Form CCR 1

Illinois Environmental Protection Agency

CCR Residual Surface Impoundment Permit Application

CCR Form 1 – General Provisions

Bureau of Water ID Number:

CCR Permit Number:

Facility Name: Will County Generating Station

For IEPA Use Only

SECTION 1: FACILITY, OPERATOR, AND OWNER INFORMATION (35 IAC 845.210(b))

Facility, Operator, and Owner Information

1.1 Facility Name

Will County Generating Station

1.2 Illinois EPA CCR Permit Number (if applicable)

Initial Permit

1.3 Facility Contact Information

Name (first and last)	Title	Phone Number
James Thorne	Health & Safety Specialist	815-207-5470
Email address		
James.Thorne@NRG.com		

1.4 Facility Mailing Address

Street or P.O. box		
529 E. Romeo Road		
City or town	State	Zip Code
Romeoville	Illinois	60446

1.5 Facility Location

Street, route number, or other specific identifier		
529 E. Romeo Road		
County name	County code (if known)	
Will		
City or town	State	Zip Code
Romeoville	Illinois	60446

1.6 Name of Owner/Operator

Midwest Generation, LLC

Facility, Operator, and Owner Info

1.7 **Owner/Operator Contact Information**

Name (first and last) Phillip Raush	Title Plant Manager	Phone Number 815-372-4512

Email address
phillip.raush@nrg.com

1.8 **Owner/Operator Mailing Address**

Street or P.O. box
804 Carnegie Center

City or town Princeton	State New Jersey	Zip Code 08540

SECTION 2: LEGAL DESCRIPTION (35 IAC 845.210(c))

Legal Description

2.1 **Legal Description of the facility boundary**

ALL THT PRT OF THE SE1/4 OF SEC 19, T35N-R10E., LYING S'LY OF THE CENTERLINE OF CHANNAHON RD. NW'LY OF A LINE DESCRIBED AS COMM AT THE SW COR OF THE SE1/4 OF SD SEC 19; THC RUNNING E ON THE S LN OF SD SEC 1629 FT; THC N 41 DEG 22' E, 249.3 FT; THC N 47 DEG 46' E, 587.6 FT; THC N 53 DEG 5' 30" E, 371.1 FT; THC N 64 DEG 28' 30" E, 545.9 FT TO A PT ON THE E LN OF SD SEC 19, WHICH IS 709.6 FT S OF THE CENTERLINE OF THE PUBLIC HIGHWAY KNOWN AS CHANNAHON RD. (EX THT PRT TAKEN BY THE STATE OF ILLINOIS BY DOC# R68-013815) & (EX THEREFROM THE FOLLOWING DESCRIBED PARCEL TO WIT: THT PRT OF THE SE1/4 OF SEC 19, T35N-R10E, DAF: COMM AT A PT ON THE S LN OF SD SEC 19, BEING A CONCRETE MONUMENT 1963.03 FT (RECORD) EAST (AS MEASURED ALG THE SOUTH LN OF SD SEC 19) OF THE SW COR OF SD SEC 19 SD MONUMENT BEING ON THE BOUNDARY LN PER THE BOUNDARY LN AGREEMENT RECORDED MARCH 21, 1951 AS DOC # 688037 BETWEEN CATERPILLAR TRACTOR CO. & PUBLIC SERVICE CO. OF NORTHERN ILLINOIS; THC N 01 DEG 48' 09" W ALG THE SD BOUNDARY LN 594.54 FT; THC N 73 DEG 47' 26" E ALG THE S ROW OF RTE 6 (FORMERLY KNOWN AS CHANNAHON RD) AS HERETOFORE CONVEYED TO THE STATE OF ILLINOIS PER QUIT CLAIM AUGUST 19, 1968 AS DOC# R68-13815, A DIST OF 870.57 FT TO A PT OF CURVATURE; THC E'LY ALG THE ARC OF CURVE CONCAVE TO THE NORTH, BEING THE S ROW LN OF SD RTE 6, HAVING A RADIUS OF 38,307.20 FT, HAVING A CHORD BEARING OF N 73 DEG 38' 36" E, 196.99 FT FOR A POB; THC CONT E'LY ALG THE ARC OF A CURVE CONCAVE TO THE N, BEING THE SD S'LY ROW LN OF RTE 6, HAVING A RADIUS OF 38,307.20 FT, HAVING A CHORD BEARING OF N 72 DEG 43' 48" E, 1024.21 FT, THC S 37 DEG 17' 59" E, 391.37 FT; THC S 42 DEG 57' 20" W, 785.70 FT; THC N 55 DEG 05' 38" W, 553.84 FT; THC N 40 DEG 21' 51" W, 348.30 FT TO THE POB. NEW PARCEL ASSESSMENT DESCRIPTION NDA:

SECTION 3: PUBLICLY ACCESSIBLE INTERNET SITE REQUIREMENTS (35 IAC 845.810)

Internet Site

3.1 **Web Address(es) to publicly accessible internet site(s) (CCR website)**

https://midwestgenerationllc.com/illinois-ccr-rule-compliance-data-and-information/

3.2 **Is/are the website(s) titled "Illinois CCR Rule Compliance Data and Information"**

[✓ Yes] No

SECTION 4: IMPOUNDMENT IDENTIFICATION

Impoundment Identification

4.1 **List all the Impoundment Identification numbers for your facility and check the corresponding box to indicate that you have attached a written description for each impoundment.**

W1978100011-01	☑	Attached written description
W1978100011-02	☑	Attached written description
	☐	Attached written description
	☐	Attached written description
	☐	Attached written description
	☐	Attached written description
	☐	Attached written description

	☐	Attached written description
	☐	Attached written description
	☐	Attached written description

SECTION 5: CHECKLIST AND CERTIFICATION STATEMENT

Checklist and Certification Statement

5.1 In Colum 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing.

Column 1		**Column 2**	
Section 1: Facility, Operator, and Owner Information	☑	w/attachments	☑
Section 2: Legal Description	☑	w/attachments	☐
Section 3: Publicly Accessible Internet Site Requirement	☑	w/attachments	☐
Section 4: Impoundment Identification	☑	w/attachments	☑

5.2 **Certification Statement**

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

Name (print or type first and last name) of Owner/Operator: Phillip Raush

Official Title: Plant Manager

Signature:

Date Signed: 03/31/22

Form CCR 2E

Illinois Environmental Protection Agency

CCR Residual Surface Impoundment Permit Application

Form CCR 2E – Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that have not completed an Agency approved closure before July 30, 2021

Bureau of Water ID Number:

CCR Permit Number:

Facility Name:

For IEPA Use Only

SECTION 1: CONSTRUCTION HISTORY (35 IAC 845.220 AND 35 IAC 845.230)

Construction History

1.1 CCR Surface Impoundment Name

Pond 1N

1.2 Identification number of the CCR surface impoundment (if one has been assigned by the Agency)

W1978100011-01

1.3 Description of the boundaries of the CCR surface impoundment (35 IAC 845.210 (c))

THAT PRT OF THE W1/2 OF SEC 2, W'LY OF THE W'LY TOP VERTICAL FACE OF THE MAIN CHANNEL OF THE SANITARY DISTRICT OF CHICAGO AS SD FACE EXISTED ON SEPTEMBER 20, 1937 & OF SEC 3, EAST & WEST OF THE DES PLAINES RIVER, T36N-R10E. DAF: BEG AT THE NW COR OF SD SEC 2, WHICH IS ALSO THE NE COR OF SD SEC 3, EAST OF THE RIVER & RUNNING THC SOUTHWARD ALG THE W LN OF SD SEC 2, A DIST OF 1,361 19 FT TO THE NW COR OF GOVERNMENT LOT 1 OF THE NW1/4 OF SD SEC 2; THC WESTWARD ALG A LN PARL TO THE N LN OF THE S1/2 OF SD SEC 3, EAST OF SD RIVER (WHICH PARL LN IS SOMETIMES KNOWN AS THE N LN OF THE S1/2 OF THE NE1/4 OF SD SEC 3, EAST OF SD RIVER), A DIST OF 510 FT, MORE OR LESS, TO THE CENTER THREAD OF SD DES PLAINES RIVER; THC SOUTHWARDLY ALG SD CENTER THREAD OF SD RIVER, A DIST OF 1,570 FT MORE OR LESS TO THE N LN OF THE S1/2 OF SD SEC 3, WEST OF THE RIVER, THC WESTWARD ALG SD N LN OF THE S1/2 OF SD SEC 3 WEST OF SD RIVER, A DIST OF 1170 FT MORE OR LESS, TO THE E LN OF THE RIGHT OF WAY OF THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS (WHICH EAST RIGHT OF WAY LN IS THE E LN OF THE W 600 FT OF THE E1/2 OF SD SEC 3, WEST OF SD RIVER); THC SOUTHWARD ALG SD E RIGHT OF WAY LN, A DIST OF 1320.19 FT TO THE S LN OF THE N1/2 OF SD S1/2 OF SEC 3 WEST OF SD RIVER; THC EASTWARD ALG SD S LN OF SD N1/2 OF THE S1/2 OF SEC 3, WEST OF SD RIVER & ALG AN EASTWARD EXTENSION OF SD S LN, A DIST OF 3,088.55 FT TO AN INTERSECTION WITH THE W'LY TOP VERTICAL FACE OF SD MAIN CHANNEL SD INTERSECTION BEING 46.65 FT S'LY (MEASURED ALG SD W'LY TOP VERTICAL FACE) FROM THE PT OF INTERSECTION OF SD W'LY TOP VERTICAL FACE WITH THE S LN OF THE N1/2 OF THE SW1/4 OF SD SEC 2; THC NORTHWARDLY ALG SD W'LY TOP VERTICAL FACE, A DIST OF 4,081.54 FT TO THE N LN OF THE NW1/4 OF SD SEC 2 & THC WESTWARD ALG SD N LN OF SD NW1/4, A DIST OF 1,523.17 FT TO THE POB.& (EX THEREFROM THT PRT CONVEYED TO THE VILLAGE OF ROMEOVILLE BY QUIT DEED BY DOC# R96-052181 WHICH IS PRT OF 135TH ST), ALSO (EX THEREFROM THT PRT DAF.THT PRT OF THE W1/2 OF SEC 2, T36N-R10E. DAF: COMM AT THE SW COR OF THE NW1/4 OF SD SEC 2; THC N 01 DEG 32' 18" W ALG THE W LN OF SD NW1/4, A DIST OF 835.90 FT; THC N 88 DEG 27' 42" E PERPENDICULAR TO THE LAST DESCRIBED LN 233.92 FT FOR THE POB; THC E'LY ALG A NONTANGENTIAL CURVE CONCAVE TO THE S, HAVING A RADIUS OF 403.61 FT, HAVING A CHORD BEARING OF S 89 DEG 37' 10" E, 351.51 FT; THC S 04 DEG 35' 24' W, 526.78 FT, THC S 85 DEG 24' 36" E PERPENDICULAR TO THE LAST DESCRIBED LN, 4.60 FT; THC S 04 DEG 35' 24" W PERPENDICULAR TO THE LAST DESCRIBED LN 255.46 FT, THC S 75 DEG 18' 03" E, 8.98 FT, THC S 04 DEG 35' 24" W 83.52 FT; THC N 85 DEG 24' 36' W PERPENDICULAR TO THE LAST DESCRIBED LN 31.11 FT; THC S 04 DEG 35' 24" W PERPENDICULAR TO THE LAST DESCRIBED LN 185.38 FT, THC N 85 DEG 24' 36" W PERPENDICULAR TO THE LAST DESCRIBED LN 321.92 FT, THC N 04 DEG 35' 24" E PERPENDICULAR TO THE LAST DESCRIBED LN 1027 72 FT TO THE POB.) & ALSO (EX THT PRT OF THE S1/2 OF SEC 2 & THT PRT OF THE S1/2 OF SEC 3, EAST & WEST OF THE DES PLAINES RIVER, T36N-R10E. DAF: BEG AT THE PT OF INTERSECTION OF THE S LN OF THE N1/2 OF THE S1/2 OF SEC 3, WEST OF THE DES PLAINES RIVER, WITH A LN 600 FT E OF & PARL WITH THE N & S CENTER LN OF SD SEC 3; THC N 01 DEG 56' 48" W ALG SD LN 600 FT E OF & PARL WITH THE N & S CENTER LN OF SEC 3, A DIST OF 90 FT; THC N 88 DEG 00' 10" E, ALG A LN 90 FT N OF & PARL WITH SD S LN OF THE N1/2 OF THE S1/2 OF SEC 3, WEST OF THE DES PLAINES RIVER, 1,733.87 FT; THC N 48 DEG 19' 07" E, 53.12 FT TO A PT OF CURVATURE; THC N'LY ALG THE ARC OF A CURVE CONCAVE TO THE NW, HAVING A RADIUS OF 245 FT, HAVING A CHORD BEARING OF N 26 DEG 24' 32" E, 187.38 FT TO A PT ON TANGENCY; THC N 04 DEG 29' 56" E, 1,100.29 FT; THC N 88 DEG 48' 20" E ALG THE N LN OF THE S1/2 OF SD SEC 3, EAST OF THE DES PLAINES RIVER, 25.67 FT TO THE NW COR OF THE SW1/4 OF SEC 2; THC N 88 DEG 48' 26" E ALG THE N LN OF SD SW1/4 OF SEC 2, A DIST OF 144.08 FT; THC S 04

1.4 State the purpose for which the CCR surface impoundment is being used.

Pond 1N is inactive. The pond was formally used as a settling pond for sluiced CCR and other process waters associated with the electrical power generating process.

1.5 How long has the CCR surface impoundment been in operation?

33 years

1.6 List the types of CCR that have been placed in the CCR surface impoundment.

Bottom ash and economizer ash

Construction History (Continued)

1.7 List name of the watershed within which the CCR surface impoundment is located.

Des Plaines River watershed

1.8 Size in acres of the watershed within which the CCR surface impoundment is located.

28,808 acres

1.9 Check the corresponding box to indicate that you have attached the following:

☑ Description of the physical and engineering properties of the foundation and abutment materials on which the CCR surface impoundment is constructed.

☑ Description of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR surface impoundment.

☑ Describe the method of site preparation and construction of each zone of the CCR surface impoundment.

☑ A listing of the approximate dates of construction of each successive stage of construction of the CCR surface impoundment.

☑ Drawing satisfying the requirements of 35 IAC 845.220(a)(1)(F).

☑ Description of the type, purpose, and location of existing instrumentation.

☑ Area Capacity Curves for the CCR Impoundment.

☑ Description of each spillway and diversion design features and capacities and provide the calculations used in their determination.

☑ Construction specifications and provisions for surveillance, maintenance, and repair of the CCR surface impoundment.

1.10.1 Is there record(s) or knowledge of structural instability of the CCR surface impoundment?

☐ Yes ☑ No

1.10.2 If you answered yes to Item 1.10.1, provide detailed explanation of the structural instability.

SECTION 2: ANALYSIS OF CHEMICAL CONSTITUENTS (35 IAC 845(d)(2))

Constituents

2.1 Check the corresponding boxes to indicate you have attached the following:

☑ An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment.

☑ An analysis of the chemical constituents of all waste streams, chemical additives and sorbent materials entering or contained in the CCR surface impoundment.

SECTION 3: DEMONSTRATIONS AND CERTIFICATIONS (35 IAC 845(d)(2)(D)

Demonstrations

3.1 Indicate whether you have attached a demonstration that the CCR surface impoundment, as built, meets or an explanation of how the CCR surface impoundments fails to meet, the location standards in the following sections

Section 845.300 (Placement Above the Uppermost Aquifer)	☐	Demonstration	☑	Explanation
Section 845.310 (Wetlands)	☑	Demonstration	☐	Explanation
Section 845.320 (Fault Areas)	☑	Demonstration	☐	Explanation
Section 845.330 (Seismic Impact Zones)	☑	Demonstration	☐	Explanation
Section 845.340 (Unstable Areas and Floodplains)	☑	Demonstration	☐	Explanation

SECTION 4: ATTACHMENTS

Attachments

4.1 Check the corresponding boxes to indicate that you have attached the following:

- ☑ Evidence that the permanent markers required by Section 845.130 have been installed.
- ☑ Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in Section 845.430.
- ☑ Initial Emergency Action Plan and accompanying certification required by Section 845.520(e).
- ☑ Fugitive Dust Control Plan and accompanying certification required by Section 845.500(b)(7).
- ☑ Preliminary written closure plan as specified in Section 845.720(a).
- ☑ Initial written post-closure care plan as specified in Section 845.780(d), if applicable.
- ☑ A certification as specified in Section 845.400(h), or a statement that the CCR surface impoundment does not have a liner than meets the requirements of Section 845.400(b) as specified in Section 845.400(c).
- ☑ History of known exceedances of the groundwater protection standards in Section 845.600, and any corrective action taken to remediate the groundwater.
- ☑ Safety and health plan, as required by Section 845.530.
- ☑ For CCR surface impoundments required to close under 845.700, the proposed closure priority categorization required by Section 845.700(g).

SECTION 5: GROUNDWATER MONITORING

Groundwater Monitoring

5.1 Check the corresponding boxes to Indicate you have attached the following groundwater monitoring information:

- ☑ A hydrogeologic site characterization meeting the requirements of Section 845.620
- ☑ Design and construction plans of a groundwater monitoring system meeting the requirements of Section 845.630
- ☑ A groundwater sampling and analysis program that includes section of the statistical procedures to be used for evaluating groundwater monitoring data, required by Section 845.640

		☑	Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well, required by Section 845.650(b)
SECTION 6: CERTIFICATIONS			
Certifications	6.1	Check the corresponding boxes to indicate you have attached the following certifications:	
		☑	A certification that the owner or operator meets the financial assurance requirements of Subpart I, as required by 845.230(d)(2)(N).
		☑	Hazard potential classification assessment and accompanying certifications required by Section 845.440(a)(2).
		☑	Structural stability assessment and accompanying certification, required by Section 845.450(c).
		☑	Safety factor assessment and accompanying certification, as required by Section 845.460(b).
		☑	Inflow design flood control system plan and accompanying certification, as required by Section 845.510(c)(3).

Form CCR 2E

Illinois Environmental Protection Agency

CCR Residual Surface Impoundment Permit Application

Form CCR 2E – Initial Operating Permit for Existing or Inactive CCR Surface Impoundments that have not completed an Agency approved closure before July 30, 2021

Bureau of Water ID Number:

CCR Permit Number:

Facility Name:

For IEPA Use Only

SECTION 1: CONSTRUCTION HISTORY (35 IAC 845.220 AND 35 IAC 845.230)

Construction History

1.1 CCR Surface Impoundment Name

Pond 1S

1.2 Identification number of the CCR surface impoundment (if one has been assigned by the Agency)

W1978100011-02

1.3 Description of the boundaries of the CCR surface impoundment (35 IAC 845.210 (c))

THAT PRT OF THE W1/2 OF SEC 2, W'LY OF THE W'LY TOP VERTICAL FACE OF THE MAIN CHANNEL OF THE SANITARY DISTRICT OF CHICAGO AS SD FACE EXISTED ON SEPTEMBER 20, 1937 & OF SEC 3, EAST & WEST OF THE DES PLAINES RIVER, T36N-R10E. DAF: BEG AT THE NW COR OF SD SEC 2, WHICH IS ALSO THE NE COR OF SD SEC 3, EAST OF THE RIVER & RUNNING THC SOUTHWARD ALG THE W LN OF SD SEC 2, A DIST OF 1,361 19 FT TO THE NW COR OF GOVERNMENT LOT 1 OF THE NW1/4 OF SD SEC 2; THC WESTWARD ALG A LN PARL TO THE N LN OF THE S1/2 OF SD SEC 3, EAST OF SD RIVER (WHICH PARL LN IS SOMETIMES KNOWN AS THE N LN OF THE S1/2 OF THE NE1/4 OF SD SEC 3, EAST OF SD RIVER), A DIST OF 510 FT, MORE OR LESS, TO THE CENTER THREAD OF SD DES PLAINES RIVER; THC SOUTHWARDLY ALG SD CENTER THREAD OF SD RIVER, A DIST OF 1,570 FT MORE OR LESS TO THE N LN OF THE S1/2 OF SD SEC 3, WEST OF THE RIVER; THC WESTWARD ALG SD N LN OF THE S1/2 OF SD SEC 3 WEST OF SD RIVER, A DIST OF 1170 FT MORE OR LESS, TO THE E LN OF THE RIGHT OF WAY OF THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS (WHICH EAST RIGHT OF WAY LN IS THE E LN OF THE W 600 FT OF THE E1/2 OF SD SEC 3, WEST OF SD RIVER); THC SOUTHWARD ALG SD E RIGHT OF WAY LN, A DIST OF 1320.19 FT TO THE S LN OF THE N1/2 OF SD S1/2 OF SEC 3 WEST OF SD RIVER; THC EASTWARD ALG SD S LN OF SD N1/2 OF THE S1/2 OF SEC 3, WEST OF SD RIVER & ALG AN EASTWARD EXTENSION OF SD S LN, A DIST OF 3,088.55 FT TO AN INTERSECTION WITH THE W'LY TOP VERTICAL FACE OF SD MAIN CHANNEL SD INTERSECTION BEING 46.65 FT S'LY (MEASURED ALG SD W'LY TOP VERTICAL FACE) FROM THE PT OF INTERSECTION OF SD W'LY TOP VERTICAL FACE WITH THE S LN OF THE N1/2 OF THE SW1/4 OF SD SEC 2; THC NORTHWARDLY ALG SD W'LY TOP VERTICAL FACE, A DIST OF 4,081.54 FT TO THE N LN OF THE NW1/4 OF SD SEC 2 & THC WESTWARD ALG SD N LN OF SD NW1/4, A DIST OF 1,523.17 FT TO THE POB.& (EX THEREFROM THT PRT CONVEYED TO THE VILLAGE OF ROMEOVILLE BY QUIT DEED BY DOC# R96-052181 WHICH IS PRT OF 135TH ST), ALSO (EX THEREFROM THT PRT DAF.THT PRT OF THE W1/2 OF SEC 2, T36N-R10E. DAF. COMM AT THE SW COR OF THE NW1/4 OF SD SEC 2; THC N 01 DEG 32' 18" W ALG THE W LN OF SD NW1/4, A DIST OF 835.90 FT; THC N 88 DEG 27' 42" E PERPENDICULAR TO THE LAST DESCRIBED LN 233.92 FT FOR THE POB; THC E'LY ALG A NONTANGENTIAL CURVE CONCAVE TO THE S, HAVING A RADIUS OF 403.61 FT, HAVING A CHORD BEARING OF S 89 DEG 37' 10" E, 351.51 FT; THC S 04 DEG 35' 24' W, 526.78 FT; THC S 85 DEG 24' 36" E PERPENDICULAR TO THE LAST DESCRIBED LN, 4.60 FT; THC S 04 DEG 35' 24" W PERPENDICULAR TO THE LAST DESCRIBED LN 255.46 FT; THC S 75 DEG 18' 03" E, 8.98 FT; THC S 04 DEG 35' 24" W 83.52 FT; THC N 85 DEG 24' 36' W PERPENDICULAR TO THE LAST DESCRIBED LN 31.11 FT; THC S 04 DEG 35' 24" W PERPENDICULAR TO THE LAST DESCRIBED LN 185.38 FT; THC N 85 DEG 24' 36" W PERPENDICULAR TO THE LAST DESCRIBED LN 321.92 FT; THC N 04 DEG 35' 24" E PERPENDICULAR TO THE LAST DESCRIBED LN 1027.72 FT TO THE POB.) & ALSO (EX THT PRT OF THE S1/2 OF SEC 2 & THT PRT OF THE S1/2 OF SEC 3, EAST & WEST OF THE DES PLAINES RIVER, T36N-R10E. DAF: BEG AT THE PT OF INTERSECTION OF THE S LN OF THE N1/2 OF THE S1/2 OF SEC 3, WEST OF THE DES PLAINES RIVER, WITH A LN 600 FT E OF & PARL WITH THE N & S CENTER LN OF SD SEC 3; THC N 01 DEG 56' 48" W ALG SD LN 600 FT E OF & PARL WITH THE N & S CENTER LN OF SEC 3, A DIST OF 90 FT; THC N 88 DEG 00' 10" E, ALG A LN 90 FT N OF & PARL WITH SD S LN OF THE N1/2 OF THE S1/2 OF THE S1/2 OF SEC 3, WEST OF THE DES PLAINES RIVER, 1,733.87 FT; THC N 48 DEG 19' 07' E, 53.12 FT TO A PT OF CURVATURE; THC N'LY ALG THE ARC OF A CURVE CONCAVE TO THE NW, HAVING A RADIUS OF 245 FT, HAVING A CHORD BEARING OF N 26 DEG 24' 32" E, 187.38 FT TO A PT ON TANGENCY; THC N 04 DEG 29' 56" E, 1,100.29 FT; THC N 88 DEG 48' 20" E, ALG THE N LN OF THE S1/2 OF SD SEC 3, EAST OF THE DES PLAINES RIVER, 25.67 FT TO THE NW COR OF THE SW1/4 OF SEC 2; THC N 88 DEG 48' 26" E ALG THE N LN OF SD SW1/4 OF SEC 2, A DIST OF 144.08 FT; THC S 04

1.4 State the purpose for which the CCR surface impoundment is being used.

Pond 1S is inactive. The pond was formally used as a settling pond for sluiced CCR and other process waters associated with the electrical power generating process.

1.5 How long has the CCR surface impoundment been in operation?

33 years

1.6 List the types of CCR that have been placed in the CCR surface impoundment.

Bottom ash and economizer ash

Construction History (Continued)

1.7 List name of the watershed within which the CCR surface impoundment is located.

Des Plaines River watershed

1.8 Size in acres of the watershed within which the CCR surface impoundment is located.

28,808 acres

1.9 Check the corresponding box to indicate that you have attached the following:

- ☑ Description of the physical and engineering properties of the foundation and abutment materials on which the CCR surface impoundment is constructed.
- ☑ Description of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR surface impoundment.
- ☑ Describe the method of site preparation and construction of each zone of the CCR surface impoundment.
- ☑ A listing of the approximate dates of construction of each successive stage of construction of the CCR surface impoundment.
- ☑ Drawing satisfying the requirements of 35 IAC 845.220(a)(1)(F).
- ☑ Description of the type, purpose, and location of existing instrumentation.
- ☑ Area Capacity Curves for the CCR Impoundment.
- ☑ Description of each spillway and diversion design features and capacities and provide the calculations used in their determination.
- ☑ Construction specifications and provisions for surveillance, maintenance, and repair of the CCR surface impoundment.

1.10.1 Is there record(s) or knowledge of structural instability of the CCR surface impoundment?

☐ Yes ☑ No

1.10.2 If you answered yes to Item 1.10.1, provide detailed explanation of the structural instability.

SECTION 2: ANALYSIS OF CHEMICAL CONSTITUENTS (35 IAC 845(d)(2))

Constituents

2.1 Check the corresponding boxes to indicate you have attached the following:

- ☑ An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment.
- ☑ An analysis of the chemical constituents of all waste streams, chemical additives and sorbent materials entering or contained in the CCR surface impoundment.

SECTION 3: DEMONSTRATIONS AND CERTIFICATIONS (35 IAC 845(d)(2)(D)

Demonstrations	3.1	Indicate whether you have attached a demonstration that the CCR surface impoundment, as built, meets or an explanation of how the CCR surface impoundments fails to meet, the location standards in the following sections				
		Section 845.300 (Placement Above the Uppermost Aquifer)	☐	Demonstration	☑	Explanation
		Section 845.310 (Wetlands)	☑	Demonstration	☐	Explanation
		Section 845.320 (Fault Areas)	☑	Demonstration	☐	Explanation
		Section 845.330 (Seismic Impact Zones)	☑	Demonstration	☐	Explanation
		Section 845.340 (Unstable Areas and Floodplains)	☑	Demonstration	☐	Explanation

SECTION 4: ATTACHMENTS

Attachments	4.1	Check the corresponding boxes to indicate that you have attached the following:	
		☑	Evidence that the permanent markers required by Section 845.130 have been installed.
		☑	Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in Section 845.430.
		☑	Initial Emergency Action Plan and accompanying certification required by Section 845.520(e).
		☑	Fugitive Dust Control Plan and accompanying certification required by Section 845.500(b)(7).
		☑	Preliminary written closure plan as specified in Section 845.720(a).
		☑	Initial written post-closure care plan as specified in Section 845.780(d), if applicable.
		☑	A certification as specified in Section 845.400(h), or a statement that the CCR surface impoundment does not have a liner than meets the requirements of Section 845.400(b) as specified in Section 845.400(c).
		☑	History of known exceedances of the groundwater protection standards in Section 845.600, and any corrective action taken to remediate the groundwater.
		☑	Safety and health plan, as required by Section 845.530.
		☑	For CCR surface impoundments required to close under 845.700, the proposed closure priority categorization required by Section 845.700(g).

SECTION 5: GROUNDWATER MONITORING

Groundwater Monitoring	5.1	Check the corresponding boxes to Indicate you have attached the following groundwater monitoring information:	
		☑	A hydrogeologic site characterization meeting the requirements of Section 845.620
		☑	Design and construction plans of a groundwater monitoring system meeting the requirements of Section 845.630
		☑	A groundwater sampling and analysis program that includes section of the statistical procedures to be used for evaluating groundwater monitoring data, required by Section 845.640

		☑	Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well, required by Section 845.650(b)

SECTION 6: CERTIFICATIONS

Certifications	6.1	Check the corresponding boxes to indicate you have attached the following certifications:	
		☑	A certification that the owner or operator meets the financial assurance requirements of Subpart I, as required by 845.230(d)(2)(N).
		☑	Hazard potential classification assessment and accompanying certifications required by Section 845.440(a)(2).
		☑	Structural stability assessment and accompanying certification, required by Section 845.450(c).
		☑	Safety factor assessment and accompanying certification, as required by Section 845.460(b).
		☑	Inflow design flood control system plan and accompanying certification, as required by Section 845.510(c)(3).

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

APPLICATION FOR INITIAL OPERATING PERMIT - POND 1N & POND 1S

WILL COUNTY GENERATING STATION
MIDWEST GENERATION, LLC
ROMEOVILLE, ILLINOIS

Illinois EPA Site No. W1978100011-01 & W1978100011-02

March 31, 2022

Submitted To:

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62702

Prepared For:

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Table of Contents

TABLES

FIGURES

ATTACHMENTS

Introduction

Midwest Generation, LLC (Midwest Generation) currently operates the coal-fired steam electric generating station, referred to as Will County Station, located in Romeoville, Illinois ("site" or "generating station"). As part of the coal-fired operations and managing the coal combustion residuals (CCR), the station operates two active surface impoundments (Pond 2S and Pond 3S) and previously operated two now inactive surface impoundments (Pond 1N and Pond 1S). Pond 2S and Pond 3S are used as settling ponds to remove CCR from the stations process water that is sluiced into each pond and an Operating Permit application was submitted on October 31, 2021. Ponds 1N and 1S were taken out of service in 2010 with the CCR remaining in place. In 2013, the water in Ponds 1N and 1S was drained, and both ponds were reconfigured so that they could not accumulate liquids. On September 9, 2021, the Illinois Pollution Control Board granted Midwest Generation a variance from certain deadlines in the Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule), including the deadline to submit an operating permit application. *Midwest Generation LLC (Will County Generating Station) v. Illinois EPA*, PCB21-108, Sept. 9, 2021.

The objective of this submittal is to apply for the initial operating permit (Permit) for Pond 1N and 1S at the Will County Generating Station to continue operating both ponds in compliance with the State CCR Rule. The information required for an initial operating permit application for existing surface impoundments as specified under 35 Ill. Adm. Code 845.230(d) of the State CCR Rule is provided in the following sections.

The Permit is organized with supporting Tables and Figures that are referenced in the discussions being provided at the end of the full Permit text with the table numbers and figures tied to the Section number within which they are referenced with sequential numbering (e.g., Tables referenced in Section 9 are numbered 9-1, 9-2, etc. Figures referenced in Section 9 are numbered Figure 9-1, 9-2, etc.). Specific Attachments referenced within each Section are provided in a similar fashion (e.g., Attachment 1 information is tied to Section 1 of the Permit text, Attachment 2 information is tied to Section 2 of the Permit text, etc.). It should be noted that if Section does not reference an Attachment then that Attachment number is not included as part of the permit application. For example, Section 13 does not reference an Attachment; therefore, there is no Attachment 13 in this permit application.

1.0 History of Construction, 845.230(d)(2)(A)

The history of construction of the CCR surface impoundment as specified in Section 845.220(a)(1) is presented below.

1.1 CCR Surface Impoundment Identifying Information

The identifying information associated with the CCR surface impoundments at the generating station are listed in the table below.

Name	Owner/Operator	Impoundment ID Number
Pond 1N	Midwest Generation 804 Carnegie Center Princeton, NJ 08540	W1978100011-01
Pond 1S	Midwest Generation 804 Carnegie Center Princeton, NJ 08540	W1978100011-02

1.2 Purpose of CCR Impoundment

1.2.1 Pond 1 North

Pond 1 North (Pond 1N) is inactive and not used as part of the CCR management system. When Pond 1N was active it served as a settling pond for sluiced CCR and other process water associated with the electrical power generating process occurring at site. The CCR remains within the extent of Pond 1N and has been graded to not accumulate precipitation.

1.2.2 Pond 1 South

Pond 1 South (Pond 1S) is inactive and not used as part of the CCR management system. When Pond 1S was active it served as a settling pond for sluiced CCR and other process water associated with the electrical power generating process occurring at site. The CCR remains within the extent of Pond 1S and has been graded to not accumulate precipitation.

1.3 CCR Impoundment Length of Operation

1.3.1 Pond 1 North

Pond 1N was constructed circa 1977 and was removed from service in 2010. The pond was operational for about 33 years.

1.3.2 Pond 1 South

Pond 1S was constructed circa 1977 and was removed from service in 2010. The pond was operational for about 33 years.

1.4 Type of CCR in Impoundment

1.4.1 Pond 1 North

The types of CCR present in Pond 1N are bottom ash and economizer ash. The chemical constituents that make up the ash is explained in further detail in Section 2.

1.4.2 Pond 1 South

The types of CCR present in Pond 1S are bottom ash and economizer ash. The chemical constituents that make up the ash is explained in further detail in Section 2.

1.5 Name and Size of the Watershed

Ponds 1N and 1S are present within the Des Plaines River watershed, which is approximately 28,808 acres.

1.6 Description of CCR Impoundment Foundation, 845.220(a)(1)(D)

Pond 1N and Pond 1S consist of partial fill embankments. The crest of the embankments surrounding Pond 1N and Pond 1S are elevated compared to the surrounding topography. A divider berm separates Pond 1S from Pond 2S and acts as the south embankment for Pond 1S. A constructed plateau divides Pond 1N and Pond 1S where the Ash Sluice Water Recycle Pump House is located. This plateau creates the north embankment for Pond 1S and the south embankment for Pond 1N. The west and north embankments are elevated with paved access roads on the embankment crest and the east embankment is heavily vegetated.

The following sections discuss the foundation materials' physical and engineering properties. KPRG and Associates, Inc. (KPRG) reviewed the available material associated with Pond 1N and Pond 1S along with publicly available information to provide the discussions in the below sections.

1.6.1 Physical Properties of Foundation Materials

The physical properties of the foundation materials in which Pond 1N and Pond 1S were constructed consist of a fill layer with underlying sandy and gravelly units and some clay. KPRG performed a geotechnical investigation in 2005 that consisted of performing soil borings adjacent to the four existing CCR surface impoundments. The borings performed to the south of Pond 1N and east of Pond 1S show that the site stratigraphy consists of a 1.5 feet to 2.5 feet thick fill layer at the site surface. This surface layer is underlain by a 1-foot thick layer of sand and silt with some gravel, which is underlain by 5-feet of lean clay. The surface layer is underlain by a 3-feet thick layer of sand and gravel with clay and this layer is then underlain by 5-feet of silty clay. Bedrock was generally encountered at approximately 10 feet below ground surface (bgs).

1.6.2 Engineering Properties of Foundation Materials

The engineering properties for the foundation materials listed in the following table are from the geotechnical investigation performed by KPRG in 2005. The properties were determined from previous geotechnical investigations.

Material	Unit Weight (PCF)	Drained Friction Angle (Degrees)	Effective Cohesion (PSF)	Undrained Shear Strength (PSF)
Sand and Gravel	109	30	0	--
Silty Clay	120	0	1,000	--
Bedrock	150	35	0	--

The silty clay is underlain by Silurian Dolomite with an average Rock Quality Designation (RQD) of 94.84%. The RQD from the samples collected with the closest proximity to Pond 1N and Pond 1S is 99.45%. The closest proximity samples are approximately 13 to 15 miles from Pond 1N and Pond 1S. These RQDs were obtained from a study performed by the Illinois Geological Survey in 1991 titled "Geotechnical Properties of Selected Pleistocene, Silurian, and Ordovician Deposits of Northeastern Illinois". An RQD greater than 75% is considered good and an RQD greater than 90% is considered excellent. The RQD is a measure that determines the quality of rock and is used as part of the early site evaluation process when determining locations for engineered structures such as power facilities, underground tunnels, and dams. During the early site evaluation process, the RQD is used to determine any potential problems of bearing capacity, settlement, or sliding. The higher the RQD percentage, the more competent the rock and its ability to support structures, resist settlement and prevent sliding.

1.7 Description of the Construction Materials, Methods, and Dates, 845.220(a)(1)(E)

The descriptions of the construction materials, methods, and dates are based on the construction drawings created by Harza Engineering Company (Harza) dated 1979 and a 2005 geotechnical investigation performed by KPRG.

1.7.1 Physical and Engineering Properties of Construction Materials

The Pond 1N and Pond 1S physical properties for the construction materials for this section are the same as the physical properties for the foundation materials. As described in Section 1.6.1, the physical properties for the foundation materials were described as sandy fill material with underlying sandy and gravelly units and some clay.

Based on construction documents available from Harza dated 1979, dikes existed in the area prior to construction of Pond 1N and Pond 1S. During construction, these dikes were raised and widened with compacted fill material. The interior slopes were originally lined with fill material and shot rock, which is similar to rip rap, and the pond base was originally lined with three layers consisting of a 12-inch Poz-O-Pac layer, a 12-inch fill layer, and another 12-inch Poz-O-Pac layer on top of the fill layer. The interior slopes and base were then covered with a bituminous curing coat.

Engineering properties used for the design and construction of Pond 1N and Pond 1S were obtained from Station personnel. These properties are provided in the following table. These properties were determined by Civil & Environmental Consultants, Inc. (CEC) using previous site investigation material, published correlations, and their experience with similar materials in the region.

Material	Unit Weight (PCF)	Drained Friction Angle (Degrees)	Effective Cohesion (PSF)	Undrained Shear Strength (PSF)
Fill Material	120	0	300	600
Poz-O-Pac	125	32	0	--

1.7.2 Construction Methods

Based on construction documents available from Harza dated 1979, dikes existed in the area prior to construction of Pond 1N and Pond 1S. During construction, these dikes were raised and widened with fill material. The fill material was placed at the desired height and width and compacted to the extent necessary to prevent erosion. As part of placing the fill material, any unsuitable material identified within the existing foundations was specified to be removed based on the construction drawings.

The side slopes were designed with 3H:1V (horizontal:vertical) interior slopes, with 3H:1V exterior slopes when the outer embankment is the interior slope of the adjacent pond. The exterior embankment of the north slope of Pond 1N was designed with an approximate 2H:1V slope, the exterior embankment of the west slope of Pond 1N and Pond 1S is approximately 3H:1V, and the north embankment of Pond 1S does not have an exterior slope because the crest of the embankment is at the same elevation as the ground level going north.

1.7.3 Construction Dates

Pond 1N and Pond 1S were constructed in 1977.

1.8 Detailed Dimensional Drawings, 845.220(a)(1)(F)

Construction drawings for Pond 1N and Pond 1S created by Harza dated 1979 are included in Attachment 1.

1.9 Instrumentation, 845.220(a)(1)(G)

There is no instrumentation present in Pond 1N and Pond 1S. Pond 1N and Pond 1S are both inactive surface impoundments and the existing CCR has been graded to prevent the occurrence of standing water.

1.10 Area-Capacity Curve, 845.220(a)(1)(H)

An area-capacity curve for Pond 1N is provided on Figure 1-1 and an area-capacity curve for Pond 1S is provided on Figure 1-2.

1.11 Spillway and Diversion Capacities and Calculations, 845.220(a)(1)(I)

The only spillway and/or diversion features are the existing outlet troughs for both Pond 1N and Pond 1S. The original drawing showing the size and shape of the outlet troughs for both Pond 1N and Pond 1S is provided in Attachment 1. The outlet troughs consist of rectangular structures that are semi-circular in shape, which matches the shape of the west side of each pond. The water flows over a concrete weir into a trough that is connected to the discharge piping. The outlet structure is gravity drained. The calculations used for the design of the outlet troughs were not available. The drainage capacity for the outlet troughs and discharge pipes for both Pond 2S and Pond 3S have always adequately discharged water from each pond without affecting the functionality of the ponds.

1.12 Surveillance, Maintenance, and Repair Construction Specifications, 845.220(a)(1)(J)

Written specifications for the original construction of Pond 1N and Pond 1S are not available.

1.13 Record of Structural Instability, 845.220(a)(1)(K)

There is no record or knowledge of structural instability associated with Pond 1N or Pond 1S. Pond 1N and Pond 1S were inspected by CEC in September 2021. The results of their inspection did not identify signs of structural instability.

2.0 CCR Chemical Constituents Analysis, 845.230(d)(2)(B)

The CCR present in Pond 1N and Pond 1S are bottom ash and economizer ash. The CCR that was sluiced to Pond 2S was sampled and analyzed for the parameters listed in Section 845.600(a) except for total dissolved solids. The results of those analyses are presented in Table 2. The laboratory data package is included in Attachment 2. The CCR present in Pond 1N and Pond 1S is the same as the CCR present in Pond 2S because the source of the CCR in each pond is the same electrical generating boilers and the same source of coal. Therefore the sample from Pond 2S is also representative of the CCR in Pond 1N and Pond 1S.

3.0 Chemical Constituents Analysis of Other Waste Streams, 845.230(d)(2)(C)

Pond 1N and Pond 1S are inactive and do not receive any other waste streams. These ponds were taken out of service in 2010.

4.0 Location Standards Demonstration

4.1 Placement Above the Uppermost Aquifer

According to the Location Restrictions Compliance Demonstration performed by KPRG in March 2022, Pond 1N and Pond 1S are not separated from the upper limit of the uppermost aquifer by a minimum of five (5) feet. Therefore, the locations of Pond 1N and Pond 1S do not comply with Section 845.300. This determination is included in Attachment 4.

4.2 Wetlands

According to the Location Restrictions Compliance Demonstration performed by KPRG in March 2022, Pond 1N and Pond 1S are not located in mapped wetlands included in the National Wetlands Inventory presented by the U.S. Fish and Wildlife Service (USFW). Therefore, the locations of the Pond 1N and Pond 1S comply with Section 845.310. This determination is included in Attachment 4.

4.3 Fault Areas

According to the Location Restrictions Compliance Demonstration performed by KPRG in March 2022, Pond 1N and Pond 1S are not located within 200 feet (60 meters) of a mapped Holocene-aged fault, as mapped by the United States Geological Survey (USGS) Quaternary Fault Database. Therefore, the locations of the Pond 1N and Pond 1S comply with Section 845.320. This determination is included in Attachment 4.

4.4 Seismic Impact Zones

According to the Location Restrictions Compliance Demonstration performed by KPRG in March 2022, Pond 1N and Pond 1S are not located within a seismic impact zone, as defined in Section 845.120, and as mapped by the United States Geological Survey (USGS). Therefore, the locations of Pond 1N and Pond 1S comply with Section 845.330. This determination is included in Attachment 4.

4.5 Unstable Areas

According to the Location Restrictions Compliance Demonstration performed by KPRG in March 2022, Pond 1N and Pond 1S are not located in an unstable area based on a review of subsurface investigations at the site (KPRG, 2005) and a site visit by KPRG. Therefore, the locations of the Pond 1N and Pond 1S comply with Section 845.340. This determination is included in Attachment 4.

4.6 Floodplains

As determined by KPRG, Pond 1N and Pond 1S are not located in a floodplain with a 1% chance or greater of occurring according to the National Flood Hazard Layer FIRMette Map No. 17197C0065G as mapped by the Federal Emergency Management Agency. The 1% flood elevation listed on FIRMette Map No. 17197C0065G is 583-584 ft above mean sea level (amsl) and the embankment crest of Pond 1N and Pond 1S is 590.5 ft amsl. Therefore, the locations of Pond 1N and Pond 1S comply with Section 845.340. This determination is located in Attachment 4.

5.0 Permanent Markers, 845.230(d)(2)(E)

The permanent markers in accordance with 35 Ill. Adm Code 845.230(d)(2)(D) have been installed for Pond 1N and Pond 1S. Photographic documentation of this requirement is included in Attachment 5.

6.0 Incised/Slope Protection Documentation, 845.230(d)(2)(F)

Pond 1N and Pond 1S were constructed with fill embankments on all sides. The area north of Pond 1S is at approximately the same elevation as Pond 1S's north embankment crest, which means there is little to no downslope on the north embankment. The southern embankment of Pond 1N is at approximately the same elevation as Pond 1N's south embankment crest, which means there is little to no downslope on the south embankment. This area between Pond 1N and Pond 1S is where the Sluice water return pumps are located. The north embankment for Pond 1N has an exterior slope that is vegetated with trees. The western exterior downstream slope of Pond 1N and Pond 1S is one long slope that is covered with established vegetation. The eastern side of Pond 1N and Pond 1S are covered with established vegetation and gravel. The southern embankment of Pond 1S and the northern embankment of Pond 2S are the same embankment that divides the two ponds. These embankments are the interior embankments of their respective pond and are covered with a geomembrane liner. The established vegetation is adequate to protect the slopes of the ponds in accordance with 845.430(b). Photo documentation is included in Attachment 6.

7.0 Emergency Action Plan

The Emergency Action Plan for Pond 1N and Pond 1S was completed by Civil and Environmental Consultants, Inc. (CEC) to comply with 40 CFR Part 257 to identify safety emergencies and the proper responses in relation to each pond. KPRG reviewed the EAP for its compliance with Section 845.520. KPRG's review ensured that all the necessary sections required by Section 845.520 are included within the EAP. This review neither accepts nor rejects the safety emergencies identified by CEC. The safety emergencies identified along with the responses are the product of CEC. KPRG has not altered the safety emergencies or the responses associated with each emergency.

The Emergency Action Plan EAP is included in Attachment 7. This plan was originally developed in April 2017 by CEC and was reviewed and updated by KPRG for compliance with Section 845.520. The EAP was updated to revise the contacts list included in the EAP and to include Ponds 1N and 1S. KPRG updated the contacts list based upon personnel changes that occurred. In accordance with 845.520(e), a certification of compliance is included in Attachment 7.

8.0 Fugitive Dust Control Plan

The Fugitive Dust Control Plan is included in Attachment 8. This plan was originally developed in September 2015 and was reviewed in October 2021 by KPRG for compliance with Section

845.500(b). The only update necessary was to add Ponds 1N and 1S to the plan. The attached Fugitive Dust Control Plan complies with Section 845.500(b).

9.0 Groundwater Monitoring Information, 845.230(d)(2)(I)

9.1 Hydrogeologic Site Characterization, 845.230(d)(2)(I)(i)

The following subsections provide information on the geology and hydrogeology of the site as required under Section 845.620(b). Site geology and hydrogeology are discussed separately below.

9.1.1 Geology

The physiography of Will County is made up of ground moraines, end moraines, outwash plains, stream terraces, flood plains and bogs. It is in the Till Plaines and Great Lakes Sections of the Central Lowland Province. Near surface soils in the vicinity of the subject impoundment are predominately Romeo Silt Loam and Joliet Silt Loam, both with areas that are frequently flooded. These soils are poorly drained. Organic content ranges from 3 to 5 percent and have a low to negligible accelerated erosion rate, a low to high corrosivity rate and a pH range from slightly acidic to slightly basic (6.1 to 8.4). Surface runoff class is low (Soil Survey of Will County Illinois). Based on the Surficial Geology Map of Romeo Quadrangle (Caron, 2017) the surficial deposits in the vicinity of the subject surface impoundments are identified as disturbed ground which is generally described as diamicton, sand, gravel, silt and peat as much as 40 feet thick. This disturbed ground is generally interpreted as disturbed land, which includes former gravel pits and major areas of construction.

The general stratigraphy in the area consists of post-glacial alluvium underlain by unconsolidated glacial deposits, which overlay Silurian dolomite. The Silurian dolomite is underlain by the Maquoketa Group, which includes the Scales Shale, which is considered a regional aquitard separating the overlying Silurian dolomite from the deeper Cambro-Ordovician sandstone and limestone aquifers. To evaluate local stratigraphy, water well logs and engineering test boring logs were obtained for water wells and engineering test borings in the vicinity of the Will County Generation Station. The depths of these wells and borings range from 50 feet to 300 feet. The stratigraphy data from these boring logs and the well locations are provided in Attachment 9-1. In addition, site specific stratigraphy information was obtained from 15 monitoring well borings that were installed in the vicinity of the subject surface impoundments (MW-1 through MW-15; see Figure 9-1). Boring logs for these monitoring wells are included in Attachment 9-2. Based on an evaluation of the monitoring well boring logs, the following general site-specific stratigraphy is defined and geologic cross-sections developed (Figures 9-2 through 9-5):

- Fill (approx. 5’ to 10’ thick) – Consisting of a thin layer of sand and gravel roadway followed by brown and black silty clay and silty sand mixed with gravel and crushed dolomite. The fill may include coal, black cinders and slag.

- Silty Sand, Silt and Clay (approx. 1’ – 16’ thick) – Consisting of gravelly tan to brown silty sand fining downward to gray/greenish mottled silty clays and clay.

- Bedrock – Dolomite bedrock. Top of weathered bedrock is generally encountered between 9 feet and greater than 20 feet below ground surface with depth increasing towards the southwest. It is noted that at monitoring well location MW-12, top of bedrock was not encountered at the terminus of the boring at 20 feet below ground surface.

