	4.06	4.18	--	4.69	5.13	5.01	4.85	--
Selenium	µg/L	50	--	<0.03	0.05	0.03	0.09	0.07	0.07	0.05	0.05	--	<0.03	<0.03	<0.03	0.1	--
Thallium	µg/L	2	--	0.03	0.03	0.02	0.02	0.04	0.02	0.03	0.03	--	0.03	<0.1	<0.1	<0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	0.6	0.9	1	11.1	1	1	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.8	18.1	19.7	17.6	17.7	16.6	15.4	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	4.55	2.56	3.39	17.2	6.03	10	--
Boron	mg/L	--	0.092	0.007	0.012	0.011	0.012	<0.002	0.028	0.027	0.08	0.029	0.034	0.08	<0.02	0.01	<0.02
Calcium	mg/L	--	(979.5) 73	69	64.7	65.1	68.4	59.5	66.5	62.9	60.1	63.9	66.5	61.5	62.4	56.5	58.5
Lithium	mg/L	0.04	--	<0.0002	0.019	0.004	0.006	0.005	0.007	0.008	0.004	--	0.007	<0.009	<0.009	0.00335	--
Magnesium	mg/L	--	--	--	--	--	--	--	20.9	20.1	18.4	20	21.2	19.3	17.5	16.8	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.428	--	0.476	0.535	0.371	0.582	--
Potassium	mg/L	--	--	--	--	--	--	--	0.92	1.08	1.26	0.8	0.9	1.21	0.82	0.7	--
Sodium	mg/L	--	--	--	--	--	--	--	16	15.4	13	15	15.5	14.7	13.3	14.4	--
Strontium	mg/L	--	--	--	--	--	--	--	0.0931	0.0922	0.0805	0.0889	0.096	0.0887	0.0829	0.0797	--
Alkalinity	mg/L	--	--	--	--	--	--	--	212	222	221	215	230	224	199	199	--
Bromide	mg/L	--	--	--	--	--	--	--	0.03	0.05	<0.02	0.04	0.04	<0.04	<0.04	<0.04	--
Chloride	mg/L	--	(79.5) 22	21.1	21.7	20.4	20	19.9	19.6	21	20.4	20.5	20.6	20.2	18.1	17.5	19.3
Fluoride	mg/L	4	0.38	0.33	0.36	0.34	0.34	0.3	0.32	0.34	0.3	0.31	0.38	0.36	0.36	0.38	0.35
TDS	mg/L	--	(412.7) 359	331	334	305	317	292	275	306	322	306	317	294	278	262	283
Sulfate	mg/L	--	50	46.2	47.9	43.2	40.4	41	39.6	42.4	43.6	45.7	44.6	43.4	36	35.5	38.8
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	<0.4	<0.1	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.126	0.036	0.676	0.0796	1.78	0.281	0.108	0.45	--	--	0.638	0.458	0.113	--
Radium-226	pCi/L	--	--	0.223	1.37	0.305	0.576	0.953	0.601	0.483	0.775	--	--	0.315	0.284	0.579	--
Radium-226/228	pCi/L	5	--	0.349	1.406	0.981	0.6556	2.733	0.882	0.591	1.225	--	--	0.953	0.742	0.692	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.09	--	0.11	0.23	0.21	<0.2	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.7	--	1	1	<0.7	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	1	--	<0.8	<1	4	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	0.019	<0.0004	0.078	0.062	0.024	0.028	<0.003	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.37	0.427	0.425	0.441	0.427	0.441	0.346	0.315	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

MW-21D

Parameter	Units	GWPS (MCL or RSL)	Appendix III UPL	6/9/2016	7/19/2016	9/21/2016	11/16/2016	1/11/2017	3/8/2017	5/9/2017	7/19/2017	10/4/2017	1/3-11/18	6/6/2018	11/13/2018	5/22/2019	11/14/2019	5/19/2020
Field Parameters																		
Elevation	ft NGVD	--	--	369.44	369.34	368.92	368.59	367.86	368.07	367.86	368.42	367.17	366.66	369.58	368.38	371.4	370.64	
pH	S.U.	--	6.71 - 8.73	8.14	7.76	7.69	7.47	7.19	7.6	7.44	8.48	7.48	7.03	7.65	7.66	7.47	7.41	7.55
Specific Conductance	µmhos/cm	--	--	591	544	478	585	441	60	493	531	449	564	470	451	511	670	449
Turbidity	NTU	--	--	2.82	0.48	1.93	0.33	3.09	1.9	1.42	0.55	1.01	1.11	2.43	1.87	0.87	11	1.18
Dissolved Oxygen	mg/L	--	--	0.53	0.17	0.49	0	1.82	0.2	0.22	0.47	0.31	18.7	0.18	0.33	1.88	0	0.66
Temperature	°C	--	--	15.24	16.81	15.93	15.25	12.99	15	16.7	17.58	16.26	14.93	15.45	14.15	15.44	16.2	14.87
ORP	mV	--	--	80.4	26.3	78.1	51.1	141.4	51	40	168.3	21.3	170.4	25.1	23.2	37.3	56	35
Laboratory Parameters																		
Antimony	µg/L	6	--	0.08	0.08	0.06	0.06	0.07	0.07	0.08	0.12	--	--	0.11	0.07	0.08	0.19	--
Arsenic	µg/L	10	--	1.07	1.06	0.95	0.86	0.99	0.92	0.97	1.04	--	--	0.84	0.89	1.04	1.08	--
Barium	µg/L	2000	--	241	240	226	206	220	220	216	226	--	--	218	201	202	203	--
Beryllium	µg/L	4	--	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.004	<0.004	--	--	0.005	<0.02	<0.02	<0.02	--
Cadmium	µg/L	5	--	0.02	0.03	0.02	0.03	0.02	0.02	0.04	0.02	--	--	0.13	0.02	0.03	0.16	--
Chromium	µg/L	100	--	0.2	0.3	0.1	0.05	0.124	0.433	0.165	0.11	--	--	0.091	0.06	<0.04	0.759	--
Cobalt	µg/L	6	--	0.216	0.21	0.195	0.171	0.202	0.182	0.208	0.203	--	--	0.196	0.224	0.234	0.397	--
Copper	µg/L	--	--	--	--	--	--	--	--	--	0.11	2.7	--	1.16	0.16	0.16	1.02	--
Lead	µg/L	15	--	0.107	0.075	0.066	0.056	0.091	0.092	0.118	0.089	--	--	0.229	0.1	0.09	0.776	--
Mercury	µg/L	2	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--	--	<0.002	<0.002	--
Molybdenum	µg/L	100	--	6.31	6.66	6.13	5.33	6.09	5.68	5.07	5.29	--	--	5.17	4.76	5.37	5.29	--
Selenium	µg/L	50	--	0.2	0.2	0.3	0.3	0.2	0.5	0.6	0.5	--	--	0.2	0.05	0.04	0.08	--
Thallium	µg/L	2	--	0.03	0.02	0.03	0.02	0.04	0.02	0.02	0.03	--	--	0.03	<0.1	<0.1	0.1	--
Zinc	µg/L	--	--	--	--	--	--	--	--	--	1	187	--	6.5	1	1	4	--
Silica (Dissolved)	mg/L	--	--	--	--	--	--	--	--	17.5	17.6	19.6	--	17.6	17	16.9	16	--
Aluminum	µg/L	--	--	--	--	--	--	--	--	--	6.79	14.1	--	17.2	9.86	5	65.5	--
Boron	mg/L	--	0.071	0.022	0.015	0.015	0.013	0.004	0.024	0.107	0.015	0.092	0.088	0.03	0.04	<0.02	0.01	0.02
Calcium	mg/L	--	(79.5) 83	74.2	60.6	70.4	74.7	67.3	76.2	71.5	70.9	67.8	--	70.7	62.1	69.3	69.4	69.2
Lithium	mg/L	0.04	--	0.002	0.025	0.005	0.007	0.009	0.005	0.013	0.0005	--	--	0.006	0.01	<0.009	0.0044	--
Magnesium	mg/L	--	--	--	--	--	--	--	25	24.3	23.9	22.7	--	23.6	21.3	23.1	22.3	--
Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.592	--	--	0.596	0.634	0.717	0.803	--
Potassium	mg/L	--	--	--	--	--	--	--	2.11	2.41	2.44	3.91	--	1.97	3.95	2.81	3.49	--
Sodium	mg/L	--	--	--	--	--	--	--	18.1	17.2	19.7	20.8	--	15.7	17.7	15.1	17.2	--
Strontium	mg/L	--	--	--	--	--	--	--	0.144	0.142	0.144	0.168	--	0.147	0.191	0.189	0.21	--
Alkalinity	mg/L	--	--	--	--	--	--	--	247	271	277	262	--	268	268	286	266	--
Bromide	mg/L	--	--	--	--	--	--	--	<0.05	0.08	0.07	<0.05	--	0.05	0.05	0.04	0.05	--
Chloride	mg/L	--	(29.6) 20	19.2	19.6	18.9	19.1	19.4	18.9	19.9	19.5	18.5	--	19.9	18.8	19.1	19.2	19.9
Fluoride	mg/L	4	0.407	0.36	0.38	0.36	0.33	0.36	0.33	0.35	0.3	0.32	--	0.4	0.34	0.36	0.32	0.26
TDS	mg/L	--	(412.7) 365	328	299	315	346	332	304	339	332	339	--	347	314	348	323	328
Sulfate	mg/L	--	43.22	39.2	41	35.5	32	34.4	35.1	37.1	36.5	37.4	--	38.4	35.2	36.8	38.6	33.3
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	<0.4	--	--	<0.4	<0.07	<0.1	<0.2	--
Radium-228	pCi/L	--	--	0.441	0.77	0.604	0.688	0.722	0.518	0.0415	0.501	--	--	--	1.47	0.59	0.525	--
Radium-226	pCi/L	--	--	0.126	0.658	0.23	0.39	0.422	0.42	0.408	0.355	--	--	--	0.469	0.669	0.403	--
Radium-226/228	pCi/L	5	--	0.567	1.428	0.834	1.078	1.144	0.938	0.4495	0.856	--	--	--	1.939	1.259	0.928	--
Copper (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	0.39	--	--	0.08	1.33	0.85	<0.2	--
Zinc (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.4	--	--	0.7	3	3	1	--
Aluminum (Dissolved)	µg/L	--	--	--	--	--	--	--	--	--	2.16	--	--	2	1	2	<5	--
Iron (Dissolved)	mg/L	--	--	--	--	--	--	--	<0.0004	<0.0004	0.053	0.016	--	<0.002	0.007	0.005	<0.02	--
Manganese (Dissolved)	mg/L	--	--	--	--	--	--	--	0.616	0.625	0.62	0.646	--	0.567	0.657	0.684	0.611	--

Table A-1
Summary of Analytical Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Notes:

GWPS - Groundwater Protection Standard

MCL - USEPA Maximum Contaminant Levels

RSL - USEPA Generic Tables for Residential Tapwater, May 2018, TR=1E-06, THQ=1.0

Field Parameter Units

ft NGVD - Feet, National Geodetic Vertical Datum of 1929 (also known as mean sea level (MSL))

°C - degrees Celcius

S.U. - Standard Units

µmhos/cm - micromhos per centimeter

mg/L - milligrams per liter

ORP - milliVolts (mV)

NTU - Nephelometric Turbidity Units

Laboratory Parameter Units

pCi/L picoCuries per Liter

Prepared by: kdr 10/23/2020

Checked by: tmr 10/30/2020

Table A-2
Summary of Leachate Pond Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Source: American Electric Power

Parameter	Unit	Combined North/West Leachate Pond			North Leachate Pond					West Leachate Pond
		7/13/2016	7/19/2016	1/24/2017	7/13/2016	7/19/2016	9/14/2016	1/24/2017	9/29/2017	9/29/2017
Boron	mg/L	1.19	2.17	2.77	0.634	0.684	0.818	2.07	2.7	11.44
Calcium	mg/L	22.8	41.3	149	19.9	22.5	21.8	80.8	-	-
Chloride	mg/L	38.5	63.7	191	17.3	19.7	9.31	18.4	-	-
Fluoride	mg/L	0.27	0.41	0.32	0.25	0.2	0.57	0.23	-	-
Total Dissolved Solids	mg/L	918	1870	1870	332	434	310	656	-	-
Sulfate	mg/L	617	1180	1020	168	254	97.6	365	-	-
pH	SU	-	-	-	-	-	-	-	-	-

Notes:

mg/L: milligrams per liter

SU: standard unit

-: Not sampled

Laboratory data reports incorrectly identified Combined North/West Leachate Pond as North/South Leachate Pond. There is no South Leachate Pond.

Prepared by: kdr 6/1/2020

Checked by: tmr 6/1/2020

Table A-3
Summary of Isotope Data
CCR Landfill
Rockport Plant, Rockport, Indiana

Sample Identifier	B (mg/L)	$\delta^{11}\text{B}$	Sr (mg/L)	$^{87}\text{Sr}/^{86}\text{Sr}$
Landfill Leachate Pond North	2.7	-0.93	1.80	0.711955
Landfill Leachate Pond West	11.4	-1.64	2.86	0.711919
MW-17I	0.058	26.86	0.093	0.710547
MW-8I	0.037	23.51	0.140	0.709697
MW-8S	0.020	16.33	0.048	0.709272
MW-11S	0.060	24.01	0.052	0.709447
MW-14S	0.017	17.78	0.094	0.710566
MW-15I	0.042	35.32	0.082	0.710333
MW-21S	0.016	20.66	0.055	0.710142

Note: monitoring well boron concentrations are averages of first eight rounds of sampling.



wood.

Appendix B
Full Size Geochemical Exhibits

Exhibit 3-4. Boron to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.

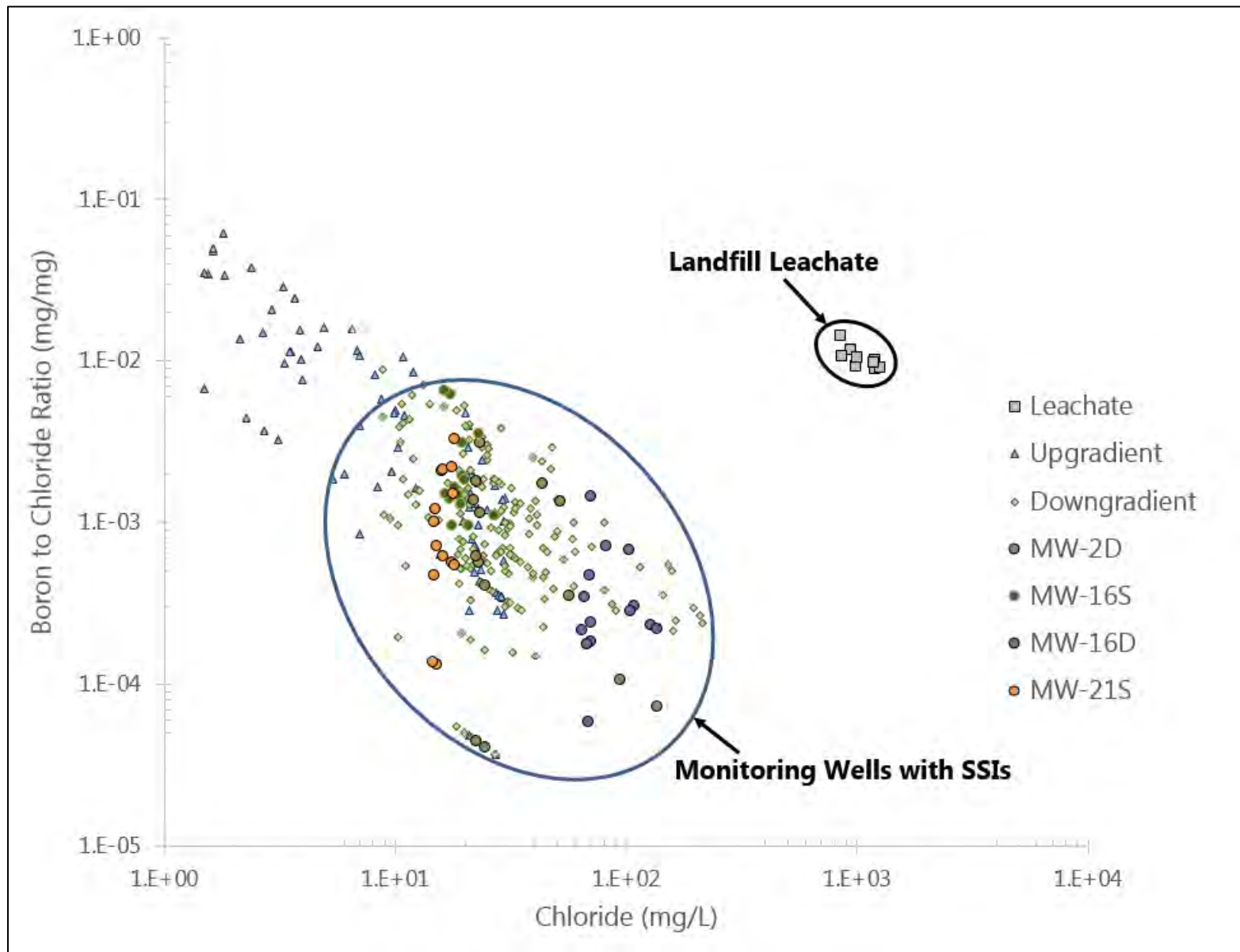


Exhibit 3-5. Sulfate to chloride ratio versus chloride concentration for CCR Landfill groundwater monitoring wells and leachate for comparison.

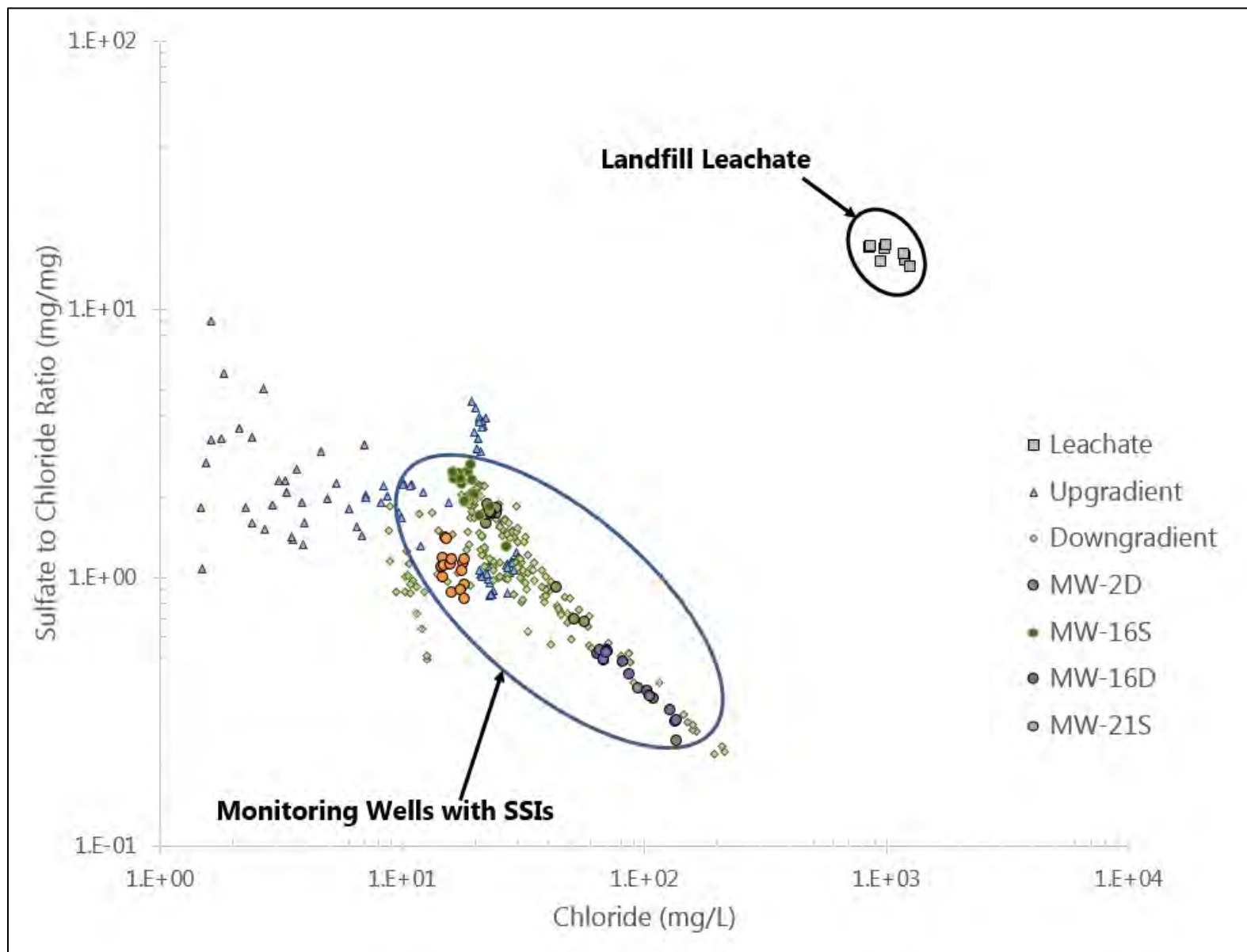


Exhibit 3-6. Boron isotope ratio ($\delta^{11}\text{B}$) versus boron concentration for CCR Landfill leachate and monitoring wells for comparison.

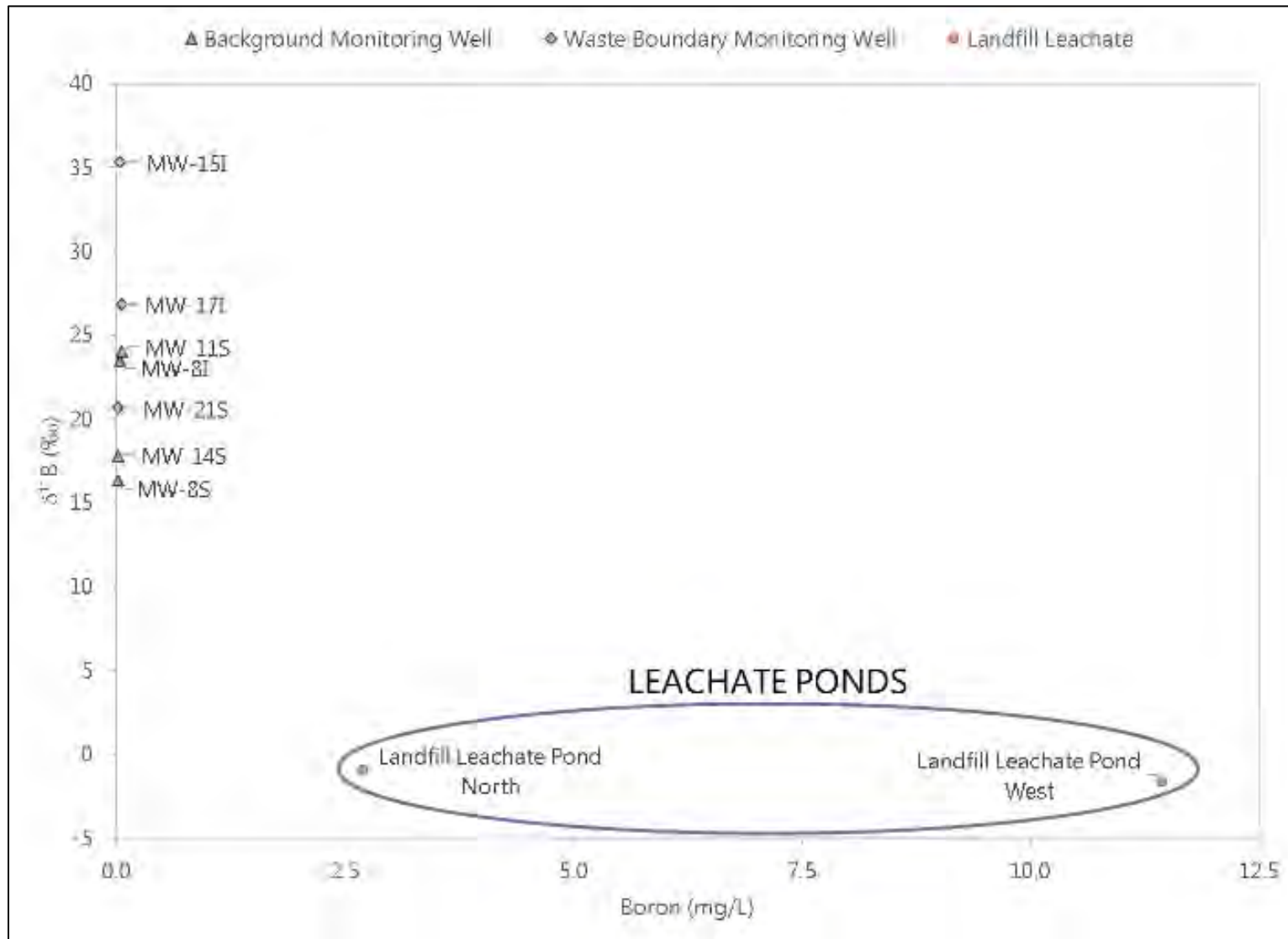
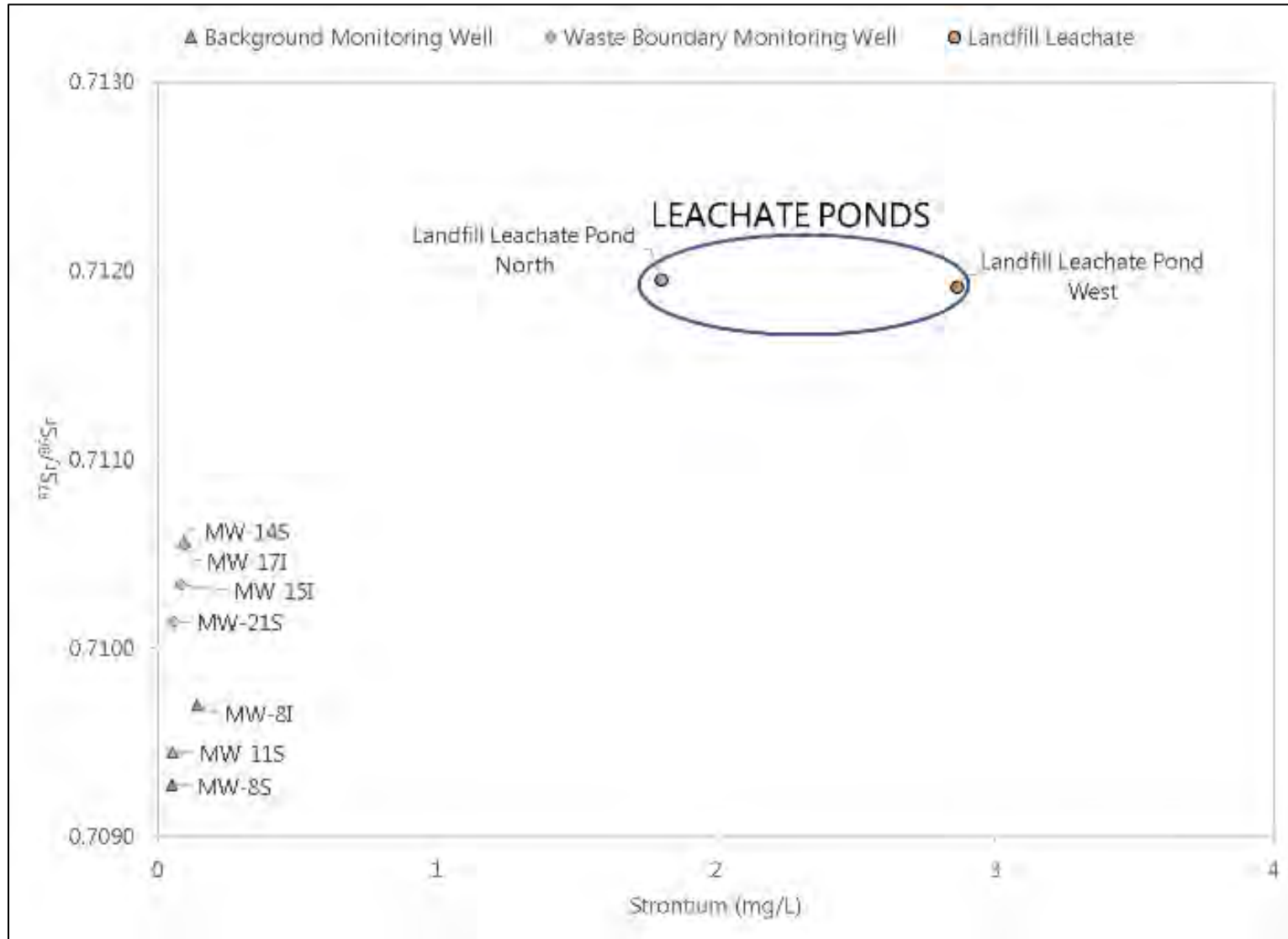


Exhibit 3-7. Strontium isotope ratio ($^{87}\text{Sr}/^{86}\text{Sr}$) versus strontium concentration for CCR Landfill leachate and monitoring wells for comparison.



APPENDIX 4 – Notices for Monitoring Program Transitions

No monitoring program transitions have been necessary at this time.

APPENDIX 5 – Well Installation/Decommissioning Logs

There were no wells installed or decommissioned in 2020.

EPA ADDITIONAL INFORMATION REQUEST

Attachment B

2020 Annual Groundwater Monitoring Report

for

Rockport Plant's Bottom Ash Pond Complex

**Annual Groundwater Monitoring and Corrective
Action Report**

Indiana Michigan Power Company
Rockport Plant
Bottom Ash Pond CCR Management Units
Rockport, Indiana

January 31, 2021

Prepared by:
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215



An **AEP** Company

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Appendix 2: Statistical Analyses

Appendix 3: Alternative Source Demonstrations

Appendix 4: Notices for Monitoring Program Transitions

Appendix 5: Well Installation/Decommissioning Logs

I Overview

This *Annual Groundwater Monitoring and Corrective Action Report* (Report) has been prepared to report the status of activities for the year 2020 at the bottom ash pond (BAP) CCR unit at Indiana Michigan Power Company's (I&M) Rockport Plant. The Indiana Michigan Power Company is wholly owned subsidiary of American Electric Power Company (AEP). The USEPA's CCR rules require that the Annual Groundwater Monitoring and Corrective Action Report covering 2020 groundwater monitoring activities be posted to the operating record no later than January 31, 2021.

In general, the following activities were completed:

- The BAP CCR Unit initiated an assessment monitoring program on April 15, 2018 and remained in assessment monitoring through the start and end of the current annual reporting period;
- As required by the CCR assessment monitoring rules in 40 CFR 257.95(b) and (d), three rounds of sampling to include the Appendix IV parameters and the Appendix III and detected Appendix IV parameters were performed in March, May, and November 2020. The results were compared to calculated statistical limits for the Appendix III parameters and the calculated groundwater protection standards (GWPS) for the Appendix IV parameters;
- Groundwater data underwent various validation tests, including tests for completeness, valid values, transcription errors, and consistent units;
- Analytical results of the March, May, and November rounds of sampling are listed in the tables in **Appendix 1**. Also shown are the groundwater flow rates and flow directions;
- Statistical analysis reports of the May 2020 samples are attached as **Appendix 2**. No Appendix IV parameters exceeded established groundwater protection standards during the May 2020 sampling event. The following Appendix III parameters exceeded background concentrations during the May 2020 sampling event:
 - Boron at wells MW-1002; MW-1603S; MW-1604I; MW-1604S; and MW-1605S
 - Calcium at MW-1602I and MW-1606D
 - Chloride at MW-1602D; MW-1602I; and MW-1605S
 - Fluoride at MW-1002; MW-1603S; MW-1604S
 - pH at MW-1002; MW-1604S; MW-1604D; and MW-1605S
 - Sulfate at MW-1002; MW-1602I; MW-1603S; MW-1604I; MW-1604S; MW-1605I; and MW-1605S
 - TDS at MW-1602I; MW-1604I; MW-1605I; and MW-1605S
- Because an alternate source for the Appendix III SSIs could not be identified, the bottom ash pond remained in Assessment Monitoring status;
- The November 2020 data are still undergoing statistical analysis;

- A Demonstration Request pursuant to § 257.103(f)(1) was submitted to U.S. EPA on November 30, 202; and
- A statistical process in accordance with 40 CFR 257.93 to evaluate groundwater data was updated, certified, and posted to AEP's CCR website in October 2020. AEP's *Statistical Analysis Plan* (Geosyntec 2020). The statistical process was guided by USEPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* ("Unified Guidance", USEPA, 2009).

The major components of this annual report, to the extent applicable at this time, are presented in sections that follow:

- A map/aerial photograph showing the BAP CCR management units, all CCR groundwater monitoring wells, and monitoring well identification numbers (Attached as **Appendix 1**);
- All of the monitoring data collected, including the rate and direction of groundwater flow, plus a summary showing the number of samples collected per monitoring well, the dates the samples were collected, and whether the sample was collected as part of background, detection monitoring, or assessment monitoring programs (Attached as **Appendix 1**);
- Statistical comparison of monitoring data to determine if there have been significant increase over background concentrations (Attached as **Appendix 2**, where applicable);
- A discussion of whether any alternate source demonstrations were performed, and the conclusions (Attached as **Appendix 3**, where applicable);
- A summary of any transition between monitoring programs, or an alternate monitoring frequency, for example the date and circumstances for transitioning from detection monitoring to assessment monitoring, in addition to identifying the constituents detected at a statistically significant increase over background concentrations (Notices Attached as **Appendix 4**, where applicable);
- Identification of any monitoring wells that were installed, or decommissioned during the preceding year, along with a statement as to why that happened (Attached as **Appendix 5**, where applicable); and
- Other information required to be included in the annual report such as alternate source demonstration or assessment of corrective measures, if applicable.

In addition, this report summarizes key actions completed, and where applicable, describes any problems encountered and actions taken to resolve those problems. The report includes a projection of key activities for the upcoming year.

II. Groundwater Monitoring Well Locations and Identification Numbers

The CCR monitoring wells are listed as follows (S=shallow, I=intermediate, and D=deep):

- Twelve Upgradient Wells: MW-1600(S, I, D); MW-1601(S, I, D); MW-1701(S, I, D); and MW-1702(S, I, D).

- Fifteen Downgradient Wells: MW-1002, MW-1602(I, D); MW-1603(S, I, D); MW-1604(S, I, D); MW-1605(S, I, D); and MW-1606(S, I, D).

Rather than separate groundwater monitoring systems for the East and West bottom ash ponds, the groundwater network monitors both of the bottom ash ponds as a single unit as allowed by 40 CFR 257.91(d). A figure that depicts the PE-certified groundwater monitoring network, the monitoring well locations, and their corresponding identification numbers is provided in **Appendix 1**.

III. Monitoring Wells Installed or Decommissioned

There were no new groundwater monitoring wells installed or decommissioned during 2020. The network design, as summarized in the *Groundwater Monitoring Network Design Report* (2019) and as posted at the CCR website for Rockport Plant's Bottom Ash Pond, did not change. That design report, viewable on the AEP CCR web site, discusses the facility location, the hydrogeological setting, the hydrostratigraphic units, the uppermost aquifer, downgradient monitoring well locations and the upgradient monitoring well locations.

IV. Groundwater Quality Data and Static Water Elevation Data, With Flow Rates and Flow Directions

Appendix 1 contains tables showing the groundwater quality data collected during the establishment of background quality, detection and assessment monitoring. Static water elevation data from each monitoring event also are shown in **Appendix 1**, along with the groundwater velocity calculations, groundwater flow direction and potentiometric maps developed after each sampling event.

V. Groundwater Quality Data Statistical Analysis

Appendix 2 contains the statistical analysis report of the first assessment monitoring samples taken in May 2020. The following Appendix III parameters exceeded background concentrations during the May 2020 sampling event:

- Boron at wells MW-1002; MW-1603S; MW-1604I; MW-1604S; and MW-1605S
- Calcium at MW-1602I and MW-1606D
- Chloride at MW-1602D; MW-1602I; and MW-1605S
- Fluoride at MW-1002; MW-1603S; MW-1604S
- pH at MW-1002; MW-1604S; MW-1604D; and MW-1605S
- Sulfate at MW-1002; MW-1602I; MW-1603S; MW-1604I; MW-1604S; MW-1605I; and MW-1605S
- TDS at MW-1602I; MW-1604I; MW-1605I; and MW-1605S

A subsequent evaluation of Appendix IV parameter concentrations concluded that there were no exceedances of Appendix IV groundwater protection standards (GWPS).

The statistical analysis of the second semi-annual sampling event will be completed within 90 days of finishing the sampling and analysis, which took place in November 2020.

VI. Alternate Source Demonstrations

An alternate source demonstration (ASD) investigation relative to past Appendix III SSIs was completed in April 2018. That demonstration concluded that the groundwater quality and Appendix III indicator parameter SSIs identified in the statistical evaluations were potentially influenced by a release from the BAP to the groundwater. An alternate source could not be identified. Therefore, an alternate source demonstration investigation was not undertaken for the 2020 exceedances of Appendix III parameters.

VII. Discussion About Transition Between Monitoring Requirements or Alternate Monitoring Frequency

Because an alternate source for the Appendix III SSIs could not be identified, an assessment monitoring program was established at Rockport's BAP complex on April 15, 2018. Assessment monitoring continued through the 2020 calendar year.

The BAP will remain in assessment monitoring unless all Appendix III and IV parameters are below background values for two consecutive monitoring events (return to detection monitoring) as prescribed by 40 CFR 257.95(e). If an Appendix IV parameter exceeds its respective GWPS due to a release from the BAP, an assessment of corrective measures will be undertaken as required by 40 CFR 257.96.

Regarding defining an alternate monitoring frequency, the groundwater velocity and monitoring well production are high enough at this facility that no modification to the semiannual assessment monitoring frequency is needed.

VIII. Other Information Required

The BAP has progressed from detection monitoring to its current status in assessment monitoring. All required information has been included in this annual groundwater monitoring report.

IX. Description of Any Problems Encountered and Actions Taken

No significant problems were encountered. The low flow sampling effort went smoothly and the schedule was met to support the annual groundwater report preparation covering the year 2020 groundwater monitoring activities.

X. A Projection of Key Activities for the Upcoming Year

Key activities for 2021 include:

- Complete the statistical analysis of the second semi-annual sampling event that took place in November 2020.
- Continue in assessment monitoring and sample all CCR wells at the BAP for the Appendix III and IV parameters as required by 40 CFR 257.95(b) and (d).

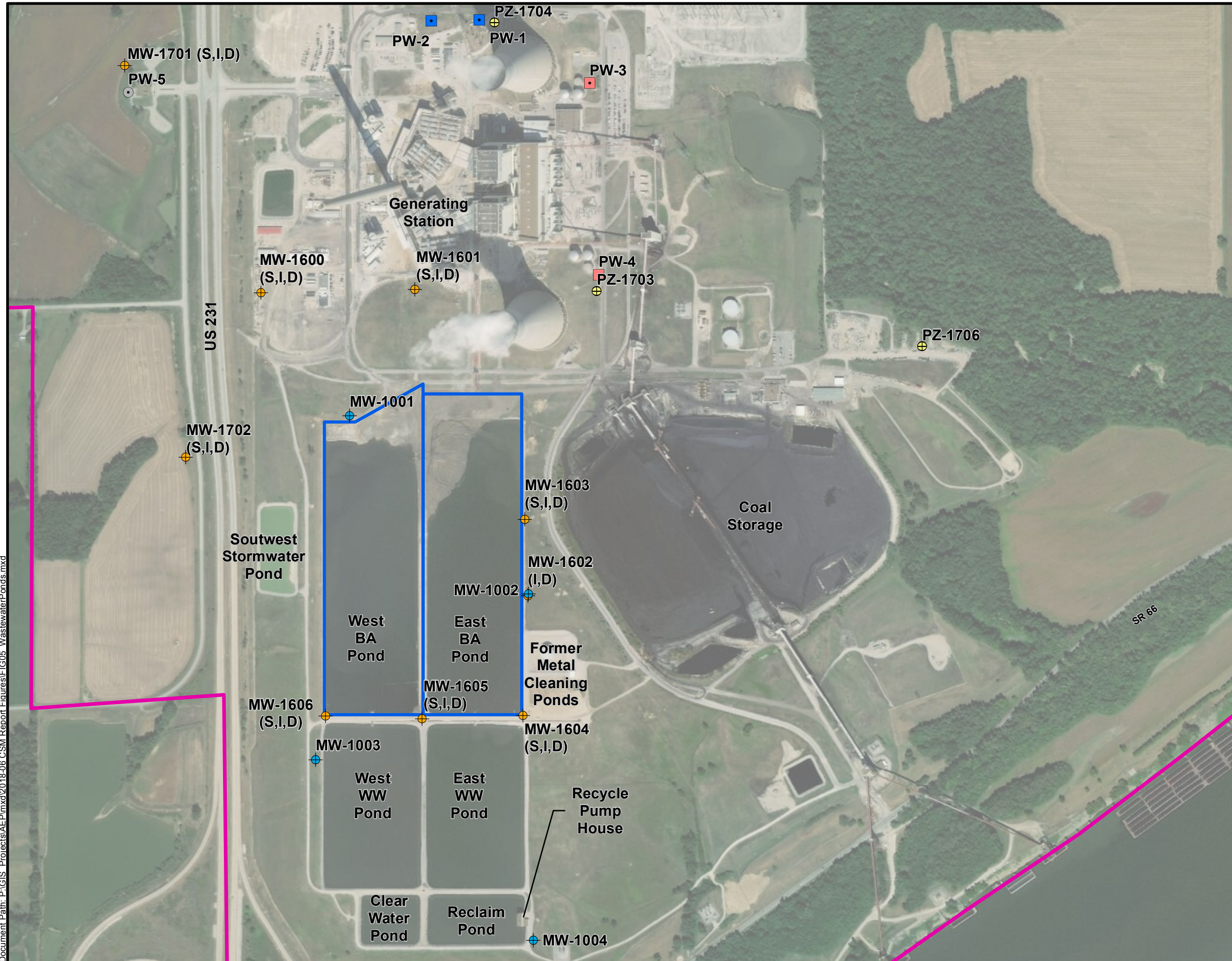
- Perform statistical analysis on the sampling results for the Appendix III and Appendix IV parameters.
- Determine applicable GWPSs for the Appendix IV parameters, and compare the results of Appendix IV concentrations in downgradient wells to the GWPSs.
- If no GWPSs are exceeded, the BAP will remain in assessment monitoring.
- If a GWPS is exceeded in a downgradient well the following activities will be undertaken:
 - Characterize the nature and extent of a release by installing additional GW wells as necessary, estimate the quantity of material released and the concentrations of Appendix IV parameters that are in the material, and sample all wells to characterize the nature and extent of the release.
 - If contaminants have migrated off-site, notify all persons who own land that directly overlies any part of the plume of contamination.
 - Perform an alternate source demonstration (ASD) investigating whether the exceedance was caused by a source other than the BAP or was a result of an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.
 - If a successful ASD cannot be made, initiate an assessment of corrective measures and follow all of those requirements.
- Respond to any new data received in light of what the CCR rule requires.
- Prepare the annual groundwater report covering 2021 groundwater monitoring activities to be filed not later than January 31, 2022

APPENDIX 1 – Groundwater Data Tables and Figures

Figures and Tables follow, showing the groundwater monitoring network, data collected and the rate and direction of groundwater flow. The dates that the samples were collected and it also is shown whether the data were collected under background, detection, or assessment monitoring.

Groundwater Monitoring Network Figure

Document Path: P:\GIS\Projects\AEP\mxd\2018-06 CSM Report Figures\Fig05 WastewaterPonds.mxd



- Legend**
- Piezometer
 - BAP - USWAG Monitoring Well
 - BAP - CCR Monitoring Well
 - Landfill - Monitoring Well
 - Landfill - CCR Monitoring Well
 - Landfill - Augmentation Water Supply Well
 - Landfill - Dust Control Water Supply Well
 - Plant - Potable Water Supply Well
 - Plant - Fire Water Supply Well
 - Inactive Water Supply Well
 - Property Boundary
 - Bottom Ash Ponds (BAP)

Data Sources

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Date of Photography: May-June 2016
 Source of Photography: U.S. Department of Agriculture, National Agriculture Imagery Program (NAIP)



BAP Well Location Map
 AEP - ROCKPORT, IN
 PROJECT NUMBER: 7362172421

SCALE	1" = 600'	FIG. 1
DATE	9/4/2018	
DRAWN BY	TMR	
APPROVED BY	KDR	

wood.

2456 Fortune Drive, Suite 100
 Lexington, Kentucky 40509
 Phone: (859) 255-3308

Groundwater Data Tables

Table 1 - Groundwater Data Summary: MW-1002*Geosyntec Consultants, Inc.***Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	1.77	33.2	58.9	1.05	7.0	149	390
7/18/2016	Background	1.70	32.3	57.8	1.03	7.1	154	385
9/20/2016	Background	1.57	40.1	54.0	0.98	6.8	164	399
11/15/2016	Background	1.67	49.4	53.0	0.87	6.5	178	405
1/9/2017	Background	1.57	55.6	59.0	0.74	6.3	190	440
3/7/2017	Background	1.32	76.3	81.1	0.73	6.5	228	503
5/8/2017	Background	1.04	78.1	75.5	0.73	6.7	215	498
7/17/2017	Background	1.28	50.0	59.9	0.73	6.7	184	430
10/3/2017	Detection	1.63	36.4	54.4	0.80	7.1	166	403
12/12/2017	Detection	--	--	52.5	0.97	7.3	177	--
1/11/2018	Detection	1.71	--	53.2	0.91	7.0	183	--
6/5/2018	Assessment	1.66	40.8	51.4	1.02	8.1	165	425
8/15/2018	Assessment	1.88	41.3	57.4	1.02	7.2	182	453
5/24/2019	Assessment	1.61	32.9	55.9	1.13	7.4	169	435
6/27/2019	Assessment	1.82	36.0	57.1	1.10	7.1	173	425
9/12/2019	Assessment	1.78	33.5	54.7	1.03	6.7	178	418
3/11/2020	Assessment	--	--	--	0.84	6.5	--	--
5/20/2020	Assessment	0.778	42.0	35.9	0.85	5.9	97.5	295
11/16/2020	Assessment	1.43	66.7	99.4	0.84	6.2	217	551

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1002

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.05	0.32	12.3	< 0.005 U	0.02	0.3	0.830	0.1116	1.05	0.034	0.002	< 0.002 U	1.92	0.08 J	0.02 J
7/18/2016	Background	0.05	0.29	14.2	< 0.005 U	0.03	0.7	0.931	0.741	1.03	0.026	0.016	< 0.002 U	2.54	0.1 J	0.03 J
9/20/2016	Background	0.04 J	0.24	18.5	< 0.005 U	0.03	0.1	0.699	1.377	0.98	0.01 J	0.004	< 0.002 U	3.38	0.1 J	0.02 J
11/15/2016	Background	0.06	0.24	23.5	0.006 J	0.15	0.075	0.664	0.686	0.87	0.031	0.010	< 0.002 U	2.47	0.08 J	0.04 J
1/9/2017	Background	0.05 J	0.25	26.9	< 0.005 U	0.04	0.078	0.692	1.052	0.74	0.022	0.006	< 0.002 U	3.16	0.06 J	0.03 J
3/7/2017	Background	0.05	0.20	35.6	< 0.005 U	0.07	0.331	0.568	0.483	0.73	0.163	0.003	< 0.002 U	2.69	0.1 J	0.04 J
5/8/2017	Background	0.05	0.24	26.8	0.020	0.05	0.177	0.526	0.2337	0.73	0.037	0.009	0.005	2.69	0.1	0.050
7/17/2017	Background	0.04 J	0.21	21.4	< 0.004 U	0.03	0.107	0.665	3.029	0.73	0.02 J	0.009	< 0.002 U	3.05	0.07 J	0.04 J
6/5/2018	Assessment	0.07	0.44	12.7	0.004	0.03	0.04	0.768	0.569	1.02	0.031	0.011	< 0.002 U	6.19	0.06	0.03
8/15/2018	Assessment	0.05 J	0.28	13.8	< 0.004 U	0.03	0.281	0.820	--	1.02	0.02 J	< 0.0002 U	--	7.86	0.07 J	0.03 J
5/24/2019	Assessment	0.05 J	0.23	13.3	< 0.02 U	0.03 J	0.09 J	0.754	0.1886	1.13	< 0.02 U	< 0.009 U	< 0.002 U	8.67	0.05 J	< 0.1 U
6/27/2019	Assessment	0.05 J	0.24	14.8	< 0.02 U	0.03 J	0.07 J	0.805	0.682	1.10	0.03 J	< 0.009 U	< 0.002 U	10.4	0.08 J	< 0.1 U
9/12/2019	Assessment	0.05 J	0.22	15.8	< 0.02 U	0.02 J	0.469	0.635	0.384	1.03	< 0.05 U	0.00438	< 0.002 U	10.2	0.06 J	< 0.1 U
3/11/2020	Assessment	< 0.02 U	0.21	15.9	< 0.02 U	0.02 J	< 0.04 U	0.608	1.9572	0.84	< 0.05 U	0.00425	< 0.002 U	8.51	0.1 J	< 0.1 U
5/20/2020	Assessment	0.04 J	0.19	16.0	< 0.02 U	0.04 J	0.09 J	0.342	0.999	0.85	< 0.05 U	0.00316	< 0.002 U	9.65	0.07 J	< 0.1 U
11/16/2020	Assessment	0.04 J	0.25	17.9	< 0.02 U	0.02 J	0.212	0.48	1.892	0.84	< 0.05 U	0.00562	< 0.002 U	4.95	0.09 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1600D
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.016	83.5	31.5	0.20	7.6	43.9	444
7/19/2016	Background	0.015	74.9	32.2	0.22	7.2	44.9	413
9/19/2016	Background	< 0.002 U	85.6	30.9	0.20	7.1	38.7	385
11/16/2016	Background	0.024	83.1	30.9	0.17	7.2	35.9	415
1/10/2017	Background	0.014	87.8	31.0	0.22	7.1	42.5	384
3/7/2017	Background	0.036	84.9	31.6	0.19	7.0	39.2	374
5/8/2017	Background	0.037	89.1	32.6	0.21	6.5	38.4	402
7/17/2017	Background	0.038	73.6	31.6	0.17	6.5	40.1	389
10/3/2017	Detection	0.040	78.3	31.5	0.20	7.3	40.8	398
12/12/2017	Detection	--	--	31.5	0.2	7.1	42.5	--
6/4/2018	Assessment	0.079	83.5	32.8	0.23	7.3	39.2	397
8/14/2018	Assessment	0.085	86.6	31.5	0.24	7.1	41.0	400
5/20/2019	Assessment	< 0.02 U	76.5	31.4	0.21	7.2	43.0	394
6/25/2019	Assessment	0.03 J	84.2	31.0	0.22	7.1	37.7	407
9/10/2019	Assessment	< 0.02 U	90.1	31.1	0.23	7.2	41.3	404
3/11/2020	Assessment	--	--	--	0.21	6.9	--	--
5/21/2020	Assessment	< 0.02 U	91.1	31.0	0.24	7.6	43.3	396
11/12/2020	Assessment	< 0.02 U	81.5	30.3	0.25	6.6	42.4	398

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1600D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.01 J	15.4	940	0.006 J	< 0.004 U	0.2	0.109	2.148	0.20	0.095	< 0.0002 U	< 0.002 U	1.94	< 0.03 U	0.01 J
7/19/2016	Background	0.02 J	17.2	946	0.005 J	< 0.004 U	0.2	0.094	1.615	0.22	0.021	0.020	< 0.002 U	2.19	0.05 J	0.054
9/19/2016	Background	0.01 J	15.1	910	< 0.005 U	< 0.004 U	0.9	0.071	1.636	0.20	0.020	0.011	< 0.002 U	1.75	< 0.03 U	0.01 J
11/16/2016	Background	< 0.01 U	15.8	997	< 0.005 U	< 0.004 U	0.128	0.085	1.402	0.17	0.064	0.008	< 0.002 U	1.79	0.04 J	< 0.01 U
1/10/2017	Background	< 0.01 U	15.2	877	< 0.005 U	< 0.004 U	0.115	0.100	2.265	0.22	0.053	0.009	< 0.002 U	1.65	< 0.03 U	< 0.01 U
3/7/2017	Background	< 0.01 U	16.2	986	< 0.005 U	< 0.004 U	0.427	0.081	1.322	0.19	0.038	0.008	< 0.002 U	1.78	0.05 J	< 0.01 U
5/8/2017	Background	0.05	15.9	914	0.020	0.02	0.170	0.096	1.104	0.21	0.073	0.006	0.005	1.64	0.1	0.050
7/17/2017	Background	0.03 J	15.0	817	0.004 J	< 0.005 U	0.180	0.112	2.223	0.17	0.076	0.009	< 0.002 U	1.56	0.04 J	< 0.01 U
6/4/2018	Assessment	0.02 J	13.8	766	0.01 J	0.02 J	0.112	0.297	0.833	0.23	0.102	0.009	< 0.002 U	1.62	< 0.03 U	0.02 J
8/14/2018	Assessment	< 0.01 U	15.1	840	< 0.004 U	< 0.005 U	0.073	0.079	2.858	0.24	0.023	0.004	--	1.62	< 0.03 U	< 0.01 U
5/20/2019	Assessment	< 0.02 U	20.3	873	< 0.02 U	0.08	0.274	0.176	1.948	0.21	0.238	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.02 U	16.6	867	< 0.02 U	< 0.01 U	0.1 J	0.146	1.121	0.22	0.135	0.01 J	< 0.002 U	2 J	0.05 J	< 0.1 U
9/10/2019	Assessment	< 0.02 U	16.1	884	< 0.02 U	< 0.01 U	0.2 J	0.132	1.621	0.23	0.1 J	0.00627	< 0.002 U	2 J	< 0.03 U	< 0.1 U
3/11/2020	Assessment	< 0.02 U	15.3	880	< 0.02 U	< 0.01 U	0.2 J	0.081	2.377	0.21	< 0.05 U	0.00573	< 0.002 U	2 J	< 0.03 U	< 0.1 U
5/21/2020	Assessment	< 0.02 U	25.3	882	< 0.02 U	< 0.01 U	0.1 J	0.090	1.462	0.24	0.06 J	0.00535	< 0.002 U	2 J	0.06 J	< 0.1 U
11/12/2020	Assessment	< 0.02 U	15.8	828	< 0.02 U	< 0.01 U	0.2 J	0.072	1.593	0.25	< 0.05 U	0.0057	< 0.002 U	2 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1600I
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.019	79.2	33.5	0.23	--	52.2	442
7/19/2016	Background	0.019	76.0	26.7	0.23	7.3	55.3	423
9/19/2016	Background	0.004 J	77.6	24.9	0.21	7.2	48.4	404
11/16/2016	Background	0.031	76.0	24.5	0.17	7.2	44.5	408
1/10/2017	Background	0.016	76.5	23.7	0.19	7.1	45.8	394
3/7/2017	Background	0.049	75.5	26.4	0.20	7.2	49.2	392
5/8/2017	Background	0.033	80.2	25.0	0.22	6.8	48.5	406
7/17/2017	Background	0.046	71.5	24.4	0.17	9.3	48.0	398
10/3/2017	Detection	0.051	71.1	24.4	0.21	7.3	50.7	400
12/12/2017	Detection	--	--	24.7	0.21	--	52.4	--
6/4/2018	Assessment	0.046	72.8	25.4	0.24	7.5	50	396
8/14/2018	Assessment	0.057	78.6	25.6	0.25	7.1	50.3	426
5/21/2019	Assessment	0.03 J	71.0	25.4	0.22	7.3	52.8	411
6/25/2019	Assessment	0.02 J	76.0	25.0	0.23	7.1	46.7	401
9/10/2019	Assessment	0.02 J	81.1	25.6	0.24	7.2	50.8	404
3/11/2020	Assessment	--	--	--	0.22	6.9	--	--
5/21/2020	Assessment	0.02 J	82.5	25.7	0.25	7.1	51.8	406
11/12/2020	Assessment	< 0.02 U	72.7	24.6	0.26	6.7	49.9	392

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1600I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.05 J	15.9	832	< 0.005 U	0.005 J	0.4	1.27	7.25	0.23	0.107	0.003	< 0.002 U	1.68	< 0.03 U	0.02 J
7/19/2016	Background	0.03 J	17.9	805	< 0.005 U	< 0.004 U	0.3	1.38	1.902	0.23	0.099	0.010	< 0.002 U	1.83	0.03 J	< 0.01 U
9/19/2016	Background	0.03 J	16.0	778	< 0.005 U	0.01 J	0.2	1.13	1.55	0.21	0.037	0.010	< 0.002 U	1.89	0.06 J	0.065
11/16/2016	Background	0.03 J	16.3	801	< 0.005 U	0.01 J	0.081	1.14	2.47	0.17	0.01 J	0.013	< 0.002 U	1.63	< 0.03 U	0.02 J
1/10/2017	Background	0.02 J	16.7	736	< 0.005 U	< 0.004 U	0.158	1.20	0.9137	0.19	0.006 J	0.005	< 0.002 U	1.64	< 0.03 U	0.02 J
3/7/2017	Background	0.02 J	16.8	696	< 0.005 U	0.02 J	0.270	1.13	1.624	0.20	0.054	0.005	< 0.002 U	1.67	0.04 J	0.03 J
5/8/2017	Background	0.05	17.0	762	0.020	0.02	0.095	1.26	1.75	0.22	0.020	0.011	0.005	1.54	0.1	0.050
7/17/2017	Background	0.02 J	16.8	710	< 0.004 U	< 0.005 U	0.397	1.27	2.009	0.17	0.108	0.010	< 0.002 U	1.53	< 0.03 U	0.02 J
6/4/2018	Assessment	0.04 J	20.6	820	< 0.004 U	< 0.005 U	0.061	1.48	2.59	0.24	0.02 J	0.012	< 0.002 U	1.98	< 0.03 U	0.03 J
8/14/2018	Assessment	0.02 J	17.5	726	< 0.004 U	< 0.005 U	0.087	1.29	1.797	0.25	0.025	0.007	--	1.64	< 0.03 U	0.03 J
5/20/2019	Assessment	< 0.02 U	17.7	737	< 0.02 U	< 0.01 U	0.1 J	1.24	1.988	0.22	< 0.02 U	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.02 U	17.2	740	< 0.02 U	< 0.01 U	< 0.04 U	1.23	2.301	0.23	< 0.02 U	0.009 J	< 0.002 U	2 J	< 0.03 U	< 0.1 U
9/10/2019	Assessment	< 0.02 U	16.9	722	< 0.02 U	< 0.01 U	0.1 J	1.29	1.22	0.24	< 0.05 U	0.00720	< 0.002 U	2 J	< 0.03 U	< 0.1 U
3/11/2020	Assessment	< 0.02 U	16.8	715	< 0.02 U	0.01 J	0.2 J	1.22	2.22	0.22	0.1 J	0.00677	< 0.002 U	1 J	< 0.03 U	< 0.1 U
5/21/2020	Assessment	0.03 J	17.9	707	< 0.02 U	0.08	0.205	1.32	2.9	0.25	0.201	0.00643	< 0.002 U	2 J	< 0.03 U	< 0.1 U
11/12/2020	Assessment	< 0.02 U	18.9	698	< 0.02 U	< 0.01 U	0.216	1.26	1.734	0.26	< 0.05 U	0.00656	< 0.002 U	2 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1600S**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.045	69.8	32.0	0.33	6.6	75.8	491
7/19/2016	Background	0.045	67.0	29.9	0.34	6.8	76.0	448
9/19/2016	Background	0.026	63.2	21.3	0.32	6.4	60.8	408
11/16/2016	Background	0.061	63.5	27.1	0.28	6.8	54.4	426
1/10/2017	Background	0.034	68.5	23.7	0.32	6.5	53.1	433
3/7/2017	Background	0.129	63.2	25.0	0.37	6.8	58.5	402
5/8/2017	Background	0.039	69.0	26.0	0.40	6.6	54.6	427
7/17/2017	Background	0.068	58.0	18.0	0.36	9.5	41.0	393
10/3/2017	Detection	0.049	61.4	27.8	0.37	6.8	54.9	430
12/13/2017	Detection	--	--	36.1	0.36	6.7	68	--
6/4/2018	Assessment	0.076	60.9	36.5	0.56	7.3	41.3	412
8/15/2018	Assessment	0.088	63.7	44.9	0.51	7.0	42.3	416
5/21/2019	Assessment	0.05 J	57.4	27.9	0.44	6.9	57.4	423
6/25/2019	Assessment	0.05 J	62.7	21.4	0.47	6.8	40.9	398
9/10/2019	Assessment	0.04 J	64.8	23.9	0.46	6.9	45.0	383
3/11/2020	Assessment	--	--	--	0.42	6.5	--	--
5/21/2020	Assessment	0.04 J	66.6	30.7	0.45	7.2	53.8	412
11/12/2020	Assessment	0.04 J	59.6	24.6	0.4	6.5	60.4	397

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1600S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.02 J	0.67	36.1	< 0.005 U	0.02 J	0.2	0.243	0.149	0.33	0.118	0.003	0.002 J	0.61	0.5	< 0.01 U
7/19/2016	Background	0.02 J	0.67	37.9	< 0.005 U	0.02 J	0.4	0.099	0.52826	0.34	0.048	0.038	< 0.002 U	0.56	0.3	0.01 J
9/19/2016	Background	0.02 J	0.58	30.9	< 0.005 U	0.01 J	0.2	0.129	0.0715	0.32	0.087	0.019	< 0.002 U	0.56	0.3	0.02 J
11/16/2016	Background	0.04 J	0.75	32.9	0.008 J	0.03	0.284	0.690	0.505	0.28	0.360	0.024	< 0.002 U	0.64	0.4	0.04 J
1/10/2017	Background	0.02 J	0.65	29.3	0.006 J	0.01 J	0.892	0.306	1.8182	0.32	0.151	0.016	< 0.002 U	0.60	0.4	0.01 J
3/7/2017	Background	0.03 J	0.70	30.5	0.008 J	0.02 J	0.459	0.587	1.697	0.37	0.319	0.013	< 0.002 U	0.66	0.5	0.01 J
5/8/2017	Background	0.05	0.65	26.9	0.020	0.02	0.163	0.398	0.305	0.40	0.195	0.019	0.005	0.56	0.5	0.050
7/17/2017	Background	0.02 J	0.61	26.1	0.006 J	0.02 J	0.302	0.441	0.117	0.36	0.233	0.019	< 0.002 U	0.74	0.5	0.02 J
6/4/2018	Assessment	0.03 J	0.49	22.7	0.005 J	0.01 J	0.109	0.128	1.573	0.56	0.069	0.019	< 0.002 U	0.72	0.5	0.02 J
8/15/2018	Assessment	0.02 J	0.45	23.7	< 0.004 U	0.01 J	0.277	0.105	0.646	0.51	0.053	0.014	--	0.65	0.4	0.02 J
5/21/2019	Assessment	0.03 J	0.50	26.7	< 0.02 U	0.01 J	1.34	0.127	0.6234	0.44	0.07 J	0.01 J	< 0.002 U	0.7 J	0.6	< 0.1 U
6/25/2019	Assessment	< 0.02 U	0.48	22.0	< 0.02 U	0.01 J	0.08 J	0.193	0.528	0.47	0.09 J	0.03 J	< 0.002 U	0.5 J	0.4	< 0.1 U
9/10/2019	Assessment	< 0.02 U	0.46	21.9	< 0.02 U	0.01 J	0.2 J	0.149	0.2093	0.46	0.08 J	0.0126	< 0.002 U	0.6 J	0.5	< 0.1 U
3/11/2020	Assessment	< 0.02 U	0.40	22.1	< 0.02 U	< 0.01 U	0.1 J	0.04 J	0.2165	0.42	< 0.05 U	0.0126	< 0.002 U	0.5 J	0.4	< 0.1 U
5/21/2020	Assessment	0.02 J	0.40	23.2	< 0.02 U	0.09	0.2 J	0.05 J	0.662	0.45	< 0.05 U	0.0135	< 0.002 U	0.4 J	0.4	< 0.1 U
11/12/2020	Assessment	0.04 J	0.4	23.2	< 0.02 U	0.01 J	0.342	0.03 J	0.9926	0.4	< 0.05 U	0.0144	< 0.002 U	< 0.4 U	0.7	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1601D

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/27/2016	Background	0.038	79.7	21.8	0.22	7.5	21.9	460
7/19/2016	Background	0.035	89.0	18.9	0.22	7.4	18.9	412
9/20/2016	Background	0.026	87.0	22.6	0.17	7.2	20.4	410
11/16/2016	Background	0.035	89.5	21.8	0.15	7.4	18.0	413
1/10/2017	Background	0.029	90.7	19.5	0.19	6.8	20.3	407
3/7/2017	Background	0.055	85.2	28.7	0.17	7.1	25.4	392
5/9/2017	Background	0.038	90.8	22.5	0.17	6.7	21.3	399
7/17/2017	Background	0.090	77.7	21.3	0.17	6.8	21.4	393
10/4/2017	Detection	0.044	86.8	17.9	0.16	7.3	18.8	390
12/12/2017	Detection	--	--	18.8	0.16	7.2	20.2	--
6/5/2018	Assessment	0.075	87.6	23.8	0.19	6.4	25	393
8/15/2018	Assessment	0.122	86.5	19.4	0.17	7.3	19.6	418
5/24/2019	Assessment	0.03 J	85.4	23.6	0.19	7.1	24.9	414
6/26/2019	Assessment	0.04 J	85.9	18.7	0.16	7.2	22.9	409
9/9/2019	Assessment	0.03 J	84.4	19.9	0.18	7.2	18.2	404
3/11/2020	Assessment	--	--	--	0.17	6.9	--	--
5/21/2020	Assessment	0.02 J	88.5	32.4	0.20	7.1	41.3	409
11/16/2020	Assessment	0.03 J	85	18.6	0.18	6.2	19.1	409

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1601D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/27/2016	Background	0.03 J	6.04	491	0.024	0.12	0.8	1.36	1.116	0.22	1.05	0.003	< 0.002 U	2.54	0.1	0.01 J
7/19/2016	Background	0.02 J	8.20	540	< 0.005 U	0.01 J	0.4	0.502	2.248	0.22	0.031	0.005	< 0.002 U	3.96	0.07 J	0.055
9/20/2016	Background	0.01 J	8.59	602	< 0.005 U	< 0.004 U	0.2	0.224	1.732	0.17	0.01 J	< 0.0002 U	< 0.002 U	3.08	< 0.03 U	< 0.01 U
11/16/2016	Background	0.02 J	9.20	616	< 0.005 U	0.01 J	0.089	0.174	0.946	0.15	0.022	0.015	< 0.002 U	3.14	< 0.03 U	0.04 J
1/10/2017	Background	< 0.01 U	8.95	527	< 0.005 U	< 0.004 U	0.293	0.197	1.929	0.19	0.006 J	0.004	< 0.002 U	3.10	< 0.03 U	< 0.01 U
3/7/2017	Background	< 0.01 U	9.32	582	< 0.005 U	< 0.004 U	0.417	0.148	0.868	0.17	0.021	0.004	< 0.002 U	2.66	< 0.03 U	< 0.01 U
5/9/2017	Background	0.05	9.47	583	0.020	0.02	0.121	0.152	0.983	0.17	0.026	0.008	0.005	2.84	0.1	0.050
7/17/2017	Background	< 0.01 U	9.38	532	< 0.004 U	0.006 J	0.129	0.103	3.139	0.17	0.031	0.006	< 0.002 U	2.67	< 0.03 U	< 0.01 U
6/5/2018	Assessment	0.03 J	11.4	552	< 0.004 U	< 0.005 U	0.055	0.149	2.095	0.19	0.022	0.007	< 0.002 U	3.34	< 0.03 U	< 0.01 U
8/15/2018	Assessment	0.02 J	10.3	540	< 0.004 U	0.01 J	0.387	0.120	--	0.17	0.084	< 0.0002 U	--	3.11	< 0.03 U	0.02 J
5/24/2019	Assessment	< 0.02 U	10.3	638	< 0.02 U	< 0.01 U	0.06 J	0.090	0.977	0.19	< 0.02 U	0.01 J	< 0.002 U	2.63	0.03 J	< 0.1 U
6/26/2019	Assessment	< 0.02 U	9.80	542	< 0.02 U	< 0.01 U	0.07 J	0.075	0.986	0.16	0.02 J	0.02 J	< 0.002 U	2.94	< 0.03 U	< 0.1 U
9/9/2019	Assessment	< 0.02 U	11.0	575	< 0.02 U	< 0.01 U	0.08 J	0.054	0.702	0.18	< 0.05 U	0.00170	< 0.002 U	3.15	< 0.03 U	< 0.1 U
3/11/2020	Assessment	< 0.02 U	10.7	575	< 0.02 U	< 0.01 U	0.1 J	0.059	0.789	0.17	< 0.05 U	0.00170	< 0.002 U	2.77	0.04 J	< 0.1 U
5/21/2020	Assessment	< 0.02 U	10.9	670	< 0.02 U	0.05 J	0.1 J	0.077	1.672	0.20	< 0.05 U	0.00265	< 0.002 U	2.12	< 0.03 U	< 0.1 U
11/16/2020	Assessment	< 0.02 U	11	524	< 0.02 U	< 0.01 U	0.2 J	0.05 J	1.489	0.18	< 0.05 U	0.00163	< 0.002 U	2.89	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-16011
Rockport - BAP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.024	84.9	26.3	0.21	7.4	54.0	419
7/19/2016	Background	0.023	84.1	33.3	0.25	7.2	54.0	430
9/20/2016	Background	0.043	85.2	32.3	0.22	7.1	49.1	432
11/16/2016	Background	0.026	91.6	31.7	0.19	7.2	46.7	434
1/10/2017	Background	0.018	92.6	31.3	0.19	6.7	47.7	429
3/7/2017	Background	0.029	84.0	32.5	0.22	7.1	48.5	427
5/9/2017	Background	0.079	90.0	33.1	0.21	6.8	49.1	422
7/17/2017	Background	0.039	82.0	32.0	0.19	9.5	49.9	418
10/4/2017	Detection	0.088	77.5	31.6	0.20	6.8	51.8	428
12/12/2017	Detection	--	--	30.5	0.21	7.1	52.8	--
6/5/2018	Assessment	0.052	87.8	31.4	0.24	7.6	50	424
8/15/2018	Assessment	0.054	91.7	31.3	0.25	7.3	49.9	429
6/26/2019	Assessment	0.03 J	85.0	31.2	0.21	7.2	50.8	439
9/9/2019	Assessment	0.02 J	85.1	30.8	0.22	7.1	42.7	426
3/11/2020	Assessment	--	--	--	0.23	6.9	--	--
5/21/2020	Assessment	0.02 J	87.8	31.5	0.26	6.8	52.1	435
11/16/2020	Assessment	0.02 J	80.2	29.8	0.24	6.2	49.5	418