The Silurian dolomite is divided into four units identified as a weathered bedrock rind, Joliet Formation dolomite, Kankakee Formation dolomite and the Elwood/Wilhelmi dolomite. Beneath the Silurian dolomite is the Ordovician age Maquoketa Group consisting of the Brainard Shale, Fort Atkinson dolomite and the Scales Shale. The Brainard Shale unit is not necessarily regionally continuous, therefore it may or may not be present beneath the subject site. The Scales Shale unit, however, is extensive and is a recognized regional aquitard, which hydraulically isolates the deeper bedrock aquifers from the shallower Silurian dolomite. Based on the available information, the dolomite bedrock thickness to the top of the Scales Shale beneath the Will County site is approximately 55 feet.

Regional and local studies and investigations document fractures in the Silurian dolomite describing a primary joint set that is vertical and oriented about N52ºE and N40ºW. The N40ºW joints are described as “more distinct”. Natural spacing between the joint sets ranges from 3 to more than 10 feet, and joint apertures are described as less than 1/16th -inch. Bedding plane fractures are also described. Descriptions from various bedrock quarry walls show significant clay infilling of the vertical joints and bedding plane fractures. Evidence of water movement through fractures is interpreted from iron staining and mineralization (primarily calcite, with some pyrite and marcasite).

Silurian dolomite is a calcium-magnesium carbonate rock that includes horizons of cherty (silica) nodules and is documented both regionally and locally to include mineralization along fractures and within vugs. The mineralization includes, but is not limited to calcite (calcium carbonate) and various sulfide minerals such as pyrite, marcasite, etc. As such, the presence of these minerals and associated weathering products can also be expected within the overlying unconsolidated materials.

There are no underground mines beneath the subject CCR surface impoundments.

9.1.2 Hydrogeology

Based on information from the Soil Survey of Will County, the average annual precipitation is approximately 37 inches with about 63% of that total falling between April and October of any given year. The average seasonal snowfall is approximately just over 10 inches. More site-specific precipitation data from water stations located in Will County is provided in Table 9-1.

The nearest surface water bodies are the Des Plaines River and the Chicago Ship and Sanitary Canal (CSSC) respectively located to the west and east of the subject CCR units (see Figure 9-1). There are no drinking water intakes within the segment of river adjacent to the subject site and for that matter on any portion of the Des Plaines River downstream of the site (Meet Your Water – An Introduction to Understanding Drinking Water in Northeastern Illinois, Metropolitan Planning Council, 2017).

Groundwater beneath the subject units occurs under water table conditions. Saturated conditions are generally encountered between 8 and 12 feet bgs, depending on the well location, within the lower portion of the above defined silty sand/silt/clay unit and/or bedrock. Table 9-2 provides groundwater elevation measurements obtained for the 15 on-site monitoring wells in the vicinity of the subject CCR surface impoundments which includes data for the monitoring wells associated specifically with these impoundments (Pond 1N upgradient wells MW-1 and MW-2 and downgradient wells MW-7, MW-14 and MW-15; Pond 1S upgradient wells MW-3 and MW-4 and downgradient wells MW-8, MW-9 and MW-13). A hydrograph of water levels for the monitoring wells associated with Ponds 1N and 1S is provided as Figure 9-6. A review of the hydrograph shows some slight temporal fluctuations with the highest water levels tending to be in the May timeframe and the lowest water levels generally occurring August through October timeframe.

Groundwater flow maps for the five rounds of groundwater elevations collected between April 2021 and November 2021 are provided as Figures 9-7 through 9-11. The maps include groundwater elevation data from all 15 wells in the area, including the specific CCR monitoring wells associated with the subject surface impoundments. Based on a review of the maps groundwater flow is in a westerly direction. These maps are consistent with historical flow data for the site. The horizontal hydraulic gradient is fairly shallow. Table 9-3 provides a summary of the flow direction, gradient and an estimated rate of groundwater flow for each of the five rounds of water level measurements in 2021. The flow rate was calculated using the following equation:

$$V_s = \frac{K\,dh}{n_e\,dl}\text{, where}$$

V_s is seepage velocity (distance/time)
K is hydraulic conductivity (distance/time)
dh/dl is hydraulic gradient (unitless)
n_e is effective porosity (unitless)

Hydraulic conductivity values were initially estimated for monitor wells MW-1, MW-4, MW-6, MW-7, and MW-9, screened in the carbonate unit, from slug tests completed by Patrick Engineering in 2010. The geometric mean of the data for these wells was approximately 30 feet per day (ft/d; 3.47 x10^{-4} ft/sec) for each well, as calculated by Patrick Engineering Hydrogeologic Assessment Report – Will County Station, February, 2011). The slug test data were reviewed as part of the modeling study being completed for the Construction Permit application being completed for Ponds 2S and 3S and the data were reanalyzed using corrected input values for the well casing and borehole dimensions, effective porosity of the sand filter pack material and minor line fitting refinement. The revised geometric mean of the test data for these wells decreased to approximately 20 ft/d (2.315x10^{-4} ft/sec) for each well. This revised value was used in Table 9-3. The estimated effective porosity of the aquifer materials (0.2) was obtained from literature (Applied Hydrogeology, Fetter, 1980).

At this time, based on the geology discussion in Section 9.1.1 and the site-specific hydrogeology discussions above, the groundwater beneath the CCR surface impoundment is considered as Class I Potable Resource Groundwater in accordance with Section 620.210. However, a Groundwater Management Zone (GMZ) in accordance with Section 620.250 and an Environmental Land Use Control (ELUC) were established where the CCR surface impoundments are located as part of a

Compliance Commitment Agreement (CCA) between Midwest Generation and Illinois EPA. The ELUC states that the groundwater shall not be used as potable water. The extent of the established and approved GMZ and ELUC is provided on Figure 9-12.

A survey of all potable water sources within a 2,500 feet radius of the Will County Generating Station was completed by Natural Resources Technology (NRT) in 2009. The following databases and sources of information were utilized in order to determine community water source and water well locations and construction in the vicinity of the ash pond wastewater treatment systems:

- Illinois State Geological Survey (ISGS) -Water Well Database Query;
- Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and
- Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

As part of this permit preparation, KPRG evaluated the NRT information and reviewed the new Illinois State Geological Survey database and interactive map references as “ILWATER”. The survey results are provided on Figure 9-13. There are no potable use water wells downgradient of Pond 1N and Pond 1S. There are three existing water wells on the Will County Station property owned by Midwest Generation. These are identified as well numbers 01276, 00253 and 01275 on Figure 9-12. The locations of these wells have been corrected relative to their locations plotted on the ILWATER map. All three wells are greater than 1,500 feet deep. Well 01276 on the north end of the property is no longer in use (retired). Two additional wells located on the property shown as numbers 40018 and 40017 have no backup records (i.e., no installation date information and no depth/log information). Discussions with plant personnel indicate no presence or knowledge of these potential wells suggesting these may be spurious data inputs. The well located on the northeast side of the property (number 40016) within the coal storage pile area is registered to Chicks Romeo Tavern and is actually located approximately 1 mile to the west of the Will County Station along Romeo Road (715 W. Romeo Rd.). There are two wells owned by Isle Ala Cache Park/Museum to the northwest, on the other side of the Des Plaines River which is a regional hydrogeologic boundary. The well noted to the south (number 41780) is associated with the cement operation to the south.

A search of the Illinois Department of Natural Resources dedicated nature preserve database (https://www2.illinois.gov/dnr/INPC/Pages/NaturePreserveDirectory.aspx) was performed to determine whether there may be a nearby dedicated nature preserve. The Romeoville Prairie Nature Preserve is located west of the Des Plaines River and north of Romeo Road, approximately one-quarter mile northwest of the subject impoundments. It is noted that the Des Plaines River is a hydrogeologic barrier and the noted nature preserve is on the other side of the river and upstream relative to surface water flow of the river.

Based on the geology of the site presented in Section 9.1.1 and the above hydrogeology discussions, the primary contaminant migration pathway for a potential release from the subject CCR surface impoundment would be downward migration to groundwater. Due to its proximity to the Des Plaines River, which is the adjacent hydrogeologic flow boundary, minimal to no downward vertical flow mixing is anticipated. There are no other utility or man-made preferential pathway corridors that would act to potentially intercept the flow to move any contamination in a direction other than westerly. There are no potable water wells downgradient of the subject CCR surface impoundments screened within the aquifer of concern. Also, as previously discussed, there are no potable surface water intakes on the Des Plaines River either along or downstream of the subject site.

There is quarterly groundwater quality data associated with Pond 1N and Pond 1S dating back to December 2010. However, the parameter list established in 2010 was slightly different from that specified in Section 845.600 and included analysis of dissolved inorganic parameters rather than total inorganic parameters. That historical water quality data is provided in Attachment 9-3.

Because both ponds did not accumulate liquids, Pond 1N and Pond 1S were not identified as being subject to the federal requirements under Federal Register, Environmental Protection Agency, 40 CFR Parts 257.94, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (Federal CCR Rule). Therefore, the required eight rounds of background sampling for monitoring wells associated with these two ponds (wells MW-1 through MW-4, MW-7, MW-8 and MW-13 through MW-15) were completed between April 2021 and December 2021 with the enactment of the State CCR Rule. There is additional background sampling data starting in 2015 for monitoring well MW-9 since this well is also part of the Ponds 2S/3S monitoring system which were included in the Federal CCR Rule program. As required under the State CCR Rule, all samples collected were analyzed for the full list of parameters specified in 845.600(a)(1) plus calcium and turbidity. The available CCR monitoring data through 2021 is provided in Tables 9-4 and 9-5.

9.2 Groundwater Monitoring System Design and Construction Plans, 845.230(d)(2)(I)(ii)

An initial monitoring well network that includes other ponds in the vicinity of Ponds 1N and 1S was established in 2010 (wells MW-1 through MW-9; see Figure 9-1). The well spacing was developed as part of a previous hydrogeologic assessment by Patrick Engineering, Inc. The well depths were determined based on depth to groundwater and the base elevations of the ponds being monitored and were approved by Illinois EPA. In addition, monitoring wells MW-13 through MW-15 were installed by KPRG and Associates, Inc. (KPRG) in April 2021 to augment the monitoring well network for compliance with the new State CCR Rule. Groundwater flow in the area is generally to the west towards the Des Plaines River. Relative to Pond 1N, monitoring wells MW-1 and MW-2 are upgradient/background monitoring points prior to groundwater flowing under the pond and wells MW-7, MW-14 and MW-15 are downgradient monitoring points. Relative to Pond 1S, wells MW-3 and MW-4 are upgradient/background monitoring points prior to groundwater flowing under the pond and wells MW-8, MW-9 and MW-13 are downgradient monitoring points. It is noted that well MW-9 is also a downgradient monitoring well relative to Ponds 2S. Groundwater data from the upgradient wells will be evaluated to provide a statistically representative upgradient water quality prior to that water passing beneath the regulated units. This proposed monitoring well network for each pond will be utilized for determining whether potential pond leakage may be causing or contributing to groundwater impacts in the vicinity of the units.

As noted above, monitoring wells MW-1 through MW-4, MW-7 and MW-8 were installed in 2010 by Patrick Engineering, Inc. Wells MW-13 through MW-15 were installed by KPRG in April 2021. The wells were drilled using 4.25-inch hollow stem augers. The wells were completed with standard 2-inch inner-diameter PVC casing with 10-feet of 0.010 slot PVC screen. Filter sand pack around each screen was extended to approximately 2-feet above the top of the well screen. The remainder of the annulus was backfilled with bentonite. Surface completions include stick-up (above grade two to three feet) locking protector casings set in concrete aprons. The wells are further protected by traffic bollards, as necessary. Boring logs and well construction summaries for these wells are provided in Attachment 9-2. Top-of-casing elevations were surveyed by an Illinois licensed surveyor and are included in the previously referenced groundwater elevation table in Table 9-2.

Each of the monitoring wells within the sampling network is outfitted with a dedicated sampling system. Specifically, each well has a QED Environmental Systems (QED) Well Wizard Model P1101M dedicated sampling pump with Model No. 37789 intake screens (0.010-inch slot). The screens are set within approximately one foot of the base of the monitoring well.

In accordance with requirements under Section 845.630(g), Attachment 9-4 includes an Illinois licensed Professional Engineer certification of the above-defined monitoring system.

9.3 Groundwater Sampling and Analysis Program, 845.230(d)(2)(I)(iii)

9.3.1 Sample Frequency

Eight rounds of groundwater samples were collected from the monitoring well network around Pond 1N and 1S in 2021 and analyzed for the full list of parameters specified in Section 845.600(a)(1) plus calcium and turbidity. This dataset will facilitate the development of proper statistical evaluation procedures for these ponds and use in development of applicable groundwater protection standards (GWPSs) for each constituent pursuant to Section 845.600(a)(2). Illinois EPA added turbidity as an additional parameter that will require development of a statistical background. However, this restricted period of background data collection does not facilitate evaluation of potential seasonal variations during the development of statistical background concentrations.

Currently, all wells within this CCR monitoring network are being sampled on a quarterly basis for all parameters specified in Section 845.600(a)(1) plus calcium and turbidity. Between quarterly monitoring events, groundwater level measurements from all designated CCR monitoring wells are also obtained and recorded on a monthly basis along with pond water level reading from gauges established in the ponds, assuming there is standing water within the pond(s).

Quarterly groundwater monitoring will continue during the active life of the impoundments and the post-closure care period or, if closure is by removal, then in accordance with monitoring frequency requirements under Section 845.740(b). It is noted that if after 5 years of quarterly monitoring it can be demonstrated that the facility meets the requirements specified in Section 845.650(b)(4), the owner can petition the Illinois EPA to shift the monitoring frequency to semi-annual.

9.3.2 Sampling Preparation and Calibrations

Prior to any sampling event, the Station's designated Environmental Specialist shall be notified in advance of sampling crew arrival so that any arrangements can be made, including security clearance and training.

Prior to sampling activities, and at intervals recommended by the manufacturer, all non-dedicated equipment shall be cleaned and calibrated. Specifically, the field parameter water quality meter to be used for pH, specific conductance, turbidity and temperature will be calibrated using standard reference solutions. In addition, an operational check of the electronic water level probe will also be performed by placing the probe into a bucket of water and ensuring that the audio signal is triggered when the sensor meets the water interface. The associated tape measure of the probe will also be checked for wear.

The monitoring network consists of all dedicated sampling equipment (QED Well Wizard P1101M). The controller used to operate individual bladder pumps will be checked and maintained prior to arrival at the site based on manufacturer specifications.

All lab ware shall be obtained directly from an Illinois certified laboratory. Upon arrival to the site, the monitoring wells will be assessed for structural integrity. Each well cover (either stick-up or flush mount) will be inspected for proper labels, locks, any damage and be cleared of any flora or fauna that may be on the well or in the vicinity that would affect the sample or the sampling operation. In addition to any other notable observations, all of the above shall be entered on the sampling sheets. Once the well is uncovered and unlocked, and the well casing inspected, the well head shall be inspected for damage and cleanliness. At that point, the well will be considered ready for sampling per procedures described below.

9.3.3 Groundwater Sample Collection

Prior to initiating sampling, a round of groundwater levels will be collected from each monitoring well using an electronic water level probe. The timeframe over which these water levels are collected should be minimized and should not exceed 8 hours. The depth to water will be measured to the nearest one-hundredth of a foot from the top of casing using an electronic water level meter. The water level probe should be properly decontaminated between each reading using procedures specified in Section 9.3.4.

All of the monitoring wells at this Station are equipped with dedicated, down-hole, bladder pumps. At the top of casing for each well is a manifold with air and water quick connects and a port for a water level meter probe to fit so that an undisturbed water level can be obtained. Immediately prior to sampling, the depth to water will be measured again to the nearest one-hundredth of a foot from the top of casing using an electronic water level indicator and recorded onto the sampling sheets. Once recorded, an air compressor and flow controller will be attached to the air side quick connect and disposable tubing attached to the discharge connection. The discharge tubing will be run to a flow-through cell of the water quality meter. A discharge line from the flow-through cell will be placed into a vessel to allow for the measurement of the volume of groundwater removed. The water quality meter will be attached within the flow-through cell that allows for real time readings of pH, specific conductivity and temperature. It is noted that a calibration check of the water quality meter should be performed at the start and end of each day of sampling and recorded in the field notes. If the meter calibration-check shows drift outside of manufacturer specifications, the meter should be recalibrated in the field using standard solutions per manufacturer requirements.

The air controller will be set to the necessary pressure and to the slowest pumping interval, approximately 50 second refill and 10 second pump (flow rates at this setting tend to be less than 100 milliliters/minute), and the compressor will be started. The intent of the low flow pumping will be to minimize drawdown in the well with an ideal goal of keeping the drawdown to 0.30 feet or less. Once the water has filled the flow-through cell, a reading of the parameters will be recorded. Readings will continue to be recorded until such time as all parameters are deemed stable for three consecutive measurements at which point a sample will be collected from the tubing prior to the flow-through cell. An unfiltered groundwater sample shall be collected directly from the water tubing after it is disconnected from the flow-through cell. The laboratory provided bottles shall be properly filled. Once the sample is collected, the bottles shall be properly labeled and placed on ice as necessary.

If the well would pump dry prior to stabilized field parameter readings, the well will be allowed to recover for up to 24-hours at which point water sample collection will be initiated.

In the event that a dedicated bladder pump fails to work, the following procedures should be implemented:

- Pull the dedicated tubing and pump from the well and ensure that the tubing does not come in contact with the ground.

- Visually inspect the intake of the pump for clogging from sedimentation. If clogging is noted, clean the intake with distilled water. If there is no clogging, dismantle the pump casing and inspect the bladder for any holes, cracks or tears.

- If the bladder is determined to be compromised (i.e., wear has resulted in cracking or tearing), remove the bladder and replace it with a new bladder. Properly clean all parts of the pump using procedures described in Section 9.3.4, reassemble the pump and slowly lower it back down hole. Continue sampling as described above.

- If the entire pump is determined to have failed, a new pump will need to be ordered for replacement and a modified sampling procedure will be implemented as described below.

In the case of bladder pump failure, at a specific well during a sampling event, the alternate sampling method will be the use of a portable peristaltic pump (the pump itself does not go down-hole) assuming depth to water is less than 23 feet bgs. Clean disposable polyethylene tubing will be attached to the pump and the tubing will be slowly lowered down hole along with the water level probe. The pump will be operated at the lowest rate possible to achieve the same goals as for sampling described above (generally below 300 milliliters/minute which is within the range of standard low flow protocols). Water will be collected in a clean glass jar for field parameter readings. Once stable field parameters are recorded, the sample will be collected directly onto laboratory prepared containers for analysis. Upon completion of sample collection, the water level meter and tubing should be removed from the well. The polyethylene tubing should be disconnected from the pump and discarded. The water level meter should be properly decontaminated as specified in Section 9.3.4. If depth to water is such that a peristaltic pump cannot be used, a submersible pump will need to be used. The submersible pump must be properly cleaned as specified in Section 9.3.4 prior to placement down the well. All subsequent procedures will be the same as above. The alternate sampling pump use will be recorded on the field data sheet for that well and noted in any subsequent reporting summary.

9.3.4 Equipment Decontamination

Any equipment that is used down-hole at more than one sampling location must be thoroughly decontaminated between uses. Based on procedures described above, only the water level meter is anticipated to be in this category, however, if a submersible pump needs to be used during a particular sampling event due to dedicated pump failure (see Section 9.3.3), these procedures will also apply. The water level meter probe and any measuring tape, or any other non-dedicated equipment that may need to be placed down the well that extended below the water surface will need to be cleaned with an Alconox solution, or equivalent, wash followed by a double rinse with distilled water. Any pump tubing that is not dedicated should be discarded and only clean tubing should be used down-hole.

9.3.5 Sample Preservation, Chain-of-Custody and Shipment

Since measurement of total recoverable metals is required by the State CCR Rule, the samples will not be filtered prior to collection. This will facilitate the analysis to capture both the particulate fraction and dissolved fraction of metals in natural groundwater. Groundwater samples will be collected directly into Illinois certified laboratory provided containers. Those containers will be prepared by the laboratory to contain any necessary chemical preservation. The samples shall be stored at temperatures required by the lab following sample collection. Table 9-6 includes a summary of sample bottle requirements, preservatives and holding times

All groundwater samples collected shall be transferred to the laboratory under proper COC procedures. The laboratory provided COC, completed with all pertinent information, shall be maintained from sample collection through receipt by the laboratory. The information shall include, but is not limited to, the following:

- project name and number, state samples collected in, sample name and type, time and date collected, analysis requested, and printed name and signatures of person(s) sampling.

The COC shall be completed and properly relinquished by the field sampler(s) with all samples clearly printed or typed.

All samples will be either delivered directly to the laboratory or be shipped using Federal Express or a similar overnight service. It should be noted that Total Dissolved Solids (TDS) analysis has a 7-day holding time. TDS samples should be shipped to the laboratory within 72 hours after collection. All other holding times for the specified parameters are long enough to facilitate one shipment after the full round of sampling is complete.

9.3.6 Analytical Methods

A list of the analytical methods to be used by the laboratory for each specified parameter is included in the above referenced Table 9-6. Individual detection limits for the parameters may change slightly from sample to sample depending on potential matrix interferences with a sample (e.g., amount of suspended solids/sediment) and/or the concentration of the constituent in the sample. However, the base detection limits will be set below the applicable Illinois Class I Drinking Water Standards as defined in Section 845.600(a)(1) for that compound which are also provided in Table 9-6.

9.3.7 Quality Assurance and Quality Control

Laboratory

Only an Illinois certified analytical laboratory will be used for sample analysis. The laboratory will be conducting their work under their specific approved Quality Assurance and Quality Control (QA/QC) program. A copy of their program can be available upon request. A standard Level II data documentation package will be included in all subsequent reporting, however, the lab will be requested to also provide a Level IV data documentation package (i.e., U.S. EPA Contract Laboratory Protocol equivalent) in the event more detailed data validation/evaluation is deemed necessary.

Field

The QA/QC program for fieldwork will include the collection of blind duplicates. The blind duplicate will be collected from a random well during every sampling event in which more than three (3) samples are collected. The duplicate will be blind in the manner that there will be no way for the laboratory to determine from which well or point the sample was collected.

Upon receipt of the analytical data, a determination will be made if the duplicate is consistent with the sample collected from the well/point. A generally acceptable range for groundwater samples is +/- 30 percent. If outside the acceptable range, a resample may be determined to be necessary and reanalyzed. If there are any questions regarding the duplicate or other reported analytical QA/QC runs, the laboratory will be contacted to determine the effect on data quality, if any, and usability. If necessary, a specific well may need to be re-sampled.

9.3.8 Statistical Methods

A proposed statistical evaluation plan meeting the requirements specified in Section 845.640(f) is provided in Attachment 9-5 along with a certification of the plan by an Illinois licensed Professional Engineer.

9.4 Groundwater Monitoring Program, 845.230(d)(2)(I)(iv)

The groundwater sample and water level collection frequency is discussed in Section 9.3.1 above.

As previously noted, the monitoring well system for the subject unit consists of ten monitoring wells as follows:

- MW-01 and MW-02 – Upgradient/background for Pond 1N
- MW-07, MW-14 and MW-15 – Downgradient for Pond 1N
- MW-03 and MW-04 – Upgradient/background for Pond 1S
- MW-08, MW-09 and MW-13 – Downgradient for Pond 1S

Eight rounds of background sampling for the purposes of statistical evaluation and background determination have been collected between April 2021 and December 2021. As previously noted, downgradient well MW-09 has additional sampling data extending back to 2015 as this well is also part of the CCR monitoring network for Ponds 2S/3S, which are part of Federal CCR monitoring. All data collected to date is provided in Tables 9-4 and 9-5.

Using the currently available data for the subject CCR surface impoundment, site-specific proposed GWPSs have been established in accordance with Section 845.600(a)(2) and are summarized in Tables 9-7 and 9-8 for Ponds 1N and 1S, respectively. The background concentrations noted in the tables were calculated using the statistical evaluation approach noted in Section 9.3.7 and provided in Attachment 9-5. A presentation of the statistical evaluations, which resulted in the background concentration calculations, is provided in Attachment 9-6.

Once the proposed GWPSs presented in this permit application are approved by Illinois EPA, these values will be used for all subsequent groundwater monitoring data comparisons. Monitoring will continue on a quarterly basis for all constituents specified in Section 845.600(a)(1) plus calcium and turbidity. In accordance with Section 845.610(b)(3)(D), a data summary report will be submitted to Illinois EPA within 60-days of receipt of all analytical data (including resample data if necessary as discussed below) which will include a data summary with a comparison against the established/approved GWPSs. This report must be placed the facility's operating record.

If during a monitoring event, a constituent(s) is/are detected above an established and approved GWPS, that well will be resampled for the specific constituent(s) determined above the GWPS. If the resample data confirms that the constituent(s) concentration(s) is/are above the GWPS then the following will occur:

- Characterize the nature and extent of the potential release and any relevant site conditions that may affect the remedy evaluation/selection. This characterization must meet the requirements set forth under Section 845.650(d)(1).

- If groundwater impacts extend off-site, provide off-site landowner/resident notifications as specified under Section 845.650(d)(2) and place the notifications into the facility's operating record. This must occur within no more than 30-days of determination that a GWPS has been exceeded.

- An Alternate Source Demonstration (ASD) may be initiated and completed for submittal to Illinois EPA review/approval as allowed under Section 845.650(e). Place the ASD into the facility's operating record.

- Within 90-days of determining that a constituent(s) was detected above an established/approved GWPS at a downgradient waste boundary monitoring point, initiate an assessment of corrective measures meeting the requirements specified under Section 845.660 unless an ASD is submitted in accordance with Section 845.650(d)(2) and subsequently approved by the Illinois EPA.

By no later January 31st of each year, an Annual Groundwater Monitoring and Corrective Action Report will be prepared for inclusion as part of an Annual Consolidated Report for the facility. The Annual Groundwater Monitoring and Corrective Action Report will meet the requirements set forth under Section 845.610(e)(1 through 4). The Annual Consolidated Report will be placed into the facility's operating record.

10.0 Preliminary Closure Plan

Pond 1N and Pond 1S will be closed with the CCR remaining in place and topped with a final cover system. The final cover system will consist of a 60-mil HDPE geomembrane for the low permeability layer with a minimum of three (3) feet of vegetated soil as the final protective layer placed over the geomembrane or an alternate final cover system in accordance with 845.750. The Preliminary Closure Plan is written in accordance with Section 845.720(a) and provided in Attachment 10.

11.0 Post-Closure Care Plan, 845.230(d)(2)(J)

As stated in Section 10, Pond 1N and Pond 1S will be closed with CCR remaining in place with a final cover system. Post closure care will occur in accordance with Section 845.780, which includes routine inspections of the final cover system and groundwater monitoring. The Pond 1N and Pond 1S Preliminary Post-Closure Plan has been prepared in accordance with Section 845.780(d) and is included in Attachment 11.

12.0 Liner Certification, 845.230(d)(2)(K)

The existing liner for Pond 1N and Pond 1S is not considered to have a two-component liner as described in the liner requirements of Section 845.400. The upper liner component for Pond 1N is the existing Poz-O-Pac liner system, which consists of 12 inches of Poz-O-Pac, followed by 12 inches of fill, and then 12 more inches of Poz-O-Pac. Poz-O-Pac is a mixture consisting of a reagent (typically lime or cement), aggregates, and sand and gravel. The lower liner component for Pond 1N is projected to be 12 inches of dark brown sand with gravel. This composition of the liner components for Pond 1N was evaluated against the liner design criteria using the process outlined in Section 845.400(c). The calculations showing the flow rate calculations and comparison are provided in Attachment 12. The calculations indicate that the liner components for Pond 1N do not comply with the requirements of Section 845.400.

The upper liner component for Pond 1S is the existing Poz-O-Pac liner system, which consists of 12 inches of Poz-O-Pac, followed by 12 inches of fill, and then 12 more inches of Poz-O-Pac. Poz-O-Pac is a mixture consisting of a reagent (typically lime or cement), aggregates, and sand and gravel. The lower liner component for Pond 1S is projected to be 12 inches of dark brown lean clay. This composition of the liner components for Pond 1S was evaluated against the liner design criteria using the process outlined in Section 845.400(c). The calculations showing the flow rate calculations and comparison are provided in Attachment 12. The calculations indicate that the liner components for Pond 1S do not comply with the requirements of Section 845.400.

13.0 History of Known Exceedances, 845.230(d)(2)(L)

As previously noted in the introduction, there is no Attachment with supporting documentation for this Section since the referenced data is provided in Attachment 9 documentation. In the fourth quarter 2010, Midwest Generation voluntarily initiated groundwater monitoring in the vicinity of the stations' four ash ponds/surface impoundments and in 2015 Pond 2S and Pond 3S became subject to the federal requirements under Federal Register, Environmental Protection agency, 40 CFR Part 257, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule dated April 17, 2015 (Federal CCR Rule). Because both ponds did not accumulate liquids, Pond 1N and Pond 1S were not subject to the federal requirements under the Federal CCR Rule; however, Pond 1N and Pond 1S are subject to the requirements of the new Illinois CCR Rule. Because of this, additional monitoring wells MW-13 through MW-15 were installed in April 2021 to augment the existing monitoring well network for compliance with the new Illinois CCR Rule. The eight rounds of background sampling for Pond 1N and Pond 1S occurred between April 2021 and December 2021.

The background sampling data was used to perform the statistical evaluation to develop the proposed GWPSs associated with Pond 1N and Pond 1S and was also presented and discussed in Section 9 of this permit application. The most recent sampling event for the Pond 1N and Pond 1S monitoring well network occurred in December 2021 and this data was also used to determine the proposed GWPSs. Thus, this most recent round of sampling data has not been evaluated for any potential exceedances that may be present when compared to the proposed GWPSs because that round of data was used to develop the proposed GWPSs. Once Illinois EPA reviews and approves the proposed GWPSs, those values will be used for subsequent groundwater monitoring data comparisons.

14.0 Financial Assurance, 845.230(d)(2)(N)

The financial assurance certification is included in Attachment 14.

15.0 Hazard Potential Classification Assessment, 845.230(d)(2)(O) & 845.440

The initial hazard potential classification was performed for Pond 1N and Pond 1S in September of 2021 by Civil & Environmental Consultants, Inc. and is included in Attachment 15.

16.0 Structural Stability Assessment, 845.230(d)(2)(P) & 845.450

The structural stability assessment was performed for Pond 1N and Pond 1S in September 2021 by Civil & Environmental Consultants, Inc. and is included in Attachment 16. The assessment was completed to comply with Section 845.450.

17.0 Safety Factor Assessment, 845.230(d)(2)(Q) & 845.460(b)

The safety factor assessment was performed for Pond 1N and Pond 1S by Civil & Environmental Consultants, Inc. and is included in Attachment 16. The assessment was completed to comply with Section 845.460. The safety factor assessment was completed as part of the structural stability assessment and included in the same document.

18.0 Inflow Design Flood Control System Plan, 845.230(d)(2)(R) & 845.510(c)(3)

An Inflow Design Flood Control System Plan has been completed by Sargent & Lundy, LLC in accordance with 845.460(b). The plan demonstrates that the existing outlets structures, conveyance piping, and downstream hydraulic structures for Pond 1N and Pond 1S adequately manage the inflow from the design event. The plan is included in Attachment 18.

19.0 Safety and Health Plan, 845.230(d)(2)(S) & 845.530

A Safety and Health Plan in accordance with Section 845.530 has been completed and included in Attachment 19.

20.0 Closure Priority Categorization, 845.230(d)(2)(M) & 845.700(g)

In accordance with the requirements of Section 845.700(c), the category designations for Pond 1N and Pond 1S is Category 6. The Category 6 designation for Pond 1N and Pond 1S is based on the following:

- Pond 1N and Pond 1S are inactive surface impoundments;

- There are no potable wells or setbacks of existing water supply wells downgradient, and as such Midwest Generation, LLC ("MWG") is not aware of any imminent threat to human health or the environment;

- The Illinois EPA EJ Start tool found at https://illinois-epa.maps.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c was used to determine that Pond 1N and Pond 1S are not located within one mile of an area of environmental justice concern; and

- Because the GWPSs developed in accordance with Section 845.600(a)(2) are under review, there are no approved GWPSs for the constituents in the groundwater and accordingly it cannot be determined if there is an exceedance of the groundwater protection standards in Section 845.600.

OPERATING PERMIT TABLES

Table 2: Will County Generating Station
Pond 2S CCR Chemical Constituents Analytical Results

Parameter Name	Pond 2S Sample 10/11/2021
Sulfate	110
Chloride	41
Fluoride	<0.99
Antimony	<1.7
Arsenic	1.3
Beryllium	1.4
Boron	110
Cadmium	<0.17
Chromium	7.8
Lead	3.9
Lithium	20
Molybdenum	1.5
Thallium	1.2
Barium	2,200
Calcium	78,000
Cobalt	8.7
Selenium	<4.3
Radium 226 & 228	1.31
Mercury	<0.016

Notes:

All units are in milligrams per kilogram (mg/kg)

Table 9-1. Summary of Local Precipitation Data - Midwest Generation, LLC, Will County Generating Station, Romeoville, Illinois.

Will County Station	
Month	**Average Monthly Precipitation* (inches)**
January	1.87
February	1.73
March	2.11
April	3.56
May	3.87
June	3.75
July	3.54
August	3.28
September	3.04
October	3.04
November	2.41
December	1.95

Notes:
* - Historical precipitation data was obtained from the National Oceanic and Atmospheric Administration. Precipitation data was averaged from three stations located within Romeoville, St. Charles and Plainfield, Illinois. Dates of precipitation data range from 1988-2020.

Table 9-2. CCR Groundwater Elevations All Wells - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)
MW-01	2/4/2015	592.95	583.12	9.83
	4/30/2015	592.95	583.19	9.76
	7/27/2015	592.95	583.09	9.86
	11/9/2015	592.95	583.12	9.83
	2/16/2016	592.95	583.22	9.73
	5/24/2016	592.95	583.20	9.75
	8/9/2016	592.95	583.09	9.86
	10/25/2016	592.95	583.11	9.84
	1/31/2017	592.95	583.31	9.64
	5/10/2017	592.95	583.44	9.51
	9/8/2017	592.95	583.00	9.95
	11/15/2017	592.95	583.19	9.76
	2/28/2018	592.95	583.55	9.40
	5/2/2018	592.95	583.24	9.71
	7/24/2018	592.95	583.14	9.81
	10/2/2018	592.95	583.06	9.89
	2/19/2019	592.95	583.33	9.62
	5/28/2019	592.95	584.01	8.94
	8/21/2019	592.95	582.38	10.57
	12/5/2019	592.95	582.91	10.04
	2/18/2020	592.95	582.89	10.06
	5/26/2020	592.95	583.33	9.62
	8/5/2020	592.95	582.52	10.43
	11/3/2020	592.95	582.10	10.85
	3/1/2021	592.95	583.13	9.82
	5/24/2021	592.95	582.65	10.30
	6/7/2021	592.95	582.45	10.50
	7/12/2021	592.95	582.83	10.12
	8/23/2021	592.95	581.84	11.11
	11/19/2021	592.95	582.46	10.49
MW-02	2/4/2015	593.99	582.89	11.10
	5/1/2015	593.99	583.02	10.97
	7/27/2015	593.99	582.89	11.10
	11/9/2015	593.99	582.89	11.10
	2/16/2016	594.00	583.08	10.92
	5/24/2016	594.00	583.07	10.93
	8/9/2016	594.00	582.85	11.15
	10/25/2016	594.00	582.87	11.13
	1/31/2017	594.00	583.15	10.85
	5/10/2017	594.00	583.54	10.46
	9/7/2017	594.00	582.67	11.33
	11/15/2017	594.00	583.02	10.98
	2/28/2018	594.00	583.61	10.39
	5/2/2018	594.00	583.09	10.91
	7/24/2018	594.00	582.92	11.08
	10/2/2018	594.00	582.76	11.24
	2/19/2019	594.00	583.24	10.76
	5/28/2019	594.00	584.11	9.89
	8/21/2019	594.00	582.29	11.71
	12/5/2019	594.00	582.85	11.15
	2/18/2020	594.00	582.82	11.18
	5/22/2020	594.00	583.98	10.02
	8/5/2020	594.00	582.41	11.59
	11/3/2020	594.00	581.99	12.01
	3/1/2021	594.00	583.05	10.95
	5/24/2021	594.00	582.51	11.49
	6/7/2021	594.00	581.75	12.25
	7/12/2021	594.00	582.20	11.80
	8/23/2021	594.00	581.75	12.25
	11/19/2021	594.00	582.20	11.80
MW-03	2/4/2015	593.51	583.17	10.34
	5/1/2015	593.51	583.27	10.24
	7/28/2015	593.51	582.98	10.53
	11/9/2015	593.51	583.15	10.36
	2/16/2016	593.51	583.23	10.28
	5/24/2016	593.51	583.19	10.32
	8/9/2016	593.51	582.88	10.63
	10/25/2016	593.51	583.14	10.37
	1/31/2017	593.51	583.30	10.21
	5/11/2017	593.51	583.52	9.99
	9/8/2017	593.51	582.63	10.88
	11/16/2017	593.51	583.17	10.34
	2/28/2018	593.51	583.70	9.81
	5/2/2018	593.51	583.20	10.31
	7/24/2018	593.51	583.01	10.50
	10/2/2018	593.51	582.79	10.72
	2/20/2019	593.51	583.33	10.18
	5/28/2019	593.51	584.51	9.00
	8/21/2019	593.51	581.98	11.53
	12/5/2019	593.51	583.03	10.48
	2/18/2020	593.51	582.95	10.56
	5/26/2020	593.51	583.43	10.08
	8/5/2020	593.51	582.22	11.29
	11/3/2020	593.51	581.90	11.61
	3/1/2021	593.51	583.09	10.42
	5/24/2021	593.51	582.69	10.82
	6/7/2021	593.51	582.28	11.23
	7/12/2021	593.51	582.81	10.70
	8/23/2021	593.51	581.36	12.15
	11/19/2021	593.51	582.59	10.92

Table 9-2. CCR Groundwater Elevations All Wells - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)
MW-04	2/4/2015	593.95	582.93	11.02
	5/1/2015	593.95	583.06	10.89
	7/28/2015	593.95	582.78	11.17
	11/9/2015	593.95	582.87	11.08
	2/16/2016	593.93	582.94	10.99
	5/24/2016	593.93	582.91	11.02
	8/9/2016	593.93	582.74	11.19
	10/25/2016	593.93	582.89	11.04
	1/31/2017	593.93	583.06	10.87
	5/11/2017	593.93	583.26	10.67
	9/8/2017	593.93	582.39	11.54
	11/16/2017	593.93	582.85	11.08
	2/28/2018	593.93	583.46	10.47
	5/2/2018	593.93	582.94	10.99
	7/24/2018	593.93	582.72	11.21
	10/2/2018	593.93	582.33	11.60
	2/20/2019	593.93	583.85	10.08
	5/28/2019	593.93	584.25	9.68
	8/21/2019	593.93	582.14	11.79
	12/5/2019	593.93	582.93	11.00
	2/18/2020	593.93	582.87	11.06
	5/26/2020	593.93	583.25	10.68
	8/5/2020	593.93	582.38	11.55
	11/4/2020	593.93	582.28	11.65
	3/1/2021	593.93	583.32	10.61
	5/24/2021	593.93	582.65	11.28
	6/7/2021	593.93	582.38	11.55
	7/12/2021	593.93	582.73	11.20
	8/23/2021	593.93	582.53	11.40
	11/19/2021	593.93	582.57	11.36
MW-05	2/3/2015	592.87	582.96	9.91
	5/1/2015	592.87	583.03	9.84
	7/28/2015	592.87	582.78	10.09
	11/9/2015	592.87	582.88	9.99
	2/16/2016	592.87	582.96	9.91
	5/24/2016	592.87	582.93	9.94
	8/9/2016	592.87	582.78	10.09
	10/25/2016	592.87	583.85	9.02
	1/31/2017	592.87	583.06	9.81
	5/11/2017	592.87	583.24	9.63
	9/8/2017	592.87	582.39	10.48
	11/16/2017	592.87	582.85	10.02
	2/28/2018	592.87	583.39	9.48
	5/2/2018	592.87	582.93	9.94
	7/25/2018	592.87	582.69	10.18
	10/2/2018	592.87	582.23	10.64
	2/20/2019	592.87	583.14	9.73
	5/28/2019	592.87	584.14	8.73
	8/21/2019	592.87	582.23	10.64
	12/5/2019	592.87	582.95	9.92
	2/18/2020	592.87	582.89	9.98
	5/22/2020	592.87	583.48	9.39
	8/5/2020	592.87	582.38	10.49
	11/3/2020	592.87	582.39	10.48
	3/1/2021	592.87	583.35	9.52
	5/24/2021	592.87	582.66	10.21
	6/7/2021	592.87	582.39	10.48
	7/12/2021	592.87	582.86	10.01
	8/23/2021	592.87	581.63	11.24
	11/19/2021	592.87	582.62	10.25
MW-06	2/3/2015	592.97	581.66	11.31
	4/30/2015	592.97	581.93	11.04
	7/28/2015	592.97	581.67	11.30
	11/9/2015	592.97	583.01	9.96
	2/16/2016	592.97	581.60	11.37
	5/24/2016	593.18	581.81	11.37
	8/9/2016	593.18	581.64	11.54
	10/25/2016	593.18	581.81	11.37
	1/31/2017	593.18	581.94	11.24
	5/11/2017	593.18	582.32	10.86
	9/7/2017	593.18	581.41	11.77
	11/16/2017	593.18	581.69	11.49
	2/28/2018	593.18	582.27	10.91
	5/3/2018	593.18	581.71	11.47
	7/25/2018	593.18	581.67	11.51
	10/2/2018	593.18	581.29	11.89
	2/20/2019	593.18	581.95	11.23
	5/28/2019	593.18	583.00	10.18
	8/21/2019	593.18	581.50	11.68
	12/5/2019	593.18	581.67	11.51
	2/18/2020	593.18	581.76	11.42
	5/22/2020	593.18	582.63	10.55
	8/5/2020	593.18	581.25	11.93
	11/3/2020	593.18	581.32	11.86
	3/1/2021	593.18	582.09	11.09
	5/24/2021	593.18	581.33	11.85
	6/7/2021	593.18	581.19	11.99
	7/12/2021	593.18	582.39	10.79
	8/23/2021	593.18	580.77	12.41
	11/19/2021	593.18	581.33	11.85

Table 9-2. CCR Groundwater Elevations All Wells - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)
MW-07	2/3/2015	592.88	581.79	11.09
	4/30/2015	592.88	582.10	10.78
	7/27/2015	592.88	581.42	11.46
	11/9/2015	592.88	581.75	11.13
	2/16/2016	592.88	582.02	10.86
	5/24/2016	592.89	581.81	11.08
	8/9/2016	592.89	581.46	11.43
	10/25/2016	592.89	581.73	11.16
	1/31/2017	592.89	582.28	10.61
	5/9/2017	592.89	582.73	10.16
	9/7/2017	592.89	581.22	11.67
	11/14/2017	592.89	582.09	10.80
	2/27/2018	592.89	582.80	10.09
	5/1/2018	592.89	582.14	10.75
	7/25/2018	592.89	581.58	11.31
	10/2/2018	592.89	581.51	11.38
	2/19/2019	592.89	582.35	10.54
	5/28/2019	592.89	583.33	9.56
	8/21/2019	592.89	581.51	11.38
	12/5/2019	592.89	582.28	10.61
	2/18/2020	592.89	582.19	10.70
	5/26/2020	592.89	583.23	9.66
	8/5/2020	592.89	581.42	11.47
	11/3/2020	592.89	581.39	11.50
	3/1/2021	592.89	582.40	10.49
	5/24/2021	592.89	581.47	11.42
	6/11/2021	592.89	580.92	11.97
	7/12/2021	592.89	581.69	11.20
	8/23/2021	592.89	580.92	11.97
	11/19/2021	592.89	581.69	11.20
MW-08	2/3/2015	592.71	581.25	11.46
	4/30/2015	592.71	581.48	11.23
	7/27/2015	592.71	581.10	11.61
	11/9/2015	592.71	581.36	11.35
	2/16/2016	592.71	581.60	11.11
	5/24/2016	592.75	581.46	11.29
	8/9/2016	592.75	580.99	11.76
	10/25/2016	592.75	581.31	11.44
	1/31/2017	592.75	581.77	10.98
	5/9/2017	592.75	582.20	10.55
	9/6/2017	592.75	580.80	11.95
	11/14/2017	592.75	581.44	11.31
	2/27/2018	592.75	582.45	10.30
	5/1/2018	592.75	581.53	11.22
	7/25/2018	592.75	581.11	11.64
	10/2/2018	592.75	580.97	11.78
	2/19/2019	592.75	582.02	10.73
	5/28/2019	592.75	581.85	10.90
	8/21/2019	592.75	582.05	10.70
	12/5/2019	592.75	581.81	10.94
	2/18/2020	592.75	581.77	10.98
	5/26/2020	592.75	582.97	9.78
	8/5/2020	592.75	580.86	11.89
	11/3/2020	592.75	581.35	11.40
	3/1/2021	592.75	582.20	10.55
	5/24/2021	592.75	581.04	11.71
	6/7/2021	592.75	579.95	12.80
	7/12/2021	592.75	581.20	11.55
	8/23/2021	592.75	580.54	12.21
	11/19/2021	592.75	581.13	11.62
MW-09	2/3/2015	592.84	581.97	10.87
	4/30/2015	592.84	581.57	11.27
	7/27/2015	592.84	581.31	11.53
	11/9/2015	592.84	581.46	11.38
	2/16/2016	592.84	581.81	11.03
	5/24/2016	592.87	581.52	11.35
	8/9/2016	592.87	581.44	11.43
	10/25/2016	592.87	582.13	10.74
	1/31/2017	592.87	581.72	11.15
	5/9/2017	592.87	582.42	10.45
	9/6/2017	592.87	580.92	11.95
	11/14/2017	592.87	581.33	11.54
	2/27/2018	592.87	582.74	10.13
	5/1/2018	592.87	581.48	11.39
	7/25/2018	592.87	581.11	11.76
	10/2/2018	592.87	580.96	11.91
	2/192019	592.87	582.59	10.28
	5/28/2019	592.87	583.22	9.65
	8/21/2019	592.87	581.31	11.56
	12/5/2019	592.87	581.70	11.17
	2/18/2020	592.87	581.68	11.19
	5/26/2020	592.87	583.20	9.67
	8/5/2020	592.87	581.10	11.77
	11/3/2020	592.87	580.97	11.90
	3/1/2021	592.87	581.96	10.91
	5/24/2021	592.87	580.85	12.02
	6/7/2021	592.87	580.68	12.19
	7/12/2021	592.87	581.58	11.29
	8/23/2021	592.87	580.77	12.10
	11/19/2021	592.87	581.03	11.84

Table 9-2. CCR Groundwater Elevations All Wells - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)
MW-10	2/3/2015	590.98	580.12	10.86
	4/30/2015	590.98	580.37	10.61
	7/27/2015	590.98	580.11	10.87
	11/9/2015	590.98	580.33	10.65
	2/16/2016	590.98	580.55	10.43
	5/24/2016	590.96	580.24	10.72
	8/9/2016	590.96	579.84	11.12
	10/25/2016	590.96	580.23	10.73
	1/31/2017	590.96	580.59	10.37
	5/10/2017	590.96	581.18	9.78
	9/7/2017	590.96	579.76	11.20
	11/15/2017	590.96	580.20	10.76
	2/27/2018	590.96	581.42	9.54
	5/1/2018	590.96	580.32	10.64
	7/25/2018	590.96	579.78	11.18
	10/2/2018	590.96	579.84	11.12
	2/20/2019	590.96	580.92	10.04
	5/28/2019	590.96	581.94	9.02
	8/21/2019	590.96	580.31	10.65
	12/5/2019	590.96	580.68	10.28
	2/18/2020	590.96	580.57	10.39
	5/27/2020	590.96	582.07	8.89
	8/5/2020	590.96	579.90	11.06
	11/3/2020	590.96	580.28	10.68
	3/1/2021	590.96	581.25	9.71
	5/24/2021	590.96	579.90	11.06
	6/7/2021	590.96	579.54	11.42
	7/12/2021	590.96	580.56	10.40
	8/23/2021	590.96	579.66	11.30
	11/19/2021	590.96	580.24	10.72
MW-11	11/9/2015	590.69	10.28	580.41
	2/16/2016	590.69	10.15	580.54
	5/24/2016	590.69	10.25	580.44
	8/9/2016	590.69	10.66	580.03
	10/25/2016	590.69	10.42	580.27
	1/31/2017	590.69	9.91	580.78
	5/9/2017	590.69	9.21	581.48
	6/27/2017	590.69	10.48	580.21
	9/6/2017	590.69	10.73	579.96
	11/15/2017	590.69	10.43	580.26
	5/1/2018	590.69	10.18	580.51
	10/2/2018	590.69	10.59	580.10
	5/28/2019	590.69	8.32	582.37
	12/5/2019	590.69	9.85	580.84
	5/26/2020	590.69	8.09	582.60
	11/3/2020	590.69	10.58	580.11
	5/24/2021	590.69	10.76	579.93
	6/11/2021	590.69	11.05	579.64
	7/12/2021	590.69	9.77	580.92
	8/23/2021	590.69	10.75	579.94
	11/19/2021	590.69	10.60	580.09
MW-12	11/9/2015	590.81	10.15	580.66
	2/16/2016	590.81	10.24	580.57
	5/24/2016	590.81	10.31	580.50
	8/9/2016	590.81	10.73	580.08
	10/25/2016	590.81	10.45	580.36
	1/31/2017	590.81	10.16	580.65
	5/9/2017	590.81	9.88	580.93
	6/27/2017	590.81	10.62	580.19
	9/6/2017	590.81	10.61	580.20
	11/15/2017	590.81	10.20	580.61
	5/1/2018	590.81	10.30	580.51
	10/2/2018	590.81	10.77	580.04
	5/28/2019	590.81	9.17	581.64
	12/5/2019	590.81	10.15	580.66
	5/22/2020	590.81	9.88	580.93
	11/3/2020	590.81	10.49	580.32
	5/24/2021	590.81	10.65	580.16
	6/7/2021	590.81	11.00	579.81
	7/12/2021	590.81	9.98	580.83
	8/23/2021	590.81	11.05	579.76
	11/19/2021	590.81	10.48	580.33
MW-13	5/24/2021	592.80	10.92	581.88
	6/7/2021	592.80	11.02	581.78
	7/12/2021	592.80	10.90	581.90
	8/23/2021	592.80	11.30	581.50
	11/19/2021	592.80	10.85	581.95
MW-14	5/24/2021	592.70	10.79	581.91
	6/7/2021	592.70	10.99	581.71
	7/12/2021	592.70	10.58	582.12
	8/23/2021	592.70	11.35	581.35
	11/19/2021	592.70	10.95	581.75
MW-15	5/24/2021	592.89	10.24	582.65
	6/7/2021	592.89	10.56	582.33
	7/12/2021	592.89	10.11	582.78
	8/23/2021	592.89	11.02	581.87
	11/19/2021	592.89	10.30	582.59

Table 9-3. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Will County Generation Station. Ponds 1N-1S.

DATE	Groundwater Flow Direction	Kavg (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
5/24/2021	West	2.315E-04	0.0096	0.2	0.96
6/7/2021	West	2.315E-04	0.0090	0.2	0.90
7/12/2021	West	2.315E-04	0.0057	0.2	0.57
8/23/2021	West	2.315E-04	0.0028	0.2	0.28
11/19/2021	West	2.315E-04	0.0069	0.2	0.69

* Kavg - Pre-2021 K values from Hydrologic Assessment Report, Patrick Engineering, February 2011. 2021 K values from re-evaluation of slug test data as part of groundwater modeling in support of Application for Construction Permit per Illinois State CCR Rule.

** - Porosity estimate from Groundwater, Freeze and Cherry, 1979.

Table 9-4. CCR Groundwater Analytical Results-Midwest Generation, LLC, Will County Station, Romeoville, IL. Ponds 1N and 1S.

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium
MW-01 (up-gradient 1N)	5/3/2021	2.6	170	F1 21	0.62	6.83	390	1200	< 0.003	< 0.001	0.095	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.034	< 0.0002	0.012	0.623	0.0093	< 0.002
	5/24/2021	2.5	200	18	0.63	6.86	350	1100	< 0.003	< 0.001	0.093	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.036	< 0.0002	F1 < 0.012	0.953	0.012	< 0.002
	6/7/2021	3.0	200	18	0.63	6.52	380	510	< 0.003	< 0.001	0.096	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.037	< 0.0002	0.013	< 0.372	0.01	< 0.002
	6/25/2021	B 2.6	200	20	0.59	6.64	410	1200	^+ < 0.003	< 0.001	0.097	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.037	< 0.0002	0.014	0.672	0.0042	< 0.002
	7/12/2021	2.4	190	16	0.60	6.55	320	1000	< 0.003	0.0012	0.100	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.045	< 0.0002	0.013	0.457	0.012	< 0.002
	8/2/2021	2.4	200	18	0.65	6.57	410	1300	< 0.003	0.001	0.100	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.044	< 0.0002	0.014	0.478	0.0095	< 0.002
	8/23/2021	2.4	200	18	0.61	6.99	400	1100	< 0.003	< 0.001	0.100	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.044	< 0.0002	0.014	0.697	0.0058	< 0.002
	11/19/2021	2.0	170	29	0.56	6.62	260	970	< 0.003	< 0.001	0.090	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.038	< 0.0002	0.0098	1.16	0.017	< 0.002
MW-02 (up-gradient 1N)	5/3/2021	5.3	87	28	0.41	7.76	500	1100	< 0.003	0.009	0.058	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.046	< 0.0002	0.072	1.3	< 0.0025	< 0.002
	5/24/2021	5.2	88	24	0.41	7.77	550	1100	< 0.003	0.0099	0.059	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.047	< 0.0002	0.07	1.19	< 0.0025	< 0.002
	6/7/2021	6.5	100	25	0.4	7.60	540	1100	< 0.003	0.011	0.057	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.045	< 0.0002	0.081	0.54	< 0.0025	< 0.002
	6/28/2021	B 5.3	95	23	0.36	7.93	500	1200	^+ < 0.003	0.012	0.059	< 0.001	< 0.0005	0.0057	< 0.001	< 0.0005	0.046	< 0.0002	0.075	0.8	< 0.0025	< 0.002
	7/12/2021	5.2	97	21	0.37	7.53	480	970	< 0.003	0.012	0.067	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.051	< 0.0002	0.071	1.07	< 0.0025	< 0.002
	8/2/2021	4.8	92	24	0.37	7.54	520	1200	< 0.003	0.011	0.06	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.048	< 0.0002	0.073	0.798	< 0.0025	< 0.002
	8/23/2021	5.0	92	26	0.38	8.02	530	830	< 0.003	0.011	0.06	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.048	< 0.0002	0.075	0.986	< 0.0025	< 0.002
	11/19/2021	5.2	86	27	0.38	7.72	520	1100	< 0.003	0.014	0.057	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.041	< 0.0002	0.068	1.43	< 0.0025	< 0.002
MW-03 (upgrdient 1S)	5/3/2021	3.3	140	18	0.31	6.9	240	890	< 0.003	0.0011	0.11	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.04	< 0.0002	0.017	0.993	< 0.0025	< 0.002
	5/24/021	3.2	120	19	0.34	6.91	270	900	< 0.003	0.001	0.001	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.038	< 0.0002	0.018	0.922	0.0057	< 0.002
	6/8/2021	3.7	140	21	0.32	6.75	290	940	< 0.003	0.0014	0.1	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.041	< 0.0002	0.017	0.857	< 0.0025	< 0.002
	6/28/2021	B 3.6	120	23	0.32	7.17	290	930	^+ < 0.003	0.0023	0.091	< 0.001	< 0.0005	< 0.005	0.001	< 0.0005	0.044	< 0.0002	0.022	1.03	< 0.0025	< 0.002
	7/12/2021	3.8	120	27	0.33	6.88	270	870	< 0.003	0.0033	0.1	< 0.001	0.00053	< 0.005	< 0.001	< 0.0005	0.048	< 0.0002	0.028	1.97	< 0.0025	< 0.002
	8/2/2021	6.2	120	31	0.3	6.86	280	920	< 0.003	0.0053	0.096	< 0.001	< 0.0005	< 0.005	0.001	< 0.0005	0.043	< 0.0002	0.021	1.16	< 0.0025	< 0.002
	8/24/2021	3.3	120	F1 F2 50	0.35	7.28	300	890	< 0.003	0.0021	0.091	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.042	< 0.0002	0.022	0.763	< 0.0025	< 0.002
	11/19/2021	3.7	160	27	0.32	6.67	330	970	< 0.003	0.0016	0.12	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.039	< 0.0002	0.025	2.47	0.0082	< 0.002
MW-04 (up-gradient 1S)	5/3/2021	5.1	310	28	0.36	6.76	910	2000	< 0.003	0.003	0.046	< 0.001	< 0.0005	< 0.005	0.0019	< 0.0005	0.026	< 0.0002	0.026	1.16	< 0.0025	< 0.002
	5/24/2021	5.5	340	24	0.38	6.90	950	2000	< 0.003	0.0039	0.047	^1+ < 0.001	< 0.0005	< 0.005	0.0016	< 0.0005	0.027	< 0.0002	0.028	1.72	0.0051	< 0.002
	6/8/2021	5.7	310	24	0.37	6.58	910	2000	< 0.003	0.0026	0.043	< 0.001	< 0.0005	< 0.005	0.0016	< 0.0005	0.027	< 0.0002	0.028	< 0.459	0.0076	< 0.002
	6/28/2021	B 5.6	330	20	0.35	6.95	930	2100	^+ < 0.003	0.011	0.047	< 0.001	< 0.0005	< 0.005	0.0016	< 0.0005	0.025	< 0.0002	0.027	1.12	0.019	< 0.002
	7/12/2021	5.9	320	16	0.38	6.70	970	2100	< 0.003	0.01	0.049	< 0.001	< 0.0005	< 0.005	0.0016	< 0.0005	0.03	< 0.0002	0.033	1.68	0.0056	< 0.002
	8/2/2021	5.3	310	21	0.38	6.71	1000	2200	< 0.003	0.0039	0.046	< 0.001	< 0.0005	< 0.005	0.0018	< 0.0005	0.027	< 0.0002	0.032	1.18	< 0.0025	< 0.002
	8/24/2021	6.2	320	90	0.40	7.09	1100	1700	< 0.003	0.0075	0.046	< 0.001	< 0.0005	< 0.005	0.002	< 0.0005	0.028	< 0.0002	0.035	< 0.642	< 0.0025	< 0.002
	11/19/2021	6.1	300	23	0.36	6.69	840	1900	< 0.003	0.0063	0.044	^1+ < 0.001	< 0.0005	< 0.005	0.0022	< 0.0005	0.022	< 0.0002	0.023	1.17	< 0.0025	< 0.002
MW-07 (downgradient 1N)	5/4/2021	4.0	130	110	0.69	8.29	490	1000	< 0.003	0.0022	0.063	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.026	< 0.0002	0.051	0.952	< 0.0025	< 0.002
	5/24/2021	4.2	150	140	0.53	8.38	590	1400	< 0.003	0.0022	0.064	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.0002	0.049	1.28	< 0.0025	< 0.0025
	6/7/2021	4.0	110	120	0.69	7.62	480	1000	< 0.003	0.0026	0.064	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.022	< 0.0002	0.07	1.25	< 0.0025	< 0.002
	6/25/2021	B 6.0	290	250	0.42	6.35	850	2300	^+ < 0.003	0.0024	0.12	< 0.001	< 0.0005	0.034	0.0012	< 0.0005	0.032	< 0.0002	0.051	0.694	0.0039	< 0.002
	7/12/2021	4.6	230	170	0.65	6.87	510	1400	< 0.003	0.0044	0.063	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.039	< 0.0002	0.05	1.4	0.0031	< 0.002
	8/2/2021	3.1	120	130	0.69	7.97	450	980	< 0.003	0.0036	0.071	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.024	< 0.0002	0.068	1.07	< 0.0025	< 0.002
	8/25/2021	2.8	80	130	0.73	8.63	420	800	< 0.003	0.0027	0.059	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.076	1.21	< 0.0025	< 0.002
	11/19/2021	3.9	170	190	0.48	6.62	680	1800	< 0.003	0.0065	0.048	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.0002	0.033	2.40	< 0.0025	< 0.002
MW-08 (downgradient 1S)	5/4/2021	2.6	190	290	0.51	6.95	490	1900	< 0.003	0.0073	0.081	< 0.001	< 0.0005	< 0.005	0.0015	< 0.0005	0.015	< 0.0002	0.047	0.873	< 0.0025	< 0.002
	5/25/2021	2.8	170	290	0.51	6.9	540	1600	< 0.003	0.0074	0.083	^1+ < 0.001	< 0.0005	< 0.005	0.001	< 0.0005	0.016	< 0.0002	0.044	1.06	< 0.0025	< 0.002
	6/7/2021	4.2	170	120	0.59	7.24	650	1400	< 0.003	0.01	0.067	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.091	0.768	< 0.0025	< 0.002
	6/28/2021	B 3.0	160	190	0.53	7.17	480	1400	^+ < 0.003	0.014	0.083	< 0.001	< 0.0005	< 0.005	< 0.001	0.0011	0.019	< 0.0002	0.066	0.621	< 0.0025	< 0.002
	7/12/2021	7.0	200	260	0.5	6.64	530	1600	< 0.003	0.013	0.17	^+ < 0.001	< 0.0005	< 0.005	0.0012	< 0.0005	0.022	< 0.0002	0.07	0.841	< 0.0025	< 0.002
	8/2/2021	3.1	160	180	0.53	6.87	530	1400	< 0.003	0.012	0.074	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.076	0.533	< 0.0025	< 0.002
	8/25/2021	3.0	130	150	0.61	7.45	500	1100	< 0.003	0.011	0.068	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.084	0.888	< 0.0025	< 0.002
	11/19/2021	3.3	200	310	0.50	6.66	630	1900	< 0.003	0.0094	0.065	^1+ < 0.001	< 0.0005	< 0.005	0.0014	< 0.0005	0.013	< 0.0002	0.043	1.69	< 0.0025	< 0.002
MW-09 (downgradient 1S)	11/11/2015	1.9	56	190	0.55	9.12	460	750	< 0.003	0.0047	0.027	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.14	-0.2208	< 0.0025	< 0.002
	2/17/2016	1.8	47	160	0.55	9.10	250	600	< 0.003	0.0051	0.027	^ < 0.001	< 0.0005	< 0.005	< 0.001	0.00065	< 0.01	< 0.0002	0.089	< 0.373	< 0.0025	< 0.002
	5/24/2016	1.6	48	180	0.51	8.79	240	640	< 0.003	0.0043	0.027	^ < 0.001	< 0.0005	< 0.005	< 0.001	0.00071	< 0.01	< 0.0002	0.079	0.508	< 0.0025	< 0.002
	8/9/2016	2.2	53	140	0.48	8.35	280	750	< 0.003	0.0052	0.031	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.14	0.639	< 0.0025	< 0.002
	10/26/2016	2.2	33	130	0.81	9.16	230	660	< 0.003	0.0069	0.019	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	< 0.01	< 0.0002	0.11	0.608	< 0.0025	< 0.002
	1/31/2017	2.0	61	250	0.57	8.59	180	710	< 0.003	0.0063	0.038	* < 0.001	< 0.0005	< 0.005	< 0.0010	0.0014	< 0.01	^ < 0.0002	0.09	< 0.45	< 0.0025	< 0.002
	5/9/2017	1.8	66	340	0.38	8.58	250	900	< 0.003	0.0052	0.038	< 0.001	< 0.0005	< 0.005	< 0.0010	0.00054	< 0.01	< 0.0002	0.093	< 0.361	< 0.0025	< 0.002
	6/27/2017	1.9	64	330	0.51	7.76	240	940	< 0.003	0.0046	0.039	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	< 0.01	< 0.0002	0.091	0.638	< 0.0025	< 0.002
	9/6/2017	1.8	59	310	0.51	8.98	240	890	< 0.003	0.0047	0.038	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	< 0.01	< 0.0002	0.1	0.454	< 0.0025	< 0.002
	11/14/2017	2.6	160	270	0.51	8.1	290	910	< 0.003	0.0017	0.11	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.018	< 0.0002	0.026	< 0.372	0.0061	< 0.002
	5/1/2018	1.7	49	200	0.52	7.81	430	820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/25/2018 R	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/2/2018	2.1	49	170	0.55	8.09	270	820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/29/2019	1.5	48	280	0.29	8.90	150	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/6/2019	2.0	38	140	0.46	8.65	160	630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/26/2020	1.3	55	320	0.32	8.66	140	720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/3/2020	2.0	43	240	0.55	8.64	180	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/26/2021	1.6	67	360	0.39	8.74	180	900	< 0.003	0.0044	0.054	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.054	0.741	< 0.0025	< 0.002
	8/25/2021	1.9	60	360	0.43	9.06	210	800	< 0.003	0.0065	0.049	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.067	< 0.444	< 0.0025	< 0.002
	11/23/2021	1.1	30	290	0.47	8.73	210	900	< 0.003	0.0046	0.024	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.037	0.789	< 0.0025	< 0.002
MW-13 (downgrdient 1S)	5/4/2021	1.7	150	210	0.29	7.54	280	1100	< 0.003	0.0011	0.14	< 0.001	< 0.0005	< 0.005	< 0.001	0.00054	0.013	< 0.0002	0.025	1.02	0.0032	< 0.002
	5/26/2021	1.8	150	220	0.32	7.47	280	1100	< 0.003	0.001	0.13	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	0.00052	< 0.01	< 0.0002	0.016	0.724	0.0025	< 0.002
	6/7/2021	2.2	180	250	0.33	7.19	270	1200	< 0.003	0.0021	0.13	< 0.001	< 0.0005	< 0.005	0.0013	0.0014	< 0.01	< 0.0002	0.018	1.07	0.0027	< 0.002
	6/28/2021	0.68	110	160	0.37	7.56	120	840	^+ < 0.003	< 0.001	0.082	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.018	0.461	0.0072	< 0.002
	7/12/2021	1.6	150	240	0.33	7.17	220	1200	< 0.003	0.0015	0.13	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.017	< 0.0002	0.014	1.08	0.009	< 0.002
	8/2/2021	1.6	170	240	0.32	7.10	240	1200	< 0.003	0.0019	0.13	< 0.001	< 0.0005	< 0.005	< 0.001	0.00055	< 0.01	< 0.0002	0.013	0.523	0.0061	< 0.002
	8/26/2021	2.0	180	260	0.34	7.49	250	980	< 0.003	0.0051	0.16	< 0.001	< 0.0005	0.0072	0.0035	0.0047	0.012	< 0.0002	0.015	< 0.744	< 0.0025	< 0.002
	11/23/2021	1.8	170	230	0.33	7.03	300	1200	< 0.003	0.0011	0.11	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.01	< 0.0002	0.012	1.49	0.0082	< 0.002
MW-14 (downgradient 1N)	5/4/2021	4.8	130	110	0.44	8.03	490	1100	< 0.003	0.0035	0.097	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.046	< 0.0002	0.053	< 0.453	< 0.0025	< 0.002
	5/25/2021	5.1	140	110	0.42	7.94	550	1300	< 0.003	0.0038	0.082	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.051	< 0.0002	0.052	0.736	< 0.0025	< 0.002
	6/7/2021	5.7	150	110	0.47	7.53	530	1200	< 0.003	0.0047	0.13	< 0.001	< 0.0005	< 0.005	< 0.001	0.00062	0.05	< 0.0002	0.054	< 0.368	< 0.0025	< 0.002
	6/28/2021	B 3.1	87	120	0.74	8.17	400	990	^+ < 0.003	0.0028	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.081	1.07	< 0.0025	< 0.002
	7/12/2021	5.2	130	92	0.46	7.67	470	1100	< 0.003	0.0061	0.094	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.058	< 0.0002	0.049	1.07	< 0.0025	< 0.002
	8/2/2021	4.7	120	88	0.47	7.75	470	1100	< 0.003	0.0064	0.24	< 0.001	< 0.0005	< 0.005	< 0.001	0.0016	0.052	< 0.0002	0.051	1.25	< 0.0025	< 0.002
	8/25/2021	4.1	96	92	0.58	8.21	440	930	< 0.003	0.0047	0.14	< 0.001	< 0.0005	< 0.005	< 0.001	0.00054	0.037	< 0.0002	0.064	1.43	< 0.0025	< 0.002
	11/23/2021	3.0	81	120	0.60	7.90	460	1000	< 0.003	0.0023	0.051	^1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.020	< 0.0002	0.049	1.21	< 0.0025	< 0.002
MW-15 (downgradient 1N)	5/4/2021	3.1	180	140	0.34	7.29	510	1400	< 0.003	0.0015	0.18	< 0.001	< 0.0005	< 0.005	0.0012	< 0.0005	0.025	< 0.0002	0.03	1.16	< 0.0025	< 0.002
	5/25/2021	3.2	220	120	0.37	7.27	600	1400	< 0.003	0.0018	0.14	^1+ < 0.001	< 0.0005	< 0.005	0.0016	< 0.0005	0.025	< 0.0002	0.026	< 0.564	< 0.0025	< 0.002
	6/7/2021	3.8	170	110	0.53	7.12	570	1200	< 0.003	0.0021	0.1	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.033	0.491	< 0.0025	< 0.002
	6/25/2021	B 3.4	170	110	0.51	7.09	550	1300	^+ < 0.003	0.003	0.1	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.036	0.533	< 0.0025	< 0.002
	7/12/2021	3.3	180	110	0.47	7.01	510	1300	< 0.003	0.0041	0.12	^+ < 0.001	< 0.0005	< 0.005	0.0013	< 0.0005	0.025	< 0.0002	0.028	0.931	< 0.0025	< 0.002
	8/2/2021	3.1	160	98	0.56	7.23	550	1200	< 0.003	0.0039	0.097	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.018	< 0.0002	0.036	1.3	< 0.0025	< 0.002
	8/25/2021	3.2	140	130	0.6	7.73	510	820	< 0.003	0.0028	0.097	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.036	1.46	< 0.0025	< 0.002
	11/19/2021	2.9	140	120	0.46	6.91	570	1300	< 0.003	0.0036	0.084	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.015	< 0.0002	0.021	1.57	< 0.0025	< 0.002

Notes: All units are in mg/l except pH is in standard units and radium is in pCi/L

B - Compound was found in the blank and sample.

R - Resample

F1 - MS and/or MSD Recovery outside of limits.

F2 - MS/MSD RPD exceeds control limits

^1+ or ^+ - Initial or Continuing Calibration Verification limits is outside acceptable limits, high biased.

Table 9-5. Groundwater Turbidity - Ponds 1N and 1S, Midwest Generation, LLC, Will County Generating Station, Romeoville, IL.

Well ID	Date	Turbidity (NTU)
MW-01 (up-gradient 1N)	2/23/2021	0.64
	4/10/2021	5.81
	4/25/2021	7.69
	5/3/2021	1.74
	5/24/2021	1.83
	6/7/2021	2.32
	6/25/2021	3.50
	7/12/2021	4.18
	8/2/2021	2.87
	8/23/2021	1.17
	9/24/2021	3.25
	11/19/2021	16.82
MW-02 (up-gradient 1N)	2/25/2021	8.84
	4/10/2021	9.17
	4/25/2021	12.03
	5/3/2021	2.42
	5/24/2021	2.7
	6/7/2021	1.82
	6/28/2021	3.15
	7/12/2021	4.23
	8/2/2021	3.11
	8/23/2021	1.37
	9/24/2021	4.63
	11/19/2021	2.10
MW-03 (up-gradient 1S)	3/1/2021	0.0
	4/10/2021	1.45
	4/25/2021	3.41
	5/3/2021	1.61
	5/24/2021	2.06
	6/8/2021	2.34
	6/28/2021	2.69
	7/12/2021	4.07
	8/2/2021	1.98
	8/24/2021	5.1
	9/24/2021	4.18
	11/19/2021	0.47
MW-04 (up-gradient 1S)	2/22/2021	9.87
	4/10/2021	42.2
	4/25/2021	7.41
	5/3/2021	4.2
	5/24/2021	4.45
	6/8/2021	2.8
	6/28/2021	12.93
	7/12/2021	3.93
	8/2/2021	3.75
	8/24/2021	10.1
	9/24/2021	5.74
	11/19/2021	15.15
MW-07 (downgradient 1N)	3/1/2021	6.11
	4/10/2021	6.19
	4/25/2021	6.98
	5/4/2021	37.65
	5/24/2021	2.54
	6/7/2021	6.21
	6/25/2021	6.02
	7/12/2021	5.13
	8/2/2021	2.45
	8/25/2021	7.7
	9/24/2021	4.13
	11/19/2021	7.35

Table 9-5 (cont.). Groundwater Turbidity - Ponds 1N and 1S, Midwest Generation, LLC, Will County Generating Station, Romeoville, IL.

Well ID	Date	Turbidity (NTU)
MW-08 (downgradient 1S)	3/1/2021	2.3
	4/10/2021	270.98
	4/25/2021	26.73
	5/4/2021	6.6
	5/28/2021	6.51
	6/7/2021	4.58
	6/28/2021	5.67
	7/12/2021	6.71
	8/2/2021	14.15
	8/25/2021	8.9
	9/24/2021	7.21
	11/19/2021	2.34
MW-09 (downgradient 1S)	3/1/2021	0.86
	4/10/2021	6.91
	4/25/2021	2.08
	5/25/2021	14.12
	6/11/2021	2.39
	6/29/2021	2.97
	7/12/2021	3.94
	8/4/2021	0.0
	8/25/2021	19.9
	9/24/2021	3.67
	11/23/2021	19.07
MW-13 (downgradient 1S)	5/4/2021	20.6
	5/25/2021	9.8
	6/7/2021	6.49
	6/28/2021	8.25
	7/12/2021	5.89
	8/2/2021	2.91
	8/26/2021	12.9
	9/24/2021	9.13
	11/23/2021	17.83
MW-14 (downgradient 1N)	5/4/2021	6.88
	5/25/2021	3.5
	6/7/2021	2.55
	6/28/2021	7.44
	7/12/2021	4.89
	8/2/2021	9.8
	8/25/2021	11.7
	9/24/2021	6.87
	11/19/2021	5.19
MW-15 (downgradient 1N)	5/4/2021	28.65
	5/25/2021	8.89
	6/7/2021	8.82
	6/28/2021	6.48
	7/12/2021	8.52
	8/2/2021	22.71
	8/25/2021	12.4
	9/24/2021	11.44
	11/19/2021	10.83

Table 9-6. Summary of Sample Bottles, Preservation Holding Time, and Analytical Methods. Midwest Generation, LLC, Powertton Generating Station MCB, Pekin, IL.

PARAMETER	ANALYTICAL METHOD	CONTAINER	PRESERVATION	HOLD TIME	METHOD DETECTION LIMIT (MG/L)	Section 845.600(a) Standards
Boron	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.0245	2
Calcium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.106	NS
Chloride	SM4500 Cl-E	1 L plastic	None, < 6 °C	28 days	1.22	200
Fluoride	SM4500 F-C	1 L plastic	None, < 6 °C	28 days	0.019	4
pH	SM4500 H^+ -B	1 L plastic	None, < 6 °C	immediate *	Field Parameter	6.5 - 9.0 (secondary standard)
Sulfate	SM4500 SO_4 -E	1 L plastic	None, < 6 °C	28 days	2	400
Total Dissolved Solids	SM2400 C	1 L plastic	None, < 6 °C	7 days	6.1	1200
Antimony	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.00101	0.006
Arsenic	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000439	0.01
Barium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000841	2
Beryllium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000237	0.004
Cadmium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.00019	0.005
Chromium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000608	0.1
Cobalt	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000189	0.006
Lead	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000141	0.0075
Lithium	6010 C	250 mL plastic	HNO_3, < 6 °C	6 months	0.00215	0.04
Mercury	7470 A	250 mL plastic	HNO_3, < 6 °C	28 days	0.0000611	0.002
Molybdenum	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.00162	0.1
Selenium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000834	0.05
Thallium	6020 A	250 mL plastic	HNO_3, < 6 °C	6 months	0.000591	0.002
Radium 226	903.0	1 L plastic	HNO_3	180 days	1 pCi/L	5 pCi/L **
Radium 228	904.0	2 L plastic	HNO_3	180 days	1 pCi/L	5 pCi/L **

Notes: It is noted that some parameters may be combined with others within the same container.
* - The result for pH is obtained in the field and is not submitted to the laboratory.
** - Combined Radium 226/228
mL - milliliters
L - liters
°C - degrees Celsius
HNO_3 - Nitric Acid
NS- No Standard

Table 9-7. Proposed Site-Specific Groundwater Protection Standards - Will County Station Pond 1N.

Upgradient Well(s)	Parameter	Section 845.600 Standards	Interwell Background Prediction Limit	**Proposed GWPS**
Well MW-01/MW-02 Pooled	Antimony	0.006	0.003	**0.006**
Well MW-01	Arsenic	0.01	0.001	**0.01**
Well MW-01	Barium	2.0	0.109	**2.0**
Wells MW-01/MW-02 Pooled	Beryllium	0.004	0.001	**0.004**
Well MW-02	Boron	2.0	6.50	**6.50**
Wells MW-01/MW-02 Pooled	Cadmium	0.005	0.0005	**0.005**
Well MW-02	Chloride	200	32.6	**200**
Wells MW-01/MW-02 Pooled	Chromium	0.1	0.0057	**0.1**
Wells MW-01/MW-02 Pooled	Cobalt	0.006	0.001	**0.006**
Well MW-02	Combined Radium 226 + 228 (pCi/L)	5.0	2.036	**5.0**
Well MW-01	Fluoride	4.0	0.708	**4.0**
Wells MW-01/MW-02 Pooled	Lead	0.0075	0.0005	**0.0075**
Well MW-02	Lithium	0.04	0.056	**0.056**
Wells MW-01/MW-02 Pooled	Mercury	0.002	0.0002	**0.002**
Well MW-02	Molybdenum	0.10	0.087	**0.10**
Well MW-01	pH (standard units)	6.5-9.0	6.1 - 7.3	**6.1-9.0**
Well MW-01	Selenium	0.05	0.024	**0.050**
Well MW-01	Sulfate	400	547.6	**547.6**
Wells MW-01/MW-02 Pooled	Thallium	0.002	0.002	**0.002**
Well MW-02	Total Dissolved Solids	1200	1499	**1499**
Well MW-02	Calcium	NE	109.5	**109.5**
Wells MW-01/MW-02 Pooled	Turbidity (NTU)	NE	16.22	**16.22**

All values are in mg/L (ppm) unless otherwise noted.
NE - Not Established
Bold - Proposed Site-specific Groundwater Protection Standard based on Section 845.600(a)(2)

Table 9-8. Proposed Site-Specific Groundwater Protection Standards - Will County Station Pond 1S.

Upgradient Well(s)	Parameter	Section 845.600 Standards	Interwell Background Prediction Limit	**Proposed GWPS**
Wells MW-03/MW-04 Pooled	Antimony	0.006	0.003	**0.006**
Well MW-04	Arsenic	0.01	0.017	**0.017**
Well MW-03	Barium	2.0	0.138	**2.0**
Wells MW-03/MW-04 Pooled	Beryllium	0.004	0.001	**0.004**
Well MW-04	Boron	2.0	6.97	**6.97**
Wells MW-03/MW-04 Pooled	Cadmium	0.005	0.0005	**0.005**
Wells MW-03/MW-04 Pooled	Chloride	200	90.0	**200**
Wells MW-03/MW-04 Pooled	Chromium	0.1	0.005	**0.1**
Well MW-04	Cobalt	0.006	0.003	**0.006**
Wells MW-03/MW-04 Pooled	Combined Radium 226 + 228 (pCi/L)	5.0	2.742	**5.0**
Well MW-04	Fluoride	4.0	0.427	**4.0**
Wells MW-03/MW-04 Pooled	Lead	0.0075	0.0005	**0.0075**
Well MW-03	Lithium	0.04	0.053	**0.053**
Wells MW-03/MW-04 Pooled	Mercury	0.002	0.0002	**0.002**
Well MW-04	Molybdenum	0.10	0.043	**0.10**
Wells MW-03/MW-04 Pooled	pH (standard units)	6.5-9.0	6.36-7.37	**6.36-9.0**
Wells MW-03/MW-04 Pooled	Selenium	0.05	0.019	**0.050**
Well MW-04	Sulfate	400	1217.0	**1217.0**
Wells MW-03/MW-04 Pooled	Thallium	0.002	0.002	**0.002**
Well MW-04	Total Dissolved Solids	1200	2524	**2524**
Well MW-04	Calcium	NE	362.0	**362.0**
Well MW-04	Turbidity (NTU)	NE	66.09	**66.09**

All values are in mg/L (ppm) unless otherwise noted.
NE - Not Established
Bold - Proposed Site-specific Groundwater Protection Standard based on Section 845.600(a)(2)

OPERATING PERMIT FIGURES

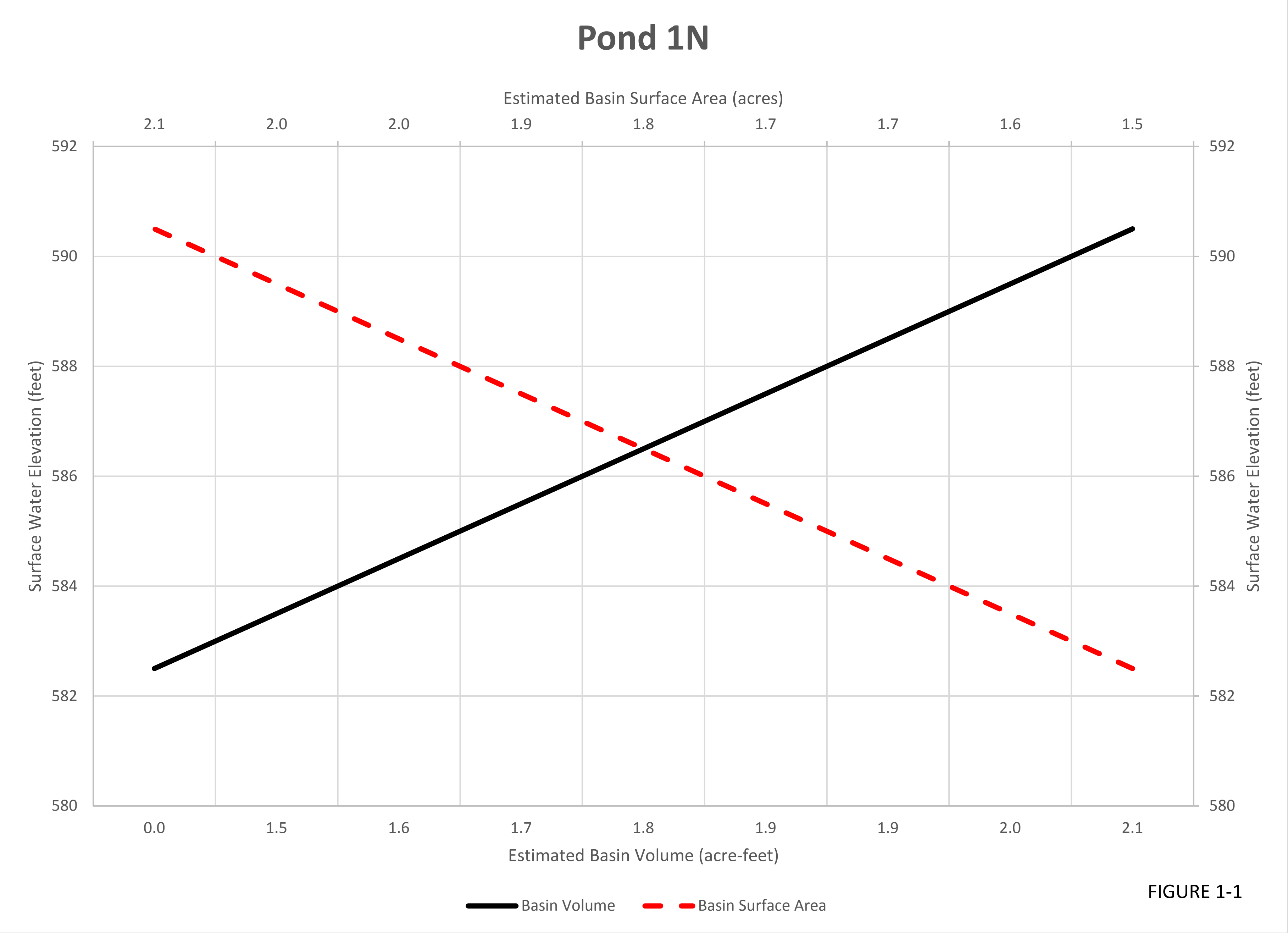

Pond 1N
Estimated Basin Surface Area (acres)
2.1
2.0
2.0
1.9
1.8
1.7
1.7
1.6
1.5
592
590
588
586
584
582
580
Surface Water Elevation (feet)
Surface Water Elevation (feet)
0.0
1.5
1.6
1.7
1.8
1.9
1.9
2.0
2.1
Estimated Basin Volume (acre-feet)
Basin Volume
Basin Surface Area

FIGURE 1-1

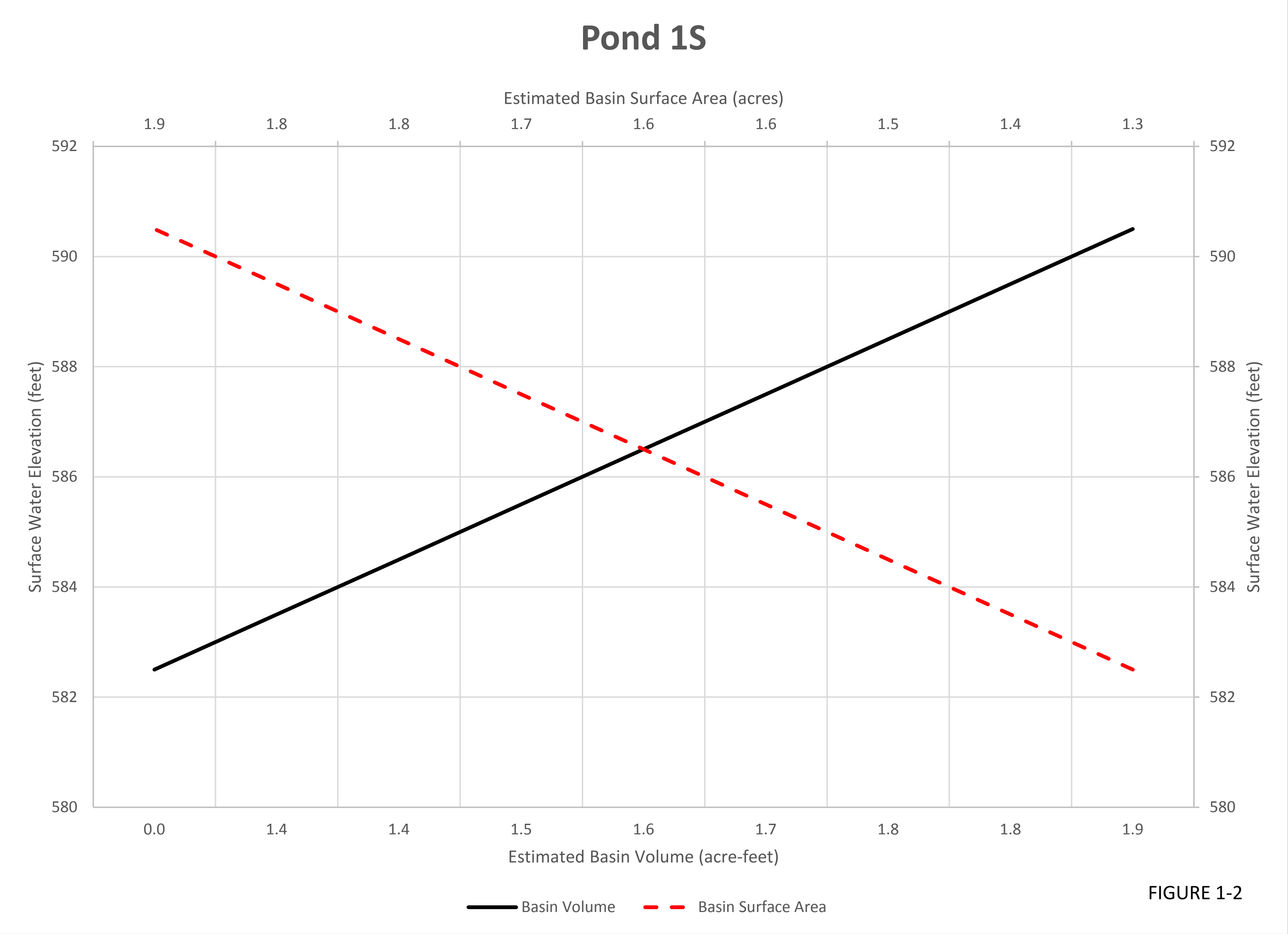
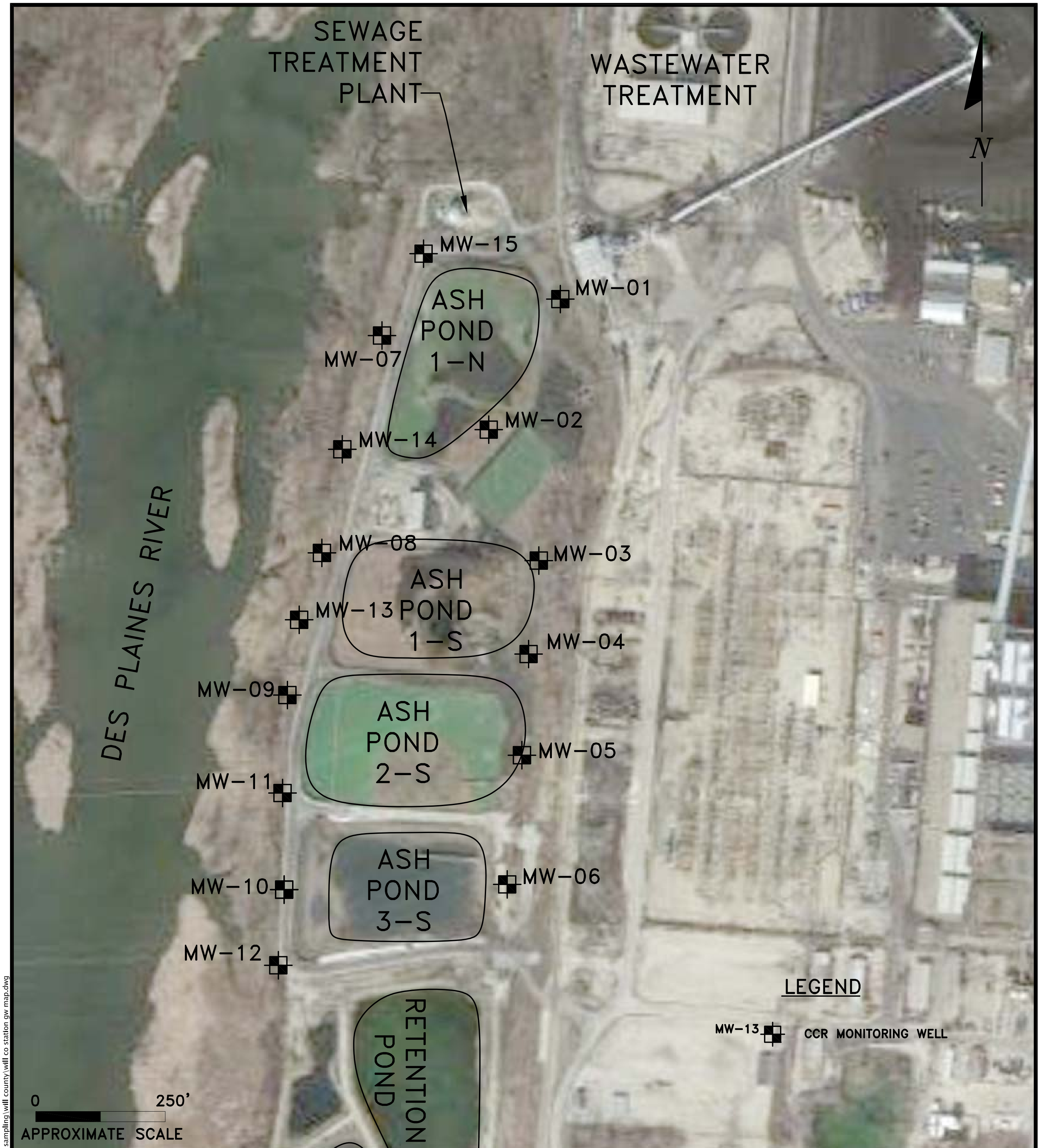

Pond 1S
Estimated Basin Surface Area (acres)
1.9
1.8
1.8
1.7
1.6
1.6
1.5
1.4
1.3
592
590
588
586
584
582
580
Surface Water Elevation (feet)
0.0
1.4
1.4
1.5
1.6
1.7
1.8
1.8
1.9
Estimated Basin Volume (acre-feet)
Basin Volume
Basin Surface Area

FIGURE 1-2



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

CCR MONITORING WELL LOCATIONS

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

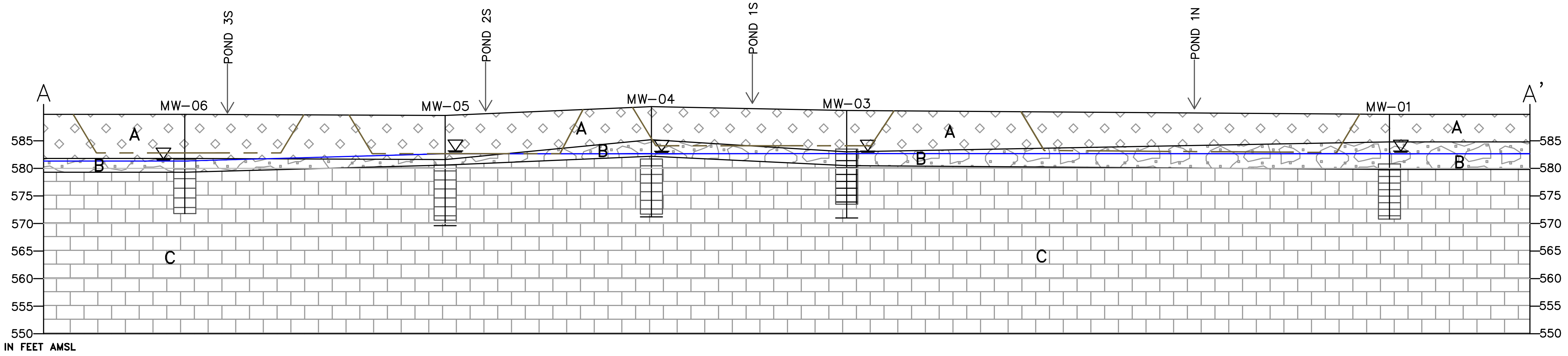
Scale: 1" = 250'

Date: January 18, 2022

KPRG Project No. 12313.3

FIGURE 9-1

W:\c-p&p\projects\midwest generation\groundwater sampling\will county\will co station gw map.dwg



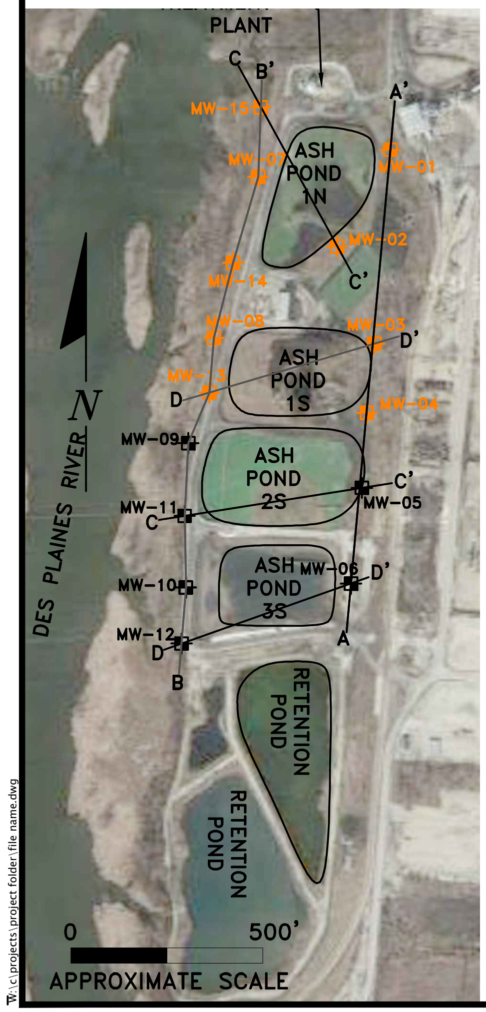
A FILL: CONSISTING OF BROWN AND BLACK SILTY CLAY AND SILTY SAND MIXED WITH GRAVEL AND CRUSHED LIMESTONE. THE FILL MAY INCLUDE COAL, BLACK CINDERS AND SLAG.

B SILTY SAND, SILT AND CLAY: CONSISTING OF GRAVELLY TAN TO BROWN SILTY SAND FINING DOWNWARD TO GRAY/GREENISH MOTTLED SILTY CLAYS AND CLAY.

C BEDROCK: DOLIMTE BEDROCK. TOP OF WEATHERED BEDROCK IS GENERALLY ENCOUNTERED BETWEEN 9 FEET AND GREATER THAN 20 FEET BELOW GROUND SURFACE WITH DEPTH INCREASING TOWARDS THE SOUTHWEST. IT IS NOTED THAT AT MONITORING WELL LOCATION MW-12, TOP OF BEDROCK WAS NOT ENCOUNTERED AT THE TERMINUS OF THE BORING AT 20 FEET BELOW GROUND SURFACE.

▽ WATER LEVEL (5/21)

——— — ——— PROJECTED POND OUTLINE



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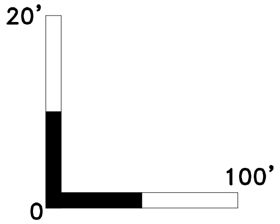

APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

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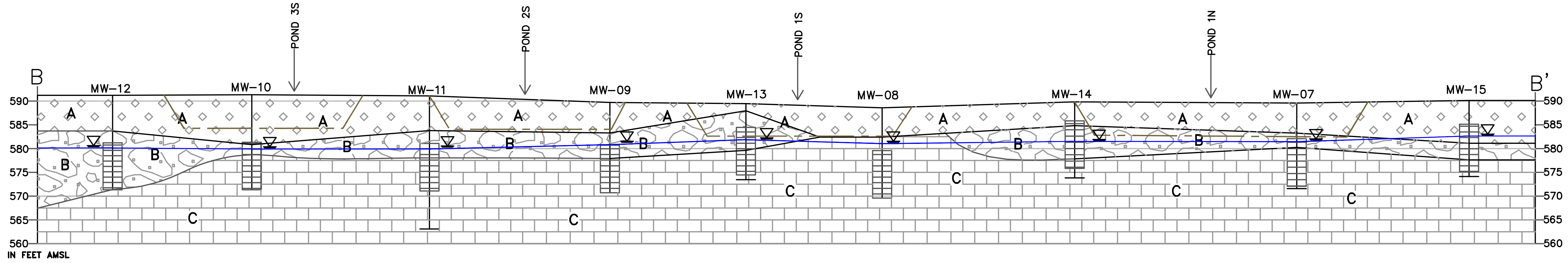
CROSS SECTION A–A'	
WILL COUNTY STATION ROMEOVILLE, ILLINOIS	
SEE SCALE	Date: March 24, 2022
KPRG Project No. 19520.3	FIGURE 9–2



A — FILL: CONSISTING OF BROWN AND BLACK SILTY CLAY AND SILTY SAND MIXED WITH GRAVEL AND CRUSHED LIMESTONE. THE FILL MAY INCLUDE COAL, BLACK CINDERS AND SLAG.