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1601I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.02 J	11.4	612	< 0.005 U	< 0.004 U	0.1	1.84	1.432	0.21	0.042	0.003	< 0.002 U	2.80	< 0.03 U	< 0.01 U
7/19/2016	Background	0.02 J	14.6	620	< 0.005 U	< 0.004 U	0.9	1.98	1.036	0.25	0.045	0.004	< 0.002 U	2.81	< 0.03 U	< 0.01 U
9/20/2016	Background	0.02 J	14.9	681	< 0.005 U	< 0.004 U	0.2	1.68	2.329	0.22	0.02 J	0.008	< 0.002 U	2.53	< 0.03 U	0.01 J
11/16/2016	Background	0.02 J	16.2	689	< 0.005 U	0.007 J	0.110	1.68	1.451	0.19	0.030	0.002	< 0.002 U	2.36	< 0.03 U	0.02 J
1/10/2017	Background	0.01 J	16.2	605	< 0.005 U	< 0.004 U	0.387	1.58	0.993	0.19	0.02 J	0.007	< 0.002 U	2.24	< 0.03 U	0.02 J
3/7/2017	Background	0.03 J	16.9	650	< 0.005 U	< 0.004 U	0.267	1.59	0.986	0.22	0.070	0.010	< 0.002 U	2.74	0.06 J	0.03 J
5/9/2017	Background	0.05	17.9	634	0.020	0.02	0.156	1.69	1.064	0.21	0.052	0.014	0.005	2.23	0.1	0.050
7/17/2017	Background	0.02 J	18.0	613	< 0.004 U	< 0.005 U	0.160	1.74	1.276	0.19	0.042	0.011	< 0.002 U	2.13	< 0.03 U	0.02 J
6/5/2018	Assessment	0.02 J	18.6	631	0.008 J	0.01 J	0.21	1.73	1.538	0.24	0.201	0.013	< 0.002 U	2.48	0.05 J	0.04 J
8/15/2018	Assessment	0.02 J	19.1	626	< 0.004 U	0.009 J	0.074	1.63	2.274	0.25	0.067	0.009	--	2.21	< 0.03 U	0.02 J
6/26/2019	Assessment	< 0.02 U	18.0	619	< 0.02 U	< 0.01 U	0.06 J	1.50	1.862	0.21	0.04 J	0.02 J	< 0.002 U	2.28	< 0.03 U	< 0.1 U
9/9/2019	Assessment	0.04 J	39.5	670	< 0.02 U	0.07	0.250	1.63	1.522	0.22	0.251	0.00672	< 0.002 U	2.26	0.04 J	< 0.1 U
3/11/2020	Assessment	< 0.02 U	17.4	621	< 0.02 U	< 0.01 U	0.1 J	1.23	1.202	0.23	< 0.05 U	0.00646	< 0.002 U	2 J	< 0.03 U	< 0.1 U
5/21/2020	Assessment	< 0.02 U	17.2	608	< 0.02 U	< 0.01 U	0.1 J	1.26	0.9	0.26	< 0.05 U	0.00621	< 0.002 U	2.10	< 0.03 U	< 0.1 U
11/16/2020	Assessment	< 0.02 U	17.8	586	< 0.02 U	< 0.01 U	0.2 J	1.22	2.329	0.24	< 0.05 U	0.00688	< 0.002 U	2.02	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1601S
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.108	76.9	45.9	0.34	7.6	39.2	440
7/19/2016	Background	0.106	71.8	46.4	0.36	7.2	40.1	415
9/20/2016	Background	0.094	74.2	43.5	0.33	7.2	37.6	442
11/16/2016	Background	0.100	78.2	42.3	0.26	7.2	36.4	442
1/10/2017	Background	0.113	78.5	42.0	0.28	6.8	35.9	424
3/7/2017	Background	0.098	79.2	41.1	0.30	7.2	42.5	413
5/8/2017	Background	0.092	86.7	41.9	0.31	6.8	44.0	389
7/17/2017	Background	0.077	76.8	41.7	0.25	6.6	40.5	443
10/4/2017	Detection	0.113	73.5	40.9	0.29	7.3	41.6	441
12/12/2017	Detection	--	--	36.9	0.33	7.2	43	--
6/5/2018	Assessment	0.142	66.5	34.8	0.41	7.4	26.5	366
8/15/2018	Assessment	0.208	70.8	33.7	0.42	7.2	31.3	374
5/24/2019	Assessment	0.06 J	77.2	38.5	0.36	7.2	41.8	451
6/25/2019	Assessment	0.07 J	75.9	35.3	0.31	7.3	51.4	456
9/9/2019	Assessment	0.068	79.6	37.6	0.31	7.2	52.9	445
3/11/2020	Assessment	--	--	--	0.34	7.1	--	--
5/21/2020	Assessment	0.076	82.3	40.6	0.37	7.1	58.3	462
11/16/2020	Assessment	0.092	74	40.1	0.35	6.4	53	432

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1601S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.02 J	1.90	49.4	0.006 J	0.01 J	0.2	0.957	0.788	0.34	0.220	< 0.0002 U	< 0.002 U	2.17	1.3	0.05 J
7/19/2016	Background	0.02 J	2.12	47.7	< 0.005 U	0.007 J	0.6	0.478	1.26	0.36	0.114	0.024	< 0.002 U	1.91	1.3	< 0.01 U
9/20/2016	Background	0.02 J	1.99	41.6	< 0.005 U	0.006 J	0.2	0.381	0.4671	0.33	0.127	0.005	< 0.002 U	1.40	1.3	0.03 J
11/16/2016	Background	0.03 J	2.00	39.0	< 0.005 U	0.01 J	0.123	0.274	0.1634	0.26	0.084	0.009	< 0.002 U	2.17	1.3	0.03 J
1/10/2017	Background	0.05 J	2.00	43.5	< 0.005 U	0.03	0.279	0.520	0.717	0.28	0.247	0.006	< 0.002 U	1.61	1.4	0.104
3/7/2017	Background	0.02 J	2.25	50.7	< 0.005 U	0.01 J	1.52	0.980	0.1969	0.30	0.348	0.010	< 0.002 U	1.49	1.4	0.01 J
5/8/2017	Background	0.05	2.02	42.6	0.020	0.02	0.192	0.411	0.3203	0.31	0.119	0.010	0.005	1.24	1.7	0.050
7/17/2017	Background	0.05	2.70	70.0	0.01 J	0.03	1.05	2.67	1.812	0.25	0.807	0.012	0.003 J	1.46	1.8	0.04 J
6/5/2018	Assessment	0.04 J	2.45	44	0.02 J	0.24	0.579	0.615	0.261	0.41	0.349	0.012	< 0.002 U	1.79	0.5	< 0.01 U
8/15/2018	Assessment	0.03 J	2.28	38.0	0.005 J	0.009 J	0.114	0.557	0.398	0.42	0.141	0.004	--	1.81	1.1	0.05 J
5/24/2019	Assessment	< 0.02 U	2.05	37.2	< 0.02 U	< 0.01 U	0.08 J	0.02 J	0.0711	0.36	0.03 J	0.01 J	< 0.002 U	1 J	1.7	< 0.1 U
6/25/2019	Assessment	< 0.02 U	2.06	44.2	< 0.02 U	< 0.01 U	0.1 J	0.649	0.248	0.31	0.165	0.01 J	< 0.002 U	1 J	1.4	< 0.1 U
9/9/2019	Assessment	0.02 J	2.30	51.4	< 0.02 U	0.02 J	0.452	1.14	0.914	0.31	0.325	0.00691	< 0.002 U	1 J	1.2	< 0.1 U
3/11/2020	Assessment	< 0.02 U	1.95	37.9	< 0.02 U	< 0.01 U	0.2 J	0.203	1.649	0.34	0.05 J	0.00618	< 0.002 U	1 J	0.9	< 0.1 U
5/21/2020	Assessment	< 0.02 U	1.94	36.2	< 0.02 U	< 0.01 U	0.227	0.053	0.084	0.37	< 0.05 U	0.00632	< 0.002 U	1 J	1.5	< 0.1 U
11/16/2020	Assessment	< 0.02 U	1.97	34.9	< 0.02 U	< 0.01 U	0.347	0.077	0.0911	0.35	< 0.05 U	0.00609	< 0.002 U	1 J	1.6	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1602D

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.058	69.7	138	0.36	5.1	20.5	528
7/18/2016	Background	0.065	77.6	166	0.34	8.2	18.5	574
9/20/2016	Background	0.047	71.7	172	0.30	7.8	12.9	580
11/15/2016	Background	0.078	78.0	177	0.33	7.1	17.4	601
1/9/2017	Background	0.084	75.3	178	0.34	7.3	11.4	594
3/7/2017	Background	0.076	66.8	158	0.31	7.3	14.5	586
5/8/2017	Background	0.073	71.9	124	0.31	7.0	16.1	520
7/17/2017	Background	0.091	64.6	112	0.26	7.0	17.5	472
10/3/2017	Detection	0.064	68.3	135	0.29	7.4	16.0	518
12/12/2017	Detection	--	--	141	0.3	7.4	16.9	--
1/3/2018	Detection	--	--	146	--	7.8	--	574
6/5/2018	Assessment	0.07	66	92.8	0.35	7.8	21.6	440
8/13/2018	Assessment	0.098	73.0	131	0.31	7.2	18.0	521
5/24/2019	Assessment	0.04 J	67.9	68.3	0.33	7.4	20.5	418
6/27/2019	Assessment	0.06 J	69.8	68.7	0.33	7.3	20.3	429
9/12/2019	Assessment	0.059	57.8	65.1	0.28	7.1	20.2	440
3/11/2020	Assessment	--	--	--	0.33	7.1	--	--
5/20/2020	Assessment	0.04 J	74.2	62.8	0.35	6.8	23.8	416
11/17/2020	Assessment	0.05 J	64	87.1	0.33	6.9	20.5	452

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1602D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	7.35	380	< 0.005 U	< 0.004 U	0.3	0.227	1.147	0.36	0.061	0.001	< 0.002 U	4.69	0.03 J	< 0.01 U
7/18/2016	Background	0.01 J	8.54	507	< 0.005 U	< 0.004 U	0.5	0.166	2.43	0.34	0.02 J	0.022	< 0.002 U	3.89	< 0.03 U	< 0.01 U
9/20/2016	Background	0.02 J	8.24	487	< 0.005 U	< 0.004 U	0.2	0.116	1.128	0.30	0.022	0.007	< 0.002 U	3.31	0.03 J	< 0.01 U
11/15/2016	Background	0.03 J	8.32	585	0.01 J	0.02	0.338	0.248	4.204	0.33	0.195	0.012	< 0.002 U	3.31	0.05 J	0.066
1/9/2017	Background	0.01 J	7.92	503	< 0.005 U	< 0.004 U	0.187	0.112	0.976	0.34	0.01 J	0.005	< 0.002 U	3.36	< 0.03 U	0.02 J
3/7/2017	Background	0.01 J	8.04	458	< 0.005 U	< 0.004 U	0.395	0.106	0.705	0.31	0.029	0.004	< 0.002 U	3.88	0.05 J	0.02 J
5/8/2017	Background	0.05	9.08	436	0.020	0.07	0.232	0.115	0.5884	0.31	0.056	0.007	0.005	3.93	0.1	0.050
7/17/2017	Background	0.01 J	8.51	419	0.005 J	< 0.005 U	0.268	0.110	1.349	0.26	0.036	0.003	< 0.002 U	3.60	< 0.03 U	< 0.01 U
6/5/2018	Assessment	0.02 J	10	442	0.006 J	0.01 J	0.21	0.157	1.861	0.35	0.103	0.008	< 0.002 U	3.93	< 0.03 U	< 0.01 U
8/13/2018	Assessment	0.01 J	9.28	459	0.008 J	< 0.005 U	0.201	0.173	1.021	0.31	0.113	0.002	--	3.18	0.05 J	< 0.01 U
5/24/2019	Assessment	< 0.02 U	9.29	405	< 0.02 U	< 0.01 U	0.05 J	0.065	0.71	0.33	< 0.02 U	0.01 J	< 0.002 U	3.23	0.03 J	< 0.1 U
6/27/2019	Assessment	< 0.02 U	9.05	386	< 0.02 U	< 0.01 U	0.06 J	0.066	0.688	0.33	0.02 J	< 0.009 U	< 0.002 U	3.12	0.03 J	< 0.1 U
9/12/2019	Assessment	0.17	10.3	433	0.02 J	0.03 J	0.763	0.373	1.13	0.28	0.437	0.00286	< 0.002 U	3.64	0.09 J	< 0.1 U
3/11/2020	Assessment	0.03 J	9.56	439	0.05 J	0.01 J	1.32	0.850	2.253	0.33	0.864	0.00291	0.003 J	3.13	0.2 J	< 0.1 U
5/20/2020	Assessment	< 0.02 U	9.46	412	< 0.02 U	< 0.01 U	0.354	0.066	0.872	0.35	< 0.05 U	0.00212	< 0.002 U	3.38	0.07 J	< 0.1 U
11/17/2020	Assessment	< 0.02 U	8.82	431	< 0.02 U	< 0.01 U	0.276	0.055	2.518	0.33	< 0.05 U	0.00275	< 0.002 U	3.04	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1602I**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.047	78.6	33.0	0.32	7.1	84.1	424
7/18/2016	Background	0.043	81.1	32.3	0.30	7.4	89.4	452
9/20/2016	Background	0.037	79.9	30.2	0.28	7.3	77.7	412
11/15/2016	Background	0.057	87.6	28.7	0.29	7.1	85.3	457
1/9/2017	Background	0.039	80.6	27.8	0.26	7.4	77.6	420
3/7/2017	Background	0.061	71.1	27.5	0.27	7.3	77.8	388
5/8/2017	Background	0.108	79.7	27.6	0.28	6.9	78.4	430
7/17/2017	Background	0.052	68.8	27.1	0.23	6.9	76.3	421
10/3/2017	Detection	0.065	69.2	27.5	0.26	7.3	80.8	414
12/12/2017	Detection	--	--	28.3	0.26	7.3	82.8	--
1/3/2018	Detection	--	--	--	--	7.7	82.3	--
6/5/2018	Assessment	0.06	71.3	29.8	0.31	7.8	77.6	410
8/13/2018	Assessment	0.109	76.0	28.5	0.28	7.4	75.0	405
5/24/2019	Assessment	0.05 J	74.6	29.0	0.30	7.4	65.9	410
6/27/2019	Assessment	0.06 J	76.2	29.2	0.30	7.3	67.4	405
9/12/2019	Assessment	0.051	83.1	28.7	0.30	7.3	70.7	404
3/11/2020	Assessment	--	--	--	0.29	7.0	--	--
5/20/2020	Assessment	0.114	113	79.0	0.30	7.7	177	627
11/17/2020	Assessment	0.121	85	54.5	0.3	7.0	135	537

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1602I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	16.5	135	< 0.005 U	0.005 J	0.2	1.35	0.983	0.32	0.096	0.003	< 0.002 U	2.61	< 0.03 U	< 0.01 U
7/18/2016	Background	0.02 J	18.7	145	< 0.005 U	0.006 J	0.2	1.70	1.526	0.30	0.074	0.006	< 0.002 U	2.68	0.03 J	0.01 J
9/20/2016	Background	0.02 J	15.5	123	< 0.005 U	< 0.004 U	0.2	1.34	1.421	0.28	0.045	0.006	< 0.002 U	2.31	0.05 J	0.01 J
11/15/2016	Background	0.03 J	18.2	136	< 0.005 U	0.006 J	0.075	1.44	1.19	0.29	0.02 J	0.015	< 0.002 U	2.13	0.04 J	0.03 J
1/9/2017	Background	0.02 J	18.3	126	< 0.005 U	< 0.004 U	0.161	1.38	0.7655	0.26	0.045	0.003	< 0.002 U	2.23	< 0.03 U	0.02 J
3/7/2017	Background	0.03 J	20.0	122	0.005 J	< 0.004 U	0.484	1.43	0.845	0.27	0.178	0.009	< 0.002 U	2.21	0.06 J	0.02 J
5/8/2017	Background	0.14	25.5	123	0.020	0.02	0.459	1.69	1.024	0.28	0.292	0.009	0.005	2.08	0.1	0.050
7/17/2017	Background	0.05	27.3	127	0.006 J	0.006 J	0.193	1.52	0.8024	0.23	0.167	0.010	< 0.002 U	2.01	< 0.03 U	0.04 J
6/5/2018	Assessment	0.1	38.6	128	0.01 J	0.01 J	0.338	1.8	0.968	0.31	0.374	0.013	< 0.002 U	2.42	0.07 J	0.03 J
8/13/2018	Assessment	0.05 J	26.9	111	0.006 J	0.007 J	0.086	1.31	0.9	0.28	0.092	0.001	--	2.10	< 0.03 U	0.03 J
5/24/2019	Assessment	0.08 J	29.6	121	< 0.02 U	0.03 J	0.305	1.75	0.819	0.30	0.354	0.009 J	< 0.002 U	2.03	0.04 J	< 0.1 U
6/27/2019	Assessment	0.03 J	22.4	115	< 0.02 U	< 0.01 U	0.2 J	1.39	0.733	0.30	0.06 J	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
9/12/2019	Assessment	0.04 J	30.0	120	< 0.02 U	< 0.01 U	0.1 J	1.32	1.312	0.30	0.1 J	0.00572	< 0.002 U	2.11	0.03 J	< 0.1 U
3/11/2020	Assessment	< 0.02 U	22.7	118	< 0.02 U	< 0.01 U	< 0.04 U	1.36	0.6159	0.29	< 0.05 U	0.00566	< 0.002 U	2 J	< 0.03 U	< 0.1 U
5/20/2020	Assessment	0.03 J	24.6	142	< 0.02 U	< 0.01 U	0.09 J	1.83	0.665	0.30	< 0.05 U	0.00620	< 0.002 U	2 J	0.1 J	< 0.1 U
11/17/2020	Assessment	0.06 J	33.9	127	< 0.02 U	< 0.01 U	0.2 J	1.43	2.14	0.3	0.06 J	0.0058	< 0.002 U	2.02	0.08 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1603D

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.073	70.8	26.7	0.31	7.1	59.0	433
7/18/2016	Background	0.074	79.6	26.7	0.33	6.9	55.3	430
10/10/2016	Background	0.065	81.2	26.0	0.32	7.3	47.2	406
11/15/2016	Background	0.062	90.5	25.5	0.30	7.1	50.6	399
1/9/2017	Background	0.055	91.9	25.1	0.26	7.3	49.7	401
3/7/2017	Background	0.061	86.8	26.1	0.29	7.2	47.7	392
5/8/2017	Background	0.082	91.1	26.3	0.27	7.2	47.1	417
7/17/2017	Background	0.080	80.4	25.9	0.24	6.7	45.9	400
10/3/2017	Detection	0.054	79.4	26.2	0.26	7.1	44.6	393
12/12/2017	Detection	--	--	27	0.27	7.0	42.3	--
6/5/2018	Assessment	0.081	80.6	30.1	0.3	7.2	40.9	412
8/13/2018	Assessment	0.147	87.9	25.4	0.27	7.1	39.1	385
5/21/2019	Assessment	0.04 J	71.6	25.3	0.28	7.2	38.5	397
6/27/2019	Assessment	0.06 J	77.9	25.0	0.30	7.6	32.8	388
9/11/2019	Assessment	0.04 J	82.8	26.1	0.30	7.2	36.4	407
3/10/2020	Assessment	--	--	--	0.28	6.7	--	--
5/21/2020	Assessment	0.04 J	82.2	25.6	0.31	7.4	34.0	400
11/13/2020	Assessment	0.04 J	79.4	24.6	0.29	6.8	31.5	380

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1603D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.01 J	10.2	112	< 0.005 U	< 0.004 U	0.2	1.34	1.206	0.31	0.02 J	0.003	< 0.002 U	6.70	< 0.03 U	< 0.01 U
7/18/2016	Background	0.02 J	11.0	120	< 0.005 U	0.007 J	0.3	1.30	0.66	0.33	0.01 J	0.008	< 0.002 U	6.39	0.04 J	0.068
10/10/2016	Background	0.09	9.91	122	0.049	0.03	23.8	2.01	0.954	0.32	1.38	0.007	< 0.002 U	6.82	0.3	0.04 J
11/15/2016	Background	0.03 J	11.3	113	< 0.01 U	0.01 J	0.08 J	0.703	1.275	0.30	0.02 J	0.011	< 0.002 U	5.02	< 0.06 U	< 0.02 U
1/9/2017	Background	0.01 J	11.3	111	< 0.005 U	0.009 J	0.143	0.584	0.343	0.26	0.029	0.012	< 0.002 U	4.98	< 0.03 U	< 0.01 U
3/7/2017	Background	0.01 J	11.3	108	< 0.005 U	< 0.004 U	0.220	0.553	0.838	0.29	0.024	0.007	< 0.002 U	5.11	0.04 J	0.02 J
5/8/2017	Background	0.05	11.3	103	0.020	0.02	0.238	0.586	0.982	0.27	0.068	0.006	0.005	4.78	0.1	0.050
7/17/2017	Background	0.02 J	12.1	114	< 0.004 U	< 0.005 U	0.112	0.525	1.696	0.24	0.006 J	0.008	< 0.002 U	4.68	< 0.03 U	< 0.01 U
6/5/2018	Assessment	0.02 J	12.3	109	0.009 J	< 0.005 U	0.251	0.441	1.607	0.3	0.207	0.008	< 0.002 U	4.09	0.09 J	0.03 J
8/13/2018	Assessment	0.02 J	12.5	105	< 0.004 U	< 0.005 U	0.097	0.409	0.84	0.27	0.040	0.005	--	4.38	< 0.03 U	0.02 J
5/21/2019	Assessment	< 0.02 U	12.6	111	< 0.02 U	< 0.01 U	0.05 J	0.354	0.73	0.28	0.04 J	< 0.009 U	< 0.002 U	4.56	< 0.03 U	< 0.1 U
6/27/2019	Assessment	< 0.02 U	13.2	111	< 0.02 U	< 0.01 U	0.06 J	0.327	0.766	0.30	< 0.02 U	< 0.009 U	< 0.002 U	3.98	< 0.03 U	< 0.1 U
9/11/2019	Assessment	< 0.02 U	13.2	112	< 0.02 U	< 0.01 U	0.2 J	0.327	0.957	0.30	0.08 J	0.00380	< 0.002 U	4.10	0.03 J	< 0.1 U
3/10/2020	Assessment	< 0.02 U	12.8	120	< 0.02 U	< 0.01 U	0.07 J	0.291	1.167	0.28	< 0.05 U	0.00380	< 0.002 U	4.00	0.03 J	< 0.1 U
5/21/2020	Assessment	< 0.02 U	13.8	120	< 0.02 U	< 0.01 U	0.275	0.280	0.721	0.31	< 0.05 U	0.00323	< 0.002 U	3.62	0.04 J	< 0.1 U
11/13/2020	Assessment	< 0.02 U	13.5	119	< 0.02 U	< 0.01 U	0.2 J	0.281	1.91	0.29	< 0.05 U	0.00326	< 0.002 U	3.64	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1603I

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	0.151	89.2	37.7	0.39	7.6	71.9	465
7/18/2016	Background	0.157	93.9	38.8	0.43	7.2	83.8	502
9/20/2016	Background	0.153	99.8	40.1	0.39	7.3	111	500
11/15/2016	Background	0.173	101	37.4	0.42	7.2	88.5	481
1/9/2017	Background	0.147	94.7	34.6	0.38	7.2	75.3	478
3/7/2017	Background	0.187	85.0	34.7	0.40	7.3	73.2	460
5/8/2017	Background	0.187	87.2	36.8	0.40	7.3	71.0	452
7/17/2017	Background	0.196	79.3	35.1	0.35	9.8	74.9	449
10/3/2017	Detection	0.134	80.9	35.6	0.39	7.2	74.1	442
12/12/2017	Detection	--	--	57.4	0.52	6.8	201	--
1/3/2018	Detection	0.166	--	--	--	7.9	65.1	--
6/5/2018	Assessment	0.131	77.7	37.3	0.46	7.3	62	424
8/13/2018	Assessment	0.130	85.9	31.5	0.43	7.4	66.2	434
5/21/2019	Assessment	0.06 J	81.4	39.4	0.45	7.3	74.6	467
6/27/2019	Assessment	0.07 J	78.6	37.7	0.47	8.1	66.9	560
9/11/2019	Assessment	0.087	80.1	38.7	0.46	7.3	58.2	443
3/10/2020	Assessment	--	--	--	0.45	7.1	--	--
5/21/2020	Assessment	0.04 J	82.4	37.9	0.46	7.7	51.0	428
11/13/2020	Assessment	0.04 J	76.1	35.4	0.42	7.2	60	440

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1603I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.05 J	13.0	81.1	< 0.005 U	0.004 J	0.3	1.36	0.593	0.39	0.117	< 0.0002 U	< 0.002 U	8.86	< 0.03 U	0.03 J
7/18/2016	Background	0.03 J	12.8	83.1	< 0.005 U	< 0.004 U	0.8	1.30	1.821	0.43	0.053	0.013	< 0.002 U	9.76	< 0.03 U	0.02 J
9/20/2016	Background	0.03 J	12.2	94.2	< 0.005 U	< 0.004 U	0.1	1.41	0.904	0.39	0.008 J	0.009	< 0.002 U	9.85	0.04 J	0.04 J
11/15/2016	Background	0.04 J	12.2	86.6	< 0.005 U	0.007 J	0.074	1.17	1.583	0.42	0.021	0.015	< 0.002 U	9.21	< 0.03 U	0.03 J
1/9/2017	Background	0.03 J	12.9	84.6	< 0.005 U	< 0.004 U	0.232	1.26	1.417	0.38	0.066	0.008	< 0.002 U	9.47	< 0.03 U	0.03 J
3/7/2017	Background	0.03 J	12.5	82.5	< 0.005 U	< 0.004 U	0.743	1.10	1.076	0.40	0.057	0.009	< 0.002 U	8.79	0.05 J	0.05 J
5/8/2017	Background	0.05	13.0	76.8	0.020	0.02	0.145	1.24	0.824	0.40	0.174	0.009	0.005	8.86	0.1	0.050
7/17/2017	Background	0.03 J	12.5	85.3	< 0.004 U	< 0.005 U	0.109	1.30	2.746	0.35	0.02 J	0.013	< 0.002 U	8.27	< 0.03 U	0.05 J
6/5/2018	Assessment	0.1	12.7	88.4	0.01 J	0.02 J	1.11	1.4	2.348	0.46	0.374	0.012	< 0.002 U	7.31	0.07 J	0.03 J
8/13/2018	Assessment	0.03 J	12.4	80.0	< 0.004 U	< 0.005 U	0.081	1.27	1.152	0.43	0.030	0.002	--	7.67	< 0.03 U	0.04 J
5/21/2019	Assessment	0.02 J	12.9	81.6	< 0.02 U	< 0.01 U	0.08 J	1.39	0.832	0.45	< 0.02 U	< 0.009 U	< 0.002 U	6.45	< 0.03 U	< 0.1 U
6/27/2019	Assessment	0.07 J	12.7	84.3	< 0.02 U	0.01 J	0.678	1.58	0.966	0.47	0.312	< 0.009 U	< 0.002 U	6.29	0.07 J	< 0.1 U
9/11/2019	Assessment	0.08 J	13.2	83.0	< 0.02 U	< 0.01 U	0.355	1.36	1.41	0.46	0.2 J	0.00711	< 0.002 U	7.48	< 0.03 U	< 0.1 U
3/10/2020	Assessment	< 0.02 U	12.1	80.3	< 0.02 U	< 0.01 U	0.1 J	1.23	1.056	0.45	< 0.05 U	0.00720	< 0.002 U	5.52	< 0.03 U	< 0.1 U
5/21/2020	Assessment	0.03 J	15.5	89.5	< 0.02 U	< 0.01 U	0.09 J	1.22	1.004	0.46	< 0.05 U	0.00697	< 0.002 U	5.08	< 0.03 U	< 0.1 U
11/13/2020	Assessment	0.32	53	107	0.03 J	< 0.01 U	0.286	1.19	1.959	0.42	0.564	0.00667	< 0.002 U	5.29	0.07 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1603S
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/8/2016	Background	1.77	49.6	60.3	0.44	7.6	197	480
7/18/2016	Background	1.77	46.4	53.6	0.50	7.2	171	445
9/20/2016	Background	1.83	59.3	57.6	0.39	7.0	197	479
11/15/2016	Background	2.19	71.9	50.9	0.43	6.9	208	469
1/9/2017	Background	2.22	74.8	55.6	0.40	6.5	220	483
3/7/2017	Background	1.72	99.4	67.6	0.33	6.7	261	581
5/8/2017	Background	1.25	81.7	55.1	0.36	6.9	203	466
7/17/2017	Background	1.94	68.1	52.9	0.27	9.6	222	482
10/3/2017	Detection	1.84	51.5	20.8	0.17	6.9	75.1	481
12/12/2017	Detection	--	--	33.9	0.41	7.1	65.8	--
1/3/2018	Detection	1.67	--	--	--	7.5	218	514
6/5/2018	Assessment	1.4	42.2	54.3	0.63	7.0	178	504
8/13/2018	Assessment	1.70	52.0	69.7	0.56	7.0	243	558
5/21/2019	Assessment	1.47	62.6	56.0	0.55	6.6	187	506
6/27/2019	Assessment	1.65	67.2	57.8	0.59	7.3	205	530
9/11/2019	Assessment	2.16	55.1	51.1	0.69	7.1	224	482
3/10/2020	Assessment	--	--	--	0.71	6.5	--	--
5/21/2020	Assessment	0.826	47.5	31.1	0.77	7.4	88.3	276
11/13/2020	Assessment	2.35	39.1	37.6	0.92	7.0	131	365

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1603S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/8/2016	Background	0.04 J	0.36	13.0	< 0.005 U	0.02	0.2	0.648	0.485	0.44	0.171	< 0.0002 U	< 0.002 U	1.36	0.04 J	0.02 J
7/18/2016	Background	0.05 J	0.27	12.5	< 0.005 U	0.02	0.2	0.656	1.123	0.50	0.130	0.013	< 0.002 U	0.74	< 0.03 U	0.02 J
9/20/2016	Background	0.04 J	0.21	16.7	< 0.005 U	0.02 J	0.3	0.310	1.373	0.39	0.025	0.007	< 0.002 U	0.50	0.7	0.04 J
11/15/2016	Background	0.06	0.19	18.4	0.008 J	0.03	0.104	0.233	0.508	0.43	0.072	0.013	< 0.002 U	0.39	0.2	0.091
1/9/2017	Background	0.04 J	0.20	16.2	< 0.005 U	0.02 J	0.653	0.176	0.391	0.40	0.023	0.002	< 0.002 U	0.47	0.06 J	0.02 J
3/7/2017	Background	0.06	0.18	22.3	< 0.005 U	0.06	0.530	0.092	0.2002	0.33	0.037	0.005	< 0.002 U	0.23	0.2	0.02 J
5/8/2017	Background	0.05	0.23	16.3	0.020	0.02	0.325	0.219	0.4136	0.36	0.116	0.006	0.005	0.15	0.2	0.050
7/17/2017	Background	0.04 J	0.19	16.2	< 0.004 U	0.03	0.154	0.349	2.9307	0.27	0.042	0.007	< 0.002 U	0.20	0.06 J	0.02 J
6/5/2018	Assessment	0.06	0.36	12.4	0.01 J	0.03	0.261	0.881	2.059	0.63	0.339	0.012	< 0.002 U	2.74	0.1	0.03 J
8/13/2018	Assessment	0.04 J	0.20	10.5	0.01 J	0.02	0.058	0.506	0.762	0.56	0.047	0.002	--	1.78	0.04 J	0.054
5/21/2019	Assessment	0.03 J	0.17	14.0	< 0.02 U	0.02 J	0.09 J	0.417	0.5289	0.55	< 0.02 U	< 0.009 U	< 0.002 U	< 0.4 U	0.08 J	< 0.1 U
6/27/2019	Assessment	0.03 J	0.17	13.7	< 0.02 U	0.03 J	0.06 J	0.383	0.555	0.59	< 0.02 U	< 0.009 U	< 0.002 U	0.5 J	1.5	< 0.1 U
9/11/2019	Assessment	0.04 J	0.22	12.0	< 0.02 U	0.02 J	0.04 J	0.266	0.172	0.69	< 0.05 U	0.00414	< 0.002 U	0.6 J	0.3	< 0.1 U
3/10/2020	Assessment	< 0.02 U	0.13	10.4	< 0.02 U	< 0.01 U	0.335	0.055	0.4889	0.71	< 0.05 U	0.00225	< 0.002 U	< 0.4 U	0.2 J	< 0.1 U
5/21/2020	Assessment	0.03 J	0.11	7.53	< 0.02 U	0.01 J	0.325	0.04 J	0.579	0.77	< 0.05 U	0.00179	< 0.002 U	< 0.4 U	0.1 J	< 0.1 U
11/13/2020	Assessment	0.04 J	0.17	9.07	< 0.02 U	0.01 J	0.208	0.297	0.6734	0.92	< 0.05 U	0.0032	< 0.002 U	< 0.4 U	0.08 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1604D**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.032	70.8	19.6	0.30	7.1	39.1	292
7/18/2016	Background	0.022	67.8	19.3	0.28	6.9	38.6	332
9/19/2016	Background	0.010	69.8	17.8	0.26	7.3	31.9	280
11/15/2016	Background	0.025	74.9	18.0	0.27	7.1	35.0	320
1/9/2017	Background	0.016	72.9	17.1	0.24	7.2	29.6	326
3/7/2017	Background	0.075	67.2	17.4	0.24	7.3	30.4	290
5/8/2017	Background	0.050	71.8	17.3	0.26	7.2	29.2	318
7/18/2017	Background	0.095	63.7	16.9	0.21	7.2	28.7	304
10/3/2017	Detection	0.075	62.7	16.5	0.24	7.3	28.7	318
12/13/2017	Detection	--	--	16.3	0.24	7.3	29.3	--
6/6/2018	Assessment	0.037	67.6	16.1	0.28	7.3	26.3	308
8/14/2018	Assessment	0.052	70.5	16.4	0.26	7.1	26.2	311
5/21/2019	Assessment	0.03 J	69.3	16.1	0.27	7.2	27.4	309
6/26/2019	Assessment	0.03 J	69.5	15.8	0.28	7.3	23.2	326
9/10/2019	Assessment	0.02 J	74.7	15.9	0.28	7.3	24.7	326
3/11/2020	Assessment	--	--	--	0.26	7.1	--	--
5/21/2020	Assessment	0.02 J	73.9	15.9	0.30	6.8	24.4	329
11/13/2020	Assessment	0.02 J	68.4	15.1	0.27	6.4	20.9	306

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1604D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	14.6	216	< 0.005 U	< 0.004 U	0.2	0.119	0.374	0.30	0.098	0.002	< 0.002 U	3.96	< 0.03 U	< 0.01 U
7/18/2016	Background	0.01 J	17.9	239	< 0.005 U	< 0.004 U	0.2	0.086	0.8422	0.28	0.022	0.010	< 0.002 U	3.33	0.04 J	< 0.01 U
9/19/2016	Background	0.01 J	16.2	234	< 0.005 U	< 0.004 U	0.1	0.052	0.377	0.26	0.02 J	0.004	< 0.002 U	2.82	< 0.03 U	< 0.01 U
11/15/2016	Background	0.03 J	16.7	247	< 0.005 U	0.008 J	0.117	0.047	0.454	0.27	0.02 J	0.009	< 0.002 U	2.80	< 0.03 U	0.02 J
1/9/2017	Background	0.02 J	16.9	243	< 0.005 U	0.007 J	0.158	0.057	2.235	0.24	0.01 J	< 0.0002 U	< 0.002 U	3.04	0.03 J	0.095
3/7/2017	Background	0.02 J	18.4	267	< 0.005 U	< 0.004 U	0.267	0.070	0.868	0.24	0.061	0.003	0.002 J	3.20	0.06 J	< 0.01 U
5/8/2017	Background	0.05	18.1	226	0.020	0.02	0.128	0.091	0.744	0.26	0.043	0.004	0.005	2.90	0.1	0.050
7/18/2017	Background	0.02 J	16.8	249	< 0.004 U	< 0.005 U	0.165	0.072	1.079	0.21	0.02 J	0.002	< 0.002 U	2.61	< 0.03 U	< 0.01 U
6/6/2018	Assessment	0.04 J	22.1	266	0.004 J	< 0.005 U	0.057	0.117	0.942	0.28	0.034	0.007	< 0.002 U	3.56	< 0.03 U	< 0.01 U
8/14/2018	Assessment	0.01 J	16.6	237	< 0.004 U	< 0.005 U	0.04 J	0.059	0.617	0.26	0.005 J	< 0.0002 U	--	2.50	< 0.03 U	0.01 J
5/21/2019	Assessment	< 0.02 U	18.3	235	< 0.02 U	< 0.01 U	0.04 J	0.051	0.771	0.27	0.06 J	< 0.009 U	< 0.002 U	2.52	< 0.03 U	< 0.1 U
6/26/2019	Assessment	< 0.02 U	18.2	263	< 0.02 U	< 0.01 U	0.06 J	0.067	1.164	0.28	0.04 J	< 0.009 U	< 0.002 U	2.58	< 0.03 U	< 0.1 U
9/10/2019	Assessment	< 0.02 U	18.0	257	< 0.02 U	< 0.01 U	0.09 J	0.052	0.859	0.28	< 0.05 U	0.00157	< 0.002 U	2.70	< 0.03 U	< 0.1 U
3/11/2020	Assessment	< 0.02 U	17.8	228	< 0.02 U	< 0.01 U	0.09 J	0.052	1.017	0.26	< 0.05 U	0.00139	< 0.002 U	2.22	< 0.03 U	< 0.1 U
5/21/2020	Assessment	< 0.02 U	17.9	242	< 0.02 U	< 0.01 U	0.2 J	0.05 J	1.07	0.30	< 0.05 U	0.00140	< 0.002 U	2.35	< 0.03 U	< 0.1 U
11/13/2020	Assessment	< 0.02 U	18.2	250	< 0.02 U	< 0.01 U	0.1 J	0.05 J	1.853	0.27	< 0.05 U	0.00154	< 0.002 U	2.54	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1604I**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.111	76.5	50.4	0.34	7.1	138	530
7/18/2016	Background	0.185	79.7	53.6	0.33	7.4	152	548
9/19/2016	Background	0.320	73.1	46.5	0.29	7.5	120	504
11/15/2016	Background	0.368	78.7	46.2	0.32	7.3	130	521
1/9/2017	Background	0.241	72.4	39.5	0.31	7.5	99.8	456
3/7/2017	Background	0.252	68.7	41.6	0.31	7.4	104	448
5/9/2017	Background	0.363	81.3	53.4	0.34	7.5	139	546
7/18/2017	Background	0.379	73.5	49.3	0.27	7.3	139	522
10/3/2017	Detection	0.442	69.5	45.2	0.30	7.5	129	502
12/12/2017	Detection	--	--	45.6	0.32	7.5	132	--
1/4/2018	Detection	0.385	--	--	--	7.9	119	504
6/6/2018	Assessment	0.188	62.9	39.4	0.37	7.6	95.4	442
8/14/2018	Assessment	0.193	73.8	43.7	0.33	7.4	112	487
5/21/2019	Assessment	0.254	78.2	70.1	0.34	7.3	181	618
6/27/2019	Assessment	0.278	75.2	63.5	0.38	7.5	167	622
9/11/2019	Assessment	0.269	71.5	43.6	0.35	7.4	127	515
3/10/2020	Assessment	--	--	--	0.35	7.2	--	--
5/21/2020	Assessment	0.324	68.1	43.9	0.40	7.8	118	496
11/13/2020	Assessment	0.298	66.3	38	0.35	6.4	94.4	439

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1604I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	19.5	124	< 0.005 U	0.12	0.1	0.893	1.118	0.34	0.02 J	0.004	< 0.002 U	2.59	0.03 J	0.01 J
7/18/2016	Background	0.02 J	19.1	132	< 0.005 U	< 0.004 U	0.4	0.875	1.299	0.33	0.02 J	0.011	< 0.002 U	2.48	< 0.03 U	0.01 J
9/19/2016	Background	0.03 J	20.4	123	< 0.005 U	< 0.004 U	0.4	0.742	0.624	0.29	0.02 J	0.008	< 0.002 U	2.87	0.07 J	0.078
11/15/2016	Background	0.04 J	19.4	123	< 0.005 U	0.009 J	0.153	0.704	1.664	0.32	0.045	0.015	< 0.002 U	2.49	< 0.03 U	0.02 J
1/9/2017	Background	0.02 J	20.2	114	< 0.005 U	< 0.004 U	0.114	0.696	1.455	0.31	0.01 J	0.003	< 0.002 U	2.84	< 0.03 U	0.02 J
3/7/2017	Background	0.02 J	20.0	117	< 0.005 U	< 0.004 U	0.573	0.743	0.671	0.31	0.024	0.009	< 0.002 U	3.08	0.05 J	0.02 J
5/9/2017	Background	0.06	26.4	125	0.020	0.02	0.112	1.03	0.844	0.34	0.043	0.013	0.005	3.02	0.1	0.050
7/18/2017	Background	0.24	19.0	130	< 0.004 U	0.005 J	0.208	0.877	1.059	0.27	0.093	0.009	< 0.002 U	2.75	< 0.03 U	0.02 J
6/6/2018	Assessment	0.03 J	18.7	107	0.004 J	< 0.005 U	0.05 J	0.792	1.089	0.37	0.01 J	0.012	< 0.002 U	3	0.03 J	0.02 J
8/14/2018	Assessment	0.03 J	18.5	110	< 0.004 U	< 0.005 U	0.075	0.737	0.183	0.33	0.007 J	0.004	--	2.50	< 0.03 U	0.052
5/21/2019	Assessment	0.02 J	21.2	151	< 0.02 U	< 0.01 U	0.05 J	1.03	1.458	0.34	< 0.02 U	0.01 J	< 0.002 U	2.54	0.1 J	< 0.1 U
6/27/2019	Assessment	0.02 J	18.5	135	< 0.02 U	< 0.01 U	0.09 J	0.979	0.888	0.38	< 0.02 U	< 0.009 U	< 0.002 U	2.51	0.1 J	< 0.1 U
9/11/2019	Assessment	0.03 J	20.7	119	< 0.02 U	< 0.01 U	0.1 J	0.735	0.819	0.35	< 0.05 U	0.00772	< 0.002 U	2.26	0.05 J	< 0.1 U
3/10/2020	Assessment	< 0.02 U	17.5	96.7	< 0.02 U	< 0.01 U	0.09 J	0.831	1	0.35	< 0.05 U	0.00775	< 0.002 U	2.10	< 0.03 U	< 0.1 U
5/21/2020	Assessment	0.02 J	18.7	102	< 0.02 U	< 0.01 U	0.09 J	0.763	1.32	0.40	< 0.05 U	0.00714	< 0.002 U	2.19	0.07 J	< 0.1 U
11/13/2020	Assessment	0.02 J	27.9	101	< 0.02 U	< 0.01 U	0.2 J	0.63	1.186	0.35	< 0.05 U	0.00674	< 0.002 U	2.19	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1604S

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.653	84.5	62.6	0.89	7.2	187	532
7/20/2016	Background	0.530	79.8	60.8	0.88	7.3	186	526
9/19/2016	Background	0.650	68.1	50.3	0.92	7.5	141	456
11/15/2016	Background	0.736	82.9	58.3	0.83	--	165	533
1/9/2017	Background	0.721	83.9	63.5	0.91	7.4	173	535
3/7/2017	Background	0.725	79.1	64.1	0.94	7.5	170	528
5/8/2017	Background	0.554	111	88.0	0.81	7.5	251	672
5/18/2017	Background	--	--	--	--	7.3	--	--
7/17/2017	Background	0.473	98.6	76.0	0.76	7.3	234	657
10/3/2017	Detection	0.562	67.8	55.3	0.87	7.7	123	462
12/12/2017	Detection	--	--	53.9	0.97	7.7	112	--
1/4/2018	Detection	0.778	--	54.5	1.02	8.0	104	--
6/6/2018	Assessment	0.521	72.5	53.7	1.04	7.7	134	474
8/14/2018	Assessment	0.582	92.6	73.0	0.90	7.4	187	583
5/20/2019	Assessment	0.451	80.4	57.2	0.99	7.5	179	572
6/26/2019	Assessment	0.667	75.8	81.4	0.91	7.5	246	718
9/10/2019	Assessment	0.802	53.1	57.6	1.63	7.5	134	506
3/10/2020	Assessment	--	--	--	1.05	7.4	--	--
5/21/2020	Assessment	0.544	50.2	40.2	1.26	8.1	99.7	405
11/13/2020	Assessment	0.559	59.5	58.6	1.03	6.5	93.8	428

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1604S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.06	0.41	19.2	0.007 J	0.02	0.2	0.548	0.3437	0.89	0.315	0.011	< 0.002 U	2.57	0.07 J	0.02 J
7/20/2016	Background	0.13	0.76	21.7	0.059	0.09	0.6	0.955	0.9695	0.88	0.911	0.006	< 0.002 U	2.33	0.2	0.057
9/19/2016	Background	0.06	0.24	13.3	< 0.005 U	0.01 J	0.5	0.325	1.126	0.92	0.060	0.008	< 0.002 U	2.51	0.07 J	0.05 J
11/15/2016	Background	0.07	0.24	18.5	0.005 J	0.03	0.081	0.326	0.377	0.83	0.045	0.014	< 0.002 U	4.79	0.05 J	0.096
1/9/2017	Background	0.06	0.31	17.3	< 0.005 U	0.02 J	0.701	0.338	1.629	0.91	0.02 J	0.013	< 0.002 U	2.59	0.06 J	0.04 J
3/7/2017	Background	0.05	0.20	16.0	< 0.005 U	0.01 J	0.326	0.321	0.151	0.94	0.027	0.013	< 0.002 U	2.61	0.07 J	0.03 J
5/8/2017	Background	0.07	0.30	18.8	0.020	0.02	0.079	0.355	0.579	0.81	0.050	0.018	0.005	2.16	0.1	0.050
7/17/2017	Background	0.07	0.24	20.7	< 0.004 U	0.02 J	0.136	0.285	0.731	0.76	0.064	0.014	< 0.002 U	1.88	0.03 J	0.02 J
6/6/2018	Assessment	0.06	0.2	14.1	< 0.004 U	0.02 J	0.056	0.407	1.058	1.04	0.04	0.014	< 0.002 U	2.5	0.05 J	0.02 J
8/14/2018	Assessment	0.05 J	0.20	16.3	< 0.004 U	0.02 J	0.088	0.365	0.444	0.90	0.009 J	0.009	--	2.21	0.2	0.03 J
5/20/2019	Assessment	0.06 J	0.18	18.8	< 0.02 U	0.03 J	0.219	0.352	0.677	0.99	0.03 J	< 0.009 U	< 0.002 U	2.29	0.07 J	< 0.1 U
6/26/2019	Assessment	0.04 J	0.47	46.1	< 0.02 U	0.02 J	0.1 J	1.13	0.565	0.91	0.122	0.01 J	< 0.002 U	1 J	0.2	< 0.1 U
9/10/2019	Assessment	0.06 J	0.26	12.0	< 0.02 U	0.02 J	0.202	0.207	0.115	1.63	< 0.05 U	0.00913	< 0.002 U	4.72	0.1 J	< 0.1 U
3/10/2020	Assessment	0.02 J	0.18	13.0	< 0.02 U	0.02 J	0.1 J	0.384	0.941	1.05	< 0.05 U	0.00972	< 0.002 U	2.90	0.07 J	< 0.1 U
5/21/2020	Assessment	0.06 J	0.20	12.9	< 0.02 U	0.02 J	0.1 J	0.297	0.996	1.26	< 0.05 U	0.00689	< 0.002 U	3.09	0.1 J	< 0.1 U
11/13/2020	Assessment	0.08 J	0.17	10.5	< 0.02 U	0.03 J	0.2 J	0.285	0.2723	1.03	< 0.05 U	0.00868	< 0.002 U	2.94	0.09 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1605D

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.027	81.7	31.9	0.25	7.1	59.7	406
7/18/2016	Background	0.021	85.7	31.5	0.22	7.2	61.6	408
9/19/2016	Background	0.002 J	84.2	29.8	0.19	7.1	54.1	370
11/16/2016	Background	0.021	93.9	28.8	0.21	7.1	56.2	400
1/11/2017	Background	0.014	89.9	27.4	0.21	7.3	55.1	794
3/7/2017	Background	0.045	88.5	29.4	0.19	7.2	58.4	386
5/9/2017	Background	0.021	90.1	29.2	0.19	6.9	58.5	400
7/18/2017	Background	0.025	84.6	28.6	0.17	9.5	59.1	416
10/3/2017	Detection	0.022	83.1	26.4	0.18	7.1	56.8	390
12/11/2017	Detection	--	--	25.8	0.19	--	56.4	--
6/6/2018	Assessment	0.03	81.5	24.2	0.16	7.3	49.2	388
8/15/2018	Assessment	0.024	88.6	23.8	0.23	7.1	48.7	379
5/24/2019	Assessment	0.02 J	75.7	22.1	0.24	6.9	38.9	364
6/25/2019	Assessment	< 0.02 U	82.1	22.1	0.21	7.3	40.3	379
9/12/2019	Assessment	< 0.02 U	84.0	23.7	0.22	7.0	45.1	388
3/9/2020	Assessment	--	--	--	0.20	7.0	--	--
5/20/2020	Assessment	< 0.02 U	85.0	25.1	0.23	6.9	45.9	382
11/13/2020	Assessment	< 0.02 U	76.6	24.4	0.21	7.0	43.2	367

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1605D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	17.5	400	< 0.005 U	< 0.004 U	0.2	0.284	1.094	0.25	0.051	0.004	< 0.002 U	7.65	0.03 J	< 0.01 U
7/18/2016	Background	0.01 J	17.4	434	< 0.005 U	< 0.004 U	0.3	0.170	1.666	0.22	0.051	0.005	< 0.002 U	3.19	< 0.03 U	< 0.01 U
9/19/2016	Background	0.01 J	18.1	488	< 0.005 U	< 0.004 U	0.3	0.118	0.873	0.19	0.009 J	0.006	< 0.002 U	2.72	< 0.03 U	< 0.01 U
11/16/2016	Background	0.01 J	18.6	453	< 0.005 U	< 0.004 U	0.259	0.097	1.371	0.21	0.008 J	0.006	< 0.002 U	2.21	< 0.03 U	0.01 J
1/10/2017	Background	0.01 J	19.0	430	< 0.005 U	< 0.004 U	0.128	0.086	1.589	0.21	< 0.004 U	0.004	< 0.002 U	2.21	< 0.03 U	< 0.01 U
3/7/2017	Background	0.02 J	19.1	490	< 0.005 U	0.006 J	0.322	0.107	1.104	0.19	0.045	0.006	< 0.002 U	2.44	0.03 J	< 0.01 U
5/9/2017	Background	0.05	18.3	420	0.020	0.02	0.131	0.108	0.4527	0.19	0.037	0.003	0.005	2.08	0.1	0.050
7/18/2017	Background	0.02 J	17.9	457	< 0.004 U	< 0.005 U	0.119	0.111	1.657	0.17	0.009 J	0.005	< 0.002 U	1.98	< 0.03 U	0.03 J
6/6/2018	Assessment	0.02 J	18.2	382	0.01 J	< 0.005 U	0.272	0.188	1.978	0.16	0.273	0.007	< 0.002 U	1.97	0.04 J	< 0.01 U
8/15/2018	Assessment	0.01 J	20.3	443	< 0.004 U	< 0.005 U	0.077	0.079	0.605	0.23	0.035	0.003	--	1.94	< 0.03 U	< 0.01 U
5/24/2019	Assessment	0.05 J	13.9	385	< 0.02 U	< 0.01 U	0.06 J	0.255	1.116	0.24	< 0.02 U	< 0.009 U	< 0.002 U	2.60	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.02 U	18.3	365	< 0.02 U	< 0.01 U	0.2 J	0.104	0.655	0.21	0.05 J	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
9/12/2019	Assessment	< 0.02 U	21.2	471	< 0.02 U	< 0.01 U	0.652	0.084	0.896	0.22	< 0.05 U	0.00176	< 0.002 U	2.08	< 0.03 U	< 0.1 U
3/9/2020	Assessment	< 0.02 U	19.9	448	< 0.02 U	< 0.01 U	0.1 J	0.069	1.802	0.20	< 0.05 U	0.00178	< 0.002 U	2 J	0.04 J	< 0.1 U
5/20/2020	Assessment	< 0.02 U	20.7	436	< 0.02 U	< 0.01 U	0.1 J	0.074	2.158	0.23	< 0.05 U	0.00180	< 0.002 U	2.05	0.05 J	< 0.1 U
11/13/2020	Assessment	< 0.02 U	21.1	445	< 0.02 U	< 0.01 U	0.2 J	0.06	1.119	0.21	< 0.05 U	0.00156	< 0.002 U	2 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1605I**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.027	89.5	45.6	0.21	7.0	130	522
7/19/2016	Background	0.027	92.5	46.8	0.22	7.3	135	544
9/19/2016	Background	0.020	97.9	45.6	0.18	7.3	140	548
11/16/2016	Background	0.034	103	44.4	0.19	7.1	140	567
1/10/2017	Background	0.020	91.3	43.5	0.19	7.2	119	534
3/7/2017	Background	0.046	81.9	44.7	0.17	7.3	115	474
5/9/2017	Background	0.043	93.5	41.8	0.19	7.0	115	508
7/18/2017	Background	0.036	79.9	39.7	0.1 J	7.0	116	488
10/3/2017	Detection	0.041	82.5	40.7	0.19	7.2	120	494
12/11/2017	Detection	--	--	41.3	0.18	7.3	135	--
1/4/2018	Detection	--	--	--	--	7.6	144	536
6/6/2018	Assessment	0.129	79.2	39.1	0.16	7.3	120	500
8/15/2018	Assessment	0.158	83.4	38.0	0.23	7.3	114	483
5/24/2019	Assessment	0.08 J	73.8	36.8	0.23	7.3	89.2	443
6/25/2019	Assessment	0.126	83.4	38.3	0.21	7.4	104	471
9/12/2019	Assessment	0.199	89.4	41.7	0.20	7.4	128	524
3/10/2020	Assessment	--	--	--	0.21	7.1	--	--
5/20/2020	Assessment	0.097	90.1	37.8	0.23	6.9	109	476
11/13/2020	Assessment	0.06	73.3	32.8	0.21	7.1	86.2	429

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1605I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.02 J	17.3	151	< 0.005 U	< 0.004 U	0.2	1.67	1.219	0.21	0.122	0.004	< 0.002 U	1.42	0.03 J	0.02 J
7/19/2016	Background	0.03 J	20.1	178	< 0.005 U	< 0.004 U	1.2	1.79	2.288	0.22	0.032	0.005	< 0.002 U	1.39	0.07 J	0.02 J
9/19/2016	Background	0.04 J	19.5	180	< 0.005 U	0.005 J	0.2	1.66	2.171	0.18	0.160	0.008	< 0.002 U	1.23	< 0.03 U	0.03 J
11/16/2016	Background	0.04 J	18.0	168	< 0.005 U	0.008 J	0.091	1.58	1.912	0.19	0.079	0.017	< 0.002 U	1.07	< 0.03 U	0.03 J
1/10/2017	Background	0.03 J	18.5	161	< 0.005 U	< 0.004 U	0.110	1.52	1.823	0.19	0.02 J	0.004	< 0.002 U	1.43	0.04 J	0.183
3/7/2017	Background	0.03 J	18.6	156	< 0.005 U	0.008 J	0.214	1.48	1.721	0.17	0.063	0.007	< 0.002 U	1.33	0.04 J	0.03 J
5/9/2017	Background	0.05	20.1	148	0.020	0.02	0.137	1.56	1.139	0.19	0.037	0.010	0.005	1.18	0.1	0.050
7/18/2017	Background	0.05 J	26.2	153	< 0.004 U	< 0.005 U	0.104	1.49	2.173	0.1 J	0.137	0.010	< 0.002 U	1.16	< 0.03 U	0.03 J
6/6/2018	Assessment	0.03 J	17	135	0.004 J	< 0.005 U	0.04 J	1.47	2.27	0.16	0.184	0.011	< 0.002 U	1.06	< 0.03 U	0.04 J
8/15/2018	Assessment	0.03 J	18.8	149	0.004 J	< 0.005 U	0.116	1.45	1.167	0.23	0.095	0.005	--	1.12	< 0.03 U	0.04 J
5/24/2019	Assessment	0.04 J	25.3	157	< 0.02 U	< 0.01 U	0.07 J	1.12	1.054	0.23	0.04 J	0.01 J	< 0.002 U	1 J	0.04 J	< 0.1 U
6/25/2019	Assessment	< 0.1 U	17.8	134	< 0.1 U	< 0.05 U	< 0.2 U	1.29	2.118	0.21	< 0.1 U	0.01 J	< 0.002 U	< 2 U	< 0.2 U	< 0.5 U
9/12/2019	Assessment	0.05 J	22.3	154	< 0.02 U	< 0.01 U	0.1 J	1.42	1.679	0.20	0.1 J	0.00628	< 0.002 U	1 J	< 0.03 U	< 0.1 U
3/10/2020	Assessment	< 0.02 U	25.7	149	< 0.02 U	< 0.01 U	0.1 J	1.12	1.641	0.21	< 0.05 U	0.00517	< 0.002 U	1 J	0.04 J	< 0.1 U
5/20/2020	Assessment	0.16	54.2	139	< 0.02 U	< 0.01 U	0.227	1.26	1.169	0.23	0.2 J	0.00520	< 0.002 U	1 J	0.06 J	< 0.1 U
11/13/2020	Assessment	0.09 J	28.1	126	< 0.02 U	< 0.01 U	0.232	1.24	1.672	0.21	0.2 J	0.00513	< 0.002 U	1 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1605S
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.48	76.6	51.0	0.55	7.1	167	576
7/19/2016	Background	0.438	72.6	53.1	0.55	7.2	174	586
9/19/2016	Background	0.482	79.1	54.0	0.51	7.3	179	594
11/16/2016	Background	0.584	84.0	49.7	0.53	7.1	186	599
1/10/2017	Background	0.533	78.5	48.2	0.43	7.2	170	584
3/7/2017	Background	0.608	71.2	52.0	0.55	7.2	180	564
5/9/2017	Background	0.470	79.9	50.1	0.50	7.2	181	606
7/17/2017	Background	0.490	68.6	47.5	0.43	7.1	177	582
10/3/2017	Detection	0.539	71.6	44.1	0.46	7.1	175	578
12/11/2017	Detection	--	--	42.5	0.53	7.2	164	--
1/4/2018	Detection	0.616	--	--	0.48	7.7	168	614
6/5/2018	Assessment	0.461	71	46.5	0.58	7.6	154	592
8/15/2018	Assessment	0.029	45.8	46.5	0.59	7.1	153	573
5/24/2019	Assessment	0.415	76.0	46.1	0.61	7.3	147	586
6/27/2019	Assessment	0.438	72.0	46.3	0.63	7.2	150	595
9/12/2019	Assessment	0.431	77.0	49.4	0.54	7.0	162	593
3/10/2020	Assessment	--	--	--	0.56	6.9	--	--
5/21/2020	Assessment	0.501	84.7	55.5	0.60	6.9	195	656
11/13/2020	Assessment	0.555	72.7	48.4	0.54	6.9	167	609

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1605S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.04 J	0.52	8.07	< 0.005 U	0.03	0.2	0.471	0.2307	0.55	0.116	0.13	< 0.002 U	2.52	1.3	0.02 J
7/19/2016	Background	0.10	0.60	8.65	< 0.005 U	0.04	0.4	0.856	0.39	0.55	0.223	0.017	< 0.002 U	2.20	1.0	0.02 J
9/19/2016	Background	0.04 J	0.42	7.61	< 0.005 U	0.03	0.9	0.443	0.15	0.51	0.049	0.015	< 0.002 U	1.83	1.0	0.03 J
11/16/2016	Background	0.05	0.36	7.76	< 0.005 U	0.04	0.108	0.355	0.964	0.53	0.021	0.021	< 0.002 U	1.79	1.1	0.03 J
1/10/2017	Background	0.06	0.50	8.33	< 0.005 U	0.04	0.135	0.401	1.6248	0.43	0.02 J	0.016	< 0.002 U	2.01	1.1	0.060
3/7/2017	Background	0.04 J	0.39	8.72	< 0.005 U	0.03	0.279	0.307	0.339	0.55	0.033	0.015	< 0.002 U	1.85	0.5	0.03 J
5/9/2017	Background	0.05	0.45	8.41	0.020	0.03	0.247	0.370	0.255	0.50	0.020	0.013	0.005	1.81	0.9	0.050
7/17/2017	Background	0.04 J	0.42	8.55	< 0.004 U	0.03	0.113	0.336	1.254	0.43	0.026	0.015	< 0.002 U	1.73	1.2	0.03 J
6/5/2018	Assessment	0.04 J	0.42	8.63	0.004 J	0.03	0.093	0.321	0.705	0.58	0.042	0.016	< 0.002 U	1.75	0.6	0.05 J
8/15/2018	Assessment	0.04 J	0.20	10.9	< 0.004 U	0.03	0.078	0.087	0.1783	0.59	0.041	0.007	--	1.13	5.4	0.02 J
5/24/2019	Assessment	0.15	2.84	15.4	0.04 J	0.11	0.636	3.91	0.2689	0.61	1.96	0.02 J	< 0.002 U	2 J	0.3	< 0.1 U
6/27/2019	Assessment	0.11	2.44	12.5	0.04 J	0.07	0.536	2.46	0.245	0.63	1.52	< 0.009 U	< 0.002 U	2 J	0.5	0.1 J
9/12/2019	Assessment	0.04 J	0.61	6.72	< 0.02 U	0.04 J	0.09 J	0.469	0.00129	0.54	0.1 J	0.0108	< 0.002 U	2.07	2.0	< 0.1 U
3/10/2020	Assessment	0.04 J	1.57	11.9	0.02 J	0.05 J	1.13	2.11	1.8805	0.56	0.920	0.0119	< 0.002 U	2 J	0.3	< 0.1 U
5/21/2020	Assessment	0.05 J	0.59	8.92	< 0.02 U	0.04 J	0.2 J	0.575	1.007	0.60	0.2 J	0.0113	< 0.002 U	1 J	0.4	< 0.1 U
11/13/2020	Assessment	0.03 J	0.47	6.32	< 0.02 U	0.04 J	1.12	0.377	2.5781	0.54	< 0.05 U	0.0105	< 0.002 U	2.21	0.8	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1606D

**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.020	67.5	21.3	0.23	7.1	13.9	290
7/19/2016	Background	0.018	69.9	20.8	0.20	5.9	12.8	298
9/19/2016	Background	0.020	72.3	21.7	0.19	7.3	13.2	290
11/16/2016	Background	0.017	77.1	22.0	0.19	7.2	16.4	301
1/10/2017	Background	0.012	75.5	21.6	0.16	7.2	12.8	284
3/6/2017	Background	0.073	69.9	22.3	0.18	7.2	8.7	325
5/9/2017	Background	0.034	78.1	22.3	0.17	6.9	14.4	308
7/18/2017	Background	0.028	69.3	21.6	0.15	8.4	13.5	307
10/3/2017	Detection	0.022	74.4	22.3	0.16	7.0	17.1	308
12/11/2017	Detection	--	--	22.6	0.17	7.1	19.4	--
6/6/2018	Assessment	0.044	72	23.1	0.19	8.0	19.9	331
8/15/2018	Assessment	0.028	80.5	23.9	0.20	7.3	21.5	329
5/24/2019	Assessment	0.02 J	75.7	25.0	0.20	7.2	19.6	330
6/24/2019	Assessment	0.02 J	80.8	25.2	0.19	7.3	21.0	329
9/12/2019	Assessment	< 0.02 U	76.7	26.9	0.18	7.3	25.6	361
3/9/2020	Assessment	--	--	--	0.17	6.9	--	--
5/20/2020	Assessment	0.03 J	89.7	29.9	0.20	6.9	30.7	354
11/16/2020	Assessment	< 0.02 U	81.1	28.9	0.18	7.3	30.8	371

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1606D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.03 J	11.5	327	0.01 J	< 0.004 U	0.5	0.508	0.551	0.23	0.214	0.003	< 0.002 U	3.82	0.06 J	< 0.01 U
7/19/2016	Background	0.02 J	13.7	372	< 0.005 U	< 0.004 U	0.3	0.178	0.464	0.20	0.086	0.009	< 0.002 U	2.10	0.05 J	< 0.01 U
9/19/2016	Background	0.01 J	13.4	378	< 0.005 U	< 0.004 U	0.1	0.113	1.152	0.19	< 0.004 U	0.002	< 0.002 U	2.00	< 0.03 U	< 0.01 U
11/16/2016	Background	0.01 J	14.4	419	< 0.005 U	< 0.004 U	0.138	0.102	0.333	0.19	< 0.004 U	0.002	< 0.002 U	2.21	< 0.03 U	< 0.01 U
1/10/2017	Background	0.03 J	13.9	383	0.034	0.02 J	0.160	0.109	1.612	0.16	0.023	< 0.0002 U	< 0.002 U	2.46	0.04 J	0.124
3/6/2017	Background	0.01 J	13.5	374	< 0.005 U	< 0.004 U	0.667	0.098	0.924	0.18	0.02 J	0.007	< 0.002 U	2.00	< 0.03 U	< 0.01 U
5/9/2017	Background	0.05	14.3	370	0.020	0.02	0.153	0.086	2.3	0.17	0.020	0.004	0.005	2.07	0.1	0.050
7/18/2017	Background	0.02 J	14.8	401	< 0.004 U	< 0.005 U	0.131	0.084	1.584	0.15	0.01 J	0.006	< 0.002 U	1.85	< 0.03 U	< 0.01 U
6/6/2018	Assessment	< 0.01 U	14.7	392	0.004 J	< 0.005 U	0.04 J	0.07	1.5971	0.19	0.008 J	0.005	< 0.002 U	1.77	< 0.03 U	0.03 J
8/15/2018	Assessment	0.04 J	16.9	431	0.006 J	0.007 J	0.148	0.117	0.56	0.20	0.141	0.002	--	1.77	< 0.03 U	0.02 J
5/24/2019	Assessment	< 0.02 U	17.4	447	< 0.02 U	< 0.01 U	0.1 J	0.066	0.946	0.20	< 0.02 U	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
6/24/2019	Assessment	< 0.02 U	17.5	431	< 0.02 U	< 0.01 U	0.1 J	0.068	0.809	0.19	0.02 J	< 0.009 U	< 0.002 U	2 J	< 0.03 U	< 0.1 U
9/12/2019	Assessment	< 0.02 U	17.4	458	< 0.02 U	< 0.01 U	0.09 J	0.085	0.593	0.18	< 0.05 U	0.000651	< 0.002 U	2 J	< 0.03 U	< 0.1 U
3/9/2020	Assessment	< 0.02 U	17.2	470	0.02 J	< 0.01 U	0.05 J	0.053	0.98	0.17	0.05 J	0.000659	< 0.002 U	2 J	< 0.03 U	< 0.1 U
5/20/2020	Assessment	< 0.02 U	17.9	472	< 0.02 U	< 0.01 U	0.07 J	0.063	0.939	0.20	0.2 J	0.000622	< 0.002 U	2.13	0.09 J	< 0.1 U
11/16/2020	Assessment	< 0.02 U	17.7	467	< 0.02 U	< 0.01 U	0.287	0.052	0.924	0.18	< 0.05 U	0.000564	< 0.002 U	2 J	0.04 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1606I
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.011	66.6	23.9	0.22	7.0	42.3	300
7/19/2016	Background	0.013	62.0	25.1	0.21	5.0	42.9	350
9/19/2016	Background	< 0.002 U	62.8	24.2	0.19	7.2	36.7	314
11/16/2016	Background	0.014	70.7	25.0	0.21	7.3	42.6	325
1/10/2017	Background	0.007	68.0	24.5	0.17	7.4	39.3	326
3/6/2017	Background	0.025	64.1	23.8	0.19	7.4	37.8	317
5/9/2017	Background	0.070	67.8	23.0	0.19	7.4	36.8	318
7/18/2017	Background	0.023	55.5	22.6	0.17	6.7	37.1	304
10/3/2017	Detection	0.021	57.8	23.0	0.18	7.1	38.4	304
12/11/2017	Detection	--	--	23	0.19	7.1	37.9	--
6/6/2018	Assessment	0.053	78.2	31.5	0.2	8.1	52.4	392
8/15/2018	Assessment	0.031	86.3	25.4	0.21	7.3	50.3	387
5/21/2019	Assessment	0.02 J	79.5	29.8	0.16	8.6	55.5	407
6/26/2019	Assessment	< 0.02 U	86.8	31.5	0.18	7.2	51.0	406
9/12/2019	Assessment	< 0.02 U	72.8	20.1	0.18	7.4	47.9	367
3/9/2020	Assessment	--	--	--	0.19	7.0	--	--
5/20/2020	Assessment	< 0.02 U	74.7	19.2	0.21	6.9	43.8	340
11/16/2020	Assessment	< 0.02 U	60.9	19.9	0.21	7.4	39.1	309

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1606I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.03 J	3.00	49.4	< 0.005 U	0.004 J	0.2	0.929	1.347	0.22	0.166	0.004	< 0.002 U	1.64	0.05 J	0.03 J
7/19/2016	Background	0.03 J	3.99	54.0	< 0.005 U	< 0.004 U	0.4	0.823	1.286	0.21	0.037	0.013	< 0.002 U	1.57	< 0.03 U	0.03 J
9/19/2016	Background	0.02 J	4.99	46.7	< 0.005 U	< 0.004 U	0.1	0.733	1.104	0.19	0.02 J	0.009	< 0.002 U	1.50	< 0.03 U	0.03 J
11/16/2016	Background	0.02 J	4.59	48.1	< 0.005 U	< 0.004 U	0.070	0.700	0.951	0.21	< 0.004 U	0.008	< 0.002 U	1.83	< 0.03 U	0.04 J
1/10/2017	Background	0.02 J	5.11	53.6	0.007 J	0.01 J	0.138	0.921	4.283	0.17	0.022	0.005	< 0.002 U	2.12	< 0.03 U	0.05 J
3/6/2017	Background	0.02 J	5.07	54.7	< 0.005 U	< 0.004 U	0.524	0.950	0.934	0.19	0.032	0.007	< 0.002 U	1.78	0.03 J	0.04 J
5/9/2017	Background	0.05	4.81	49.9	0.020	0.02	0.179	1.26	0.677	0.19	0.071	0.008	0.005	1.27	0.1	0.050
7/18/2017	Background	0.02 J	4.72	51.1	< 0.004 U	< 0.005 U	0.097	1.06	0.813	0.17	0.043	0.008	< 0.002 U	1.11	< 0.03 U	0.04 J
6/6/2018	Assessment	0.03 J	5.69	67.3	< 0.004 U	< 0.005 U	0.083	1.49	1.252	0.2	0.026	0.007	< 0.002 U	0.98	< 0.03 U	0.05 J
8/15/2018	Assessment	0.03 J	9.11	85.2	< 0.004 U	0.005 J	0.061	1.95	0.3912	0.21	0.034	0.006	--	1.34	< 0.03 U	0.083
5/21/2019	Assessment	< 0.02 U	7.69	74.5	< 0.02 U	< 0.01 U	< 0.04 U	1.56	0.562	0.16	< 0.02 U	< 0.009 U	< 0.002 U	0.8 J	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.1 U	7.96	78.1	< 0.1 U	< 0.05 U	< 0.2 U	1.80	1.214	0.18	< 0.1 U	0.01 J	< 0.002 U	< 2 U	< 0.2 U	< 0.5 U
9/12/2019	Assessment	0.02 J	11.2	76.7	< 0.02 U	< 0.01 U	0.1 J	1.58	0.947	0.18	< 0.05 U	0.00405	< 0.002 U	1 J	< 0.03 U	< 0.1 U
3/9/2020	Assessment	< 0.02 U	8.69	65.2	< 0.02 U	< 0.01 U	0.05 J	1.23	0.993	0.19	< 0.05 U	0.00348	< 0.002 U	1 J	0.05 J	< 0.1 U
5/20/2020	Assessment	< 0.02 U	8.40	61.8	< 0.02 U	< 0.01 U	0.1 J	1.28	0.663	0.21	0.2 J	0.00326	< 0.002 U	1 J	0.03 J	< 0.1 U
11/16/2020	Assessment	< 0.02 U	9.37	60.8	< 0.02 U	< 0.01 U	0.2 J	1.26	0.968	0.21	< 0.05 U	0.00361	< 0.002 U	1 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1606S
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
6/7/2016	Background	0.024	55.8	30.6	0.46	6.9	47.6	410
7/19/2016	Background	0.019	46.0	24.0	0.43	7.1	38.1	386
9/19/2016	Background	< 0.002 U	44.4	18.7	0.40	7.1	31.8	316
11/16/2016	Background	0.020	54.1	26.6	0.40	6.9	40.0	358
1/10/2017	Background	0.014	48.5	22.1	0.31	6.7	30.5	351
3/7/2017	Background	0.054	47.2	23.9	0.41	7.1	33.2	331
5/9/2017	Background	0.020	52.7	24.7	0.38	7.0	37.5	377
7/18/2017	Background	0.090	44.7	22.8	0.37	6.9	36.8	367
10/3/2017	Detection	0.026	43.4	24.1	0.41	6.6	35.6	363
12/11/2017	Detection	--	--	24	0.41	6.6	36.8	--
1/4/2018	Detection	--	--	--	0.42	7.4	--	--
6/6/2018	Assessment	0.029	50.9	25.5	0.46	7.8	52.6	398
8/15/2018	Assessment	0.563	76.1	20.7	0.47	6.9	34.9	316
5/21/2019	Assessment	0.05 J	48.9	26.6	0.47	7.9	64.5	416
6/25/2019	Assessment	0.03 J	49.8	25.0	0.45	7.0	41.7	380
9/12/2019	Assessment	0.02 J	44.4	24.4	0.54	7.0	41.9	376
3/9/2020	Assessment	--	--	--	0.58	6.8	--	--
5/20/2020	Assessment	0.05 J	48.4	25.1	0.63	6.9	46.9	375
11/16/2020	Assessment	< 0.02 U	40.5	21.7	0.56	6.8	32.7	337

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1606S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
6/7/2016	Background	0.08	0.26	12.5	< 0.005 U	0.02	0.1	0.090	0.7867	0.46	0.145	0.012	< 0.002 U	1.91	3.3	0.02 J
7/19/2016	Background	0.06	0.23	11.5	< 0.005 U	0.02 J	0.5	0.052	0.94	0.43	0.034	0.017	< 0.002 U	1.56	4.0	< 0.01 U
9/19/2016	Background	0.05 J	0.22	9.34	< 0.005 U	0.01 J	0.2	0.038	0.75	0.40	0.020	0.010	< 0.002 U	1.32	5.7	0.01 J
11/16/2016	Background	0.05 J	0.20	11.1	< 0.005 U	0.02 J	0.148	0.038	0.574	0.40	0.004 J	0.013	< 0.002 U	1.02	3.1	0.01 J
1/10/2017	Background	0.04 J	0.24	10.7	0.01 J	0.02 J	1.29	0.141	2.025	0.31	0.097	0.006	< 0.002 U	1.11	4.2	0.02 J
3/7/2017	Background	0.07	0.60	16.7	0.024	0.06	1.25	0.883	1.822	0.41	1.33	0.011	< 0.002 U	1.22	4.5	0.03 J
5/9/2017	Background	0.05	0.29	12.0	0.020	0.03	0.277	0.371	0.193	0.38	0.355	0.010	0.005	0.90	6.0	0.050
7/18/2017	Background	0.05	0.32	12.6	0.01 J	0.03	0.259	0.363	0.268	0.37	0.386	0.010	< 0.002 U	1.08	4.7	0.02 J
6/6/2018	Assessment	0.05 J	0.2	13.6	0.005 J	0.03	0.108	0.092	0.496	0.46	0.032	0.012	< 0.002 U	1.19	2.7	0.03 J
8/15/2018	Assessment	0.04 J	0.44	8.22	0.004 J	0.04	0.251	0.338	1.146	0.47	0.028	0.013	--	1.89	1.6	0.078
5/21/2019	Assessment	0.14	0.19	16.7	< 0.02 U	0.05 J	0.1 J	0.094	0.668	0.47	< 0.02 U	< 0.009 U	< 0.002 U	0.9 J	3.3	< 0.1 U
6/25/2019	Assessment	< 0.1 U	0.2 J	14.4	< 0.1 U	0.06 J	< 0.2 U	< 0.1 U	0.0646	0.45	< 0.1 U	0.01 J	< 0.002 U	< 2 U	2.9	< 0.5 U
9/12/2019	Assessment	0.03 J	0.17	11.8	< 0.02 U	0.03 J	0.08 J	0.051	0.1052	0.54	< 0.05 U	0.00814	< 0.002 U	1 J	2.8	< 0.1 U
3/9/2020	Assessment	< 0.02 U	0.17	10.7	< 0.02 U	0.02 J	0.2 J	0.05 J	0.00206	0.58	< 0.05 U	0.00787	< 0.002 U	1 J	4.4	< 0.1 U
5/20/2020	Assessment	0.04 J	0.20	13.6	< 0.02 U	0.03 J	0.294	0.081	0.4706	0.63	< 0.05 U	0.00858	< 0.002 U	1 J	3.2	< 0.1 U
11/16/2020	Assessment	0.03 J	0.17	11.5	< 0.02 U	0.03 J	0.286	0.05 J	1.328	0.56	< 0.05 U	0.00846	< 0.002 U	1 J	4.7	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

- -: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1701D
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.054	71.8	20.1	0.28	7.3	44	378
2/8/2018	Assessment	0.066	70.8	19.9	0.3	7.5	45.3	402
6/5/2018	Assessment	0.041	68.1	13.7	0.34	7.3	36.8	700
8/14/2018	Assessment	0.060	77.0	14.1	0.36	7.2	39.8	369
9/24/2018	Assessment	0.047	71.6	15.2	0.33	7.5	40.0	366
10/29/2018	Assessment	0.125	76.5	15.4	0.32	7.8	40.7	362
11/12/2018	Assessment	0.114	76.7	15.7	0.35	7.1	40	358
5/20/2019	Assessment	0.02 J	66.8	14.0	0.32	7.2	43.5	371
6/25/2019	Assessment	0.02 J	70.8	14.9	0.32	7.1	39.0	387
9/9/2019	Assessment	0.02 J	70.5	16.0	0.31	7.0	36.6	376
3/10/2020	Assessment	--	--	--	0.33	7.0	--	--
5/21/2020	Assessment	0.02 J	72.8	14.7	0.36	7.5	43.4	368
11/17/2020	Assessment	0.02 J	71.1	16.8	0.33	7.0	40.3	379

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1701D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/8/2018	Assessment	0.03 J	9.3	65	< 0.004 U	0.009 J	0.104	1.75	1.33	0.3	0.065	0.01	< 0.002 U	1.37	0.04 J	0.03 J
6/5/2018	Assessment	0.02 J	10.6	63.7	0.005 J	0.02 J	0.103	1.56	2.346	0.34	0.096	0.012	< 0.002 U	1.38	< 0.03 U	0.03 J
8/14/2018	Assessment	0.01 J	10.2	65.2	< 0.004 U	< 0.005 U	0.060	1.68	0.929	0.36	0.021	0.008	--	1.38	< 0.03 U	0.03 J
9/24/2018	Assessment	< 0.01 U	10.1	64.0	< 0.004 U	0.005 J	0.076	1.71	0.564	0.33	0.074	< 0.0002 U	--	1.33	< 0.03 U	0.02 J
10/29/2018	Assessment	< 0.02 U	9.79	65.9	< 0.02 U	< 0.01 U	0.1 J	1.66	0.417	0.32	0.04 J	< 0.009 U	--	1 J	< 0.03 U	< 0.1 U
11/12/2018	Assessment	< 0.02 U	9.1	62.2	< 0.02 U	< 0.01 U	0.1 J	1.6	0.972	0.35	0.04 J	< 0.009 U	--	1 J	< 0.03 U	< 0.1 U
5/20/2019	Assessment	< 0.02 U	9.55	65.1	< 0.02 U	< 0.01 U	0.2 J	1.59	0.702	0.32	< 0.02 U	< 0.009 U	< 0.002 U	1 J	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.1 U	9.58	64.6	< 0.1 U	< 0.05 U	< 0.2 U	1.62	2.63	0.32	< 0.1 U	0.01 J	< 0.002 U	< 2 U	0.2 J	< 0.5 U
9/9/2019	Assessment	< 0.02 U	9.37	65.0	< 0.02 U	< 0.01 U	0.2 J	1.53	0.341	0.31	< 0.05 U	0.00691	< 0.002 U	1 J	< 0.03 U	< 0.1 U
3/10/2020	Assessment	< 0.02 U	9.31	61.4	< 0.02 U	< 0.01 U	0.06 J	1.48	0.546	0.33	< 0.05 U	0.00654	< 0.002 U	1 J	0.03 J	< 0.1 U
5/21/2020	Assessment	< 0.02 U	9.40	62.4	< 0.02 U	< 0.01 U	0.1 J	1.48	1.095	0.36	< 0.05 U	0.00636	< 0.002 U	1 J	< 0.03 U	< 0.1 U
11/17/2020	Assessment	< 0.02 U	9.58	64.4	< 0.02 U	< 0.01 U	0.209	1.59	1.585	0.33	< 0.05 U	0.00659	< 0.002 U	1 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-17011
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.066	65.4	13.5	0.33	7.3	40.7	338
2/8/2018	Assessment	0.095	63.7	14.5	0.38	7.7	43.1	363
6/5/2018	Assessment	0.044	65.5	14.1	0.44	7.4	36.5	328
8/14/2018	Assessment	0.052	67.9	14.5	0.39	7.2	34.8	352
9/24/2018	Assessment	0.038	68.9	14.9	0.41	7.6	35.0	346
10/31/2018	Assessment	0.104	62.4	14.8	0.4	7.9	34.8	338
11/12/2018	Assessment	0.166	71.7	14.5	0.42	7.3	35	322
5/20/2019	Assessment	0.02 J	59.6	12.8	0.40	7.3	39.8	345
6/25/2019	Assessment	0.02 J	69.4	12.8	0.41	7.7	36.3	388
9/9/2019	Assessment	< 0.02 U	65.1	12.9	0.38	7.3	34.5	339
3/10/2020	Assessment	--	--	--	0.41	6.8	--	--
5/21/2020	Assessment	< 0.02 U	73.3	13.0	0.43	7.2	39.8	349
11/17/2020	Assessment	< 0.02 U	68.4	13.1	0.43	6.9	36.5	341

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-17011

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/8/2018	Assessment	0.07	9.17	46.8	< 0.004 U	0.01 J	0.184	1.34	1.06	0.38	0.26	0.007	< 0.002 U	2.52	0.07 J	0.03 J
6/5/2018	Assessment	0.05	8.07	42.7	0.021	0.02 J	0.446	1.87	0.658	0.44	0.564	0.01	< 0.002 U	1.15	0.2	0.05 J
8/14/2018	Assessment	0.04 J	6.42	38.3	0.004 J	0.01 J	0.085	1.10	0.3144	0.39	0.108	0.002	--	1.01	< 0.03 U	0.02 J
9/24/2018	Assessment	0.23	9.38	41.2	0.008 J	0.02 J	0.371	1.62	0.335	0.41	0.497	0.002	--	1.67	0.1	0.01 J
10/31/2018	Assessment	0.25	6.69	40.7	< 0.02 U	0.03 J	0.337	1.12	0.304	0.4	0.403	0.02 J	--	1 J	0.07 J	< 0.1 U
11/12/2018	Assessment	0.1	6.77	40.3	< 0.02 U	< 0.01 U	0.2 J	1.19	0.579	0.42	0.09 J	< 0.009 U	--	1 J	< 0.03 U	< 0.1 U
5/20/2019	Assessment	0.14	12.8	41.5	< 0.02 U	0.02 J	0.09 J	1.16	0.628	0.40	0.09 J	< 0.009 U	< 0.002 U	1 J	< 0.03 U	< 0.1 U
6/25/2019	Assessment	< 0.1 U	9.47	41.9	< 0.1 U	< 0.05 U	< 0.2 U	1.16	0.116	0.41	< 0.1 U	0.01 J	< 0.002 U	< 2 U	< 0.2 U	< 0.5 U
9/9/2019	Assessment	0.21	7.92	40.6	< 0.02 U	< 0.01 U	0.08 J	0.843	0.781	0.38	0.08 J	0.00561	< 0.002 U	1 J	< 0.03 U	< 0.1 U
3/10/2020	Assessment	0.20	14.3	46.8	< 0.02 U	0.02 J	0.256	1.42	1.233	0.41	0.384	0.00594	< 0.002 U	1 J	0.1 J	< 0.1 U
5/21/2020	Assessment	0.13	11.9	41.9	< 0.02 U	0.01 J	0.2 J	1.32	0.943	0.43	0.276	0.00549	< 0.002 U	1 J	0.06 J	< 0.1 U
11/17/2020	Assessment	0.06 J	9.93	41.4	< 0.02 U	< 0.01 U	0.231	1.17	1.337	0.43	0.07 J	0.00553	< 0.002 U	1 J	0.04 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1701S
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.051	58.1	18.6	0.35	7.5	21.1	288
2/8/2018	Assessment	0.025	56.6	19	0.36	7.8	21.6	334
6/4/2018	Assessment	0.032	59.2	19.4	0.38	7.4	21.3	368
8/14/2018	Assessment	0.056	64.1	19.6	0.36	7.3	20.4	329
9/25/2018	Assessment	0.035	60.7	19.6	0.37	6.6	20.3	316
10/29/2018	Assessment	0.129	63.7	19.1	0.38	7.2	18.8	312
11/12/2018	Assessment	0.139	63.6	19.1	0.39	7.5	18.9	318
5/20/2019	Assessment	< 0.02 U	56.5	19.7	0.42	7.2	20.0	320
6/25/2019	Assessment	0.02 J	63.5	19.6	0.37	7.3	20.7	353
9/9/2019	Assessment	< 0.02 U	57.0	20.0	0.37	7.2	17.8	332
3/10/2020	Assessment	--	--	--	0.39	7.1	--	--
5/21/2020	Assessment	< 0.02 U	67.8	21.6	0.41	7.3	19.6	348
11/17/2020	Assessment	< 0.02 U	61.3	21.1	0.4	6.9	17.1	322

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1701S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/8/2018	Assessment	0.14	0.39	9.51	< 0.004 U	0.03	0.256	0.198	0.356	0.36	0.176	0.007	< 0.002 U	0.85	0.4	0.03 J
6/4/2018	Assessment	0.07	0.38	5.2	< 0.004 U	0.009 J	0.05 J	0.087	1.053	0.38	0.023	0.009	< 0.002 U	0.68	0.6	0.01 J
8/14/2018	Assessment	0.04 J	0.37	9.34	< 0.004 U	0.008 J	0.065	0.092	0.3729	0.36	0.028	0.002	--	0.69	0.4	0.02 J
9/25/2018	Assessment	0.12	0.38	8.55	< 0.004 U	0.008 J	0.03 J	0.096	1.02	0.37	0.021	0.002	--	0.69	0.4	< 0.01 U
10/29/2018	Assessment	0.07 J	0.39	13.2	< 0.02 U	0.02 J	0.1 J	0.091	0.1291	0.38	0.06 J	< 0.009 U	--	0.7 J	0.4	< 0.1 U
11/12/2018	Assessment	0.08 J	0.37	8.2	< 0.02 U	0.01 J	0.2 J	0.092	0.2239	0.39	0.05 J	< 0.009 U	--	0.7 J	0.4	< 0.1 U
5/20/2019	Assessment	0.06 J	0.41	18.7	< 0.02 U	0.04 J	0.2 J	0.053	0.0249	0.42	0.06 J	< 0.009 U	< 0.002 U	0.7 J	0.3	< 0.1 U
6/25/2019	Assessment	< 0.1 U	0.4 J	8.08	< 0.1 U	< 0.05 U	< 0.2 U	0.2 J	0.931	0.37	< 0.1 U	0.01 J	< 0.002 U	< 2 U	0.5 J	< 0.5 U
9/9/2019	Assessment	0.16	0.38	16.8	< 0.02 U	< 0.01 U	0.1 J	0.073	0.327	0.37	< 0.05 U	0.00556	< 0.002 U	0.7 J	0.3	< 0.1 U
3/10/2020	Assessment	0.03 J	0.41	11.4	< 0.02 U	0.02 J	0.2 J	0.087	0.597	0.39	< 0.05 U	0.00537	< 0.002 U	0.7 J	0.3	< 0.1 U
5/21/2020	Assessment	0.05 J	0.39	10.4	< 0.02 U	0.01 J	0.1 J	0.075	0.472	0.41	< 0.05 U	0.00499	< 0.002 U	0.6 J	0.3	< 0.1 U
11/17/2020	Assessment	0.04 J	0.41	12.3	< 0.02 U	0.01 J	0.504	0.08	1.675	0.4	< 0.05 U	0.00508	< 0.002 U	0.7 J	0.3	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

**Table 1 - Groundwater Data Summary: MW-1702D
Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.105	74.3	30.3	0.19	7.2	39.9	362
2/9/2018	Assessment	0.042	76.1	30.5	0.19	8.0	41.3	386
6/4/2018	Assessment	0.024	78.5	31.6	0.24	7.1	39.9	372
8/14/2018	Assessment	0.071	80.7	30.7	0.20	6.8	38.1	379
9/26/2018	Assessment	0.096	80.0	31.2	0.20	7.1	37.8	392
10/30/2018	Assessment	0.06 J	87.2	30.9	0.2	8.2	37.3	394
11/12/2018	Assessment	0.06 J	89.8	31.5	0.21	7.4	37.3	374
5/20/2019	Assessment	0.02 J	78.7	30.5	0.18	7.0	38.9	402
6/26/2019	Assessment	0.02 J	80.0	30.4	0.17	7.6	39.0	388
9/10/2019	Assessment	< 0.02 U	86.6	30.6	0.20	7.1	37.9	384
3/9/2020	Assessment	--	--	--	0.19	7.0	--	--
5/21/2020	Assessment	< 0.02 U	88.2	31.5	0.22	7.1	39.2	393
11/17/2020	Assessment	< 0.02 U	86.5	30.6	0.2	6.8	37	384

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1702D

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/9/2018	Assessment	0.25	22.5	212	< 0.004 U	0.02 J	0.389	0.877	0.977	0.19	0.27	0.007	< 0.002 U	5.91	0.09 J	0.03 J
6/4/2018	Assessment	0.18	25.2	208	0.005 J	0.02	0.105	0.698	1.345	0.24	0.052	0.009	< 0.002 U	4.18	< 0.03 U	0.02 J
8/14/2018	Assessment	0.15	21.3	191	< 0.004 U	0.02 J	0.091	0.590	0.949	0.20	0.026	0.002	--	3.68	< 0.03 U	0.03 J
9/26/2018	Assessment	0.18	22.0	211	< 0.004 U	0.01 J	0.069	0.564	1.084	0.20	0.230	0.008	--	3.38	< 0.03 U	0.02 J
10/30/2018	Assessment	0.1	22.5	204	< 0.02 U	0.01 J	0.08 J	0.581	0.784	0.2	0.02 J	< 0.009 U	--	2.77	0.03 J	< 0.1 U
11/12/2018	Assessment	0.08 J	20.2	199	< 0.02 U	0.02 J	0.1 J	0.498	1.167	0.21	0.03 J	< 0.009 U	--	2.53	< 0.03 U	< 0.1 U
5/20/2019	Assessment	0.08 J	25.6	223	< 0.02 U	0.02 J	0.1 J	0.686	1.207	0.18	0.04 J	< 0.009 U	< 0.002 U	2.43	< 0.03 U	< 0.1 U
6/26/2019	Assessment	0.07 J	24.4	209	< 0.02 U	0.02 J	0.08 J	0.601	0.689	0.17	0.07 J	0.02 J	< 0.002 U	2.15	0.03 J	< 0.1 U
9/10/2019	Assessment	0.04 J	22.1	203	< 0.02 U	< 0.01 U	0.1 J	0.536	0.639	0.20	< 0.05 U	0.00456	< 0.002 U	2.16	< 0.03 U	< 0.1 U
3/9/2020	Assessment	0.02 J	21.2	207	< 0.02 U	0.02 J	0.07 J	0.534	1.102	0.19	< 0.05 U	0.00430	< 0.002 U	2 J	0.04 J	< 0.1 U
5/21/2020	Assessment	0.08 J	20.3	199	< 0.02 U	0.04 J	0.2 J	0.517	1.047	0.22	< 0.05 U	0.00398	< 0.002 U	2 J	0.07 J	< 0.1 U
11/17/2020	Assessment	0.05 J	21	206	< 0.02 U	< 0.01 U	0.2 J	0.519	1.1	0.2	< 0.05 U	0.00416	< 0.002 U	2 J	0.03 J	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1702I**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.037	76.2	27.1	0.2	7.2	45.4	376
2/9/2018	Assessment	0.045	72.7	27.6	0.22	7.8	46.6	377
6/4/2018	Assessment	0.081	76.2	28.7	0.24	7.1	43.4	760
8/13/2018	Assessment	0.051	81.1	29.0	0.22	6.6	41.5	382
9/25/2018	Assessment	0.056	78.9	29.8	0.23	6.8	41.9	398
10/30/2018	Assessment	0.07 J	81.7	29.2	0.23	7.8	41.9	392
11/12/2018	Assessment	0.07 J	82.7	29.9	0.24	6.8	41.9	364
5/20/2019	Assessment	0.02 J	73.2	28.8	0.21	6.9	44.5	376
6/25/2019	Assessment	0.02 J	74.7	28.5	0.20	7.3	44.7	376
9/10/2019	Assessment	< 0.02 U	80.2	28.9	0.24	7.1	43.6	384
3/11/2020	Assessment	--	--	--	0.22	7.1	--	--
5/21/2020	Assessment	< 0.02 U	83.3	29.7	0.25	7.1	44.1	376
11/17/2020	Assessment	< 0.02 U	76.5	29	0.23	6.8	41.6	394

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1702I

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/9/2018	Assessment	0.05 J	42.3	109	0.007 J	0.01 J	1.49	2.15	1.324	0.22	0.337	0.004	< 0.002 U	7.9	0.1	0.04 J
6/4/2018	Assessment	0.07	28.1	109	0.007 J	0.06	0.129	1.29	1.969	0.24	0.247	0.009	< 0.002 U	1.91	0.08 J	0.054
8/13/2018	Assessment	0.10	28.9	102	0.004 J	0.02 J	0.146	1.35	1.243	0.22	0.074	0.002	--	1.89	0.05 J	0.102
9/25/2018	Assessment	0.44	39.6	114	< 0.004 U	0.01 J	0.050	1.70	0.3854	0.23	0.087	0.003	--	2.04	0.04 J	0.05 J
10/30/2018	Assessment	0.14	43	113	< 0.02 U	0.22	0.1 J	1.57	1.364	0.23	0.129	< 0.009 U	--	2 J	0.05 J	< 0.1 U
11/12/2018	Assessment	0.18	37.3	109	< 0.02 U	0.05	0.1 J	1.52	0.746	0.24	0.09 J	< 0.009 U	--	2 J	0.04 J	< 0.1 U
5/20/2019	Assessment	0.07 J	49.5	115	< 0.02 U	0.01 J	0.05 J	1.43	1.519	0.21	0.05 J	< 0.009 U	< 0.002 U	2 J	0.05 J	< 0.1 U
6/25/2019	Assessment	0.07 J	54.1	114	< 0.02 U	0.02 J	0.07 J	1.78	0.467	0.20	0.1 J	0.02 J	< 0.002 U	2 J	0.07 J	< 0.1 U
9/10/2019	Assessment	0.08 J	55.8	112	< 0.02 U	< 0.01 U	0.1 J	1.60	0.584	0.24	0.06 J	0.00469	< 0.002 U	2.03	< 0.03 U	< 0.1 U
3/11/2020	Assessment	0.12	67.5	121	< 0.02 U	0.13	0.852	3.15	1.081	0.22	0.678	0.00453	< 0.002 U	2 J	0.1 J	< 0.1 U
5/21/2020	Assessment	0.08 J	38.7	108	< 0.02 U	0.02 J	0.2 J	1.53	1.589	0.25	0.1 J	0.00415	< 0.002 U	2 J	0.06 J	< 0.1 U
11/17/2020	Assessment	0.12	65.4	113	< 0.02 U	0.05	0.204	1.66	1.671	0.23	0.1 J	0.00429	< 0.002 U	2 J	< 0.03 U	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

pCi/L: picocuries per liter

Table 1 - Groundwater Data Summary: MW-1702S**Rockport - BAP
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
12/12/2017	Detection	0.051	33.6	13.4	0.49	7.3	22.7	254
2/9/2018	Assessment	0.042	29.7	14	0.62	7.9	22.2	281
6/4/2018	Assessment	0.059	38.4	14.4	0.57	7.0	26.7	276
8/13/2018	Assessment	0.057	36.9	13.6	0.55	6.3	22.0	272
9/25/2018	Assessment	0.041	36.2	14.1	0.54	6.6	20.7	266
10/30/2018	Assessment	0.09 J	34.9	14.1	0.61	7.5	17.1	256
11/12/2018	Assessment	0.1 J	41.5	14.5	0.56	6.8	21.5	246
5/20/2019	Assessment	0.03 J	27.1	14.7	0.70	6.8	20.8	272
6/25/2019	Assessment	0.04 J	36.7	14.6	0.59	7.2	22.3	284
9/10/2019	Assessment	0.04 J	35.6	16.5	0.63	6.7	19.2	284
3/11/2020	Assessment	--	--	--	0.63	7.2	--	--
5/21/2020	Assessment	0.03 J	37.2	14.3	0.67	7.0	23.0	276
11/17/2020	Assessment	0.04 J	32.7	13.9	0.64	6.5	17.6	259

Notes:

mg/L: milligrams per liter

SU: standard unit

<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

Table 1 - Groundwater Data Summary: MW-1702S

Rockport - BAP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
2/9/2018	Assessment	0.05 J	0.72	9.81	< 0.004 U	0.006 J	0.212	0.258	0.00483	0.62	0.223	< 0.0002 U	< 0.002 U	1.09	1.1	0.01 J
6/4/2018	Assessment	0.05 J	0.45	7.67	< 0.004 U	0.04	0.124	0.07	1.231	0.57	0.077	0.006	< 0.002 U	1.42	3.8	0.01 J
8/13/2018	Assessment	0.13	0.47	7.14	0.005 J	0.05	0.175	0.173	0.1628	0.55	0.188	< 0.0002 U	--	1.15	1.8	0.03 J
9/25/2018	Assessment	0.08	0.44	5.97	< 0.004 U	0.008 J	0.130	0.104	0.421	0.54	0.079	< 0.0002 U	--	1.20	1.2	< 0.01 U
10/30/2018	Assessment	0.05 J	0.48	5.5	< 0.02 U	0.11	0.2 J	0.05 J	0.0859	0.61	0.08 J	< 0.009 U	--	1 J	1	< 0.1 U
11/12/2018	Assessment	0.04 J	0.42	6.27	< 0.02 U	0.03 J	0.2 J	0.272	0.107	0.56	0.229	< 0.009 U	--	1 J	1.5	< 0.1 U
5/20/2019	Assessment	0.09 J	0.45	5.92	< 0.02 U	0.28	0.475	0.058	0.56253	0.70	0.373	< 0.009 U	< 0.002 U	1 J	1.5	< 0.1 U
6/25/2019	Assessment	< 0.1 U	0.4 J	5.71	< 0.1 U	< 0.05 U	0.2 J	< 0.1 U	0.357	0.59	< 0.1 U	< 0.009 U	< 0.002 U	< 2 U	2.4	< 0.5 U
9/10/2019	Assessment	0.08 J	0.43	4.87	< 0.02 U	0.01 J	0.215	0.096	0.2432	0.63	0.1 J	0.00127	< 0.002 U	1 J	1.3	< 0.1 U
3/11/2020	Assessment	0.04 J	0.42	4.46	< 0.02 U	0.01 J	0.335	0.03 J	1.1358	0.63	< 0.05 U	0.00128	< 0.002 U	1 J	1.8	< 0.1 U
5/21/2020	Assessment	0.03 J	0.37	4.79	< 0.02 U	< 0.01 U	0.208	< 0.02 U	1.14	0.67	< 0.05 U	0.00106	< 0.002 U	1 J	1.8	< 0.1 U
11/17/2020	Assessment	0.07 J	0.37	4.22	< 0.02 U	0.05 J	0.278	0.03 J	1.17	0.64	< 0.05 U	0.00116	< 0.002 U	1 J	1.3	< 0.1 U

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

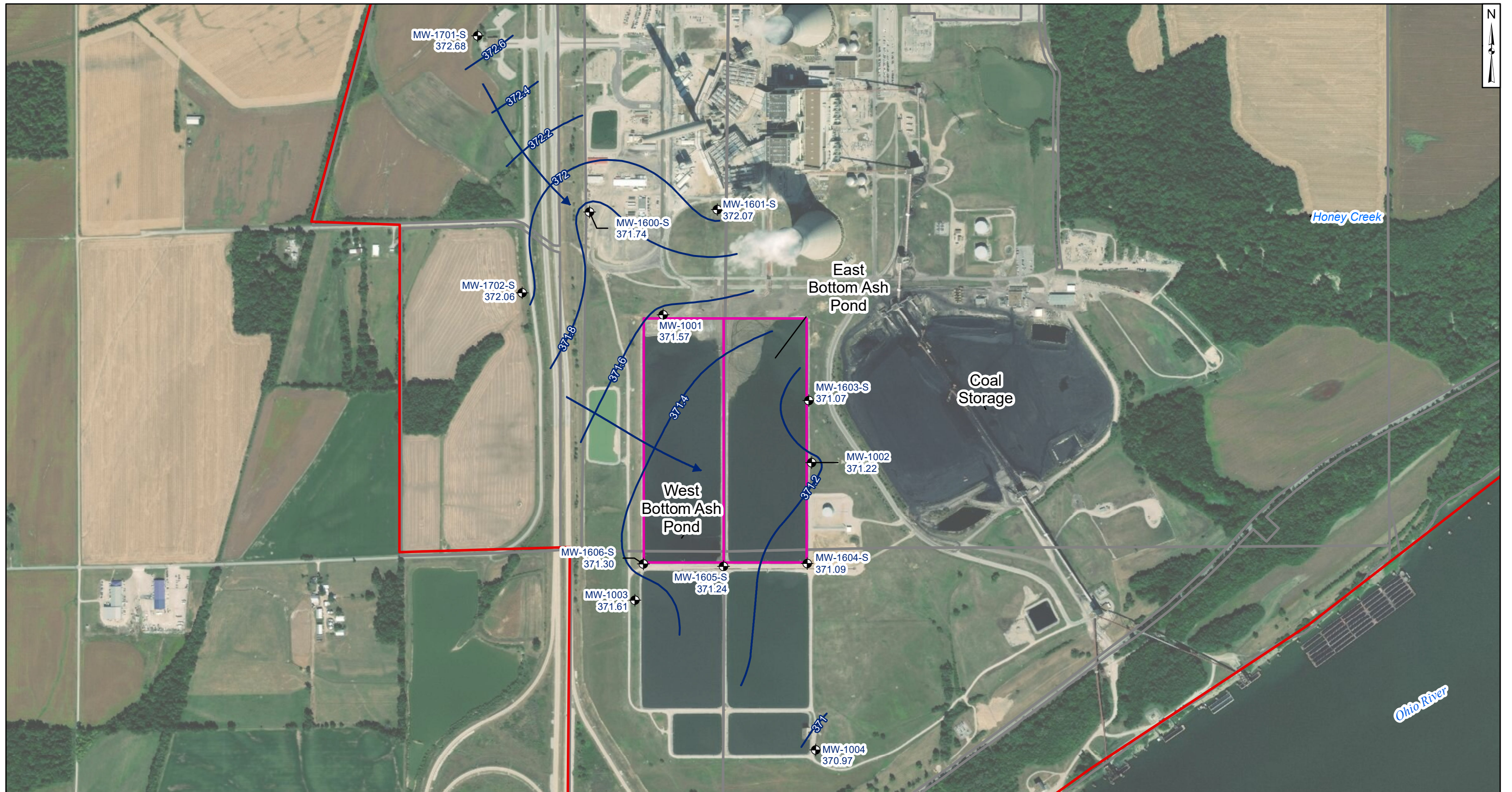
<: Non-detect value. Parameters which were not detected are shown as less than the method detection limit (MDL) followed by a 'U' flag.

J: Estimated value. Parameter was detected at concentration below the reporting limit

--: Not analyzed

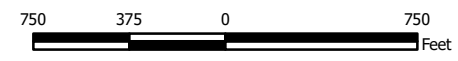
pCi/L: picocuries per liter

Groundwater Flow Direction Maps

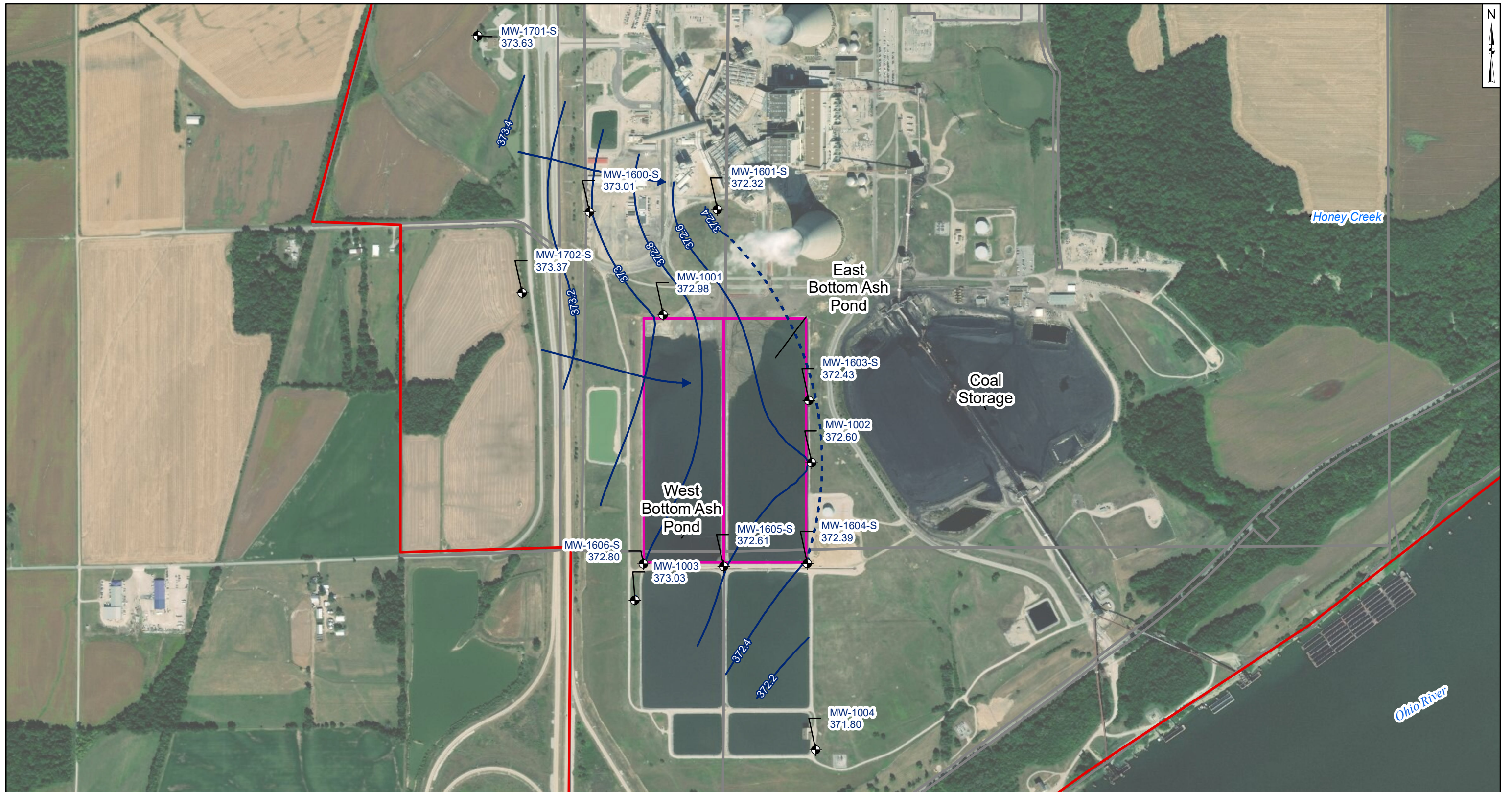


- Legend**
- Groundwater Monitoring Well
 - Approximate Groundwater Flow Direction
 - Groundwater Elevation Contour
 - Property Boundary
 - Parcel Boundaries
 - Bottom Ash Ponds

- Notes**
- Monitoring well coordinates and water level data (collected on March 9, 2020) provided by AEP.
 - Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.
 - Property and parcel boundaries taken from Spencer County Assessor.
 - Only shallow screened wells were used for generating groundwater contours.
 - Groundwater elevation units are feet above mean sea level.



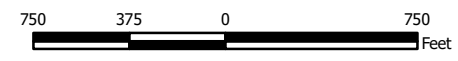
Potentiometric Surface Map - Uppermost Aquifer March 2020	
AEP-Rockport Power Plant - Bottom Ash Ponds Rockport, Indiana	
Columbus, Ohio	2020/06/12
Figure 2	



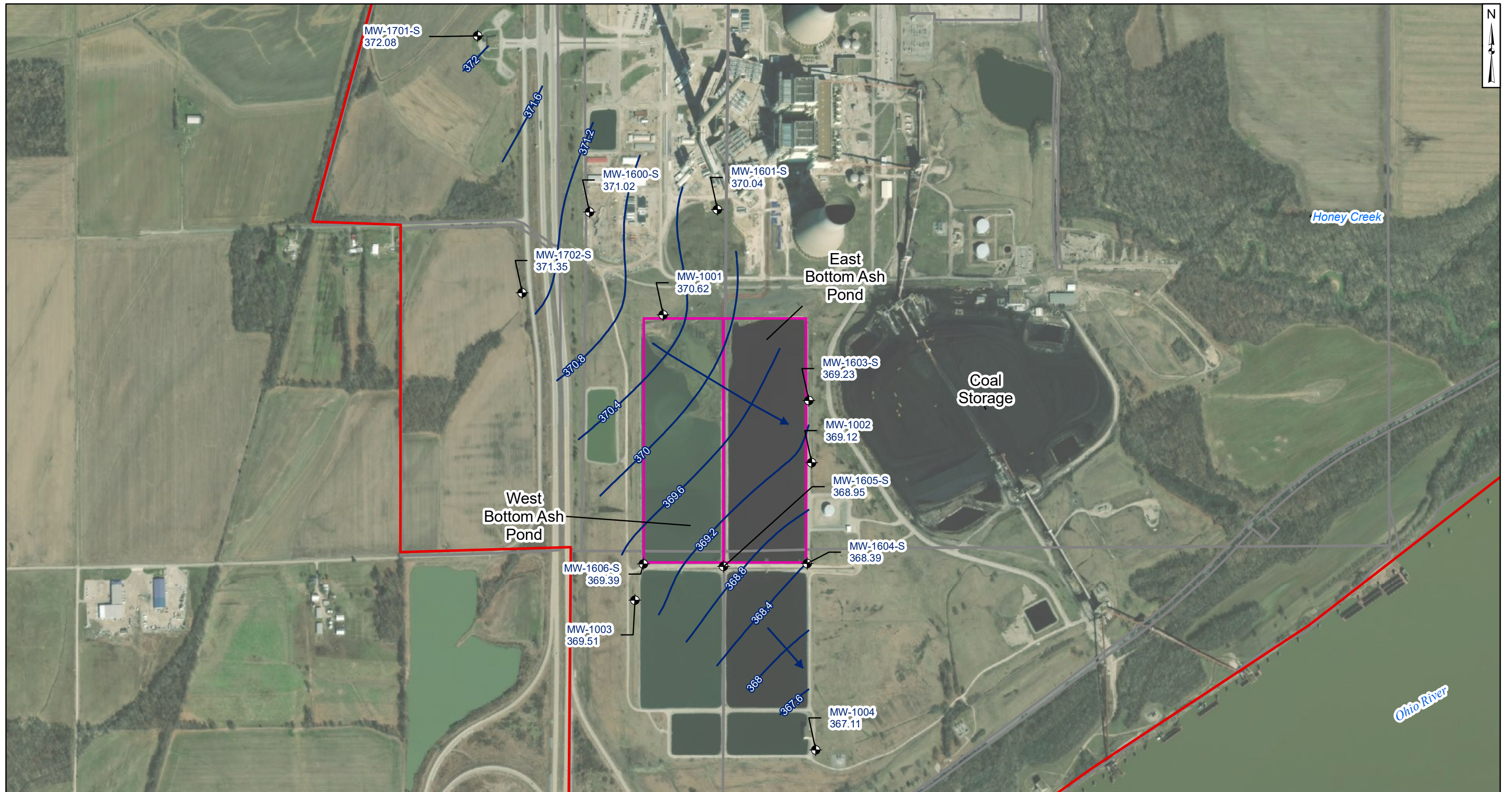
- Legend**
- Groundwater Monitoring Well
 - Groundwater Elevation Contour (Inferred)
 - Approximate Groundwater Flow Direction
 - Groundwater Elevation Contour
 - Property Boundary
 - Parcel Boundaries
 - Bottom Ash Ponds

Notes:

- Monitoring well coordinates and water level data (collected on May 18, 2020) provided by AEP.
- Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.
- Property and parcel boundaries taken from Spencer County Assessor.
- Only shallow screened wells were used for generating groundwater contours.
- Groundwater elevation units are feet above mean sea level.



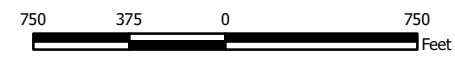
Potentiometric Surface Map - Uppermost Aquifer May 2020	
AEP-Rockport Power Plant - Bottom Ash Ponds Rockport, Indiana	
Columbus, Ohio	2020/06/19
Figure 3	



- Legend**
- ⊕ Groundwater Monitoring Well
 - - - Groundwater Elevation Contour (Inferred)
 - ➔ Approximate Groundwater Flow Direction
 - Groundwater Elevation Contour
 - ▭ Property Boundary
 - ▭ Parcel Boundaries
 - ▭ Bottom Ash Ponds

Notes:

- Monitoring well coordinates and water level data (collected on November 10, 2020) provided by AEP.
- Site features based on information available in the Groundwater Monitoring Network Evaluation (AMEC, 2016) provided by AEP.
- Property and parcel boundaries taken from Spencer County Assessor.
- Only shallow screened wells were used for generating groundwater contours.
- Groundwater elevation units are feet above mean sea level.



**Potentiometric Surface Map - Uppermost Aquifer
November 2020**

AEP-Rockport Power Plant - Bottom Ash Ponds
Rockport, Indiana

Geosyntec
consultants

Figure

4

Columbus, Ohio

2021/01/14

Groundwater Flow Velocity Calculations

**Table 2: Residence Time Calculation Summary
Rockport - Bottom Ash Ponds**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2016-06		2016-07		2016-09		2016-11	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Ponds	MW-1600D ^[1]	2.0	119	0.51	21.6	2.8	110	0.56	106	0.57
	MW-1600I ^[1]	2.0	369	0.16	259	0.23	285	0.21	186	0.33
	MW-1600S ^[1]	2.0	239	0.25	367	0.17	351	0.17	346	0.18
	MW-1601D ^[1]	2.0	338	0.18	503	0.12	360	0.17	439	0.14
	MW-1601I ^[1]	2.0	240	0.25	401	0.15	83	0.73	362	0.17
	MW-1601S ^[1]	2.0	53	1.1	244	0.25	499	0.12	200	0.30
	MW-1002 ^[2]	2.0	715	0.09	865	0.07	759	0.08	1,058	0.06
	MW-1602D ^[2]	2.0	329	0.19	234	0.26	45	1.4	216	0.28
	MW-1602I ^[2]	2.0	429	0.14	491	0.12	335	0.18	691	0.09
	MW-1603D ^[2]	2.0	769	0.08	269	0.23	155	0.39	1,138	0.05
	MW-1603I ^[2]	2.0	96	0.63	528	0.12	494	0.12	650	0.09
	MW-1603S ^[2]	2.0	48	1.3	538	0.11	484	0.13	813	0.07
	MW-1604D ^[2]	2.0	441	0.14	376	0.16	378	0.16	442	0.14
	MW-1604I ^[2]	2.0	486	0.13	474	0.13	318	0.19	596	0.10
	MW-1604S ^[2]	2.0	477	0.13	474	0.13	556	0.11	618	0.10
	MW-1605D ^[2]	2.0	617	0.10	713	0.09	750	0.08	711	0.09
	MW-1605I ^[2]	2.0	372	0.16	370	0.16	300	0.20	339	0.18
	MW-1605S ^[2]	2.0	408	0.15	480	0.13	506	0.12	452	0.13
	MW-1606D ^[2]	2.0	417	0.15	464	0.13	431	0.14	386	0.16
	MW-1606I ^[2]	2.0	427	0.14	464	0.13	453	0.13	405	0.15
MW-1606S ^[2]	2.0	385	0.16	377	0.16	295	0.21	313	0.19	

**Table 2: Residence Time Calculation Summary
Rockport - Bottom Ash Ponds**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2017-01		2017-03		2017-05		2017-07		2017-10	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Ponds	MW-1600D ^[1]	2.0	50	1.2	176	0.35	93	0.66	228	0.27	293	0.21
	MW-1600I ^[1]	2.0	199	0.31	257	0.24	23.2	2.6	282	0.22	414	0.15
	MW-1600S ^[1]	2.0	299	0.20	286	0.21	278	0.22	315	0.19	475	0.13
	MW-1601D ^[1]	2.0	328	0.19	178	0.34	237	0.26	311	0.20	146	0.42
	MW-1601I ^[1]	2.0	202	0.30	190	0.32	75	0.81	292	0.21	379	0.16
	MW-1601S ^[1]	2.0	50	1.2	71	0.85	151	0.40	165	0.37	583	0.10
	MW-1002 ^[2]	2.0	826	0.07	16.4	3.7	451	0.13	860	0.07	40,365	0.002
	MW-1602D ^[2]	2.0	535	0.11	287	0.21	100	0.61	89	0.68	5,175	0.01
	MW-1602I ^[2]	2.0	616	0.10	296	0.21	50	1.2	415	0.15	518	0.12
	MW-1603D ^[2]	2.0	660	0.09	1,630	0.04	13.5	4.5	538	0.11	734	0.08
	MW-1603I ^[2]	2.0	406	0.15	210	0.29	162	0.38	293	0.21	286	0.21
	MW-1603S ^[2]	2.0	127	0.48	294	0.21	135	0.45	326	0.19	304	0.20
	MW-1604D ^[2]	2.0	283	0.21	293	0.21	241	0.25	600	0.10	155	0.39
	MW-1604I ^[2]	2.0	324	0.19	108	0.56	232	0.26	423	0.14	465	0.13
	MW-1604S ^[2]	2.0	315	0.19	249	0.24	218	0.28	459	0.13	465	0.13
	MW-1605D ^[2]	2.0	1,261	0.05	406	0.15	443	0.14	622	0.10	749	0.08
	MW-1605I ^[2]	2.0	578	0.11	102	0.60	159	0.38	266	0.23	657	0.09
	MW-1605S ^[2]	2.0	762	0.08	61	1.0	230	0.26	355	0.17	461	0.13
	MW-1606D ^[2]	2.0	509	0.12	171	0.36	228	0.27	370	0.16	654	0.09
	MW-1606I ^[2]	2.0	519	0.12	156	0.39	237	0.26	409	0.15	654	0.09
MW-1606S ^[2]	2.0	453	0.13	15.6	3.9	210	0.29	273	0.22	218	0.28	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Bottom Ash Ponds**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2018-06		2018-08	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Ponds	MW-1600D ^[1]	2.0	283	0.21	214	0.28
	MW-1600I ^[1]	2.0	338	0.18	326	0.19
	MW-1600S ^[1]	2.0	711	0.09	382	0.16
	MW-1601D ^[1]	2.0	303	0.20	2,723	0.02
	MW-1601I ^[1]	2.0	36	1.70	1,914	0.03
	MW-1601S ^[1]	2.0	286	0.21	294	0.21
	MW-1002 ^[2]	2.0	347	0.18	590	0.10
	MW-1602D ^[2]	2.0	220	0.28	238	0.26
	MW-1602I ^[2]	2.0	149	0.41	386	0.16
	MW-1603D ^[2]	2.0	224	0.27	119	0.51
	MW-1603I ^[2]	2.0	69	0.88	199	0.31
	MW-1603S ^[2]	2.0	69	0.88	71	0.86
	MW-1604D ^[2]	2.0	284	0.21	1,040	0.06
	MW-1604I ^[2]	2.0	427	0.14	676	0.09
	MW-1604S ^[2]	2.0	379	0.16	728	0.08
	MW-1605D ^[2]	2.0	908	0.07	196	0.31
	MW-1605I ^[2]	2.0	738	0.08	980	0.06
	MW-1605S ^[2]	2.0	341	0.18	588	0.10
	MW-1606D ^[2]	2.0	377	0.16	550	0.11
	MW-1606I ^[2]	2.0	468	0.13	640	0.10
MW-1606S ^[2]	2.0	347	0.18	486	0.13	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Bottom Ash Ponds**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2019-05		2019-06		2019-09	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Ponds	MW-1600D ^[1]	2.0	94	0.65	371	0.16	22	2.7
	MW-1600I ^[1]	2.0	228	0.27	482	0.13	289	0.21
	MW-1600S ^[1]	2.0	295	0.21	549	0.11	511	0.12
	MW-1601D ^[1]	2.0	166	0.37	293	0.21	430	0.14
	MW-1601I ^[1]	2.0	300	0.20	407	0.15	502	0.12
	MW-1601S ^[1]	2.0	517	0.12	603	0.10	662	0.09
	MW-1002 ^[2]	2.0	223	0.27	303	0.20	564	0.11
	MW-1602D ^[2]	2.0	2,786	0.02	780	0.08	771	0.08
	MW-1602I ^[2]	2.0	1,671	0.04	589	0.10	674	0.09
	MW-1603D ^[2]	2.0	569	0.11	180	0.34	209	0.29
	MW-1603I ^[2]	2.0	399	0.15	1,981	0.03	237	0.26
	MW-1603S ^[2]	2.0	399	0.15	1,889	0.03	279	0.22
	MW-1604D ^[2]	2.0	451	0.13	940	0.06	820	0.07
	MW-1604I ^[2]	2.0	400	0.15	646	0.09	763	0.08
	MW-1604S ^[2]	2.0	389	0.16	352	0.17	660	0.09
	MW-1605D ^[2]	2.0	586	0.10	594	0.10	224	0.27
	MW-1605I ^[2]	2.0	358	0.17	291	0.21	863	0.07
	MW-1605S ^[2]	2.0	402	0.15	349	0.17	703	0.09
	MW-1606D ^[2]	2.0	370	0.16	345	0.18	668	0.09
	MW-1606I ^[2]	2.0	347	0.18	249	0.24	739	0.08
MW-1606S ^[2]	2.0	303	0.20	287	0.21	528	0.12	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

**Table 2: Residence Time Calculation Summary
Rockport - Bottom Ash Ponds**

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2020-03		2020-05		2020-11	
			Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Ponds	MW-1600D ^[1]	2.0	1,603	0.04	128	0.47	63	0.96
	MW-1600I ^[1]	2.0	1,042	0.06	256	0.24	360	0.17
	MW-1600S ^[1]	2.0	481	0.13	337	0.18	465	0.13
	MW-1601D ^[1]	2.0	3,602	0.02	1,538	0.04	114	0.53
	MW-1601I ^[1]	2.0	4,503	0.01	577	0.11	305	0.20
	MW-1601S ^[1]	2.0	420	0.14	513	0.12	686	0.09
	MW-1002 ^[2]	2.0	193	0.31	1,428	0.04	353	0.17
	MW-1602D ^[2]	2.0	1,932	0.03	500	0.12	1,899	0.03
	MW-1602I ^[2]	2.0	1,063	0.06	214	0.28	1,016	0.06
	MW-1603D ^[2]	2.0	762	0.08	600	0.10	817	0.07
	MW-1603I ^[2]	2.0	367	0.17	172	0.35	577	0.11
	MW-1603S ^[2]	2.0	367	0.17	292	0.21	577	0.11
	MW-1604D ^[2]	2.0	287	0.21	307	0.20	886	0.07
	MW-1604I ^[2]	2.0	202	0.30	263	0.23	695	0.09
	MW-1604S ^[2]	2.0	186	0.33	230	0.26	713	0.09
	MW-1605D ^[2]	2.0	602	0.10	1,004	0.06	863	0.07
	MW-1605I ^[2]	2.0	86	0.71	244	0.25	609	0.10
	MW-1605S ^[2]	2.0	86	0.71	185	0.33	698	0.09
	MW-1606D ^[2]	2.0	453	0.13	250	0.24	523	0.12
	MW-1606I ^[2]	2.0	323	0.19	176	0.35	544	0.11
MW-1606S ^[2]	2.0	647	0.09	185	0.33	397	0.15	

Notes:

[1] - Upgradient Well

[2] - Downgradient Well

APPENDIX 2 – Statistical Analyses

The memorandums summarizing the statistical evaluation follow.

STATISTICAL ANALYSIS SUMMARY
BOTTOM ASH POND
Rockport Plant
Rockport, Indiana

Submitted to



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Columbus, Ohio 43215-2372

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CHA8473

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LIST OF ATTACHMENTS

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

LIST OF ACRONYMS AND ABBREVIATIONS

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

SECTION 1

EXECUTIVE SUMMARY

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

Based on detection monitoring conducted in 2017 and 2018, statistically significant increases (SSIs) over background were concluded for boron, chloride, fluoride, total dissolved solids (TDS), and sulfate at the BAP. An alternative source was not identified at the time, so the BAP has been in assessment monitoring since 2018. During the most recent assessment monitoring event, completed in July 2019, Appendix III detections of boron, calcium, chloride, fluoride, sulfate, and TDS were observed above background levels and the unit remained in assessment monitoring (Geosyntec, 2019). Two assessment monitoring events were conducted at the BAP in March 2020 and May 2020, in accordance with 40 CFR 257.95. The statistical summary of the results of these assessment sampling events are documented in this report.

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

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. Groundwater protection standards (GWPSs) were re-established for the Appendix IV parameters. Confidence intervals were calculated for Appendix IV parameters at the compliance wells to assess whether any were present at concentrations above the GWPSs. No statistically significant levels (SSLs) were identified; however, concentrations of Appendix III parameters remained above background. Thus, the unit will remain in assessment monitoring. Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

SECTION 2

BOTTOM ASH POND EVALUATION

2.1 Data Validation & QA/QC

During the assessment monitoring program, two sets of samples were collected for analysis from each upgradient and downgradient well to meet the requirements of 40 CFR 257.95(b) (March 2020) and 257.95(d)(1) (May 2020). Samples from the May 2020 sample event were analyzed for all Appendix III and Appendix IV parameters, whereas samples from the March 2020 event the were analyzed for Appendix IV parameters only. A summary of data collected during these assessment monitoring events may be found in Table 1.

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

The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.9.6.25 statistics software. The export file was checked against the analytical data for transcription errors and completeness. No QA/QC issues were noted which would impact data usability.

2.2 Statistical Analysis

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

The data obtained in March and May 2020 were screened for potential outliers; however, no outliers were identified in either set of data (Attachment B).

2.2.1 Establishment of GWPSs

A GWPS was established for each Appendix IV parameter in accordance with 40 CFR 257.95(h) and the *Statistical Analysis Plan* (AEP, 2017). The established GWPS was determined to be the greater value of the background concentration and the maximum contaminant level (MCL) or risk-based level specified in 40 CFR 257.95(h)(2) for each Appendix IV parameter. To determine background concentrations, an upper tolerance limit (UTL) was calculated using pooled data from the background wells collected during the background monitoring and assessment monitoring events. When applicable, tolerance limits were calculated parametrically with 95% coverage and

95% confidence. Non-parametric tolerance limits were calculated for antimony, arsenic, barium, cadmium, chromium, cobalt, fluoride, lead, lithium, molybdenum, and selenium due to apparent non-normal distributions. Non-parametric tolerance limits were calculated for beryllium, mercury, and thallium because greater than 50% of the data was non-detect results. Tolerance limits and the final GWPSs are summarized in Table 2.

2.2.2 Evaluation of Potential Appendix IV SSLs

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

No SSLs were identified at the Rockport BAP.

2.2.3 Evaluation of Potential Appendix III SSIs

The Appendix III results were analyzed to assess whether concentrations of Appendix III parameters at the compliance wells exceeded background concentrations. Data collected during the May 2020 assessment monitoring events from each compliance well were compared to the prediction limits to assess whether the results are above background values. The results from these events and the prediction limits are summarized in Table 3. The following exceedances of the upper prediction limits (UPLs) were noted:

- Boron concentrations exceeded the interwell UPL of 0.135 mg/L at MW-1002 (0.778 mg/L), MW-1630S (0.826 mg/L), MW-1604I (0.324 mg/L), MW-1604S (0.544 mg/L), and MW-1605S (0.501 mg/L).
- Calcium concentrations exceeded the intrawell UPL of 87.8 mg/L at MW-1602I (113 mg/L), and the intrawell UPL of 81.4 mg/L at MW-1606D (89.7 mg/L).
- Chloride concentrations exceeded the interwell UPL of 46.4 mg/L at MW-1602D (62.8 mg/L), MW-1602I (79.0 mg/L), and MW-1605S (55.5 mg/L).
- Fluoride concentrations exceeded the interwell UPL of 0.700 mg/L at MW-1002D (0.85 mg/L), MW-1603S (0.77 mg/L), and MW-1604S (1.26 mg/L). pH values exceeded the intrawell UPL of 7.9 SU for MW-1604S (8.1 SU).
- pH values exceeded the intrawell UPL of 7.9 SU at MW-1604S (8.1 SU).
- Sulfate concentrations exceeded the interwell UPL of 76.0 mg/L at MW-1002 (97.5 mg/L), MW-1602 (177 mg/L), MW-1603S (88.3 mg/L), MW-1604I (118 mg/L), MW-1604S (99.7 mg/L), MW-1605I (109 mg/L) and at MW-1605S (195 mg/L).

- TDS concentrations exceeded the interwell UPL of 465 mg/L at MW-1602I (627 mg/L), MW-1604I (496 mg/L), MW-1605I (476 mg/L), and MW-1605S (656 mg/L).

Additionally, the following decreases below the lower prediction limit (LPL) for pH were noted:

- pH values were below the intrawell UPL of 6.1SU for MW-1002 (5.9 SU), the intrawell UPL of 7.0 SU for MW-1604D (6.8 SU), and the intrawell UPL of 7.1 SU for MW-1605S (6.9 SU).

While the prediction limits were calculated for a one-of-two retesting procedure, SSIs were conservatively assumed if the May 2020 sample was above the UPL or below the LPL. Based on this evaluation, concentrations of Appendix III constituents appear to be above background concentrations and the unit will remain in assessment monitoring.

2.3 Conclusions

A semi-annual assessment monitoring event was conducted in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC issues identified that impacted data usability. A review of outliers identified no potential outliers in the 2020 data. GWPSs were re-established for the Appendix IV parameters. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval exceeded the GWPSs. No SSLs were identified.

The Appendix III results were evaluated to assess whether concentrations of Appendix III parameters exceeded background levels. Boron, calcium, chloride, fluoride, pH, sulfate, and TDS results exceeded background levels at select downgradient wells.

Based on this evaluation, the Rockport BAP CCR unit will remain in assessment monitoring.

SECTION 3

REFERENCES

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

Geosyntec Consultants (Geosyntec). 2019. Statistical Analysis Summary – Bottom Ash Pond, Rockport Plant, Rockport, Indiana. December 19, 2019.

TABLES

**Table 1 - Groundwater Data Summary
Rockport Plant - Bottom Ash Pond**

Parameter	Unit	MW-1002		MW-1600D		MW-1600I		MW-1600S		MW-1601D		MW-1601I	
		3/11/2020	5/20/2020	3/11/2020	5/21/2020	3/11/2020	5/21/2020	3/11/2020	5/21/2020	3/11/2020	5/21/2020	3/11/2020	5/21/2020
Antimony	µg/L	0.1 U	0.04 J	0.1 U	0.1 U	0.1 U	0.03 J	0.1 U	0.02 J	0.1 U	0.1 U	0.1 U	0.1 U
Arsenic	µg/L	0.21	0.19	15.3	25.3	16.8	17.9	0.40	0.40	10.7	10.9	17.4	17.2
Barium	µg/L	15.9	16.0	880	882	715	707	22.1	23.2	575	670	621	608
Beryllium	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Boron	mg/L	-	0.778	-	0.05 U	-	0.02 J	-	0.04 J	-	0.02 J	-	0.02 J
Cadmium	µg/L	0.02 J	0.04 J	0.05 U	0.05 U	0.01 J	0.08	0.05 U	0.09	0.05 U	0.05 J	0.05 U	0.05 U
Calcium	mg/L	-	42.0	-	91.1	-	82.5	-	66.6	-	88.5	-	87.8
Chloride	mg/L	-	35.9	-	31.0	-	25.7	-	30.7	-	32.4	-	31.5
Chromium	µg/L	0.2 U	0.09 J	0.2 J	0.1 J	0.2 J	0.205	0.1 J	0.2 J	0.1 J	0.1 J	0.1 J	0.1 J
Cobalt	µg/L	0.608	0.342	0.081	0.090	1.22	1.32	0.04 J	0.05 J	0.059	0.077	1.23	1.26
Combined Radium	pCi/L	1.96	0.999	2.38	1.46	2.22	2.90	0.22	0.662	0.789	1.67	1.2	0.90
Fluoride	mg/L	0.84	0.85	0.21	0.24	0.22	0.25	0.42	0.45	0.17	0.20	0.23	0.26
Lead	µg/L	0.2 U	0.2 U	0.2 U	0.06 J	0.1 J	0.201	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Lithium	mg/L	0.00425	0.00316	0.00573	0.00535	0.00677	0.00643	0.0126	0.0135	0.00170	0.00265	0.00646	0.00621
Mercury	µg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Molybdenum	µg/L	8.51	9.65	2 J	2 J	1 J	2 J	0.5 J	0.4 J	2.77	2.12	2 J	2.10
Selenium	µg/L	0.1 J	0.07 J	0.2 U	0.06 J	0.2 U	0.2 U	0.4	0.4	0.04 J	0.2 U	0.2 U	0.2 U
Sulfate	mg/L	-	97.5	-	43.3	-	51.8	-	53.8	-	41.3	-	52.1
Thallium	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Dissolved Solids	mg/L	-	295	-	396	-	406	-	412	-	409	-	435
pH	SU	6.5	5.9	6.9	7.6	6.9	7.1	6.5	7.2	6.9	7.1	6.9	6.8

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.

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

-: Not analyzed

**Table 1 - Groundwater Data Summary
Rockport Plant - Bottom Ash Pond**

Parameter	Unit	MW-1601S		MW-1602D		MW-1602I		MW-1603D		MW-1603I		MW-1603S	
		3/11/2020	5/21/2020	3/11/2020	5/20/2020	3/11/2020	5/20/2020	3/10/2020	5/21/2020	3/10/2020	5/21/2020	3/10/2020	5/21/2020
Antimony	µg/L	0.1 U	0.1 U	0.03 J	0.1 U	0.1 U	0.03 J	0.1 U	0.1 U	0.1 U	0.03 J	0.1 U	0.03 J
Arsenic	µg/L	1.95	1.94	9.56	9.46	22.7	24.6	12.8	13.8	12.1	15.5	0.13	0.11
Barium	µg/L	37.9	36.2	439	412	118	142	120	120	80.3	89.5	10.4	7.53
Beryllium	µg/L	0.1 U	0.1 U	0.05 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Boron	mg/L	-	0.076	-	0.04 J	-	0.114	-	0.04 J	-	0.04 J	-	0.826
Cadmium	µg/L	0.05 U	0.05 U	0.01 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.01 J
Calcium	mg/L	-	82.3	-	74.2	-	113	-	82.2	-	82.4	-	47.5
Chloride	mg/L	-	40.6	-	62.8	-	79.0	-	25.6	-	37.9	-	31.1
Chromium	µg/L	0.2 J	0.227	1.32	0.354	0.2 U	0.09 J	0.07 J	0.275	0.1 J	0.09 J	0.335	0.325
Cobalt	µg/L	0.203	0.053	0.850	0.066	1.36	1.83	0.291	0.280	1.23	1.22	0.055	0.04 J
Combined Radium	pCi/L	1.65	0.084	2.25	0.87	0.616	0.665	1.17	0.721	1.06	1.00	0.489	0.579
Fluoride	mg/L	0.34	0.37	0.33	0.35	0.29	0.30	0.28	0.31	0.45	0.46	0.71	0.77
Lead	µg/L	0.05 J	0.2 U	0.864	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Lithium	mg/L	0.00618	0.00632	0.00291	0.00212	0.00566	0.00620	0.00380	0.00323	0.00720	0.00697	0.00225	0.00179
Mercury	µg/L	0.005 U	0.005 U	0.003 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Molybdenum	µg/L	1 J	1 J	3.13	3.38	2 J	2 J	4.00	3.62	5.52	5.08	2 U	2 U
Selenium	µg/L	0.9	1.5	0.2 J	0.07 J	0.2 U	0.1 J	0.03 J	0.04 J	0.2 U	0.2 U	0.2 J	0.1 J
Sulfate	mg/L	-	58.3	-	23.8	-	177	-	34.0	-	51.0	-	88.3
Thallium	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Dissolved Solids	mg/L	-	462	-	416	-	627	-	400	-	428	-	276
pH	SU	7.1	7.1	7.1	6.8	7.0	7.7	6.7	7.4	7.1	7.7	6.5	7.4

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.