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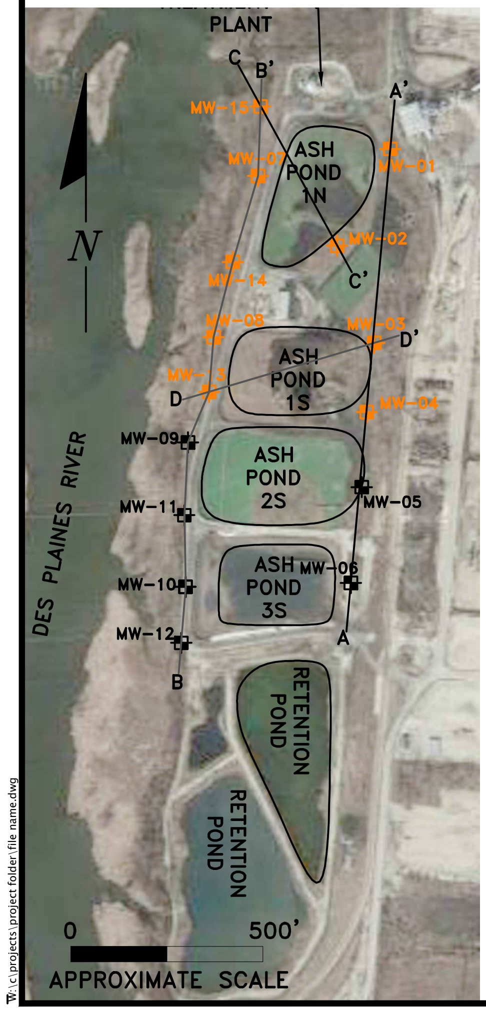
▽ WATER LEVEL (5/21)

—— – —— PROJECTED POND OUTLINE



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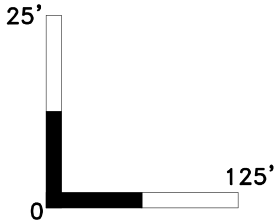

APPROXIMATE SCALE

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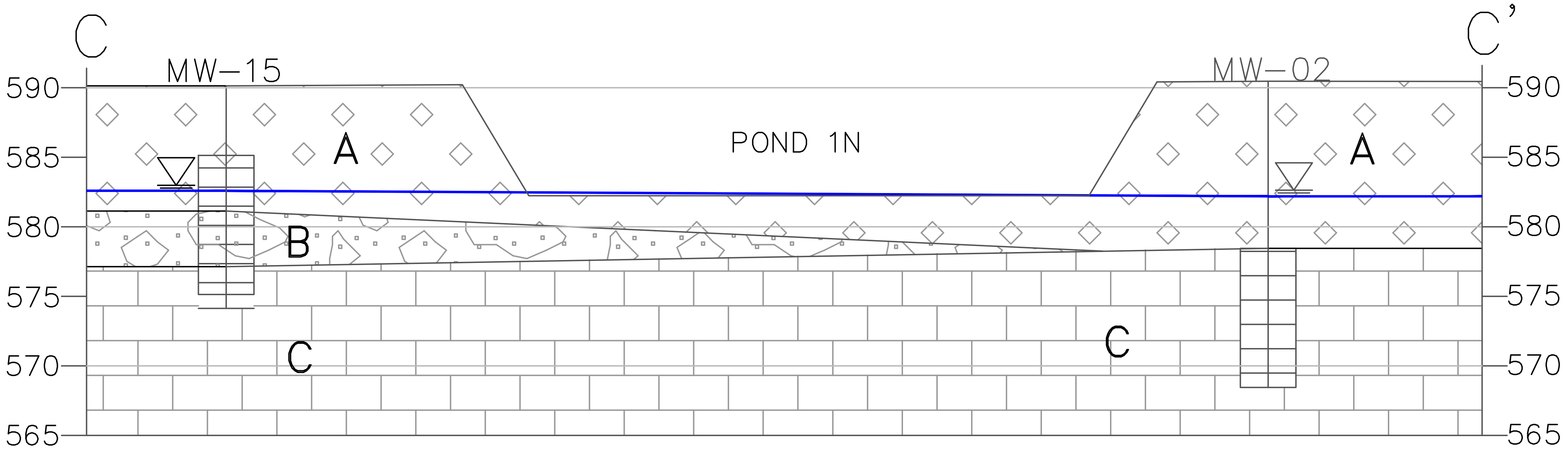
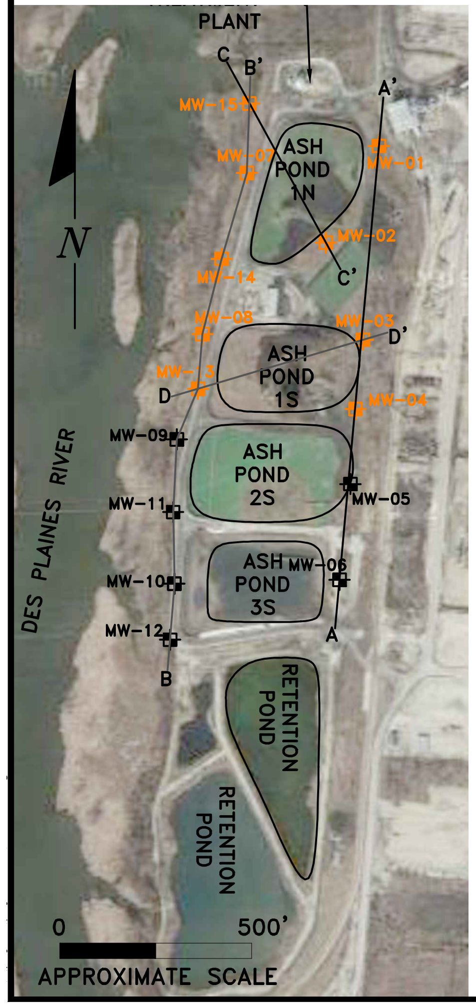
CROSS SECTION B–B'

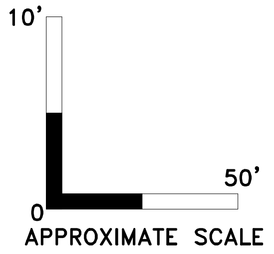
WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

SEE SCALE	Date: March 24, 2022
KPRG Project No. 19520.3	FIGURE 9–3





A	FILL: CONSISTING OF BROWN AND BLACK SILTY CLAY AND SILTY SAND MIXED WITH GRAVEL AND CRUSHED LIMESTONE. THE FILL MAY INCLUDE COAL, BLACK CINDERS AND SLAG.
B	SILTY SAND, SILT AND CLAY: CONSISTING OF GRAVELLY TAN TO BROWN SILTY SAND FINING DOWNWARD TO GRAY/GREENISH MOTTLED SILTY CLAYS AND CLAY.
C	BEDROCK: DOLIMTE BEDROCK. TOP OF WEATHERED BEDROCK IS GENERALLY ENCOUNTERED BETWEEN 9 FEET AND GREATER THAN 20 FEET BELOW GROUND SURFACE WITH DEPTH INCREASING TOWARDS THE SOUTHWEST. IT IS NOTED THAT AT MONITORING WELL LOCATION MW-12, TOP OF BEDROCK WAS NOT ENCOUNTERED AT THE TERMINUS OF THE BORING AT 20 FEET BELOW GROUND SURFACE.
▽	WATER LEVEL (11/21)
—	POND OUTLINE



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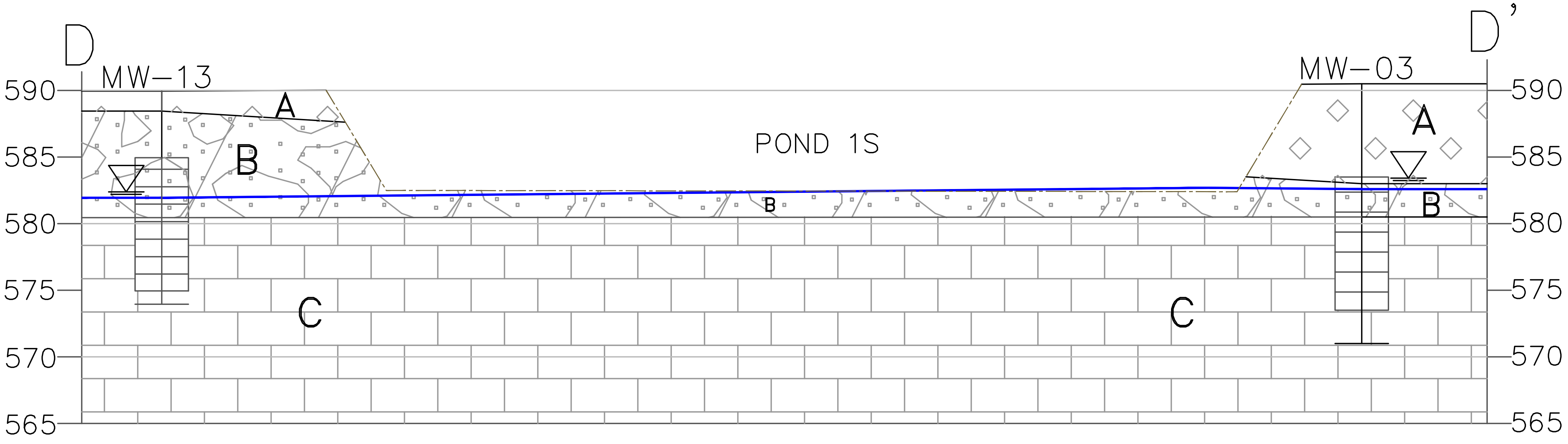
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POND 1N CROSS SECTION C–C'

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

SEE SCALE
Date: March 24, 2022
KPRG Project No. 19520.3
FIGURE 9-4



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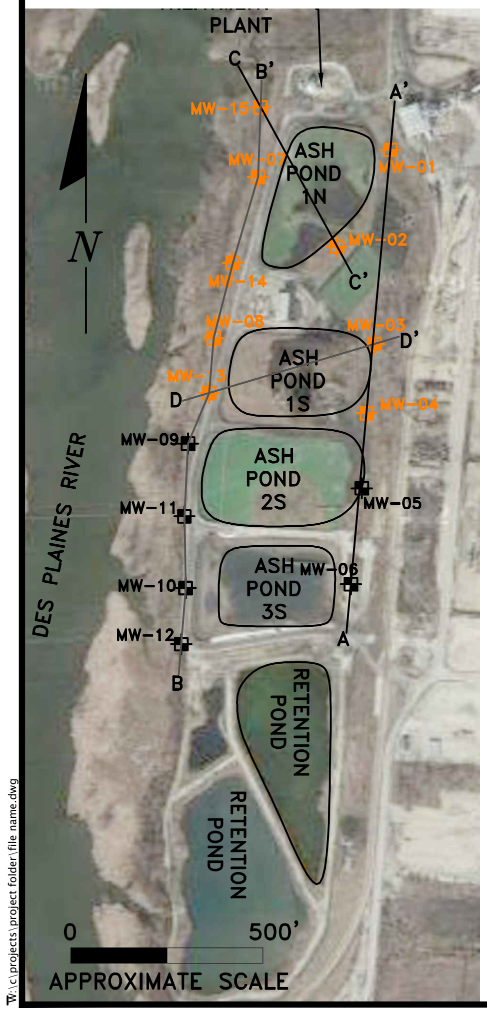
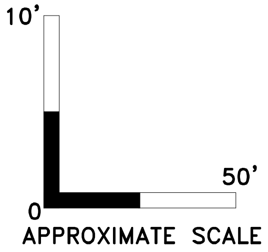
▽ WATER LEVEL (11/21)

— — — POND OUTLINE



W:\c\projects\project folder\file name.dwg



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

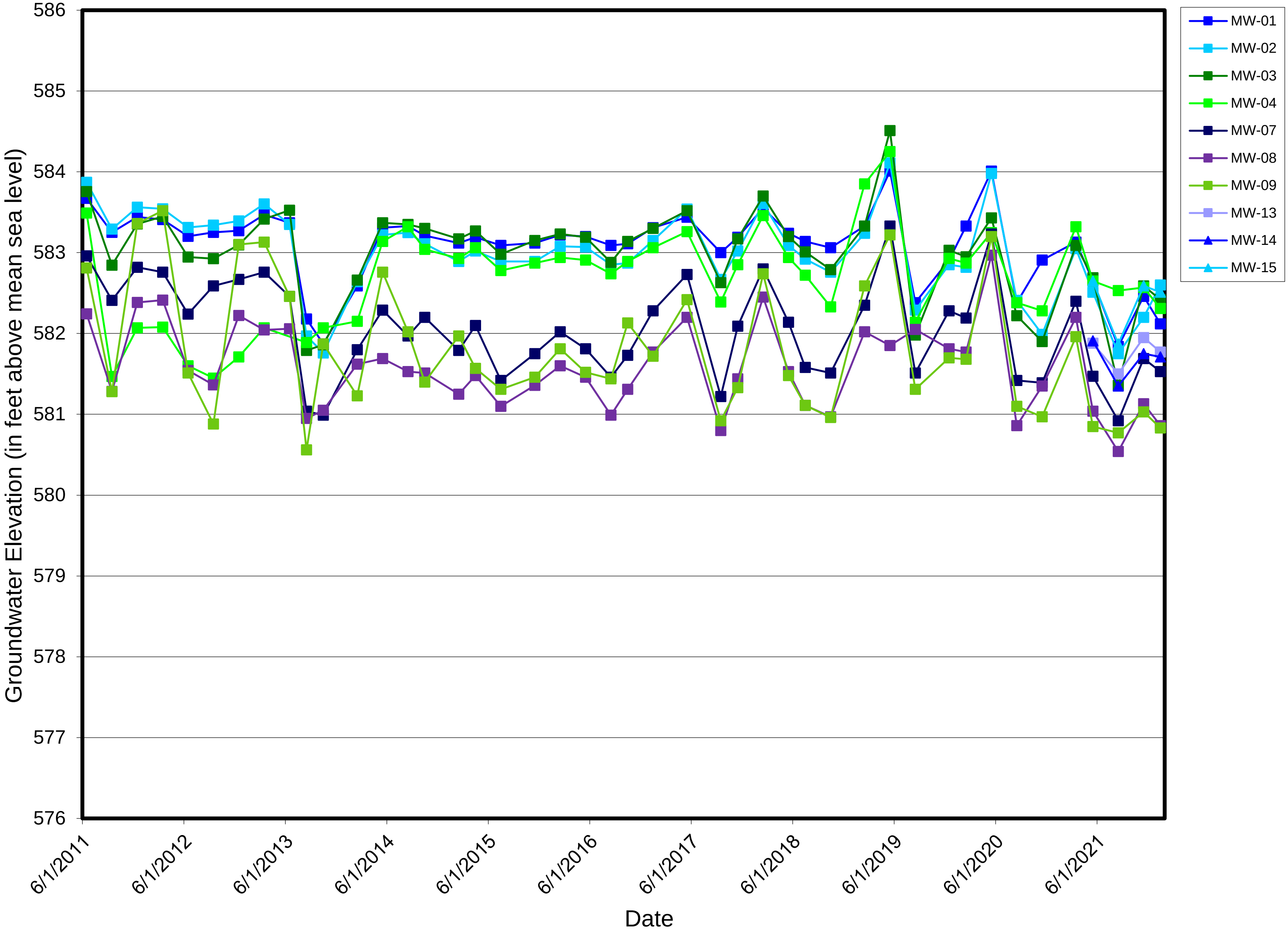
POND 1S CROSS SECTION D-D'

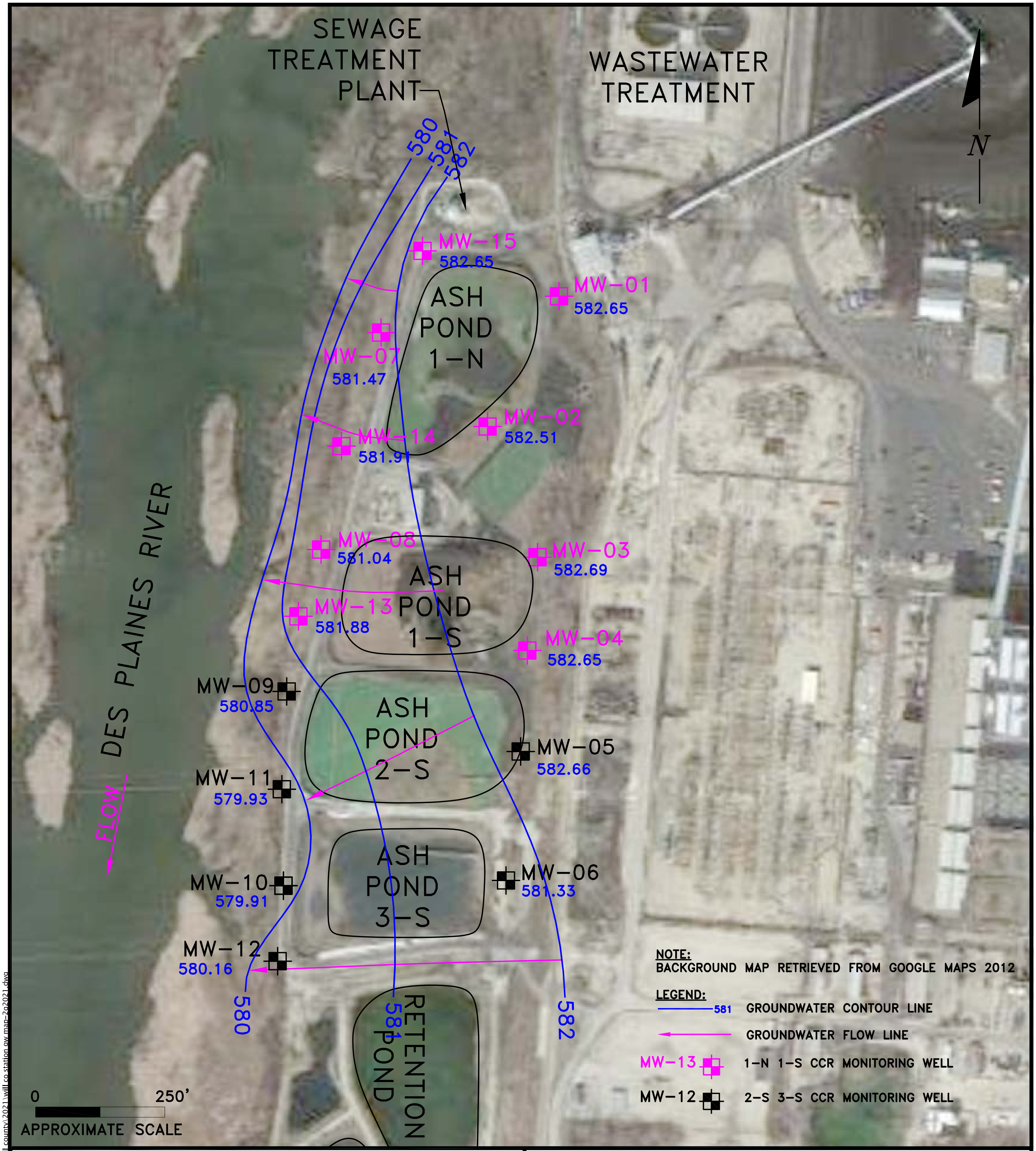
WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

SEE SCALE	Date: March 24, 2021
KPRG Project No. 19520.3	FIGURE 9-5

Figure 9-6. Midwest Generation Will County Station (1N/1S), Romeoville, IL

Groundwater Elevation vs Time





NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LEGEND:

581	GROUNDWATER CONTOUR LINE
←	GROUNDWATER FLOW LINE
MW-13 ⊞	1-N 1-S CCR MONITORING WELL
MW-12 ⊞	2-S 3-S CCR MONITORING WELL

ENVIRONMENTAL CONSULTATION & REMEDIATION

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POTENTIOMETRIC MAP 05/2021

WILL COUNTY STATION, PONDS 1-N 1-S,
ROMEOVILLE, ILLINOIS

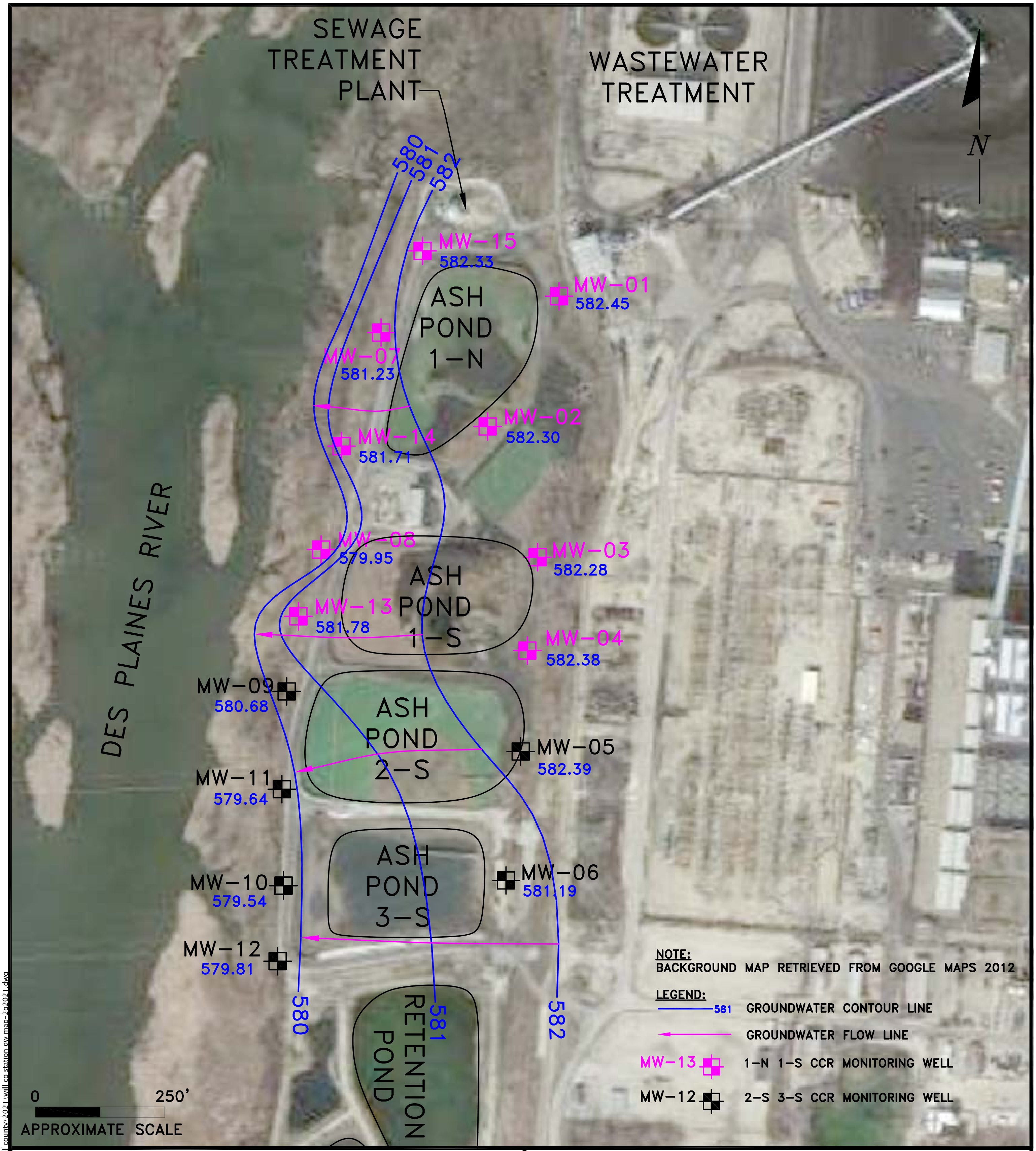
Scale: 1" = 250'

Date: January 18, 2022

KPRG Project No. 12313.3

Figure 9-7

W:\projects\midwest generation\12313\figures\will county\2021\will co station gw map-2q2021.dwg



W:\projects\midwest generation\12313\figures\will county\2021\will co station gw map-2q2021.dwg

E N V I R O N M E N T A L   C O N S U L T A T I O N & R E M E D I A T I O N

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

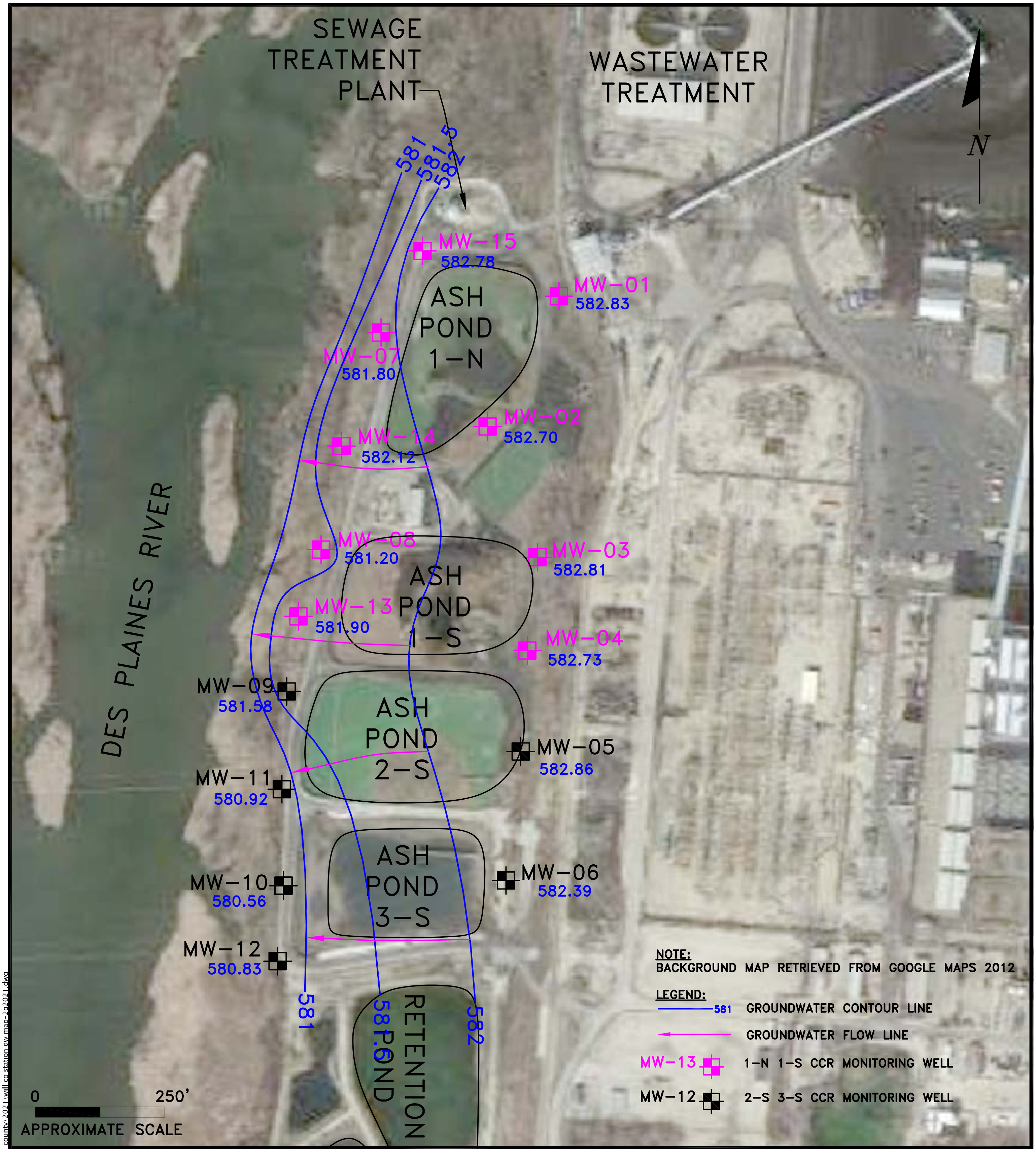
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POTENTIOMETRIC MAP 06/2021

WILL COUNTY STATION, PONDS 1-N 1-S,
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'
Date: January 18, 2022

KPRG Project No. 12313.3
Figure 9-8



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POTENTIOMETRIC MAP 07/2021

WILL COUNTY STATION, PONDS 1-N 1-S,
ROMEOVILLE, ILLINOIS

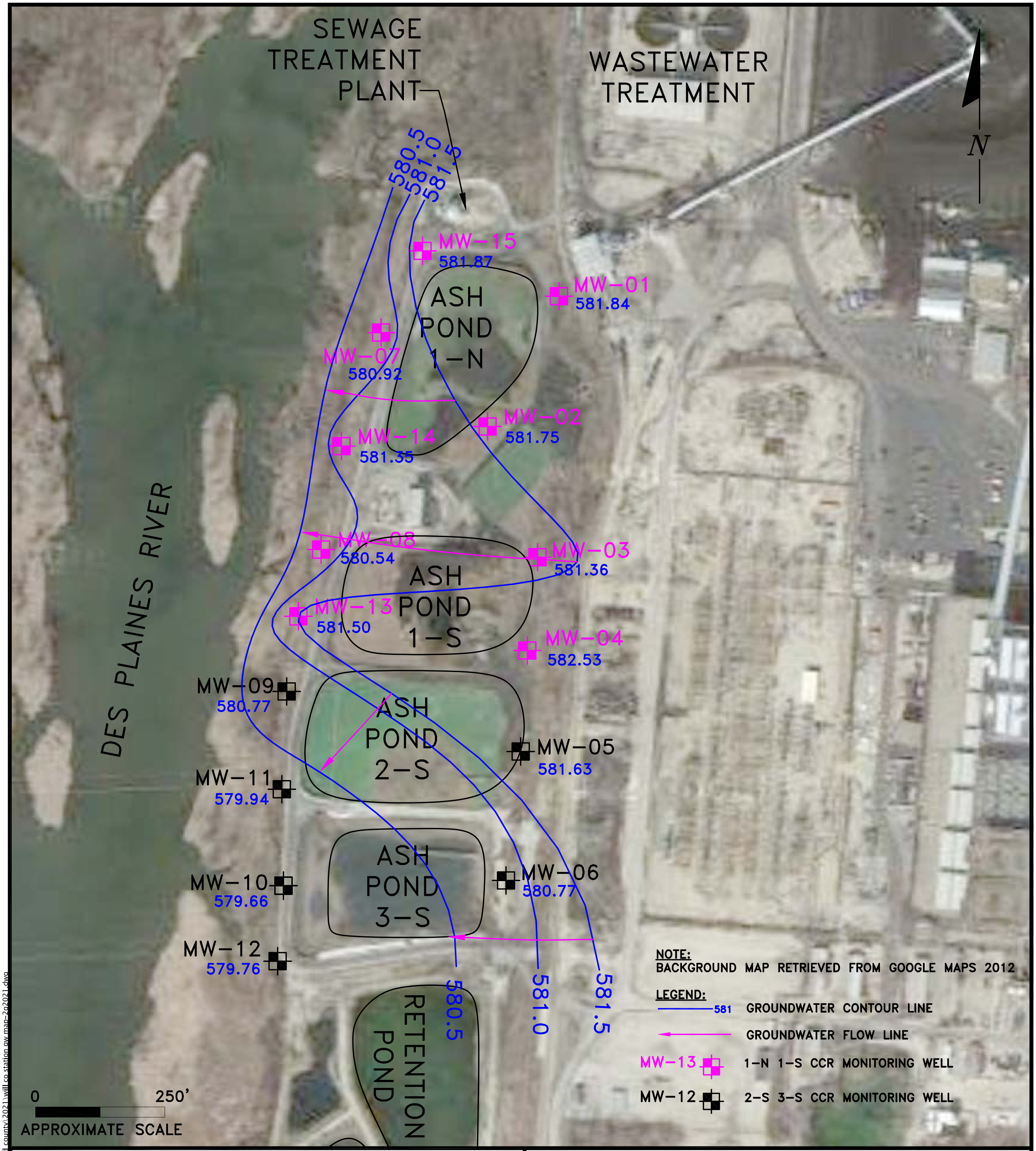
Scale: 1" = 250'

Date: January 18, 2022

KPRG Project No. 12313.3

Figure 9-9

W:\projects\midwest generation\12313\figures\will county\2021\will co station gw map-2q2021.dwg



W:\projects\midwest generation\12313\figures\will county\2021\will co station gw map-2q2021.dwg

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

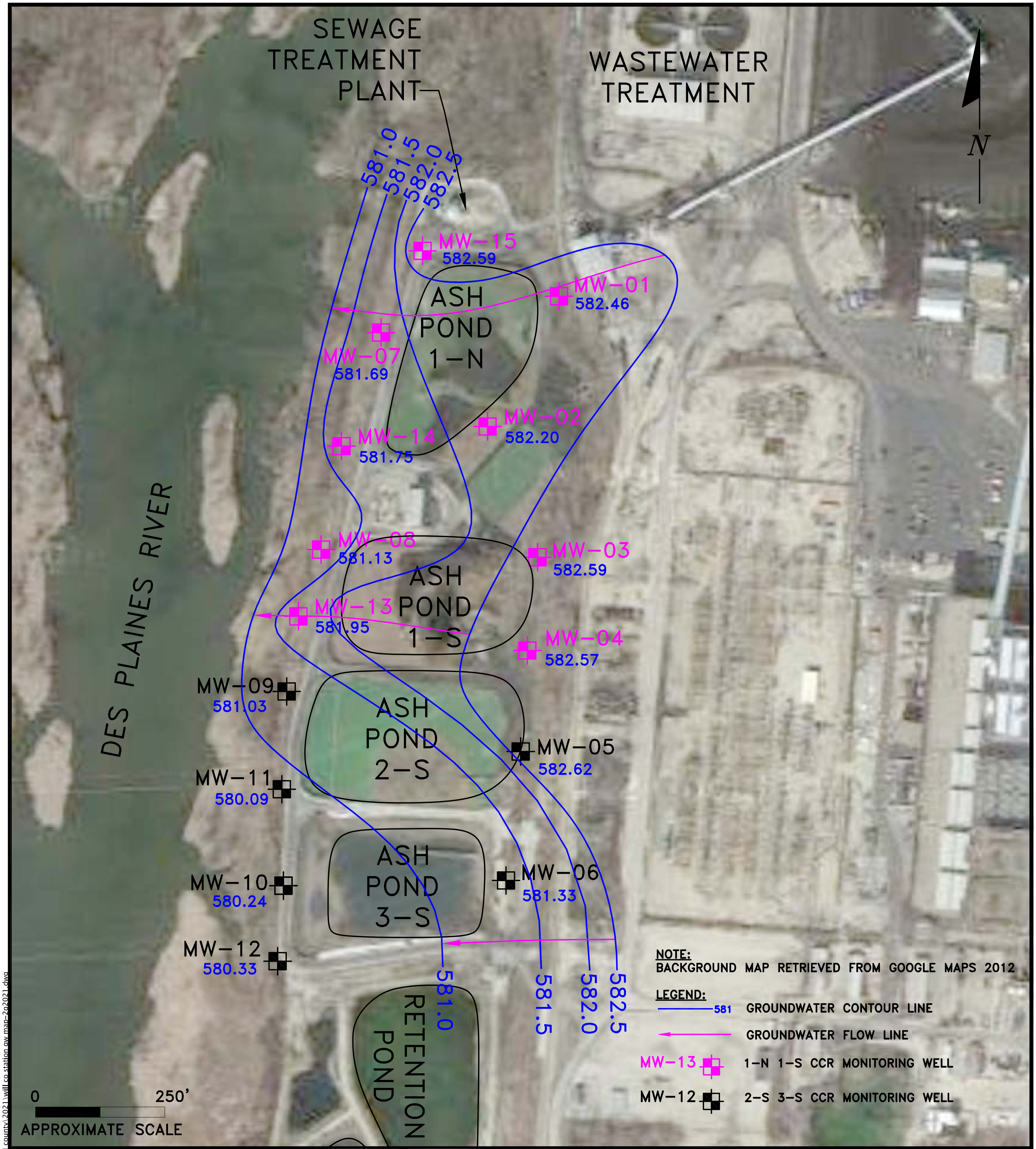
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POTENTIOMETRIC MAP 08/2021

WILL COUNTY STATION, PONDS 1-N 1-S,
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'
Date: January 18, 2022

KPRG Project No. 12313.3
Figure 9-10



W:\projects\midwest generation\12313\figures\will county\2021\will co station gw map-2q2021.dwg

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

POTENTIOMETRIC MAP 11/2021

WILL COUNTY STATION, PONDS 1−N 1−S,
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'	Date: January 18, 2022
KPRG Project No. 12313.3	Figure 9−11

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station gmz.dwg(proposed gmz)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER MANAGEMENT ZONE

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500'
Date: August 27, 2021
KPRG Project No. 18311.41
FIGURE 9-12

LEGEND

- ● WATER WELLS
- **40020** SHORT API WELL ID
- **300** TOTAL DEPTH

0 800'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

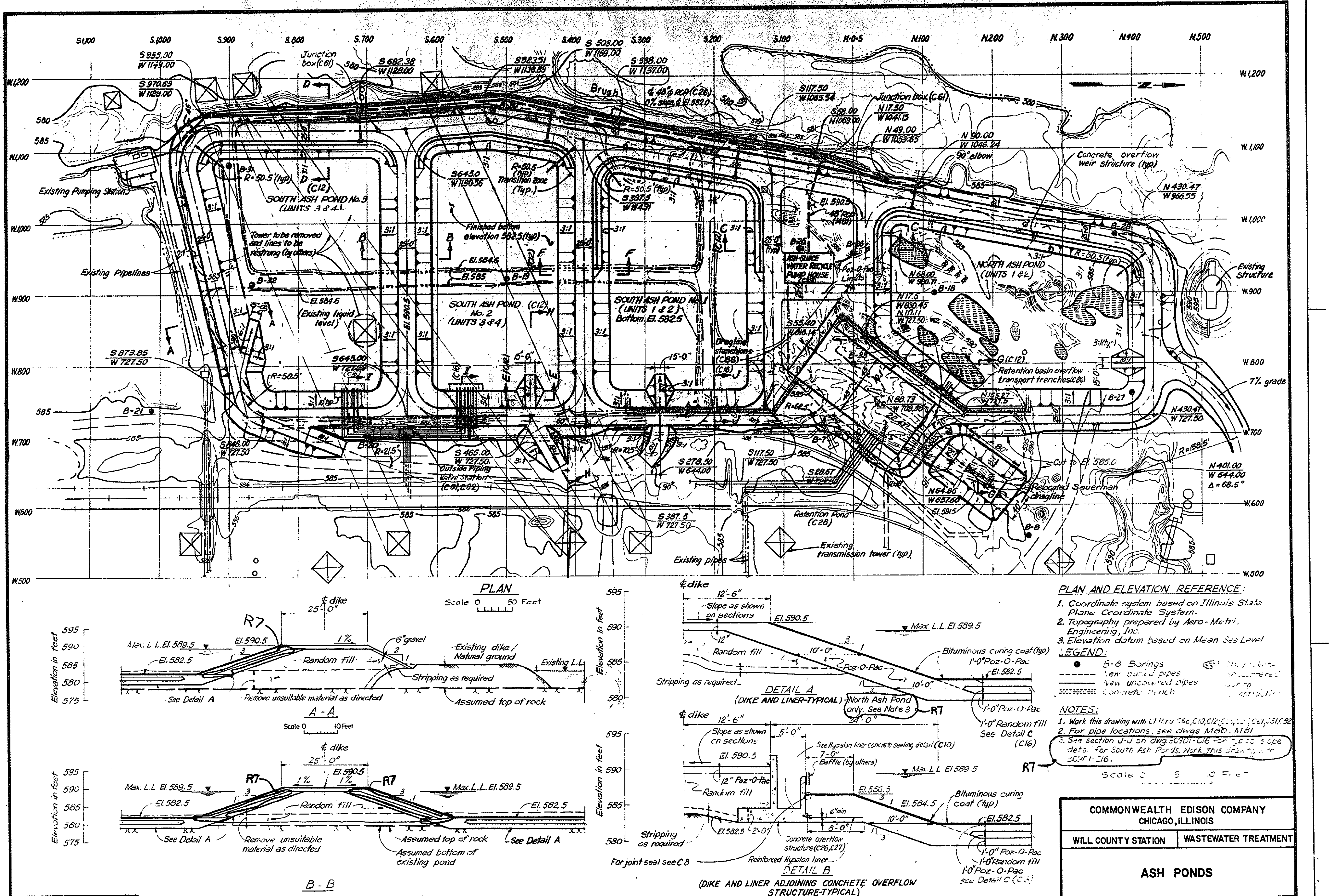
2500' RADIUS POTABLE WELLS MAP

WILL COUNTY GENERATING STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 800'	Date: September 10, 2021
KPRG Project No. 19520.3	FIGURE 9-13

OPERATING PERMIT ATTACHMENTS

ATTACHMENT 1
HISTORY OF CONSTRUCTION



PLAN AND ELEVATION REFERENCE:

1. Coordinate system based on Illinois State Plane Coordinate System.
2. Topography prepared by Aero-Metric Engineering, Inc.
3. Elevation datum based on Mean Sea Level

LEGEND:

- ● B-8 Borings
- ------- New buried pipes
- ——— New uncovered pipes
- ▨ Concrete trench
- ▨ Clay pockets encountered during construction

NOTES:

1. Work this drawing with C1 thru C6c, C10, C12, C[illegible], C[illegible], C61, C81, C82
2. For pipe locations, see dwgs. M80, M81
3. See section J-J on dwg. 869D1-C16 for typical slope dets. for South Ash Ponds. Work this drawing with 869D1-C16.

R7

Scale 0 5 10 Feet

R7	D(R 867)-C4 #83	8/14/79	Bottom ash/shot rock substituted for Poz-O-Pac	CLP	AJF								
R6	DDR 869D1-C4 #72	3-13-79	Clay pockets during construction	CW	AJF	YKC	R2	DDR 869D1-C4 #4	4/25/78	Fill & structures added as shown, details revised, and dwg. references added	J.V.	AJF	YKC
R-5	DDR 869D1-C4 #43	10-13-78	Plan, detail B revised as shown	CW	AJF	YKC	R1	DDR 869D1-CA # 1	4/7/78	Issued for construction Contract 869D1-C4	M.M.	AJF	YKC
R4	DDR 869D1-C4 #32	[illegible]-78	Plan revised as shown, Legend addition	SE	AJF	YKC	R0		12-12-77	Issued for Bids 869D1-C4	M.M.	AJF	MJM
R3	DDR 869D1-C4 #3	5-2-78	Issued to Construction 869D1-C6	RJM	AJF	YKC	REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.

DSGN.	AJF	REVIEWED	
CHKD.	MJM	CIVIL	YKC
DWN.	M.M.	MECH.	
CHKD.		ELECT.	
SUBM.	MJM		

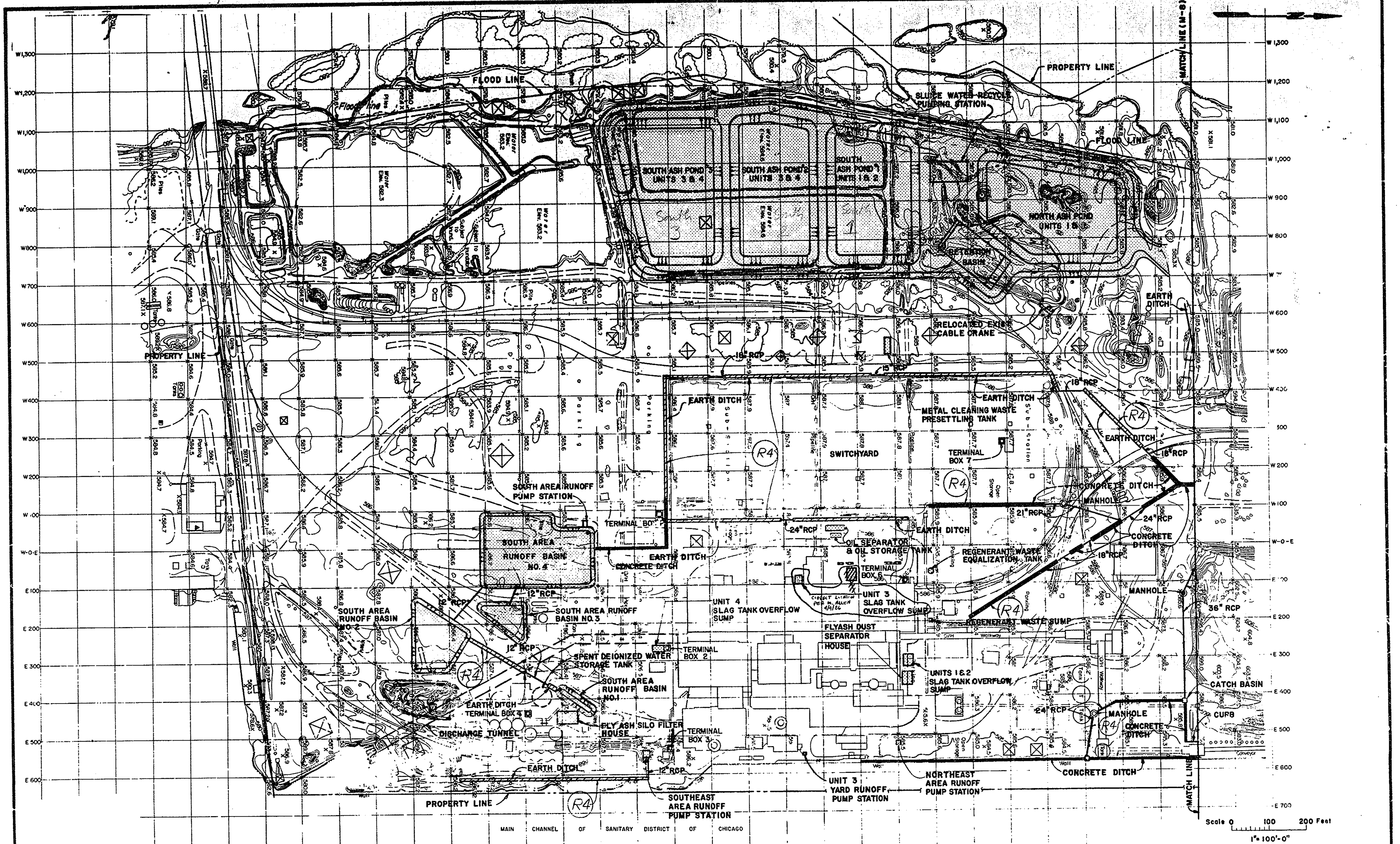
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

WILL COUNTY STATION | WASTEWATER TREATMENT

ASH PONDS

CONSULTING ENGINEERS
HARZA ENGINEERING COMPANY
APPROVED

CHICAGO, ILLINOIS | DATE NOV., 1977 | DWG. NO. 869 D1 - C11



Scale 0 100 200 Feet
1" = 100'-0"

S 2,200 S 2,100 S 2,000 S 1,900 S 1,800 S 1,700 S 1,600 S 1,500 S 1,400 S 1,300 S 1,200 S 1,100 S 1,000 S 900 S 800 S 700 S 600 S 500 S 400 S 300 S 200 S 100 N-O-S N 100 N 200 N 300

3 Basins feed into South Area Runoff Basin.
SAR Basin feeds to one of the Ash Ponds

NE Area Runoff
goes to N
area runoff
basin

DSGN.	F.F.	REVIEWED
CHKD.	F.C.	CIVIL	
DWN.	L.F.	MECH	1:4f
CHKD.		ELECT.	
SUBM.			

REV. NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
R4	7-26-10	Revised type & location of ditches 86-01-C4	V.M.		
R3	5-2-78	Issued for construction: Contract 869DI-C6	R.L.	JHW	
R2	4-5-78	Issued for construction Contract 869DI-C4	F.S.	JHW	
R1	1-26-78	Issued for construction 869DI-C5 as reference	F.S.	JHW	
R.0	12-28-77	Issued for bid 869DI-C6			
R.0	12-12-77	Issued for bid 869DI-C4.			

COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

WILL COUNTY STATION | WASTEWATER TREATMENT

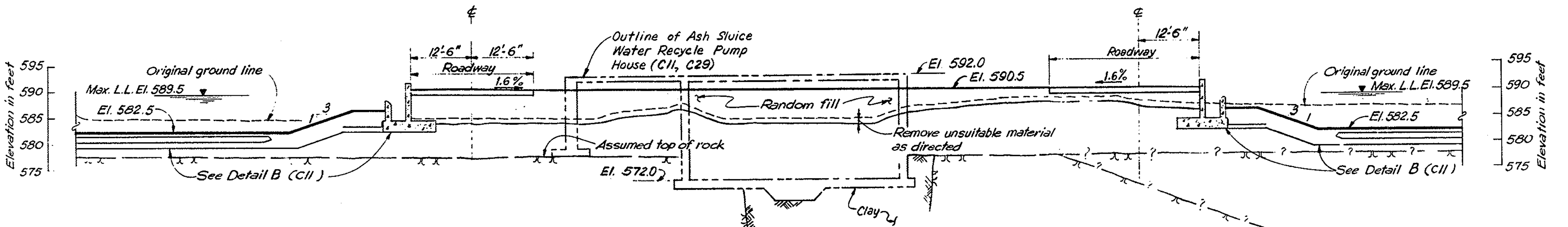
SITE PLAN-GENERAL ARRANGEMENT
SHEET 1 OF 2

HARZA ENGINEERING COMPANY
APPROVED

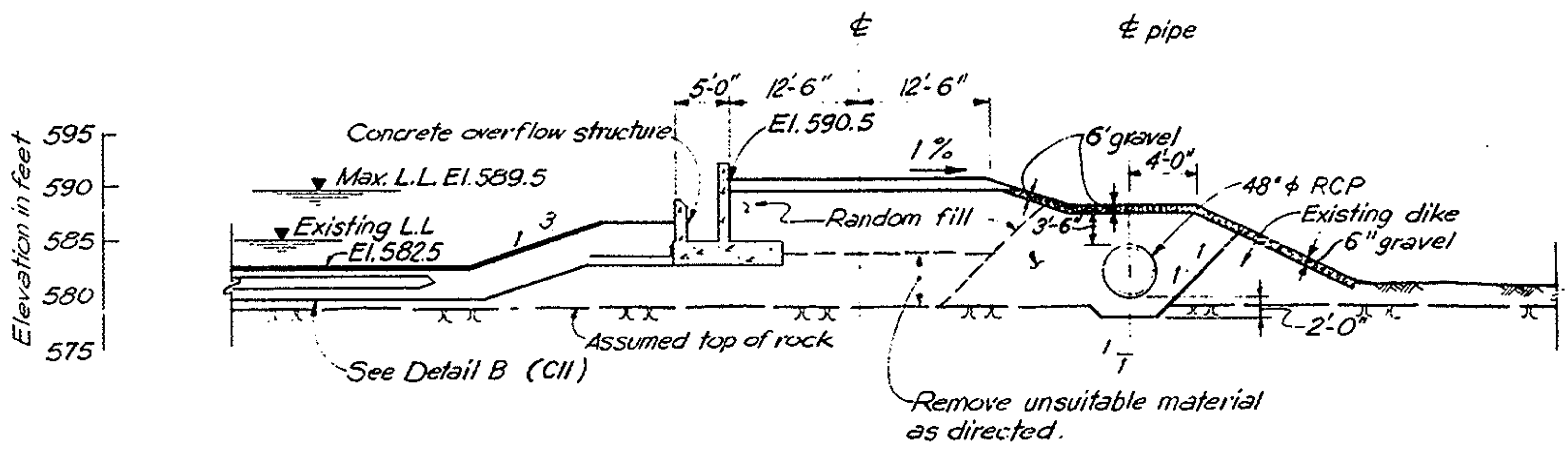
CHICAGO, ILLINOIS
DATE APRIL 1977
DWG. NO. 869DI N-7

DDr 869DI-C4 #16

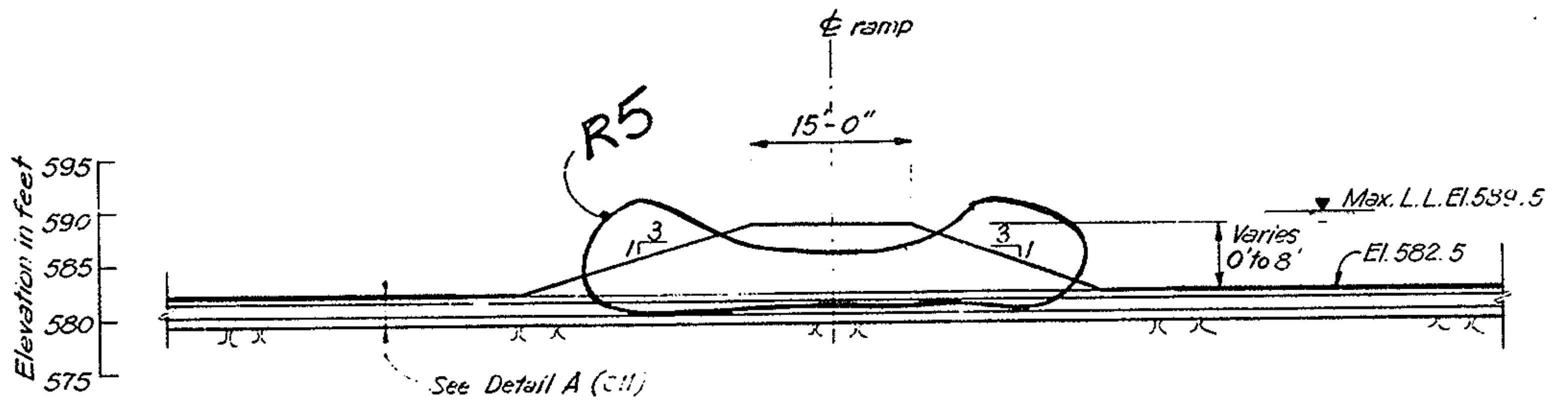
K&E CO. 18-1293



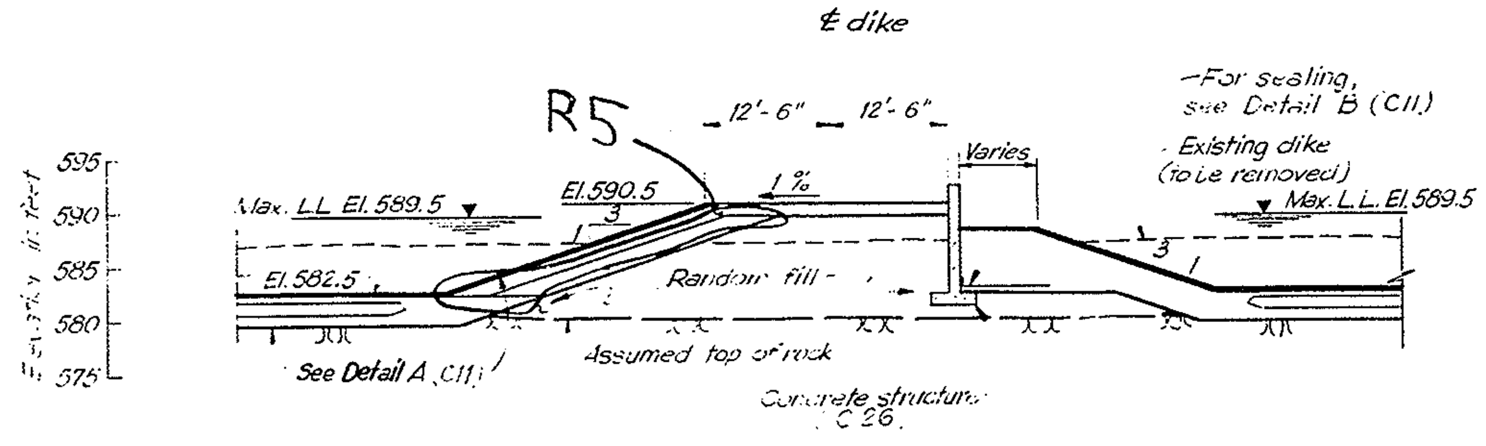
C-C (C11)



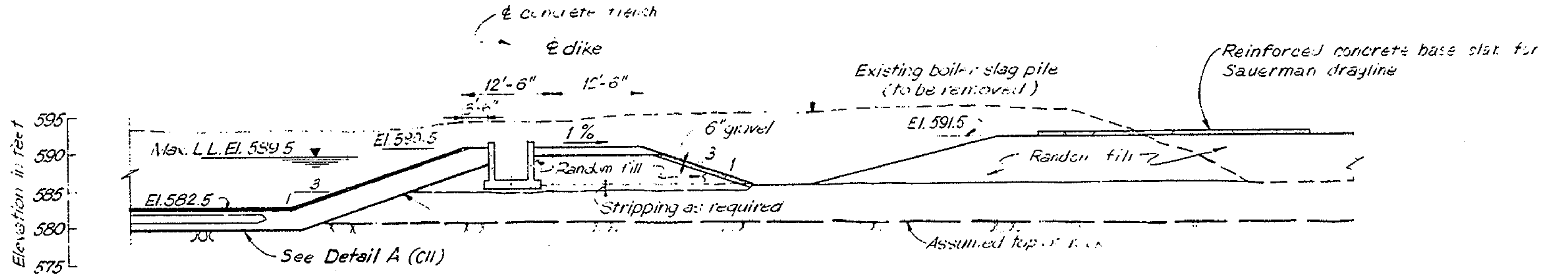
D-D (C11)



E-E (C11)



F-F (C11)

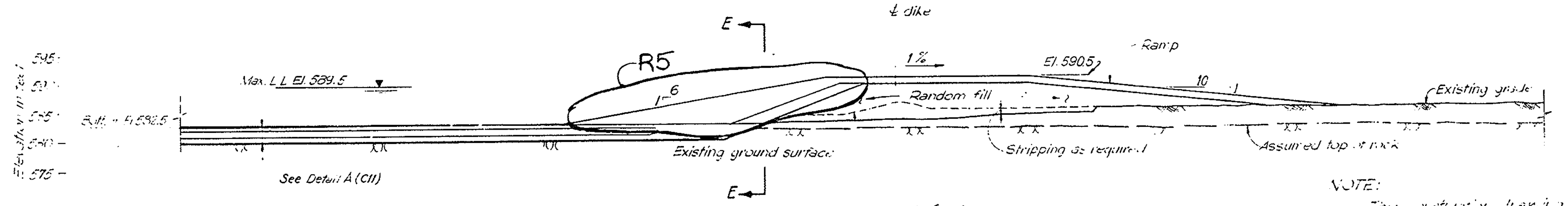


G-G (C11)

NOTE:

1. Work this drawing with C1 thru C6, C8, ...
2. Work this drawing with 869DI-C16.

R5



H-H (C11)

NOTE:

This construction drawing 869 DI-C12 replaces dwg 869 DI-C12 [illegible]

R5	[illegible]	8/14/79	Bottom ash/shot rock substituted for Poz-O-Pac.	CLP	AJF	[illegible]
R4	[illegible]	[illegible]	Sect. C-C, E-E & H-H revised	JLW	AJF	[illegible]
R3	DLF Sec. D1-C4 #32	8/25/78	Sect. C-C, D-D, E-E, G-G & H-H revised	J.M./S.F.	AJF	[illegible]
R2	[illegible]	4/25/78	Sections F-F and D-D revised	J.V.	AJF	[illegible]
R1		4.5.78	Issued for Construction Contract 869 DI-C4	[illegible]	AJF	
R0		12-12-77	Issued for Bids 869 DI-C4	[illegible]	AJF	
REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.

DSGN	AJF	REVIEWED	
CHKD	WJM	CIVIL	[illegible]
DWN	M.M.	MECH	
CHKD.	AJF	ELECT	
SUBM.	[illegible]		

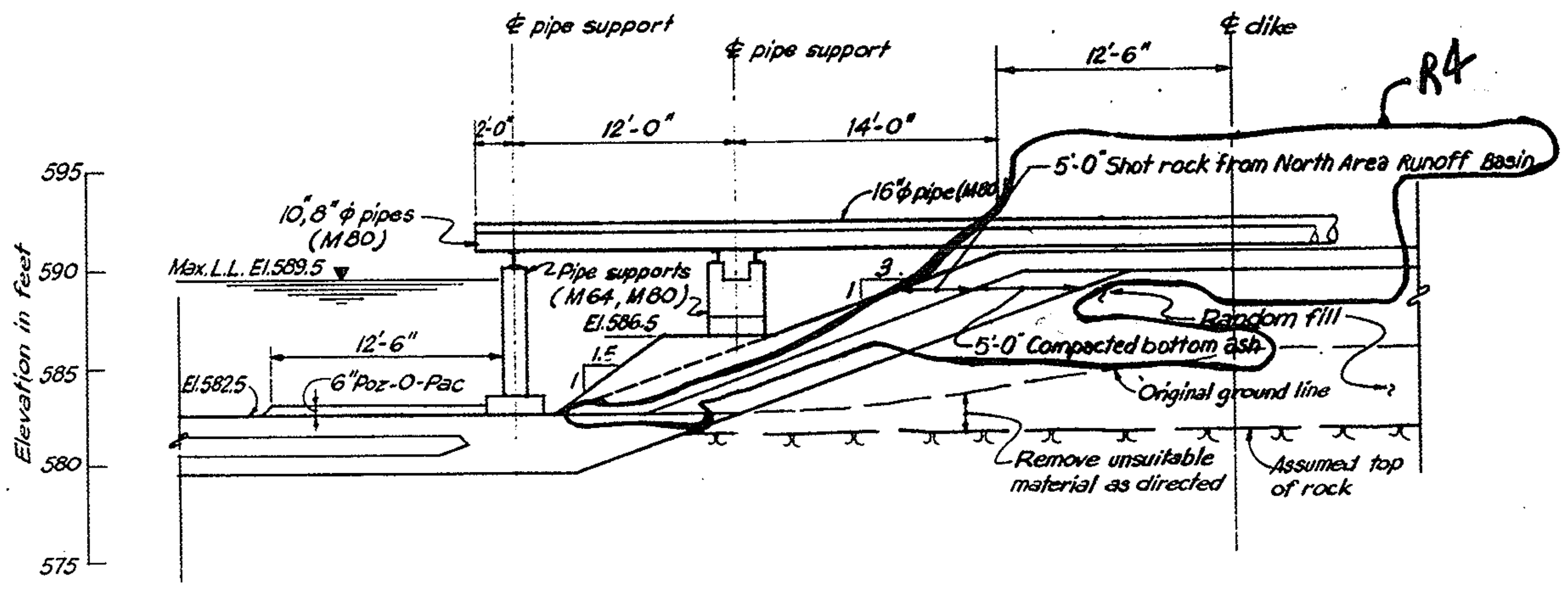
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

WILL COUNTY STATION | WASTEWATER TREATMENT

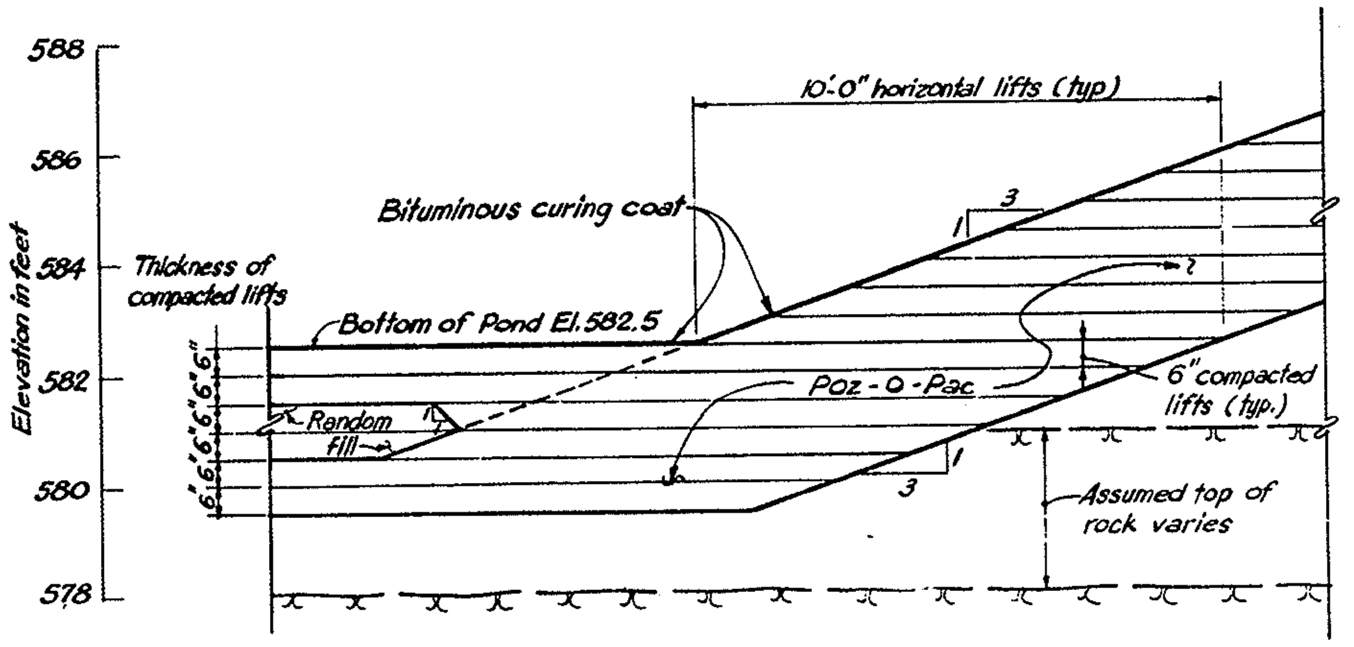
ASH POND SECTIONS

CONSULTING ENGINEERS
HARZA ENGINEERING COMPANY
APPROVED

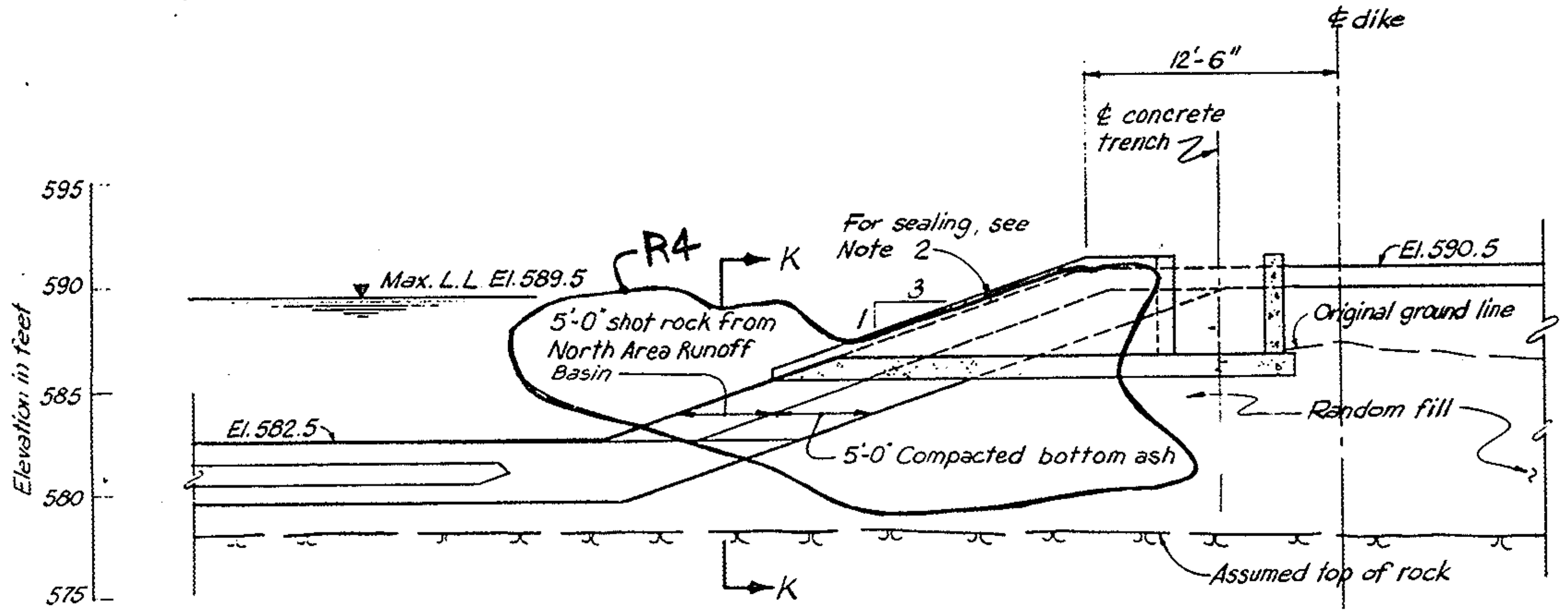
CHICAGO, ILLINOIS | DATE NOV., 1977 | DWG. NO. 869-DI-C12



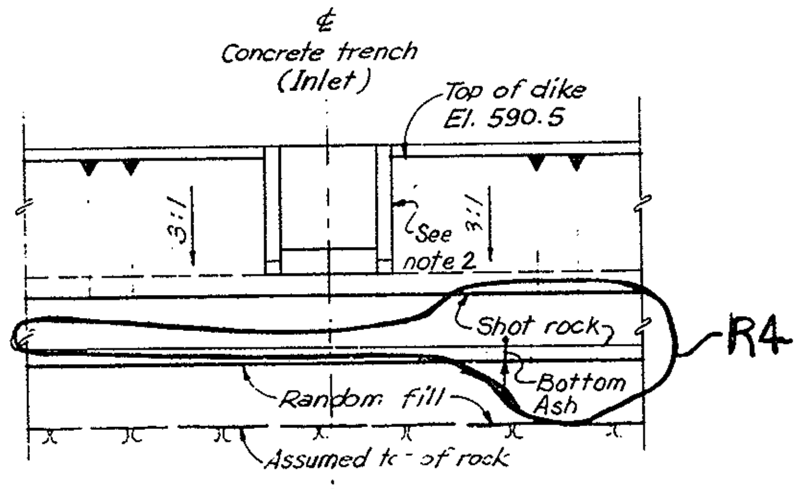
I - I (C11)
Scale 0 5 Feet



DETAIL C
(POZ-O-PAC PLACEMENT IN ASH POND)
Scale 0 2 Feet



J - J (C11)
Scale 0 5 Feet



K - K
Scale 0 5 Feet

NOTES:

1. Work this drawing with C1 thru C6c, C11 and C12.
2. Apply joint sealant as directed by the Owners Representative, at concrete/Poz-O-Pac joints.

DSGN.	AJF	REVIEWED	
CHKD	M.M.	CIVIL	
DWN.		MECH.	
CHKD.	AJF	ELECT.	
SUBM.	AJF		

REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
R4	DLR 869 DI-C4 #53	8/14/79	Bottom ash/shot rock substituted for Poz-O-Pac.	CLP	AJF	
R3	DDR 869 DI-C4 #32	8/25/78	Sections and details revised as shown	M.M.	AJF	
R2	CDR 869 DI-C4 #4	4/25/78	Details and sections revised as shown	J.V.	AJF	
R1		4/5/78	Issued for construction contract 869 DI-C4	M.M.	AJF	

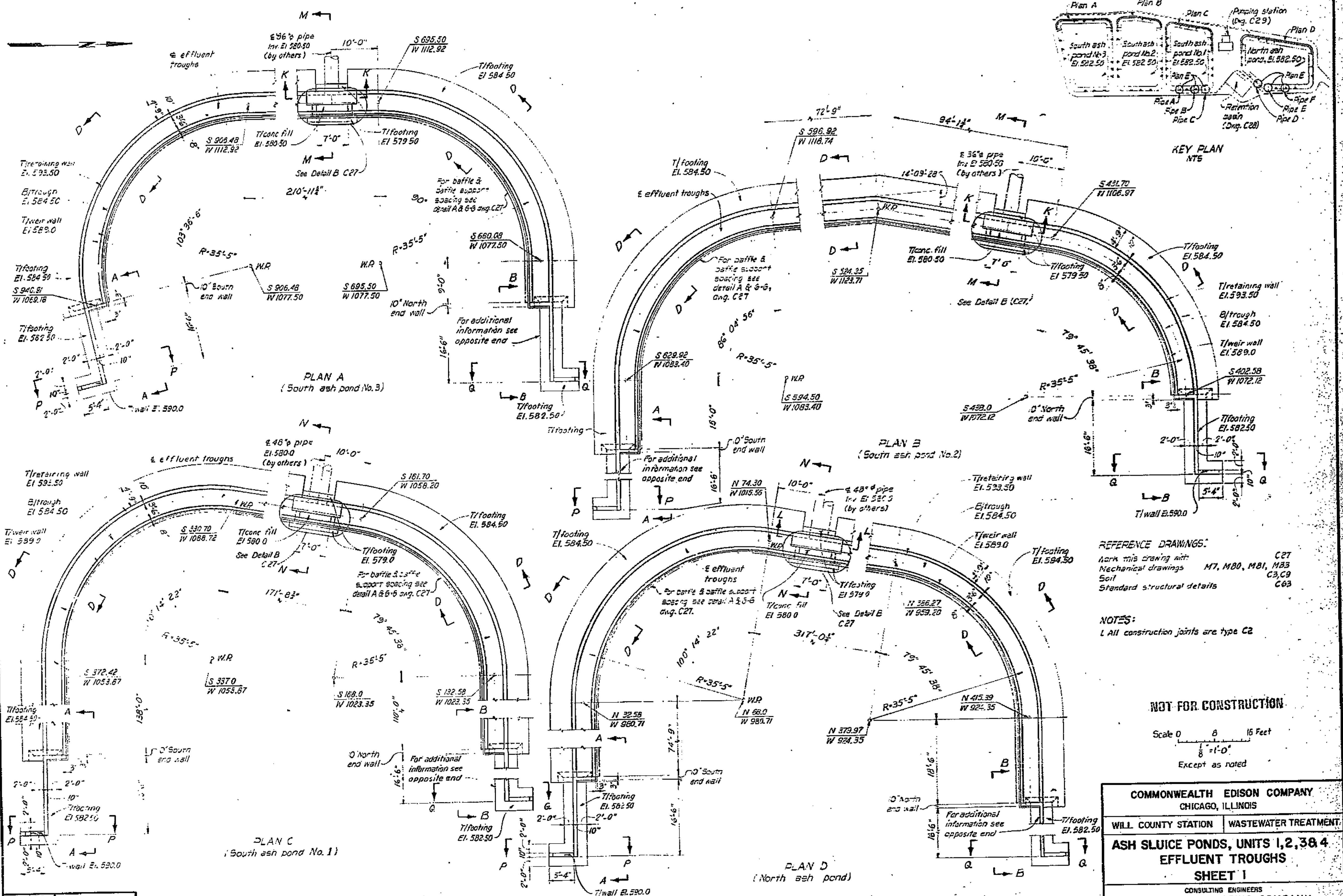
COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

WILL COUNTY STATION | WASTEWATER TREATMENT

ASH POND SECTIONS & DETAILS

CONSULTING ENGINEERS
HARZA ENGINEERING COMPANY
APPROVED

CHICAGO, ILLINOIS
DATE APRIL, 1978
DWG.NO. 869 DI - C16



REFERENCE DRAWINGS:

Work this drawing with	C27
Mechanical drawings	M7, M80, M81, M83
Soil	C3,C9
Standard structural details	C63

NOTES:

1. All construction joints are type C2

NOT FOR CONSTRUCTION

Scale 0 8 16 Feet
$\frac{1}{8}$"=1'-0"
Except as noted

DSGN.	G.C.	REVIEWED	
CHKD.	J.B.A.	CIVIL	
DWN.	G.A.H.	MECH.	
CHKD.	FS/VK	ELECT.	
SUBM.			

REV. NO.	DWG. TRANSMITTAL LETTER NO.	DATE	NATURE OF REVISION	BY	CHKD.	APPD.
RD		12.12.77	issued for bids 869DI-C4			

COMMONWEALTH EDISON COMPANY
CHICAGO, ILLINOIS

WILL COUNTY STATION | WASTEWATER TREATMENT

ASH SLUICE PONDS, UNITS 1,2,3&4
EFFLUENT TROUGHS
SHEET 1

CONSULTING ENGINEERS
HARZA ENGINEERING COMPANY
APPROVED

CHICAGO, ILLINOIS
DATE NOV.1977
DWG.NO. 869DI-C26

JAN 13 1978 C4

ATTACHMENT 2
CCR CHEMICAL CONSTITUENTS ANALYSIS

eurofins

Environment Testing
America

1
2
3
4
5
6
7
8
9
10
11
12

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-206556-1
Client Project/Site: Will County Ash Sample

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
10/20/2021 3:53:29 PM

Diana Mockler, Project Manager I
(219)252-7570
Diana.Mockler@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

Job ID: 500-206556-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-206556-1

Comments

No additional comments.

Receipt

The sample was received on 10/11/2021 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 15.5º C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7471A	Mercury (CVAA)	SW846	TAL CHI
9056A	Anions, Ion Chromatography	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
300_Prep	Anions, Ion Chromatography, 10% Wt/Vol	MCAWW	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
7471A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-206556-1	Pond 2S CCR	Solid	10/11/21 11:30	10/11/21 13:00

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

Client Sample ID: Pond 2S CCR

Date Collected: 10/11/21 11:30
Date Received: 10/11/21 13:00

Lab Sample ID: 500-206556-1
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.7		1.7		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Arsenic	**1.3**		0.87		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Barium	**2200**		4.3		mg/Kg		10/19/21 09:55	10/20/21 13:33	5
Beryllium	**1.4**		0.35		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Boron	**110**		4.3		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Cadmium	<0.17		0.17		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Calcium	**78000**		87		mg/Kg		10/19/21 09:55	10/20/21 13:33	5
Chromium	**7.8**		0.87		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Cobalt	**8.7**		2.2		mg/Kg		10/19/21 09:55	10/20/21 13:33	5
Lead	**3.9**		0.43		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Lithium	**20**		0.87		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Molybdenum	**1.5**		0.87		mg/Kg		10/19/21 09:55	10/19/21 20:46	1
Selenium	<4.3		4.3		mg/Kg		10/19/21 09:55	10/20/21 13:33	5
Thallium	**1.2**		0.87		mg/Kg		10/19/21 09:55	10/19/21 20:46	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.016		0.016		mg/Kg		10/14/21 16:30	10/15/21 09:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**110**		9.8		mg/Kg		10/18/21 11:20	10/18/21 21:21	5
Chloride	**41**		19		mg/Kg		10/19/21 10:35	10/19/21 13:34	1
Fluoride	<0.99		0.99		mg/Kg		10/19/21 08:55	10/19/21 15:08	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

Metals

Prep Batch: 623515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	7471A	
MB 500-623515/12-A	Method Blank	Total/NA	Solid	7471A	
LCS 500-623515/13-A	Lab Control Sample	Total/NA	Solid	7471A	

Analysis Batch: 623708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	7471A	623515
MB 500-623515/12-A	Method Blank	Total/NA	Solid	7471A	623515
LCS 500-623515/13-A	Lab Control Sample	Total/NA	Solid	7471A	623515

Prep Batch: 624269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	3050B	
MB 500-624269/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-624269/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCS 500-624269/2-A ^2	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 624447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	6010B	624269
MB 500-624269/1-A	Method Blank	Total/NA	Solid	6010B	624269
LCS 500-624269/2-A	Lab Control Sample	Total/NA	Solid	6010B	624269

Analysis Batch: 624556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	6010B	624269
MB 500-624269/1-A	Method Blank	Total/NA	Solid	6010B	624269
LCS 500-624269/2-A ^2	Lab Control Sample	Total/NA	Solid	6010B	624269

General Chemistry

Analysis Batch: 623031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	Moisture	

Prep Batch: 623871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	300_Prep	
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	300_Prep	
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	300_Prep	

Analysis Batch: 624089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	9056A	623871
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	9056A	623871
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	9056A	623871

Prep Batch: 624255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	300_Prep	
MB 500-624255/1-A	Method Blank	Total/NA	Solid	300_Prep	

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-1

General Chemistry (Continued)

Prep Batch: 624255 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-624255/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	300_Prep	
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	300_Prep	

Prep Batch: 624276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	300_Prep	
MB 500-624276/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 500-624276/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	300_Prep	
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	300_Prep	

Analysis Batch: 624306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	SM 4500 Cl- E	624276
MB 500-624276/1-A	Method Blank	Total/NA	Solid	SM 4500 Cl- E	624276
LCS 500-624276/2-A	Lab Control Sample	Total/NA	Solid	SM 4500 Cl- E	624276
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	SM 4500 Cl- E	624276
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	SM 4500 Cl- E	624276

Analysis Batch: 624342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	SM 4500 F C	624255
MB 500-624255/1-A	Method Blank	Total/NA	Solid	SM 4500 F C	624255
LCS 500-624255/2-A	Lab Control Sample	Total/NA	Solid	SM 4500 F C	624255
500-206556-1 MS	Pond 2S CCR	Total/NA	Solid	SM 4500 F C	624255
500-206556-1 MSD	Pond 2S CCR	Total/NA	Solid	SM 4500 F C	624255

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-624269/1-A
Matrix: Solid
Analysis Batch: 624447

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<2.0		2.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Arsenic	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Barium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Boron	<5.0		5.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Cadmium	<0.20		0.20		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Chromium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Lead	<0.50		0.50		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Lithium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Molybdenum	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1
Thallium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/19/21 19:42	1

Lab Sample ID: MB 500-624269/1-A
Matrix: Solid
Analysis Batch: 624556

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/20/21 13:23	1
Calcium	<20		20		mg/Kg		10/19/21 09:55	10/20/21 13:23	1
Cobalt	<0.50		0.50		mg/Kg		10/19/21 09:55	10/20/21 13:23	1
Selenium	<1.0		1.0		mg/Kg		10/19/21 09:55	10/20/21 13:23	1

Lab Sample ID: LCS 500-624269/2-A
Matrix: Solid
Analysis Batch: 624447

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	44.6		mg/Kg		89	80 - 120
Arsenic	10.0	8.65		mg/Kg		87	80 - 120
Barium	200	191		mg/Kg		95	80 - 120
Boron	100	81.6		mg/Kg		82	80 - 120
Cadmium	5.00	4.43		mg/Kg		89	80 - 120
Chromium	20.0	19.0		mg/Kg		95	80 - 120
Lead	10.0	9.00		mg/Kg		90	80 - 120
Lithium	50.0	49.3		mg/Kg		99	80 - 120
Molybdenum	100	98.1		mg/Kg		98	80 - 120
Thallium	10.0	8.76		mg/Kg		88	80 - 120

Lab Sample ID: LCS 500-624269/2-A ^2
Matrix: Solid
Analysis Batch: 624556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	194		mg/Kg		97	80 - 120
Calcium	1000	930		mg/Kg		93	80 - 120
Cobalt	50.0	46.1		mg/Kg		92	80 - 120
Selenium	10.0	8.16		mg/Kg		82	80 - 120

QC Sample Results

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 500-623515/12-A
Matrix: Solid
Analysis Batch: 623708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.017		0.017		mg/Kg		10/14/21 16:30	10/15/21 08:30	1

Lab Sample ID: LCS 500-623515/13-A
Matrix: Solid
Analysis Batch: 623708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623515

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.167	0.151		mg/Kg		91	80 - 120		

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 500-206556-1 MS
Matrix: Solid
Analysis Batch: 624089

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 623871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	110		24.5	198	4	mg/Kg		349	75 - 125		

Lab Sample ID: 500-206556-1 MSD
Matrix: Solid
Analysis Batch: 624089

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 623871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	110		24.6	192	4	mg/Kg		321	75 - 125	3	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-624276/1-A
Matrix: Solid
Analysis Batch: 624306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624276

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<20		20		mg/Kg		10/19/21 10:35	10/19/21 13:34	1

Lab Sample ID: LCS 500-624276/2-A
Matrix: Solid
Analysis Batch: 624306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624276

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			200	197		mg/Kg		98	85 - 115		

Lab Sample ID: 500-206556-1 MS
Matrix: Solid
Analysis Batch: 624306

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 624276

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	41		193	226		mg/Kg		96	75 - 125		

QC Sample Results

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-206556-1 MSD
Matrix: Solid
Analysis Batch: 624306

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 624276

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	41		193	225		mg/Kg		95	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-624255/1-A
Matrix: Solid
Analysis Batch: 624342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624255

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<1.0		1.0		mg/Kg		10/19/21 08:55	10/19/21 15:00	1

Lab Sample ID: LCS 500-624255/2-A
Matrix: Solid
Analysis Batch: 624342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624255

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			100	93.7		mg/Kg		94	80 - 120		

Lab Sample ID: 500-206556-1 MS
Matrix: Solid
Analysis Batch: 624342

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 624255

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	<0.99		49.5	40.7		mg/Kg		81	75 - 125		

Lab Sample ID: 500-206556-1 MSD
Matrix: Solid
Analysis Batch: 624342

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 624255

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.99		49.6	39.9		mg/Kg		79	75 - 125	2	20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: M. Ress	Lab PM Mockler Diana J	Carrier Tracking No(s)	COC No 500-95707-42336 1
Client Contact: Cory Higgins	Phone 630.602.7240	E-Mail Diana Mockler@Eurofinset com	State of Origin	Page Page 1 of 1
Company: KPRG and Associates Inc	PWSID	**Analysis Requested**		Job #: 500-206556

Address 414 Plaza Drive Suite 106	**Due Date Requested**
City: Westmont	**TAT Requested (days):**
State Zip IL 60559	**Compliance Project:** Δ Yes Δ No
Phone 779-279-2321(Tel)	PO # 4502041043
Email coryh@KPRGinc com	WO #
Project Name Ash Sample	Project #. 50011609
Site Illinois	SSOW#

500-206556 COC

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other

Sample Identification	**Sample Date**	**Sample Time**	**Sample Type** (C=comp, G=grab)	**Matrix** (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0 904.0	Ra226Ra228_GFPC - Combined Rad 226/228	4500_F_C 6010B 7471A, 9056A, Moisture SM4500_Cl_E	Total Number of containers	**Special Instructions/Note**
				Preservation Code	X	X	N	N	N	X	
1 1-Pond 2S CCR	10/11/21	11:30	C	Solid			X	X	X		• See attached
2-Pond 2S CCR	↓	11:35	C	↓			↓	↓	↓		list
3-Pond 2S CCR	↓	11:40	C								
											• CCR appendix 3 & 4
											• Rush turn-around
											• Contact Josh Davenport w/ questions 262-781-0475

Possible Hazard Identification
☐ *Non Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements ~~Rush turn-around~~

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by: Michael Ress	Date/Time 10/11/21 13:00	Company KPRG	Received by:	Date/Time 10/11/21@1300	Company ETA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks 155

Table 1 Ash Parameter List

Parameter
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Chloride
Chromium
Cobalt
Combined Radium 226 + 228 (pCi/L)
Fluoride
Lead
Lithium
Mercury
Molybdenum
pH (standard units)
Selenium
Sulfate
Thallium
Calcium

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-206556-1

Login Number: 206556

List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	15.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client Sample ID: Pond 2S CCR

Lab Sample ID: 500-206556-1

Date Collected: 10/11/21 11:30

Matrix: Solid

Date Received: 10/11/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			624269	10/19/21 09:55	BDE	TAL CHI
Total/NA	Analysis	6010B		1	624447	10/19/21 20:46	DAJ	TAL CHI
Total/NA	Prep	3050B			624269	10/19/21 09:55	BDE	TAL CHI
Total/NA	Analysis	6010B		5	624556	10/20/21 13:33	JJB	TAL CHI
Total/NA	Prep	7471A			623515	10/14/21 16:30	MJG	TAL CHI
Total/NA	Analysis	7471A		1	623708	10/15/21 09:31	MJG	TAL CHI
Total/NA	Prep	300_Prep			623871	10/18/21 11:20	EAT	TAL CHI
Total/NA	Analysis	9056A		5	624089	10/18/21 21:21	EAT	TAL CHI
Total/NA	Analysis	Moisture		1	623031	10/12/21 09:09	LWN	TAL CHI
Total/NA	Prep	300_Prep			624276	10/19/21 10:35	RES	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	624306	10/19/21 13:34	RES	TAL CHI
Total/NA	Prep	300_Prep			624255	10/19/21 08:55	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	624342	10/19/21 15:08	EAT	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200 eurofins | Environment Testing America

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9
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11
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13

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-206556-2
Client Project/Site: Will County Ash Sample

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
11/24/2021 8:38:58 AM

Diana Mockler, Project Manager I
(219)252-7570
Diana.Mockler@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-2

Job ID: 500-206556-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-206556-2

Comments
No additional comments.

Receipt
The sample was received on 10/11/2021 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 15.5º C.

RAD
Method 903.0: Radium 226 batch 532819
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Pond 2S CCR (500-206556-1), (LCS 160-532819/1-A), (MB 160-532819/4-A) and (500-206556-B-1-B DU)

Method DPS-0: The sample results for Pond 2S CCR (500-206556-1) and (500-206556-B-1 DU) are based upon sample as received (i.e. wet weight).

Method DPS-0:

Method DPS-21: The sample results for Pond 2S CCR (500-206556-1) and (500-206556-B-1 DU) are based upon sample as received (i.e. wet weight).

Method DPS-21:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
DPS-0	Preparation, Digestion/ Precipitate	None	TAL SL
DPS-21	Preparation, Digestion/Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency
None = None
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-206556-1	Pond 2S CCR	Solid	10/11/21 11:30	10/11/21 13:00

Client Sample ID: Pond 2S CCR

Date Collected: 10/11/21 11:30
Date Received: 10/11/21 13:00

Lab Sample ID: 500-206556-1

Matrix: Solid

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.847**		0.145	0.164	1.00	0.0956	pCi/g	10/20/21 11:24	11/17/21 10:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*10/20/21 11:24*	*11/17/21 10:57*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.460**		0.247	0.250	1.00	0.370	pCi/g	10/22/21 14:32	11/01/21 14:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*10/22/21 14:32*	*11/01/21 14:56*	*1*
Y Carrier	*83.4*		*40 - 110*	*10/22/21 14:32*	*11/01/21 14:56*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.31**		0.29	0.30	5.00	0.370	pCi/g		11/23/21 21:56	1

Definitions/Glossary

Client: KPRG and Associates, Inc. Job ID: 500-206556-2
Project/Site: Will County Ash Sample

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-2

Rad

Prep Batch: 532819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	DPS-21	
MB 160-532819/4-A	Method Blank	Total/NA	Solid	DPS-21	
LCS 160-532819/1-A	Lab Control Sample	Total/NA	Solid	DPS-21	
500-206556-1 DU	Pond 2S CCR	Total/NA	Solid	DPS-21	

Prep Batch: 533200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-206556-1	Pond 2S CCR	Total/NA	Solid	DPS-0	
MB 160-533200/4-A	Method Blank	Total/NA	Solid	DPS-0	
LCS 160-533200/1-A	Lab Control Sample	Total/NA	Solid	DPS-0	
500-206556-1 DU	Pond 2S CCR	Total/NA	Solid	DPS-0	

QC Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County Ash Sample

Job ID: 500-206556-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-532819/4-A
Matrix: Solid
Analysis Batch: 537097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 532819

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01564	U	0.0963	0.0963	1.00	0.186	pCi/g	10/20/21 11:24	11/17/21 10:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*49.0*		*40 - 110*	*10/20/21 11:24*	*11/17/21 10:58*	*1*

Lab Sample ID: LCS 160-532819/1-A
Matrix: Solid
Analysis Batch: 537097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 532819

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.67		1.15	1.00	0.152	pCi/g	94	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*58.3*		*40 - 110*

Lab Sample ID: 500-206556-1 DU
Matrix: Solid
Analysis Batch: 537097

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 532819

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.847			0.7588		0.151	1.00	0.0875	pCi/g			0.28	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*108*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-533200/4-A
Matrix: Solid
Analysis Batch: 534585

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 533200

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2167	U	0.496	0.496	1.00	0.851	pCi/g	10/22/21 14:32	11/01/21 14:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*49.0*		*40 - 110*	*10/22/21 14:32*	*11/01/21 14:57*	*1*
Y Carrier	*78.9*		*40 - 110*	*10/22/21 14:32*	*11/01/21 14:57*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-533200/1-A
Matrix: Solid
Analysis Batch: 534585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 533200

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.19	10.73		1.39	1.00	0.690	pCi/g	117	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*58.3*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: 500-206556-1 DU
Matrix: Solid
Analysis Batch: 534585

Client Sample ID: Pond 2S CCR
Prep Type: Total/NA
Prep Batch: 533200

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.460			0.5443		0.244	1.00	0.342	pCi/g			0.17	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*108*		*40 - 110*
Y Carrier	*83.7*		*40 - 110*

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: M. Ress	Lab PM Mockler Diana J	Carrier Tracking No(s)	COC No 500-95707-42336 1
Client Contact: Cory Higgins	Phone 630.602.7240	E-Mail Diana Mockler@Eurofinset com	State of Origin	Page Page 1 of 1
Company: KPRG and Associates Inc	PWSID	**Analysis Requested**		Job #: 500-206556

Address
414 Plaza Drive Suite 106

City:
Westmont

State Zip
IL 60559

Phone
779-279-2321(Tel)

Email
coryh@KPRGinc com

Project Name
Ash Sample

Site
Illinois

500-206556 COC

Due Date Requested

TAT Requested (days):

Compliance Project: Δ Yes Δ No

PO #
4502041043

WO #

Project #:
50011609

SSOW#

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0 904.0	Ra226Ra228_GFPC - Combined Rad 226/228	4500_F_C 6010B 7471A, 9056A, Moisture SM4500_Cl_E	Total Number of containers	Special Instructions/Note
			Preservation Code		☒	☒	N	N	N	☒	
1-Pond 25 CCR	10/11/21	11:30	C	Solid			X	X	X		• See attached list
2-Pond 25 CCR	↓	11:35	C	↓			↓	↓	↓		
3-Pond 25 CCR	↓	11:40	C								
											·CCR appendix 3+4
											· Rush turn-around
											· Contact Josh Davenport w/ questions 262-781-0475

Possible Hazard Identification
☐ *Non Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements ~~Rush turn-around~~

Empty Kit Relinquished by		Date	Time		Method of Shipment:
Relinquished by: Michael Ress	Date/Time 10/11/21 13:00	Company KPRG	Received by:	Date/Time 10/11/21@1300	Company ETA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No

Cooler Temperature(s) °C and Other Remarks 155

Table 1 Ash Parameter List

Parameter
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Chloride
Chromium
Cobalt
Combined Radium 226 + 228 (pCi/L)
Fluoride
Lead
Lithium
Mercury
Molybdenum
pH (standard units)
Selenium
Sulfate
Thallium
Calcium

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-153240.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Diana.Mockler@Eurofinset.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-206556-2
Address: 13715 Rider Trail North, ,	**Due Date Requested:** 11/14/2021			
City: Earth City	**TAT Requested (days):**			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/DPS_21 Radium 226	904.0/DPS_0 Radium 228	Ra226Ra228_GFPC/ Combined Rad 226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
Pond 2S CCR (500-206556-1)	10/11/21	11:30 Central		Solid			X	X	X	2	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: Shari Scott	Date/Time: 10/11/21 1415	Company ETA-CHI	Received by: FED EX --		Date/Time:	Company
Relinquished by: FED EX	Date/Time:	Company	Received by: Micha Kemminger		Date/Time: OCT 12 2021 09:05	Company ETA STL
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company
Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

13 12 11 10 9 8 7 6 5 4 3 2 1

1 2 3 4 5 6 7 8 9 10 11 12 13

CONDITION UPON RECEIPT FORM

Client: Chicago

Initiated by: AJ Date: 10-12-21 Time: 0905 Shipper: FE Package Quantity: 1

Completed by:________

Sample must be received at < 6°C for Wet Chem and Mercury. If not, note temp below.
Metal soil samples must be refrigerated upon receipt.
If samples are from West Virginia, please fill out form ADMIN-0031.

Thermometer ID (°C): **IR-2**

Thermometer CF (°C): **+0.7**

	Shipping #(s)	**Package Temp (°C)**	**Document #:**
1.	1893 4453 7040	20.1	
2.			
3.			
4.			
5.			
6.			
7.			

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	[✓ Y] N	Are there custody seals present on the cooler?	8.	Y [✓ N]	Are there custody seals present on bottles?
2.	Y [✓ N] N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N [✓ N/A]	Do custody seals on bottles appear to be tampered with?
3.	[✓ Y] N	Were contents of cooler frisked after opening, but before unpacking?	10.	[✓ Y] N N/A	Was sample received with proper pH[1]? (If not, make note below) pH strip lot #: HC157842
4.	[✓ Y] N	Sample received with Chain of Custody?	11.	Y N [✓ N/A]	Containers for Rn-222, C-14, Cl-36, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	[✓ Y] N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	[✓ Y] N	Sample received in proper containers?
6.	Y [✓ N]	Was sample received broken?	13.	Y N [✓ N/A]	Headspace in VOA, or Rn-222 liquid samples? (>6mm) (If Yes, note sample ID's below)
7.	[✓ Y] N	Is sample volume sufficient for analysis?	14.	Y N [✓ N/A]	Soil containers for C-14, H-3, Tc-99 & I-129/131 marked with "Do Not Dry" label?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, Rn-222 and soils.

Notes:

pH Adjustment (if needed)	Date/Time of Preservation:
Initial pH and pH strip lot#:	Preservative and lot#:
Final pH and pH strip lot#:	Amount of Preservative:

Page **1** of **1**

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-206556-2

Login Number: 206556
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	**Answer**	**Comment**
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	15.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-206556-2

Login Number: 206556
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/12/21 06:19 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Client Sample ID: Pond 2S CCR

Lab Sample ID: 500-206556-1

Date Collected: 10/11/21 11:30

Date Received: 10/11/21 13:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	DPS-21			532819	10/20/21 11:24	SJS	TAL SL
Total/NA	Analysis	903.0		1	537097	11/17/21 10:57	ANW	TAL SL
Total/NA	Prep	DPS-0			533200	10/22/21 14:32	BMP	TAL SL
Total/NA	Analysis	904.0		1	534585	11/01/21 14:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	538415	11/23/21 21:56	EMH	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Method: 903.0 - Radium-226 (GFPC)

Matrix: Solid **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
500-206556-1	Pond 2S CCR	108
500-206556-1 DU	Pond 2S CCR	108
LCS 160-532819/1-A	Lab Control Sample	58.3
MB 160-532819/4-A	Method Blank	49.0

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Solid **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-206556-1	Pond 2S CCR	108	83.4
500-206556-1 DU	Pond 2S CCR	108	83.7
LCS 160-533200/1-A	Lab Control Sample	58.3	83.4
MB 160-533200/4-A	Method Blank	49.0	78.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

ATTACHMENT 3
CHEMICAL CONSTITUENTS ANALYSIS OF OTHER WASTE STREAMS

Attachment 3 – No Attachment

ATTACHMENT 4
LOCATION STANDARDS DEMONSTRATION

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

PLACEMENT ABOVE THE UPPERMOST AQUIFER LOCATION RESTRICTION
PONDS 1N AND 1S
WILL COUNTY STATION
MARCH 2022

This location restriction determination has been prepared in accordance with 35 Ill. Adm. Code Subpart C, Section 845.310 for the existing South Ash Pond 1N and South Ash Pond 1S at the Will County Station in Romeoville, Illinois to document compliance with location restrictions related to placement above the uppermost aquifer for the.

1. Placement Location Restriction Determination

The base of Pond 1N is approximately elevation 582.5 ft amsl and the upper limit groundwater elevation in the monitoring wells surrounding Pond 1N (MW-01, MW-02, MW-07, MW-14, and MW-15) is 584.11 ft amsl. Pond 1N is not separated from the upper limit of the uppermost aquifer by a minimum of five (5) feet. Therefore, the location of Pond 1N does not comply with the requirements outlined in 845.300.

The base of Pond 1S is approximately elevation 582.5 ft amsl and the upper limit groundwater elevation in the monitoring wells surrounding Pond 1S (MW-03, MW-04, MW-08, and MW-13) is 584.51 ft amsl. Pond 1S is not separated from the upper limit of the uppermost aquifer by a minimum of five (5) feet. Therefore, the location of Pond 1S does not comply with the requirements outlined in 845.300.