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

-: Not analyzed

**Table 1 - Groundwater Data Summary
Rockport Plant - Bottom Ash Pond**

Parameter	Unit	MW-1604D		MW-1604I		MW-1604S		MW-1605D		MW-1605I		MW-1605S	
		3/11/2020	5/21/2020	3/10/2020	5/21/2020	3/10/2020	5/21/2020	3/9/2020	5/20/2020	3/10/2020	5/20/2020	3/10/2020	5/21/2020
Antimony	µg/L	0.1 U	0.1 U	0.1 U	0.02 J	0.02 J	0.06 J	0.1 U	0.1 U	0.1 U	0.16	0.04 J	0.05 J
Arsenic	µg/L	17.8	17.9	17.5	18.7	0.18	0.20	19.9	20.7	25.7	54.2	1.57	0.59
Barium	µg/L	228	242	96.7	102	13.0	12.9	448	436	149	139	11.9	8.92
Beryllium	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 J	0.1 U
Boron	mg/L	-	0.02 J	-	0.324	-	0.544	-	0.05 U	-	0.097	-	0.501
Cadmium	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.02 J	0.02 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 J	0.04 J
Calcium	mg/L	-	73.9	-	68.1	-	50.2	-	85.0	-	90.1	-	84.7
Chloride	mg/L	-	15.9	-	43.9	-	40.2	-	25.1	-	37.8	-	55.5
Chromium	µg/L	0.09 J	0.2 J	0.09 J	0.09 J	0.1 J	0.1 J	0.1 J	0.1 J	0.1 J	0.227	1.13	0.2 J
Cobalt	µg/L	0.052	0.05 J	0.831	0.763	0.384	0.297	0.069	0.074	1.12	1.26	2.11	0.575
Combined Radium	pCi/L	1.02	1.07	1.00	1.32	0.94	0.996	1.8	2.16	1.6	1.2	1.88	1.01
Fluoride	mg/L	0.26	0.30	0.35	0.40	1.05	1.26	0.20	0.23	0.21	0.23	0.56	0.60
Lead	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 J	0.920	0.2 J
Lithium	mg/L	0.00139	0.00140	0.00775	0.00714	0.00972	0.00689	0.00178	0.00180	0.00517	0.00520	0.0119	0.0113
Mercury	µg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Molybdenum	µg/L	2.22	2.35	2.10	2.19	2.90	3.09	2 J	2.05	1 J	1 J	2 J	1 J
Selenium	µg/L	0.2 U	0.2 U	0.2 U	0.07 J	0.07 J	0.1 J	0.04 J	0.05 J	0.04 J	0.06 J	0.3	0.4
Sulfate	mg/L	-	24.4	-	118	-	99.7	-	45.9	-	109	-	195
Thallium	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Dissolved Solids	mg/L	-	329	-	496	-	405	-	382	-	476	-	656
pH	SU	7.1	6.8	7.2	7.8	7.4	8.1	7.0	6.9	7.1	6.9	6.9	6.9

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.

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

-: Not analyzed

**Table 1 - Groundwater Data Summary
Rockport Plant - Bottom Ash Pond**

Parameter	Unit	MW-1606D		MW-1606I		MW-1606S		MW-1701D		MW-1701I		MW-1701S	
		3/9/2020	5/20/2020	3/9/2020	5/20/2020	3/9/2020	5/20/2020	3/10/2020	5/21/2020	3/10/2020	5/21/2020	3/10/2020	5/21/2020
Antimony	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.04 J	0.1 U	0.1 U	0.20	0.13	0.03 J	0.05 J
Arsenic	µg/L	17.2	17.9	8.69	8.40	0.17	0.20	9.31	9.40	14.3	11.9	0.41	0.39
Barium	µg/L	470	472	65.2	61.8	10.7	13.6	61.4	62.4	46.8	41.9	11.4	10.4
Beryllium	µg/L	0.02 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Boron	mg/L	-	0.03 J	-	0.05 U	-	0.05 J	-	0.02 J	-	0.05 U	-	0.05 U
Cadmium	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.02 J	0.03 J	0.05 U	0.05 U	0.02 J	0.01 J	0.02 J	0.01 J
Calcium	mg/L	-	89.7	-	74.7	-	48.4	-	72.8	-	73.3	-	67.8
Chloride	mg/L	-	29.9	-	19.2	-	25.1	-	14.7	-	13.0	-	21.6
Chromium	µg/L	0.05 J	0.07 J	0.05 J	0.1 J	0.2 J	0.294	0.06 J	0.1 J	0.256	0.2 J	0.2 J	0.1 J
Cobalt	µg/L	0.053	0.063	1.23	1.28	0.05 J	0.081	1.48	1.48	1.42	1.32	0.087	0.075
Combined Radium	pCi/L	0.980	0.939	0.993	0.663	0.00206	0.471	0.546	1.10	1.23	0.943	0.597	0.47
Fluoride	mg/L	0.17	0.20	0.19	0.21	0.58	0.63	0.33	0.36	0.41	0.43	0.39	0.41
Lead	µg/L	0.05 J	0.2 J	0.2 U	0.2 J	0.2 U	0.2 U	0.2 U	0.2 U	0.384	0.276	0.2 U	0.2 U
Lithium	mg/L	0.000659	0.000622	0.00348	0.00326	0.00787	0.00858	0.00654	0.00636	0.00594	0.00549	0.00537	0.00499
Mercury	µg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Molybdenum	µg/L	2 J	2.13	1 J	1 J	1 J	1 J	1 J	1 J	1 J	1 J	0.7 J	0.6 J
Selenium	µg/L	0.2 U	0.09 J	0.05 J	0.03 J	4.4	3.2	0.03 J	0.2 U	0.1 J	0.06 J	0.3	0.3
Sulfate	mg/L	-	30.7	-	43.8	-	46.9	-	43.4	-	39.8	-	19.6
Thallium	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Dissolved Solids	mg/L	-	354	-	340	-	375	-	368	-	349	-	348
pH	SU	6.9	6.9	7.0	6.9	6.8	6.9	7.0	7.5	6.8	7.2	7.1	7.2

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.

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

-: Not analyzed

**Table 1 - Groundwater Data Summary
Rockport Plant - Bottom Ash Pond**

Parameter	Unit	MW-1702D		MW-1702I		MW-1702S	
		3/9/2020	5/21/2020	3/9/2020	5/21/2020	3/9/2020	5/21/2020
Antimony	µg/L	0.02 J	0.08 J	0.12	0.08 J	0.04 J	0.03 J
Arsenic	µg/L	21.2	20.3	67.5	38.7	0.42	0.37
Barium	µg/L	207	199	121	108	4.46	4.79
Beryllium	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Boron	mg/L	-	0.05 U	-	0.05 U	-	0.03 J
Cadmium	µg/L	0.02 J	0.04 J	0.13	0.02 J	0.01 J	0.05 U
Calcium	mg/L	-	88.2	-	83.3	-	37.2
Chloride	mg/L	-	31.5	-	29.7	-	14.3
Chromium	µg/L	0.07 J	0.2 J	0.852	0.2 J	0.335	0.208
Cobalt	µg/L	0.534	0.517	3.15	1.53	0.03 J	0.05 U
Combined Radium	pCi/L	1.10	1.05	1	1.59	1.14	1.14
Fluoride	mg/L	0.19	0.22	0.22	0.25	0.63	0.67
Lead	µg/L	0.2 U	0.2 U	0.678	0.1 J	0.2 U	0.2 U
Lithium	mg/L	0.00430	0.00398	0.00453	0.00415	0.00128	0.00106
Mercury	µg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Molybdenum	µg/L	2 J	2 J	2 J	2 J	1 J	1 J
Selenium	µg/L	0.04 J	0.07 J	0.1 J	0.06 J	1.8	1.8
Sulfate	mg/L	-	39.2	-	44.1	-	23.0
Thallium	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Dissolved Solids	mg/L	-	393	-	376	-	276
pH	SU	7.0	7.1	7.1	7.1	7.2	7.0

Notes:

µg/L: micrograms per liter

mg/L: milligrams per liter

pCi/L: picocuries per liter

SU: standard unit

U: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.

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

-: Not analyzed

**Table 2: Groundwater Protection Standards
Rockport Plant - Bottom Ash Pond**

Constituent Name	MCL	CCR Rule-Specified	Calculated UTL
Antimony, Total (mg/L)	0.006		0.0003
Arsenic, Total (mg/L)	0.01		0.07
Barium, Total (mg/L)	2		1.0
Beryllium, Total (mg/L)	0.004		0.0001
Cadmium, Total (mg/L)	0.005		0.00028
Chromium, Total (mg/L)	0.1		0.0016
Cobalt, Total (mg/L)	n/a	0.006	0.018
Combined Radium, Total (pCi/L)	5		2.5
Fluoride, Total (mg/L)	4		0.70
Lead, Total (mg/L)	n/a	0.015	0.0011
Lithium, Total (mg/L)	n/a	0.04	0.038
Mercury, Total (mg/L)	0.002		0.000005
Molybdenum, Total (mg/L)	n/a	0.1	0.0087
Selenium, Total (mg/L)	0.05		0.0038
Thallium, Total (mg/L)	0.002		0.0005

Notes:

Grey cell indicates calculated UTL is higher than MCL or CCR Rule-specified value.

MCL = Maximum Contaminant Level

Calculated UTL (Upper Tolerance Limit) represents site-specific background values.

The higher of the calculated UTL or MCL/Rule-Specified Level is used as the GWPS.

**Table 3 - Appendix III Data Summary
Rockport - Bottom Ash Pond**

Analyte	Unit	Description	MW-1002	MW-1602D	MW-1602I	MW-1603D	MW-1603I	MW-1603S	MW-1604D	MW-1604I	MW-1604S
			5/20/2020	5/20/2020	5/20/2020	5/21/2020	5/21/2020	5/21/2020	5/21/2020	5/21/2020	5/21/2020
Boron	mg/L	Interwell Background Value (UPL)	0.135								
		Analytical Result	0.778	0.04	0.114	0.04	0.04	0.826	0.02	0.324	0.544
Calcium	mg/L	Intrawell Background Value (UPL)	78.3	79.7	87.8	96.7	104	96.2	76.1	84.4	108
		Analytical Result	42.0	74.2	113	82.2	82.4	47.5	73.9	68.1	50.2
Chloride	mg/L	Interwell Background Value (UPL)	46.4								
		Analytical Result	35.9	62.8	79.0	25.6	37.9	31.1	15.9	43.9	40.2
Fluoride	mg/L	Interwell Background Value (UPL)	0.70								
		Analytical Result	0.85	0.35	0.30	0.31	0.46	0.77	0.30	0.40	1.26
pH	SU	Intrawell Background Value (UPL)	7.8	8.1	7.8	7.4	7.8	7.6	7.4	7.8	7.9
		Intrawell Background Value (LPL)	6.1	6.7	6.8	6.8	6.8	6.4	7.0	7.1	7.1
		Analytical Result	5.9	6.8	7.7	7.4	7.7	7.4	6.8	7.8	8.1
Sulfate	mg/L	Interwell Background Value (UPL)	76.0								
		Analytical Result	97.5	23.8	177	34.0	51.0	88.3	24.4	118	99.7
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	465								
		Analytical Result	295	416	627	400	428	276	329	496	405

Analyte	Unit	Description	MW-1605D	MW-1605I	MW-1605S	MW-1606D	MW-1606I	MW-1606S
			5/20/2020	5/20/2020	5/21/2020	5/20/2020	5/20/2020	5/20/2020
Boron	mg/L	Interwell Background Value (UPL)	0.135					
		Analytical Result	0.02	0.097	0.501	0.03	0.02	0.05
Calcium	mg/L	Intrawell Background Value (UPL)	95.3	104	88.6	81.4	86.3	68.1
		Analytical Result	85.0	90.1	84.7	89.7	74.7	48.4
Chloride	mg/L	Interwell Background Value (UPL)	46.4					
		Analytical Result	25.1	37.8	55.5	29.9	19.2	25.1
Fluoride	mg/L	Interwell Background Value (UPL)	0.70					
		Analytical Result	0.23	0.23	0.60	0.20	0.21	0.63
pH	SU	Intrawell Background Value (UPL)	7.4	7.6	7.7	8.4	8.3	7.8
		Intrawell Background Value (LPL)	6.9	6.9	7.1	6.9	6.4	6.3
		Analytical Result	6.9	6.9	6.9	6.9	6.9	6.9
Sulfate	mg/L	Interwell Background Value (UPL)	76.0					
		Analytical Result	45.9	109	195	30.7	43.8	46.9
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	465					
		Analytical Result	382	476	656	354	340	375

Notes:
 UPL: Upper prediction limit
 LPL: Lower prediction limit
Bold values exceed the background value.
 Background values are shaded gray.

ATTACHMENT A

Certification by Qualified Professional Engineer

Certification by Qualified Professional Engineer

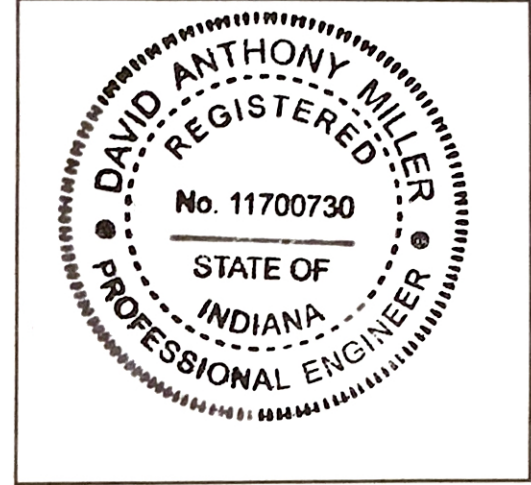
I certify that the selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Rockport Bottom Ash Pond CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



11700730

License Number

INDIANA

Licensing State

09.11.2020

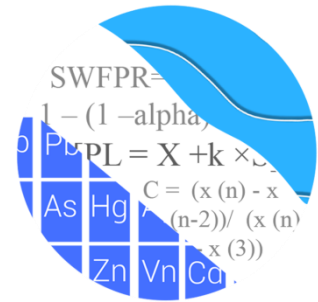
Date

ATTACHMENT B
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

July 9, 2020

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



Re: Rockport Bottom Ash Pond
March 2020 Assessment Monitoring Analysis

Dear Ms. Kreinberg,

Groundwater Stats Consulting (GSC), formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical evaluation of groundwater data for the March 2020 Assessment Monitoring event at American Electric Power Inc.'s Rockport Bottom Ash Pond. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the USEPA Unified Guidance (2009).

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

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

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Groundwater Statistician and Founder of Groundwater Stats Consulting. The statistical analysis was conducted according to the January 2018 screening evaluation prepared by GSC and approved by Dr. Kirk Cameron.

The CCR program consists of the following constituents:

- **Appendix IV** (Assessment Monitoring) – antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Time series plots (Figure A) for all well/constituent pairs are provided and are particularly useful for screening parameters detected in downgradient wells which require statistical analyses. Additionally, a separate section of box plots (Figure B) is included for all constituents at both upgradient and downgradient wells. The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs.

Due to varying detection limits in background data sets due to improved laboratory practices, a substitution of the most recent reporting limit is used for all nondetects. In some cases, the reporting limit provided by the laboratory contained varying limits for a given parameter; therefore, the substitution may differ from well to well. This generally gives the most conservative limit in each case. However, in the time series plots, a single reporting limit substitution is used across all wells for a given parameter since the wells are plotted as a group.

Background Screening Summary – Conducted in December 2019

Background data were screened for outliers and extreme trending patterns that would lead to artificially elevated statistical limits. During the previous screening, Tukey's outlier test identified several values that were flagged accordingly in the database. However, several values were not identified as outliers through Tukey's test, but because they are considerably higher than the other measurements and do not appear to represent the population at their respective well, these values were flagged as outliers and deselected prior to the construction of upper tolerance limits and confidence intervals. Note that the reporting limit during the June 2019 event for molybdenum in many of the wells was 0.01 mg/L, which is higher than the historical reporting limit of 0.002 mg/L, as well as higher than all of the detected values for these wells. This reporting limit was flagged as an outlier. Any flagged values may be seen on the Outlier Summary following this letter (Figure C).

Evaluation of Appendix IV Parameters – March 2020 Sampling Event

Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV parameters (Figure D). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution and use a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) (Figure E).

Confidence intervals were then constructed on downgradient wells for each of the Appendix IV parameters using the highest limit of the MCL, CCR-Rule specified, or background limit as the GWPS, as discussed above (Figure F). Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. No confidence interval exceedances were found for any of the downgradient wells. A summary of the confidence interval results follows this letter.

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

For Groundwater Stats Consulting,



Andrew T. Collins
Groundwater Analyst



Kristina L. Rayner
Groundwater Statistician

Outlier Summary

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:52 PM

Date	MW-1701S Molybdenum, total (mg/L)	MW-1702I Molybdenum, total (mg/L)	MW-1702S Molybdenum, total (mg/L)	MW-1601D Selenium, total (mg/L)	MW-1605S Selenium, total (mg/L)	MW-1701D Thallium, total (mg/L)	MW-1701I Thallium, total (mg/L)	MW-1701S Thallium, total (mg/L)	MW-1702D Thallium, total (mg/L)	MW-1702I Thallium, total (mg/L)
6/7/2016										
6/8/2016										
6/27/2016										
7/20/2016										
10/10/2016										
11/15/2016										
1/10/2017										
3/7/2017										
7/18/2017										
12/12/2017						0.051 (o)	0.04 (o)	0.02 (o)	0.03 (o)	0.04 (o)
2/9/2018	0.0079 (o)									
8/15/2018				0.0054 (o)						
9/25/2018										
5/24/2019			3E-05 (J,o)							
6/25/2019	<0.01 (o)	<0.01 (o)								
6/27/2019										

Date	MW-1702S Thallium, total (mg/L)
6/7/2016	
6/8/2016	
6/27/2016	
7/20/2016	
10/10/2016	
11/15/2016	
1/10/2017	
3/7/2017	
7/18/2017	
12/12/2017	0.01 (o)
2/9/2018	
8/15/2018	
9/25/2018	
5/24/2019	
6/25/2019	
6/27/2019	

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	MW-1002	0.00006	0.00004	0.006	No	15	0.00005333	0.00001496	6.667	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1602D	0.0001	0.00001	0.006	No	15	0.000046	0.00004867	20	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1602I	0.00006378	0.00002612	0.006	No	15	0.00005067	0.00003712	6.667	None	In(x)	0.01	Param.
Antimony, total (mg/L)	MW-1603D	0.0001	0.00001	0.006	No	15	0.000052	0.00004039	33.33	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1603I	0.00008	0.00002	0.006	No	15	0.000048	0.00002678	6.667	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1603S	0.00005592	0.00003597	0.006	No	15	0.00004733	0.00001792	6.667	None	In(x)	0.01	Param.
Antimony, total (mg/L)	MW-1604D	0.0001	0.00001	0.006	No	15	0.00004867	0.00003907	33.33	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1604I	0.00004	0.00002	0.006	No	14	0.00003286	0.00002234	7.143	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1604S	0.00007	0.00005	0.006	No	15	0.00006133	0.00002295	0	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1605D	0.0001	0.00001	0.006	No	15	0.000042	0.0000384	26.67	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1605I	0.00006586	0.00003071	0.006	No	15	0.00005333	0.00003792	13.33	None	In(x)	0.01	Param.
Antimony, total (mg/L)	MW-1605S	0.0001	0.00004	0.006	No	15	0.00005933	0.00003348	0	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606D	0.0001	0.00001	0.006	No	15	0.00005467	0.0000398	40	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606I	0.0001	0.00002	0.006	No	15	0.000046	0.0000346	26.67	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606S	0.0000802	0.00004361	0.006	No	15	0.00006333	0.00002992	13.33	None	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1002	0.00029	0.00021	0.0675	No	15	0.0002533	0.0000623	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1602D	0.009418	0.008307	0.0675	No	15	0.008863	0.0008197	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1602I	0.02788	0.01943	0.0675	No	15	0.02365	0.006231	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603D	0.01269	0.01115	0.0675	No	15	0.01192	0.001132	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603I	0.013	0.0122	0.0675	No	15	0.01284	0.000806	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1603S	0.0002557	0.0001644	0.0675	No	15	0.0002127	0.00007096	0	None	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1604D	0.01866	0.01654	0.0675	No	15	0.01763	0.001609	0	None	In(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1604I	0.0207	0.0185	0.0675	No	15	0.01985	0.002058	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1604S	0.00041	0.00018	0.0675	No	15	0.0002927	0.0001542	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1605D	0.01973	0.01739	0.0675	No	15	0.01856	0.001731	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1605I	0.0257	0.0178	0.0675	No	15	0.02263	0.009264	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1605S	0.00061	0.00036	0.0675	No	13	0.0005423	0.0003286	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1606D	0.01657	0.01389	0.0675	No	15	0.01523	0.001978	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606I	0.007909	0.00476	0.0675	No	15	0.006335	0.002324	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606S	0.00032	0.00019	0.0675	No	15	0.000262	0.0001168	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1002	0.02255	0.0143	2	No	15	0.01877	0.00675	0	None	x^(1/3)	0.01	Param.
Barium, total (mg/L)	MW-1602D	0.4862	0.4139	2	No	15	0.4501	0.05338	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1602I	0.1327	0.1196	2	No	15	0.1261	0.009665	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603D	0.1166	0.1089	2	No	15	0.1127	0.00565	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603I	0.08702	0.08115	2	No	15	0.08409	0.004328	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603S	0.01662	0.01166	2	No	15	0.01414	0.003656	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604D	0.2535	0.233	2	No	15	0.2433	0.0151	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604I	0.1299	0.1112	2	No	15	0.1206	0.0138	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604S	0.0207	0.013	2	No	15	0.01858	0.008195	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1605D	0.459	0.408	2	No	15	0.4335	0.03763	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1605I	0.1634	0.1449	2	No	15	0.1541	0.01361	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1605S	0.0119	0.00776	2	No	15	0.009405	0.002294	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1606D	0.4372	0.3795	2	No	15	0.4083	0.04262	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1606I	0.06965	0.05253	2	No	15	0.06109	0.01263	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1606S	0.01398	0.01075	2	No	15	0.01236	0.002383	0	None	No	0.01	Param.
Beryllium, total (mg/L)	MW-1002	0.0001	0.00002	0.004	No	15	0.000082	0.00003741	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1602D	0.0001	0.000008	0.004	No	15	0.00006127	0.00004409	53.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1602I	0.0001	0.000006	0.004	No	15	0.0000698	0.00004433	66.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603D	0.0001	0.000049	0.004	No	15	0.0000852	0.00003162	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603I	0.0001	0.00002	0.004	No	15	0.00008867	0.00002997	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603S	0.0001	0.00001	0.004	No	15	0.00007653	0.00004036	73.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604D	0.0001	0.00002	0.004	No	15	0.00008827	0.00003111	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604I	0.0001	0.00002	0.004	No	15	0.00008827	0.00003111	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604S	0.0001	0.00002	0.004	No	15	0.0000794	0.00003722	73.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1605D	0.0001	0.00002	0.004	No	15	0.00008867	0.00002997	86.67	None	No	0.01	NP (NDs)

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Beryllium, total (mg/L)	MW-1605I	0.0001	0.00002	0.004	No	15	0.00008187	0.0000377	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1605S	0.0001	0.00002	0.004	No	15	0.00007493	0.0000376	66.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606D	0.0001	0.00001	0.004	No	15	0.00006627	0.00004329	60	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606I	0.0001	0.00002	0.004	No	15	0.00008847	0.00003054	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606S	0.0001	0.00001	0.004	No	15	0.00006487	0.0000448	60	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1002	0.00005	0.00002	0.005	No	15	0.00004133	0.0000327	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1602D	0.00007	0.00002	0.005	No	15	0.00004267	0.0000171	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1602I	0.00005	0.000006	0.005	No	15	0.00002933	0.000021	46.67	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1603D	0.00005	0.00001	0.005	No	15	0.0000384	0.00001775	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1603I	0.00005	0.00001	0.005	No	15	0.0000374	0.00001887	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1603S	0.00005	0.00001	0.005	No	15	0.00002667	0.00001291	6.667	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1604D	0.00005	0.00002	0.005	No	15	0.00004233	0.00001611	80	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1604I	0.00012	0.00002	0.005	No	15	0.00004693	0.00002586	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1604S	0.00003	0.00001	0.005	No	15	0.00002467	0.00001885	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1605D	0.00005	0.00002	0.005	No	15	0.00004507	0.00001329	86.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1605I	0.00005	0.000008	0.005	No	15	0.0000394	0.00001845	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1605S	0.00005	0.00003	0.005	No	15	0.00004267	0.00002154	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1606D	0.00005	0.00002	0.005	No	15	0.00004313	0.0000145	80	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1606I	0.00005	0.00001	0.005	No	15	0.00003927	0.00001873	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1606S	0.00004019	0.00002085	0.005	No	15	0.00003133	0.00001506	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1002	0.0002739	0.0000832	0.1	No	15	0.0002005	0.0001856	6.667	None	x^(1/3)	0.01	Param.
Chromium, total (mg/L)	MW-1602D	0.0005071	0.0001595	0.1	No	15	0.0003585	0.0003188	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1602I	0.0002851	0.0001231	0.1	No	15	0.0002127	0.0001303	6.667	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1603D	0.0002252	0.0001028	0.1	No	14	0.000164	0.00008635	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1603I	0.000743	0.000081	0.1	No	15	0.0003331	0.0003347	0	None	No	0.01	NP (normality)
Chromium, total (mg/L)	MW-1603S	0.0003624	0.0001223	0.1	No	15	0.0002423	0.0001771	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1604D	0.000174	0.00008091	0.1	No	15	0.0001275	0.0000687	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1604I	0.0002147	0.00007866	0.1	No	15	0.0001737	0.0001565	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1604S	0.0002909	0.0000981	0.1	No	15	0.0002325	0.0002066	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605D	0.0002923	0.0001165	0.1	No	15	0.0002147	0.0001502	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605I	0.000214	0.000091	0.1	No	15	0.0002006	0.000282	6.667	None	No	0.01	NP (normality)
Chromium, total (mg/L)	MW-1605S	0.0004714	0.0001333	0.1	No	15	0.000343	0.0003227	0	None	x^(1/3)	0.01	Param.
Chromium, total (mg/L)	MW-1606D	0.0002261	0.00007968	0.1	No	15	0.0001831	0.0001765	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606I	0.0001883	0.00007797	0.1	No	15	0.0001535	0.0001336	13.33	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606S	0.0004088	0.000126	0.1	No	15	0.0003438	0.0003916	6.667	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1002	0.000785	0.0005893	0.006	No	15	0.0006871	0.0001444	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1602D	0.0002388	0.00009299	0.006	No	15	0.0001967	0.0001986	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1602I	0.00175	0.00134	0.006	No	15	0.001507	0.0001905	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1603D	0.0008287	0.0003682	0.006	No	15	0.0006687	0.0004959	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1603I	0.001385	0.001227	0.006	No	15	0.001306	0.0001164	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1603S	0.0005121	0.0001854	0.006	No	15	0.0003487	0.0002411	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604D	0.000091	0.000051	0.006	No	15	0.00006947	0.00002371	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1604I	0.000906	0.000751	0.006	No	15	0.0008285	0.0001144	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604S	0.000548	0.000297	0.006	No	15	0.0004397	0.0002574	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1605D	0.0001571	0.00008689	0.006	No	15	0.0001289	0.00006605	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1605I	0.00159	0.001328	0.006	No	15	0.001459	0.0001935	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1605S	0.001065	0.0002898	0.006	No	15	0.0008981	0.001074	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1606D	0.0001148	0.00006977	0.006	No	14	0.00009229	0.00003178	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1606I	0.001482	0.0009534	0.006	No	15	0.001218	0.0003901	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1606S	0.0002172	0.0000595	0.006	No	15	0.0001855	0.0002268	6.667	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1002	1.255	0.3842	5	No	15	0.884	0.7636	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602D	1.555	0.8007	5	No	14	1.204	0.582	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602I	1.159	0.7841	5	No	15	0.9713	0.2763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603D	1.226	0.7395	5	No	15	0.983	0.3593	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603I	1.658	0.9169	5	No	15	1.315	0.5977	0	None	sqrt(x)	0.01	Param.

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	MW-1603S	1.137	0.3715	5	No	15	0.838	0.7594	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604D	1.144	0.5991	5	No	15	0.8942	0.4475	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604I	1.292	0.7738	5	No	15	1.033	0.3824	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604S	0.9921	0.4351	5	No	15	0.7136	0.411	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605D	1.624	0.9123	5	No	15	1.268	0.5252	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605I	2.011	1.395	5	No	15	1.703	0.4541	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605S	0.9253	0.2088	5	No	15	0.6329	0.5827	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606D	1.391	0.6554	5	No	15	1.023	0.5427	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606I	1.143	0.7326	5	No	14	0.938	0.2899	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606S	1.096	0.2794	5	No	15	0.6877	0.6025	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1002	1.025	0.8324	4	No	15	0.9233	0.1453	0	None	x^2	0.01	Param.
Fluoride, total (mg/L)	MW-1602D	0.3405	0.3035	4	No	15	0.322	0.02731	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1602I	0.3024	0.2723	4	No	15	0.2873	0.02219	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603D	0.307	0.2744	4	No	15	0.2907	0.02404	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603I	0.4472	0.3982	4	No	15	0.4227	0.03615	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603S	0.6097	0.4063	4	No	15	0.508	0.1501	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604D	0.282	0.25	4	No	15	0.266	0.02354	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604I	0.3581	0.3126	4	No	15	0.3353	0.03357	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604S	1.05	0.83	4	No	15	0.9813	0.2153	0	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	MW-1605D	0.225	0.191	4	No	15	0.208	0.02513	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605I	0.2167	0.1761	4	No	15	0.1947	0.03399	0	None	x^2	0.01	Param.
Fluoride, total (mg/L)	MW-1605S	0.5837	0.5043	4	No	15	0.544	0.05853	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606D	0.1999	0.1734	4	No	15	0.1867	0.01952	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606I	0.2041	0.1799	4	No	15	0.192	0.01781	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606S	0.5069	0.3945	4	No	15	0.4507	0.08293	0	None	No	0.01	Param.
Lead, total (mg/L)	MW-1002	0.0002	0.00002	0.015	No	15	0.0000816	0.00008198	26.67	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1602D	0.0002128	0.00003227	0.015	No	15	0.0001577	0.0002262	13.33	None	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1602I	0.0002299	0.00007641	0.015	No	15	0.0001531	0.0001132	13.33	None	No	0.01	Param.
Lead, total (mg/L)	MW-1603D	0.00005891	0.00001244	0.015	No	14	0.00008171	0.00008131	21.43	Kaplan-Meier	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1603I	0.0001815	0.00003369	0.015	No	15	0.0001355	0.0001128	20	Kaplan-Meier	No	0.01	Param.
Lead, total (mg/L)	MW-1603S	0.0001469	0.00003586	0.015	No	15	0.0001335	0.00009219	33.33	Kaplan-Meier	No	0.01	Param.
Lead, total (mg/L)	MW-1604D	0.00004656	0.00001349	0.015	No	15	0.00006887	0.00007181	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1604I	0.0002	0.00001	0.015	No	15	0.00008613	0.00008588	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1604S	0.0000962	0.0000231	0.015	No	14	0.00009871	0.00009349	21.43	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1605D	0.0002	0.000009	0.015	No	15	0.0001045	0.0000938	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1605I	0.000156	0.00006652	0.015	No	15	0.0001113	0.00006603	13.33	None	No	0.01	Param.
Lead, total (mg/L)	MW-1605S	0.00092	0.000021	0.015	No	15	0.0003527	0.0006126	0	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606D	0.0002	0.00001	0.015	No	15	0.0001061	0.00008803	26.67	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606I	0.0002	0.000026	0.015	No	15	0.0001101	0.0000836	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606S	0.0001819	0.00001209	0.015	No	14	0.0001501	0.000122	35.71	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1002	0.009131	0.003639	0.04	No	15	0.008453	0.005032	20	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1602D	0.009824	0.003022	0.04	No	15	0.006926	0.005804	6.667	None	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1602I	0.01064	0.004908	0.04	No	15	0.007772	0.004227	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1603D	0.01041	0.005037	0.04	No	15	0.007722	0.003963	13.33	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1603I	0.01074	0.005925	0.04	No	15	0.01042	0.003926	20	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1603S	0.015	0.002	0.04	No	15	0.008012	0.005254	20	None	No	0.01	NP (normality)
Lithium, total (mg/L)	MW-1604D	0.015	0.00157	0.04	No	15	0.007024	0.00564	26.67	None	No	0.01	NP (normality)
Lithium, total (mg/L)	MW-1604I	0.01157	0.006508	0.04	No	15	0.009041	0.003738	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1604S	0.01367	0.0091	0.04	No	15	0.01138	0.003368	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1605D	0.007514	0.002922	0.04	No	15	0.005623	0.00416	13.33	None	x^(1/3)	0.01	Param.
Lithium, total (mg/L)	MW-1605I	0.009905	0.005439	0.04	No	15	0.007843	0.00354	0	None	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1605S	0.01706	0.01227	0.04	No	15	0.01467	0.003538	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1606D	0.004675	0.00118	0.04	No	15	0.005795	0.005348	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1606I	0.009697	0.005075	0.04	No	15	0.007386	0.003411	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1606S	0.01285	0.008966	0.04	No	15	0.01091	0.002862	6.667	None	No	0.01	Param.

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Mercury, total (mg/L)	MW-1002	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1602D	0.000005	0.000003	0.002	No	14	0.000004857	5.3e-7	85.71	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1602I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604D	0.000005	0.000002	0.002	No	14	0.000004786	8.0e-7	85.71	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	MW-1002	0.00965	0.00254	0.1	No	15	0.005559	0.003284	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1602D	0.00385	0.003283	0.1	No	15	0.003572	0.0004307	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1602I	0.00242	0.002	0.1	No	15	0.002195	0.0002207	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1603D	0.005516	0.004199	0.1	No	15	0.004881	0.001009	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1603I	0.008967	0.006883	0.1	No	15	0.007925	0.001538	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1603S	0.001067	0.0002958	0.1	No	15	0.000844	0.0006937	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1604D	0.003194	0.002551	0.1	No	15	0.002873	0.0004747	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604I	0.002821	0.002408	0.1	No	15	0.002615	0.0003046	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604S	0.003251	0.001997	0.1	No	15	0.002677	0.000969	0	None	x^(1/3)	0.01	Param.
Molybdenum, total (mg/L)	MW-1605D	0.0026	0.00198	0.1	No	14	0.002248	0.0003655	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1605I	0.001283	0.001054	0.1	No	14	0.001171	0.0001636	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1605S	0.002101	0.001591	0.1	No	15	0.001846	0.0003764	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606D	0.00221	0.00185	0.1	No	15	0.002145	0.0004936	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1606I	0.001633	0.001073	0.1	No	14	0.001353	0.0003956	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606S	0.00156	0.0009	0.1	No	14	0.001221	0.0003366	0	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1002	0.0000902	0.00006618	0.05	No	15	0.00007867	0.00001767	0	None	sqrt(x)	0.01	Param.
Selenium, total (mg/L)	MW-1602D	0.0002	0.00003	0.05	No	15	0.000102	0.00007466	26.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1602I	0.0002	0.00004	0.05	No	15	0.0001147	0.00007501	40	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1603D	0.0003	0.00004	0.05	No	15	0.000138	0.00008825	46.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1603I	0.0002	0.00007	0.05	No	15	0.0001553	0.00006653	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1603S	0.0002999	0.00007562	0.05	No	15	0.0002653	0.000379	6.667	None	ln(x)	0.01	Param.
Selenium, total (mg/L)	MW-1604D	0.0002	0.00006	0.05	No	15	0.000162	0.00006678	73.33	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1604I	0.0002	0.00005	0.05	No	15	0.00012	0.00007101	40	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1604S	0.0001203	0.00005716	0.05	No	15	0.000096	0.00005717	0	None	ln(x)	0.01	Param.
Selenium, total (mg/L)	MW-1605D	0.0002	0.00004	0.05	No	15	0.0001393	0.00007851	60	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1605I	0.0002	0.00004	0.05	No	15	0.0001213	0.00007791	46.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1605S	0.001208	0.0005352	0.05	No	14	0.0008714	0.0004746	0	None	No	0.01	Param.
Selenium, total (mg/L)	MW-1606D	0.0002	0.00006	0.05	No	15	0.000156	0.00006588	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1606I	0.0002	0.00005	0.05	No	15	0.0001507	0.00007382	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1606S	0.00456	0.00296	0.05	No	15	0.00376	0.00118	0	None	No	0.01	Param.
Thallium, total (mg/L)	MW-1002	0.0005	0.00002	0.002	No	15	0.0001887	0.000228	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1602D	0.0005	0.00005	0.002	No	15	0.0003771	0.0002113	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1602I	0.0005	0.00002	0.002	No	15	0.000216	0.0002402	40	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1603D	0.0005	0.00003	0.002	No	15	0.0003152	0.0002345	60	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1603I	0.0005	0.00003	0.002	No	15	0.0001913	0.0002261	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1603S	0.0005	0.00002	0.002	No	15	0.000191	0.0002269	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1604D	0.0005	0.00005	0.002	No	15	0.0003783	0.0002096	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1604I	0.0005	0.00001	0.002	No	15	0.0001867	0.00023	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1604S	0.0005	0.00002	0.002	No	15	0.0001942	0.0002246	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1605D	0.0005	0.00005	0.002	No	15	0.000406	0.0001947	80	None	No	0.01	NP (NDs)

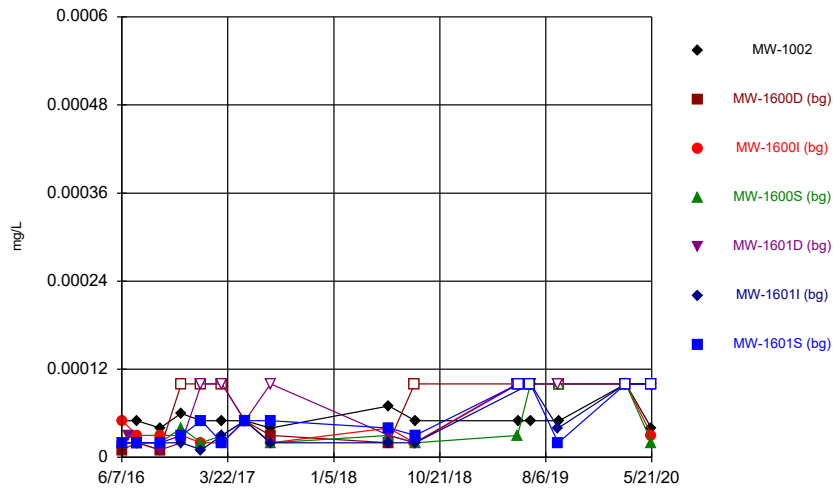
Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Thallium, total (mg/L)	MW-1605I	0.0005	0.00002	0.002	No	15	0.0001982	0.0002243	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1605S	0.0005	0.00002	0.002	No	15	0.0001627	0.0002115	26.67	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1606D	0.0005	0.00005	0.002	No	15	0.0003816	0.0002044	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1606I	0.0005	0.00003	0.002	No	15	0.0001962	0.0002227	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1606S	0.0005	0.00002	0.002	No	15	0.0002179	0.000239	40	None	No	0.01	NP (normality)

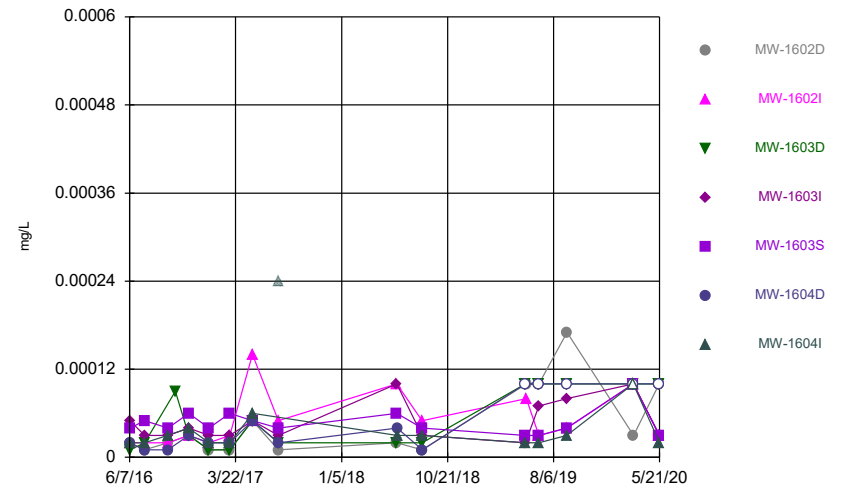
FIGURE A.

Time Series



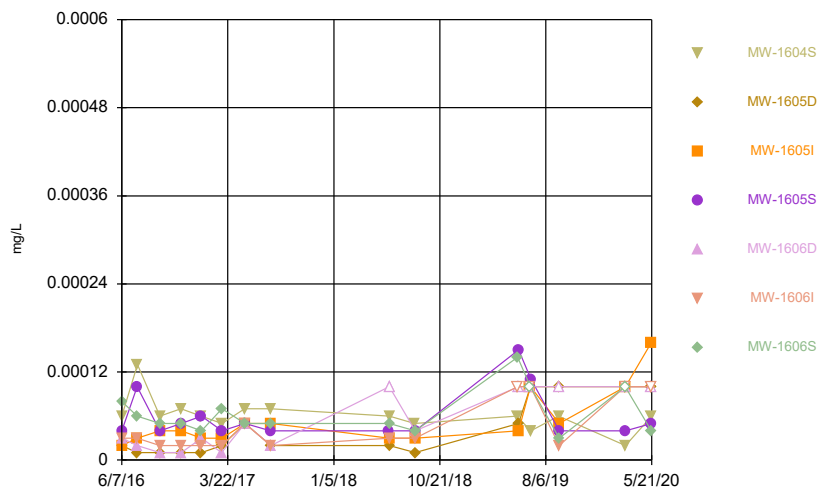
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



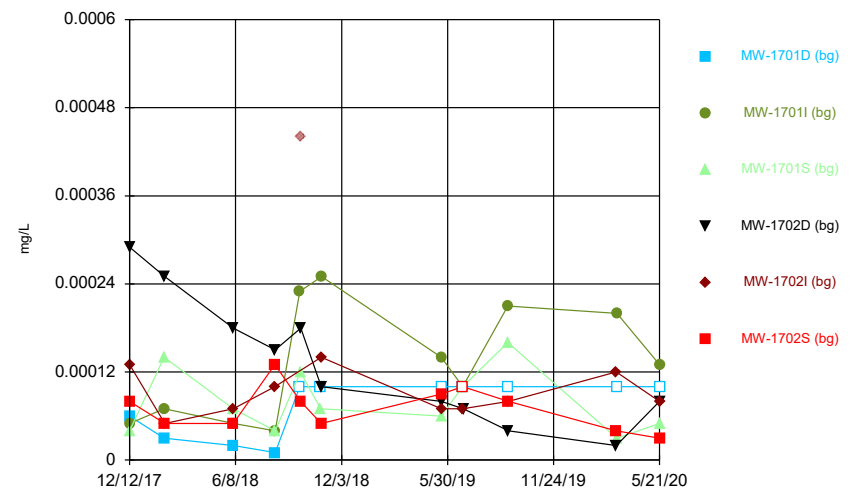
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Time Series



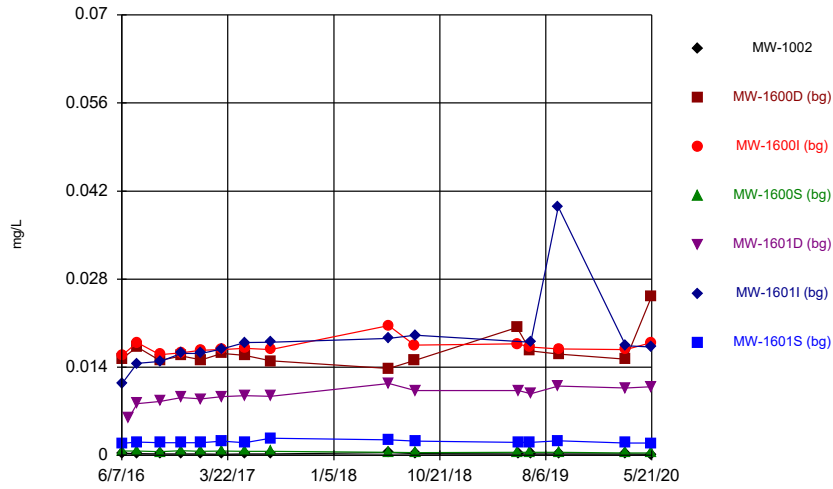
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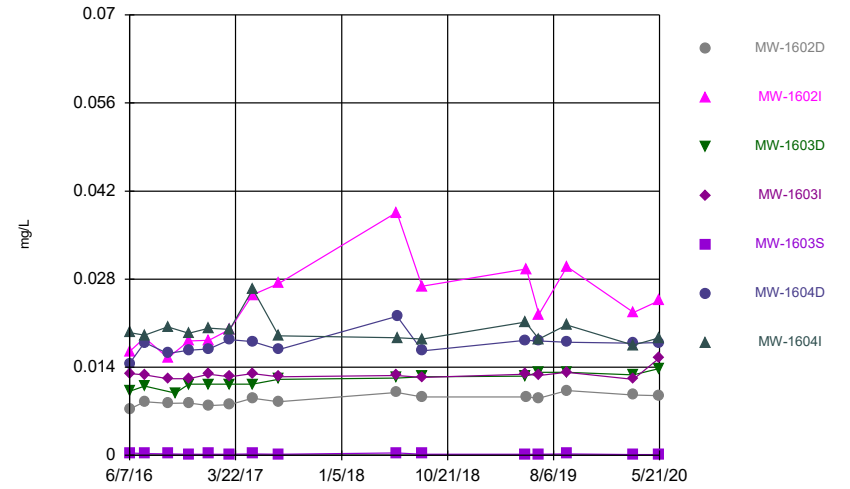
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Time Series



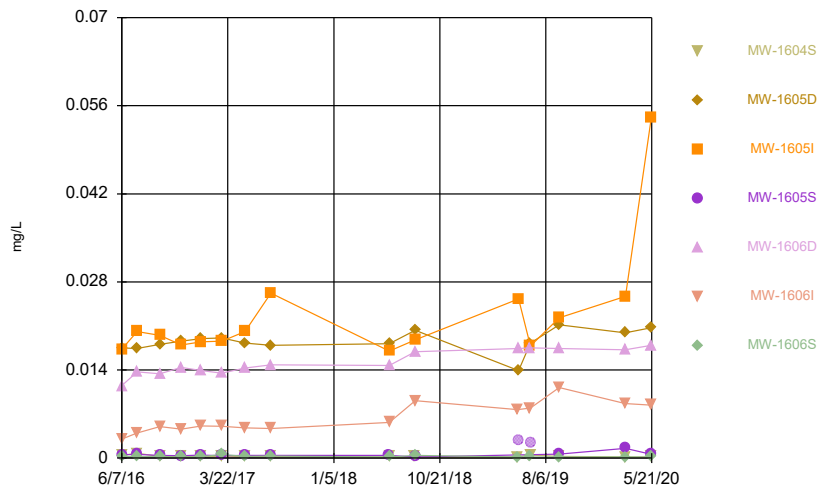
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Time Series



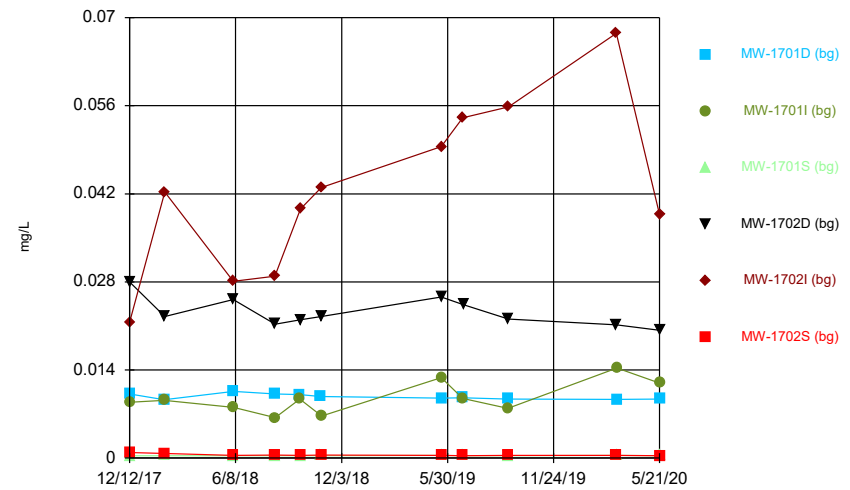
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Time Series



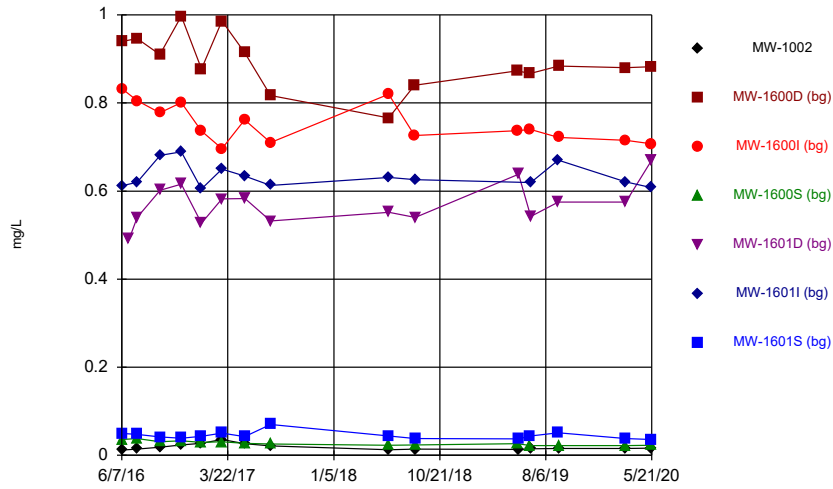
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Time Series



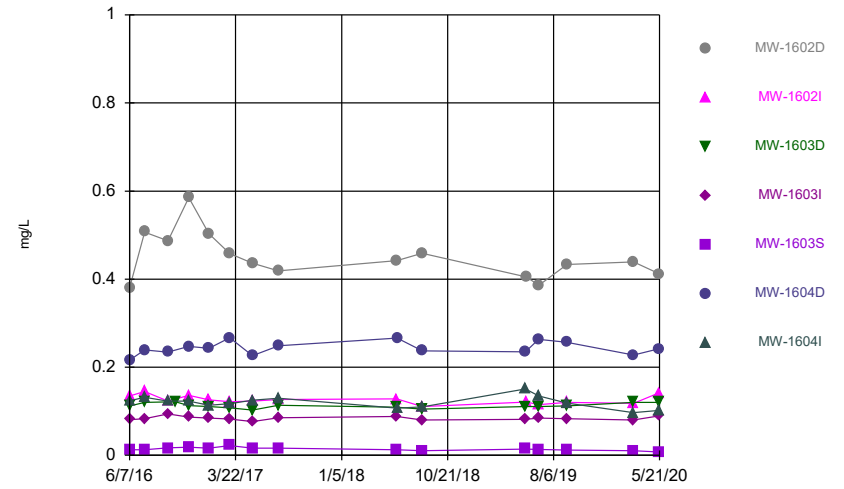
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Time Series



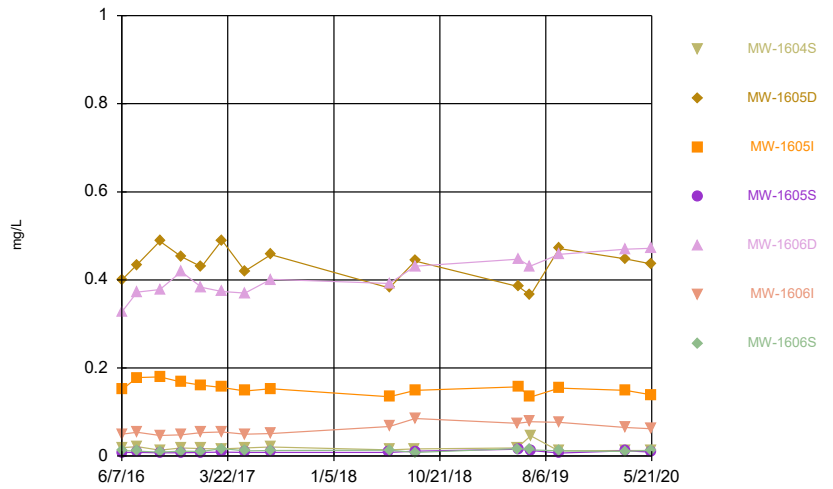
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Time Series



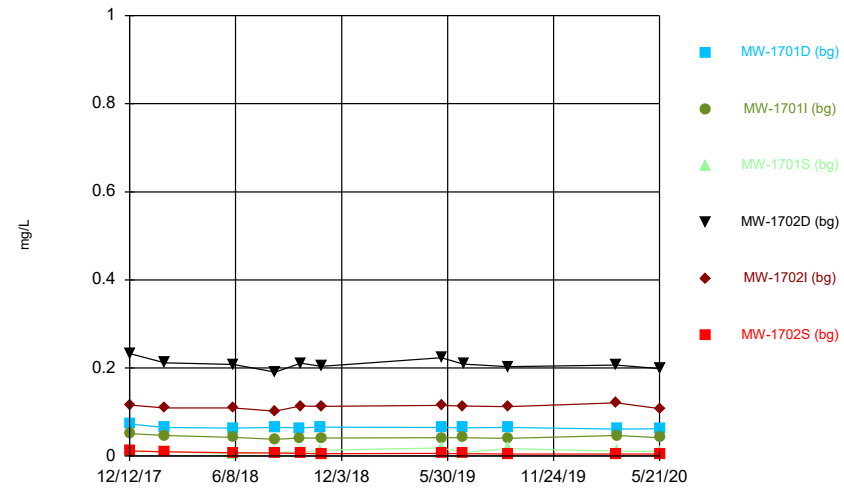
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Time Series



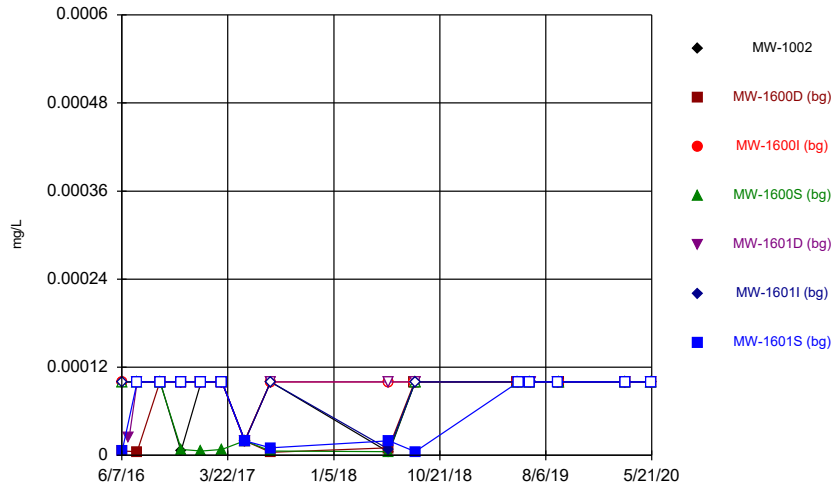
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



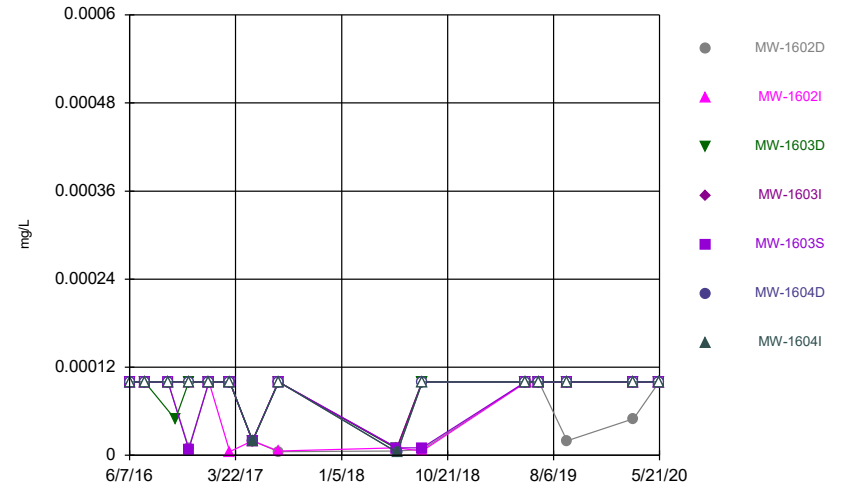
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



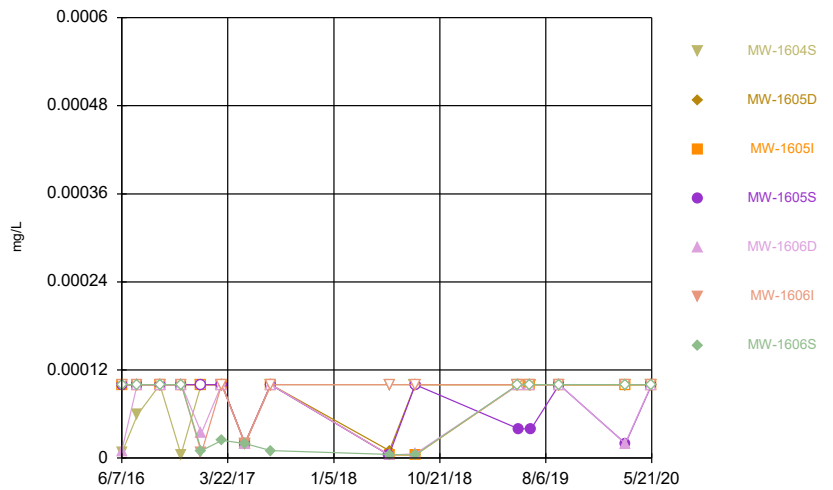
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



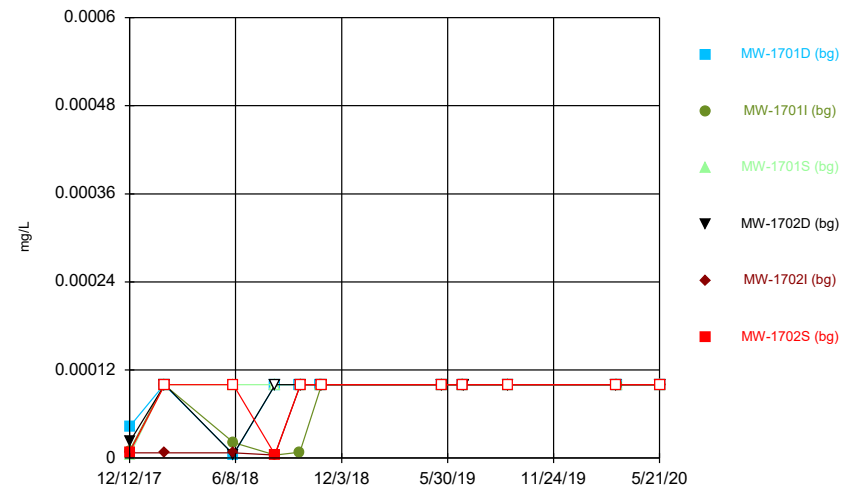
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Time Series



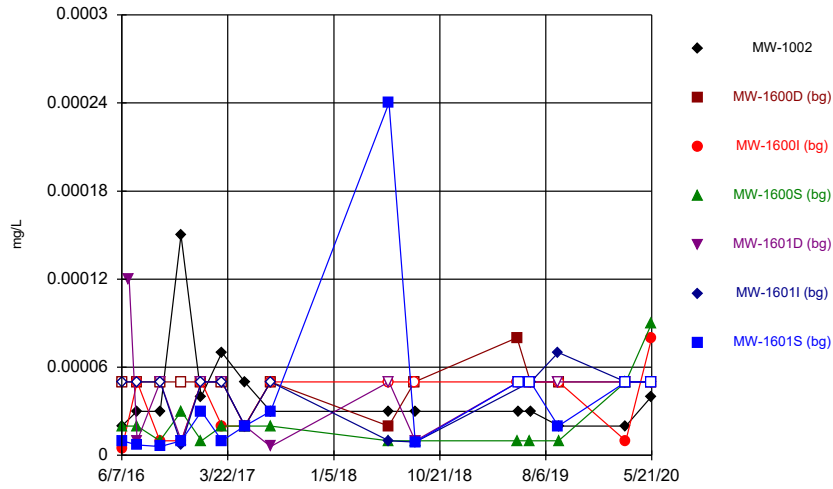
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Time Series



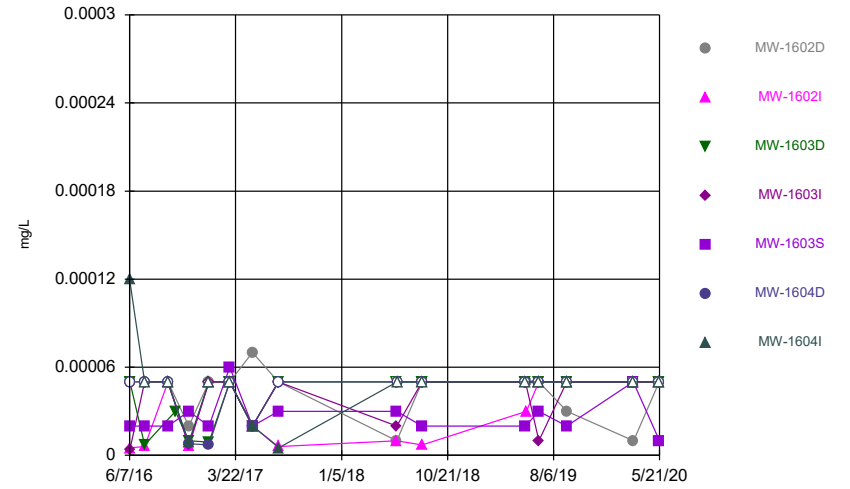
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



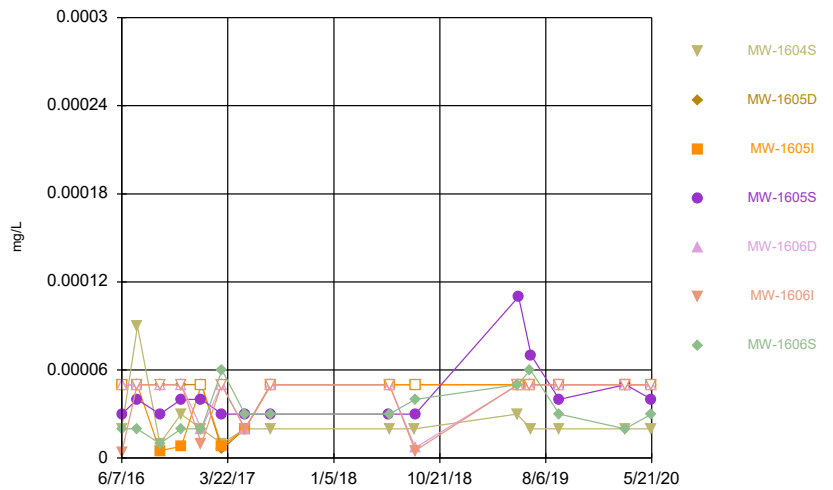
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Time Series



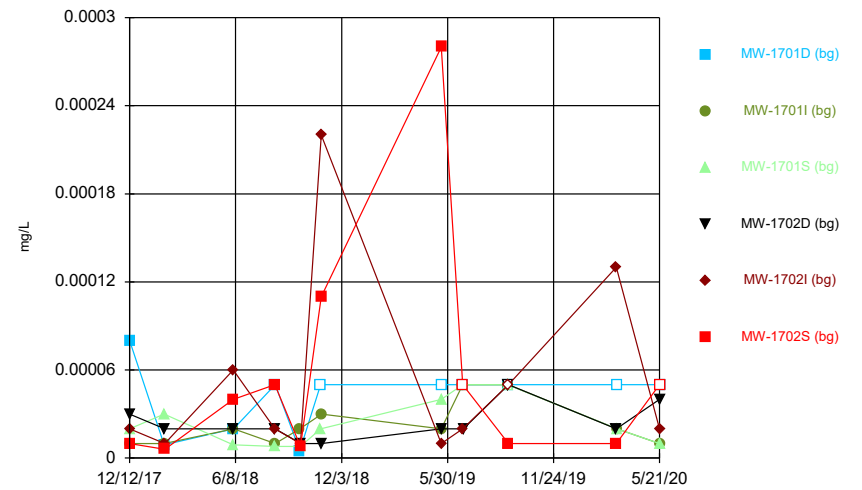
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Time Series



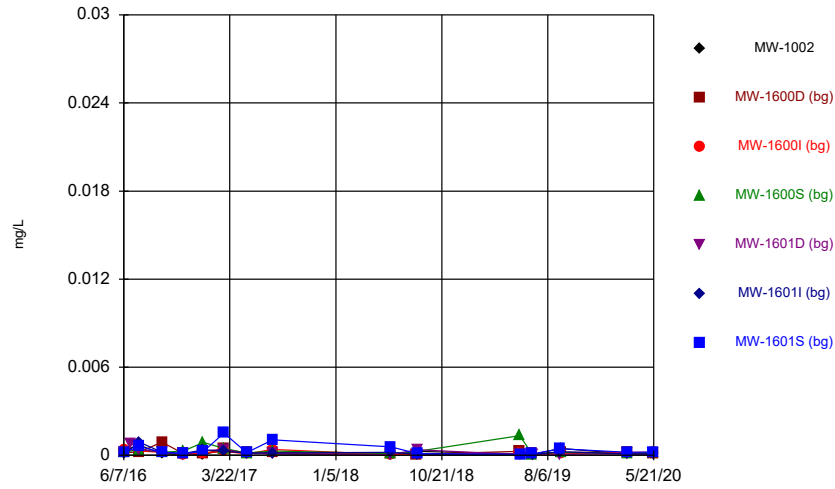
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Time Series

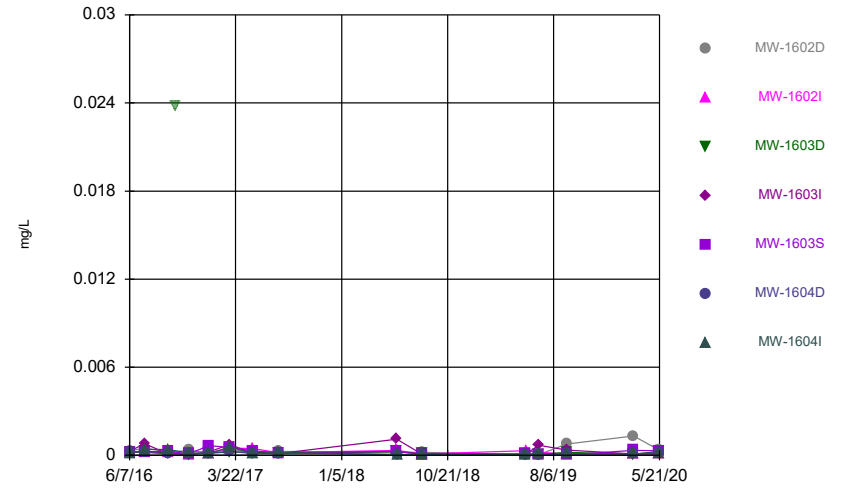


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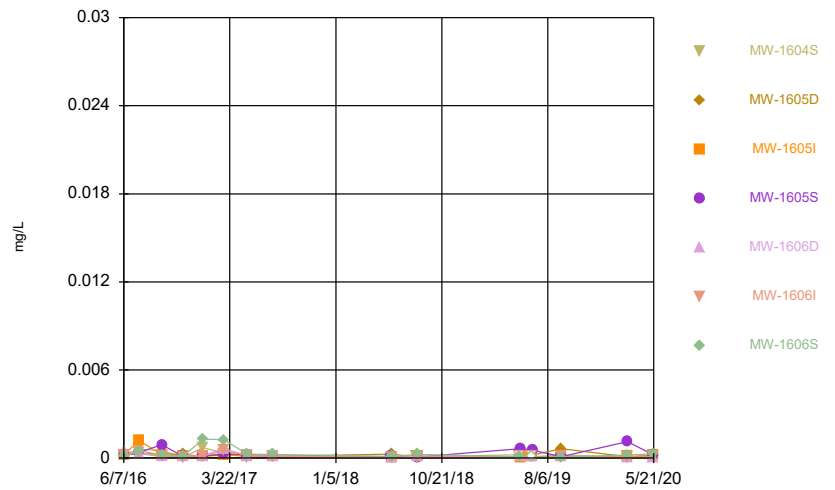
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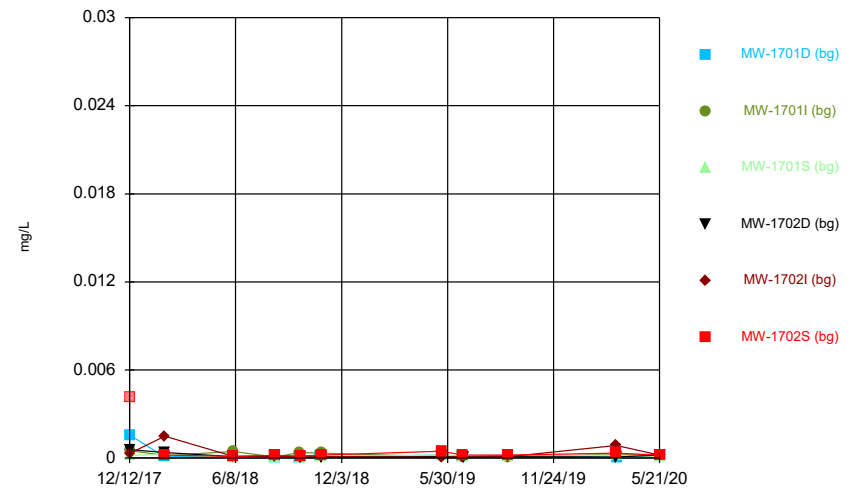
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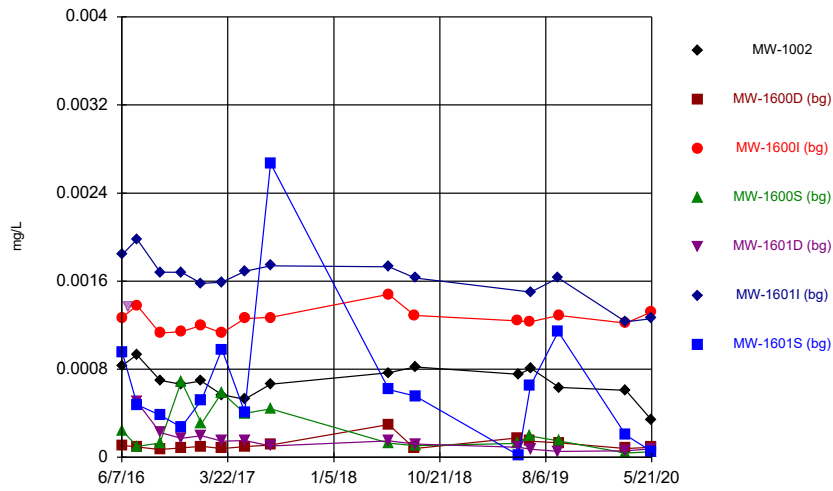
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Time Series

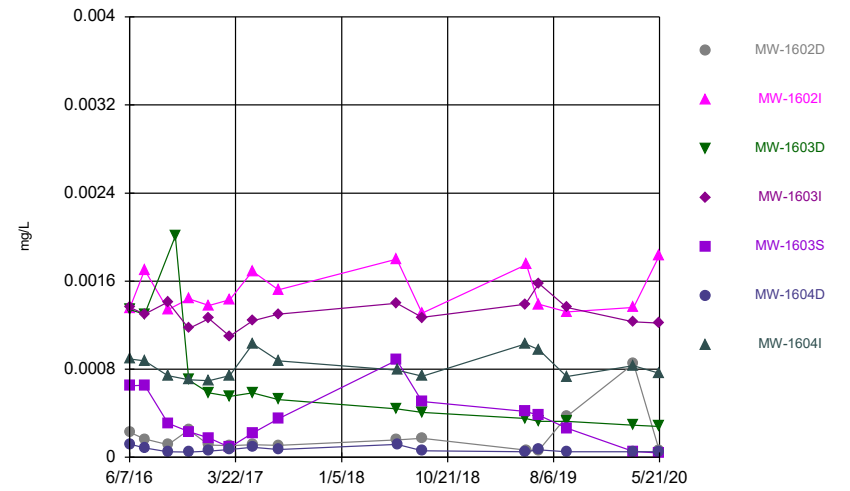


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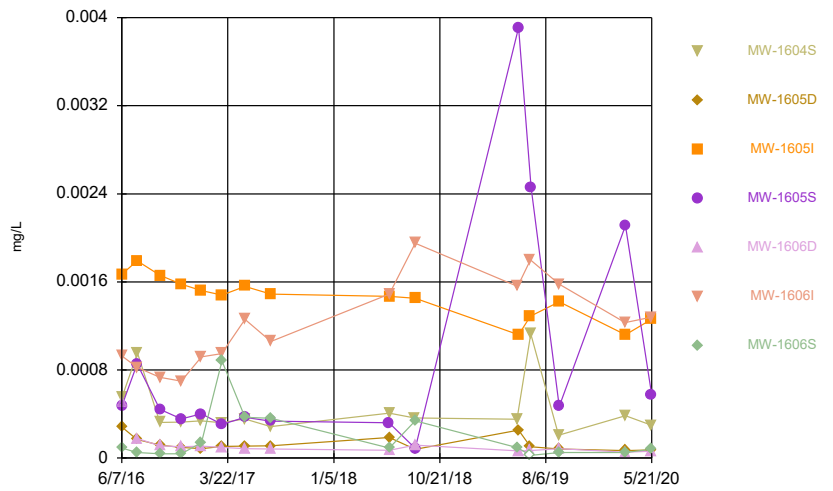
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Time Series



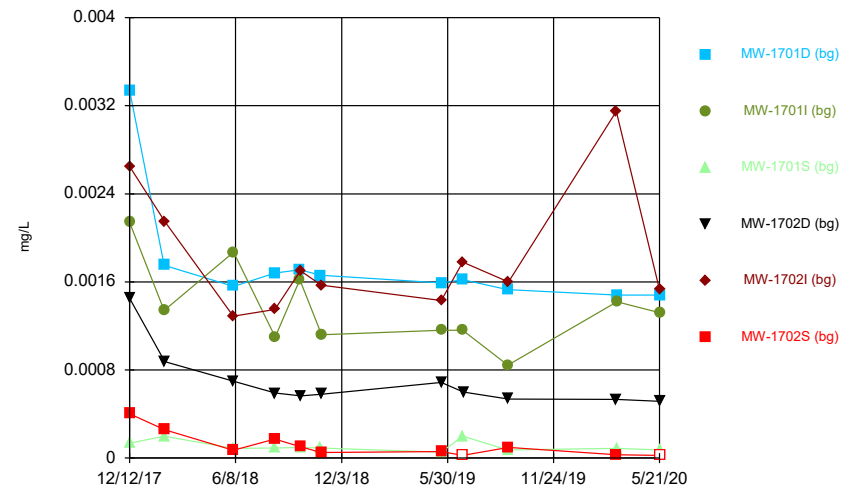
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Time Series



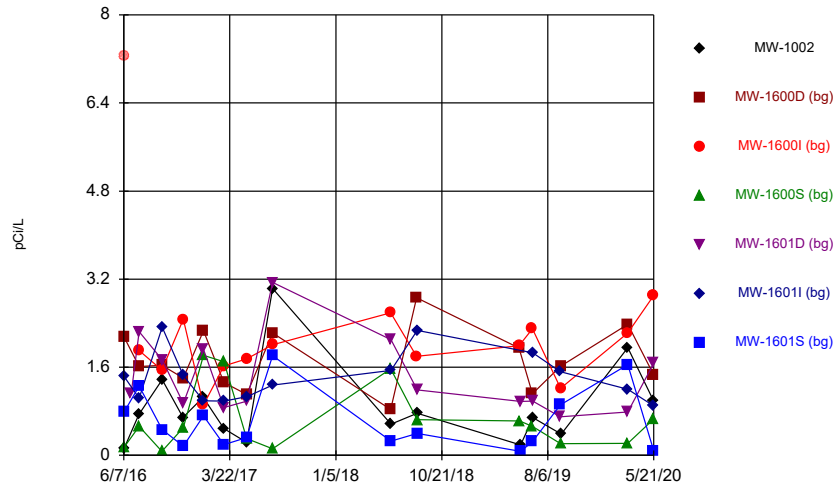
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Time Series



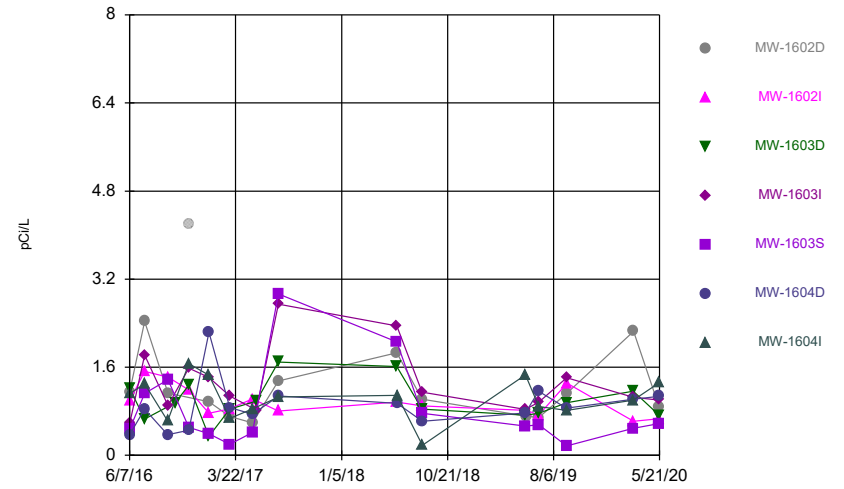
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Time Series



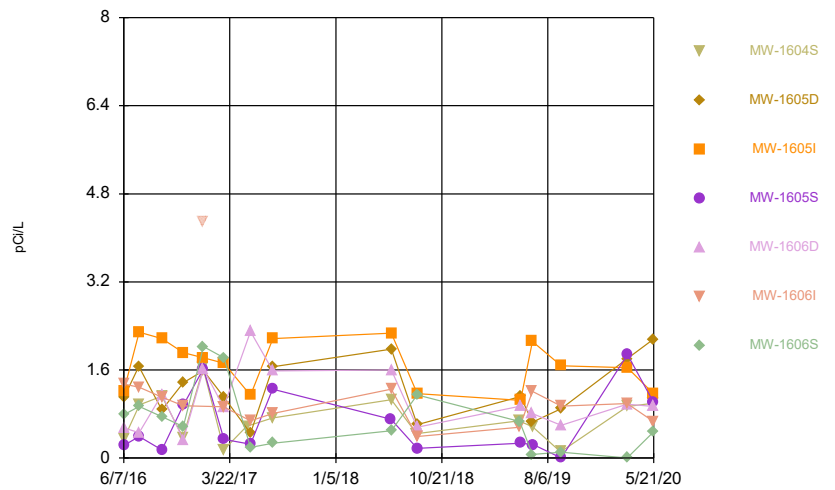
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Time Series



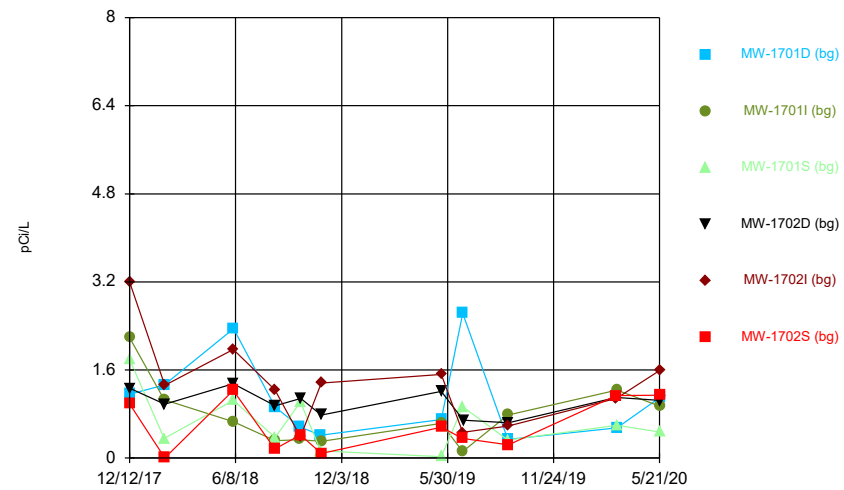
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Time Series



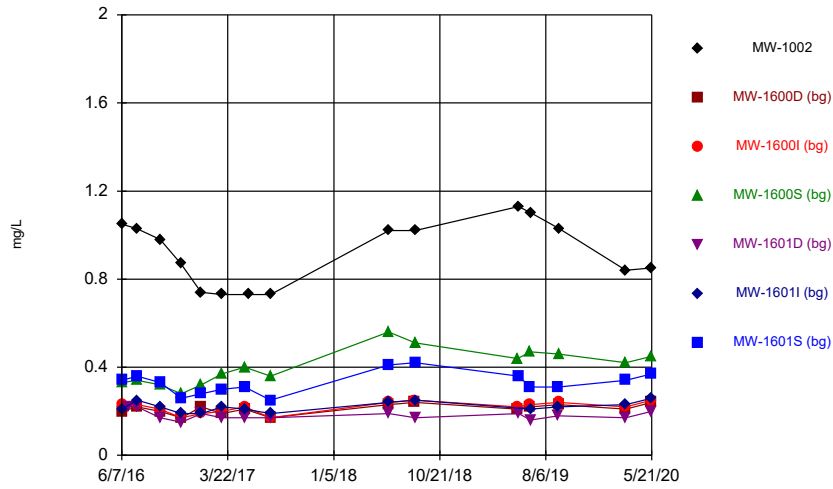
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Time Series



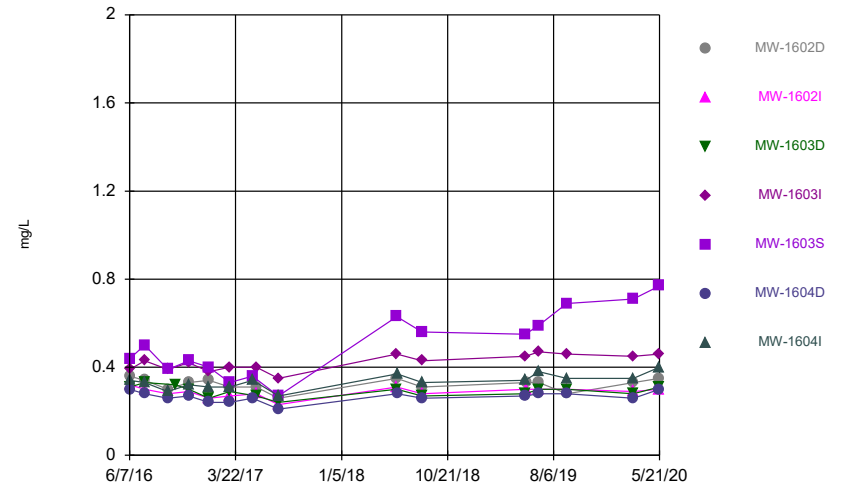
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Time Series



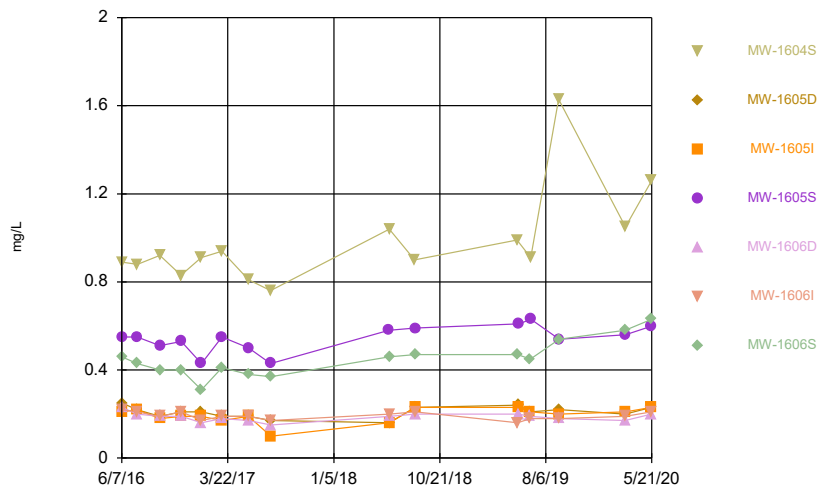
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Time Series



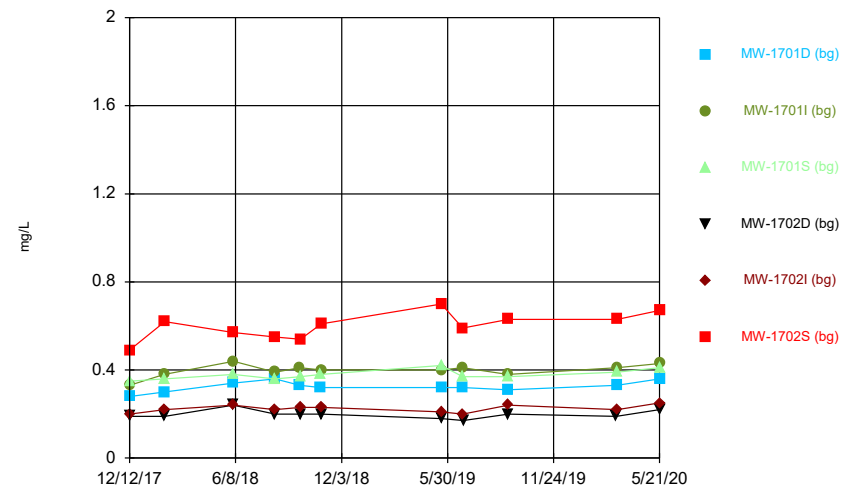
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Time Series



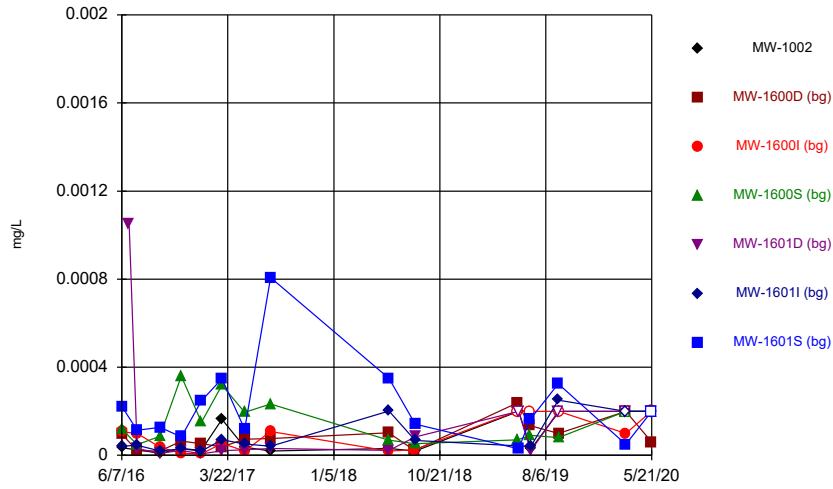
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Time Series



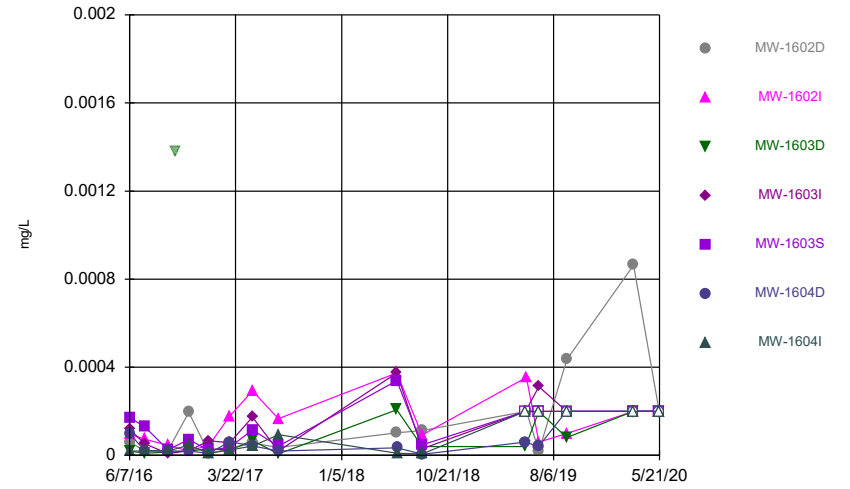
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Time Series



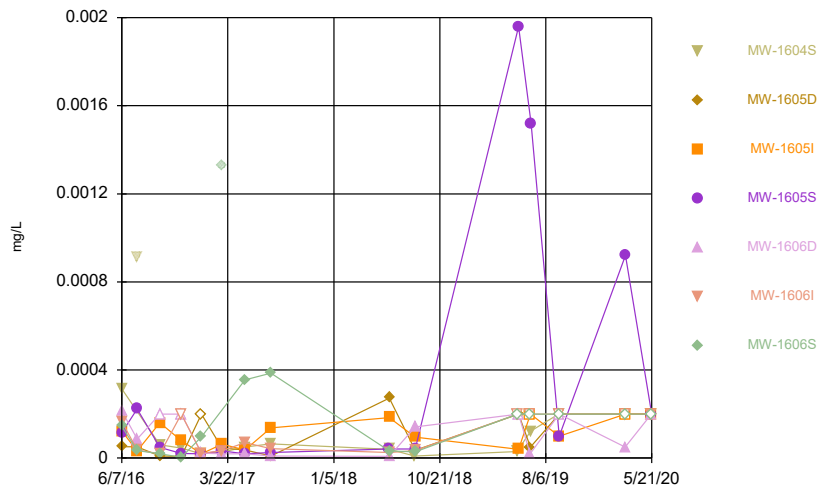
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Time Series



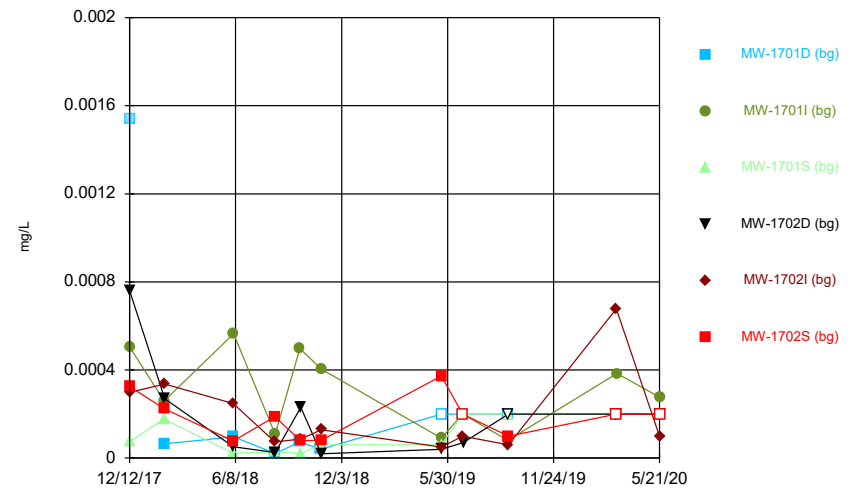
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Time Series



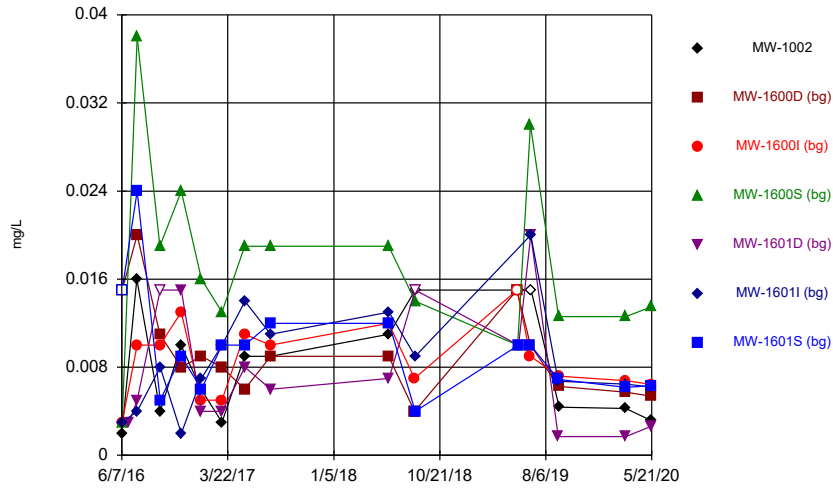
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Time Series



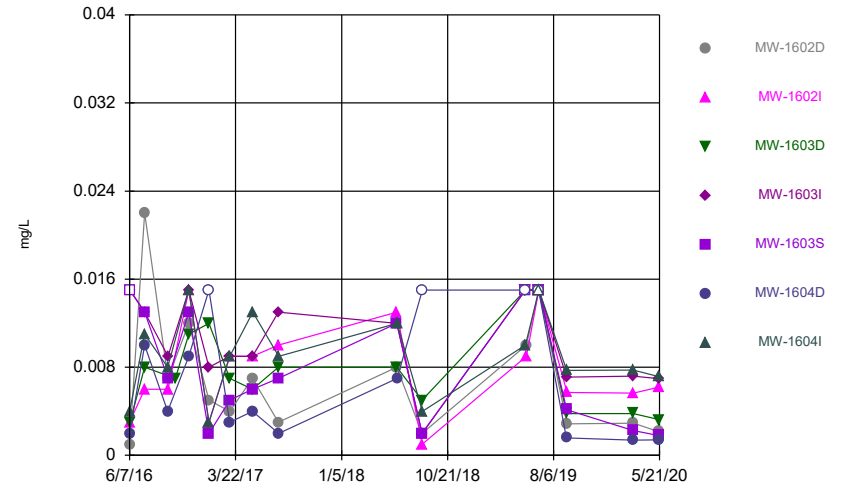
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Time Series



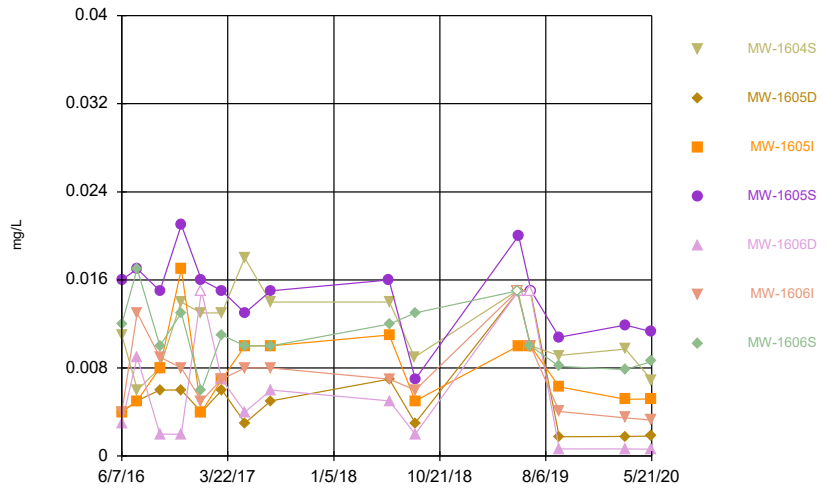
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Time Series



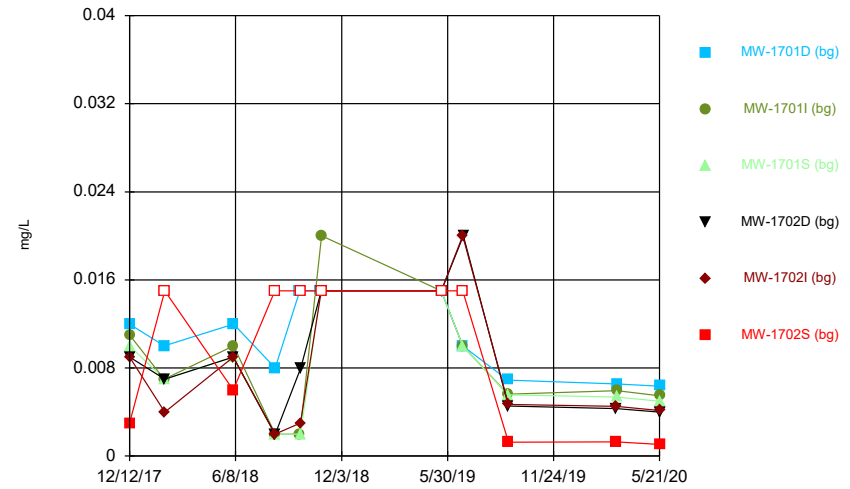
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Time Series



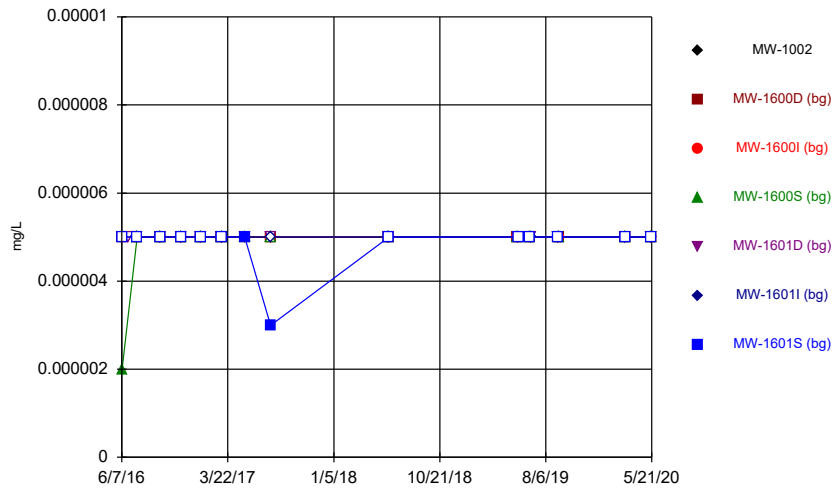
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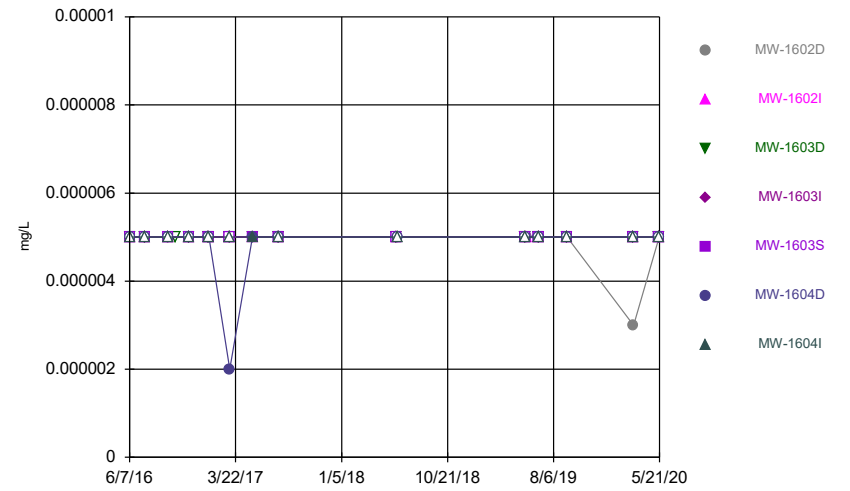
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Time Series



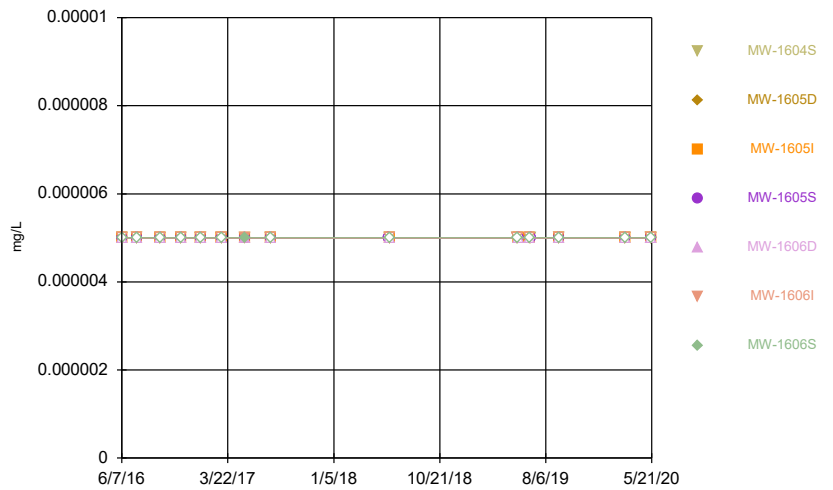
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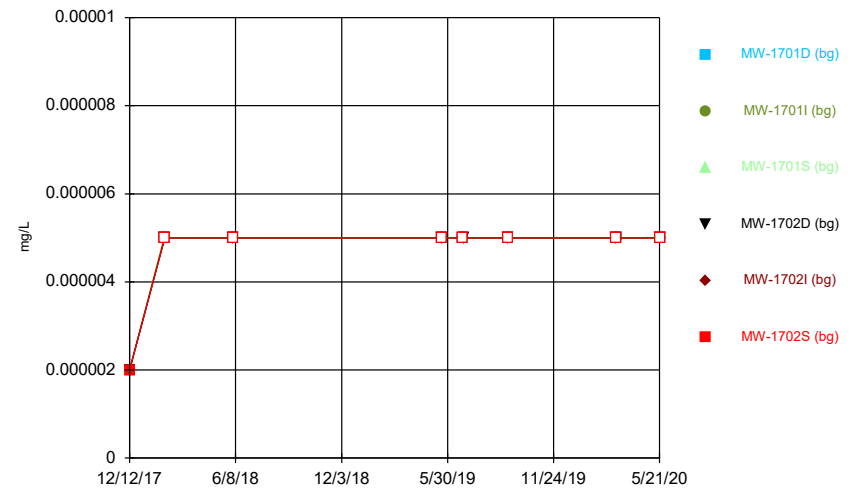
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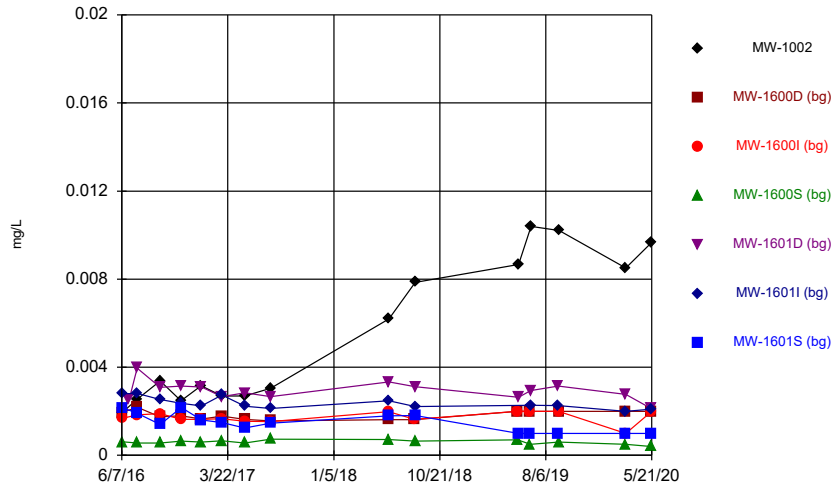
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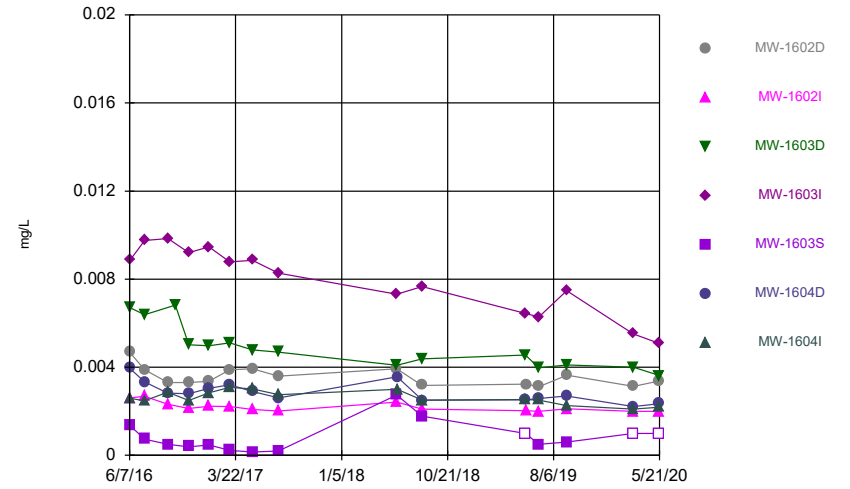
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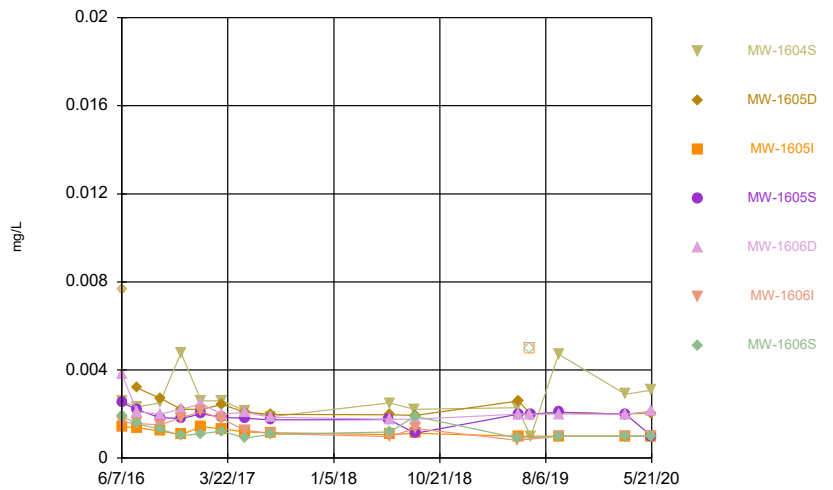
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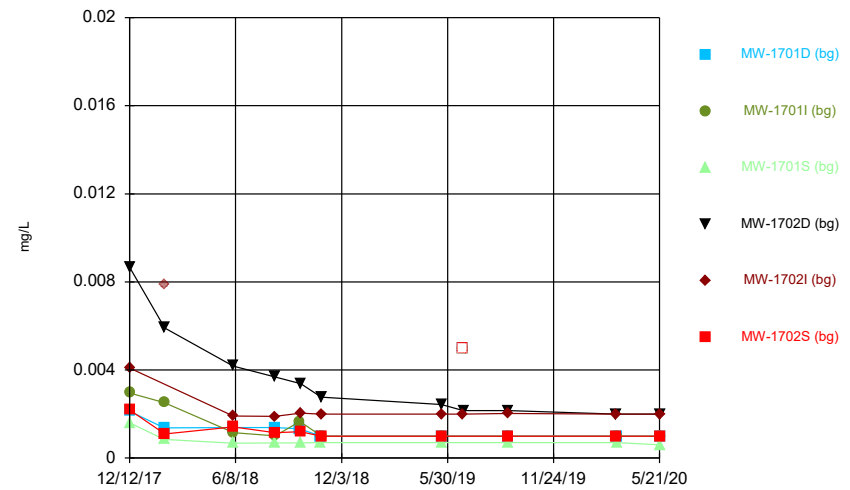
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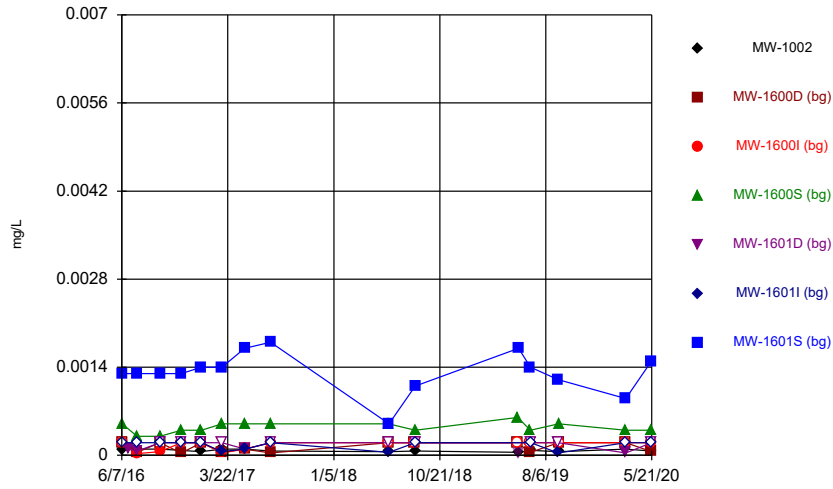
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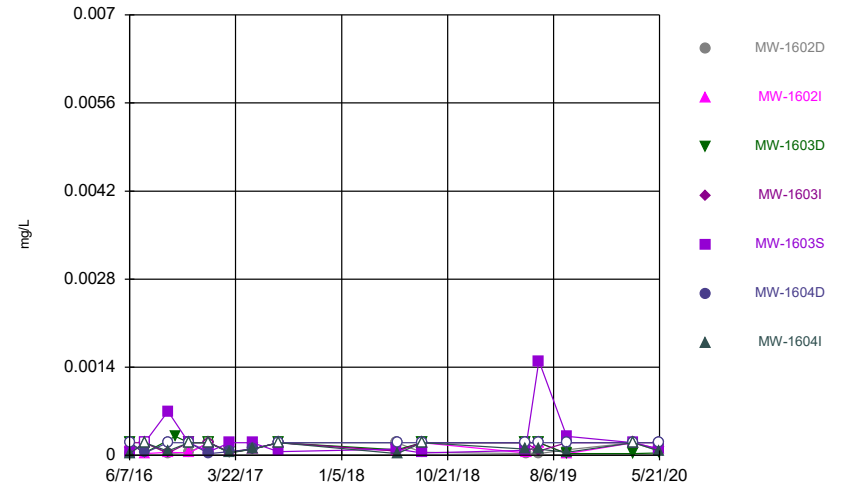
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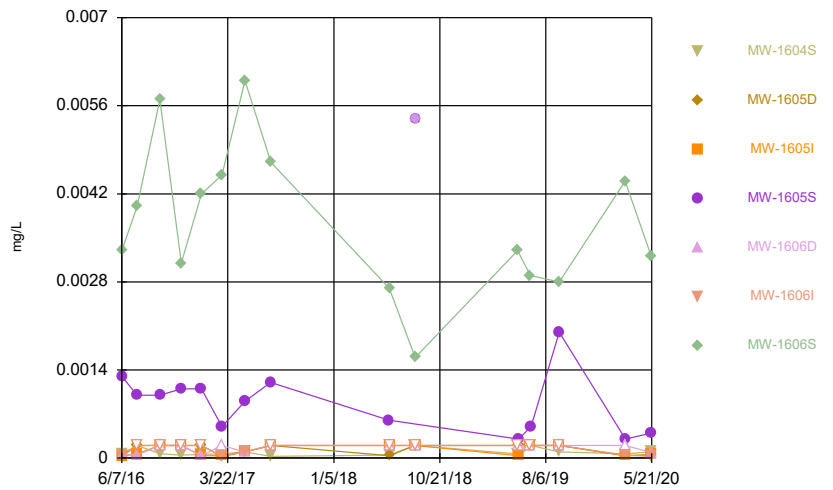
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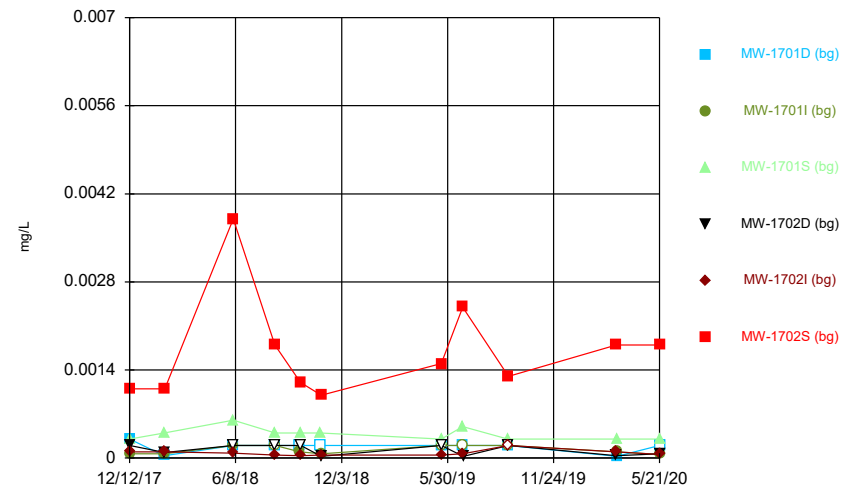
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Time Series



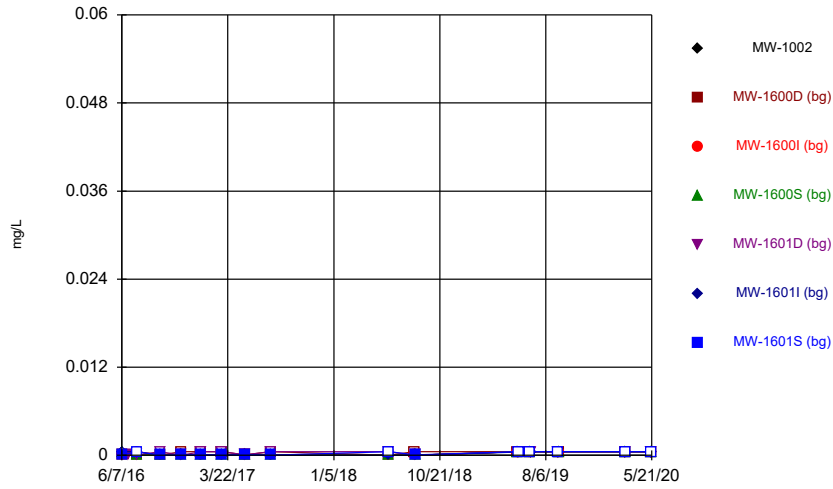
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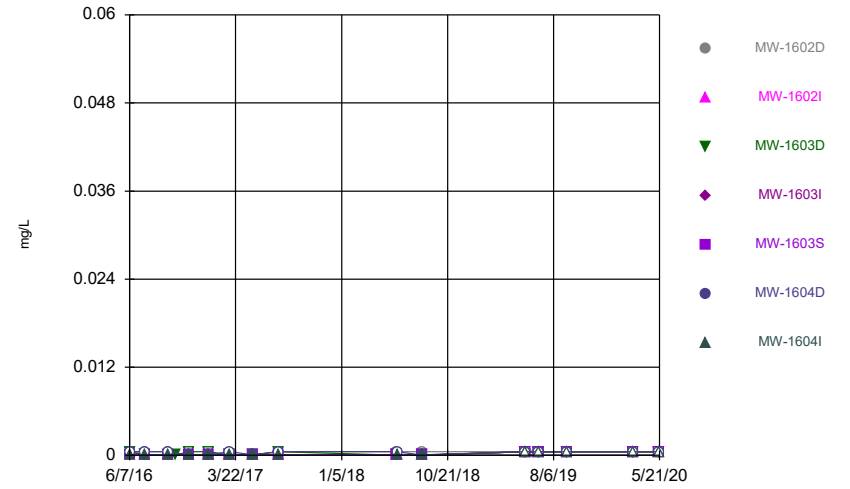
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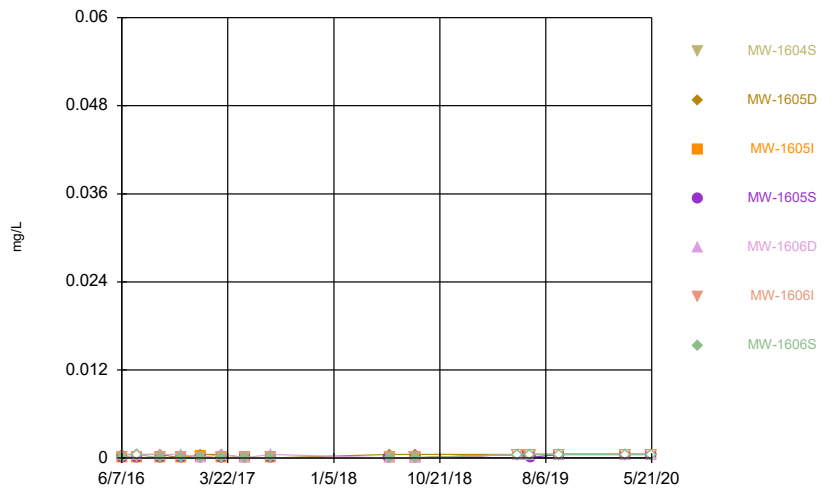
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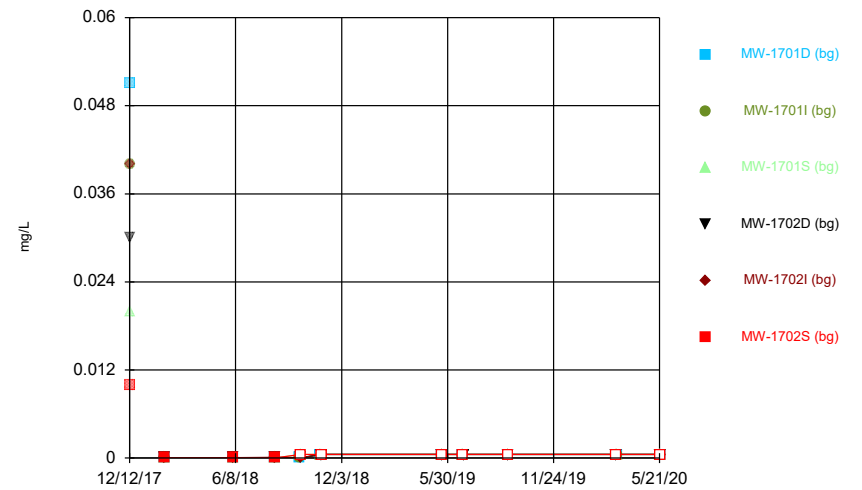
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Time Series



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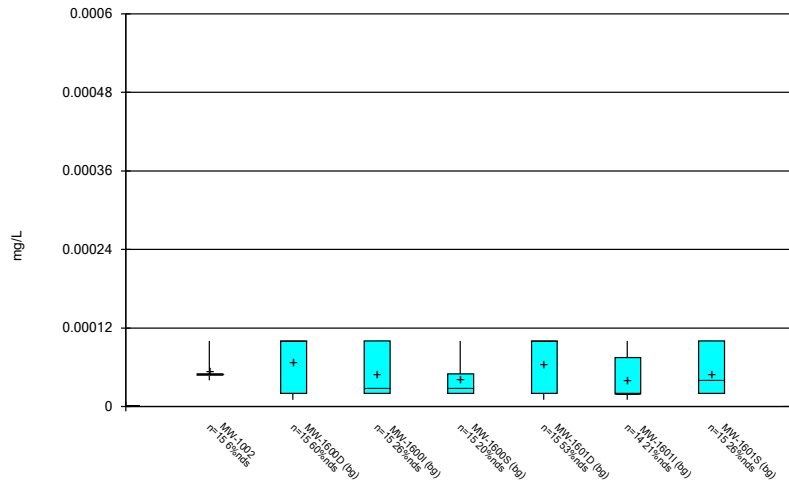
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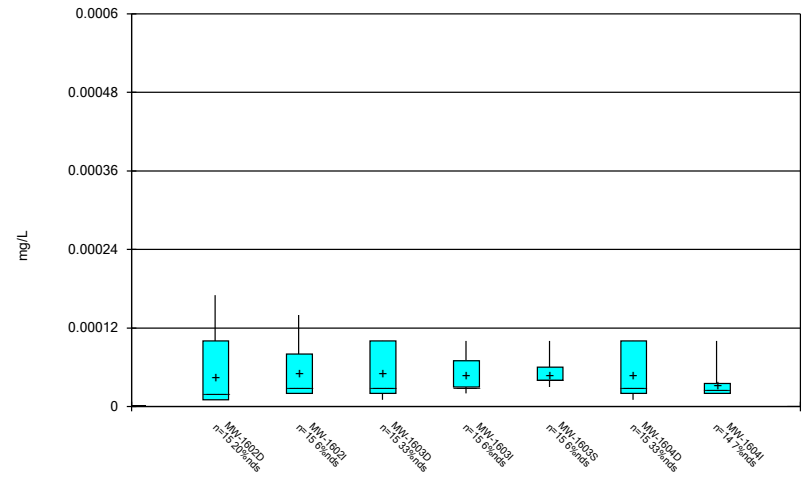
FIGURE B.

Box & Whiskers Plot



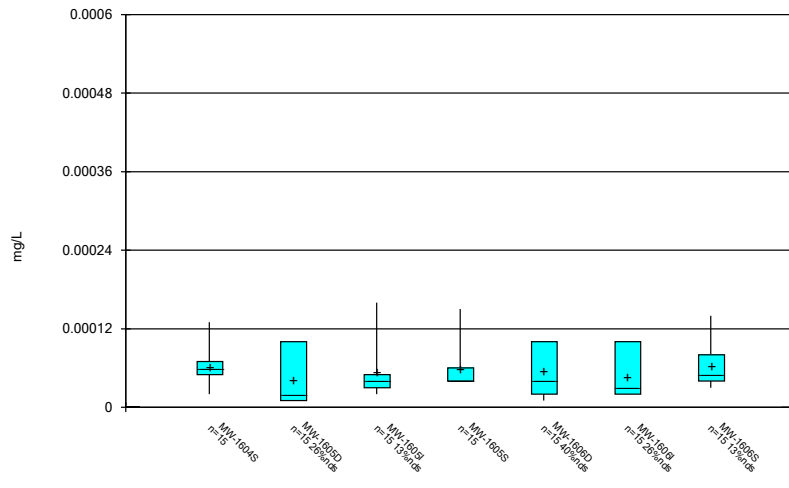
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Box & Whiskers Plot



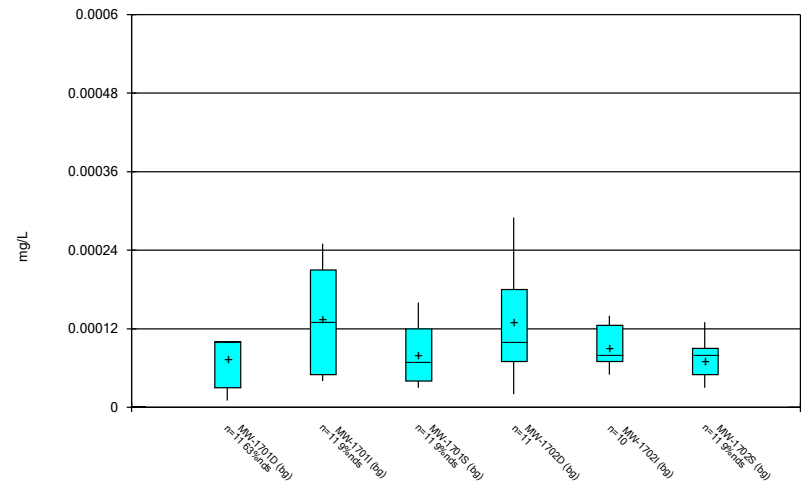
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Box & Whiskers Plot



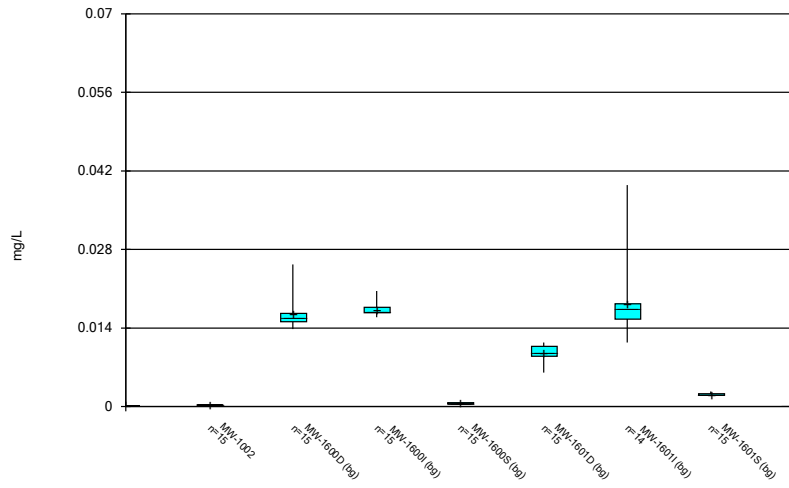
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Box & Whiskers Plot



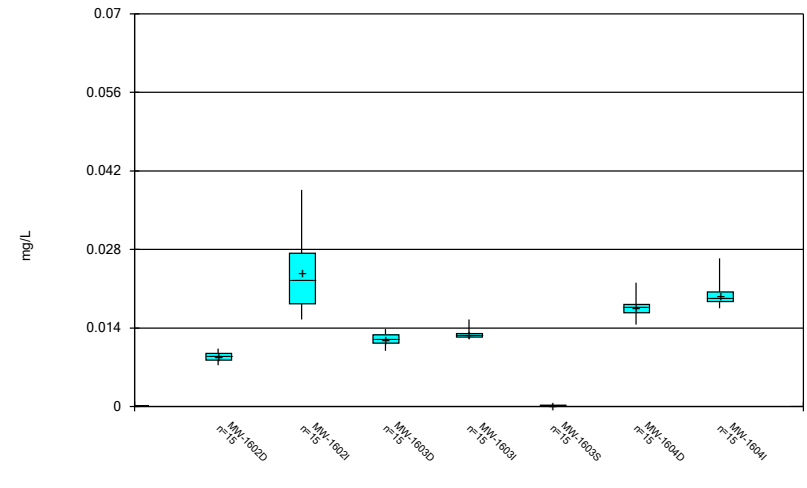
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Box & Whiskers Plot



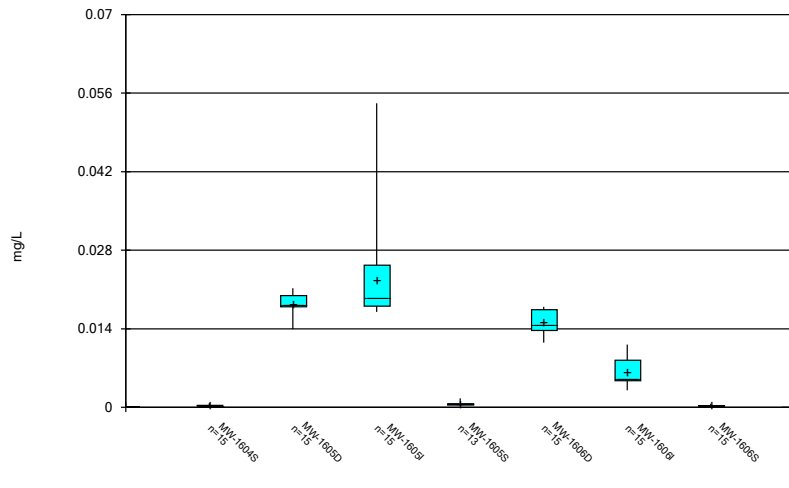
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Box & Whiskers Plot



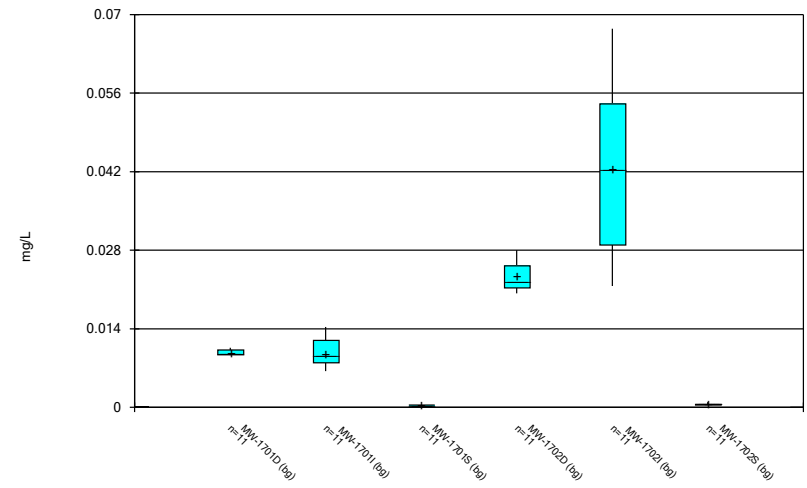
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Box & Whiskers Plot



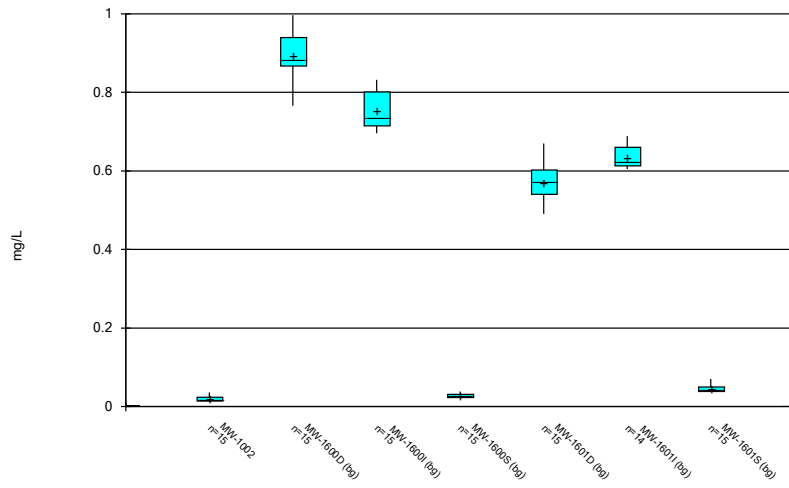
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Box & Whiskers Plot



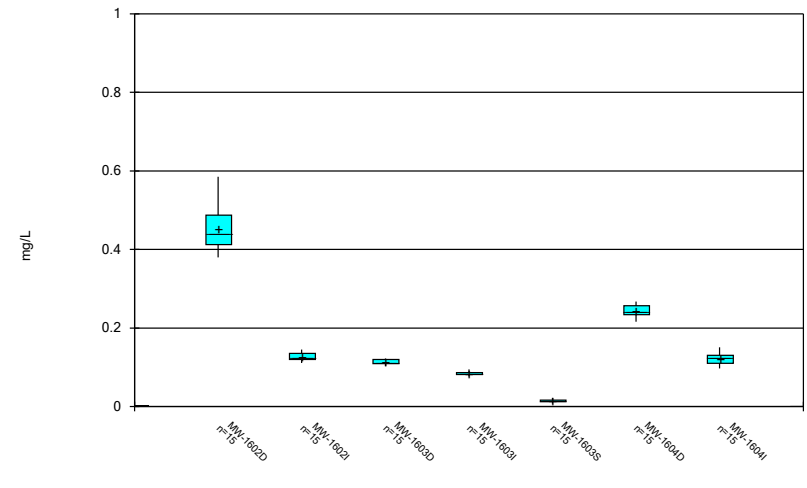
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Box & Whiskers Plot



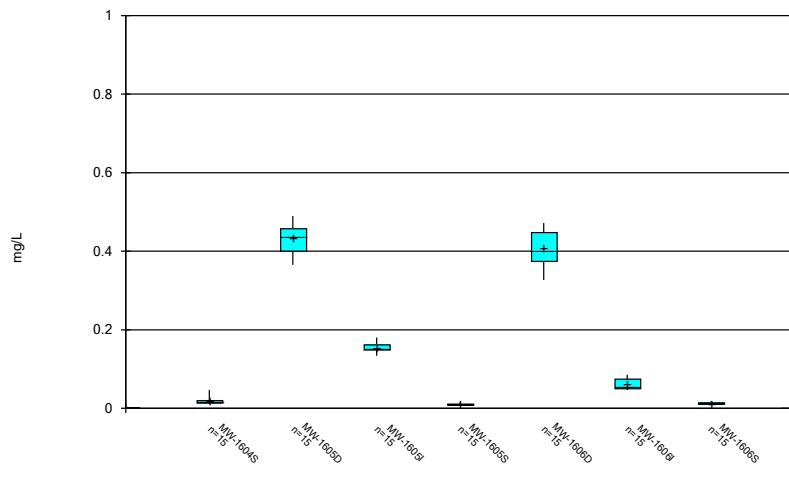
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Box & Whiskers Plot



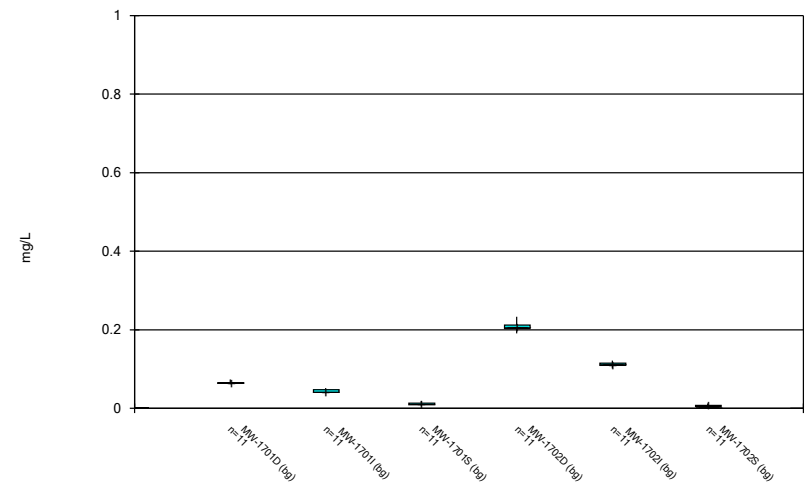
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Box & Whiskers Plot



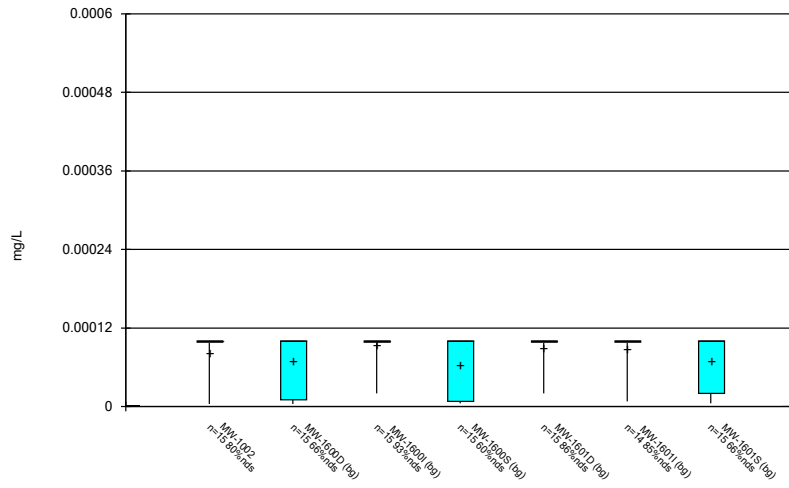
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Box & Whiskers Plot



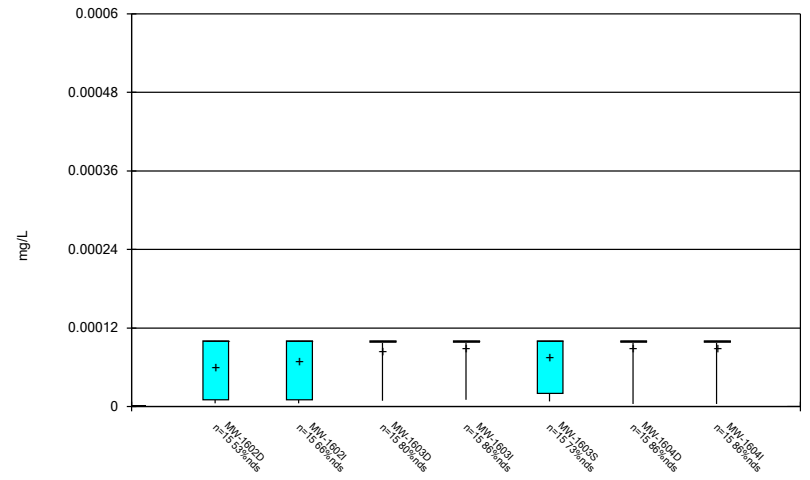
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Box & Whiskers Plot



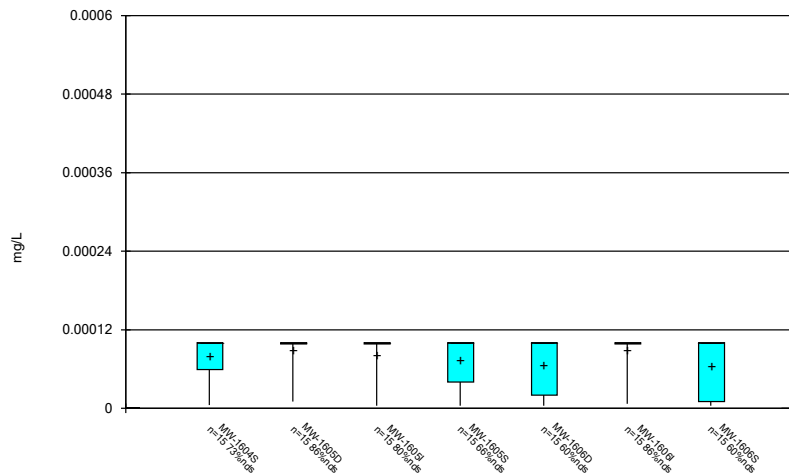
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Box & Whiskers Plot