2. Professional Engineer's Certification

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of environmental engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants

JOSHUA D. DAVENPORT
062-061945

Joshua Davenport, P.E.
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KPRG

ENVIRONMENTAL CONSULTATION & REMEDIATION

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WETLANDS LOCATION RESTRICTION
SOUTH ASH PONDS 1N AND 1S
WILL COUNTY STATION
MARCH 2022

This location restriction determination has been prepared in accordance with 35 Ill. Adm. Code Subpart C, Section 845.310 for Pond 1N and Pond 1S at the Will County Station (Site) in Romeoville, Illinois to document compliance with location restrictions related to wetlands.

1. Wetlands Location Restriction Determination

In accordance with 845.310, an existing CCR surface impoundment must not be located in wetlands, unless it can be demonstrated that the CCR unit meets the requirements of paragraphs 845.310(a)(1) through 845.310(a)(5). The identification of wetlands near Pond 1N and Pond 1S was determined using the National Wetlands Inventory (NWI) presented by the U.S. fish and Wildlife Service. The NWI identified Pond 1N and Pond 1S are not located in mapped wetlands. Therefore, the location of Pond 1N and Pond 1S complies with the requirements outlined in §845.310.

2. Limitations and Certification

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of environmental engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.

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3. Reference

U.S. Fish and Wildlife Service, 2022. "National Wetlands Inventory," https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper, accessed March 18, 2022.

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ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

FAULT AREAS LOCATION RESTRICTION
POND 1N AND POND 1S
WILL COUNTY STATION
MARCH 2022

This location restriction determination has been prepared in accordance with 35 Ill. Adm. Code Subpart C, Section 845.320 for the existing Pond 1N and Pond 1S at the Will County Station, operated by Midwest Generation, LLC (Midwest Generation), in Romeoville, Illinois to document compliance with location restrictions related to fault areas.

1. Fault Areas Location Restriction Determination

Pond 1N and Pond 1S are not located within 200 feet (60 meters) of a mapped Holocene-aged fault, as mapped by the United States Geological Survey (USGS) Quaternary Fault Database. Therefore, the locations of Pond 1N and Pond 1S comply with the requirements outlined in §845.320.

2. Professional Engineer's Certification

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of environmental engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.

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3. References

U.S. Geological Survey and Illinois State Geological Survey, Quaternary Fault and Fold Database for the United States, accessed March 19, 2022, at https://www.usgs.gov/natural-hazards/earthquake-hazards/faults.

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SEISMIC IMPACT ZONES LOCATION RESTRICTION
PONDS 1N AND 1S
WILL COUNTY STATION
MARCH 2022

This location restriction determination has been prepared in accordance with 35 Ill. Adm. Code Subpart C, Section 845.320 for Pond 1N and Pond 1S at the Will County Station in Romeoville, operated by Midwest Generation, LLC (Midwest Generation), in Pekin, Illinois to document compliance with location restrictions related to seismic impact zones.

1. Seismic Impact Zones Location Restriction Determination

Pond 1N and Pond 1S are not located within a seismic impact zone as defined in §845.320 and as mapped by the United States Geological Survey (USGS). Therefore, the locations of Pond 1N and Pond 1S comply with the requirements outlined in §845.320.

2. Professional Engineer's Certification

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of environmental engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.

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3. References

U.S. Geological Survey, 2018. Earthquake Hazards Program, "National Seismic Hazard Tool," https://www.earthquake.usgs.gov/hazards/interactive/, accessed March 19, 2022.

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ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, Inc.

UNSTABLE AREAS AND FLOODPLAINS LOCATION RESTRICTIONS
PONDS 1N AND 1S
WILL COUNTY STATION
MARCH 2022

This location restriction determination has been prepared in accordance with 35 Ill. Adm. Code Subpart C, Section 845.340 for Pond 1N and Pond 1S at the Will County Station, operated by Midwest Generation, LLC (Midwest Generation), in Romeoville, Illinois, to document compliance with location restrictions related to unstable areas.

1. Unstable Areas Location Restriction Determination

Pond 1N and Pond 1S are not located in unstable areas based on a review of subsurface investigations at the site (KPRG, 2005) and a site visit by KPRG. Therefore, the locations of Pond 1N and Pond 1S comply with the requirements outlined in §845.340.

2. Floodplains Location Restriction Determination

Pond 1N and Pond 1S are not located in a floodplain with a 1% chance or greater of occurring according to the National Flood Hazard Layer FIRMette Map No. 17197C0065G as mapped by the Federal Emergency Management Agency. The 1% flood elevation listed on FIRMette Map No. 17197C0065G is 583-584 ft above mean sea level (amsl) and the embankment crest of Pond 1N and Pond 1S is 590.5 ft amsl. Therefore, the locations of Pond 1N and Pond 1S comply with Section 845.340.

3. Professional Engineer's Certification

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of environmental engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.

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4. Reference

Federal Emergency Management Agency (FEMA), 2020, *National Flood Hazard Layer FIRMette 17179C0175E*, 22 September 2021. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd.

ATTACHMENT 5
PERMANENT MARKERS DOCUMENTATION

Photo documentation –Pond 1N and Pond 1S Signage. Will County Generating Station, Romeoville, IL.

1. Pond 1N Posted IEPA ID Sign

2. Pond 1S Posted IEPA ID Sign

ATTACHMENT 6
INCISED/SLOPE PROTECTION DOCUMENTATION

Photo documentation – Pond 1N and Pond 1S Slope Stabilization – Will County Generating Station, Romeoville, IL.


1. Pond 1N East side


2. Pond 1N East side


3. Pond 1N north side


4. Pond 1N north side


5. Pond 1N south side


6. Pond 1N west side

7. Pond 1S east side

8. Pond 1S north side

9. Pond 1S south side

10. Pond 1S west side

ATTACHMENT 7
EMERGENCY ACTION PLAN

EMERGENCY ACTION PLAN
ASH PONDS 1N, 1S, 2S, AND 3S
WILL COUNTY STATION
OCTOBER 2021

The Emergency Action Plan (EAP) was initially prepared by Civil & Environmental Consultants, Inc. (CEC) pursuant to 40 CFR 257.73(a)(3) for Pond 2S and Pond 3S at the Midwest Generation, LLC (MWG) Will County Station (Station) in Romeoville, Illinois. This EAP has been revised to comply with 35 Ill. Adm. Code Part 845, Subpart E, §845.520(b)(3) by revising the code references and including Ponds 1N and Ponds 1S. This EAP encompasses Ponds 1N, 1S, 2S, and 3S (the Ponds) at the Station. Previous assessments performed in accordance with §257.73(a)(2) have identified Pond 2S and Pond 3S as significant hazard potential Coal Combustion Residual (CCR) surface impoundments and a previous assessment performed in accordance with 845.440 classified Pond 1N and Pond 1S as Class 2 CCR surface impoundments. As a result, this written EAP has been prepared to address the potential failure of the Ponds. The EAP is presented as follows:

Section 1.0: §845.520(b)(1) Definition of the events or circumstances involving the CCR surface impoundments that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

Section 2.0: §845.520(b)(2) Definition of the responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR surface impoundments;

Section 3.0: §845.520(b)(3) Contact information of emergency responders;

Section 4.0: §845.520(b)(4) Provide maps which delineate the downstream areas which would be affected in the event of a pond failure and a physical description of the CCR surface impoundments;

Section 5.0: §845.520(b)(5) Include provisions for an annual face-to-face meeting or exercise between representatives of the Will County Station and the local emergency responders; and

Section 6.0: §845.520(e) The owner or operator of the CCR surface impoundments must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of Section 845.520.

1.0 DEFINITION OF THE EVENTS THAT REPRESENT A SAFETY EMERGENCY

In accordance with Section 845.520(b)(1), the following tables define the events and/or circumstances involving Ponds 1N, 1S, 2S, and 3S that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner.

The information provided in the Tables 1 through 4 provides a listing of problems which may occur at the Ponds, how to make a rapid evaluation of the problem, and what action should be taken in response to the problem. This section presents only generalized information to aid in first response to a given problem. Suspected problems should be reported as soon as possible, as discussed in Section 2.0, and assistance from a qualified engineer should be obtained if necessary.

The problems outlined in this Section are related to above grade, earthen type embankment dams similar in construction to Ponds 1N, 1S, 2S, and 3S. The problems discussed herein include:

- Table 1: Seepage
- Table 2: Sliding
- Table 3: Cracking
- Table 4: Animal Burrows and Holes

For each problem, the indicators are discussed followed by evaluation techniques and then by action items for each problem.

2.0 RESPONSIBLE PERSONS, RESPECTIVE RESPONSIBILITIES, AND NOTIFICATION PROCEDURES

The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person. In accordance with §845.520(b)(2), the following sections define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving Ponds 1N, 1S, 2S, and 3S. Contact information is provided in Table 5.

2.1 Responsible Persons and Responsibilities

Appropriate parties will be notified based on the nature and severity of the incident as determined by the Station Environmental Specialist or Chemical Specialist. If failure is imminent or has occurred, notification and mitigation procedures are a top priority, particularly for a potentially hazardous situation. The Station Environmental Specialist or Chemical Specialist, in conjunction with the Station Director, is responsible for this determination.

2.2 Notification Sequence

The following notification procedures shall be used by employees in the event of a safety emergency with the Ponds.

(1) Notify the Shift Supervisor and Environmental Specialist, Chemical Specialist, or alternate.

(2) If unsafe conditions exist, the employee should evacuate the area.

(3) Only the Environmental Specialist, Chemical Specialist or designated alternate shall have any official communication with non-employees and regulatory agencies, and only the Communications Director shall have any contact with the media.

The Environmental Specialist, Chemical Specialist, or designated alternate should follow these procedures in the event of a safety emergency involving Ponds 1N, 1S, 2S, and 3S:

(1) Organize appropriately trained Station personnel and/or other employees or contractors as necessary to assist with the safety emergency.

(2) After consultation with appropriately trained Station personnel, contact the proper civil authorities (e.g., fire, police, etc.) if necessary. Notify the appropriate agencies where there has been a reportable release of material(s) into the environment. See Table 5, attached for contact information. Notify MWG Corporate via the Intelex online notification system within 24 hours in the event of a reportable release. A reportable release is a Material Release defined as a spill or leak that materialized in the waterway. A Non-Material Release is a spill or leak that did not come into contact with the waterway.

(3) Be prepared to evacuate the potential inundation area at any time during the safety emergency response.

(4) If the emergency is beyond the Facility's response capabilities, contact one or more emergency response contractors as necessary.

(5) Corrective actions should only be performed by properly trained individuals.

2.3 Emergency Responders Contact Information

In accordance with §845.520(b)(3), Table 5, provides contact information of emergency responders. The Station Environmental Specialist, Chemical Specialist, or alternate will determine who to notify, including any affected residents and/or businesses, in the case of an imminent or actual CCR surface impoundment dam failure. The Station Environmental Specialist, Chemical Specialist, or alternate will ensure proper notifications are made.

Appropriate contractors will be utilized to assist the Station Environmental Specialist, Chemical Specialist, or alternate with mitigated actions being undertaken in order to minimize the impact of an event that has occurred. Contact information for contractors and consultants are provided in Table 5.

3.0 SITE MAP AND A SITE MAP DELINEATING THE DOWNSTREAM AREA

In accordance with §845.520(b)(4), the following section provides a physical description of Ponds 1N, 1S, 2S, and 3S. A Site Map showing Ponds 1N, 1S, 2S, and 3S is provided as Figure 1. Drawings depicting the locations of, and the downstream areas affected by, a potential failure of Ponds 2S and 3S were prepared by Geosyntec in October 16, 2016 and are provided in Appendix A. Drawings depicting the locations of, and the downstream areas affected by, a potential failure of Ponds 1N and 1S were prepared by CEC in September 2021 and are provided in Appendix B.

3.1 Basin Locations and Descriptions

The Site is bound between the Des Plaines River on the west and the Chicago Sanitary and Ship Canal on the east. The Ponds are located along the eastern bank of the Des Plaines River and west of the substation area and the Main Power Block Building.

From our observations and review of construction and engineering documentation provided by MWG, the Ponds were constructed with elevated earthen berms or embankments. Run-on is limited to precipitation contained within the earthen berm. Physical characteristics of the Ponds are provided in Table 6.

3.2 Delineation of Downstream Areas

The potential impacts from the failure of Pond 2S and 3S were evaluated and reported by Geosyntec in the Hazard Potential Classification Assessment (HPCA), dated October 2016. A copy of the HPCA is contained on the CCR Rule Compliance Data and Information web site (http://www.nrg.com/legal/coal-combustion-residuals/).

Results of the HPCA indicate that both Ponds 2S and 3S are classified as significant hazard potential CCR surface impoundments. The evaluation reports no loss of life resulting from failure of the Ponds 2S and 3S. However, potential failure during flood conditions could results in offsite economic or environmental impacts. Inundation Maps are provided in Appendix A.

The potential impacts from the failure of Ponds 1N and 1S were evaluated and reported by CEC in a separate HPCA, dated September 2021. A copy of the HPCA is contained on the Illinois CCR Rule Compliance Data and Information web site. (https://midwestgenerationllc.com/illinois-ccr-rule-compliance-data-and-information/).

Results of the HPCA indicate that both Ponds 1N and 1S are classified as Class 2 CCR surface impoundments. The evaluation reports no loss of life resulting from the failure of Ponds 1N and 1S. However, potential failure during flood conditions could result in offsite economic or environmental impacts. Inundation Maps are provided in Appendix B.

4.0 ANNUAL FACE-TO-FACE MEETING

In accordance with §845.520(b)(5), a face-to-face meeting or an exercise between representatives of Will County Station and the local emergency responders shall be offered and, if accepted, held on an annual basis. The purpose of the annual meeting is to review the EAP to assure that contacts, addresses, telephone numbers, etc. are current. The annual meeting will be held whether or not an incident occurred in the previous year.

In the event an incident occurs, the annual meeting date may be moved up in order to discuss the incident closer to the date of occurrence. If no incidents have occurred, the annual meeting will be held to inform local emergency responders on the contents of the EAP and changes from the previous year. Documentation of the annual face to face meeting will be recorded and placed in the operating record for the Station.

Pursuant to §845.520(d), the EAP requires modification whenever there is a change in conditions that would substantially affect the EAP in effect. Changes to the plan shall be made as appropriate, and a copy of the changes will be kept at the station, with the revised EAP placed in the facility's operating record. The written EAP must be evaluated, at a minimum, every five years to ensure the EAP is accurate with §845.520.

5.0 LIMITATIONS AND CERTIFICATION

The Pond 2S and the Pond 3S Emergency Action Plan (EAP) included as part of this operating permit application was initially prepared by Civil & Environmental Consultants, Inc. in April 2017 and was reviewed by KPRG for compliance with 35 Ill. Adm. Code 845.520(b). KPRG's review of the EAP is based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. This review neither accepts nor rejects the safety emergencies identified by CEC. The safety emergencies identified along with the responses are the product of CEC. KPRG has not altered the safety emergencies or the responses associated with each emergency. As part of the review process, the contact list included as part of the original Emergency Action Plan required being updated as well as adding Pond 1N and Pond 1S. As such, the Emergency Action Plan complies with 35 Ill. Adm. Code 845.520(b).

Signature: ______________________________

Name: Joshua D. Davenport, P.E.

Date of Certification: 10/29/2021

Illinois Professional Engineer No.: 062.061945

License Expires: 11/30/2021

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TABLES

Table 1: Ponds 1N, 1S, 2S, and 3S
Event Definition, Evaluation and Action: Seepage

Definition	Evaluation	Action
1A: Wet area on downstream embankment slope or other area downstream of the embankment, with very little or no surface water or very minor seeps.	1B: Condition may be caused by infiltration of rain water, which is not serious; or may be the start of a serious seepage problem, which would be indicated by a quick change to one of the conditions below.	1C: No immediate action required. Note the location for future comparison.
2A: Same wet area as above, with moderate seeps of clear or relatively clear water and the rate of flow not increasing.	2B: Measure the flow periodically and note changes in clarity.	2C: No immediate action required. Note the location, flow rate, and clarity for future comparison. During reservoir flood stages, the seepage area should be watched for changes.
3A: Same wet area as above, with moderate seeps of clear or relatively clear water and rate of flow increasing.	3B: Measure the flow periodically and note changes in clarity. Inspect downstream area for new seeps.	3C: Contact a qualified engineer for immediate inspection (see Table 5). Observe the condition constantly for further changes in flow rate or clarity, unless notified otherwise by the engineer.
4A: Piping (seepage with the removal of materials from the foundation or embankment), moderate to active flows of cloudy to muddy water.	4B: If the water is cloudy to muddy, and the rate of flow is increasing, this condition could lead to failure of the dam. If, along the piping, there is an upstream swirl (whirlpool) caused by water entering through the abutments of embankment, failure is imminent.	4C: Immediate action is necessary. Notify the appropriate agencies (see Table 5).
5A: Boils (soil particles deposited around a water exit forming a cone, varying from a few inches in diameter spaced 2 to 3 feet apart to isolated locations several feet in diameter in the floodplain downstream of the dam) may show the types of flow as noted above.	5B: Evaluation of the problem is the same as noted above for the various flow conditions, i.e., clear and constant, clear and increasing, and cloudy or muddy and increasing.	5C: Actions to be taken are essentially the same as those noted above.

Table 2: Ponds 1N, 1S, 2S, and 3S
Event Definition, Evaluation and Action: Sliding

Indicator	Evaluation	Action
1A: Movement of a portion of the embankment, either the upstream or downstream slope, toward the toe of the dam.	1B: Various degrees of severity of a slide require different responses. The first condition is that the slide does not pass through the crest and does not extend into the embankment for more than 5 ft., measured perpendicular to the slope	1C: For this condition, a qualified engineer should be consulted (see Table 5) before repairs are initiated to determine the cause of the slide and to recommend modifications to prevent future slides. The downstream side of the dam should be watched for the emergence of water, either through the slide or opposite the slide. If water is noted discharging, the area should be treated as a seepage location and monitored as noted above.
2A: Slide passes is the second condition.	2B: In this condition, the slide passes through the crest and that the reservoir elevation is more than 10 ft. below the lowered crest.	2C: Use the same actions as noted above, and notify the appropriate MWG personnel of the situation so they may be prepared to act if the condition worsens (see Table 5).
3A: Slide passes is also the third condition.	3B: In this condition, the slide passes through the crest and that the reservoir elevation is less than 10 ft. below the lowered crest.	3C: This condition is critical, and failure of the dam should be considered imminent. Notify the appropriate agencies (see Table 5).

Table 3: Ponds 1N, 1S, 2S, and 3S
Event Definition, Evaluation and Action: Cracking

Indicator	**Evaluation**	**Action**
1A: Cracks in the embankment can occur either in the longitudinal (along the length of the dam) or transverse (across the dam from upstream to downstream directions).	1B: Some cracking of the surface soils may occur when they become dry. This cracking is to be expected, and no further action is required.	1C: No further action is required**.**
2A: Longitudinal cracking can indicate the beginning of a slide or be an uneven settlement of the embankment.	2B: Monitor the crack for future changes, and contact a qualified engineer for assistance in the evaluation of the crack and recommended repairs.	2C: Contact a qualified engineer for assistance and recommendations (see Table 5).
3A: Transverse cracking can indicate uneven settlement or the loss of support below the crack. Such cracks usually occur over an outlet conduit, near the abutments, or in the taller portion of the embankment.	3B: Monitor the crack for future changes, and contact a qualified engineer for assistance in the evaluation of the crack and recommended repairs.	3C: Contact a qualified engineer for assistance and recommendations (see Table 5).

Table 4: Ponds 1N, 1S, 2S, and 3S
Event Definition, Evaluation and Action: **<u>Animal Burrows and Holes</u>**

Definition	**Evaluation**	**Action**
1A: Holes in the embankment, varying in size from about one inch in diameter to one foot in diameter caused by animals.	1B: If the holes do not penetrate through the embankment, the situation is usually not serious. Some animal holes will have soil pushed out around the hole in a circular fashion, which may look like a boil (crayfish or crawdad). Watch for the movement of water and soil particles from these holes to determine whether they are boils.	1C: Backfill as deeply as possible with impervious material. If rodents become a nuisance, an effective rodent control program, as approved by the Illinois Department of Natural Resources District Wildlife Biologist, should be implemented.

Table 5: Midwest Generation Will County Station CCR Surface Impoundment EAP Notification List
March 2022

Plant Contacts:

Name	Title	Contact Info
Mr. James Thorne	Health & Safety Specialist	(O) 815-207-5470 (C) 815-671-3397
Mr. Harrison Estepp	Chemical Specialist	(O) 815-207-5416 (C) 773-617-7515
Mr. Philip Raush	Station Director	(O) 815-372-4512 (C) 815-715-8532
Mr. Karl Kulpinski	Operations Manager	(O) 815-372-4515 (C) 815-315-2825
Mr. Don Fawcett	Maintenance Manager	(O) 815-372-4357 (C) 815-671-1060

Corporate Support:

Name	Title	Contact Info
Sharene Shealey	Director, Environmental	(C) 724-255-3220
Jill Buckley	Environmental Manager	(C) 724-448-9732
Tony Shea	Director - Environmental Compliance	(O) 609-524-4923 (C) 609-651-6478
David Schrader	Stations Communications Director (point of public contact)	(O) 267-295-5768 (C) 267-294-2860

Emergency Response Agencies:

Agency	Address	Contact Info
National Response Center (NRC) – US Army Corp of Engineers	Lockport Lock and Dam, Lockport, IL, Illinois River, Chicago Sanitary and Ship Canal 291.1 LDB	Phone: 800-424-8802 Emergency: 815-838-0536
Illinois Department of Natural Resources, Office of Water Resources	One Natural Resources Way, 2nd Floor Springfield, IL 62702-1271	8:30 a.m.-5:00 p.m. 217-785-3334
Illinois Emergency Management Agency (IEMA)	110 East Adams Springfield, IL 62701	800-782-7860
Illinois Environmental Protection Agency (IEPA)	Bureau of Water 1021 North Grand Avenue East Springfield, IL 62794	217-782-3637
Will County Emergency Management Agency Operations Center	302 N. Chicago Street Joliet, IL 60432	Phone: 815-740-8351 24-hour: 815-740-0911
Will County ETSB: Dispatches to Fire, Police and Emergency Medical services	302 N. Chicago Street Joliet, IL 60432	Emergency: 9-1-1 Non-Emergency: 815-740-8376
Lockport Township Police Department	1212 S. Farrell Road Lockport, IL 60441	Emergency: 9-1-1 Non-Emergency: 815-838-2131 Front Desk: 815-838-2132
Lockport Township Fire Department	19623 W. Renwick Road Lockport, IL 60441	Emergency: 9-1-1 Non-Emergency: 815-838-3287

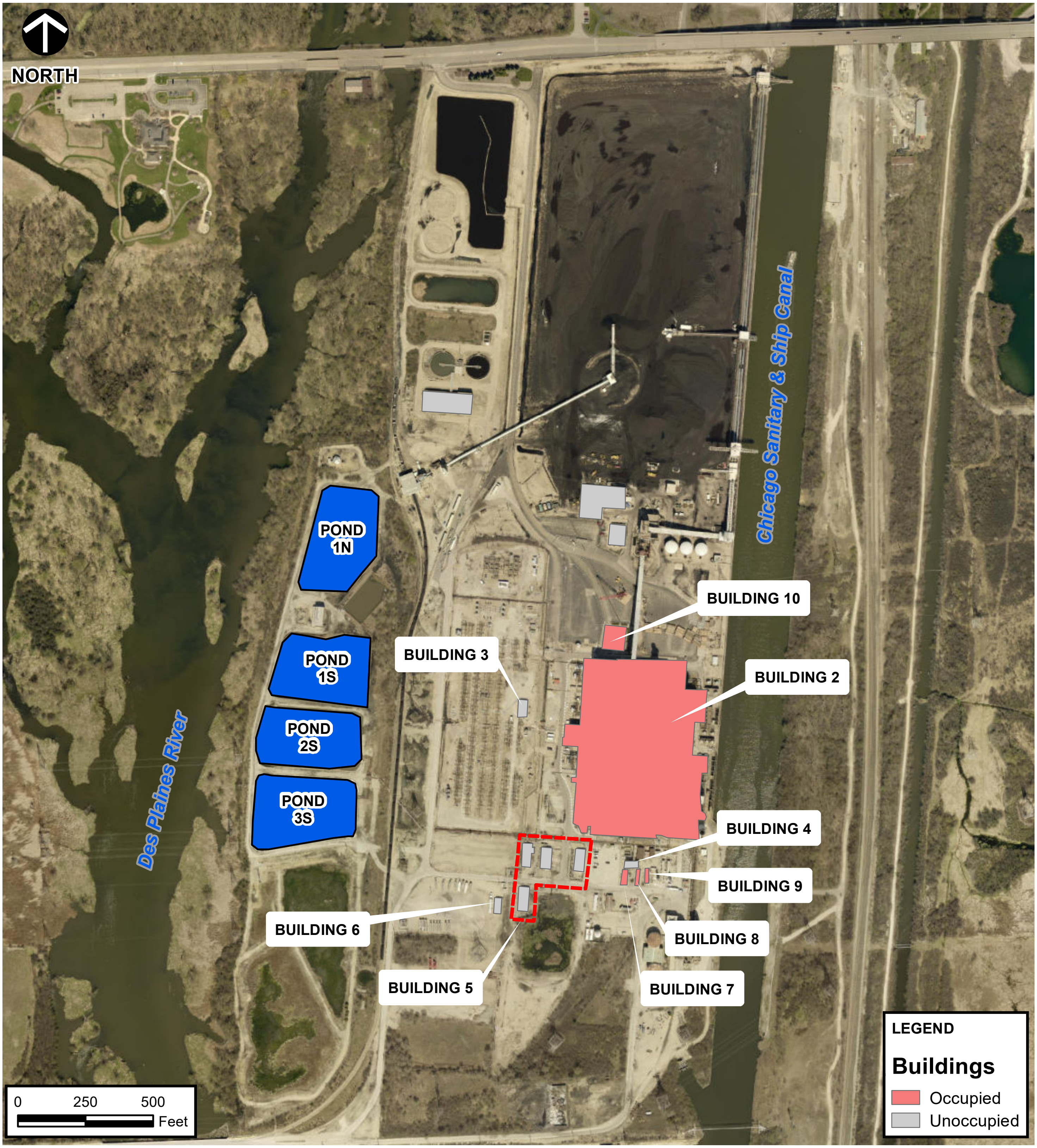
Environmental Response Contractors/Consultants:

Contractor/Consultant	Address	Contact Info
Civil & Environmental Consultants, Inc.	555 Butterfield Road, Suite 300 Lombard, IL 60148	630-963-6026
SET Environmental	450 Sumac Road Wheeling, IL 60090	847 850-1056 877-437-7455 (24-hr)

Table 6: Basin Characteristics

	Pond 1N	**Pond 1S**	**Pond 2S**	**Pond 3S**
Estimated Capacity (acre-feet)	14.06	12.63	13.2	15.1
Estimated Maximum Basin Depth (feet)	8	8	8	8.5

FIGURES



SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: 04/20/2019

Civil & Environmental Consultants, Inc.
1230 East Diehl Road, Suite 200 - Naperville, IL 60563
630-963-6026 - 800-759-5614
www.cecinc.com

MIDWEST GENERATION, LLC
HAZARD POTENTIAL
CLASSIFICATION ASSESSMENT
POND 1N AND POND 1S
WILL COUNTY, IL

SITE MAP

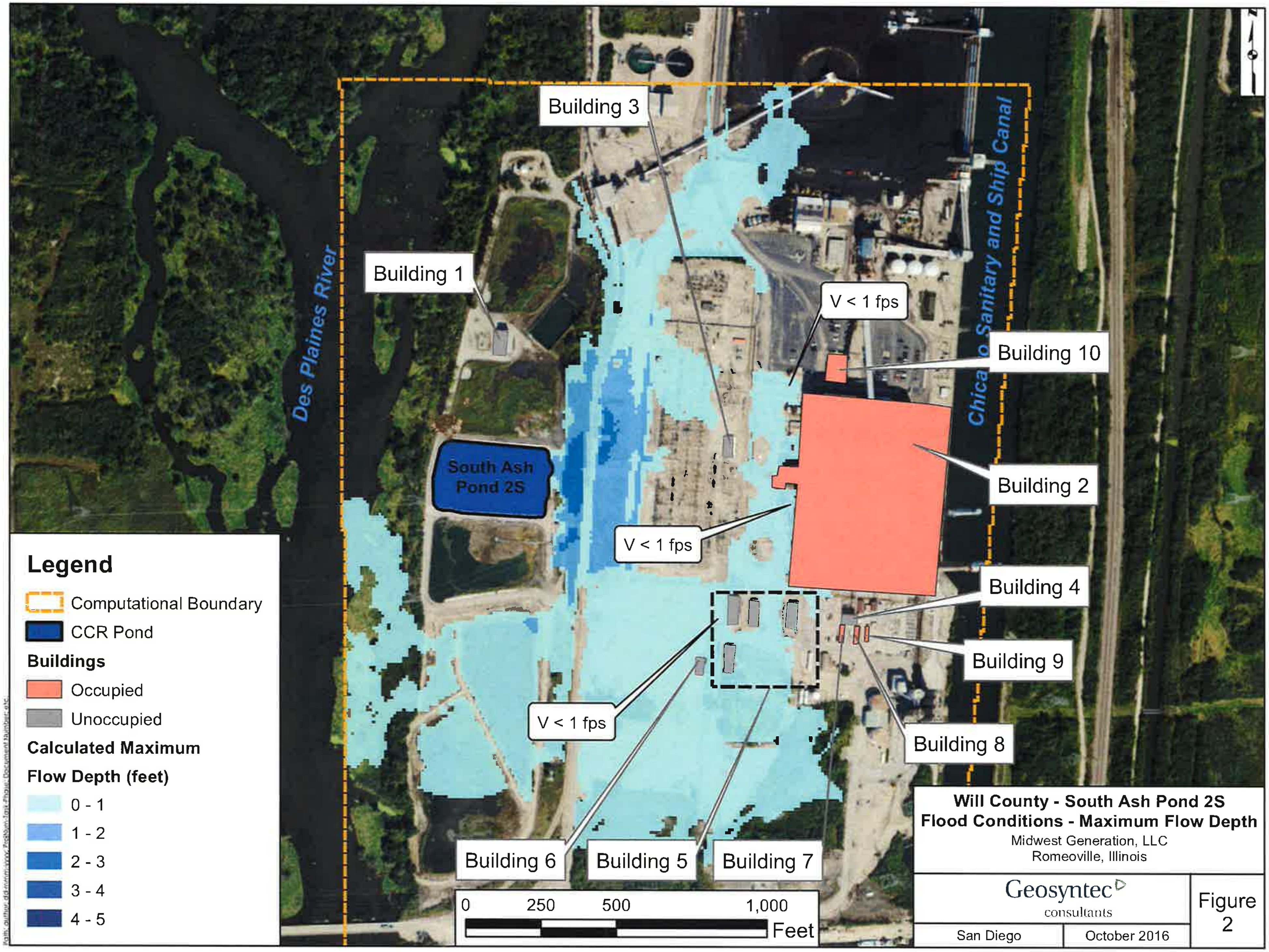
DRAWN BY: CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	1
DATE: SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

\\SHONIGFORD\Share\312-192\GIS\312-192 WR01 Site Map.mxd - 9/23/2021 - 8:57:27 AM (shonigford)

APPENDIX A

GEOSYNTEC HPCA INUNDATION MAPS



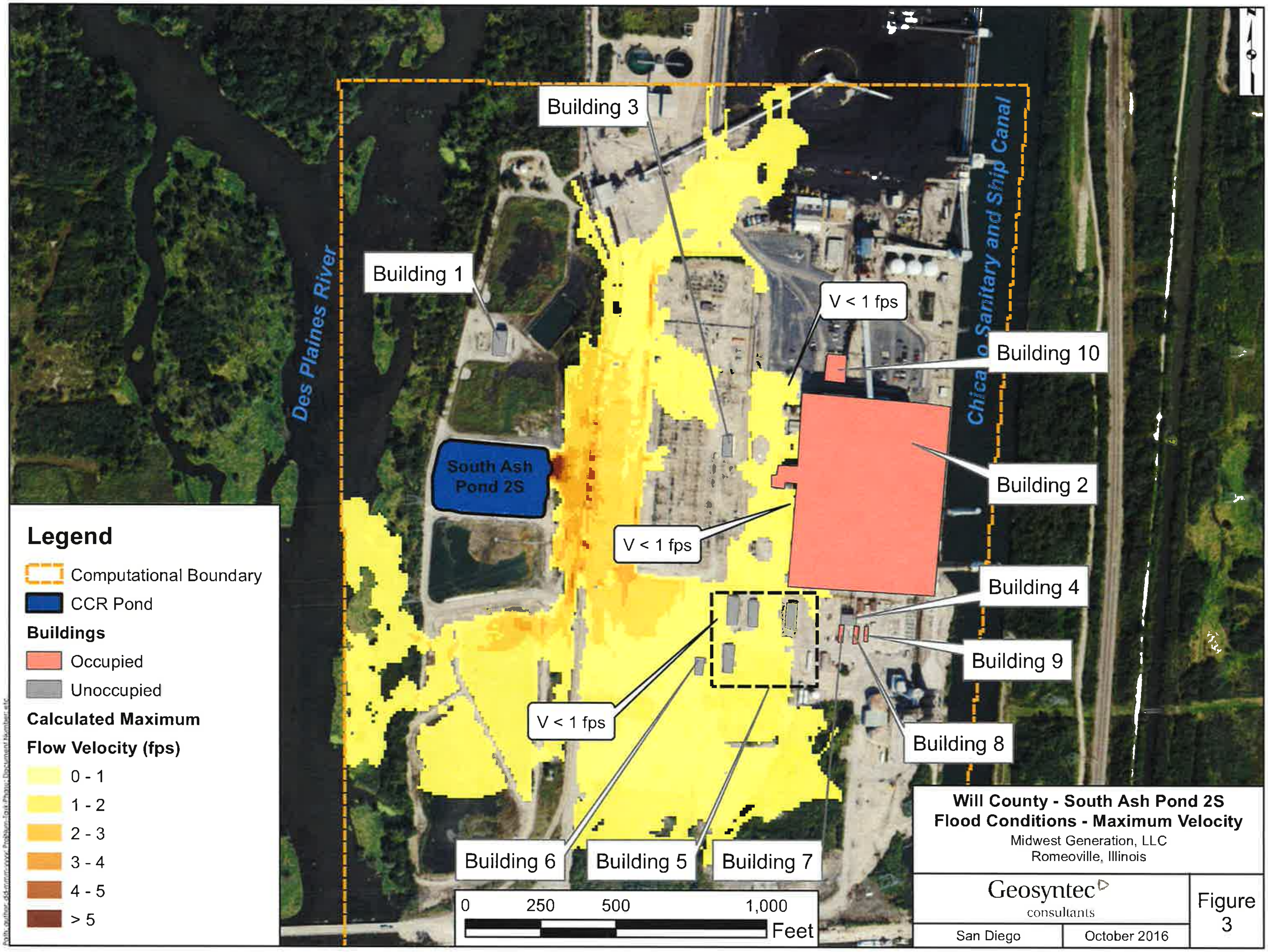
Will County - South Ash Pond 2S
Flood Conditions - Maximum Flow Depth

Midwest Generation, LLC
Romeoville, Illinois

Geosyntec consultants

San Diego
October 2016

Figure 2

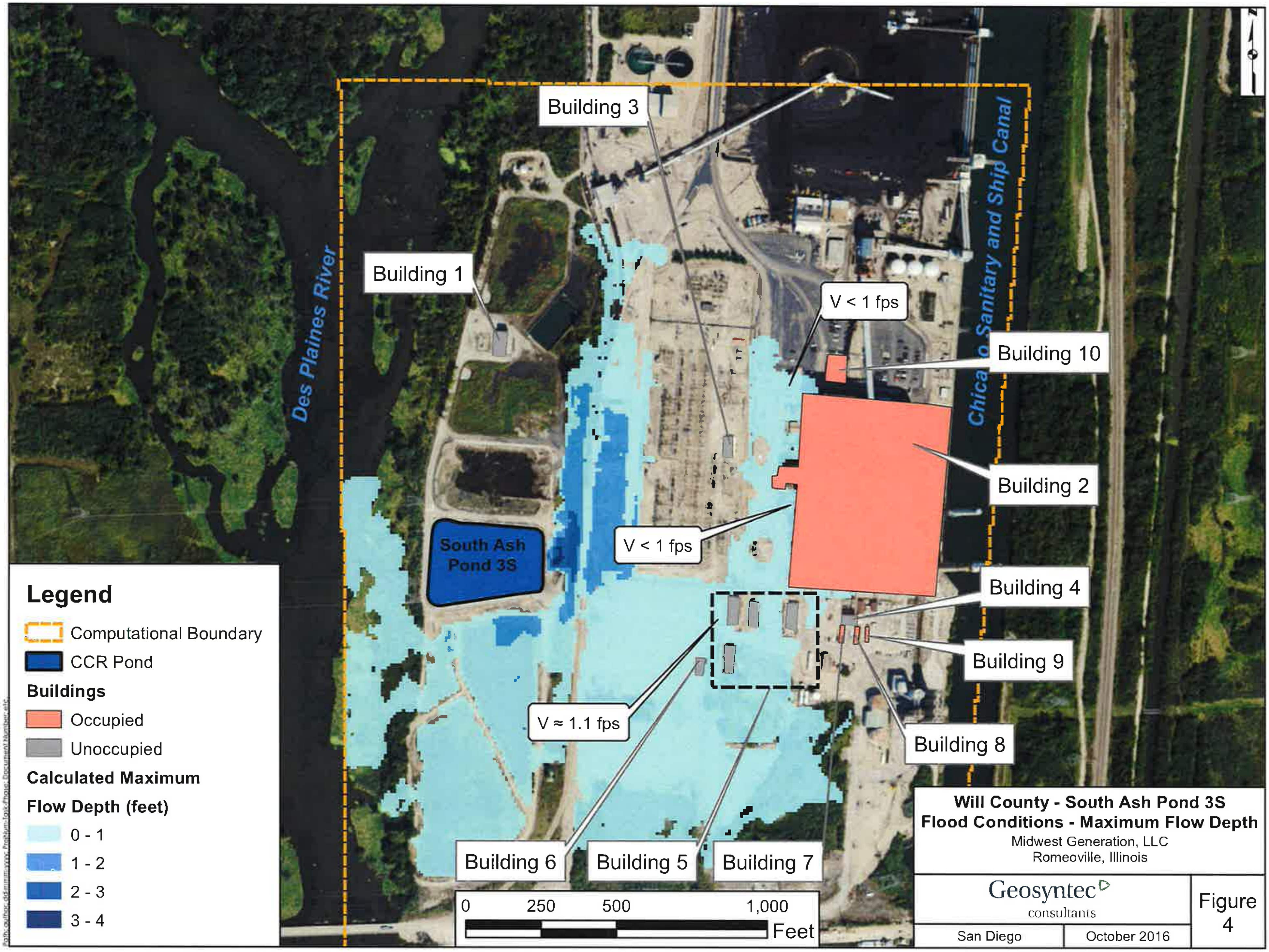


Will County - South Ash Pond 2S
Flood Conditions - Maximum Velocity
Midwest Generation, LLC
Romeoville, Illinois

Geosyntec consultants

San Diego
October 2016

Figure 3

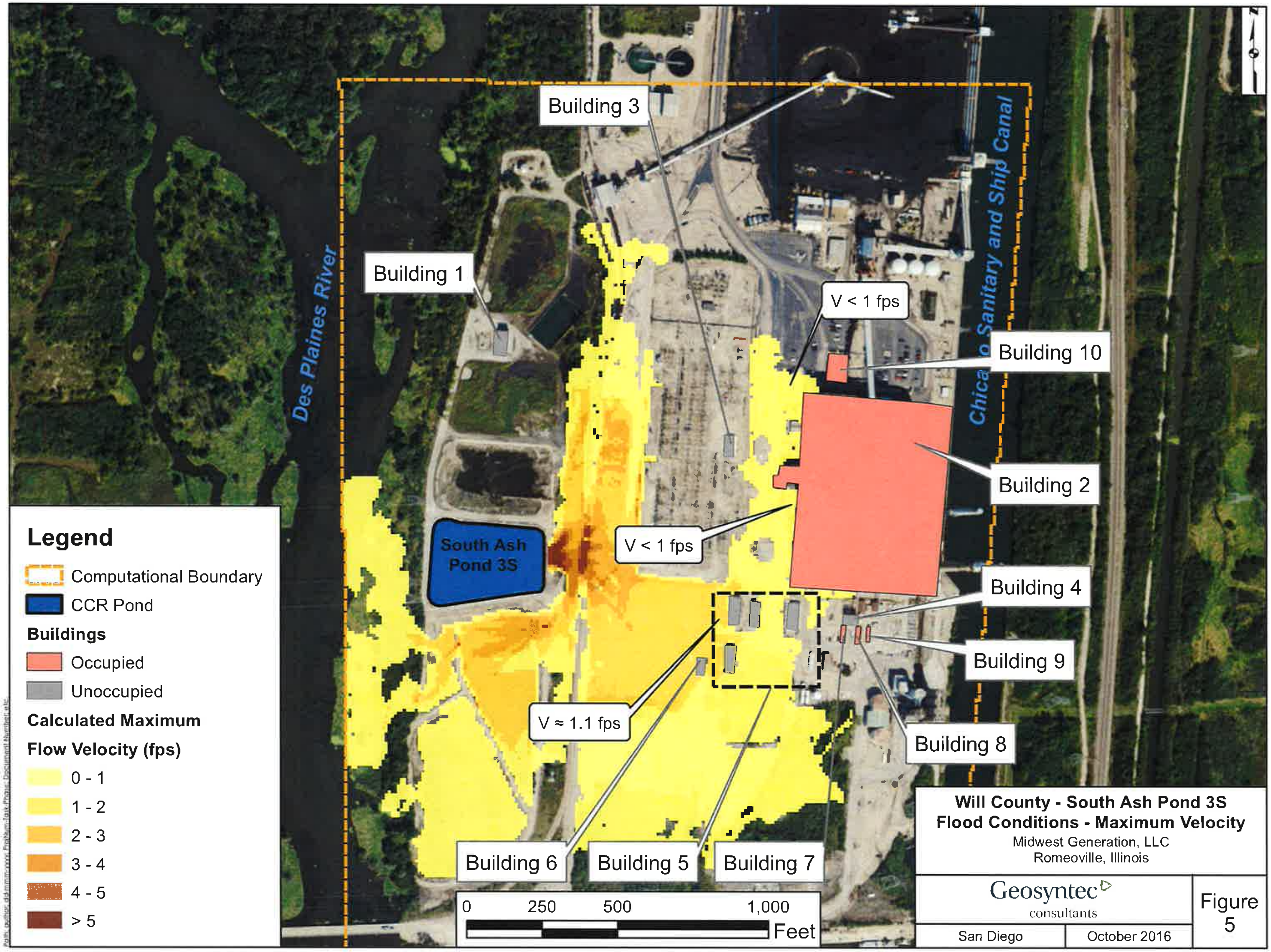


Will County - South Ash Pond 3S
Flood Conditions - Maximum Flow Depth
Midwest Generation, LLC
Romeoville, Illinois

Geosyntec consultants

San Diego | October 2016

Figure 4



Legend

- ▭ Computational Boundary
- 🟦 CCR Pond

Buildings

- 🟥 Occupied
- ▨ Unoccupied

Calculated Maximum Flow Velocity (fps)

- 🟨 0 - 1
- 🟨 1 - 2
- 🟧 2 - 3
- 🟧 3 - 4
- 🟫 4 - 5
- 🟫 > 5

Will County - South Ash Pond 3S
Flood Conditions - Maximum Velocity
Midwest Generation, LLC
Romeoville, Illinois

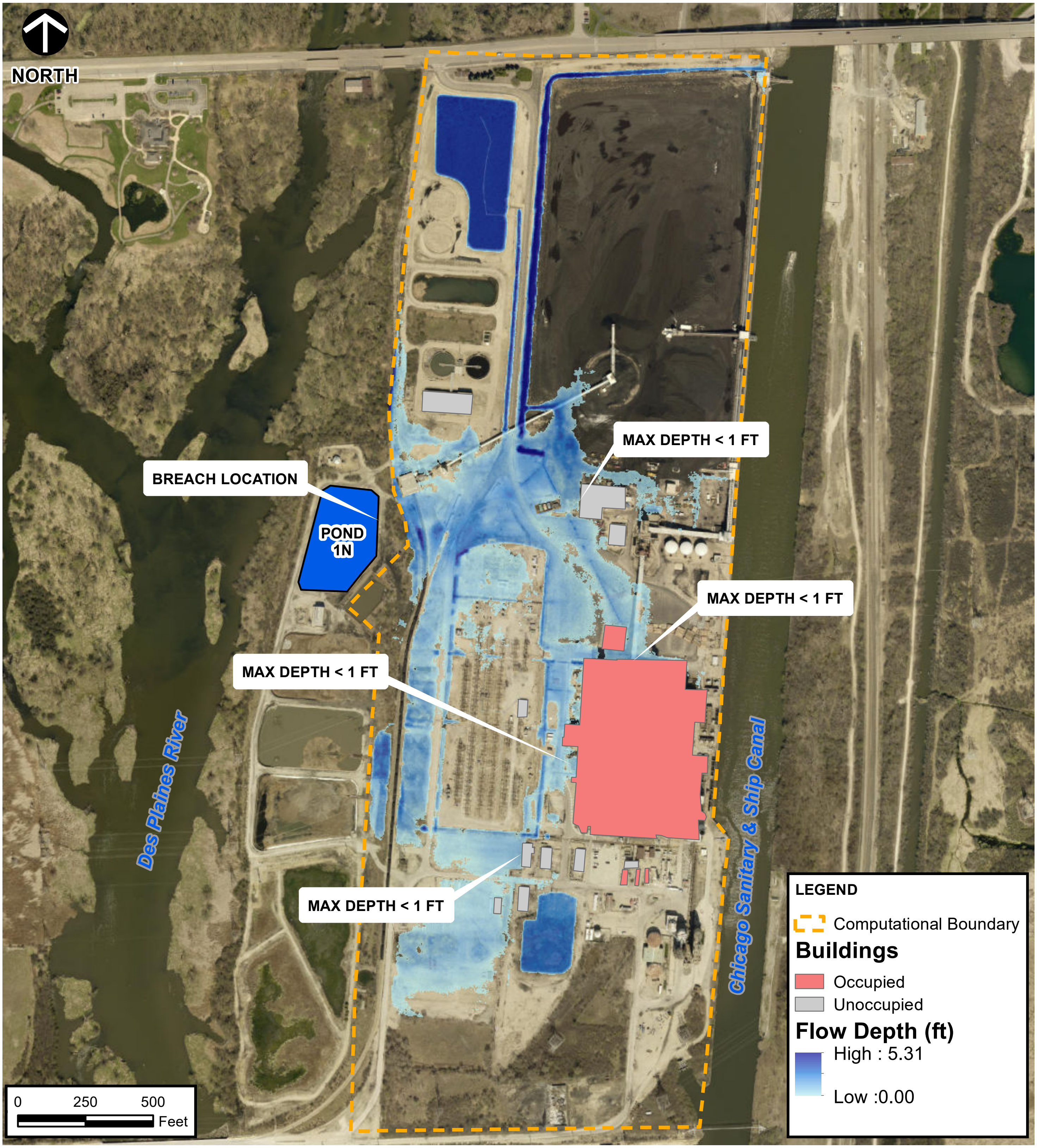
Geosyntec consultants

San Diego | October 2016

Figure 5

APPENDIX B

CEC HPCA INUNDATION MAPS



SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: 04/20/2019

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POND 1N AND POND 1S
WILL COUNTY, IL

POND 1N MAXIMUM FLOW DEPTH

DRAWN BY: CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	2
DATE: SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

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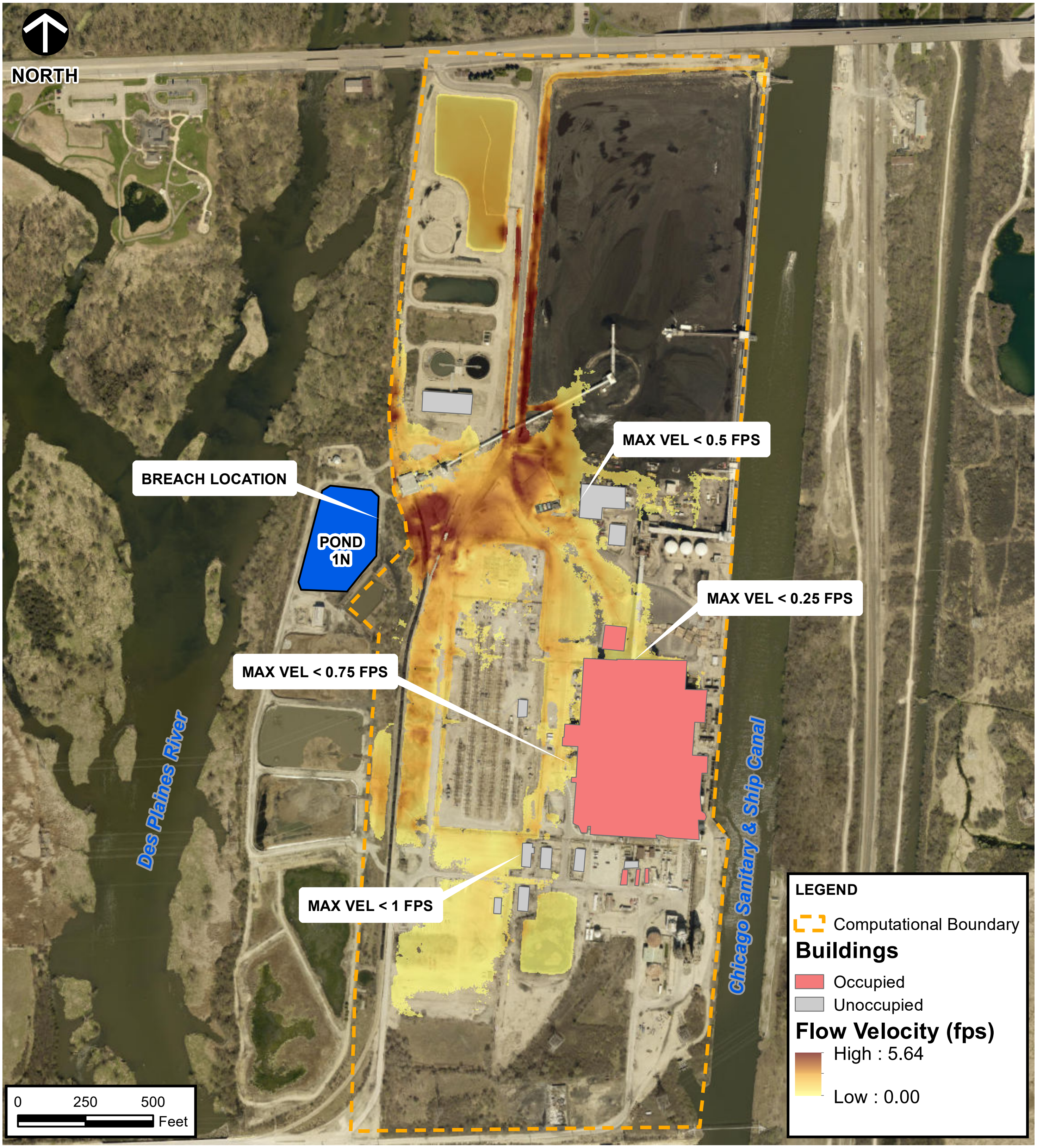

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IMAGE DATE: 04/20/2019

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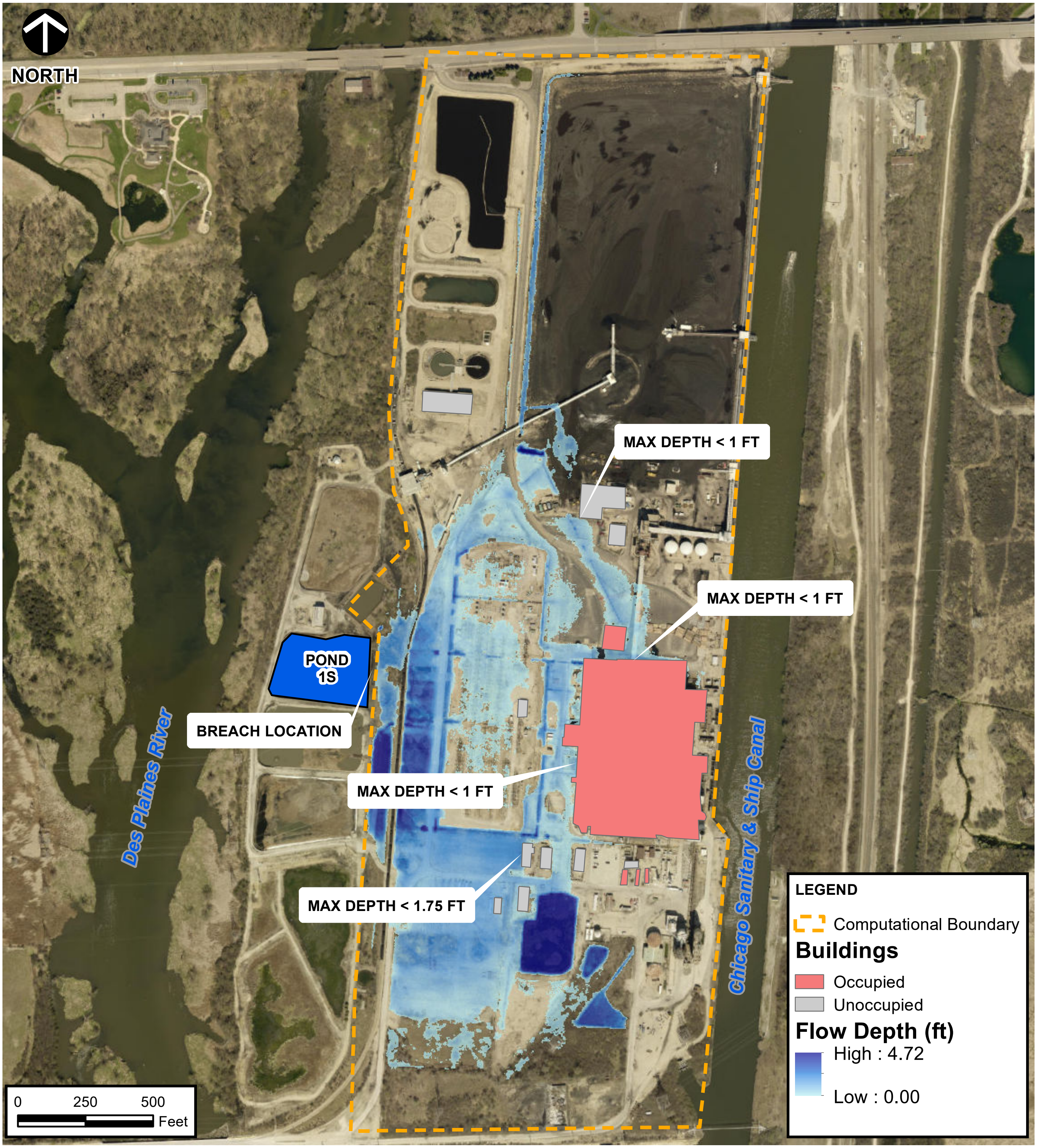
MIDWEST GENERATION, LLC
HAZARD POTENTIAL
CLASSIFICATION ASSESSMENT
POND 1N AND POND 1S
WILL COUNTY, IL

POND 1N MAXIMUM VELOCITY

DRAWN BY: CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	3
DATE: SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

\\SHONIGFORD\Share\312-192\GIS\312-192_WR01_1N_Velocity_Map.mxd - 9/23/2021 - 8:53:47 AM (shonigford)



SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: MM/DD/YYYY

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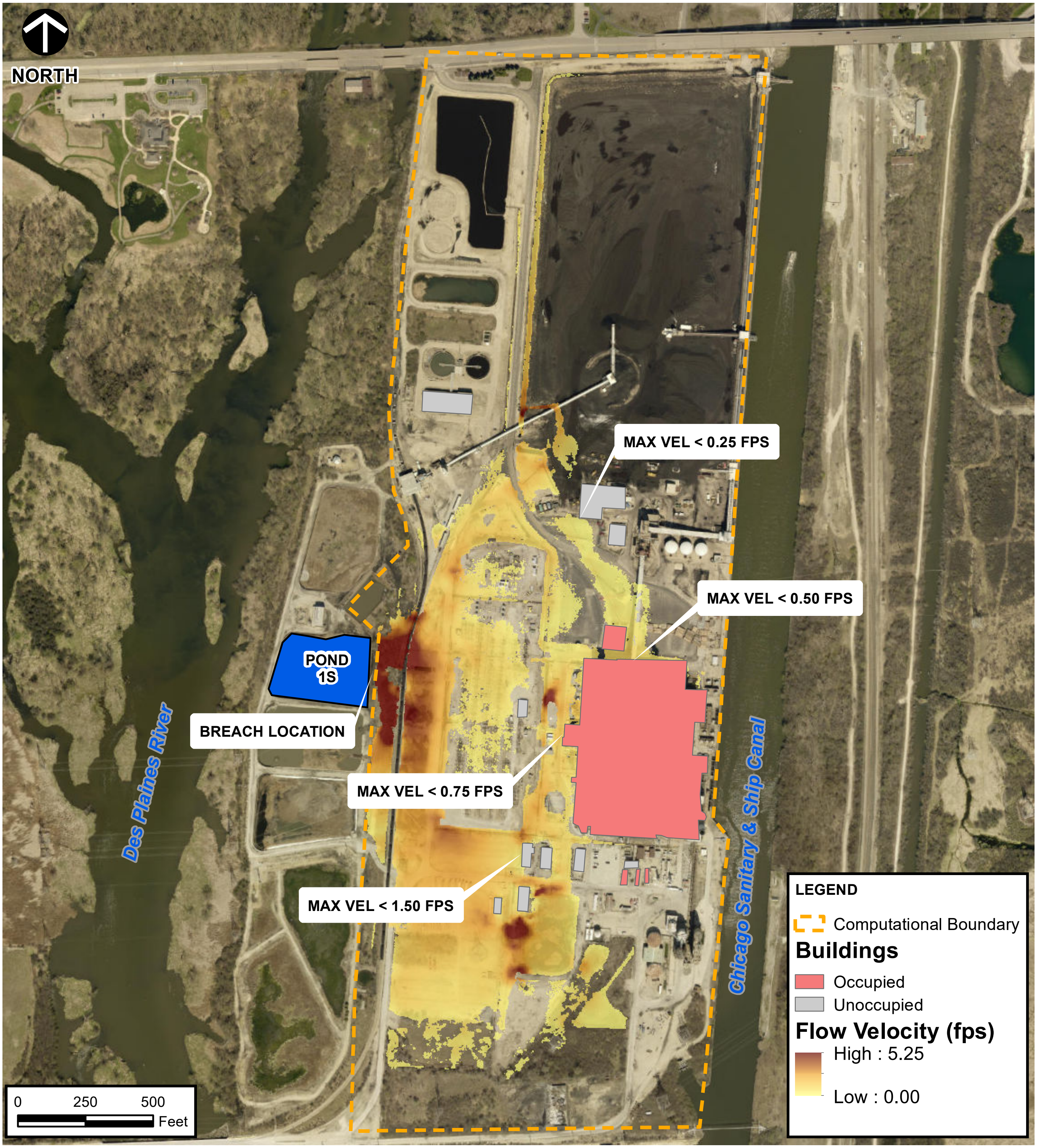
MIDWEST GENERATION, LLC
HAZARD POTENTIAL
CLASSIFICATION ASSESSMENT
POND 1N AND POND 1S
WILL COUNTY, IL

POND 1S MAXIMUM FLOW DEPTH

DRAWN BY: CJG	CHECKED BY: CJG	APPROVED BY: MDG*	FIGURE NO:
DATE: SEPTEMBER 23, 2021	DWG SCALE: 1 " = 500 '	PROJECT NO: 312-192	4

Signature on File *

\\SHONIGFORD\Share\312-192\GIS\312-192 WR01 1S Depth Map.mxd - 9/23/2021 - 8:55:29 AM (shonigford)



SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: MM/DD/YYYY

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CLASSIFICATION ASSESSMENT
POND 1N AND POND 1S
WILL COUNTY, IL

POND 1S MAXIMUM VELOCITY

DRAWN BY: CJG	CHECKED BY: CJG	APPROVED BY: MDG*	FIGURE NO:
DATE: SEPTEMBER 23, 2021	DWG SCALE: 1 " = 500 '	PROJECT NO: 312-192	5

Signature on File *

\\SHONIGFORD\Share\312-192\GIS\312-192_WR01_1S_Velocity_Map.mxd - 9/23/2021 - 8:56:29 AM (shonigford)

ATTACHMENT 8
FUGITIVE DUST CONTROL PLAN

CCR COMPLIANCE
FUGITIVE DUST CONTROL PLAN

Midwest Generation, LLC
Will County Generating Station
529 East 135th Street
Romeoville, Illinois

PREPARED BY: KPRG and Associates, Inc.
14665 W. Lisbon Road, Suite 1A
Brookfield, Wisconsin 53005

October 22, 2021

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

On April 15, 2021, the Illinois Environmental Protection Agency adopted a new Part 845 of its waste disposal regulations creating statewide standards for the disposal of coal combustion residuals (CCR) in surface impoundments, created by the generation of electricity by coal-fired power plants. Part 845 specifically requires that “the owner or operator of a CCR surface impoundment, or any lateral expansion of a CCR surface impoundment, must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR surface impoundments, roads, and other CCR management and material handling activities”. As a result, each regulated facility must develop a CCR fugitive dust control plan that complies with 35 Ill. Adm. Code 845.500(b).

This site specific Fugitive Dust Control Plan (Plan) has been developed to comply with the requirements specified in Section 845.500. In general, the Plan identifies the potential CCR fugitive dust sources and describes the control measures that will be implemented to minimize CCR fugitive dust emissions. The Plan also includes a procedure for the periodic assessment of the Plan’s effectiveness, documentation of any Plan amendments deemed necessary to assure continued compliance, a record of any citizen complaints received pertaining to CCR fugitive dust emissions, and an outline of the required reporting and recordkeeping requirements in 35 Ill. Adm. Code 845.500.

2.0 SITE INFORMATION

2.1 Owner/Operator and Address:

Midwest Generation, LLC
Will County Generating Station
529 East 135th Street
Romeoville, Illinois

2.2 Owner Representative/Responsible Person Contact Information:

Mr. Philip Raush
Station Manager
815-372-4512

2.3 Location and Description of Facility Operations

The Midwest Generation Will County Generating Station is located at 529 East 135th Street, Romeoville, Will County, Illinois. The facility is a coal-fired electric power generating station currently occupying approximately 200 acres. There is currently one coal-fired operating unit, Unit 4. Electrical power is transmitted from the site to the area grid through overhead transmission power lines.

The general vicinity primarily includes industrial facilities, residential development, agricultural areas, and parklands.

3.0 POTENTIAL FUGITIVE DUST SOURCES

Potential fugitive dust sources associated with the bottom ash and slag and fly ash systems have been identified at the facility; however, some of these are regulated by the facility's operating permit and are adequately addressed within the required fugitive dust operating program. The potential CCR fugitive dust sources generally include exterior ash distribution systems, temporary ash storage locations, ash bulk loading/unloading operations and ash truck transportation routes. Fugitive dust could potentially be generated from these sources as a result of equipment malfunctions, wind erosion, housekeeping issues and/or the nature of the operation. Specifically, these identified sources were further evaluated to determine the probability of CCR fugitive dust being generated and to determine the level of emission controls that are warranted to mitigate fugitive dust emissions. The findings of the evaluation are individually discussed in the following sections.

3.1 Bottom Ash and Slag Distribution System

Collected bottom ash and slag in the boilers is transported as a liquid mixture through an enclosed piping system to Ash Pond 2S. Ash Pond 3S is currently not in service. Some of this piping is located inside a building; however, a portion is situated above ground and in the outside environment. Although not an anticipated occurrence, a breach in the exterior piping could result in the accidental release of bottom ash and slag and potential fugitive dust emissions if the material were to accumulate and dry out.

3.2 Ash Pond 2S and Ash Pond 3S

After settling occurs, water from Ash Pond 2S is ultimately discharged through a regulated NPDES outfall. Both of these ponds are normally filled with water; however, dredging occasionally may be required to remove the settled material from Ash Pond 2S as part of its operation. Ash Pond 3S will remain filled with water until closure is initiated. When dredging is necessary, because either Ash Pond 2S is full and removal is required or closure is initiated for Ash Pond 3S, the specific pond will be dewatered and the dredged material is allowed to dry. When the material is suitable for transport, it is loaded into open top trucks, covered and sent off site to a licensed landfill. Potential fugitive dust emissions could occur if dry bottom ash and slag residual is exposed or loaded during excessive windy and dry weather conditions.

3.3 Ash Pond 1N and Ash Pond 1S

Ash Pond 1N and Ash Pond 1S are inactive surface impoundments and no longer receive bottom ash or slag. The bottom ash/slag material remains within each pond. Standing water is not present and excessive precipitation that enters each pond will drain out of the pond into the outlet trough. The bottom ash/slag is substantially vegetated with minimal amounts of ash exposed. Some ash does have the potential to become airborne especially during excessively dry and windy conditions.

3.3 Fly Ash Handling Equipment

Collected fly ash in the precipitator hoppers is initially transported in a closed vacuum piping system to a cyclone and bag filter where it is mechanically separated from the air stream within an enclosed building. Fly ash is then sent to the fly ash silos through exterior piping. At the silos, the fly ash is drop loaded into trucks through a drop chute. The loading of fly ash occurs within a partially enclosed structure. After the trucks containing fly ash have been loaded, they proceed to a nearby platform to allow the truck driver to secure the truck and to broom sweep any residual fly ash remaining on the truck. This entire process is covered by the fugitive dust operating program for the facility.

3.4 Concrete Storage Pad

A grade-level concrete pad within a retaining wall having a windscreen is used for the temporary storage of residual bottom ash and slag and fly ash generated as a result of routine ash-related maintenance activities. The staged material is allowed to partially dry within the structure until it is suitable for off-site removal. The material is loaded into open top trucks, covered and sent off site to a licensed landfill. Dry material that is exposed during excessive windy and dry weather conditions has the potential for becoming fugitive dust emissions.

3.5 Ash Transport Roadways

Both gravel covered and asphalt paved roads within the facility are used by trucks hauling both bottom ash and slag and fly ash to an off-site licensed landfill as well as by other vehicles entering and exiting the facility. Fugitive CCR dust emissions could occur during transit if ash material is not properly cleaned from the trucks or if there is a release of ash material from the vehicle due to a malfunction or accident.

These potential fugitive dust sources are identified on the Site Diagram included in Appendix A.

4.0 DESCRIPTION OF CONTROL MEASURES

4.1 Purpose

The purpose of developing appropriate control measures is to minimize and reduce the emissions of CCR fugitive dust from the identified potential emission sources. The control measures and work practices implemented at the facility are described in the following sections.

4.2 Bottom Ash and Slag Distribution System

Bottom ash and slag is in a liquid mixture within a closed system until the point of discharge at Ash Pond 2S. A significant portion of the piping system is contained within a building, which eliminates dust emissions to the outside environment. An assessment of the exterior distribution system will be performed on a quarterly basis to verify the integrity of the system or when a breach in the system is detected. If a leak is noted, resulting in the release of bottom ash and slag, the affected area will be restored to original conditions and repair of the pipe will be performed as soon as feasible. The ash will be sent off site to a licensed landfill.

4.3 Ash Pond 2S and Ash Pond 3S

During normal operations, Ash Pond 2S is filled with water thereby suppressing any potential fugitive dust emissions. Ash Pond 3S was previously filled with water when it was operational and remains filled with water despite being out of service. Infrequently, Ash Pond 2S will need to be dewatered and the sediment removed off site to a licensed landfill. When Ash Pond 3S closure is initiated, it will be dewatered and the sediment removed off site to a licensed landfill. While the bottom ash and slag residue is drying, there is the potential for this material to become airborne especially during excessively dry and windy conditions. Loading of this material under these conditions also has the potential for generating fugitive dust. Dewatered ponds will be assessed on a quarterly basis or more frequently during excessively dry and windy conditions. To minimize fugitive dust emissions from exposed dry bottom ash and slag, the height of the staged material will be minimized and the material piles will be either sprayed with water or covered. Loading activities also will be limited during such occasions. Haul trucks are covered with tarps once they have been loaded.

4.4 Ash Pond 1N and Ash Pond 1S

Ash Pond 1N and Ash Pond 1S are inactive surface impoundments and no longer receive bottom ash or slag. The bottom ash/slag material remains within each pond. Precipitation that falls on the bottom ash/slag prevents it from drying out and becoming airborne. Standing water is not present and excessive precipitation that enters each pond will drain out of the pond into the outlet trough. The bottom ash/slag is substantially vegetated with minimal amounts of ash exposed. Some ash does have the potential to become airborne especially during excessively dry and windy conditions. Each pond will be assessed at least quarterly or more frequent during excessively dry and windy conditions. To minimize fugitive dust emissions from exposed dry bottom ash and slag, the material will be sprayed with water, as needed.

4.5 Fly Ash Handling Equipment

Fly ash from the mechanical separators is sent to the silos within enclosed piping. At the silos, the fly ash is drop loaded into a tank truck through a drop chute. This loading mechanism minimizes the potential for fly ash to become airborne during the loading process. The loading of trucks also occurs within a partial enclosure. At the completion of loading, the truck moves a short distance to an elevated truck stand where it is broom swept to remove any accumulated fly ash. Accumulated ash is promptly transferred to the fly ash concrete storage pad.

This process is covered by the facility’s fugitive dust operating program. Under the program, the facility must maintain control measures, including enclosures, covers and dust collection devices. Additionally, the facility is required to conduct weekly inspections of the process to confirm compliance. A record of the inspections is maintained at the facility.

4.6 Concrete Storage Pad

The concrete pad only periodically contains bottom ash and slag, fly ash and other ash-related materials generated from routine maintenance activities. Typically these materials are in a wet state but are allowed to partially dry to facilitate removal. When sufficiently dry, the material is promptly removed to an off-site licensed landfill. The concrete pad will be assessed on a quarterly basis or more frequently during excessively dry and windy conditions. To minimize fugitive dust emissions from exposed dry bottom ash and slag, fly ash, and other ash-related materials, the height of the staged material will be minimized and the material piles will be either sprayed with water or covered.

4.7 Ash Transport Roadways

Truck drivers are instructed on the proper procedure for cleaning trucks and a vehicle speed limit is enforced at the facility. Ash material that may not have been adequately removed from the trucks has the potential to become airborne and ultimately be deposited on haul roads. To minimize fugitive dust emissions, these roads will be assessed on a quarterly basis and any observed accumulated ash material will be promptly cleaned up and collected for off-site removal to a licensed landfill.

5.0 PLAN ASSESSMENTS/AMENDMENTS

To assure that the work practices being implemented adequately control the dust from the identified potential fugitive dust emission sources at the facility, routine assessments and record keeping are performed. These procedures include the following:

5.1 Fugitive CCR Dust Assessments

Pursuant to 845.500(b)(3), assessments of the potential CCR fugitive dust emission sources identified within this Plan will be conducted to assess the effectiveness of this Plan. The assessment will include observation of ash removal from ponds, temporary storage and transport activities at the facility to confirm the adequacy of the control measures. The assessments will be conducted on a quarterly basis by an individual designated by the contact identified in Section 2.2 of this Plan. Observations made during each assessment will be recorded on a form similar to the one included in Appendix B; however, the station may create their own form.

If the results of the assessment determine that ash-related equipment has malfunctioned or the integrity of the equipment has been compromised, the necessary repairs or replacement will be performed as soon as feasible. If the assessment finds that this Plan does not effectively minimize the CCR from becoming airborne, this Plan will be amended to include additional control measures.

5.2 Plan Amendments

This Fugitive Dust Plan will be reviewed whenever there is a change in conditions that would substantially affect the written Plan currently in place. A record of the reviews and any modifications or amendments made to the Plan currently in place will be kept on a form similar to the one included in Appendix C; however, the station may create their own form. The amended Plan will be reviewed by a Registered Professional Engineer and, if deemed acceptable, will be recertified.

5.3 Citizen Complaints

Any written or verbal complaints received from a citizen involving alleged CCR fugitive dust emission events at the facility will be recorded by an individual designated by the contact identified in Section 2.2 of this Plan. The complaints will be recorded on a form similar to the one included in Appendix D; however, the station may create their own form. Upon receipt of the complaint, an investigation of the alleged source of the fugitive dust emissions will be performed and the results of that investigation recorded on the form. If the fugitive dust emission event is confirmed, any necessary repairs or changes in operation required to mitigate the fugitive dust emissions will be implemented as soon as practicable.

6.0 FUGITIVE DUST PLAN REPORTING/RECORDKEEPING REQUIREMENTS

This section outlines the Plan reports that must be prepared and records that must be maintained to meet the requirements specified in 35 Ill. Adm. Code Section 845.500. These requirements include the following:

- Place the Plan in the facility's operating record and publicly accessible internet site. If the Plan is amended, replace the initial Plan with the amended Plan. Only the most recent amended Plan will be maintained in the facility's operating record and internet site.

- Prepare an annual CCR Fugitive Dust Control Report and submit to the IEPA as part of the annual consolidated report required by 845.550. The annual report will include:
  - A description of the actions taken to control CCR fugitive dust,
  - A record of all citizen complaints, and
  - A summary of any corrective measures taken.
  - Placement of this report in the operating record and publicly accessible internet site.

- Provide notification to the IEPA and, if applicable, the Tribal authority when the Plan and reports are placed in the facility's operating record and publicly accessible internet site.

- Submit quarterly reports to IEPA within 14 days from the end of the quarter of all complaints received in that quarter. The quarterly reports will include:
  - The date of the complaint,
  - The date of the incident,
  - The name and contact information of the complainant, and
  - All actions taken to assess and resolve the complaint.

7.0 PROFESSIONAL ENGINEER CERTIFICATION

The undersigned Registered Professional Engineer is familiar with the requirements of 845.500 and has visited and examined the facility or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this CCR Fugitive Dust Control Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of 845.500, and that this Plan is adequate for the facility. This certification was prepared as required by 845.500(b)(7).

Engineer: Joshua D. Davenport

Signature: ____________________

Date: 10/22/21

Company: KPRG and Associates, Inc.

Registration State: Illinois

Registration Number: 062.061945

License Expiration Date: November 30, 2021

Professional Engineer Stamp:

JOSHUA D. DAVENPORT
062-061945

APPENDIX A

SITE DIAGRAM
POTENTIAL FUGITIVE DUST SOURCES

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

SITE DIAGRAM/FUGITIVE DUST SOURCES

WILL COUNTY GENERATING STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500'	Date: October 21, 2021
KPRG Project No. 15315	APPENDIX A

W:\projects\midwest generation\attorney-client privilege\fugitive dust plans\will county dust map.dwg

APPENDIX B

ASSESSMENT RECORD

APPENDIX B

WILL COUNTY STATION

EXAMPLE ASSESSMENT RECORD

Date	Inspector	Unit Inspected	Maintenance/Cleanup Required (yes/no)	Response Action Performed (completion date)	Inspector Signature

APPENDIX C

PLAN REVIEW AND AMENDMENT RECORD

APPENDIX C

WILL COUNTY STATION

EXAMPLE CCR PLAN REVIEW/AMENDMENT RECORD

Date of Review	Reason for Review	Section Amended	P.E. Certification (Name/Date)

APPENDIX D

CITIZEN COMPLAINT LOG

APPENDIX D

WILL COUNTY STATION

EXAMPLE CITIZEN COMPLAINT LOG

Date	Time	Citizen Information (Name, Address, Phone No., Email)	Summary of Complaint	Action Taken	Recorded By

ATTACHMENT 9
GROUNDWATER MONITORING INFORMATION

Attachment 9-1 – Local Well Stratigraphy Information

ID	Well_Count	Well_ID	From	To	Original Logged Description	Grouped As_ToUseToDefine_K_intervals	Base of Model	Notes	Ignored
1	1	121974178000	0	18	fill, clay	FILL			
2		121974178000	18	120	limestone	Carbonates			
3		121974178000	120	200	soft green shale	shale	x	Assumed base of model	
4		121974178000	200	300	limestone mix shale streaks	Carbonates and Shale			x
5	2	121974281000	0	62	limestone	Carbonates			
6		121974281000	62	71	limestone w/shale layers	Carbonates and Shale			
7		121974281000	71	77	limestone	Carbonates			
8		121974281000	77	79	limestone - shale mix	Carbonates and Shale			
9		121974281000	79	128	limestone	Carbonates			
10		121974281000	128	216	shale	shale	x	Assumed base of model	
11		121974281000	216	233	limestone-shale mix	Carbonates and Shale			x
12		121974281000	233	312	shale	shale			x
13		121974281000	312	497	limestone	Carbonates			x
14		121974281000	497	505	limestone with shale streaks	Carbonates and Shale			x
15		121974281000	505	536	limestone	Carbonates			x
16		121974281000	536	540	limestone with shale layers	Carbonates and Shale			x
17	3	121973091600	0	3	sand & gravel	sand and gravel			
18		121973091600	3	140	rock	Carbonates			
19		121973091600	140	160	shale	shale	x		
20	4	121973467500	0	15	clay & gravel	clay, sand, gravel			
21		121973467500	15	145	rock	Carbonates			
22		121973467500	145	180	shale	shale	x		
23	5	121972436300	0	1	drift	sand			
24		121972436300	1	145	lime	Carbonates			
25		121972436300	145	239	shale & lime - Maquoketa	shale	x		
26		121972436300	239	330	shale w/lime	Carbonates and Shale			x
27		121972436300	330	433	lime & shale - Galena	sandstone			x
28		121972436300	433	676	lime	carbonates			x
29		121972436300	676	690	sand w/lime - St. Peter	sandstone			x
30		121972436300	690	780	sand w/ lime & shale	sandstone			x
31		121972436300	780	798	sand & lime	sandstone			x
32		121972436300	798	860	lime - Knox	sandstone			x
33		121972436300	860	913	lime & dolomite sand	carbonates			x
34		121972436300	913	1009	lime	carbonates			x
35		121972436300	1009	1100	lime w/sand	carbonates			x
36		121972436300	1100	1176	gray lime	carbonates			x
37		121972436300	1176	1190	lime	carbonates			x
38		121972436300	1190	1300	lime w/sand - Franconia	carbonates			x
39		121972436300	1300	1350	sand w/lime - Ironton	sandstone			x
40		121972436300	1350	1477	sand	sandstone			x
41		121972436300	1477	1510	lime - Eau Claire	carbonates			x
42	6	121972438900	0	88	drift	sand			
43		121972438900	88	153	lime	Carbonates			
44		121972438900	153	218	sandy lime	Carbonates			
45		121972438900	218	611	lime & shale	shale	x		
46		121972438900	611	683	lime - St. Peter @665'	sandstone			x
47		121972438900	683	835	sand - Knox @ 790'	sandstone			x
48		121972438900	835	889	lime & shale	carbonates			x
49		121972438900	889	1199	lime	carbonates			x
50		121972438900	1199	1465	sand w/lime - Franconia, Ironton @ 1290'	sandstone			x
51		121972438900	1465	1503	lime - Eau Claire @ 1485'	carbonates			x
52	7	121970352400	0	15	sandy clay	clay, sand			
53		121970352400	15	39	gravel	sand and gravel			
54		121970352400	39	42	broken limestone	Carbonates			
55		121970352400	42	115	limestone	Carbonates			
56	8	121970127500	0	135	No Record				
57		121970127500	135	315	Maquoketa	shale	x		
58		121970127500	315	665	Galena	sandstone			x
59		121970127500	665	790	St Peter	sandstone			x
60		121970127500	790	1185	Knox	sandstone			x
61		121970127500	1185	1300	Franconia	sandstone			x
62		121970127500	1300	1475	Ironton	sandstone			x
63		121970127500	1475	1536	Eau Claire	sandstone			x
64	9	121970025300	0	156	limestone	Carbonates			
65		121970025300	156	317	Maquoketa	shale	x		
66		121970025300	317	660	Galena	sandstone			x
67		121970025300	660	944	St Peter	sandstone			x
68		121970025300	944	1197	Knox	sandstone			x
69		121970025300	1197	1300	Franconia	sandstone			x
70		121970025300	1300	1497	Ironton	sandstone			x
71		121970025300	1497	1509	Eau Claire	sandstone			x
72	10	121970184300	0	42	overburden	topsoil			
73		121970184300	42	160	rock formation	Carbonates			
74	11	121972479600	0	5	clay	clay			
75		121972479600	5	55	limestone	Carbonates			
76		121972479600	55	100	shale	shale	x	We could ignore this 45 feet of "shale" if we think it is wrong	
77		121972479600	100	145	limestone	Carbonates			x
78	12	121972583600	0	50	till	overburden			
79		121972583600	50	60	limestone	Carbonates			
80	13	121970127600	124	310	Maquoketa	shale	x		
81		121970127600	310	670	Galena	sandstone			x
82		121970127600	670	830	St Peter	sandstone			x
83		121970127600	830	1180	Knox	sandstone			x
84		121970127600	1180	1290	Franconia	sandstone			x
85		121970127600	1290	1485	Ironton	sandstone			x
86		121970127600	1485	1535	Eau Claire	sandstone			x
87	13	121974644100	0	3	Topsoil	topsoil			
88		121974644100	3	20	clay-shale	clay			
89		121974644100	20	49	dolomite	carbonates			
90	14	121974634900	0	1	Sugar Run-Romeo Trans	carbonates			
91		121974634900	1	21.6	Romeo Dolomite	carbonates			
92		121974634900	21.6	23.1	Romeo-Markgraf Trans	carbonates			
93		121974634900	23.1	43.7	Markgraf Trans	carbonates			
94		121974634900	43.7	44.9	Markgraf-Brandon Bridge Trans	carbonates			
95		121974634900	44.9	53	Brandon Bridge Dolomite	carbonates			
96	15	121974482200	0	0.42	Asphalt 5"				
97		121974482200	0.42	1.25	Brown sand & gravel, damp (base) 10"	sand and gravel			
98		121974482200	1.25	4	Fill	fill			
99		121974482200	4	5	Brown limestone weathered	Carbonates			
100		121974482200	5	15	Brown limestone	Carbonates			
101	16	121974655800	0	0.5	black loam	loam			
102		121974655800	0.5	1.42	yellow clayey silt & broken rock	silt and clay			
103		121974655800	1.42	11.42	white limestone	Carbonates			
104	17	121974655900	0	0.5	black loam	loam			
105		121974655900	0.5	1	yellow clayey silt & broken rock	silt and clay			
106		121974655900	1	11.25	white limestone	Carbonates			

107	18	121974653200	0	1	soft black clayey loam with some pieces of rock	loam				
108		121974653200	1	3.5	large pieces of rock with some clay	clay, sand, gravel				
109		121974653200	3.5	8	silty hard gray clay with some rock fragments and gra	clay, sand, gravel				
110		121974653200	8	18.83	silty hard gray clay with some small to very large rock	clay, sand, gravel				
111		121974653200	18.83	19.17	white limestone	Carbonates				
112		121974653200	19.17	24.5	silty hard gray clay with some small to very large rock	clay, sand, gravel				
113		121974653200	24.5	35	hard green shale with some seams of clay	shale				x
114		121974653200	35	36	greenish white limestone with some seams of clay	Carbonates				
115	19	121974655100	0	0.5	black loam	loam				
116		121974655100	0.5	4.83	yellow clayey silt & broken rock	silt and clay				
117		121974655100	4.83	15	white limestone	Carbonates				
118		121974655100	15	23.5	shale & disintegrated rock	shale				x
119	20	121974654900	0	0.67	soft black clay loam with some pieces of rock	loam				
120		121974654900	0.67	5.42	very large pieces of yellow limestone	Carbonates				
121		121974654900	5.42	49.25	white limestone	Carbonates				
122		121974654900	49.25	54.25	very hard white-green & pink limestone	Carbonates				
123	21	121974652500	0	0.5	black loam	loam				
124		121974652500	0.5	1	yellow clayey silt and broken rock	silt and clay				
125		121974652500	1	5.67	white limestone	Carbonates				
126		121974652500	5.67	6	gray sandy silt	sand				
127		121974652500	6	11	white limestone	Carbonates				
128	22	121974650200	0	12	Silty clay sinkhole filling	fill				
129		121974650200	12	24.2	dolomite	carbonates				
130	23	121974648700	0	2.5	Weathered brown dolomite and clay	carbonates				
131		121974648700	2.5	5.5	dolomite	carbonates				
132		121974648700	5.5	8.6	Shale	shale				x
133		121974648700	8.6	31.3	dolomite	carbonates				
134	24	121974622200	0	1.6	Sugar Run-Romeo Trans	carbonates				
135		121974622200	1.6	23.6	Romeo Dolomite	carbonates				
136		121974622200	23.6	25	Romeo-Markgraf Trans	carbonates				
137		121974622200	25	46.6	Markgraf Dolomite	carbonates				
138		121974622200	46.6	47.9	Markgraf-Brandon Bridge Trans	carbonates				
139		121974622200	47.9	57.4	Brandon Bridge Dolomite	carbonates				
140	25	121974281100	0	57	limestone	carbonates				
141		121974281100	57	76	limestone with shale layers	Carbonates and Shale				
142		121974281100	76	127	limestone	Carbonates				
143		121974281100	127	130	shale	shale		x		
144	26	121972552500	0	60	overburden	overburden				
145		121972552500	60	120	rock formation	Carbonates				
146	27	121973976800	0	12	gravel	sand and gravel				
147		121973976800	12	110	limestone	Carbonates				
148		121973976800	110	120	limestone & shale	Carbonates and Shale				
149	28	121974053100	0	8	soil rock & clay	topsoil				
150		121974053100	8	141	limestone, flowing well	Carbonates				
151	29	121973630100	0	3	soil/clay/fill	fill				
152		121973630100	3	15	dolomite	dolomite				
153	30	121973629800	0	1	crushed limestone roadbase	fill				
154		121973629800	1	8	clay	clay				
155		121973629800	8	25	dolomite	carbonates				
156	31	121974691400	0	18	clay	clay				
157		121974691400	18	51	clay with fine gravel layers	clay, sand, gravel				
158		121974691400	51	54	coarse caving gravel	sand and gravel				
159		121974691400	54	92	clay with sand layers	clay, sand				
160		121974691400	92	98	clay	clay				
161		121974691400	98	111	limestone with fractures	Carbonates				
162		121974691400	111	131	shale	shale		x		
163		121974691400	131	240	limestone	Carbonates				x
164	32	121974121000	0	4	clay	clay				
165		121974121000	4	18	coarse gravel	sand and gravel				
166		121974121000	18	50	fine gravel	sand and gravel				
167		121974121000	50	147	limestone	Carbonates				
168		121974121000	147	155	limestone & shale mix (hard)	Carbonates and Shale				
169		121974121000	155	220	limestone	Carbonates				
170	33	121973735700	0	25	clay & boulders	clay				
171		121973735700	25	74	sand & fine gravel	sand and gravel				
172		121973735700	74	125	white limestone	Carbonates				
173		121973735700	125	150	hard gray shale	shale		x		
174		121973735700	150	205	brown & white limestone	Carbonates				x
175	34	MW-01	0	5	Fill: Black coal cinders, fine gravel, cobbles, crushed r	Fill				
176		MW-01	5	9	Gravel, weathered, limestone, silt	sand and gravel				
177		MW-01	9	19	Weathered limestone bedrock	Carbonates				
178	35	MW-02	0	7	Fill: Black coal ash, brown gravely clay, sand, gray silt	Fill				
179		MW-02	7	8.5	Fill: Rubble	Fill				
180		MW-02	8.5	12	Black coal cinders, coal dust, clay fill	Fill				
181		MW-02	12	22	Weathered limestone bedrock	Carbonates				
182	36	MW-03	0	7.5	FILL: Black coal ash, gravel, coarse sand, crushed rock	Fill				
183		MW-03	7.5	10	GC: Gray gravel, silt	sand and gravel				
184		MW-03	10	19.5	Weathered limestone bedrock	Carbonates				
185	37	MW-04	0	6	FILL: Brown fine sand, black ash, crushed rock, fine t	Fill				
186		MW-04	6	9	Gray silt, weathered limestone, moist to dry	Carbonates				
187		MW-04	9	20	Limestone bedrock, weathered	Carbonates				
188	38	MW-05	0	8	FILL: Brown silty clay, fine gravel, coarse gravel, crush	Fill				
189		MW-05	8	9	GC: Brown gravel, clay, silty, wet	clay, sand, gravel				
190		MW-05	9	20	Weathered limestone bedrock	Carbonates				
191	39	MW-06	0	8	FILL: Crushed stone, brown medium sand, black coal	Fill				
192		MW-06	8	10.5	CL: Gray silty clay, coarse to fine gravel, trace coarsM	clay, sand, gravel				
193		MW-06	10.5	18	Weathered limestone bedrock	Carbonates				
194	40	MW-07	0	3.5	FILL: Crushed stone, gravel, silt, sand	Fill				
195		MW-07	3.5	7	FILL: Rock rubble, dry	Fill				
196		MW-07	7	8.5	GC: Brown gravel, silt, coarse sand, saturated	sand and gravel				
197		MW-07	8.5	18	Weathered limestone bedrock	Carbonates				
198	41	MW-08	0	0.5	CL: Dark brown clayey silt, dry	Silt and Clay				
199		MW-08	0.5	5.5	FILL: Coarse gravel, crushed rock, dry	Fill				
200		MW-08	5.5	7	FILL: Crushed rock, silty gravel	Fill				
201		MW-08	7	19	Weathered limestone bedrock	Carbonates				

202	42	MW-09	0	5	FILL: Crushed rock, coarse sand, some silt	Fill				
203		MW-09	5	6	FILL: Some brown silty clay	Fill				
204		MW-09	6	10.5	GC: Gray silty clay, fine and coarse gravel, some coar	clay, sand, gravel				
205		MW-09	10.5	11.5	GC: Clayey gravel	clay, sand, gravel				
206		MW-09	11.5	19	Weathered limestone bedrock	Carbonates				
207	43	MW-10	0	10	FILL: Crushed Limestone, silt, gravel	Fill				
208		MW-10	10	12	GC: Weathered limestone, clay, sand, gravel	clay, sand, gravel				
209		MW-10	12	20	Weathered limestone bedrock	Carbonates				
210	44	MW-11	0	1	Roadway of sand and gravel	sand and gravel				
211		MW-11	1	2	Sand and Gravel, Dark brown, fine to medium, silty,	sand and gravel				
212		MW-11	2	3	Clay, brown, with sand and gravel, slightly moist	clay, sand, gravel				
213		MW-11	3	7.5	Gravel, limestone/dolomite, dry to slightly moist	sand and gravel				
214		MW-11	7.5	13	Clay, dark brown and black, silty, some sand and gra	clay, sand, gravel				
215		MW-11	13	22	Weathered Bedrock, dolomite	Carbonates				
216	45	MW-12	0	1	Roadway of sand and gravel	Fill				
217		MW-12	1	2	Sand, Black, Brown, fine to medium, silty, dry	sand				
218		MW-12	2	4	Clay with Gravel, slightly moist	clay, sand, gravel				
219		MW-12	4	4	Gravel layer	sand and gravel				
220		MW-12	4	7	Clay with Gravel, slightly moist	clay, sand, gravel				
221		MW-12	7	11.5	Silty Sand, fine to medium, black, moist	sand				
222		MW-12	11.5	12	Silty sand, tan to white, fine to medium, wet	sand				
223		MW-12	12	13.5	Silty Sand, brown, medium to coarse, wet	sand				
224		MW-12	13.5	15.5	Silt and clay, dark gray, trace sand and gravel, very so	silt and clay				
225		MW-12	15.5	20	Clay, white, light greenish gray, orange mottled, moi	clay				

Attachment 9-2 – Boring Logs

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □- - -○- - -△ LL 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.8	0.0		Black coal cinders, fine gravel, cobbles, crushed rock FILL				
				SS-1 1.0-2.5 7"R	5 10 14		qu=NT
							Bentonite seal 2.0'-8.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	4 9 15		qu=NT
584.8	5.0		Gravel, weathered limestone, silt				
583.8	6.0	▽	Saturated	SS-3 6.0-7.5 12"R	7 21 19		qu=NT
							Sand pack 8.0'-19.0'
			Weathered limestone bedrock	SS-4 8.5-10.0	50/4"		Set screen (slot 0.010") 9.0'-19.0'
579.8	10.0		End of Boring at 10.0'				
570.8	19.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/22/10** ENDED **10/25/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **6.0**
▽
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **590.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □- - -○- - -△ LL 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
590.6	0.0		Black coal ash, brown gravely clay, sand, gray silty clay FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0 6"R	9 13 10		Bentonite seal 2.0'-10.0'. Stickup protective cover installed. qu=NT
			Rubble	SS-3 6.0-7.5 18"R	6 7 9		qu=NT
582.1	8.5		Black coal cinders, coal dust, clay fill	SS-4 8.5-10.0 16"R	5 7 7		qu=NT
580.6	10.0		∇ Wet				Sand pack 10.0'-22.0'
				SS-5 11.0-12.5	9 50/0"		qu=NT
578.6	12.0		Weathered limestone bedrock End of Boring at 12.0'				Set screen (slot 0.010") 12.0'-22.0' Cored bedrock to 22.0'
568.6	22.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/21/10** ENDED **10/22/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
∇ **10.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **590.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	PL □- - -○- - -△ LL Water Content 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
590.5	0.0	▩	Black coal ash, gravel, coarse sand, crushed rock, limestone, rubble FILL				
		▩		SS-1 1.0-2.5 15"R	10 10 12		qu=NT
		▩	Dry	SS-2 3.5-5.0 13"R	6 10 18		Bentonite seal 2.0'-6.5'. Stickup protective cover installed. qu=NT
		▩		SS-3 6.0-7.5 14"R	7 15 21		qu=NT Sand pack 6.5'-19.5' Set screen (slot 0.010") 7.0'-17.0'
583.5	7.0	▩	▼				
583.0	7.5	▩					
582.5	8.0	▨	▽ Gray gravel, silt GC Wet				
		▨		SS-4 8.5-10.0 4"R	3 50/0"		qu=NT
580.5	10.0	▨	Weathered limestone bedrock				
		▦	End of Boring at 10.0'				Cored bedrock to 19.5'
571.0	19.5	▦					

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/20/10** ENDED **10/24/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **8.0**
▼ **7.0**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **591.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	PL □ Water Content ○ LL △ (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
591.2	0.0	▩	Brown fine sand, black ash, crushed rock, fine to coarse gravel, ddry FILL				
				SS-1 1.0-2.5 14"R	9 14 17		qu=NT Bentonite seal 2.0'-8.5'. Stickup protective cover installed.
				SS-2 3.5-5.0 6"R	16 50/3"		qu=NT
585.2	6.0	⠿	Gray silt, weathered limestone, moist to wet	SS-3 6.0-7.5 16"R	4 23 27		qu=NT
				SS-4 8.5-10.0 1"R	50/2"		qu=NT Sand pack 8.5'-19.5' Set screen (slot 0.010") 9.5'-19.5'
582.2	9.0	▦	▽ Saturated Limestone bedrock, weathered				
571.2	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/18/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **9.0**
▽
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.6	0.0		Brown silty clay, fine gravel, coarse gravel, crushed limestone FILL				
				SS-1 1.0-2.5 14"R	4 6 10		qu=NT Bentonite seal 2.0'-8.0'. Stickup protective cover installed.
			Dry	SS-2 3.5-5.0 14"R	7 10 21		qu=NT
				SS-3 6.0-7.5 10"R	10 11 15		qu=NT
581.6	8.0						
581.1	8.5		▽ Brown gravel, clay, silt, wet GC	SS-4 8.5-10.0 4"R	8 50/0"		Sand pack 8.0'-19.0' qu=NT Set screen (slot 0.010") 9.0'-19.0'
580.6	9.0		Weathered limestone bedrock				
569.6	20.0						
			End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/20/10** ENDED **10/20/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 8.5
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □- - -○- - -△ LL 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.8	0.0		Crushed stone, brown medium sand, black coal cinders, dry FILL				
				SS-1 1.0-2.5 10"R	7 11 8		qu=NT
				SS-2 3.5-5.0 10"R	6 14 13		Bentonite seal 3.0'-8.0'. Stickup protective cover installed. qu=NT
				SS-3 6.0-7.5 11"R	4 7 16		qu=NT
581.8	8.0		Gray silty clay, coarse to fine gravel, trace coarse sand, wet CL				
580.8	9.0		▽	SS-4 8.5-10.0 12"R	7 9 18		Set screen (slot 0.010") 8.0'-18.0' Sand pack 8.0'-18.0' qu=NT
579.3	10.5		Weathered limestone bedrock				Set up NX core barrel & cored bedrock to 18.0'
571.8	18.0		End of Boring at 18.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **9.0**
▽
▼

PATRICK ENGINEERING INC.	BORING NUMBER **B-MW-7-WI** SHEET **1** OF **1**
	CLIENT **Midwest Generation**
	PROJECT & NO. **21053.070**
	LOCATION **Will County Station**

LOGGED BY **MPG**

GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	PL □ - - - ○ - - - △ LL Water Content 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.6	0.0		Crushed stone, gravel, silt, sand FILL				
				SS-1 1.0-2.5 10"R	7 7 4		qu=NT
			Rock rubble, dry				Bentonite seal 3.0'-6.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	6 11 12		qu=NT
				SS-3 6.0-7.5 6"R	11 5 5		qu=NT Sand pack 6.0'-18.0'
582.6	7.0		Brown gravel, silt, coarse sand, saturated GC				
581.6	8.0		▽				Set screen (slot 0.010") 7.5'-17.5'
581.1	8.5		Weathered limestone bedrock	SS-4 8.5-10.0 0"R	50/2"		qu=NT Cored bedrock 9.0'-18.0'
571.6	18.0		End of Boring at 18.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/22/10** ENDED **10/22/10**

REMARKS

Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **8.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □- - -○- - -△ LL 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.6	0.0	▨	Dark brown clayey silt, dry CL				
589.1	0.5	▩	Coarse gravel, crushed rock, dry FILL	SS-1 1.0-2.5 6"R	4 7 9		qu=NT
		▩		SS-2 3.5-5.0 10"R	5 13 10		Bentonite seal 3.0'-6.0'. Stickup protective cover installed. qu=NT
		▩	Crushed rock, silty gravel Moist	SS-3 6.0-7.5 10"R	7 19 22		qu=NT Sand pack 7.0'-19.0'
582.6	7.0	▦	Weathered limestone bedrock	SS-4 8.5-10.0 4"R	10 50/1"		qu=NT Set screen (slot 0.010") 9.0'-19.0'
570.6	19.0		End of Boring at 19.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/19/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**
LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	PL □ - - ○ - - △ LL Water Content 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
589.8	0.0		Crushed rock, coarse sand, some silt FILL				
				SS-1 1.0-2.5 14"R	4 7 9		qu=NT
				SS-2 3.5-5.0 16"R	3 11 6		Bentonite seal 3.0'-8.0'. Stickup protective cover installed. qu=NT
			Some brown silty clay				
583.8	6.0		Gray silty clay, fine and coarse gravel, some coarse sand GC	SS-3 6.0-7.5 16"R	4 11 13		qu=NT
							Sand pack 8.0'-19.0'
			Moist	SS-4 8.5-10.0 17"R	4 10 11		qu=NT Set screen (slot 0.010") 9.0'-19.0'
			Clayey gravel				
578.3	11.5		Weather limestone bedrock	SS-5 11.0-12.5 12"R	5 5 50/3"		qu=NT Cored bedrock to 22.0'
570.8	19.0		End of Boring at 19.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/19/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
∇ **11.5'**
∇
∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **591.3**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	PL □---○---△ LL Water Content 10 20 30 40 50 Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
591.3	0.0		Crushed limestone, silt, gravel FILL				
				SS-1 1.0-2.5 4"R	7 10 12		Bentonite seal 2.0'-8.0'. Flush mount protective cover installed. qu=NT
				SS-2 3.5-5.0 14"R	13 18 8		
				SS-3 6.0-7.5 4"R	18 50/5"		qu=NT
				SS-4 8.5-10.0 4"R	13 17 50/1"		Sand pack 8.0'-20.0' qu=NT
581.3	10.0		▽ Weathered limestone, clay, sand, gravel GC				Set screen (slot 0.010") (slot 0.010") 10.0'-20.0'
				SS-5 11.0-12.5 0"R	17 50/0"		qu=NT
579.3	12.0		Weathered limestone bedrock				-21.0'
571.3	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/21/10** ENDED **10/21/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **10.0**
▼
▼

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KPRG and Associates, Inc.