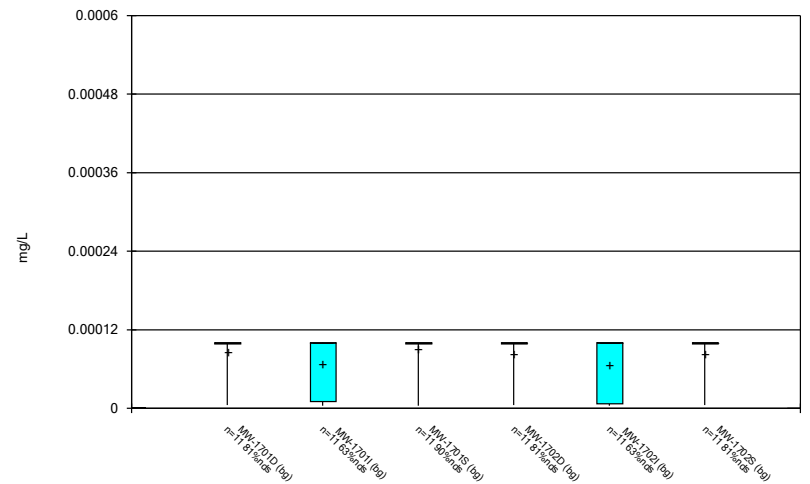
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Box & Whiskers Plot



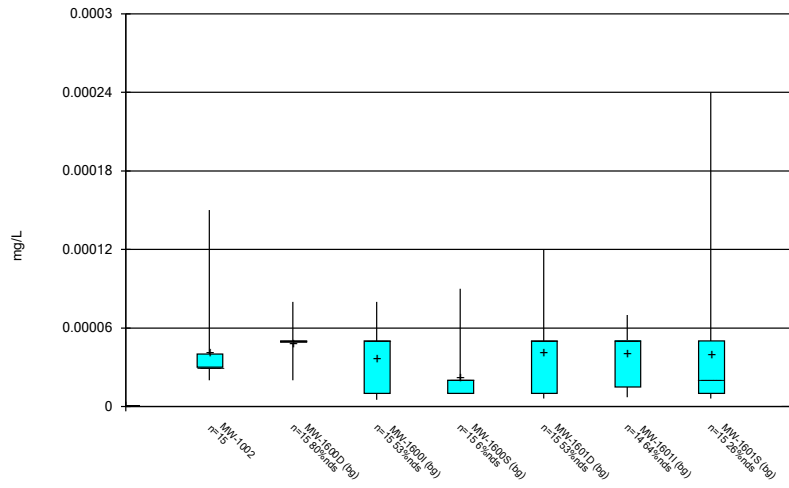
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Box & Whiskers Plot



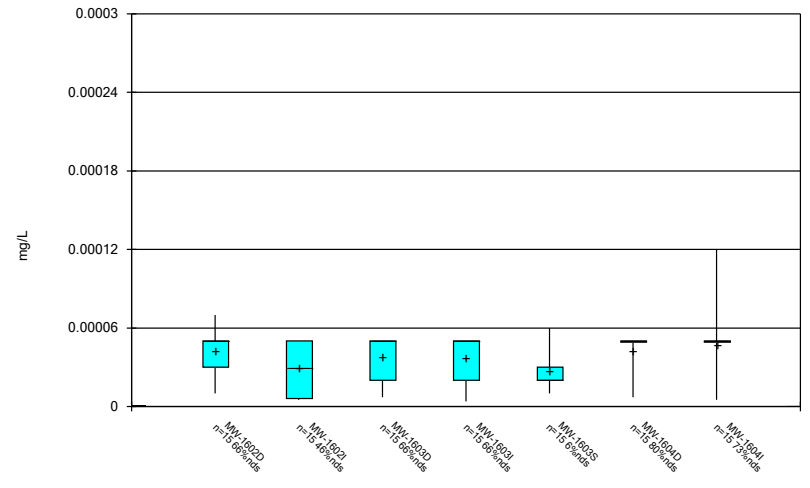
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Box & Whiskers Plot



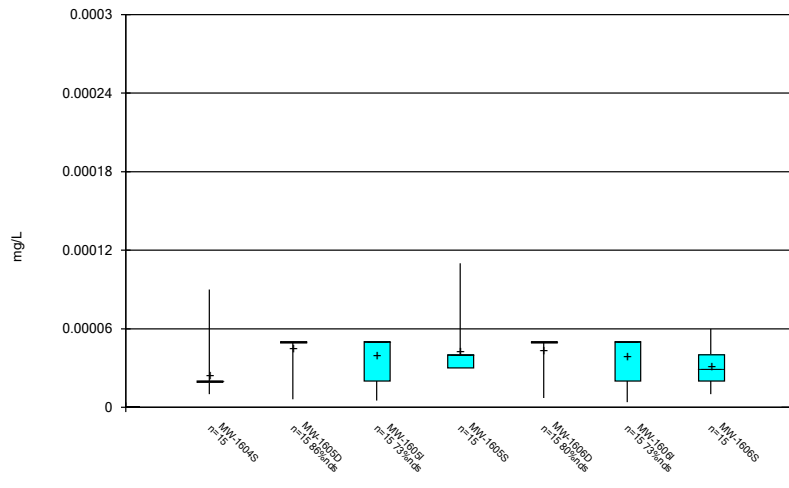
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Box & Whiskers Plot



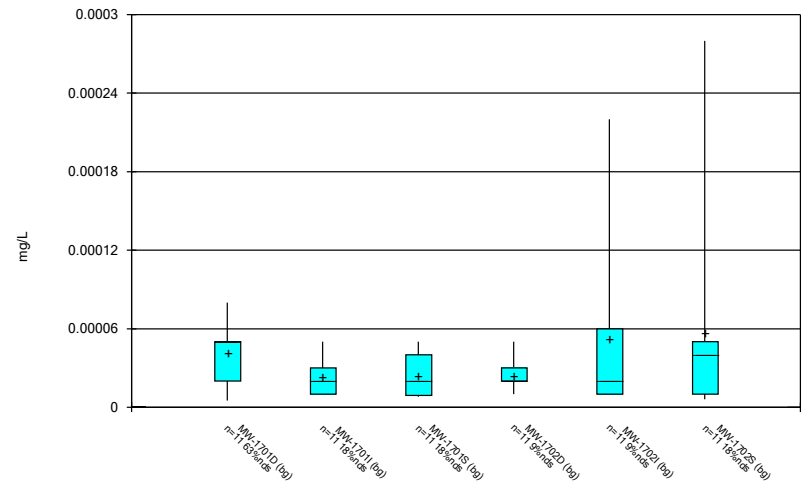
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Box & Whiskers Plot



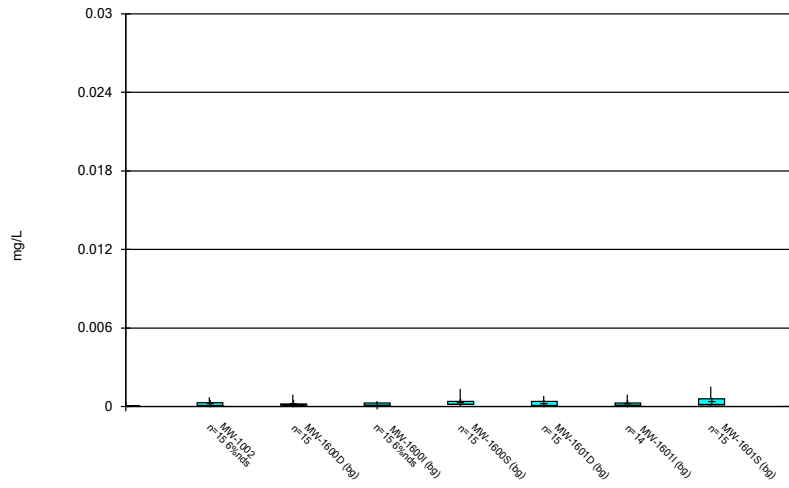
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Box & Whiskers Plot



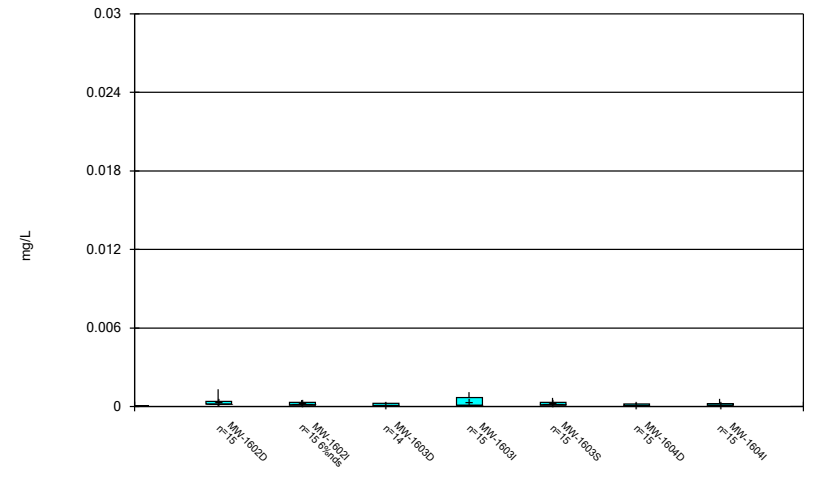
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Box & Whiskers Plot



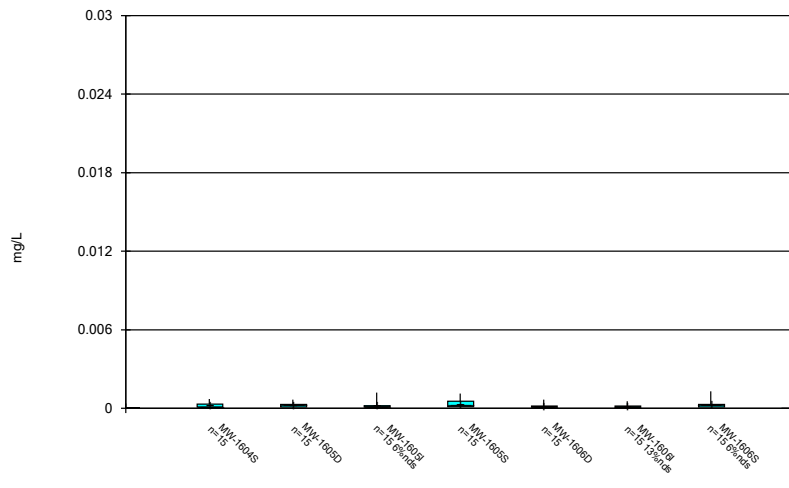
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Box & Whiskers Plot



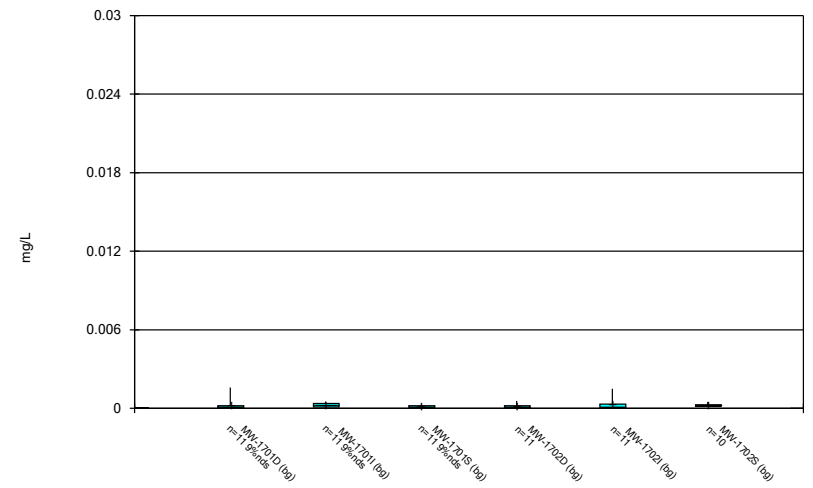
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Box & Whiskers Plot



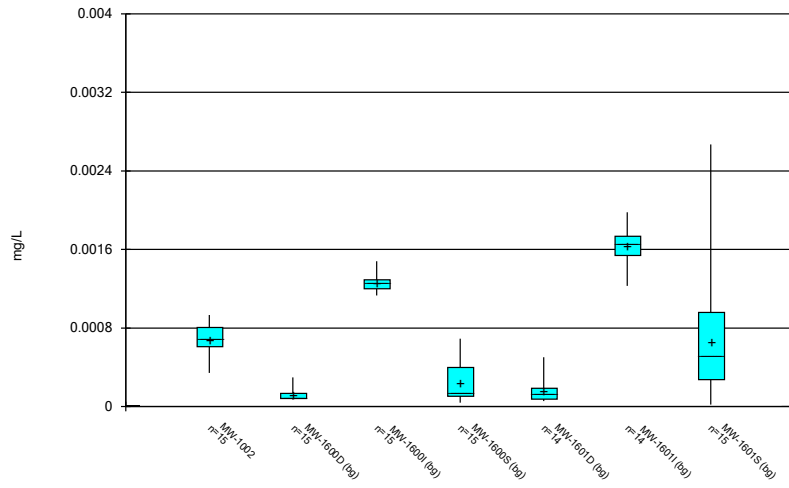
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Box & Whiskers Plot



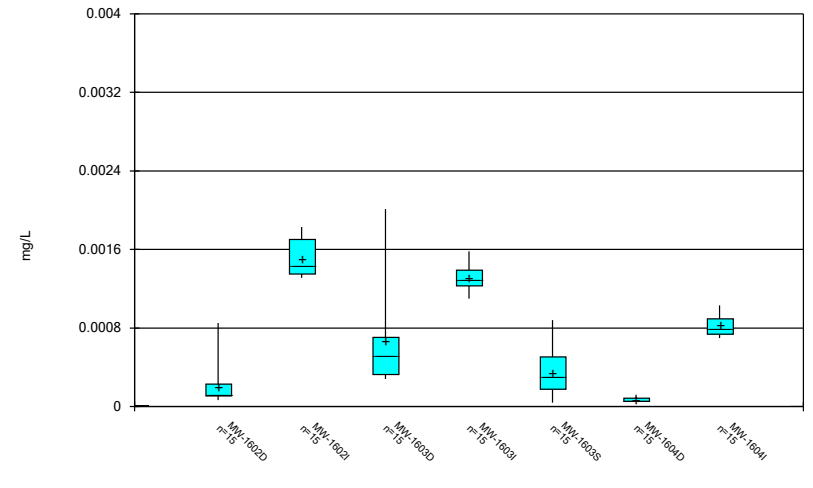
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Box & Whiskers Plot



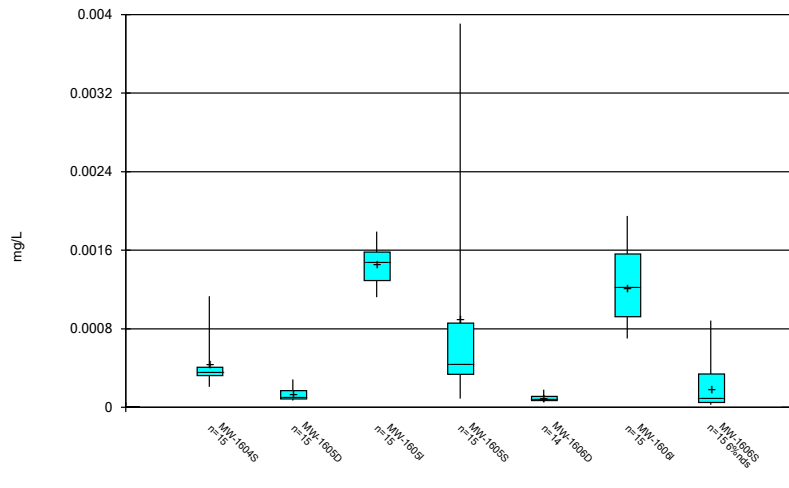
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Box & Whiskers Plot



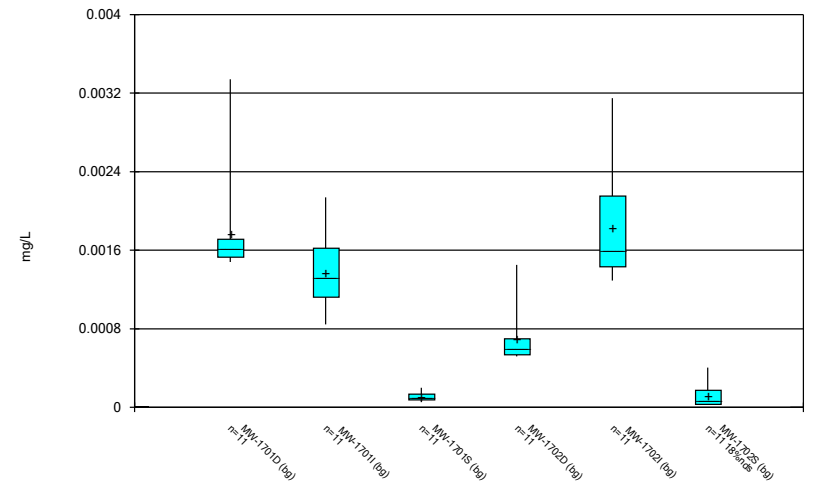
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Box & Whiskers Plot



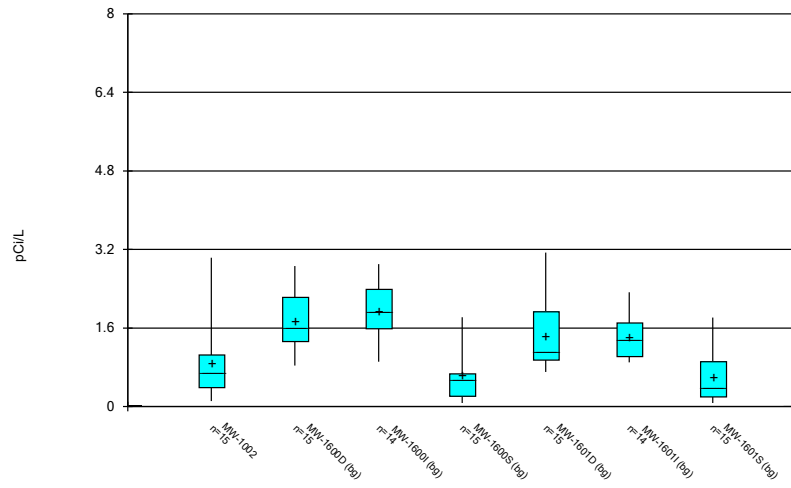
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Box & Whiskers Plot



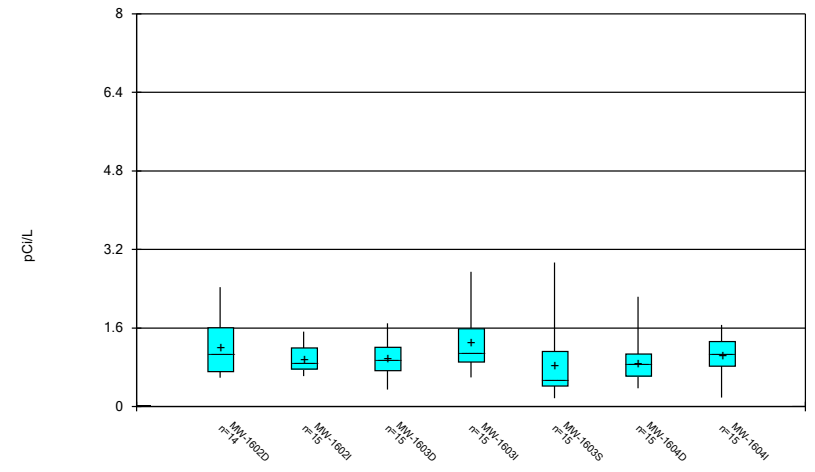
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Box & Whiskers Plot



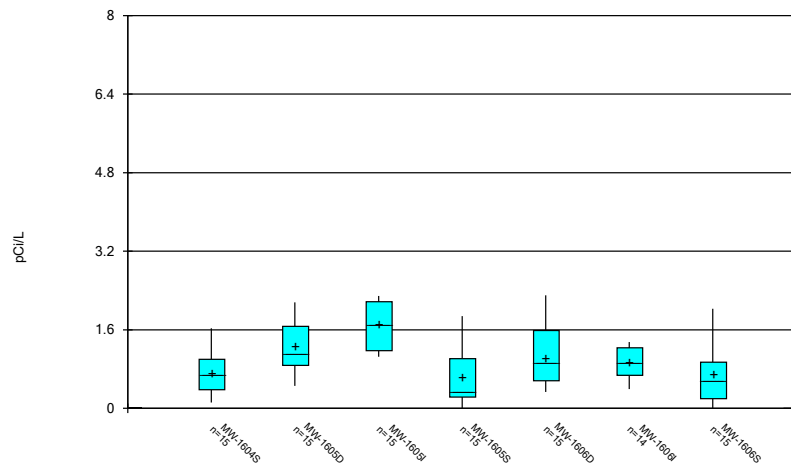
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



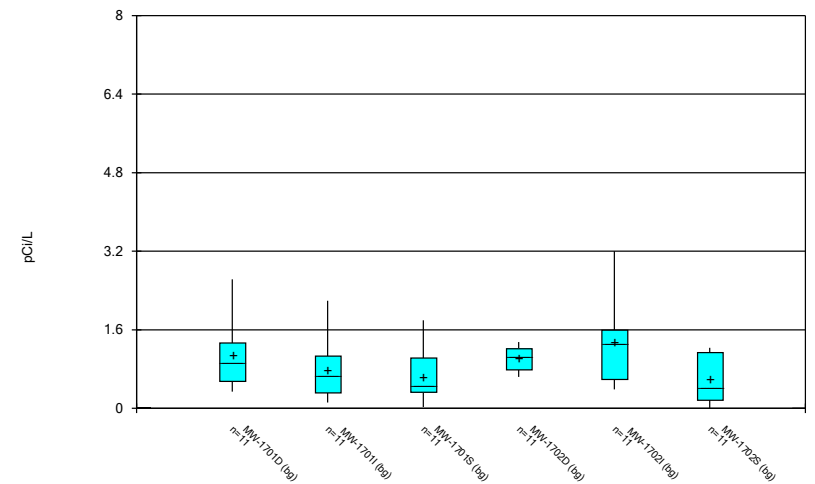
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Box & Whiskers Plot



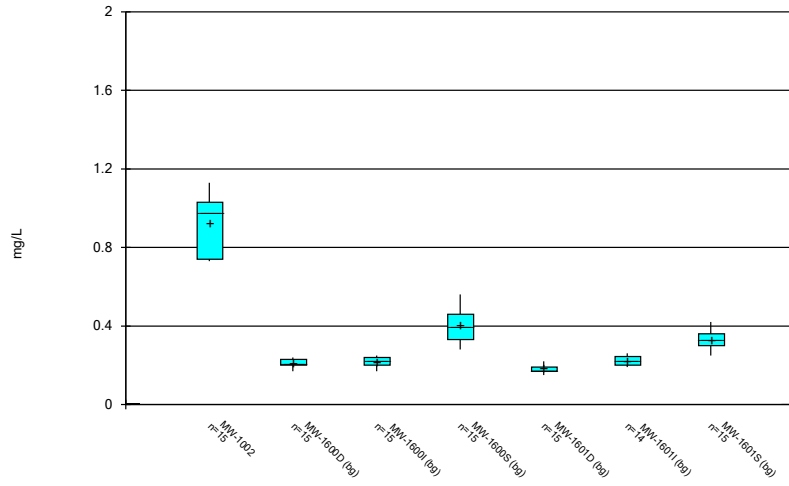
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



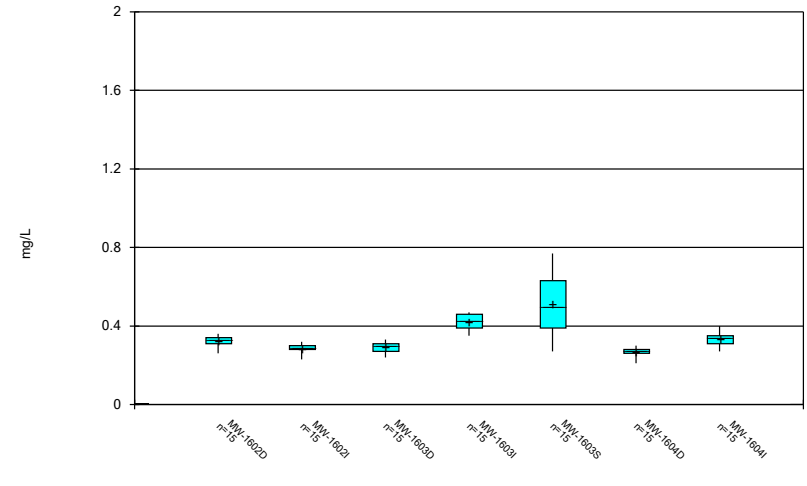
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



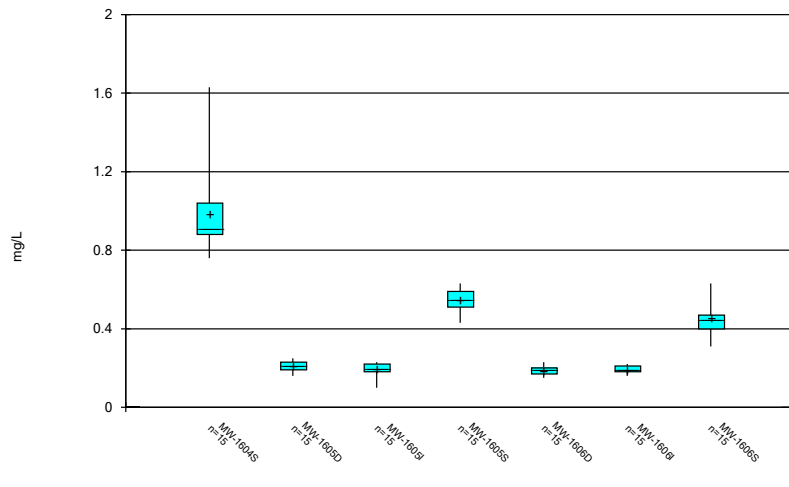
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Box & Whiskers Plot



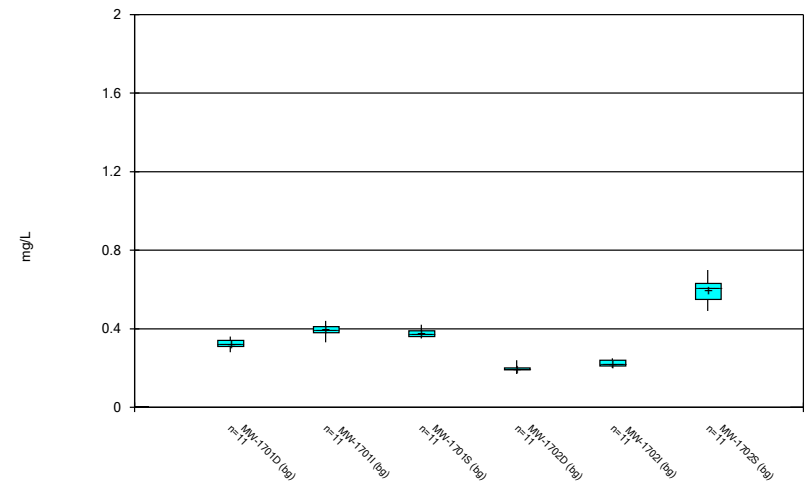
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 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



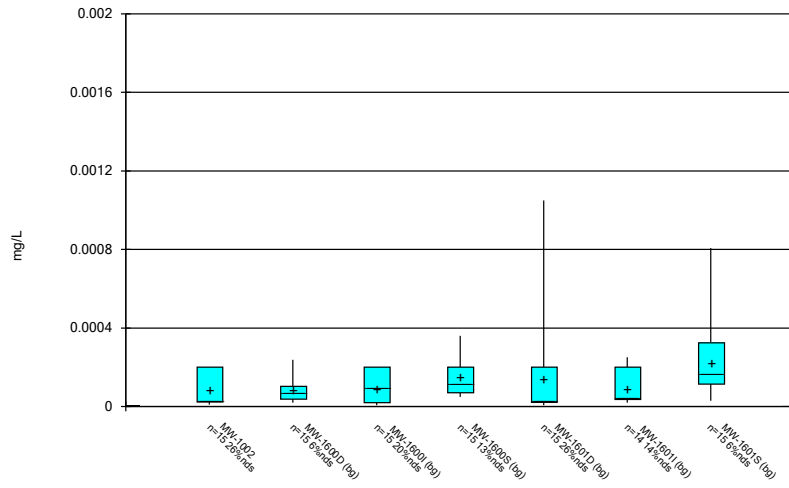
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Box & Whiskers Plot



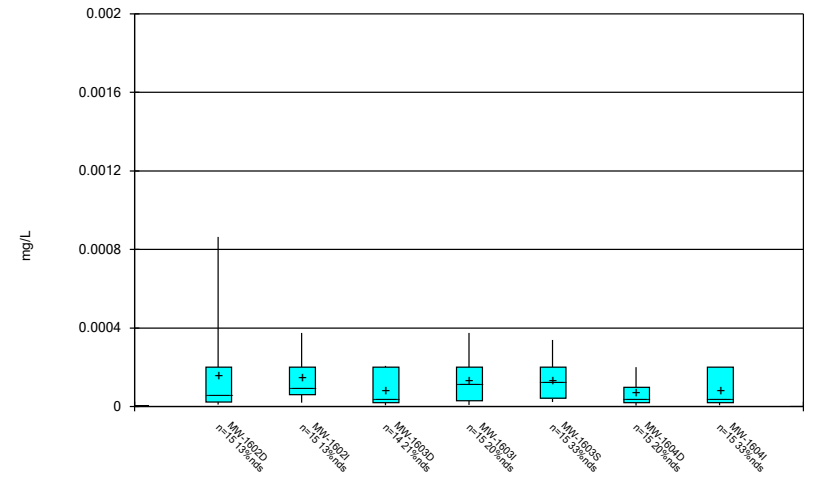
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Box & Whiskers Plot



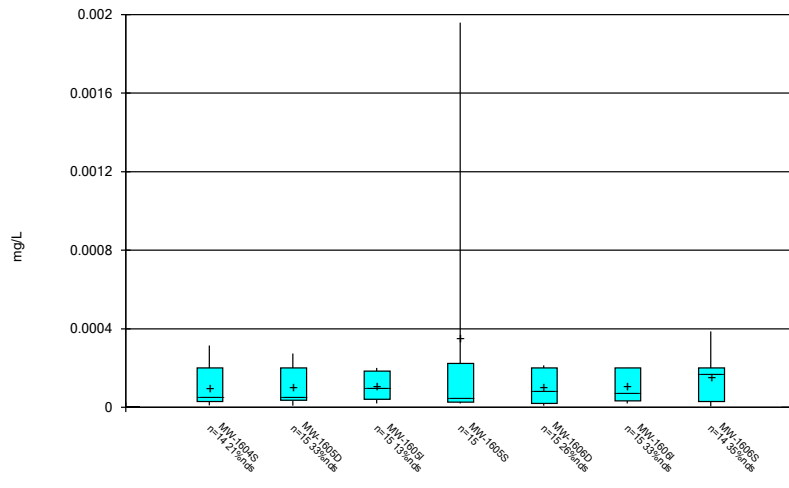
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Box & Whiskers Plot



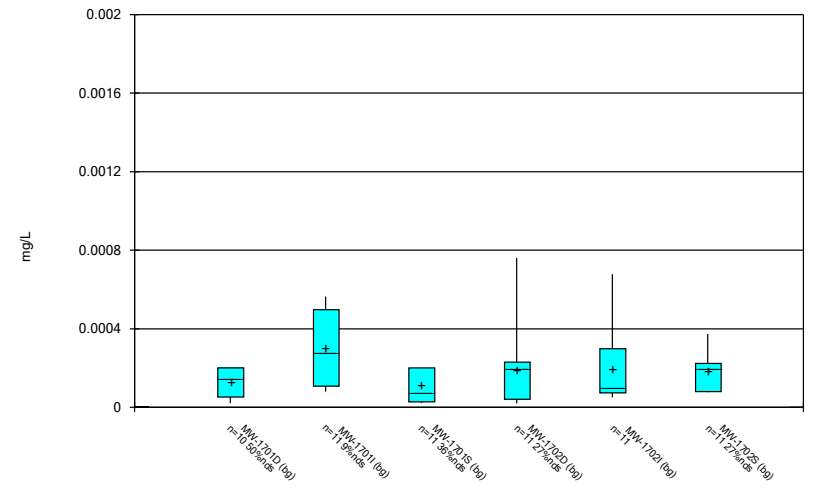
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Box & Whiskers Plot



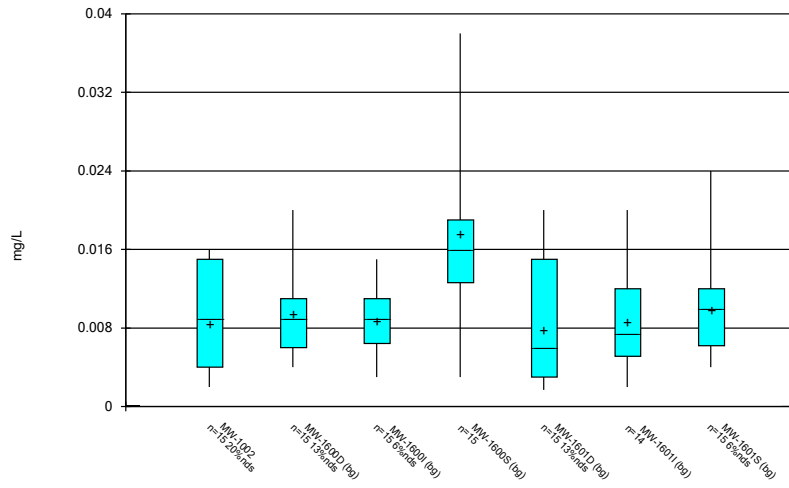
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Box & Whiskers Plot



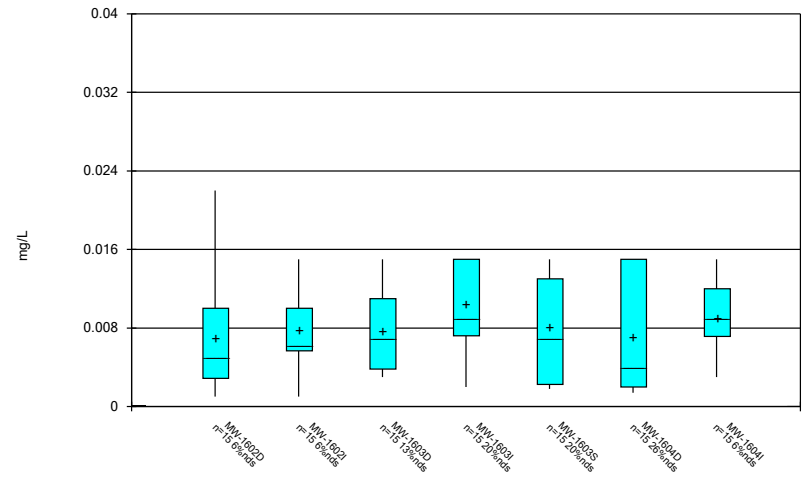
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Box & Whiskers Plot



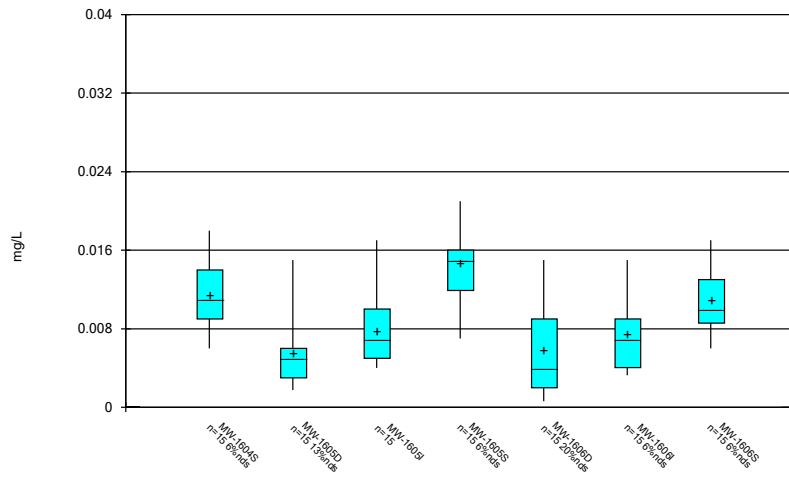
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 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



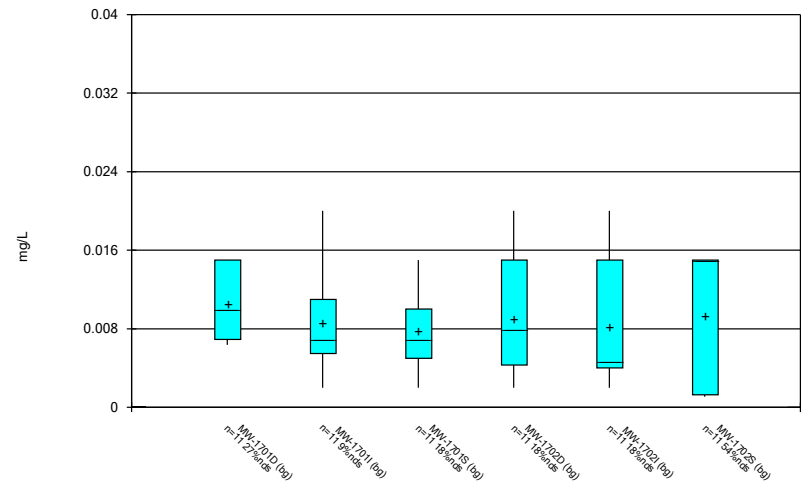
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Box & Whiskers Plot



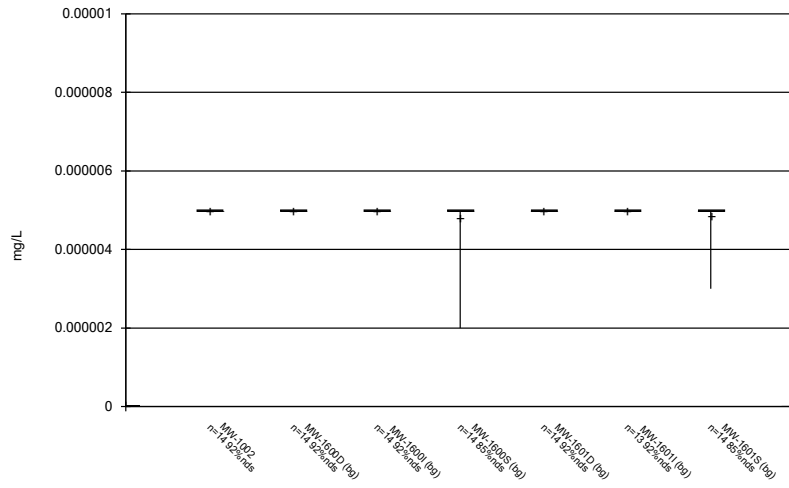
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Box & Whiskers Plot



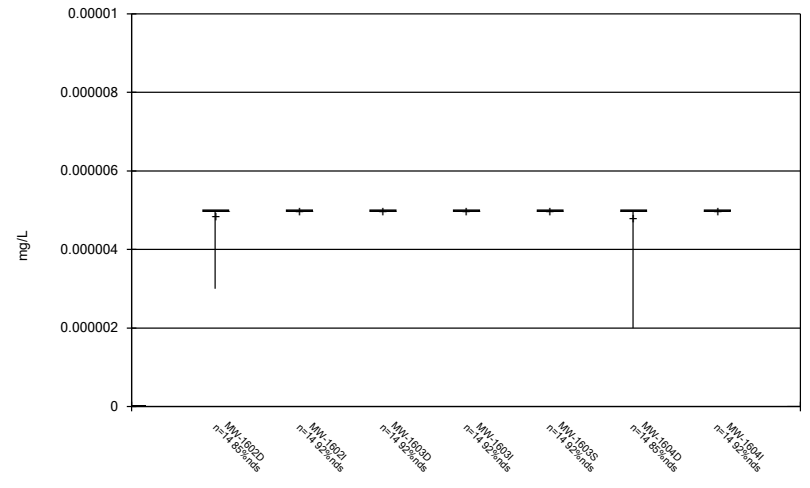
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Box & Whiskers Plot



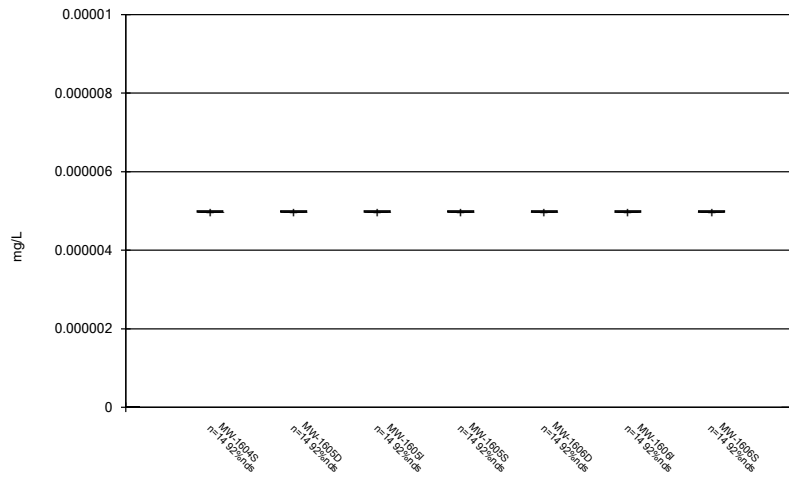
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 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



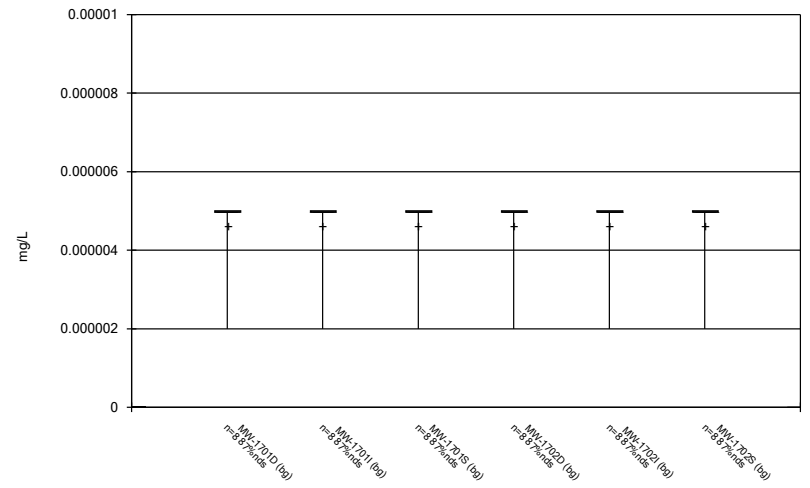
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Box & Whiskers Plot



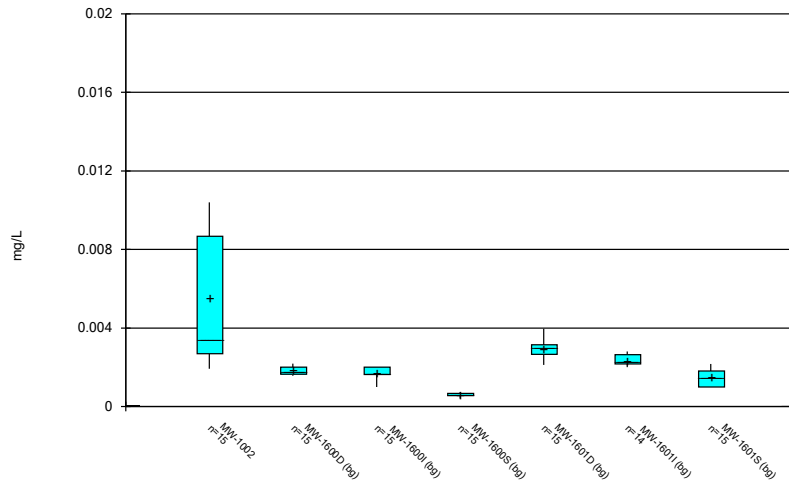
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Box & Whiskers Plot



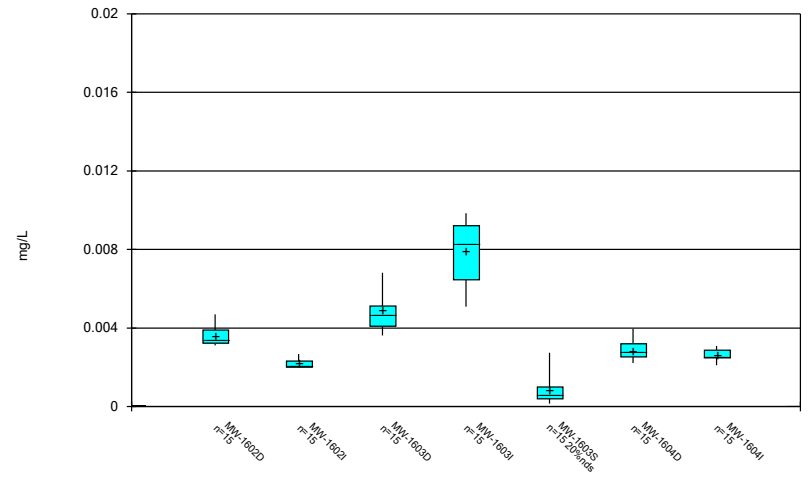
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Box & Whiskers Plot



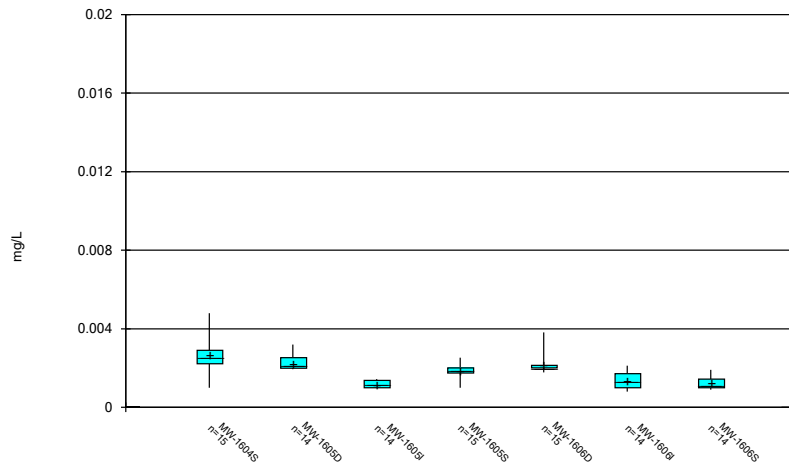
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Box & Whiskers Plot



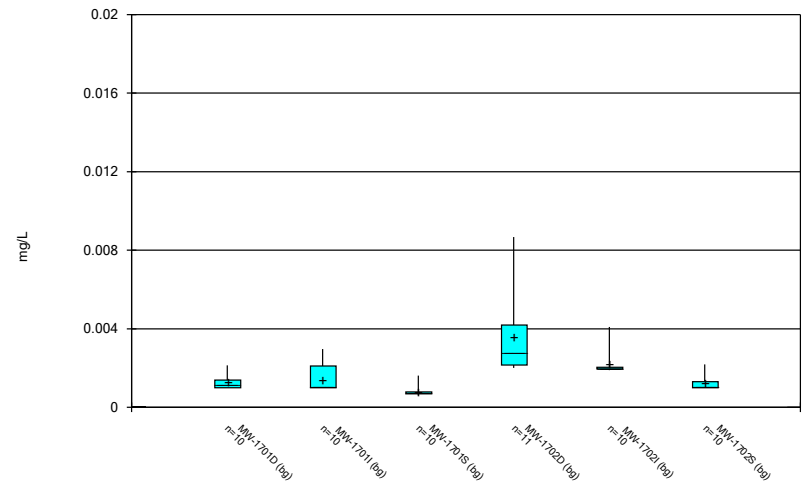
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Box & Whiskers Plot



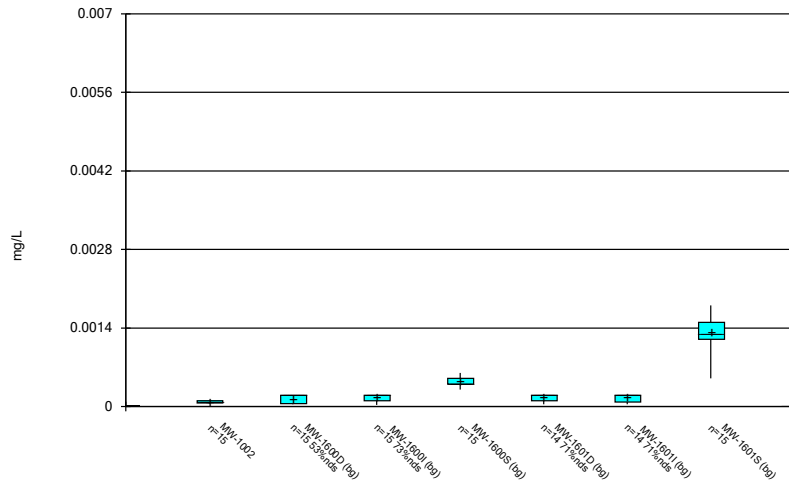
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



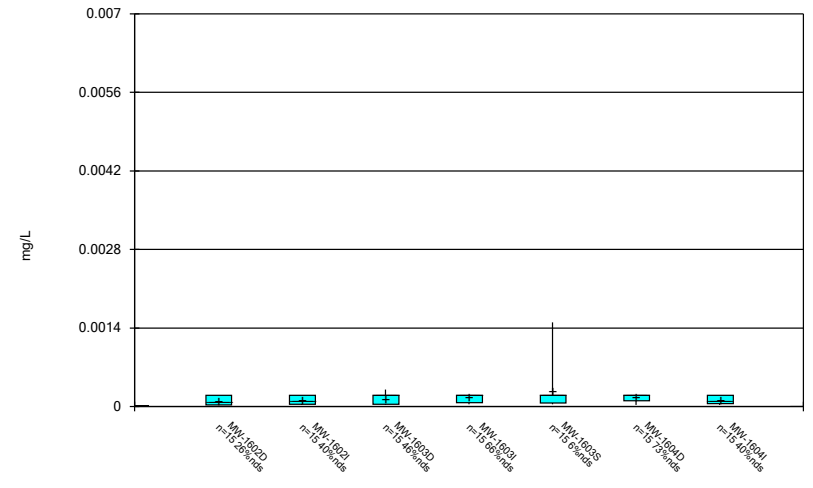
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Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



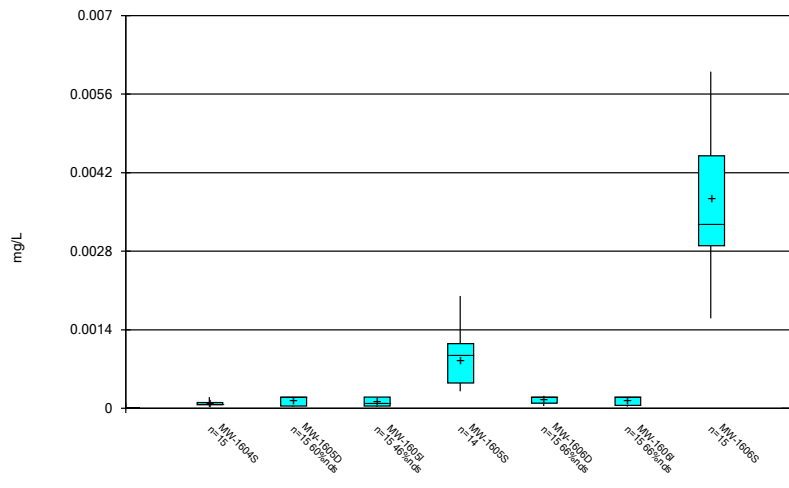
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Box & Whiskers Plot



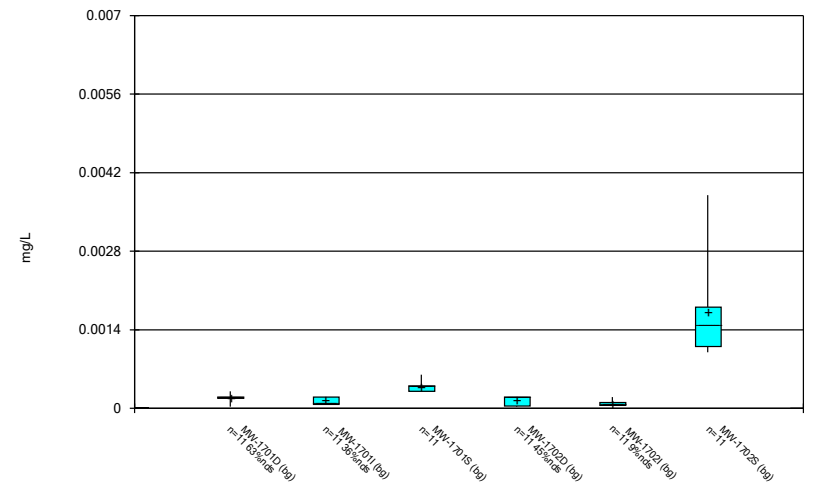
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Box & Whiskers Plot



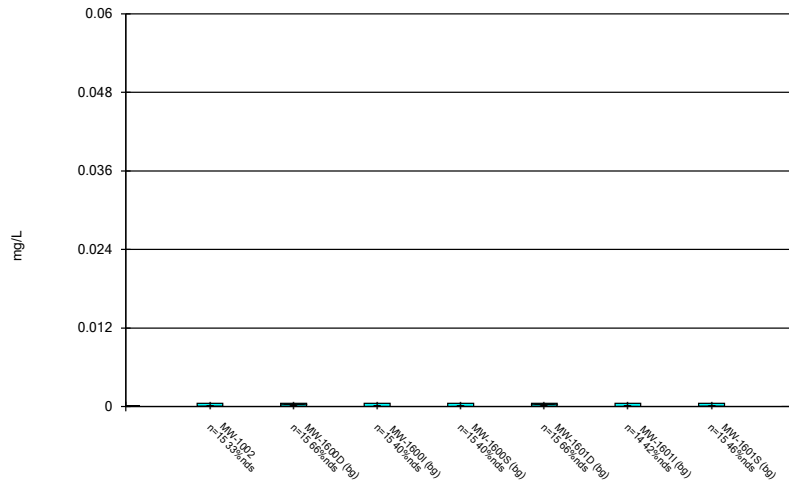
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Box & Whiskers Plot



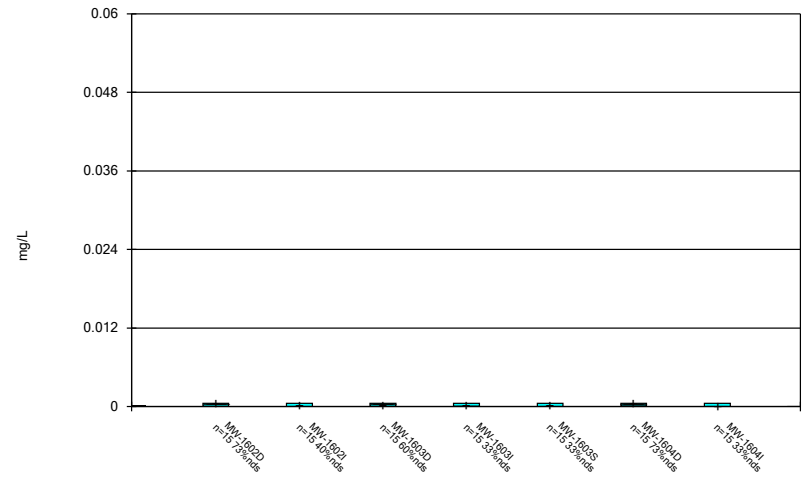
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Box & Whiskers Plot



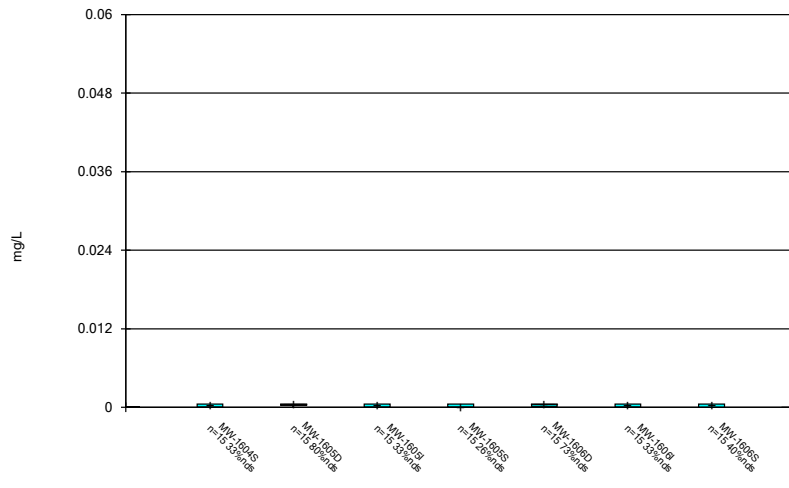
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Box & Whiskers Plot



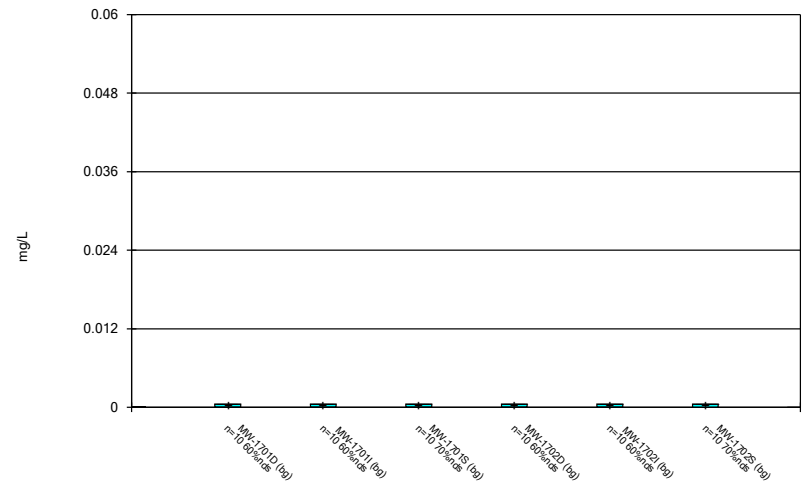
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 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



Constituent: Thallium, total Analysis Run 7/8/2020 4:51 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Box & Whiskers Plot



Constituent: Thallium, total Analysis Run 7/8/2020 4:51 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

FIGURE C.

Outlier Summary

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:52 PM

Date	MW-1701S Molybdenum, total (mg/L)	MW-1702I Molybdenum, total (mg/L)	MW-1702S Molybdenum, total (mg/L)	MW-1601D Selenium, total (mg/L)	MW-1605S Selenium, total (mg/L)	MW-1701D Thallium, total (mg/L)	MW-1701I Thallium, total (mg/L)	MW-1701S Thallium, total (mg/L)	MW-1702D Thallium, total (mg/L)	MW-1702I Thallium, total (mg/L)
6/7/2016										
6/8/2016										
6/27/2016										
7/20/2016										
10/10/2016										
11/15/2016										
1/10/2017										
3/7/2017										
7/18/2017										
12/12/2017						0.051 (o)	0.04 (o)	0.02 (o)	0.03 (o)	0.04 (o)
2/9/2018	0.0079 (o)									
8/15/2018				0.0054 (o)						
9/25/2018										
5/24/2019			3E-05 (J,o)							
6/25/2019	<0.01 (o)	<0.01 (o)								
6/27/2019										

Date	MW-1702S Thallium, total (mg/L)
6/7/2016	
6/8/2016	
6/27/2016	
7/20/2016	
10/10/2016	
11/15/2016	
1/10/2017	
3/7/2017	
7/18/2017	
12/12/2017	0.01 (o)
2/9/2018	
8/15/2018	
9/25/2018	
5/24/2019	
6/25/2019	
6/27/2019	

FIGURE D.

Tolerance Limit Summary Table

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:54 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	n/a	0.00029	n/a	n/a	n/a	n/a	154	n/a	n/a	26.62	n/a	n/a	0.0003711	NP Inter(normality)
Arsenic, total (mg/L)	n/a	0.0675	n/a	n/a	n/a	n/a	155	n/a	n/a	0	n/a	n/a	0.0003525	NP Inter(normality)
Barium, total (mg/L)	n/a	0.997	n/a	n/a	n/a	n/a	155	n/a	n/a	0	n/a	n/a	0.0003525	NP Inter(normality)
Beryllium, total (mg/L)	n/a	0.0001	n/a	n/a	n/a	n/a	155	n/a	n/a	76.77	n/a	n/a	0.0003525	NP Inter(NDs)
Cadmium, total (mg/L)	n/a	0.00028	n/a	n/a	n/a	n/a	155	n/a	n/a	36.77	n/a	n/a	0.0003525	NP Inter(normality)
Chromium, total (mg/L)	n/a	0.00158	n/a	n/a	n/a	n/a	154	n/a	n/a	2.597	n/a	n/a	0.0003711	NP Inter(normality)
Cobalt, total (mg/L)	n/a	0.00334	n/a	n/a	n/a	n/a	154	n/a	n/a	1.299	n/a	n/a	0.0003711	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	2.474	n/a	n/a	n/a	n/a	154	1.125	0.7235	0	None	No	0.05	Inter
Fluoride, total (mg/L)	n/a	0.7	n/a	n/a	n/a	n/a	155	n/a	n/a	0	n/a	n/a	0.0003525	NP Inter(normality)
Lead, total (mg/L)	n/a	0.00105	n/a	n/a	n/a	n/a	154	n/a	n/a	18.83	n/a	n/a	0.0003711	NP Inter(normality)
Lithium, total (mg/L)	n/a	0.038	n/a	n/a	n/a	n/a	155	n/a	n/a	14.19	n/a	n/a	0.0003525	NP Inter(normality)
Mercury, total (mg/L)	n/a	0.000005	n/a	n/a	n/a	n/a	131	n/a	n/a	89.31	n/a	n/a	0.001207	NP Inter(NDs)
Molybdenum, total (mg/L)	n/a	0.00867	n/a	n/a	n/a	n/a	150	n/a	n/a	0	n/a	n/a	0.0004556	NP Inter(normality)
Selenium, total (mg/L)	n/a	0.0038	n/a	n/a	n/a	n/a	154	n/a	n/a	36.36	n/a	n/a	0.0003711	NP Inter(normality)
Thallium, total (mg/L)	n/a	0.0005	n/a	n/a	n/a	n/a	149	n/a	n/a	55.7	n/a	n/a	0.0004795	NP Inter(NDs)

FIGURE E.

ROCKPORT BAP GWPS				
Constituent Name	MCL	CCR Rule Specified	Background Limit	GWPS
Antimony, Total (mg/L)	0.006		0.00029	0.006
Arsenic, Total (mg/L)	0.01		0.0675	0.0675
Barium, Total (mg/L)	2		0.997	2
Beryllium, Total (mg/L)	0.004		0.0001	0.004
Cadmium, Total (mg/L)	0.005		0.00028	0.005
Chromium, Total (mg/L)	0.1		0.00158	0.1
Cobalt, Total (mg/L)		0.006	0.00334	0.006
Combined Radium, Total (pCi/L)	5		2.474	5
Fluoride, Total (mg/L)	4		0.7	4
Lead, Total (mg/L)		0.015	0.00105	0.015
Lithium, Total (mg/L)		0.04	0.038	0.04
Mercury, Total (mg/L)	0.002		0.000005	0.002
Molybdenum, Total (mg/L)		0.1	0.00867	0.1
Selenium, Total (mg/L)	0.05		0.0038	0.05
Thallium, Total (mg/L)	0.002		0.0005	0.002

**Grey cell indicates background is higher than MCL.*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

FIGURE F.

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	MW-1002	0.00006	0.00004	0.006	No	15	0.00005333	0.00001496	6.667	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1602D	0.0001	0.00001	0.006	No	15	0.000046	0.00004867	20	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1602I	0.00006378	0.00002612	0.006	No	15	0.00005067	0.00003712	6.667	None	ln(x)	0.01	Param.
Antimony, total (mg/L)	MW-1603D	0.0001	0.00001	0.006	No	15	0.000052	0.00004039	33.33	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1603I	0.00008	0.00002	0.006	No	15	0.000048	0.00002678	6.667	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1603S	0.00005592	0.00003597	0.006	No	15	0.00004733	0.00001792	6.667	None	ln(x)	0.01	Param.
Antimony, total (mg/L)	MW-1604D	0.0001	0.00001	0.006	No	15	0.00004867	0.00003907	33.33	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1604I	0.00004	0.00002	0.006	No	14	0.00003286	0.00002234	7.143	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1604S	0.00007	0.00005	0.006	No	15	0.00006133	0.00002295	0	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1605D	0.0001	0.00001	0.006	No	15	0.000042	0.0000384	26.67	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1605I	0.00006586	0.00003071	0.006	No	15	0.00005333	0.00003792	13.33	None	ln(x)	0.01	Param.
Antimony, total (mg/L)	MW-1605S	0.0001	0.00004	0.006	No	15	0.00005933	0.00003348	0	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606D	0.0001	0.00001	0.006	No	15	0.00005467	0.0000398	40	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606I	0.0001	0.00002	0.006	No	15	0.000046	0.0000346	26.67	None	No	0.01	NP (normality)
Antimony, total (mg/L)	MW-1606S	0.0000802	0.00004361	0.006	No	15	0.00006333	0.00002992	13.33	None	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1002	0.00029	0.00021	0.0675	No	15	0.0002533	0.0000623	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1602D	0.009418	0.008307	0.0675	No	15	0.008863	0.0008197	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1602I	0.02788	0.01943	0.0675	No	15	0.02365	0.006231	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603D	0.01269	0.01115	0.0675	No	15	0.01192	0.001132	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1603I	0.013	0.0122	0.0675	No	15	0.01284	0.000806	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1603S	0.0002557	0.0001644	0.0675	No	15	0.0002127	0.00007096	0	None	sqrt(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1604D	0.01866	0.01654	0.0675	No	15	0.01763	0.001609	0	None	ln(x)	0.01	Param.
Arsenic, total (mg/L)	MW-1604I	0.0207	0.0185	0.0675	No	15	0.01985	0.002058	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1604S	0.00041	0.00018	0.0675	No	15	0.0002927	0.0001542	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1605D	0.01973	0.01739	0.0675	No	15	0.01856	0.001731	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1605I	0.0257	0.0178	0.0675	No	15	0.02263	0.009264	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1605S	0.00061	0.00036	0.0675	No	13	0.0005423	0.0003286	0	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	MW-1606D	0.01657	0.01389	0.0675	No	15	0.01523	0.001978	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606I	0.007909	0.00476	0.0675	No	15	0.006335	0.002324	0	None	No	0.01	Param.
Arsenic, total (mg/L)	MW-1606S	0.00032	0.00019	0.0675	No	15	0.000262	0.0001168	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1002	0.02255	0.0143	2	No	15	0.01877	0.00675	0	None	x^(1/3)	0.01	Param.
Barium, total (mg/L)	MW-1602D	0.4862	0.4139	2	No	15	0.4501	0.05338	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1602I	0.1327	0.1196	2	No	15	0.1261	0.009665	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603D	0.1166	0.1089	2	No	15	0.1127	0.00565	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603I	0.08702	0.08115	2	No	15	0.08409	0.004328	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1603S	0.01662	0.01166	2	No	15	0.01414	0.003656	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604D	0.2535	0.233	2	No	15	0.2433	0.0151	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604I	0.1299	0.1112	2	No	15	0.1206	0.0138	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1604S	0.0207	0.013	2	No	15	0.01858	0.008195	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1605D	0.459	0.408	2	No	15	0.4335	0.03763	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1605I	0.1634	0.1449	2	No	15	0.1541	0.01361	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1605S	0.0119	0.00776	2	No	15	0.009405	0.002294	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	MW-1606D	0.4372	0.3795	2	No	15	0.4083	0.04262	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1606I	0.06965	0.05253	2	No	15	0.06109	0.01263	0	None	No	0.01	Param.
Barium, total (mg/L)	MW-1606S	0.01398	0.01075	2	No	15	0.01236	0.002383	0	None	No	0.01	Param.
Beryllium, total (mg/L)	MW-1002	0.0001	0.00002	0.004	No	15	0.000082	0.00003741	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1602D	0.0001	0.000008	0.004	No	15	0.00006127	0.00004409	53.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1602I	0.0001	0.000006	0.004	No	15	0.0000698	0.00004433	66.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603D	0.0001	0.000049	0.004	No	15	0.0000852	0.00003162	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603I	0.0001	0.00002	0.004	No	15	0.00008867	0.00002997	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1603S	0.0001	0.00001	0.004	No	15	0.00007653	0.00004036	73.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604D	0.0001	0.00002	0.004	No	15	0.00008827	0.00003111	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604I	0.0001	0.00002	0.004	No	15	0.00008827	0.00003111	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1604S	0.0001	0.00002	0.004	No	15	0.0000794	0.00003722	73.33	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1605D	0.0001	0.00002	0.004	No	15	0.00008867	0.00002997	86.67	None	No	0.01	NP (NDs)

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Beryllium, total (mg/L)	MW-1605I	0.0001	0.00002	0.004	No	15	0.00008187	0.0000377	80	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1605S	0.0001	0.00002	0.004	No	15	0.00007493	0.0000376	66.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606D	0.0001	0.00001	0.004	No	15	0.00006627	0.00004329	60	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606I	0.0001	0.00002	0.004	No	15	0.00008847	0.00003054	86.67	None	No	0.01	NP (NDs)
Beryllium, total (mg/L)	MW-1606S	0.0001	0.00001	0.004	No	15	0.00006487	0.0000448	60	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1002	0.00005	0.00002	0.005	No	15	0.00004133	0.0000327	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1602D	0.00007	0.00002	0.005	No	15	0.00004267	0.0000171	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1602I	0.00005	0.000006	0.005	No	15	0.00002933	0.000021	46.67	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1603D	0.00005	0.00001	0.005	No	15	0.0000384	0.00001775	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1603I	0.00005	0.00001	0.005	No	15	0.0000374	0.00001887	66.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1603S	0.00005	0.00001	0.005	No	15	0.00002667	0.00001291	6.667	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1604D	0.00005	0.00002	0.005	No	15	0.00004233	0.00001611	80	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1604I	0.00012	0.00002	0.005	No	15	0.00004693	0.00002586	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1604S	0.00003	0.00001	0.005	No	15	0.00002467	0.00001885	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1605D	0.00005	0.00002	0.005	No	15	0.00004507	0.00001329	86.67	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1605I	0.00005	0.000008	0.005	No	15	0.0000394	0.00001845	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1605S	0.00005	0.00003	0.005	No	15	0.00004267	0.00002154	0	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	MW-1606D	0.00005	0.00002	0.005	No	15	0.00004313	0.0000145	80	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1606I	0.00005	0.00001	0.005	No	15	0.00003927	0.00001873	73.33	None	No	0.01	NP (NDs)
Cadmium, total (mg/L)	MW-1606S	0.00004019	0.00002085	0.005	No	15	0.00003133	0.00001506	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1002	0.0002739	0.0000832	0.1	No	15	0.0002005	0.0001856	6.667	None	x^(1/3)	0.01	Param.
Chromium, total (mg/L)	MW-1602D	0.0005071	0.0001595	0.1	No	15	0.0003585	0.0003188	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1602I	0.0002851	0.0001231	0.1	No	15	0.0002127	0.0001303	6.667	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1603D	0.0002252	0.0001028	0.1	No	14	0.000164	0.00008635	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1603I	0.000743	0.000081	0.1	No	15	0.0003331	0.0003347	0	None	No	0.01	NP (normality)
Chromium, total (mg/L)	MW-1603S	0.0003624	0.0001223	0.1	No	15	0.0002423	0.0001771	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1604D	0.000174	0.00008091	0.1	No	15	0.0001275	0.0000687	0	None	No	0.01	Param.
Chromium, total (mg/L)	MW-1604I	0.0002147	0.00007866	0.1	No	15	0.0001737	0.0001565	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1604S	0.0002909	0.0000981	0.1	No	15	0.0002325	0.0002066	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605D	0.0002923	0.0001165	0.1	No	15	0.0002147	0.0001502	0	None	sqrt(x)	0.01	Param.
Chromium, total (mg/L)	MW-1605I	0.000214	0.000091	0.1	No	15	0.0002006	0.000282	6.667	None	No	0.01	NP (normality)
Chromium, total (mg/L)	MW-1605S	0.0004714	0.0001333	0.1	No	15	0.000343	0.0003227	0	None	x^(1/3)	0.01	Param.
Chromium, total (mg/L)	MW-1606D	0.0002261	0.00007968	0.1	No	15	0.0001831	0.0001765	0	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606I	0.0001883	0.00007797	0.1	No	15	0.0001535	0.0001336	13.33	None	ln(x)	0.01	Param.
Chromium, total (mg/L)	MW-1606S	0.0004088	0.000126	0.1	No	15	0.0003438	0.0003916	6.667	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1002	0.000785	0.0005893	0.006	No	15	0.0006871	0.0001444	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1602D	0.0002388	0.00009299	0.006	No	15	0.0001967	0.0001986	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1602I	0.00175	0.00134	0.006	No	15	0.001507	0.0001905	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1603D	0.0008287	0.0003682	0.006	No	15	0.0006887	0.0004959	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1603I	0.001385	0.001227	0.006	No	15	0.001306	0.0001164	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1603S	0.0005121	0.0001854	0.006	No	15	0.0003487	0.0002411	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604D	0.000091	0.000051	0.006	No	15	0.00006947	0.00002371	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1604I	0.000906	0.000751	0.006	No	15	0.0008285	0.0001144	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1604S	0.000548	0.000297	0.006	No	15	0.0004397	0.0002574	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	MW-1605D	0.0001571	0.00008689	0.006	No	15	0.0001289	0.00006605	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1605I	0.00159	0.001328	0.006	No	15	0.001459	0.0001935	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1605S	0.001065	0.0002898	0.006	No	15	0.0008981	0.001074	0	None	ln(x)	0.01	Param.
Cobalt, total (mg/L)	MW-1606D	0.0001148	0.00006977	0.006	No	14	0.00009229	0.00003178	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1606I	0.001482	0.0009534	0.006	No	15	0.001218	0.0003901	0	None	No	0.01	Param.
Cobalt, total (mg/L)	MW-1606S	0.0002172	0.0000595	0.006	No	15	0.0001855	0.0002268	6.667	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1002	1.255	0.3842	5	No	15	0.884	0.7636	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602D	1.555	0.8007	5	No	14	1.204	0.582	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1602I	1.159	0.7841	5	No	15	0.9713	0.2763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603D	1.226	0.7395	5	No	15	0.983	0.3593	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1603I	1.658	0.9169	5	No	15	1.315	0.5977	0	None	sqrt(x)	0.01	Param.

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	MW-1603S	1.137	0.3715	5	No	15	0.838	0.7594	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604D	1.144	0.5991	5	No	15	0.8942	0.4475	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604I	1.292	0.7738	5	No	15	1.033	0.3824	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1604S	0.9921	0.4351	5	No	15	0.7136	0.411	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605D	1.624	0.9123	5	No	15	1.268	0.5252	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605I	2.011	1.395	5	No	15	1.703	0.4541	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1605S	0.9253	0.2088	5	No	15	0.6329	0.5827	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606D	1.391	0.6554	5	No	15	1.023	0.5427	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606I	1.143	0.7326	5	No	14	0.938	0.2899	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-1606S	1.096	0.2794	5	No	15	0.6877	0.6025	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1002	1.025	0.8324	4	No	15	0.9233	0.1453	0	None	x^2	0.01	Param.
Fluoride, total (mg/L)	MW-1602D	0.3405	0.3035	4	No	15	0.322	0.02731	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1602I	0.3024	0.2723	4	No	15	0.2873	0.02219	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603D	0.307	0.2744	4	No	15	0.2907	0.02404	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603I	0.4472	0.3982	4	No	15	0.4227	0.03615	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1603S	0.6097	0.4063	4	No	15	0.508	0.1501	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604D	0.282	0.25	4	No	15	0.266	0.02354	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604I	0.3581	0.3126	4	No	15	0.3353	0.03357	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1604S	1.05	0.83	4	No	15	0.9813	0.2153	0	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	MW-1605D	0.225	0.191	4	No	15	0.208	0.02513	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1605I	0.2167	0.1761	4	No	15	0.1947	0.03399	0	None	x^2	0.01	Param.
Fluoride, total (mg/L)	MW-1605S	0.5837	0.5043	4	No	15	0.544	0.05853	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606D	0.1999	0.1734	4	No	15	0.1867	0.01952	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606I	0.2041	0.1799	4	No	15	0.192	0.01781	0	None	No	0.01	Param.
Fluoride, total (mg/L)	MW-1606S	0.5069	0.3945	4	No	15	0.4507	0.08293	0	None	No	0.01	Param.
Lead, total (mg/L)	MW-1002	0.0002	0.00002	0.015	No	15	0.0000816	0.00008198	26.67	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1602D	0.0002128	0.00003227	0.015	No	15	0.0001577	0.0002262	13.33	None	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1602I	0.0002299	0.00007641	0.015	No	15	0.0001531	0.0001132	13.33	None	No	0.01	Param.
Lead, total (mg/L)	MW-1603D	0.00005891	0.00001244	0.015	No	14	0.00008171	0.00008131	21.43	Kaplan-Meier	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1603I	0.0001815	0.00003369	0.015	No	15	0.0001355	0.0001128	20	Kaplan-Meier	No	0.01	Param.
Lead, total (mg/L)	MW-1603S	0.0001469	0.00003586	0.015	No	15	0.0001335	0.00009219	33.33	Kaplan-Meier	No	0.01	Param.
Lead, total (mg/L)	MW-1604D	0.00004656	0.00001349	0.015	No	15	0.00006887	0.00007181	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Lead, total (mg/L)	MW-1604I	0.0002	0.00001	0.015	No	15	0.00008613	0.00008588	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1604S	0.0000962	0.0000231	0.015	No	14	0.00009871	0.00009349	21.43	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead, total (mg/L)	MW-1605D	0.0002	0.000009	0.015	No	15	0.0001045	0.0000938	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1605I	0.000156	0.00006652	0.015	No	15	0.0001113	0.00006603	13.33	None	No	0.01	Param.
Lead, total (mg/L)	MW-1605S	0.00092	0.000021	0.015	No	15	0.0003527	0.0006126	0	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606D	0.0002	0.00001	0.015	No	15	0.0001061	0.00008803	26.67	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606I	0.0002	0.000026	0.015	No	15	0.0001101	0.0000836	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	MW-1606S	0.0001819	0.00001209	0.015	No	14	0.0001501	0.000122	35.71	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1002	0.009131	0.003639	0.04	No	15	0.008453	0.005032	20	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1602D	0.009824	0.003022	0.04	No	15	0.006926	0.005804	6.667	None	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1602I	0.01064	0.004908	0.04	No	15	0.007772	0.004227	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1603D	0.01041	0.005037	0.04	No	15	0.007722	0.003963	13.33	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1603I	0.01074	0.005925	0.04	No	15	0.01042	0.003926	20	Kaplan-Meier	No	0.01	Param.
Lithium, total (mg/L)	MW-1603S	0.015	0.002	0.04	No	15	0.008012	0.005254	20	None	No	0.01	NP (normality)
Lithium, total (mg/L)	MW-1604D	0.015	0.00157	0.04	No	15	0.007024	0.00564	26.67	None	No	0.01	NP (normality)
Lithium, total (mg/L)	MW-1604I	0.01157	0.006508	0.04	No	15	0.009041	0.003738	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1604S	0.01367	0.0091	0.04	No	15	0.01138	0.003368	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1605D	0.007514	0.002922	0.04	No	15	0.005623	0.00416	13.33	None	x^(1/3)	0.01	Param.
Lithium, total (mg/L)	MW-1605I	0.009905	0.005439	0.04	No	15	0.007843	0.00354	0	None	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1605S	0.01706	0.01227	0.04	No	15	0.01467	0.003538	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1606D	0.004675	0.00118	0.04	No	15	0.005795	0.005348	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Lithium, total (mg/L)	MW-1606I	0.009697	0.005075	0.04	No	15	0.007386	0.003411	6.667	None	No	0.01	Param.
Lithium, total (mg/L)	MW-1606S	0.01285	0.008966	0.04	No	15	0.01091	0.002862	6.667	None	No	0.01	Param.

Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Mercury, total (mg/L)	MW-1002	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1602D	0.000005	0.000003	0.002	No	14	0.000004857	5.3e-7	85.71	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1602I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1603S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604D	0.000005	0.000002	0.002	No	14	0.000004786	8.0e-7	85.71	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1604S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1605S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606D	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606I	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Mercury, total (mg/L)	MW-1606S	0.000005	0.000005	0.002	No	14	0.000005	3.4e-14	92.86	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	MW-1002	0.00965	0.00254	0.1	No	15	0.005559	0.003284	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1602D	0.00385	0.003283	0.1	No	15	0.003572	0.0004307	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1602I	0.00242	0.002	0.1	No	15	0.002195	0.0002207	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1603D	0.005516	0.004199	0.1	No	15	0.004881	0.001009	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1603I	0.008967	0.006883	0.1	No	15	0.007925	0.001538	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1603S	0.001067	0.0002958	0.1	No	15	0.000844	0.0006937	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1604D	0.003194	0.002551	0.1	No	15	0.002873	0.0004747	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604I	0.002821	0.002408	0.1	No	15	0.002615	0.0003046	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1604S	0.003251	0.001997	0.1	No	15	0.002677	0.000969	0	None	x^(1/3)	0.01	Param.
Molybdenum, total (mg/L)	MW-1605D	0.0026	0.00198	0.1	No	14	0.002248	0.0003655	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1605I	0.001283	0.001054	0.1	No	14	0.001171	0.0001636	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	MW-1605S	0.002101	0.001591	0.1	No	15	0.001846	0.0003764	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606D	0.00221	0.00185	0.1	No	15	0.002145	0.0004936	0	None	No	0.01	NP (normality)
Molybdenum, total (mg/L)	MW-1606I	0.001633	0.001073	0.1	No	14	0.001353	0.0003956	0	None	No	0.01	Param.
Molybdenum, total (mg/L)	MW-1606S	0.00156	0.0009	0.1	No	14	0.001221	0.0003366	0	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1002	0.0000902	0.00006618	0.05	No	15	0.00007867	0.00001767	0	None	sqrt(x)	0.01	Param.
Selenium, total (mg/L)	MW-1602D	0.0002	0.00003	0.05	No	15	0.000102	0.00007466	26.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1602I	0.0002	0.00004	0.05	No	15	0.0001147	0.00007501	40	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1603D	0.0003	0.00004	0.05	No	15	0.000138	0.00008825	46.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1603I	0.0002	0.00007	0.05	No	15	0.0001553	0.00006653	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1603S	0.0002999	0.00007562	0.05	No	15	0.0002853	0.000379	6.667	None	ln(x)	0.01	Param.
Selenium, total (mg/L)	MW-1604D	0.0002	0.00006	0.05	No	15	0.000162	0.00006678	73.33	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1604I	0.0002	0.00005	0.05	No	15	0.00012	0.00007101	40	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1604S	0.0001203	0.00005716	0.05	No	15	0.000096	0.00005717	0	None	ln(x)	0.01	Param.
Selenium, total (mg/L)	MW-1605D	0.0002	0.00004	0.05	No	15	0.0001393	0.00007851	60	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1605I	0.0002	0.00004	0.05	No	15	0.0001213	0.00007791	46.67	None	No	0.01	NP (normality)
Selenium, total (mg/L)	MW-1605S	0.001208	0.0005352	0.05	No	14	0.0008714	0.0004746	0	None	No	0.01	Param.
Selenium, total (mg/L)	MW-1606D	0.0002	0.00006	0.05	No	15	0.000156	0.00006588	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1606I	0.0002	0.00005	0.05	No	15	0.0001507	0.00007382	66.67	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	MW-1606S	0.00456	0.00296	0.05	No	15	0.00376	0.00118	0	None	No	0.01	Param.
Thallium, total (mg/L)	MW-1002	0.0005	0.00002	0.002	No	15	0.0001887	0.000228	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1602D	0.0005	0.00005	0.002	No	15	0.0003771	0.0002113	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1602I	0.0005	0.00002	0.002	No	15	0.000216	0.0002402	40	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1603D	0.0005	0.00003	0.002	No	15	0.0003152	0.0002345	60	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1603I	0.0005	0.00003	0.002	No	15	0.0001913	0.0002261	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1603S	0.0005	0.00002	0.002	No	15	0.000191	0.0002269	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1604D	0.0005	0.00005	0.002	No	15	0.0003783	0.0002096	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1604I	0.0005	0.00001	0.002	No	15	0.0001867	0.00023	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1604S	0.0005	0.00002	0.002	No	15	0.0001942	0.0002246	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1605D	0.0005	0.00005	0.002	No	15	0.000406	0.0001947	80	None	No	0.01	NP (NDs)

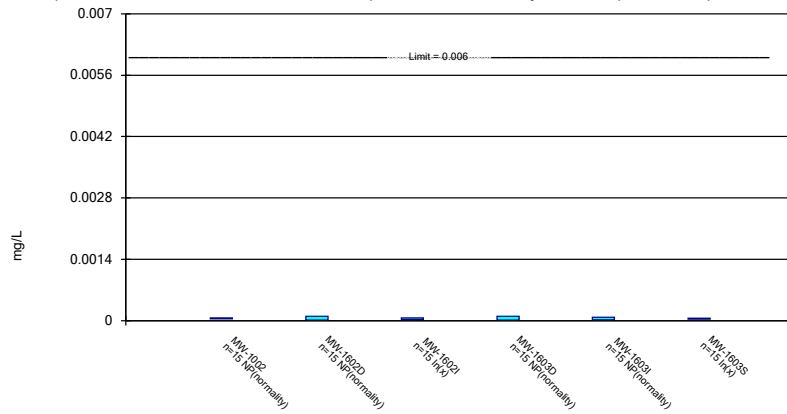
Confidence Intervals - All Results (No Significant)

Rockport BAP Client: Geosyntec Data: Rockport_BAP Printed 7/8/2020, 4:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Thallium, total (mg/L)	MW-1605I	0.0005	0.00002	0.002	No	15	0.0001982	0.0002243	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1605S	0.0005	0.00002	0.002	No	15	0.0001627	0.0002115	26.67	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1606D	0.0005	0.00005	0.002	No	15	0.0003816	0.0002044	73.33	None	No	0.01	NP (NDs)
Thallium, total (mg/L)	MW-1606I	0.0005	0.00003	0.002	No	15	0.0001962	0.0002227	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	MW-1606S	0.0005	0.00002	0.002	No	15	0.0002179	0.000239	40	None	No	0.01	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

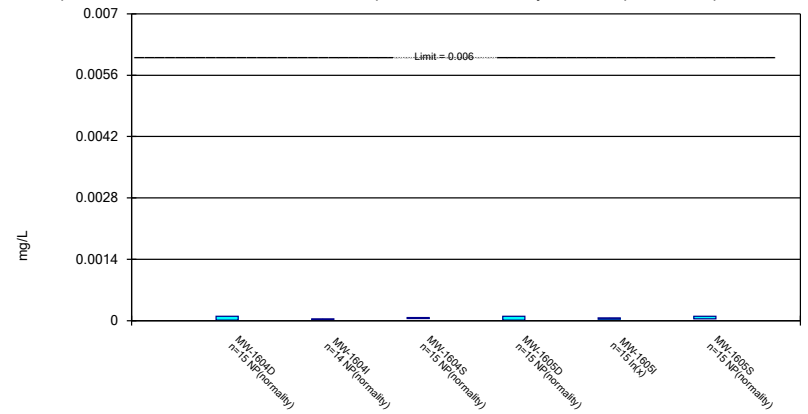
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Constituent: Antimony, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

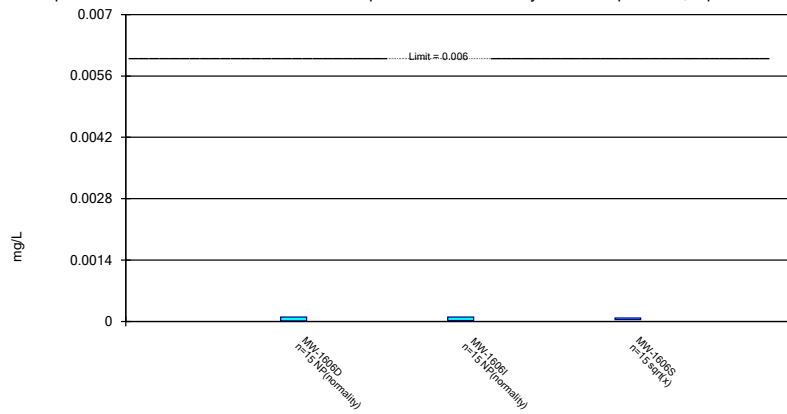
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Constituent: Antimony, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

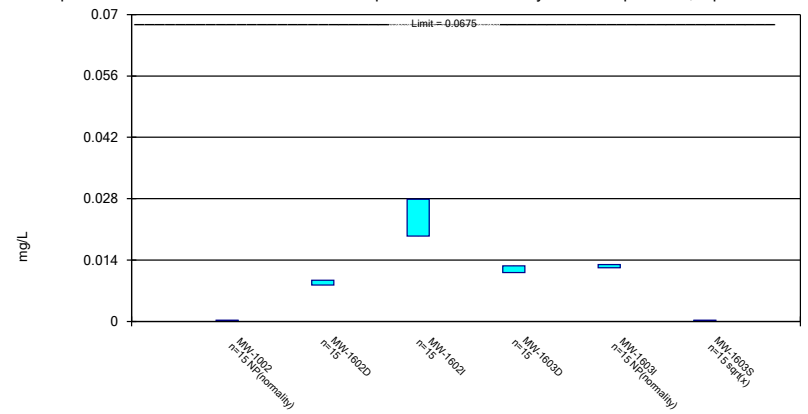
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Constituent: Antimony, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

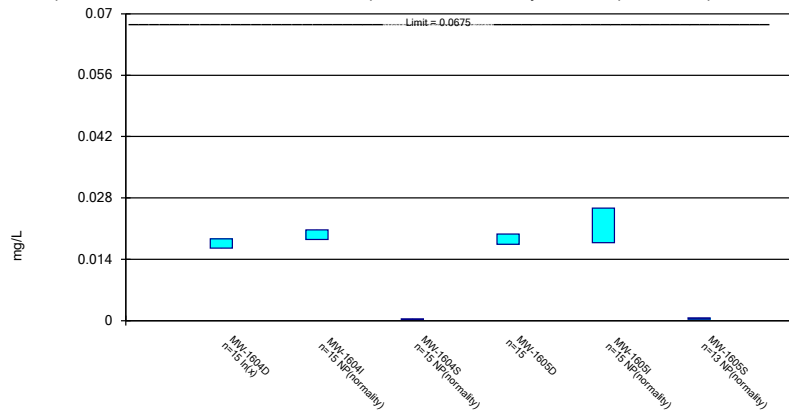
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Constituent: Arsenic, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

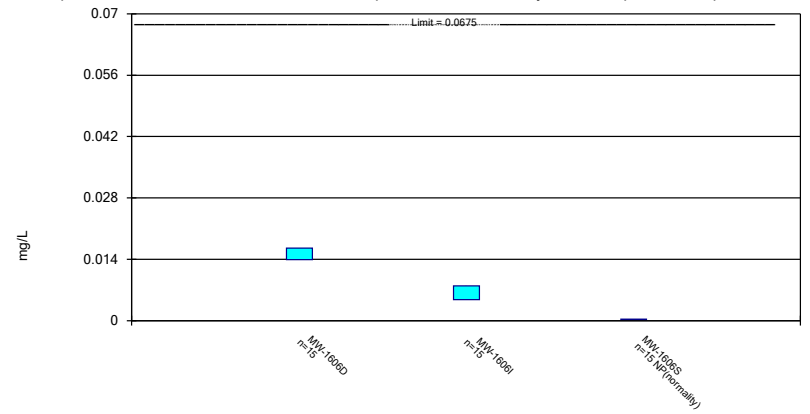
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Constituent: Arsenic, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

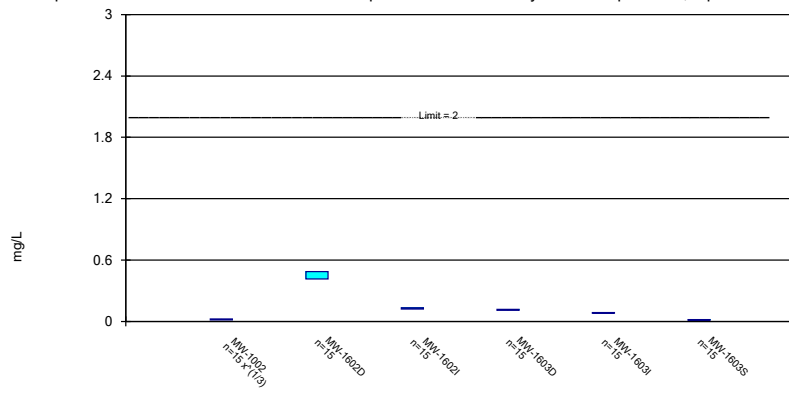
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Constituent: Arsenic, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

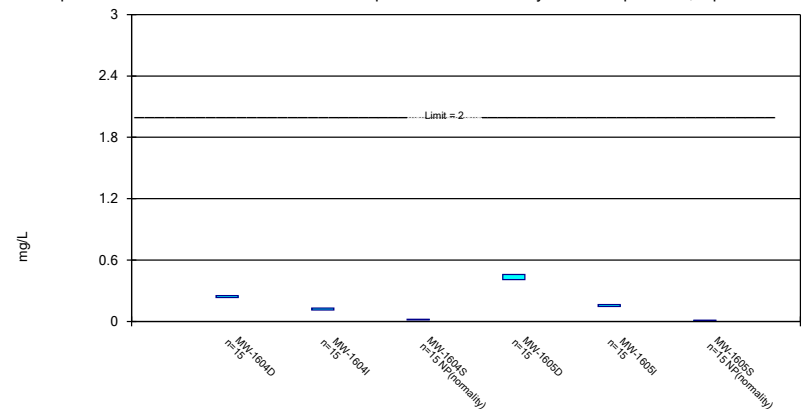
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Constituent: Barium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

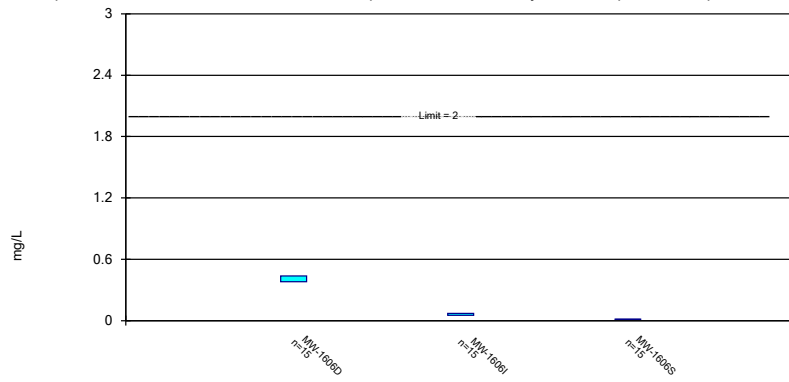
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Constituent: Barium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

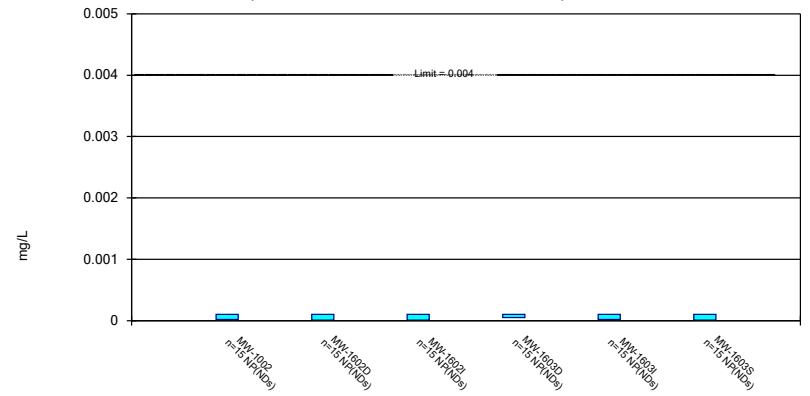
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Constituent: Barium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

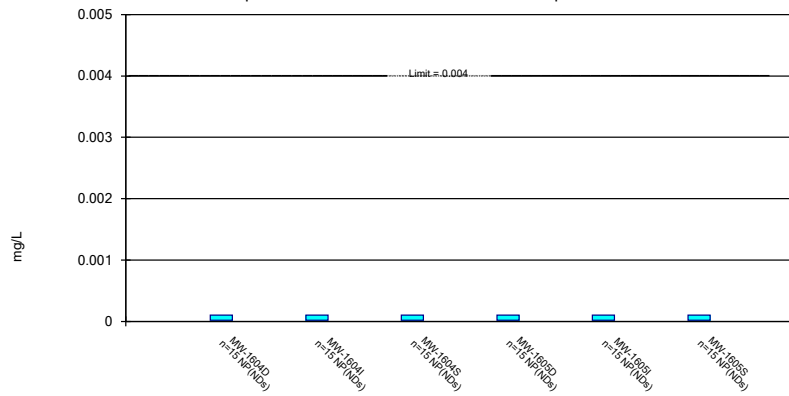
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

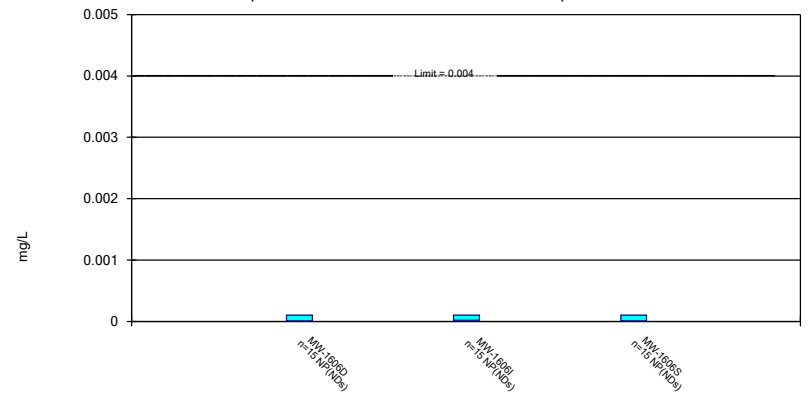
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

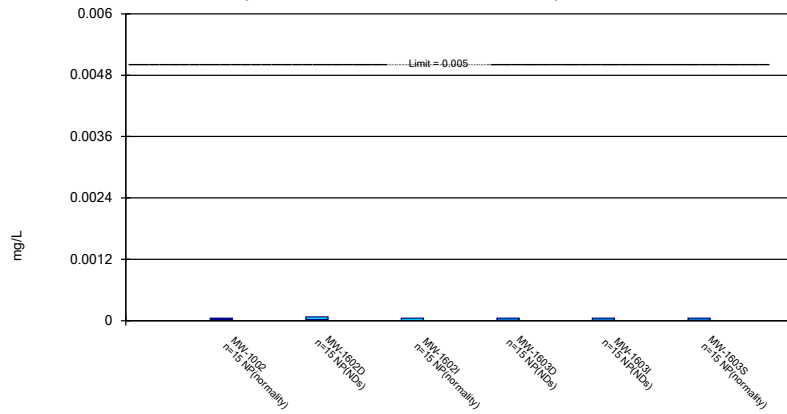
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

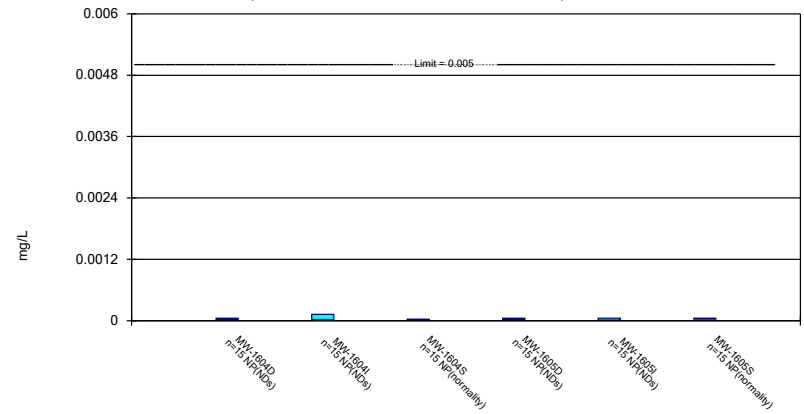
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cadmium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

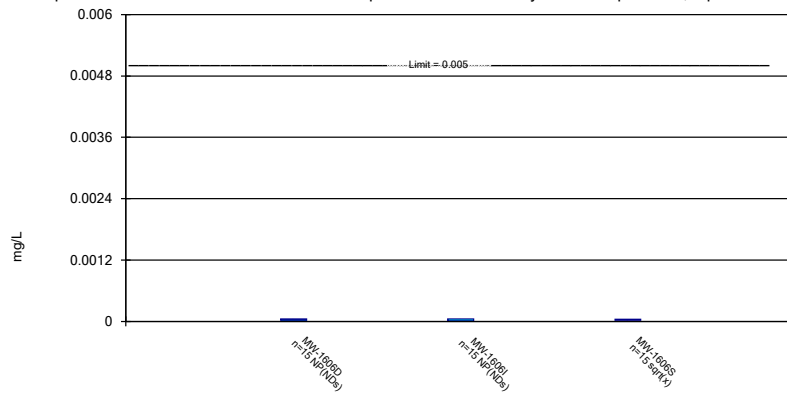
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cadmium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

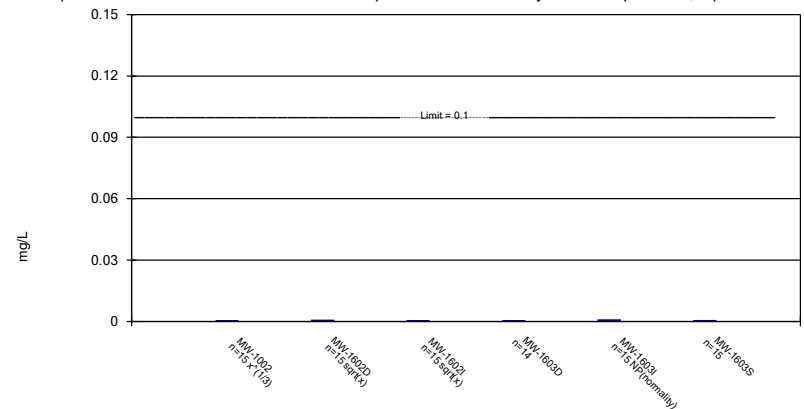
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

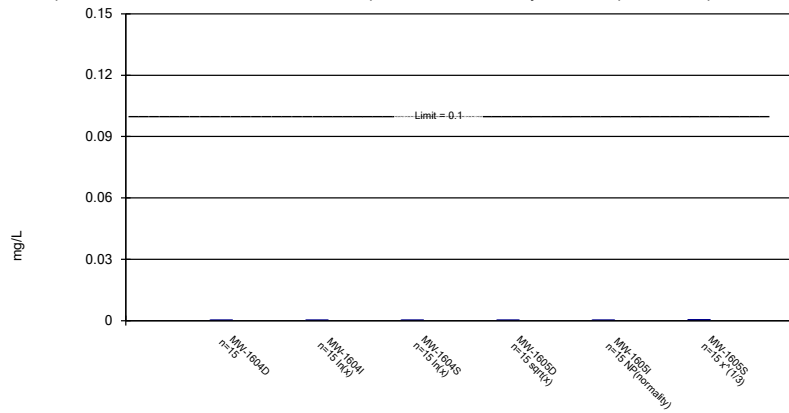
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

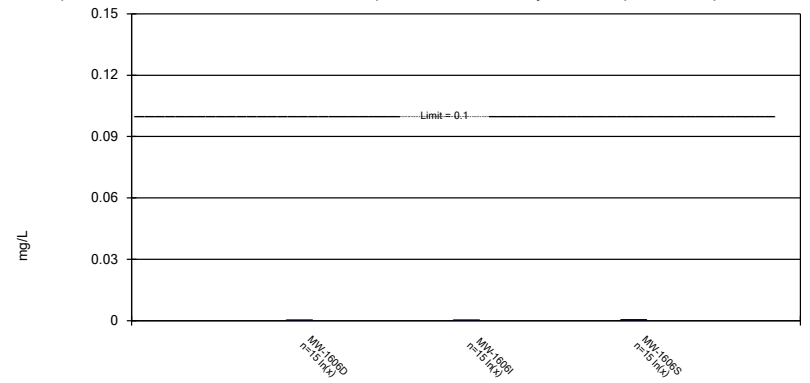
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

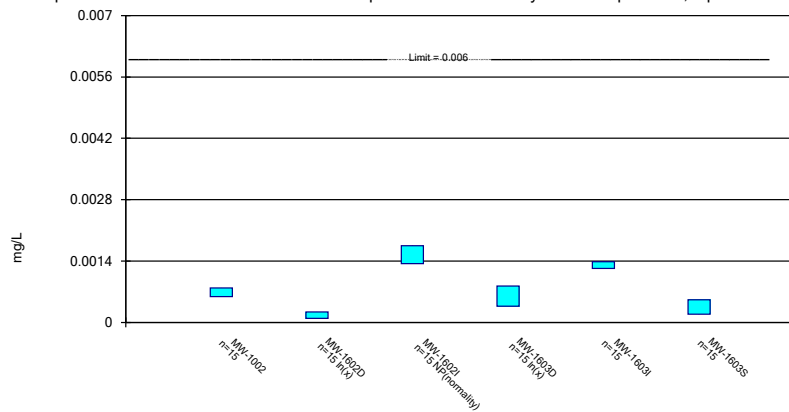
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

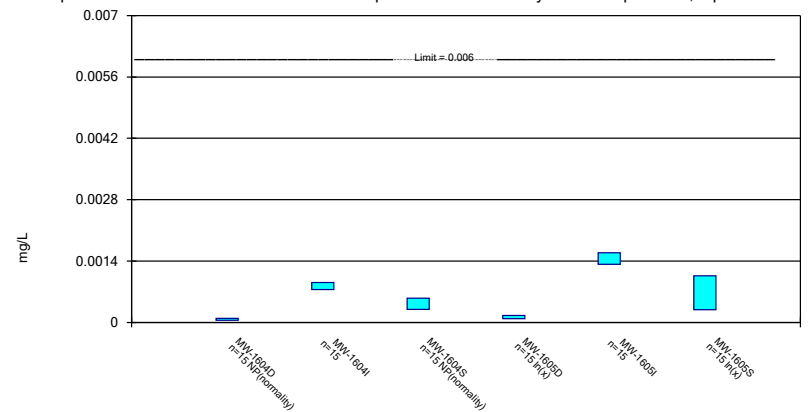
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

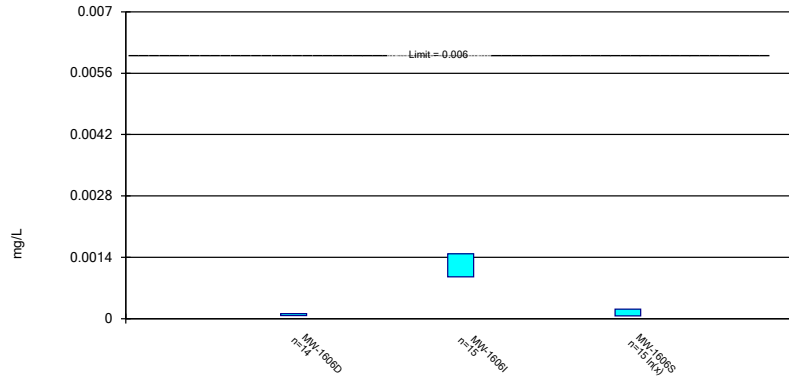
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

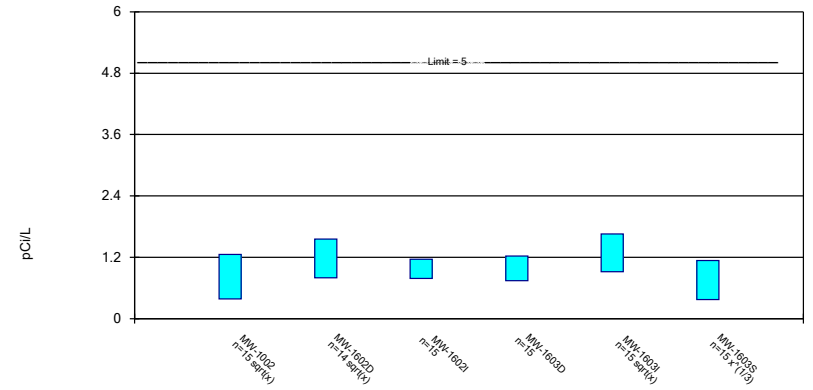
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

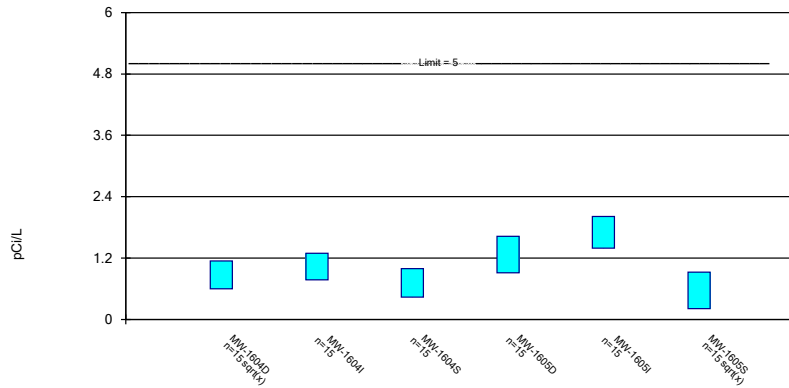
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

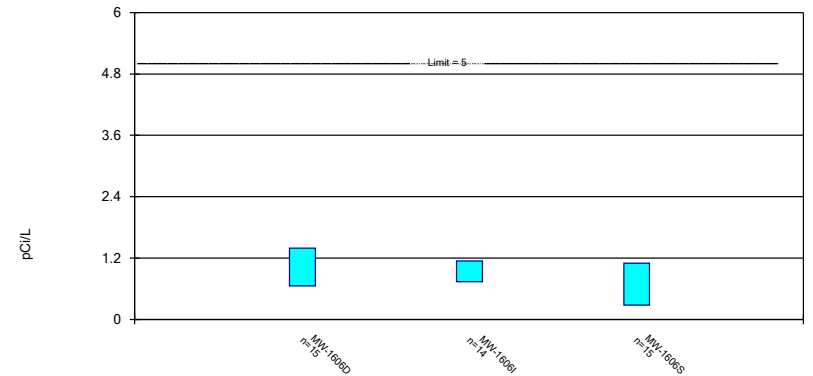
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

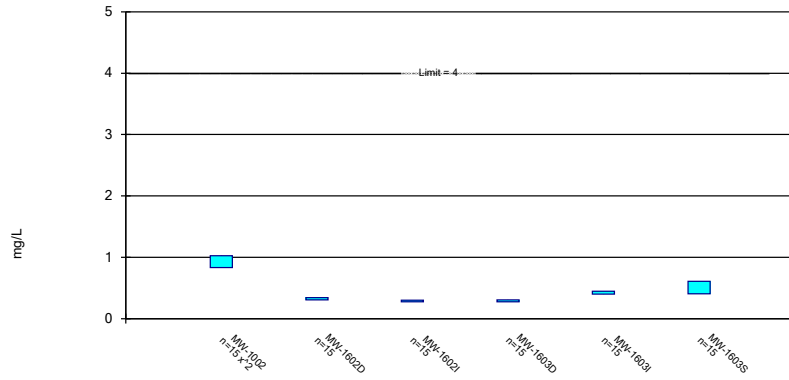
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

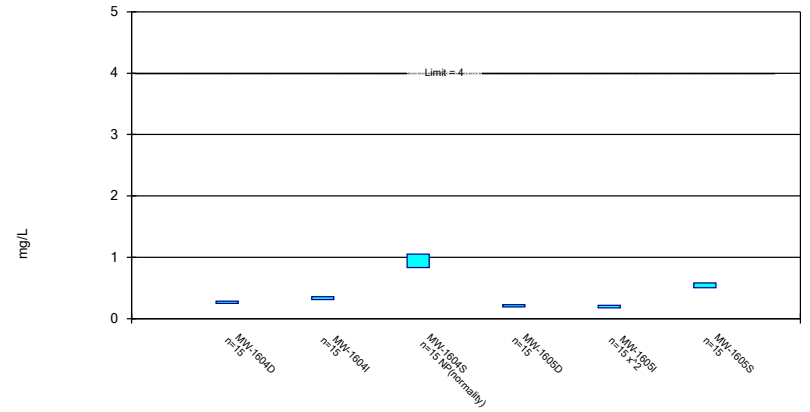
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

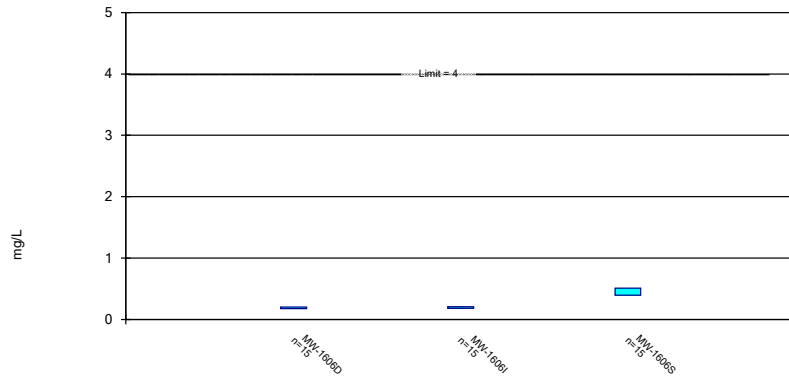
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

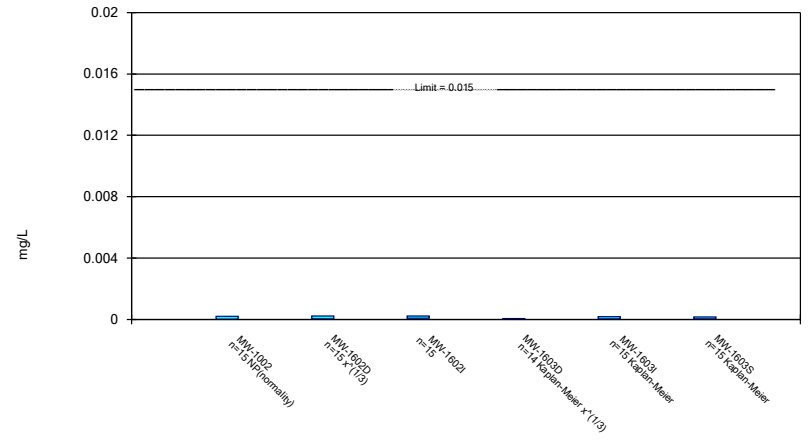
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

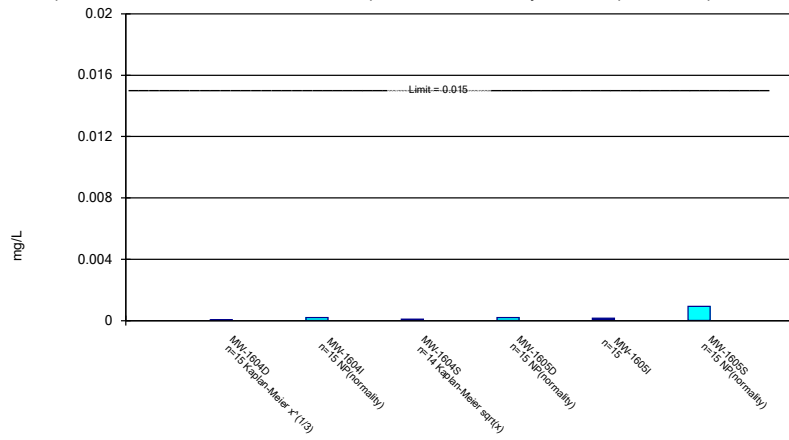
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

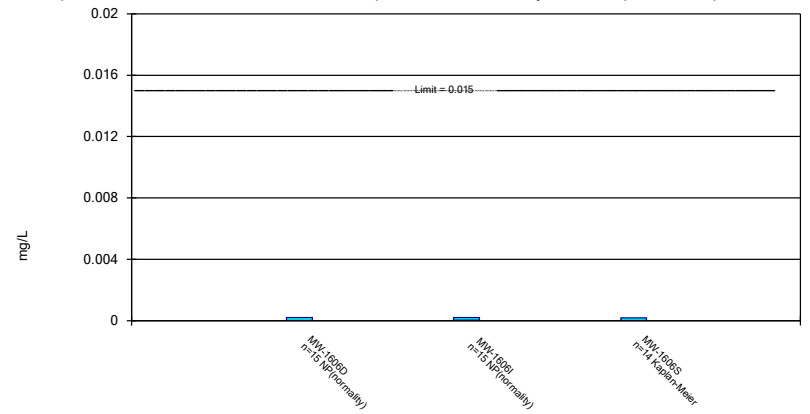
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

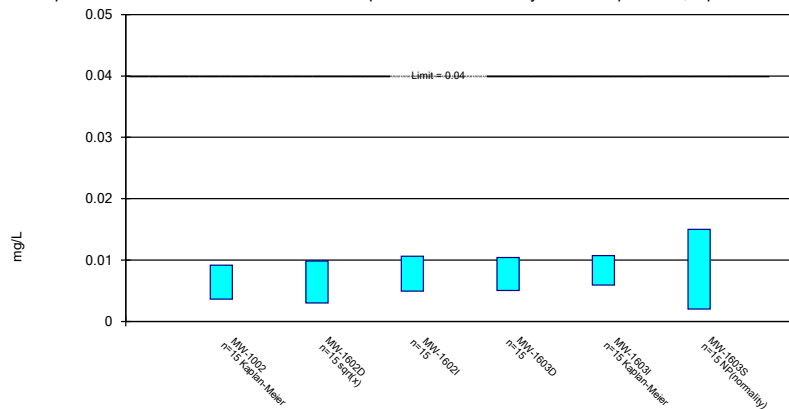
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

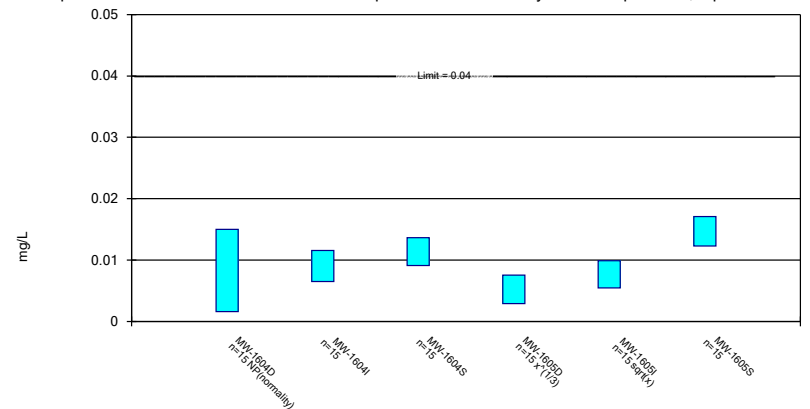
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

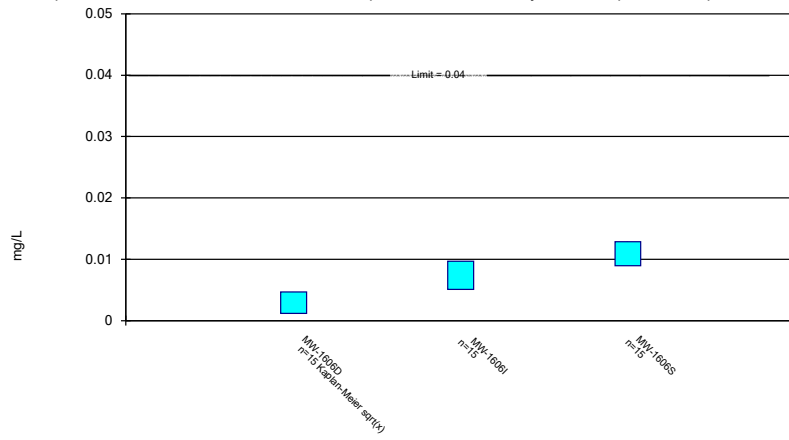
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric Confidence Interval

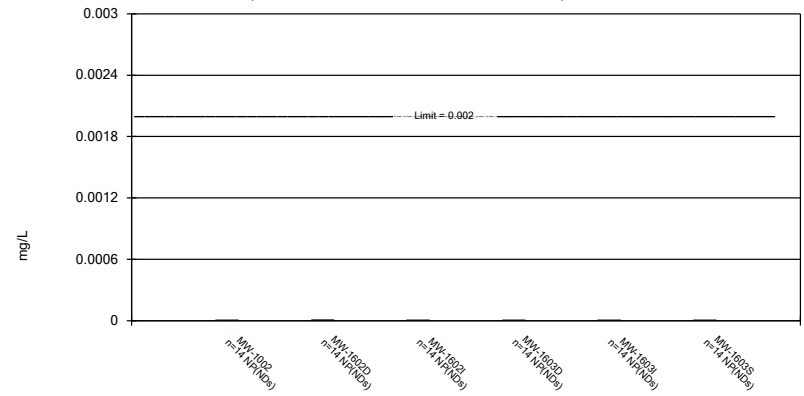
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

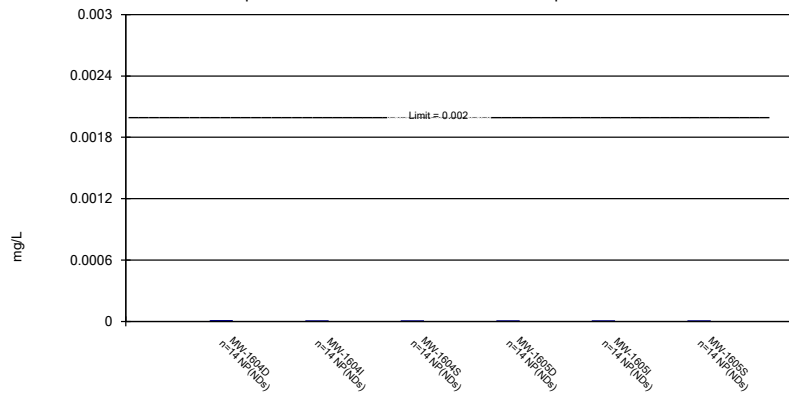
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

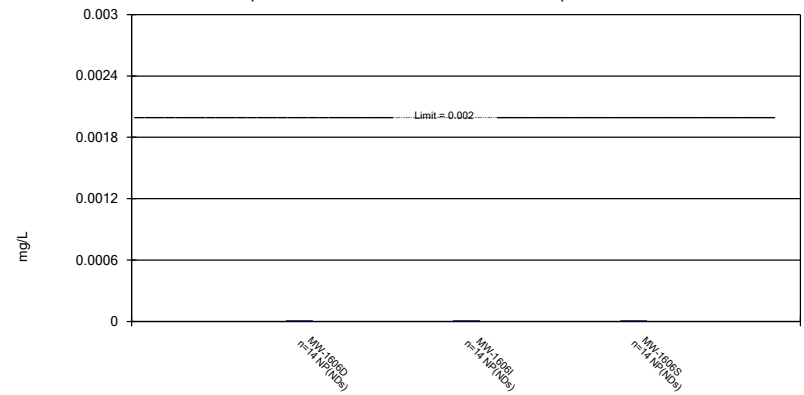
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

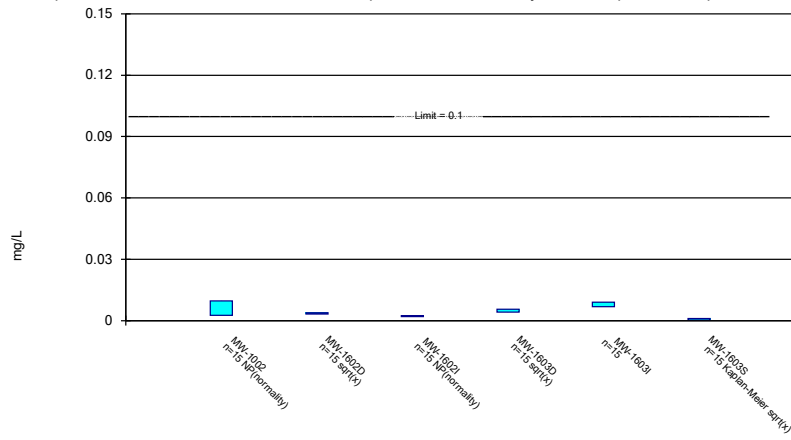
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
 Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

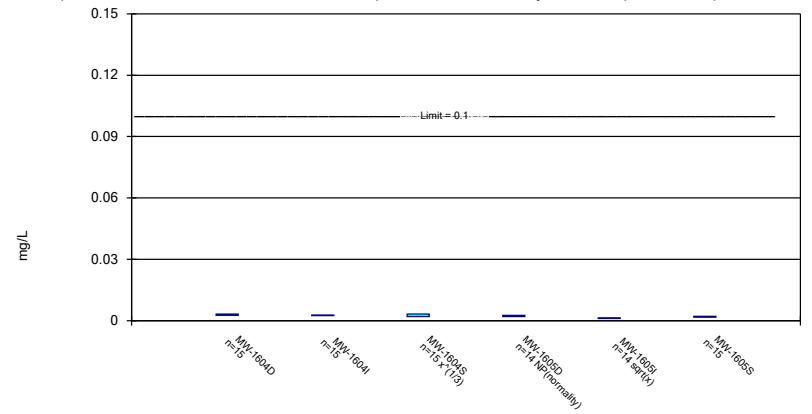
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

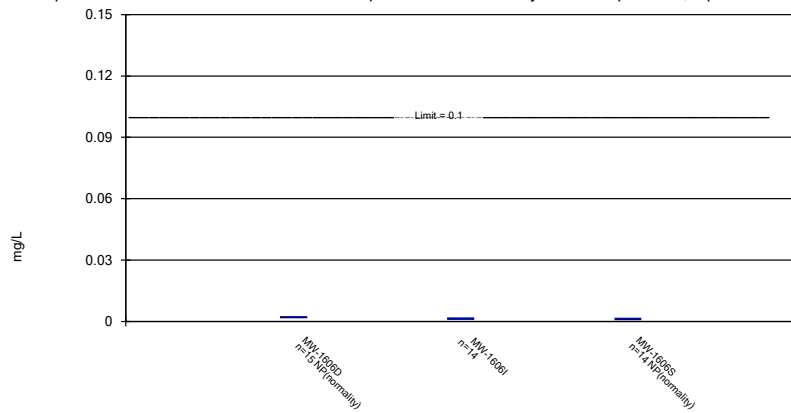
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

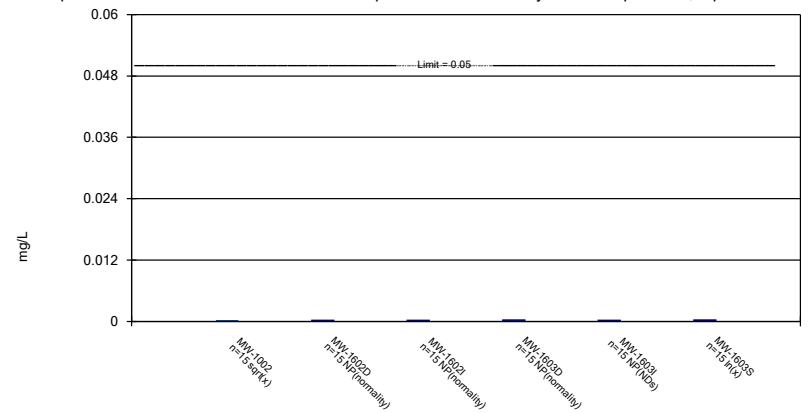
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

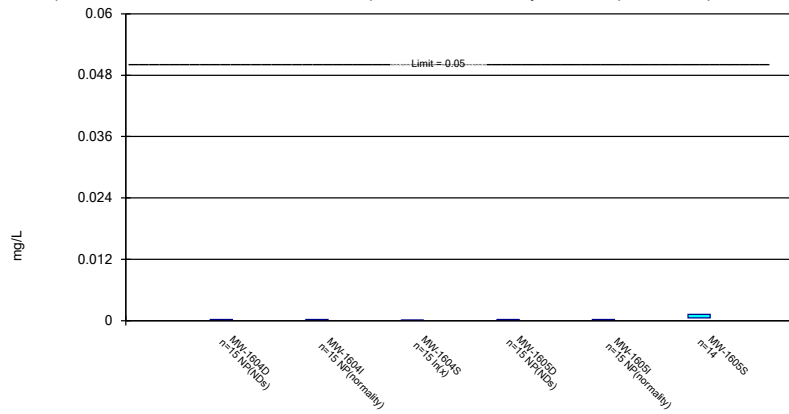
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

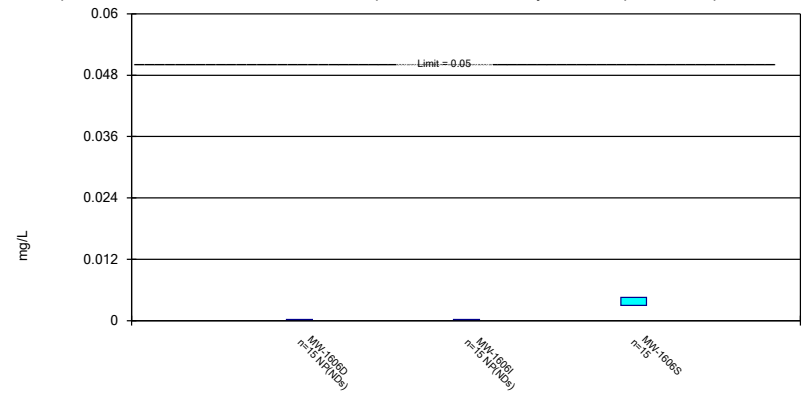
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Parametric and Non-Parametric (NP) Confidence Interval

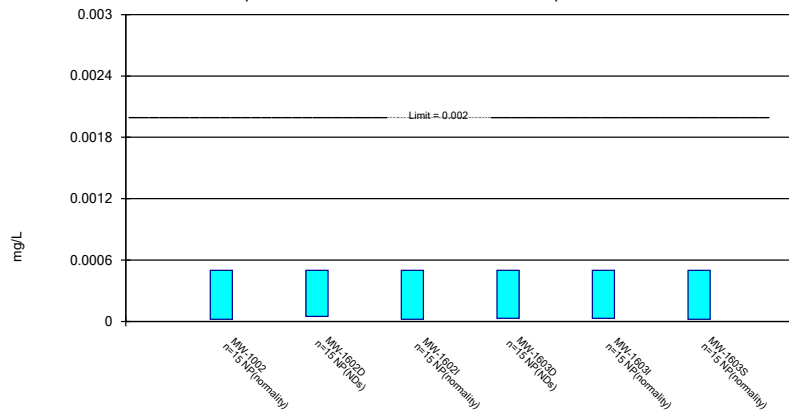
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

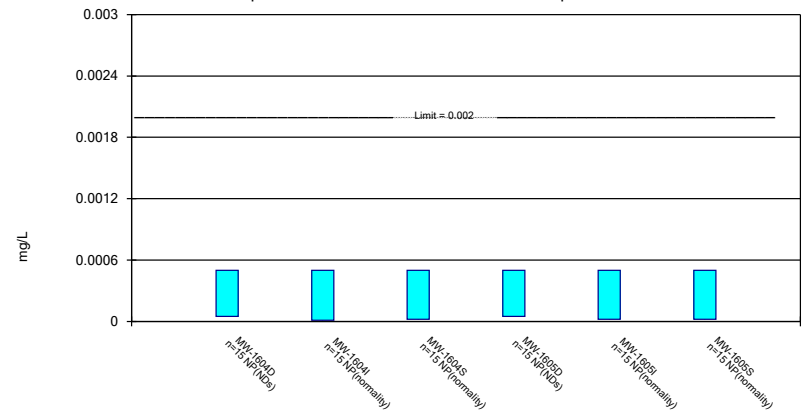
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

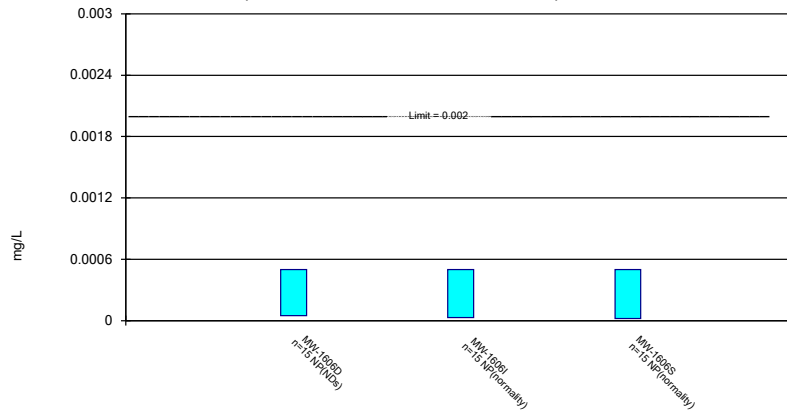
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium, total Analysis Run 7/8/2020 4:56 PM View: Appendix IV
Rockport BAP Client: Geosyntec Data: Rockport_BAP

APPENDIX 3 – Alternate Source Demonstrations

No new alternate source demonstrations have been completed as of January 31, 2021.

APPENDIX 4 – Notices for Monitoring Program Transitions

The notification that an assessment monitoring program was initiated follows.

Rockport Plant Bottom Ash Pond

Notice of Assessment Monitoring Initiation

On January 15, 2018, it was determined that the Rockport Plant's Bottom Ash Pond Complex had statistically significant increases over background for the Appendix III parameters of boron, chloride, fluoride, pH, TDS, and sulfate. An alternative source demonstration was not successful within the 90 day period as allowed for in 257.94(e)(2). Therefore, an assessment monitoring program was established at Rockport's bottom ash pond complex on April 15, 2018 and this notice is being placed in Rockport's operating record in accordance with the requirement in 257.94 (e)(3).

APPENDIX 5 – Well Installation/Decommissioning Logs

There were no wells installed or decommissioned in 2020.