Midwest Generation, LLC
Will County Station
Romeoville, Illinois

Project No. 12313

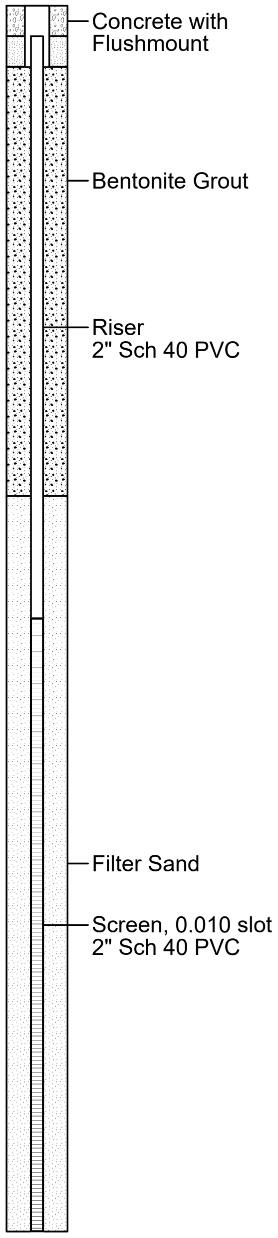
GEOLOGIC LOG OF MW-11
(Page 1 of 2)

Date Started : 09/14/15
Date Well Set : 09/14/15
Drilling Tools : 8 1/4 HSA
Reaming Tools : None
Drill Rig : Deitrich D-120
Driller Name/Co : J. Luna / Earth Solutions

Total Boring Depth : 28.0 feet
Well Bottom Depth : 20.0 feet
Surface Elev. : 591.09 feet above MSL
TOC Elev. : 590.69 feet above MSL
Groundwater Elev. : xxx feet above MSL
Riser Material : 2" Sch 40 PVC
Screen Material : 2" Sch 40 PVC, 0.010 slot
Coordinate N :
Coordinate E :
Logged By : P. Allenstein

Depth in Feet	Surf. Elev. 591.09	DESCRIPTION	% RQD	% Recovery
0	591	Roadway of Sand and Gravel, dry.		
1	590	SAND and GRAVEL, Dark Brown, fine to medium, silty, dry		
2	589	CLAY, brown, with sand and gravel, slightly moist.		
3	588	GRAVEL, limestone/dolomite, dry to slightly moist.		
4	587			
5	586	- some sand		
6	585			
7	584			
8	583	CLAY, dark brown and black, slity, some sand and gravel, moist.		
9	582			
10	581			
11	580			
12	579			
13	578	Weathered Bedrock, dolomite.		
14	577			
15	576			
16	575			
17	574			
18	573			
19	572			
20	571			
21	570			
22				

Well Diagram:



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KPRG and Associates, Inc.

GEOLOGIC LOG OF MW-11

(Page 2 of 2)

Midwest Generation, LLC
Will County Station
Romeoville, Illinois

Project No. 12313

Date Started	: 09/14/15
Date Well Set	: 09/14/15
Drilling Tools	: 8 1/4 HSA
Reaming Tools	: None
Drill Rig	: Deitrich D-120
Driller Name/Co	: J. Luna / Earth Solutions

Total Boring Depth	: 28.0 feet
Well Bottom Depth	: 20.0 feet
Surface Elev.	: 591.09 feet above MSL
TOC Elev.	: 590.69 feet above MSL
Groundwater Elev.	: xxx feet above MSL
Riser Material	: 2" Sch 40 PVC
Screen Material	: 2" Sch 40 PVC, 0.010 slot
Coordinate N	:
Coordinate E	:
Logged By	: P. Allenstein

Depth in Feet	Surf. Elev. 591.09	DESCRIPTION	% RQD	% Recovery	Well Diagram:
22	569				
23	568				
24	567				
25	566				
26	565				
27	564				
28	563				
29	562	End of Boring at 28 feet.			
30	561				
31	560				
32	559				
33	558				
34	557				
35	556				
36	555				
37	554				
38	553				
39	552				
40	551				
41	550				
42	549				
43	548				
44					

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Midwest Generation, LLC
Will County Station
Romeoville, Illinois

Project No. 12313

GEOLOGIC LOG OF MW-12

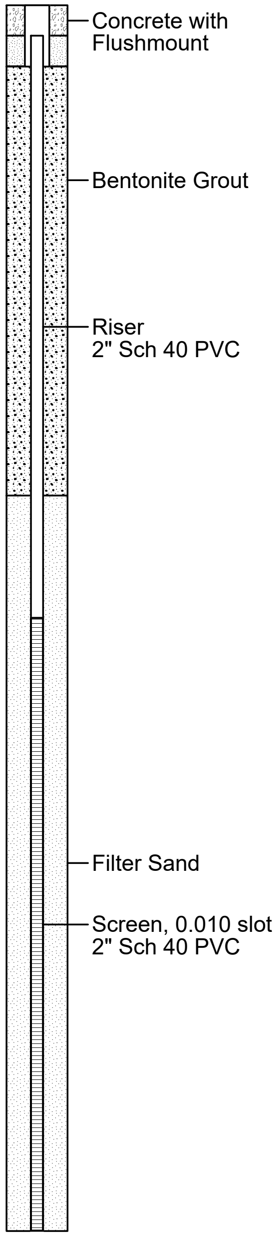
(Page 1 of 1)

Date Started	: 09/15/15
Date Well Set	: 09/15/15
Drilling Tools	: 8 1/4 HSA
Reaming Tools	: None
Drill Rig	: Deitrich D-120
Driller Name/Co	: J. Luna / Earth Solutions

Total Boring Depth	: 20.0 feet
Well Bottom Depth	: 20.0 feet
Surface Elev.	: 591.23 feet above MSL
TOC Elev.	: 590.81 feet above MSL
Groundwater Elev.	: xxx feet above MSL
Riser Material	: 2" Sch 40 PVC
Screen Material	: 2" Sch 40 PVC, 0.010 slot
Coordinate N	:
Coordinate E	:
Logged By	: P. Allenstein

Depth in Feet	Surf. Elev. 591.23	DESCRIPTION	% RQD	% Recovery
0	591	Roadway of Sand and Gravel, dry.		
1	590	SAND, Black, Brown, fine to medium, silty, dry		
2	589	CLAY, with GRAVEL, slightly moist.		
3	588			
4	587	- gravel layer		
5	586			
6	585			
7	584	SILTY SAND, fine to medium, black, moist.		
8	583			
9	582			
10	581			
11	580	SILTY SAND, tan to white, fine to medium, wet.		
12	579	SILTY SAND, brown, medium to coarse, wet.		
13	578			
14	577	SILT and CLAY, dark gray, trace sand and gravel, very soft wet.		
15	576			
16	575	CLAY, white, light greenish gray, orange mottled, moist.		
17	574			
18	573			
19	572			
20	571	End of Boring at 20 feet.		
21	570			
22				

Well Diagram:



Attachment 9-3 – Historical CCA Groundwater Data

Attachment 9-3. Table. CCA Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-01	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/14/2013		10/29/2013		2/20/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.0063	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.050	0.0025	0.041	0.0025	0.046	0.0025	0.038	0.0025	0.033	0.0025	0.033	0.0025	0.039	0.0025	0.035	0.0025	0.034	0.0025	0.034	0.0025	0.035	0.0025	0.090	0.0025	0.10	0.0025	0.085	0.0025	0.054
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	1.8	0.050	1.6	0.050	1.8	0.050	1.7	0.050	1.6	0.25	1.5	0.50	2.1	0.25	1.9	0.50	1.9	0.50	1.9	0.50	2.4	0.50	2.3	0.10	2.6	0.25	2.4	0.50	2.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	210	10	110	10	120	10	140	10	190	10	170	10	120	10	160	10	220	10	190	10	120	10	160	10	120	10	87
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.035	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0011	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0017	0.0010	ND	0.0010	0.0016	0.0010	0.0022	0.0010	0.0017	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0026	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.71	0.10	0.65	0.10	0.53	0.10	0.77	0.10	0.73	0.10	0.69	0.10	0.77	0.10	0.86	0.10	0.86 ^	0.10	0.77 ^	0.10	0.94	0.10	0.50	0.10	0.41	0.10	0.39	0.10	0.48
Iron	5.0	0.10	ND	0.10	ND	0.50	ND	0.10	0.11	0.10	0.11	0.10	ND	0.10	0.23	0.10	0.33	0.10	0.20	0.10	0.42	0.10	0.46	0.10	0.72	0.10	1.2	0.10	0.34	0.10	0.46
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.20	0.0025	0.15	0.013	0.22	0.0025	0.16	0.0025	0.17	0.0025	0.16	0.0025	0.16	0.0025	0.15	0.0025	0.18	0.0025	0.17	0.0025	0.13	0.0025	0.22	0.0025	0.28	0.0025	0.30	0.0025	0.26
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0046	0.0020	0.0038	0.010	ND	0.0020	0.0029	0.0020	0.0040	0.0020	0.0042	0.0020	0.0041	0.0020	0.0043	0.0020	0.0052	0.0020	0.054	0.0020	0.0069	0.0020	0.0047	0.0020	0.0055	0.0020	0.0058	0.0020	0.0050
Nitrogen/Nitrate	10.0	0.10	ND	0.10	1.1	0.10	0.73	0.10	0.33	0.10	1.4	0.10	2.2	0.10	0.61	0.10	0.25	0.10	1.5	0.10	1.6	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	1.1	0.10	0.73	0.10	0.37	0.10	1.4	0.20	2.2	0.10	0.61	0.10	0.25	0.10	1.5	0.10	1.6	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.042	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0053	0.0025	0.0025	0.0025	0.0033	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	0.0042	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	530	100	390	100	280	50	320	100	270	100	430	100	390	100	390	100	290	100	310	100	460	130	540	100	430	100	390	100	230
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	1100	10	1100	10	1100	10	760	10	770	10	910	10	950	10	790	10	880	10	930	10	1100	10	1300	10	1300	10	1300	10	890
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.040	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.89	NA	8.05	NA	7.28	NA	7.57	NA	7.16	NA	7.84	NA	7.55	NA	7.70	NA	7.79	NA	8.41	NA	7.56	NA	7.18	NA	7.04	NA	8.96	NA	7.19
Temperature	NA	NA	16.28	NA	10.74	NA	14.96	NA	21.42	NA	14.57	NA	12.34	NA	18.50	NA	22.35	NA	14.65	NA	9.90	NA	14.40	NA	16.82	NA	16.20	NA	11.29	NA	17.77
Conductivity	NA	NA	1.70	NA	1.76	NA	1.55	NA	1.01	NA	1.00	NA	1.06	NA	1.24	NA	1.15	NA	1.14	NA	1.16	NA	1.25	NA	1.51	NA	1.53	NA	1.27	NA	1.50
Dissolved Oxygen	NA	NA	NM	NA	0.34	NA	0.07	NA	0.06	NA	0.06	NA	0.11	NA	0.13	NA	0.09	NA	0.06	NA	0.20	NA	0.50	NA	0.26	NA	0.57	NA	1.11	NA	0.42
ORP	NA	NA	NM	NA	-174.1	NA	49.2	NA	-306	NA	-108	NA	-63	NA	-98	NA	-128	NA	-103	NA	-112.3	NA	-157.5	NA	-81.4	NA	-132.6	NA	-180.6	NA	-9.7

Sample: MW-01	Date	8/13/2014		10/21/2014		2/4/2015		4/30/2015		7/27/2015		11/9/2015		2/18/2016		5/26/2016		8/11/2016		10/27/2016		2/2/2017		5/10/2017		9/8/2017		11/15/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Barium	2.0	0.0025	0.064	0.0025	0.077	0.0025	0.066	0.0025	0.069	0.0025	0.076	0.0025	0.078	0.0025	0.075	0.0025	0.075	0.0025	0.10	0.0025	0.095	0.0025	0.082	0.0025	0.078	0.0025	0.087	0.0025	0.089	0.0025	0.089
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.10	1.2	0.050	0.96	1.0	ND	0.25	0.81	0.050	0.91	0.050	0.73	0.050	0.80	0.050	0.74	0.25	0.87	0.050	0.76	0.50	0.69	0.25	1.1	0.05	0.73	0.05	0.74	0.05	0.74
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2.0	35	2.0	29	2.0	30	2.0	28	2.0	33	2.0	26	2.0	27	2.0	25	2.0	26	2.0	24	2.0	33	2.0	50	2	27	2	26	2	26
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.50	0.10	0.52	0.10	0.59	0.10	0.59	0.10	0.66	0.10	0.80	0.10	0.73	0.10	0.72	0.10	0.82	0.10	0.89	0.10	0.79	0.10	0.59	0.1	0.90 F1	0.1	0.93	0.1	0.93
Iron	5.0	0.10	0.19	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.24	0.0025	0.17	0.0025	0.079	0.0025	0.011	0.0025	0.15	0.0025	0.088	0.0025	0.0087	0.0025	0.0082	0.0025	0.075 B	0.0025	0.074	0.0025	0.025	0.0025	0.032	0.0025	0.043	0.0025	0.0081	0.0025	0.0081
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	0.00020	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0023	0.002	ND	0.002	ND	0.002	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15	0.10	0.37	0.10	0.40	0.10	0.12	0.10	ND	0.10	0.58	0.10	ND	0.1	0.26	0.1	0.27	0.1	0.27
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15	0.10	0.37	0.10	0.40	0.10	0.12	0.10	ND	0.10	0.58	0.10	ND	0.1	0.26	0.1	0.27	0.1	0.27
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	0.0028	0.0025	0.0051	0.0025	0.0053 ^	0.0025	0.0027	0.0025	0.0028	0.0025	0.0032	0.0025	0.0039	0.0025	0.0026	0.0025	ND	0.0050	ND	0.0025	ND	0.0025	0.0028	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	25	91	25	150	25	99	50	100	25	120	25	110	50	120	25	110	25	80	20	97	25	90	50	140	25	110	25	110	25	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	600	10	600	10	570	10	510	10	570	10	470	10	530	10	530	10	510	10	480	10	590	10	650	10	530	10	590	10	590
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	0.00059	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0013	0.0025	ND	0.0025	0.0012	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00072
pH	6.5 - 9.0	NA	6.91	NA	7.12	NA	7.41	NA	7.36	NA	7.44	NA	7.25	NA	7.17	NA	7.12	NA	7.07	NA	7.45	NA	7.22	NA	7.67	NA	7.12	NA	6.97	NA	7.15
Temperature	NA	NA	20.79	NA	17.29	NA	12.62	NA	12.63	NA	21.71	NA	17.51	NA	10.73	NA	20.50	NA	23.50	NA	15.04	NA	11.20	NA	13.67	NA	18.70	NA	14.16	NA	11.57
Conductivity	NA	NA	0.95	NA	0.90	NA	0.64	NA	0.697	NA	0.858	NA	0.687	NA	0.53	NA	0.80	NA	0.82	NA	0.64	NA	0.64	NA	0.69	NA	0.07	NA	0.64	NA	0.57
Dissolved Oxygen	NA	NA	0.50	NA	0.45	NA	1.07	NA	2.32	NA	1.39	NA	0.62	NA	2.08	NA	2.02	NA	1.51	NA	2.53	NA	1.10	NA	2.86	NA	0.51	NA	2.73	NA	2.16
ORP	NA	NA	-60.4	NA	-64.4	NA	-8.3	NA	31.7	NA	-122.9	NA	-0.6	NA	-43.8	NA	-18.5	NA	-126.9	NA	-62.6	NA	-5.5	NA	148.7	NA	19.2	NA	-85.3	NA	-23.3

Sample: MW-01	Date	5/2/2018		7/24/2018		10/4/2018		2/19/2019		5/28/2019		8/21/2019		12/6/2019		2/19/2020		5/26/2020		8/5/2020		11/3/2020		2/23/2021		5/24/2021		8/23/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Barium	2.0	0.0025	0.079	0.0025	0.096	0.0025	0.092	0.0025	0.082	0.0025	0.081	0.0025	0.13	0.0025	0.11	0.0025	0.093	0.0025	0.08	0.0025	0.097	0.0025	0.1	0.0025	0.095	0.0025	0.096	0.0025	0.1	0.0025	0.093
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	0.75	0.25	0.9	0.05	0.7	0.05	0.57	0.05	0.9	0.05	1.7	0.05	2.5	0.05	2.7	0.05	2.1	0.25	2.7	0.5	2.9	0.25	2.4	0.5	2.2	0.5	2.5	0.25	2.1
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	29	2	29	2	28	2	59	2	64	2	31	2	25	2	21	2	35	2	16	2	23	2	25	2	18	2	18	2	28
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0022	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.85	0.1	0.89	0.1	1	0.1	0.82	0.1	0.78	0.1	0.78	0.1	0.78	0.1	0.73	0.1	0.71	0.1	0.73	0.1	0.7	0.1	0.58	0.1	0.61	0.1	0.59	0.1	0.55
Iron	5.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	ND	0.0025	0.065	0.0025	0.043	0.0025	ND	0.0025	0.057	0.0025	0.13	0.0025	0.11	0.0025	0.079	0.0025	0.067	0.0025	0.1	0.0025	0.058	0.0025	0.017	0.0025	0.037	0.0025	0.067	0.0025	0.022
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0031	0.002	0.0048	0.002	0.0045	0.002	0.0041	0.002	0.0041	0.002	0.0042	0.002	0.0041	0.002	0.0032	0.002	0.0042	0.002	0.0066	0.002	0.0036
Nitrogen/Nitrate	10.0	0.1	0.4	0.1	0.37	0.1	0.3	0.1	0.51	0.1	0.12	0.1	0.69	0.1	1.4	0.1	0.8	0.1	0.16	0.1	0.13	0.1	ND	0.1	0.22	0.1	0.4	0.1	0.13	0.1	0.4
Nitrogen/Nitrate, Nit	NA	0.1	0.4	0.1	0.37	0.1	0.3	0.1	0.51	0.1	0.12	0.1	0.69	0.1	1.4	0.1	0.8	0.1	0.16	0.1	0.13	0.1	ND	0.1	0.22	0.1	0.4	0.1	0.13	0.1	0.4
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0029	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	0.0027	0.0025	0.0061	0.0025	0.0025	0.0025	0.0026	0.0025	0.0068	0.0025	0.017	0.0025	0.013	0.0025	0.0076	0.0025	0.02
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND F1	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	25	110	25	94	20	82	20	100	20	160	20	270	20	340	20	ND	20	300	100	300	50	260	100	270	100	350	100	410	100	250
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	540	10	570	10	520	10	590	10	780	10	950	10	1000	10	1000	10	910	30	950	30	2800	10	860 H	10	1100	10	1200	10	990
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0011	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.46	NA	6.93	NA	7.5	NA	7.02	NA	7.12	NA	6.91	NA	6.93	NA	6.91	NA	6.88	NA	6.58	NA	6.60	NA	6.89	NA	6.86	NA	6.99	NA	6.62
Temperature	NA	NA	15.40	NA	20.76	NA	16.65	NA	11.60	NA	12.40	NA	16.00	NA	14.90	NA	11.71	NA	13.30	NA	15.90	NA	16.70	NA	12.80	NA	13.90	NA	18.00	NA	16.40
Conductivity	NA	NA	0.631	NA	0.698	NA	0.629	NA	0.944	NA	1.070	NA	0.146	NA	1.669	NA	1.007	NA	1.289	NA	1.414	NA	0.270	NA	1.492	NA	1.503	NA	3.985	NA	1.486
Dissolved Oxygen	NA	NA	2.18	NA	3.26	NA	3.18	NA	0.45	NA	0.29	NA	0.34	NA	0.73	NA	2.79	NA	0.59	NA	NM	NA	0.31	NA	0.63	NA	0.18	NA	0.63	NA	0.54
ORP	NA	NA	-31.6	NA	-91.1	NA	-57.2	NA	88.5	NA	233.1	NA	34.3	NA	26.3	NA	145.0	NA	74.8	NA	83.4	NA	-23.5	NA	33.9	NA	174.0	NA	110.6	NA	119.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-02	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/14/2013		10/28/2013		2/20/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	0.0073	0.0030	0.017	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0052	0.0010	0.0032	0.0050	ND	0.0010	0.0080	0.0010	0.0058	0.0010	0.0048	0.0010	0.0044	0.0010	0.0071	0.0010	0.0046	0.0010	0.0037	0.0010	0.0051	0.0010	0.0059	0.0010	0.0091	0.0010	0.0071	0.0010	0.0053
Barium	2.0	0.0025	0.061	0.0025	0.068	0.013	0.068	0.0025	0.048	0.0025	0.048	0.0025	0.058	0.0025	0.062	0.0025	0.050	0.0025	0.051	0.0025	0.057	0.0025	0.071	0.0025	0.075	0.0025	0.079	0.0025	0.080	0.0025	0.077
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	1.8	0.25	1.7	0.050	2.3	0.050	2.3	0.050	1.7	0.25	1.7	0.50	2.0	0.25	2.2	0.50	1.8	0.50	1.7	0.50	1.9	0.50	2.2	0.10	2.4	0.25	2.4	0.50	2.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	250	10	180	10	110	10	120	10	140	10	150	10	110	10	130	10	190	10	200	10	170	10	180	10	170	10	130
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.62	0.10	0.50	0.10	0.42	0.10	0.59	0.10	0.59	0.10	0.46	0.10	0.55	0.10	0.71	0.10	0.60 ^	0.10	0.48 ^	0.10	0.47	0.10	0.45	0.10	0.47	0.10	0.44	0.10	0.39
Iron	5.0	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.14	0.10	0.33	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.032	0.0025	0.032	0.013	0.043	0.0025	0.036	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.029	0.0025	0.033	0.0025	0.029	0.0025	0.041	0.0025	0.041	0.0025	0.043	0.0025	0.044	0.0025	0.024
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	0.0024	0.0020	0.0024	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.16
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.16
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	430	100	280	50	400	50	330	50	220	50	330	100	340	50	280	50	250	50	260	50	250	100	300	100	280	100	210	100	300
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	870	10	970	10	900	10	720	10	650	10	810	10	850	10	690	10	710	10	740	10	890	10	900	10	950	10	1000	10	1000
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	8.62	NA	8.62	NA	8.00	NA	8.11	NA	7.80	NA	8.34	NA	8.23	NA	8.33	NA	8.40	NA	7.79	NA	8.00	NA	7.93	NA	8.06	NA	8.97	NA	7.74
Temperature	NA	NA	16.29	NA	13.56	NA	15.90	NA	18.05	NA	16.14	NA	14.74	NA	16.59	NA	19.10	NA	15.58	NA	12.00	NA	15.53	NA	16.36	NA	15.02	NA	11.56	NA	17.35
Conductivity	NA	NA	1.37	NA	1.64	NA	1.54	NA	0.96	NA	0.83	NA	0.95	NA	1.12	NA	0.91	NA	0.88	NA	0.97	NA	1.06	NA	1.10	NA	1.06	NA	1.02	NA	1.31
Dissolved Oxygen	NA	NA	NM	NA	0.19	NA	0.07	NA	0.06	NA	0.06	NA	0.02	NA	0.03	NA	0.14	NA	0.06	NA	3.81	NA	0.52	NA	0.19	NA	0.54	NA	1.31	NA	0.72
ORP	NA	NA	NM	NA	-154.9	NA	63	NA	-309	NA	-147	NA	-104	NA	-160	NA	-156	NA	-106	NA	189.8	NA	-117.5	NA	-160.5	NA	-172.5	NA	-161.4	NA	-28.3

Sample: MW-02	Date	8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015		2/17/2016		5/25/2016		8/11/2016		10/27/2016		2/2/2017		5/10/2017		9/8/2017		11/15/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0096	0.0010	0.013	0.0010	0.0095	0.0010	0.0076	0.0010	0.013	0.0010	0.018	0.0010	0.0072	0.0010	0.0088	0.0010	0.018	0.0010	0.017	0.0020	0.0075	0.0010	0.0025	0.001	0.016	0.001	0.012	0.001	0.012
Barium	2.0	0.0025	0.089	0.0025	0.10	0.0025	0.092	0.0025	0.096	0.0025	0.093	0.0025	0.098	0.0025	0.092	0.0025	0.088	0.0025	0.090	0.0025	0.093	0.0025	0.078	0.0025	0.075	0.0025	0.075	0.0025	0.076	0.0025	0.076
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	3.0	0.50	3.6	1.0	3.8	0.25	3.8	0.50	4.0	0.50	4.4	0.050	4.3	0.050	3.9	0.25	4.1	0.50	4.9	0.50	4.3	0.50	3.6	0.5	5.0	1	5.1	1	5.1
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	100	10	97	10	130	10	110	10	90	10	110	10	80	2.0	64	2.0	72	2.0	71	2.0	56	2.0	44	2	64	2	57	2	57
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.41	0.10	0.39	0.10	0.41	0.10	0.38	0.10	0.38	0.10	0.40	0.10	0.38	0.10	0.32	0.10	0.34	0.10	0.36	0.10	0.40	0.10	0.18	0.1	0.34	0.1	0.34	0.1	0.34
Iron	5.0	0.10	0.29	0.10	0.64	0.10	0.17	0.10	ND	0.10	0.58	0.10	0.78	0.10	ND	0.10	0.21	0.10	1.0	0.10	1.0	0.10	0.15	0.10	0.42	0.1	0.8	0.1	0.67	0.1	0.67
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0012	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.074	0.0025	0.083	0.0025	0.064	0.0025	0.055	0.0025	0.085	0.0025	0.068	0.0025	0.080	0.0025	0.061	0.0025	0.083 B	0.0025	0.092	0.0025	0.079	0.0025	0.21	0.0025	0.071	0.0025	0.074	0.0025	0.074
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	0.00028	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0026	0.0020	0.0029	0.0020	0.0029	0.0020	0.0032	0.0020	0.0029	0.0020	0.0031	0.0020	0.0048	0.0020	0.0032	0.0020	0.0038	0.0020	0.0038	0.0020	0.0029	0.0020	0.0085	0.002	0.0028	0.002	0.0028	0.002	0.0028
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0050	ND	0.0025	ND	0.0025	0.026	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	340	100	510	100	400	100	460	100	610	100	600	200	710	250	650	250	510	250	670	100	590	250	470	250	870	250	670	250	670
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	1100	10	1200	10	1200	10	1200	10	1300	10	1000	10	1300	10	1300	10	1500	10	1500	10	1400	10	1300	10	1400	10	1400	10	1400
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00057	0.0005	ND	0.0005	0.00063	0.0005	ND
BETX	11.705	0.0025	0.00083	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00072	0.0025	ND	0.0025	ND	0.0025	0.00055	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00513	0.0025	0.001
pH	6.5 - 9.0	NA	7.59	NA	6.94	NA	8.14	NA	8.00	NA	7.94	NA	8.06	NA	7.63	NA	7.50	NA	7.60	NA	7.86	NA	7.76	NA	8.26	NA	7.66	NA	7.48	NA	7.43
Temperature	NA	NA	18.69	NA	17.11	NA	14.26	NA	18.64	NA	19.83	NA	15.84	NA	8.11	NA	18.77	NA	26.04	NA	14.23	NA	11.16	NA	14.08	NA	16.90	NA	13.59	NA	12.82
Conductivity	NA	NA	1.38	NA	1.63	NA	1.37	NA	1.581	NA	1.718	NA	1.495	NA	1.05	NA	1.70	NA	1.97	NA	1.54	NA	1.42	NA	1.35	NA	1.55	NA	1.43	NA	1.29
Dissolved Oxygen	NA	NA	0.38	NA	0.31	NA	0.90	NA	1.60	NA	0.75	NA	0.49	NA	1.68	NA	1.30	NA	2.33	NA	2.28	NA	0.84	NA	2.48	NA	0.28	NA	2.98	NA	0.98
ORP	NA	NA	-107.9	NA	-135.2	NA	-126.8	NA	-116.1	NA	-112.8	NA	-143.6	NA	-96.1	NA	-81.0	NA	-136.7	NA	-148.3	NA	-47.6	NA	-17.1	NA	-144.0	NA	-119.8	NA	-87.5

Sample: MW-02	Date	5/2/2018		7/24/2018		10/4/2018		2/19/2019		5/28/2019		8/21/2019		12/6/2019		2/27/2020		5/22/2020		8/5/2020		11/3/2020		2/25/2021		5/24/2021		8/23/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.0053	0.001	0.011	0.001	0.012	0.001	0.0078	0.001	0.0078	0.001	0.0094	0.001	0.012	0.001	0.0097	0.001	0.0073	0.001	0.01	0.001	0.0095	0.001	0.0082	0.001	0.0079	0.001	0.01	0.001	0.011
Barium	2.0	0.0025	0.074	0.0025	0.072	0.0025	0.073	0.0025	0.068	0.0025	0.058	0.0025	0.053	0.0025	0.073	0.0025	0.058	0.0025	0.058	0.0025	0.059	0.0025	0.056	0.0025	0.058	0.0025	0.059	0.0025	0.063	0.0025	0.062
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.5	5.1	0.5	4.9	1	5.4	1	4.1	1	3.8	1	5.7	1	5.4	1	4.4	1	4.4	0.5	5.4	1	5.1	1	5.4	1	5.2	1	4.9	1	5.7
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	57	2	43	2	62	2	39	2	22	2	27	2	62	2	25	2	16	2	17	2	21	2	27	2	24	2	25	2	27
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.34	0.1	0.31	0.1	0.38	0.1	0.32	0.1	0.24	0.1	0.33	0.1	0.38	0.1	0.34	0.1	0.32	0.1	0.38	0.1	0.41	0.1	0.4	0.1	0.4	0.1	0.37	0.1	0.38
Iron	5.0	0.1	ND	0.1	0.64	0.1	0.83	0.1	0.17	0.1	ND	0.1	0.27	0.1	0.83	0.1	0.13	0.1	0.13	0.1	0.32	0.1	0.28	0.1	0.1	0.1	0.1	0.1	0.42	0.1	0.41
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.026	0.0025	0.066	0.0025	0.069	0.0025	0.055	0.0025	0.029	0.0025	0.04	0.0025	0.069	0.0025	0.048	0.0025	0.038	0.0025	0.055	0.0025	0.044	0.0025	0.053	0.0025	0.029	0.0025	0.054	0.0025	0.053
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0031	0.002	0.0028	0.002	0.0028	0.002	0.0026	0.002	ND	0.002	0.002	0.002	0.0028	0.002	0.0023	0.002	ND	0.002	ND	0.002	ND	0.002	0.0021	0.002	0.0023	0.002	0.0032	0.002	0.0024
Nitrogen/Nitrate	10.0	0.1	0.1	0.1	ND	0.1	ND	0.1	ND	0.1	0.17	0.1	ND	0.1	ND	0.1	ND	0.1	0.1	0.1	ND	0.1	ND	0.1	0.15	0.1	ND	0.02	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	0.1	0.1	ND	0.1	ND	0.1	ND	0.1	0.17	0.1	ND	0.1	ND	0.1	ND	0.1	0.1	0.1	ND	0.1	ND	0.1	0.15	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.1	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0029	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0029	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0051	0.0025	0.0025	0.0025	ND	0.0025	0.0086	0.0025	0.008
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	200	1100	100	650	100	640	100	580	100	460	100	440	100	640	100	ND	100	450	100	450	50	440	100	520	130	550	100	540	100	510
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	1400	10	1400	10	1400	10	1300	10	1200	10	1000	10	1400	10	1000	10	980	30	980	30	1000	10	1100	10	1100	10	1100	10	1100
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0014	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0014	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.82	NA	6.99	NA	7.93	NA	7.61	NA	7.66	NA	7.73	NA	7.93	NA	7.57	NA	7.62	NA	7.32	NA	7.41	NA	7.88	NA	7.77	NA	8.02	NA	7.72
Temperature	NA	NA	18.11	NA	21.65	NA	17.93	NA	14.90	NA	14.10	NA	16.70	NA	17.93	NA	13.65	NA	14.10	NA	16.00	NA	17.40	NA	13.90	NA	15.30	NA	17.90	NA	17.20
Conductivity	NA	NA	1.516	NA	1.554	NA	1.459	NA	1.785	NA	1.590	NA	0.175	NA	1.459	NA	1.059	NA	1.570	NA	1.422	NA	1.500	NA	1.512	NA	1.495	NA	3.352	NA	1.607
Dissolved Oxygen	NA	NA	2.06	NA	1.95	NA	1.19	NA	0.07	NA	0.41	NA	0.24	NA	1.19	NA	3.33	NA	0.82	NA	NM	NA	0.35	NA	0.13	NA	0.57	NA	0.28	NA	0.44
ORP	NA	NA	-62.3	NA	-105.7	NA	-107.4	NA	-110.5	NA	10.1	NA	-135.1	NA	-107.4	NA	-105.6	NA	-60.4	NA	-111.5	NA	-181.9	NA	-113.0	NA	140.2	NA	-204.2	NA	-172.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-03	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013		2/13/2014		5/21/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0020	0.0010	0.0024	0.0050	ND	0.0010	0.0025	0.0010	0.0018	0.0010	0.0017	0.0010	0.0020	0.0010	0.0026	0.0010	0.0019	0.0010	0.0017	0.0010	0.0019	0.0010	0.0023	0.0010	0.0018	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.084	0.0025	0.086	0.013	0.071	0.0025	0.079	0.0025	0.083	0.0025	0.075	0.0025	0.12	0.0025	0.085	0.0025	0.079	0.0025	0.085	0.0025	0.095	0.0025	0.083	0.0025	0.083	0.0025	0.095	0.0025	0.071
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	2.7	0.25	2.4	0.050	2.6	0.050	3.3	0.050	2.8	0.25	2.7	0.50	3.1	0.25	3.9	0.50	3.4	0.50	3.2	0.50	3.7	0.50	3.6	0.10	3.5	0.50	3.2	0.50	3.3
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	54	10	250	10	100	10	130	10	100	10	95	10	88	10	96	10	100	10	87	10	110	10	100	10	110	2.0	69	2.0	62
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	0.0022	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0014	0.0010	0.0016	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.50	0.10	0.37	0.10	0.36	0.10	0.45	0.10	0.39	0.10	0.38	0.10	0.36	0.10	0.45	0.10	0.44 ^	0.10	0.38 ^	0.10	0.41	0.10	0.42	0.10	0.49	0.10	0.41	0.10	0.43
Iron	5.0	0.10	0.37	0.10	0.57	0.50	ND	0.10	0.26	0.10	0.19	0.10	0.20	0.10	0.34	0.10	0.21	0.10	0.20	0.10	0.20	0.10	0.21	0.10	0.26	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.34	0.0025	0.31	0.013	0.34	0.0025	0.26	0.0025	0.29	0.0025	0.27	0.0025	0.37	0.0025	0.24	0.0025	0.25	0.0025	0.29	0.0025	0.22	0.0025	0.19	0.0025	0.16	0.0025	0.45	0.0025	0.25
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0054	0.0020	0.0037	0.010	ND	0.0020	0.0061	0.0020	0.0053	0.0020	0.0052	0.0020	0.0051	0.0020	0.0069	0.0020	0.0079	0.0020	0.0061	0.0020	0.0088	0.0020	0.010	0.0020	0.011	0.0020	0.0058	0.0020	0.0061
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.81	0.10	ND	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND	0.10	ND	0.10	0.21	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	0.81	0.10	ND	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND^	0.10	ND	0.10	0.21	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0033	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0049	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	330	50	270	50	240	100	250	100	280	100	320	100	500	100	440	100	480	100	390	100	610	100	530	100	540	100	560	100	560
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	940	10	1000	10	990	10	1000	10	930	10	1000	10	1400	10	1100	10	1100	10	1100	10	1200	10	1200	10	1100	10	1200	10	1200
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.21	NA	7.72	NA	7.01	NA	7.18	NA	6.55	NA	7.24	NA	6.79	NA	7.12	NA	7.21	NA	7.88	NA	7.21	NA	7.20	NA	7.24	NA	7.03	NA	7.21
Temperature	NA	NA	12.84	NA	9.89	NA	14.19	NA	15.69	NA	13.57	NA	11.65	NA	15.47	NA	17.33	NA	13.40	NA	9.50	NA	16.15	NA	16.84	NA	14.53	NA	9.92	NA	15.74
Conductivity	NA	NA	1.52	NA	1.69	NA	1.46	NA	1.24	NA	1.14	NA	1.06	NA	1.48	NA	1.38	NA	1.25	NA	1.18	NA	1.39	NA	1.37	NA	1.22	NA	1.03	NA	1.43
Dissolved Oxygen	NA	NA	NM	NA	0.18	NA	3.15	NA	0.02	NA	0.06	NA	0.02	NA	0.03	NA	0.02	NA	0.15	NA	3.93	NA	0.58	NA	0.43	NA	0.51	NA	0.81	NA	0.73
ORP	NA	NA	NM	NA	-157.3	NA	115.5	NA	-285	NA	-113	NA	-31	NA	-50	NA	-34	NA	-57	NA	60.1	NA	-65.3	NA	-66.4	NA	-138.6	NA	434.5	NA	18.4

Sample: MW-03	Date	8/12/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015		2/17/2016		5/25/2016		8/11/2016		10/27/2016		2/1/2017		5/11/2017		9/8/2017		11/16/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0021	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	0.0070	0.001	0.0014	0.001	ND	0.001	ND
Barium	2.0	0.0025	0.064	0.0025	0.077	0.0025	0.094	0.0025	0.093	0.0025	0.081	0.0025	0.11	0.0025	0.079	0.0025	0.088	0.0025	0.11	0.0025	0.11	0.0025	0.083	0.0025	0.067	0.0025	0.11	0.0025	0.11	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	3.5	0.50	3.6	1.0	2.9	0.25	2.9	0.50	4.1	0.50	3.0	0.050	3.0	0.050	2.9	0.25	3.1	0.50	3.3 F1	0.25	3.0	0.50	4.1	0.25	1.3	0.5	2.8	0.5	2.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	91	2.0	57	2.0	43	2.0	33	2.0	59	10	33	2.0	28	2.0	27	2.0	27	2.0	22	2.0	20	2.0	43	10	98	2	16	2	16
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	0.0011	0.001	0.0011
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.56	0.10	0.51	0.10	0.38	0.10	0.38	0.10	0.44	0.10	0.39	0.10	0.41	0.10	0.41	0.10	0.36	0.10	0.38	0.10	0.34	0.10	0.27	0.1	0.39	0.1	0.39	0.1	0.39
Iron	5.0	0.10	0.13	0.10	ND	0.10	0.18	0.10	0.12	0.10	0.13	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	0.12	0.1	ND	0.1	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.16	0.0025	0.29	0.0025	0.47	0.0025	0.43	0.0025	0.28	0.0025	0.42	0.0025	0.33	0.0025	0.35	0.0025	0.41 B	0.0025	0.49	0.0025	0.33	0.0025	0.033	0.0025	0.49	0.0025	0.46	0.0025	0.46
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.010	0.0020	0.0073	0.0020	0.0055	0.0020	0.0047	0.0020	0.0086	0.0020	0.0049	0.0020	0.0073	0.0020	0.0061	0.0020	0.0073	0.0020	0.0064	0.0020	0.0068	0.0020	0.0021	0.002	0.0062	0.002	0.0054	0.002	0.0054
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.30	0.10	ND	0.10	0.82	0.10	0.20	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.30	0.10	ND	0.10	0.82	0.10	0.20	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND F1	0.0050	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	570	100	570	100	320	100	250	100	520	50	280	100	400	100	370	100	230	50	240	100	310	100	510	50	190	50	210	50	210
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	1100	10	1100	10	1100	10	990	10	1100	10	950	10	980	10	960	10	930	10	910	10	940	10	1100	10	940	10	930	10	930
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0014	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00071	0.0025	0.0013
pH	6.5 - 9.0	NA	7.39	NA	6.06	NA	7.11	NA	7.07	NA	7.63	NA	6.81	NA	7.10	NA	7.02	NA	6.90	NA	6.97	NA	7.18	NA	8.12	NA	6.82	NA	6.63	NA	7.10
Temperature	NA	NA	16.79	NA	14.39	NA	10.34	NA	11.15	NA	18.62	NA	13.54	NA	9.00	NA	20.09	NA	20.43	NA	13.88	NA	7.94	NA	12.14	NA	15.80	NA	11.45	NA	11.87
Conductivity	NA	NA	1.40	NA	1.48	NA	1.11	NA	1.139	NA	1.472	NA	1.155	NA	0.84	NA	1.26	NA	1.26	NA	1.05	NA	0.97	NA	1.07	NA	1.07	NA	0.93	NA	0.903
Dissolved Oxygen	NA	NA	1.45	NA	0.43	NA	1.81	NA	2.99	NA	1.13	NA	1.08	NA	1.27	NA	2.02	NA	1.32	NA	2.10	NA	2.23	NA	2.05	NA	0.18	NA	2.69	NA	3.13
ORP	NA	NA	-90.3	NA	47.7	NA	7.2	NA	-18.3	NA	-124.6	NA	-6.0	NA	44.1	NA	-74.2	NA	-95.1	NA	-82.0	NA	-70.7	NA	-60.1	NA	-2.9	NA	-41.2	NA	-44.2

Sample: MW-03	Date	5/2/2018		7/24/2018		10/4/2018		2/20/2019		5/29/2019		8/21/2019		12/6/2019		2/27/2020		5/26/2020		8/7/2020		11/4/2020		3/1/2021		5/24/2021		8/24/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0017	0.001	ND	0.001	ND	0.001	ND	0.001	0.0013	0.001	ND
Barium	2.0	0.0025	0.09	0.0025	0.096	0.0025	0.11	0.0025	0.086	0.0025	0.086	0.0025	0.086	0.0025	0.089	0.0025	0.088	0.0025	0.07	0.0025	0.077	0.0025	0.088	0.0025	0.097	0.0025	0.11	0.0025	0.089	0.0025	0.12
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	2.3	0.5	3.3	0.5	2.5	0.5	2.4	0.5	2.9	0.5	2.9	0.5	3.2	0.5	2.6	0.5	3.1	0.5	4.2	1	3.2	0.5	3.6	0.5	3.0	0.5	3.5	0.5	3.7
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	16	2	20	2	22	2	35	2	19	2	41	2	12	2	14	2	17	2	21	2	40	2	17	2	19	2	30	2	27
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	0.0011	0.001	ND	0.001	ND	0.001	ND	0.001	0.0014	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	0.0067	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.39	0.1	0.36	0.1	0.38	0.1	0.36	0.1	0.29	0.1	0.38	0.1	0.49	0.1	0.4	0.1	0.32	0.1	0.38	0.1	0.45	0.1	0.3	0.1	0.32	0.1	0.32	0.1	0.32
Iron	5.0	0.1	ND	0.1	0.12	0.1	0.16	0.1	ND	0.1	ND	0.1	0.14	0.1	ND	0.1	ND	0.1	0.11	0.1	0.18	0.1	0.13	0.1	ND	0.1	ND	0.1	0.15	0.1	ND
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.35	0.0025	0.35	0.0025	0.54	0.0025	0.31	0.0025	0.26	0.0025	0.35	0.0025	0.24	0.0025	0.27	0.0025	0.2	0.0025	0.21	0.0025	0.27	0.0025	0.27	0.0025	0.35	0.0025	0.25	0.0025	0.42
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0052	0.002	0.0065	0.002	0.0043	0.002	0.0059	0.002	0.0058	0.002	0.0078	0.002	0.0047	0.002	0.0047	0.002	0.0052	0.002	0.0062	0.002	0.009	0.002	0.0056	0.002	0.0051	0.002	0.0084	0.002	0.0067
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	ND	0.1	0.26	0.1	0.58	0.1	ND	0.1	ND	0.1	ND	0.1	0.21	0.1	ND	0.1	ND	0.1	ND	0.1	0.32	0.1	ND	0.1	0.25
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	ND	0.1	0.26	0.1	0.58	0.1	ND	0.1	ND	0.1	ND	0.1	0.21	0.1	ND	0.1	ND	0.1	ND	0.1	0.32	0.1	ND	0.1	0.25
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND ^1+	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND ^	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0056	0.0025	ND	0.0025	0.01
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	270	100	280	50	120	50	300	50	290	50	360	50	260	50	ND	50	310	100	360	50	330	100	340	130	270	100	290	50	340
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	880	10	940	10	820	10	880	10	970	10	960	10	710	10	770	10	700	30	870	60	940	10	1000	10	870	10	720	10	1000
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0011	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.29	NA	6.60	NA	7.09	NA	6.86	NA	7.15	NA	7.15	NA	7.05	NA	6.83	NA	7.15	NA	6.78	NA	7.14	NA	7.19	NA	6.91	NA	7.28	NA	6.67
Temperature	NA	NA	16.66	NA	20.11	NA	15.47	NA	11.00	NA	12.00	NA	15.20	NA	13.40	NA	10.12	NA	12.00	NA	14.80	NA	15.00	NA	10.60	NA	12.50	NA	16.00	NA	14.60
Conductivity	NA	NA	0.099	NA	1.072	NA	0.962	NA	1.380	NA	1.330	NA	0.218	NA	1.226	NA	0.743	NA	1.235	NA	1.341	NA	1.330	NA	1.425	NA	1.249	NA	1.568	NA	1.533
Dissolved Oxygen	NA	NA	1.60	NA	3.95	NA	2.22	NA	0.12	NA	0.20	NA	0.31	NA	0.81	NA	3.01	NA	0.59	NA	NM	NA	0.25	NA	-0.01	NA	0.10	NA	0.98	NA	0.53
ORP	NA	NA	-21.0	NA	-66.1	NA	-56.6	NA	109.6	NA	-2.1	NA	-23.6	NA	-29.8	NA	-80.1	NA	-36.8	NA	-58.4	NA	-75.9	NA	-69.3	NA	138.6	NA	-189.8	NA	22.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Attachment 9-3. Table. CCA Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-04	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013		2/13/2014		5/21/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0027	0.0010	0.0016	0.0050	ND	0.0010	0.0041	0.0010	0.0016	0.0010	0.0015	0.0010	0.0028	0.0010	0.0044	0.0020	0.0033	0.0010	0.0010	0.0010	0.0013	0.0010	0.0032	0.0010	0.0054	0.0010	0.0010	0.0010	ND
Barium	2.0	0.0025	0.068	0.0025	0.062	0.013	0.050	0.0025	0.050	0.0025	0.043	0.0025	0.036	0.0025	0.041	0.0025	0.041	0.0050	0.037	0.0025	0.033	0.0025	0.034	0.0025	0.033	0.0025	0.037	0.0025	0.034	0.0025	0.030
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	3.7	0.25	3.3	0.050	3.6	0.050	4.3	0.050	3.0	0.25	4.0	0.50	5.3	0.25	6.2	0.10	5.2	0.50	4.5	0.50	3.8	0.50	5.1	0.10	5.6	0.50	4.6	0.50	4.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	190	10	120	10	170	10	150	10	150	10	140	10	170	10	170	10	150	10	110	10	120	10	89	10	110	10	85
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0011	0.0010	ND	0.0050	ND	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0014	0.0010	0.0012	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0040	ND	0.0020	ND	0.0020	0.0023	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.52	0.10	0.49	0.10	0.48	0.10	0.53	0.10	0.55	0.10	0.50	0.10	0.62	0.10	0.68	0.10	0.63 ^	0.10	0.56 ^	0.10	0.60	0.10	0.66	0.10	0.47	0.10	0.43	0.10	0.43
Iron	5.0	0.10	0.83	0.10	0.78	0.50	0.70	0.10	1.2	0.10	0.64	0.10	0.53	0.10	0.95	0.10	0.83	0.20	1.2	0.10	0.20	0.10	ND	0.10	0.66	0.10	0.92	0.10	0.64	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.52	0.0025	0.58	0.013	0.70	0.0025	1.0	0.0025	0.62	0.0025	0.60	0.0025	0.70	0.0025	0.99	0.0050	0.62	0.0025	0.47	0.0025	0.44	0.0025	0.58	0.0025	0.65	0.0025	0.72	0.0025	0.49
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	0.00066	0.00020	ND
Nickel	0.1	0.0020	0.0048	0.0020	0.0041	0.010	ND	0.0020	0.0051	0.0020	0.0047	0.0020	0.0048	0.0020	0.0047	0.0020	0.0046	0.0040	0.0050	0.0020	0.0047	0.0020	0.0044	0.0020	0.0043	0.0020	0.0055	0.0020	0.0053	0.0020	0.0045
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.19	0.10	ND	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND	0.10	ND	0.10	0.69	0.10	0.42	0.10	ND	0.10	ND	0.10	ND	0.10	0.39
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	0.19	0.10	ND	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND^	0.10	ND	0.10	0.69	0.10	0.42	0.10	ND	0.10	ND	0.10	ND	0.10	0.39
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.02	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0033	0.013	ND	0.0025	ND	0.0025	0.0086	0.0025	0.0067	0.0025	ND	0.0025	0.0026	0.0050	ND	0.0025	0.015	0.0025	0.0087	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0090
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	1500	500	1500	250	1600	1000	4800	500	1600	500	2000	500	2800	500	3200	500	2200	500	2000	500	1500	500	2200	250	1300	250	1400	250	1100
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	2500	10	2600	10	2800	25	6000	13	3100	13	3700	25	4300	17	4400	17	4000	17	3600	13	2900	25	3500	13	2400	13	2800	10	2500
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.01	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.040	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.37	NA	7.66	NA	7.23	NA	7.21	NA	6