EPA ADDITIONAL INFORMATION REQUEST

Attachment C

Boring Logs and Well Construction Diagrams

for

MW-1701 (S, I, D)

and

MW-1702 (S, I, D)

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 155,708.2 E 511,570.0**
 GROUND ELEVATION **395.3** SYSTEM **State Plane using NAD27/29**

BORING NO. **MW-1701D** DATE **7/11/18** SHEET **1** OF **4**
 BORING START **10/11/17** BORING FINISH **10/11/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.1** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **72** BOTTOM **79.62**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="text"/>	<input type="text"/>	<input type="text"/>
TIME	<input type="text"/>	<input type="text"/>	<input type="text"/>
DATE	<input type="text"/>	<input type="text"/>	<input type="text"/>

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
1	SS	0.0	2.0	2-2-3-4	1.75					TOPSOIL = 6 INCHES		
2	SS	2.0	4.0	2-4-4-6	.83				CL ML ML	MEDIUM STIFF LIGHT GRAYISH BROWN 2.5YR 6/2 SILTY CLAY (CL-ML)b w/some mottling, trace roots, moist		
3	SS	4.0	6.0	3-5-5-6	2.0				CL ML	MEDIUM STIFF LIGHT GRAYISH BROWN 2.5YR 6/2 CLAYEY SILT (ML) trace roots, moist		
4	SS	6.0	8.0	5-7-10-12	1.83		5		CL ML	MEDIUM STIFF LIGHT BROWN 5YR 7/4 LEAN CLAY (CL) trace black nodules, moist		
5	SS	8.0	10.0	5-8-12-12	1.92				CL	STIFF GRAYISH BROWN 5YR 5/2 SILTY CLAY (CL-ML) little black nodules, moist		
6	SS	10.0	12.0	4-6-8-11	2.0		10		CL	STIFF LIGHT BROWN 5YR 7/4 LEAN CLAY (CL) moist		
7	SS	12.0	14.0	4-4-7-8	2.0				CL	VERY STIFF LIGHT BROWN 5YR 7/4 LEAN CLAY (CL) some red mottling, trace black nodules, trace silt, moist		
8	SS	14.0	16.0	4-8-10-11	1.75				CL	STIFF LIGHT BROWN 5YR 7/4 AND GRAY (MOTTLED) LEAN CLAY (CL) w/black partings, moist		
9	SS	16.0	18.0	6-10-11-10	1.92		15		ML SP	STIFF LIGHT BROWN 5YR 7/4 LEAN CLAY (CL) moist		
10	SS	18.0	20.0	3-7-8-10	1.58				ML SP SP	VERY STIFF BROWN 5YR 5/4 SANDY SILT (ML) moist		
									SP	MEDIUM DENSE LIGHT BROWN 5YR 8/4 FINE GRAINED PG SAND (SP) moist		
									SP	MEDIUM DENSE LIGHT BROWN 5YR 8/4 FINE GRAINED PG SAND (SP) trace sandy silt, moist		
									SP	MEDIUM DENSE LIGHT REDDISH BROWN 5YR 7/8 FINE GRAINED PG SAND (SP) moist		

TYPE OF CASING USED

	NQ-2 ROCK CORE
	6" x 3.25 HSA
	9" x 6.25 HSA
	HW CASING ADVANCER 4"
	NW CASING 3"
	SW CASING 6"
	AIR HAMMER 8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1701D** DATE **7/11/18** SHEET **2** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **10/11/17** BORING FINISH **10/11/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
11	SS	20.0	22.0	5-7-9-9	1.75				SP	MEDIUM DENSE LIGHT BROWN 5YR 7/4 FINE GRAINED PG SAND (SP) moist		
12	SS	22.0	24.0	3-5-5-8	1.83				SP	LOOSE LIGHT BROWN 5YR 8/4 W/RED FINE TO MEDIUM GRAINED PG SAND (SP) silty sand seams, trace coal, moist		
13	SS	24.0	26.0	6-8-10-11	1.67		25		SP	MEDIUM DENSE LIGHT BROWN 5YR 8/4 W/RED FINE TO MEDIUM GRAINED PG SAND (SP) silty sand seam @ 24.5' - 24.9', trace coal, moist, wet @ 25.5'		
14	SS	26.0	28.0	3-6-6-7	1.5				SP	LOOSE LIGHT GRAYISH BROWN 5YR 6/3 W/RED FINE TO MEDIUM GRAINED PG SAND (SP) silty sand seams, trace coal, trace coarse grained, wet		
15	SS	28.0	30.0	1-3-6-8	1.67				SP	LOOSE LIGHT BROWN 5YR 6/6 W/RED MEDIUM GRAINED PG SAND (SP) trace coarse grained, little silty sand, wet		
16	SS	30.0	32.0	3-5-7-8	1.83		30		SP	LOOSE LIGHT BROWN 5YR 6/6 W/RED MEDIUM GRAINED PG SAND (SP) trace coarse grained, coarse grained seam @ 30.5' - 30.9', coal seams, little silty sand, wet		
17	SS	32.0	34.0	13-18-20-24	2.0				SP	DENSE BROWN 7YR 5/6 MEDIUM TO COARSE GRAINED PG SAND (SP) trace black silt, trace coarse grained, wet		
18	SS	34.0	36.0	3-6-12-14	.83		35		SP	MEDIUM DENSE BROWN 7YR 5/6 MEDIUM TO COARSE GRAINED PG SAND (SP) trace black silt, trace coarse grained, little fine to coarse gravel, wet		
19	SS	36.0	38.0	2-5-12-14	1.92							
20	SS	38.0	40.0	4-9-8-7	1.67				SP	DENSE BROWN 7YR 5/6 MEDIUM TO COARSE GRAINED PG SAND (SP) trace black silt, some coarse grained, wet		
21	SS	40.0	42.0	6-7-11-13	1.67		40					
22	SS	42.0	44.0	5-6-8-9	1.5				SW	MEDIUM DENSE GRAYISH BROWN 7.5YR 5/2 WG SAND AND FINE GRAVEL (SW) wet		
23	SS	44.0	46.0	3-5-2-19	2.0				SM	MEDIUM DENSE BROWN 5YR 5/6 SILTY SAND (SM) wet		
							45		SP	MEDIUM DENSE BROWN 5YR 5/6 FINE GRAINED PG SAND (SP) trace fine gravel, wet		

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

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AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1701D** DATE **7/11/18** SHEET **3** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **10/11/17** BORING FINISH **10/11/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
24	SS	46.0	48.0	13-14-	2.0				SP	MEDIUM DENSE BROWN 5YR 5/6 FINE GRAINED PG SAND (SP) trace fine gravel, coal seam @ 47.1' - 47.5', wet		
25	SS	48.0	50.0	5-6-11-12	1.83				SW SW	MEDIUM DENSE GRAYISH BROWN 7.5YR 5/2 WG SAND (SW) AND FINE GRAVEL wet MEDIUM DENSE GRAYISH BROWN 7.5YR 5/2 WG SAND (SW) AND FINE GRAVEL silty sand seams, wet		
26	SS	50.0	52.0	5-6-11-11	1.42		50		SW	MEDIUM DENSE GRAYISH BROWN 7.5YR 5/2 WG SAND (SW) AND FINE GRAVEL fine to coarse gravel, wet		
27	SS	52.0	54.0	1-2-3-5	.67				SP	LOOSE BROWNISH GRAY 5YR 6/1 MEDIUM GRAINED PG SAND (SP) AND FINE GRAVEL wet		
28	SS	54.0	56.0	4-7-11-18	1.67							
29	SS	56.0	58.0	13-16-18-21	1.42		55		SM SM	MEDIUM DENSE BROWN 5YR 6/3 SILTY SAND (SM) some black staining, wet DENSE BROWN 5YR 6/3 SILTY SAND (SM) wet		
30	SS	58.0	60.0	4-8-13-16	1.75				SP	MEDIUM DENSE GRAYISH BROWN 7.5YR 5/2 MEDIUM GRAINED PG SAND (SP) some fine gravel, wet		
31	SS	60.0	62.0	6-10-11-11	1.75		60					
32	SS	62.0	64.0	3-6-14-15	1.67							
33	SS	64.0	66.0	9-9-12-15	1.67							
34	SS	66.0	68.0	6-7-13-20	1.58		65		SM SP	MEDIUM DENSE BROWNISH GRAY 2.5YR 7/1 SILTY SAND (SM) some fine gravel, wet MEDIUM DENSE BROWNISH GRAY 2.5YR 7/1 MEDIUM GRAINED PG SAND (SP) little coarse gravel, wet		
35	SS	68.0	70.0	5-8-8-9	.75				SM	MEDIUM DENSE BROWNISH GRAY 2.5YR 7/1 SILTY SAND (SM) AND FINE GRAVEL wet		
36	SS	70.0	72.0	3-5-7-7	.17		70		SM	MEDIUM DENSE BROWNISH GRAY 2.5YR 7/1 SILTY SAND (SM) AND FINE GRAVEL @ 70' low recovery (possible fall-in), wet		

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

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AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1701D** DATE **7/11/18** SHEET **4** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **10/11/17** BORING FINISH **10/11/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
37	SS	72.0	74.0	7-13-18-25	1.67		75		SW	DENSE GRAYISH BROWN 2.5 YR 6/2 WG SAND (SW) AND FINE TO COARSE GRAVEL wet		
38	SS	74.0	76.0	10-9-10-10	.92				SW	MEDIUM DENSE GRAYISH BROWN 2.5 YR 6/2 WG SAND (SW) AND FINE TO COARSE GRAVEL pockets of PG Sand (MG), wet		
39	SS	76.0	78.0	6-7-13-17	.42				SP	MEDIUM DENSE GRAYISH BROWN 2.5YR 6/2 MEDIUM GRAINED PG SAND (SP) AND FINE GRAVEL some coarse grained, wet		
40	SS	78.0	80.0	3-10-20-20	1.25		80		SP	MEDIUM DENSE GRAYISH BROWN 2.5YR 6/2 FINE TO MEDIUM GRAINED PG SAND (SP) trace fine gravel, wet		
41	SS	80.0	82.0	9-18-46-20	2.0				ML	HARD GRAYISH BROWN 5YR 7/2 SANDY SILT (ML) trace fine gravel, wet @ 81' cobble fragments, trace coarse gravel, little silty sand		
42	SS	82.0	84.0	19-48-50/5	1.42		85			VERY DENSE LIGHT GRAY GLEY 2/6 - 5BG SHALE wet		
43	SS	84.0	86.0								SR @ 83.5' / BT @ 83.5' Begin well installation @ 83.5'	

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 153,659.2 E 511,922.9**
 GROUND ELEVATION **392.4** SYSTEM **State Plane using NAD27/29**

BORING NO. **MW-1702D** DATE **7/11/18** SHEET **1** OF **4**
 BORING START **9/26/17** BORING FINISH **10/2/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.95** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **75.7** BOTTOM **85.28**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TIME			
DATE			

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
1	SPT	0.0	2.0	2-3-4-5						SM ML		
2	SPT	2.0	4.0	4-4-5-6						ML		
3	SPT	4.0	6.0	4-4-6-7			5			ML		
4	SPT	6.0	8.0	3-4-5-6						ML		
5	SPT	8.0	10.0	3-2-3-2						SP		
6	SPT	10.0	12.0	2-2-3-4			10			SW SM		
7	SPT	12.0	14.0	2-2-4-5						SP		
8	SPT	14.0	16.0	3-5-8-8						SP		
9	SPT	16.0	18.0	3-3-6-7			15			SM SW		
10	SPT	18.0	20.0	4-5-5-6						SP SP		

TYPE OF CASING USED

	NQ-2 ROCK CORE
	6" x 3.25 HSA
	9" x 6.25 HSA
	HW CASING ADVANCER 4"
	NW CASING 3"
	SW CASING 6"
	AIR HAMMER 8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1702D** DATE **7/11/18** SHEET **2** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **9/26/17** BORING FINISH **10/2/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
11	SPT	20.0	22.0	3-4-6-9			25		SM	rounded, poorly graded, noncohesive		
									SP	LOOSE DARK YELLOWISH BROWN 10YR 4/4 FINE SILTY SAND w/few gravel, noncohesive, wet		
12	SPT	22.0	24.0	3-5-6-5			25		SW	LOOSE BROWNISH YELLOW 10YR 6/6 FINE TO MEDIUM GRAINED SAND rounded, poorly graded, noncohesive		
									SP	LOOSE YELLOWISH BROWN 10YR 5/6 MEDIUM TO COARSE GRAINED SAND well graded, angular, moist		
13	SPT	24.0	26.0	3-5-5-4			25		SW	LOOSE BROWNISH YELLOW 10YR 6/6 FINE TO MEDIUM GRAINED SAND rounded, poorly graded, noncohesive, wet @ 23.6'		
									SP	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, angular, wet		
14	SPT	26.0	28.0	3-4-6-5			30		SW	LOOSE BLACK 7.5YR 2.5/1 MEDIUM TO COARSE GRAINED SAND well graded, noncohesive, wet		
									SW	LOOSE BROWNISH YELLOW 10YR 6/6 FINE TO MEDIUM GRAINED SAND rounded, poorly graded, noncohesive, wet		
15	SPT	28.0	30.0	4-7-7-9			30		SW	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, angular, wet		
									SW	LOOSE BLACK 7.5YR 2.5/1 COARSE GRAINED SAND well graded, noncohesive, angular, wet		
16	SPT	30.0	32.0	5-9-9-10			35		SW	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, wet		
									SP	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, angular, wet		
17	SPT	32.0	34.0	8-11-13-20			35		SW	LOOSE YELLOWISH BROWN 10YR 5/4 MEDIUM GRAINED SAND subrounded, poorly graded, wet		
									SW	LOOSE BLACK 7.5YR 2.5/1 COARSE GRAINED SAND well graded, noncohesive, angular, wet		
18	SPT	34.0	36.0	6-6-5-6			35		SW	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, wet		
									SW	LOOSE BROWNISH YELLOW 10YR 6/6 COARSE GRAINED SAND well graded, wet		
19	SPT	36.0	38.0	3-5-5-6			40		SW	LOOSE YELLOWISH BROWN 10YR 5/4 MEDIUM GRAINED SAND subrounded, poorly graded, wet		
									SW	LOOSE DARK YELLOWISH BROWN 10YR 4/4 COARSE GRAINED SAND angular, well graded, some gravel, wet		
20	SPT	38.0	40.0	5-6-11-15			40		SW	LOOSE YELLOWISH BROWN 10YR 5/4 MEDIUM GRAINED SAND subrounded, poorly graded, trace gravel, wet		
									SW	LOOSE YELLOWISH BROWN 10YR 5/4 FINE TO MEDIUM GRAINED SAND rounded, poorly graded, wet		
21	SPT	40.0	42.0	4-6-9-13			40		SP	LOOSE YELLOWISH RED 5YR 5/6 MEDIUM GRAINED SAND subrounded, few gravel, interbedded gravel seams, well graded, wet		
									SW	LOOSE YELLOWISH BROWN 10YR 5/4 COARSE GRAINED SAND well graded, few gravel, wet		
22	SPT	42.0	44.0	7-9-11-15			45		SW	LOOSE BROWNISH YELLOW 10YR 6/6 FINE SAND rounded, poorly graded, wet		
									SP	LOOSE BROWNISH YELLOW 10YR 6/6 FINE SAND rounded, poorly graded, wet		
23	SPT	44.0	46.0	6-12-13-11			45		SW	LOOSE YELLOWISH BROWN 10YR 5/4		

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AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1702D** DATE **7/11/18** SHEET **3** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **9/26/17** BORING FINISH **10/2/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
24	SPT	46.0	48.0	6-11-12-13						COARSE GRAINED SAND well graded, few gravel, wet		
25	SPT	48.0	50.0	8-9-11-20					SP SW	MEDIUM DENSE YELLOWISH BROWN 10YR 5/4 FINE GRAINED SAND poorly graded, few silt, few gravel, wet LOOSE YELLOWISH BROWN 10YR 5/4 MEDIUM TO COARSE GRAINED SAND noncohesive, well graded, subrounded, few gravel, wet		
26	SPT	50.0	52.0	6-8-12-14			50		SW	LOOSE OLIVE BROWN 2.5Y 4/3 MEDIUM TO COARSE GRAINED SAND noncohesive, subrounded, well graded, few gravel, wet		
27	SPT	52.0	54.0	3-5-7-9								
28	SPT	54.0	56.0	5-5-10-11					SP	LOOSE OLIVE BROWN 2.5Y 4/3 FINE GRAINED SAND rounded, noncohesive, poorly graded, trace silt, wet		
29	SPT	56.0	58.0	2-3-7-9			55					
30	SPT	58.0	60.0	4-4-6-11					SP	LOOSE OLIVE BROWN 2.5Y 4/3 FINE GRAINED SAND rounded, noncohesive, poorly graded, trace silt, wet		
31	SPT	60.0	62.0	8-17-18-11			60					
32	SPT	62.0	64.0	8-9-12-13					SW	MEDIUM DENSE VERY DARK GRAYISH BROWN 10YR 3/2 MEDIUM GRAINED SAND subrounded, noncohesive, well graded, few gravel, wet		
33	SPT	64.0	66.0	7-13-21-22								
34	SPT	66.0	68.0	14-18-24-19			65		SW	MEDIUM DENSE DARK YELLOWISH BROWN 10YR 4/4 FINE GRAINED SAND w/gravel, well graded, wet		
35	SPT	68.0	70.0	6-7-10-8					SW	LOOSE DARK YELLOWISH BROWN 10YR 4/4 MEDIUM TO COARSE GRAINED SAND noncohesive, well graded, few gravel, wet		
36	SPT	70.0	72.0	5-4-8-8			70		SW	OLIVE BROWN 2.5Y 4/3 SAND well graded, small gravel, wet		

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

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AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **MW-1702D** DATE **7/11/18** SHEET **4** OF **4**

PROJECT **ROCKPORT PLANT**

BORING START **9/26/17** BORING FINISH **10/2/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
37	SPT	72.0	74.0	8-9-10-10								
38	SPT	74.0	76.0	4-9-13-17			75					
39	SPT	76.0	78.0	8-10-14-22				CH		VERY STIFF VERY DARK GRAY 2.5Y 3/1 CLAY high plastic, cohesive, wet		
40	SPT	78.0	80.0	6-12-12-12				SW		MEDIUM DENSE OLIVE BROWN 2.5Y 4/4 MEDIUM GRAINED SAND w/interbedded coarse seams, subrounded, few gravel, wet		
41	SPT	80.0	82.0	6-6-5-5			80					
42	SPT	82.0	84.0	6-12-12-8				SW		LOOSE OLIVE BROWN 2.5Y 4/4 COARSE GRAINED SAND well graded, few gravel, wet		
								SP		LOOSE OLIVE BROWN 2.5Y 4/4 FINE TO MEDIUM GRAINED SAND		
								CH		poorly graded, subrounded		
43	SPT	84.0	86.0	5-5-8-26				SW		VERY STIFF VERY DARK GRAY 2.5Y 3/1 CLAY		
							85	CH		high plastic, cohesive, wet		
44	SPT	86.0	88.0	26-50/2-49-50/3				SP		LOOSE OLIVE BROWN 2.5Y 4/4 MEDIUM TO COARSE GRAINED SAND		
								CH		well graded, some gravel, wet		
								SW		MEDIUM VERY DARK GRAY 2.5Y 3/1 CLAY high plastic, cohesive, rapid dilatancy, wet		
										LOOSE OLIVE BROWN 2.5Y 4/4 FINE GRAINED SAND noncohesive, rounded, poorly graded, wet		
										MEDIUM VERY DARK GRAY 2.5Y 3/1 CLAY high plastic, cohesive, wet		
										MEDIUM DENSE OLIVE BROWN 2.5Y 4/4 MEDIUM TO COARSE GRAINED SAND well graded, subrounded, some gravel, wet		
										HARD SANDSTONE		
										REFUSAL @ 87.6'		

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 154,452.3 E 514,681.1**
 GROUND ELEVATION **399.2** SYSTEM **State Plane using NAD27/29**

BORING NO. **PZ-1703** DATE **7/11/18** SHEET **1** OF **3**
 BORING START **10/16/17** BORING FINISH **10/16/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.24** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **39.85** BOTTOM **49.52**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TIME			
DATE			

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
										SILT AND GRAVEL (FILL)		
1	SS	3.0	5.0	5-5-5-5	2.0				SM	LOOSE BROWN 7.5YR 5/3 SILTY SAND (SM) (FILL) trace fine gravel, moist		
							5		CL	STIFF BROWN 7.5YR 5/4 SANDY CLAY (CL) (~FILL) moist @8' silt seams		
2	SS	8.0	10.0	3-4-7-7	2.0				CL	STIFF LIGHT GRAY GLEY 1-8-N AND LIGHT BROWN MOTTLED LEAN CLAY (CL) (~FILL) w/black, moist		
							10		CL ML	STIFF BROWN 2.5YR 4/4 SILTY CLAY (cl-ml) w/some light gray mottling, moist		
3	SS	13.0	15.0	4-6-7-7	2.0				SP	LOOSE LIGHT BROWN 5YR 7/4 FINE GRAINED PG SAND (SP) silty sand pockets, moist		
							15					
4	SS	18.0	20.0	3-3-4-3	2.0							

TYPE OF CASING USED

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_____	NQ-2 ROCK CORE
_____	6" x 3.25 HSA
_____	9" x 6.25 HSA
_____	HW CASING ADVANCER 4"
_____	NW CASING 3"
_____	SW CASING 6"
_____	AIR HAMMER 8"

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **PZ-1703**

DATE **7/11/18**

SHEET **2** OF **3**

PROJECT **ROCKPORT PLANT**

BORING START **10/16/17**

BORING FINISH **10/16/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
5	SS	23.0	25.0	5-8-10-10	1.92		23.0		SM	MEDIUM DENSE BROWN 5YR 4/4 SILTY SAND (SM) moist		
6	SS	28.0	30.0	6-9-11-7	1.83		25.0		SP	MEDIUM DENSE LIGHT BROWN 5YR 7/4 FINE TO MEDIUM GRAINED PG SAND (SP) moist @ 28' trace coal fragments, little to some fine gravel @ 33' some black staining, little silt, no coal fragments, , wet, water in spoon		
7	SS	33.0	35.0	2-4-3-5	1.92		30.0		SP	LOOSE BROWN 5YR 4/4 MEDIUM TO COARSE GRAINED PG SAND (SP) trace fine gravel, wet		
8	SS	38.0	40.0	3-4-4-6	1.5		35.0		SW	LOOSE GRAYISH BROWN 2.5YR 4/1 WS SAND (SW) w/fine to coarse gravel, wet		
9	SS	43.0	45.0	8-7-10-7	1.0		40.0		SP	MEDIUM DENSE BROWN 7.5YR 4/4 FINE TO MEDIUM GRAINED PG SAND AND FINE GRAVEL (SP) set		
							45.0					

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

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AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER 42393125-01

COMPANY INDIANA MICHIGAN POWER COMPANY

BORING NO. PZ-1703 DATE 7/11/18 SHEET 3 OF 3

PROJECT ROCKPORT PLANT

BORING START 10/16/17 BORING FINISH 10/16/17

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
10	SS	48.0	50.0	6-11-17-14			50		SP	MEDIUM DENSE GRAYISH BROWN 2.5YR 5/2 MEDIUM TO COARSE GRAINED PG SAND AND FINE GRAVEL (SP) wet		
										BT @ 52'		

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 156,115.9 E 513,931.8**
 GROUND ELEVATION **398.9** SYSTEM **State Plane using NAD27/29**

BORING NO. **PZ-1704** DATE **7/11/18** SHEET **1** OF **2**
 BORING START **10/6/17** BORING FINISH **10/6/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.70** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **40.53** BOTTOM **50.20**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TIME			
DATE			

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
1	SPT	3.0	5.0	4-5-4-3						CH SM CL		
2	SPT	8.0	10.0	1-3-4-5						CH		
3	SPT	13.0	15.0	4-7-7-6						CH CH		
4	SPT	18.0	20.0	2-5-4-3						CH		

TYPE OF CASING USED

	NQ-2 ROCK CORE	
	6" x 3.25 HSA	
	9" x 6.25 HSA	
	HW CASING ADVANCER	4"
	NW CASING	3"
	SW CASING	6"
	AIR HAMMER	8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **PZ-1704** DATE **7/11/18** SHEET **2** OF **2**

PROJECT **ROCKPORT PLANT**

BORING START **10/6/17** BORING FINISH **10/6/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
5	SPT	23.0	25.0	3-4-5-5			25		CH	MEDIUM STIFF REDDISH BROWN 5YR 5/3 FAT CLAY high plastic, cohesive, fine sand seams ~1" thick @ 24.5' & 25.2'		
6	SPT	28.0	30.0	4-8-12-11			30		CH SM SW	MEDIUM STIFF BROWN 7.5YR 4/2 FAT CLAY high plastic, cohesive, moist MEDIUM DENSE REDDISH BROWN 2.5YR 4/4 FINE GRAINED SILTY SAND rounded, poorly graded, wet MEDIUM DENSE YELLOWISH BROWN 10YR 5/4 COARSE SAND well graded, few gravel, wet		
7	SPT	33.0	35.0	1-3-4-5			35		ML SM SW	VERY SOFT YELLOWISH BROWN 10YR 5/4 SANDY SILT non plastic, rapid dilatancy, wet VERY LOOSE STRONG BROWN 7.5YR 5/6 MEDIUM GRAINED SILTY SAND subrounded, few gravel, wet COAL SEAM LOOSE YELLOWISH BROWN 10YR 5/6 COARSE GRAINED SAND w/gravel, well graded, angular, wet		
8	SPT	38.0	40.0	3-4-7-8			40		SP	LOOSE YELLOWISH BROWN 10YR 5/6 MEDIUM GRAINED SAND subrounded, few gravel, wet		
							45					

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 158,399.6 E 515,000.5**
 GROUND ELEVATION **389.6** SYSTEM **State Plane using NAD27/29**

BORING NO. **PZ-1705** DATE **7/11/18** SHEET **1** OF **3**
 BORING START **10/5/17** BORING FINISH **10/5/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.60** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **40.07** BOTTOM **49.13**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TIME			
DATE			

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES	
		FROM	TO										
1	SPT	3.0	5.0	9-14-21-24			5		CH	VERY STIFF REDDISH BROWN 5YR 5/3 CLAY high plastic, cohesive, mottled, dry			
										ML			VERY STIFF YELLOW 10YR 7/6 CLAY low plastic, some sand, dry
2	SPT	8.0	10.0	6-10-11-10			10		CH	STIFF YELLOWISH BROWN 10YR 5/6 CLAY high plastic, cohesive, mottled, dry			
										SM			LOOSE YELLOWISH BROWN 10YR 5/6 FINE GRAINED SILTY SAND
										CH			rounded, poorly graded, dry
3	SPT	13.0	15.0	5-7-8-10			15		CH	STIFF LIGHT GRAY 10YR 7/2 CLAY high plastic, cohesive, moist			
										SW			LOOSE YELLOWISH BROWN 10YR 5/4 MEDIUM TO COARSE GRAINED SAND subrounded, well graded, few gravel
4	SPT	18.0	20.0	3-6-7-7					SW	LOOSE YELLOWISH BROWN 10YR 5/6 COARSE GRAINED SAND subrounded, well graded, some gravel, moist			

TYPE OF CASING USED

	NQ-2 ROCK CORE
	6" x 3.25 HSA
	9" x 6.25 HSA
	HW CASING ADVANCER 4"
	NW CASING 3"
	SW CASING 6"
	AIR HAMMER 8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **PZ-1705** DATE **7/11/18** SHEET **2** OF **3**

PROJECT **ROCKPORT PLANT**

BORING START **10/5/17** BORING FINISH **10/5/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
5	SPT	23.0	25.0	2-2-4-6			25		SP	VERY LOOSE YELLOWISH BROWN 10YR 5/6 MEDIUM GRAINED SAND subrounded, poorly graded, few gravel, wet		
6	SPT	28.0	30.0	3-3-2-3			30		SW SP	VERY LOOSE YELLOWISH BROWN 10YR 5/6 MEDIUM GRAINED SAND subrounded, well graded, few gravel, wet VERY DARK GRAYISH BROWN 10YR 3/2 SAND w/gravel, subrounded, well graded, rapid dilatancy, wet		
7	SPT	33.0	35.0	2-4-4-6			35		SP SW SP	VERY LOOSE DARK YELLOWISH ORANGE 10YR 6/6 FINE GRAINED SAND rounded, poorly graded, trace silt, wet VERY LOOSE DARK YELLOWISH BROWN 10YR 3/4 COARSE GRAINED SAND well graded, some gravel, trace clay, wet COAL SEAM LOOSE YELLOWISH BROWN 10YR 5/6 FINE GRAINED SAND rounded, poorly graded, few gravel, wet		
8	SPT	38.0	40.0	2-2-3-5			40		SW SW	VERY LOOSE BROWN 10YR 5/3 COARSE GRAINED SAND w/gravel, well graded, subrounded, trace clay, wet LOOSE GRAYISH BROWN 10YR 5/2 MEDIUM GRAINED SAND subrounded, well graded		
9	SPT	43.0	45.0	9-14-16-16			45		SW SP	LOOSE YELLOW BROWN 10YR 5/6 COARSE GRAINED SAND w/gravel, well graded, subrounded to angular, wet MEDIUM DENSE DARK YELLOWISH BROWN 10YR 4/4 FINE GRAINED SAND subrounded, poorly graded, few gravel, trace silt,		

Continued Next Page

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER 42393125-01

COMPANY INDIANA MICHIGAN POWER COMPANY

BORING NO. PZ-1705 DATE 7/11/18 SHEET 3 OF 3

PROJECT ROCKPORT PLANT

BORING START 10/5/17 BORING FINISH 10/5/17

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
10	SPT	48.0	50.0	9-11-12-14			50		SW	wet MEDIUM DENSE DARK YELLOWISH BROWN 10YR 4/6 COARSE GRAINED SAND well graded, subrounded, some gravel, wet		
										TBHD = 51'		

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**
 COMPANY **INDIANA MICHIGAN POWER COMPANY**
 PROJECT **ROCKPORT PLANT**
 COORDINATES **N 153,979.3 E 517,034.2**
 GROUND ELEVATION **395.1** SYSTEM **State Plane using NAD27/29**

BORING NO. **PZ-1706** DATE **7/11/18** SHEET **1** OF **3**
 BORING START **10/9/17** BORING FINISH **10/9/17**
 PIEZOMETER TYPE _____ WELL TYPE _____
 HGT. RISER ABOVE GROUND **3.36** DIA **4.25**
 DEPTH TO TOP OF WELL SCREEN **40.16** BOTTOM **49.85**
 WELL DEVELOPMENT **YES** BACKFILL _____
 FIELD PARTY **TERRACON/AMEC** RIG _____

Water Level, ft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TIME			
DATE			

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD %	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO									
										TOPSOIL = 2" SILT AND GRAVEL FILL TO ~ 2.0'		
1	SS	3.0	5.0	4-6-8-7	1.42		5	CL ML		STIFF DARK GRAY (5YR 5/1) SILTY CLAY (CL-ML) AND GRAVEL (FINE TO COARSE) moist		
2	SS	8.0	10.0	2-2-3-3	1.58		10	CL		MEDIUM STIFF DARK GRAY (5YR 5/1) SANDY CLAY (CL) AND GRAVEL (FINE TO COARSE) moist		
3	SS	13.0	15.0	1-2-3-4	1.83		15	SP		LOOSE LIGHT BROWN (7.5YR 7/8) POORLY GRADED SAND (SP) FINE GRAINED sandy silt seams, moist @ 18' no sandy silt, trace fine gravel, trace coarse grained		
4	SS	18.0	20.0	4-4-5-4	1.75							

TYPE OF CASING USED

	NQ-2 ROCK CORE
	6" x 3.25 HSA
	9" x 6.25 HSA
	HW CASING ADVANCER 4"
	NW CASING 3"
	SW CASING 6"
	AIR HAMMER 8"

Continued Next Page

PIEZOMETER TYPE: PT = OPEN TUBE POROUS TIP, SS = OPEN TUBE SLOTTED SCREEN, G = GEONOR, P = PNEUMATIC
 WELL TYPE: OW = OPEN TUBE SLOTTED SCREEN, GM = GEOMON

RECORDER _____

AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING



JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **PZ-1706** DATE **7/11/18** SHEET **2** OF **3**

PROJECT **ROCKPORT PLANT**

BORING START **10/9/17** BORING FINISH **10/9/17**

SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
5	SS	23.0	25.0	2-4-4-4	1.92		25		SP	LOOSE LIGHT BROWN (7.5YR 6/3) POORLY GRADED SAND (SP) AND FINE GRAVEL MEDIUM TO COARSE GRAINED moist		
6	SS	28.0	30.0	4-4-2-3	1.92		30		SM	LOOSE LIGHT BROWN (7.5YR 6/6) SILTY SAND (SM) trace fine to coarse gravel, wet		
7	SS	33.0	35.0	WH-WH-WH-2	1.83		35		SM	VERY LOOSE LIGHT BROWN (7.5YR 6/8) SILTY SAND (SM) wet		
8	SS	38.0	40.0	3-4-5-5	2.0		40		SP	LOOSE LIGHT BROWN (5YR 7/6) POORLY GRADED SAND (SP) FINE GRAINED wet		
9	SS	43.0	45.0	4-4-4-5	1.58		45		SM	LOOSE GRAYISH BROWN (2.5YR 6/2) SILTY SAND (SM) AND FINE GRAVEL wet		
									SW	LOOSE GRAYISH BROWN (5YR 6/2) WELL GRADED SAND (SW) AND FINE GRAVEL wet		

AEP RK BAP CCR COMPLIANCE.GPJ AEP.GDT 7/11/18

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AMERICAN ELECTRIC POWER SERVICE CORPORATION
AEP CIVIL ENGINEERING LABORATORY
 LOG OF BORING




JOB NUMBER **42393125-01**

COMPANY **INDIANA MICHIGAN POWER COMPANY**

BORING NO. **PZ-1706** DATE **7/11/18** SHEET **3** OF **3**

PROJECT **ROCKPORT PLANT**

BORING START **10/9/17** BORING FINISH **10/9/17**







SAMPLE NUMBER	SAMPLE	SAMPLE DEPTH IN FEET		STANDARD PENETRATION RESISTANCE BLOWS / 6"	TOTAL LENGTH RECOVERY	RQD	DEPTH IN FEET	GRAPHIC LOG	USCS	SOIL / ROCK IDENTIFICATION	WELL	DRILLER'S NOTES
		FROM	TO			%						
10	SS	48.0	50.0	1-7-9-7	1.67		50		SP	MEDIUM DENSE BROWNISH GRAY (5YR 5/1) POORLY GRADED SAND (SP) FINE GRAINED some fine gravel, wet		
										BT @ 52' / WELL INSTALLATION @ 52'		

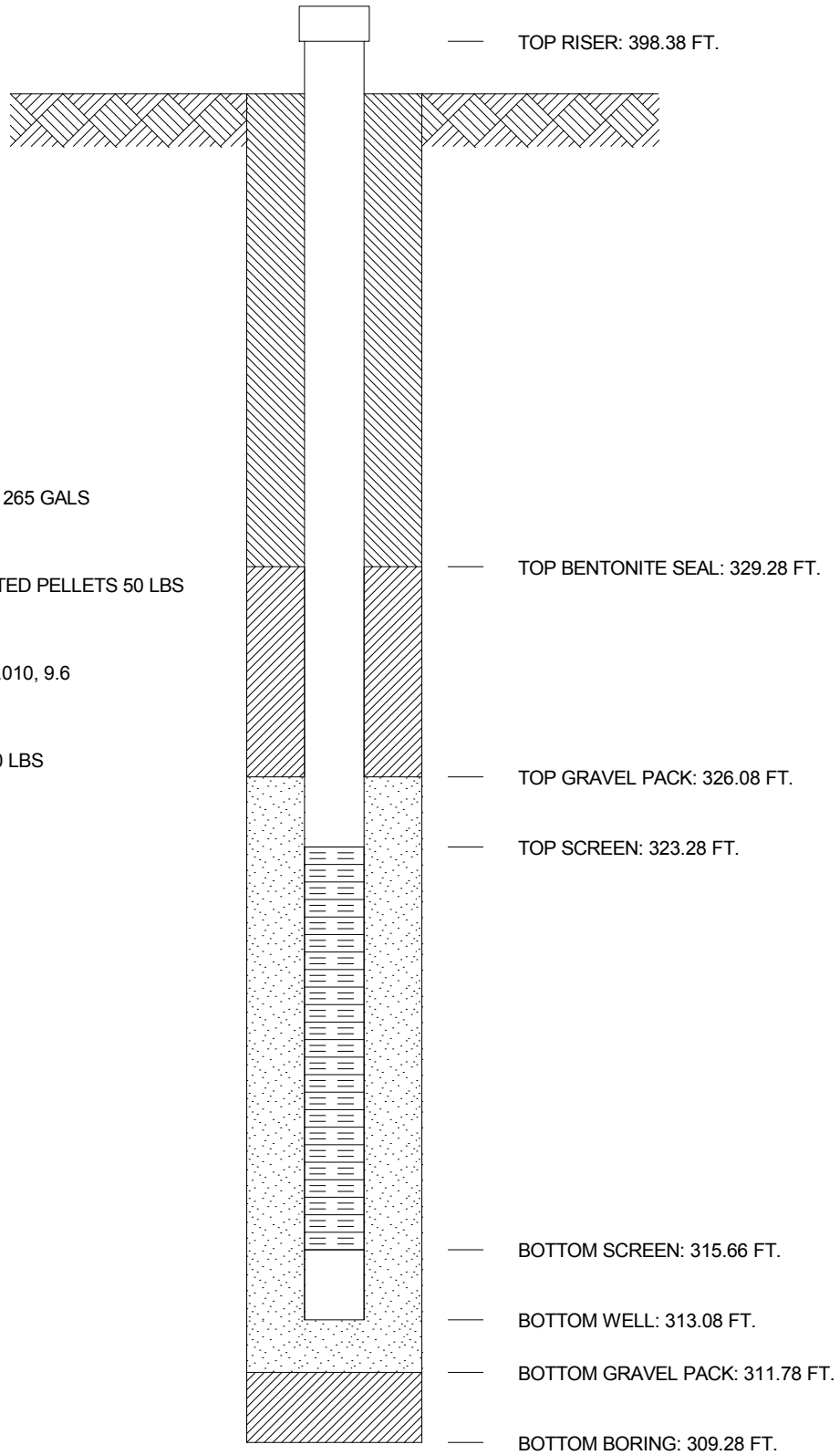
AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01
 COMPANY INDIANA MICHIGAN POWER COMPANY WELL No. MW-1701D BORING No. _____ INSTALLED 10/11/17
 PROJECT ROCKPORT PLANT
 COORDINATES N 155,708.2 E 511,570.0
 SYSTEM State Plane using NAD27/29

GROUND ELEVATION 395.28 FT.

-  GROUT SEAL: HIGH SOLIDS 265 GALS
-  BENTONITE SEAL: 3/8" COATED PELLETS 50 LBS
-  SCREEN: 2.0 dia., SLOTTED .010, 9.6
-  GRAVEL PACK: #5 SAND 200 LBS
-  RISER PIPE: 2.0, dia., PVC
-  SPACERS, DEPTH:



MONITORING WELL CONSTRUCTION

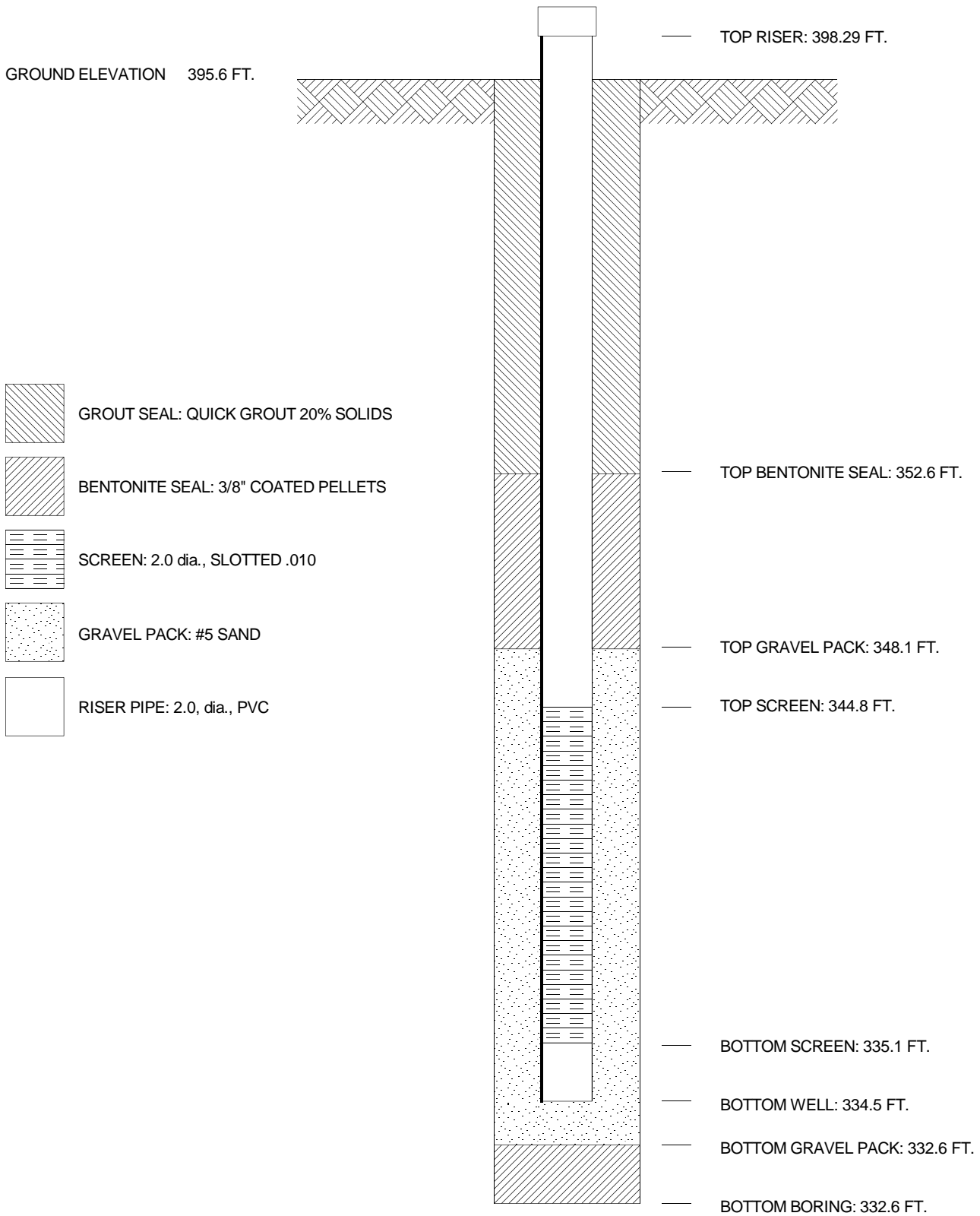
PROJECT NO. 7362172421

WELL ID MW-1701I

CLIENT AEP

DATE INSTALLED 10/13/2017

COORDINATES N 155703.04, E 511568.64 SPCS NAD27



MONITORING WELL CONSTRUCTION

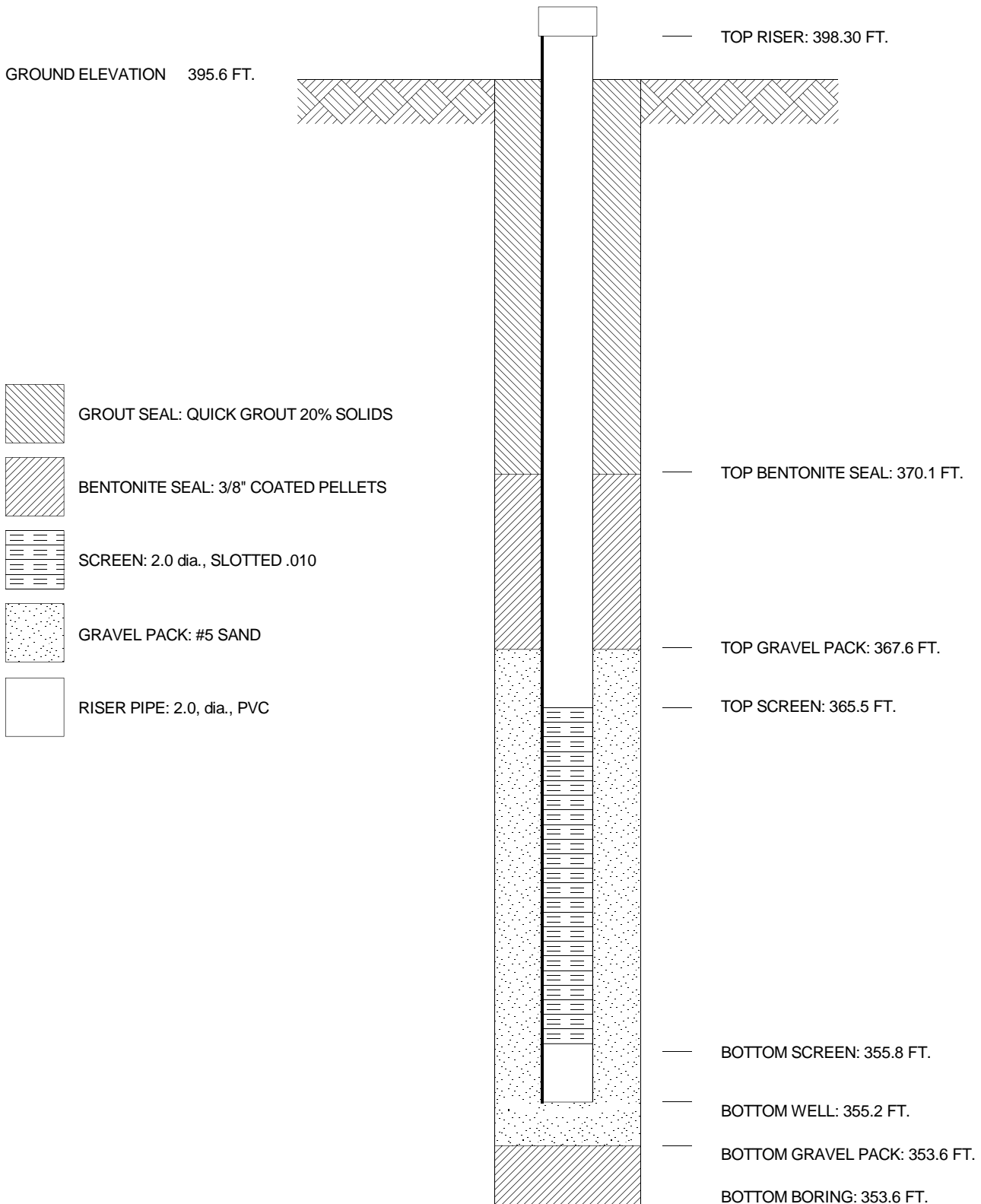
PROJECT NO. 7362172421

WELL ID MW-1701S

CLIENT AEP

DATE INSTALLED 10/16/2017

COORDINATES N 155697.39, E 511567.94 SPCS NAD27









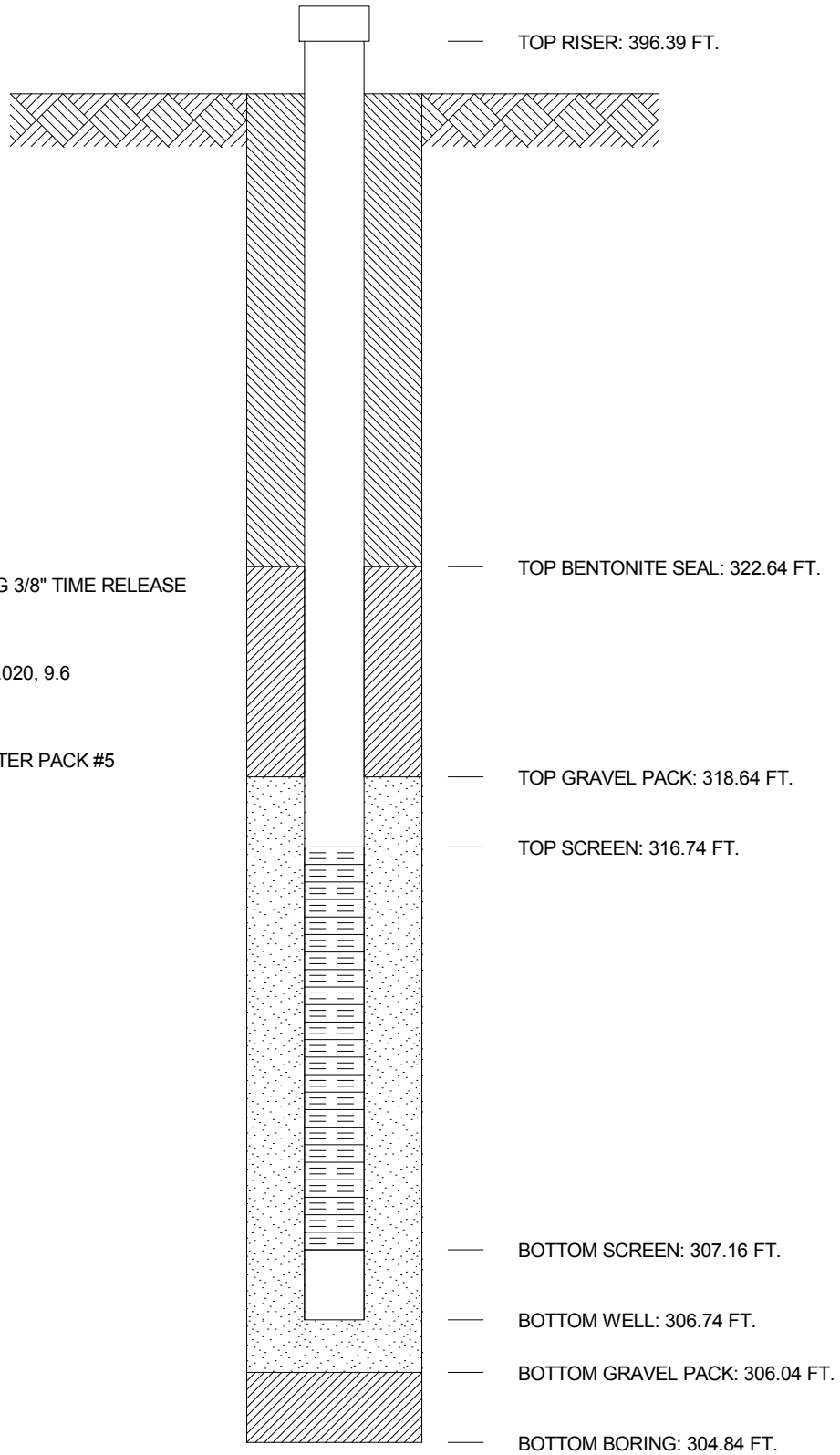
AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01
 COMPANY INDIANA MICHIGAN POWER COMPANY WELL No. MW-1702D BORING No. _____ INSTALLED 10/2/17
 PROJECT ROCKPORT PLANT
 COORDINATES N 153,659.2 E 511,922.9
 SYSTEM State Plane using NAD27/29

GROUND ELEVATION 392.44 FT.

-  GROUT SEAL:
-  BENTONITE SEAL: PEL-PLUG 3/8" TIME RELEASE PELLETS
-  SCREEN: 2.0 dia., SLOTTED .020, 9.6
-  GRAVEL PACK: GLOBAL FILTER PACK #5
-  RISER PIPE: 2.0, dia., PVC
-  SPACERS, DEPTH:



MONITORING WELL CONSTRUCTION

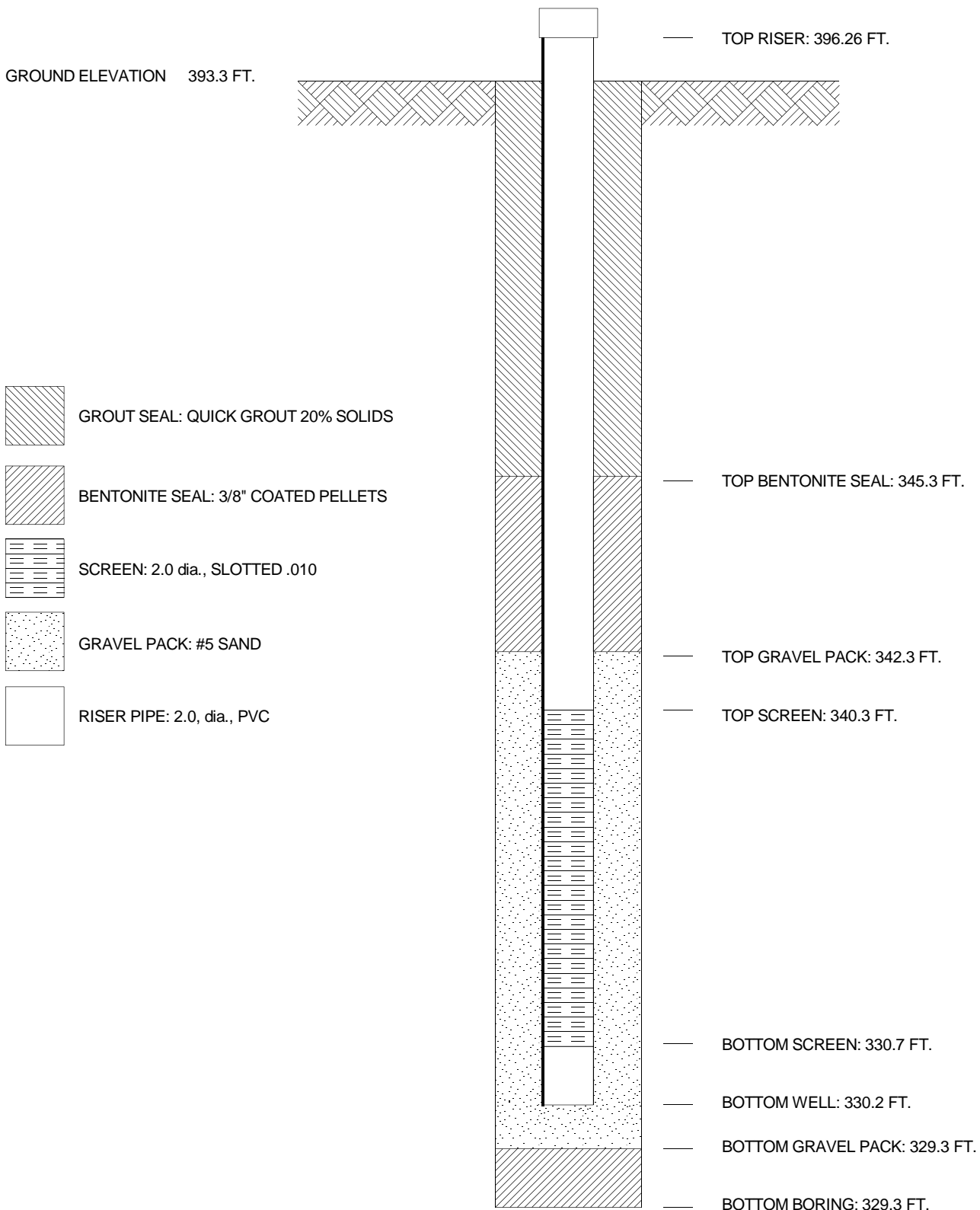
PROJECT NO. 7362172421

WELL ID MW-1702I

CLIENT AEP

DATE INSTALLED 10/4/2017

COORDINATES N 153655.81, E 511921.85 SPCS NAD27



MONITORING WELL CONSTRUCTION

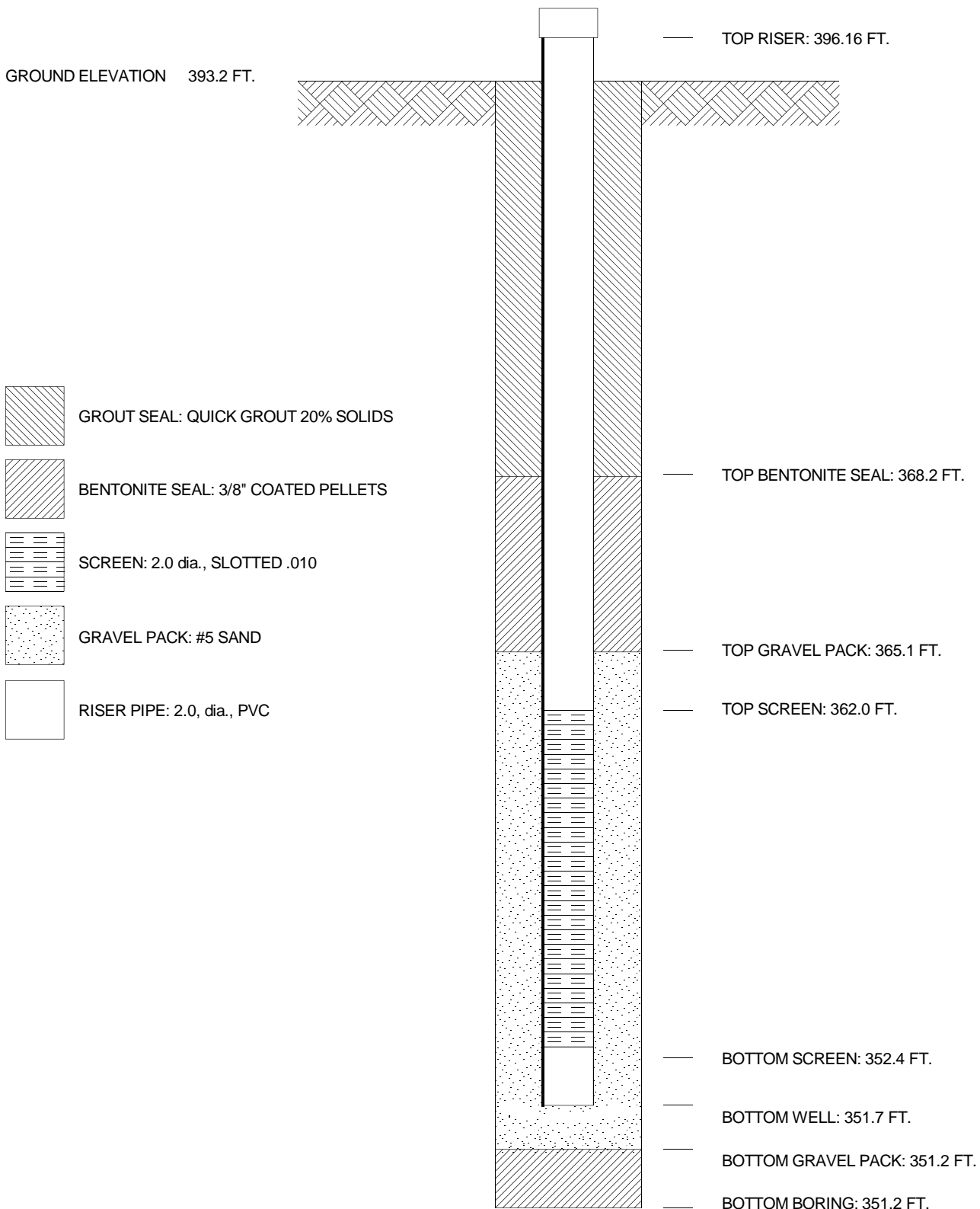
PROJECT NO. 7362172421

WELL ID MW-1702S

CLIENT AEP

DATE INSTALLED 10/5/2017

COORDINATES N 153650.79, E 511921.68 SPCS NAD27



AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01
 COMPANY INDIANA MICHIGAN POWER COMPANY WELL No. PZ-1703 BORING No. _____ INSTALLED 10/16/17
 PROJECT ROCKPORT PLANT
 COORDINATES N 154,452.3 E 514,681.1
 SYSTEM State Plane using NAD27/29

GROUND ELEVATION 399.18 FT.



GROUT SEAL: HIGH SOLIDS 145 GALS



BENTONITE SEAL: 3/8" COATED PELLETS 37.5 LBS



SCREEN: 2.0 dia., SLOTTED .010, 9.7



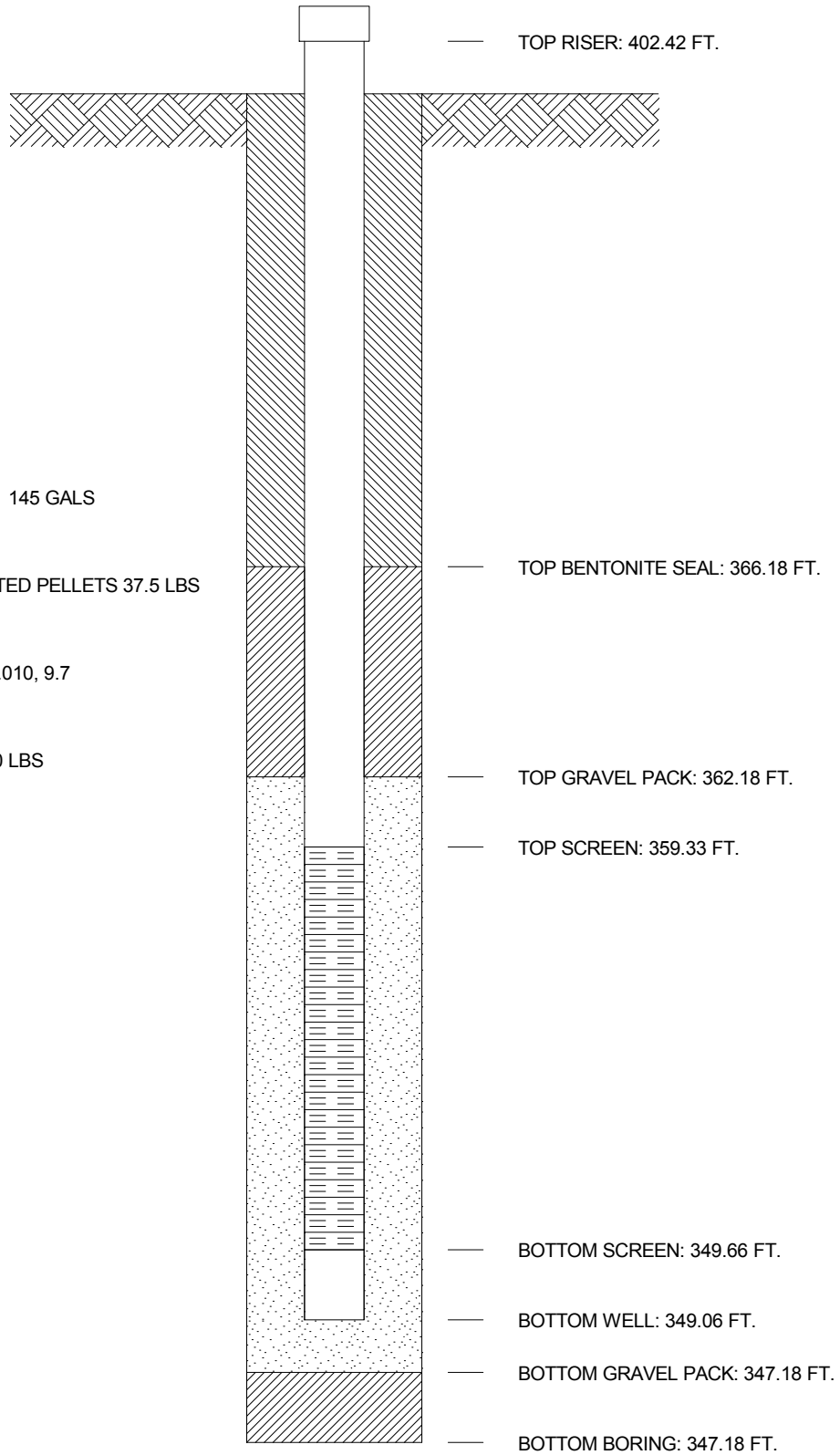
GRAVEL PACK: #5 SAND 200 LBS



RISER PIPE: 2.0, dia., PVC



SPACERS, DEPTH:



AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01

COMPANY INDIANA MICHIGAN POWER COMPANY

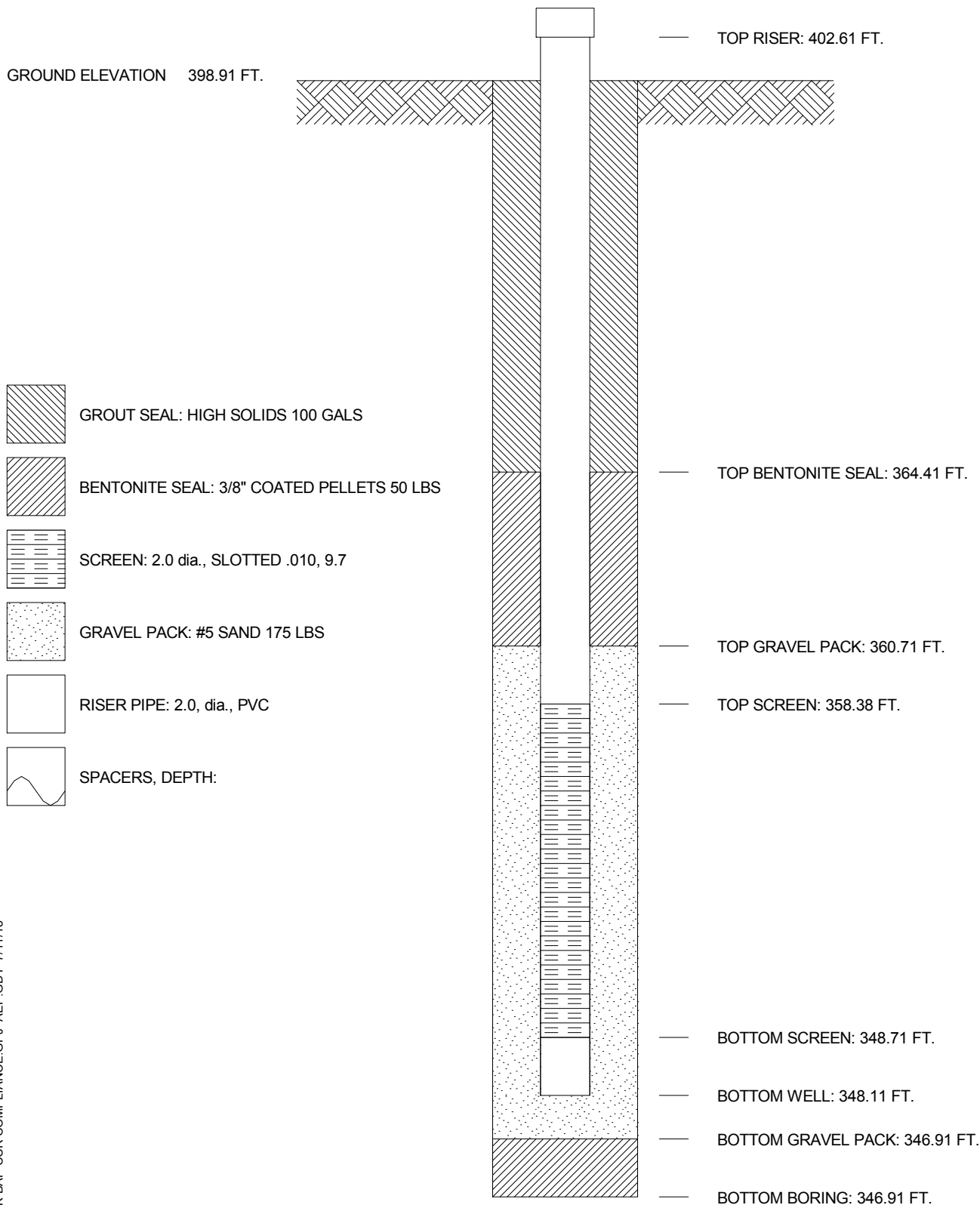
WELL No. PZ-1704 BORING No. _____ INSTALLED 10/6/17

PROJECT ROCKPORT PLANT

COORDINATES N 156,115.9 E 513,931.8

SYSTEM State Plane using NAD27/29

GROUND ELEVATION 398.91 FT.









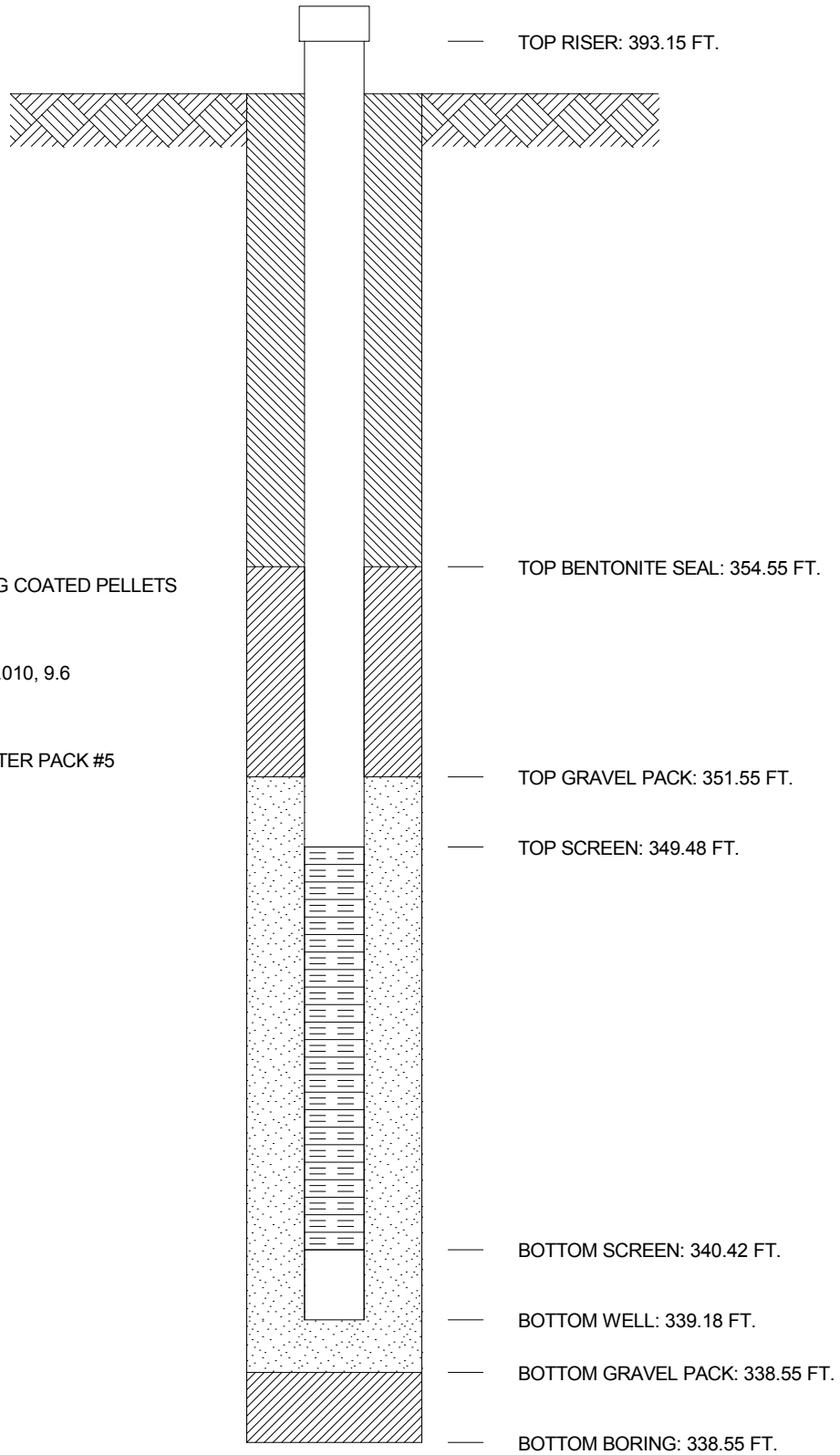
AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01
 COMPANY INDIANA MICHIGAN POWER COMPANY WELL No. PZ-1705 BORING No. _____ INSTALLED 10/5/17
 PROJECT ROCKPORT PLANT
 COORDINATES N 158,399.6 E 515,000.5
 SYSTEM State Plane using NAD27/29

GROUND ELEVATION 389.55 FT.

-  GROUT SEAL: BENTONITE
-  BENTONITE SEAL: PEL-PLUG COATED PELLETS
-  SCREEN: 2.0 dia., SLOTTED .010, 9.6
-  GRAVEL PACK: GLOBAL FILTER PACK #5
-  RISER PIPE: 2.0, dia., PVC
-  SPACERS, DEPTH:









AMERICAN ELECTRIC POWER SERVICE CORPORATION
 AEP CIVIL ENGINEERING LABORATORY
 MONITORING WELL CONSTRUCTION



JOB NUMBER 42393125-01
 COMPANY INDIANA MICHIGAN POWER COMPANY WELL No. PZ-1706 BORING No. _____ INSTALLED 10/9/17
 PROJECT ROCKPORT PLANT
 COORDINATES N 153,979.3 E 517,034.2
 SYSTEM State Plane using NAD27/29

GROUND ELEVATION 395.10 FT.

-  GROUT SEAL: HIGH SOLIDS 100 GALS
-  BENTONITE SEAL: 3/8" COATED PELLETS 50 LBS
-  SCREEN: 2.0 dia., SLOTTED .010, 9.7
-  GRAVEL PACK: #5 SAND 200 LBS
-  RISER PIPE: 2.0, dia., PVC
-  SPACERS, DEPTH:

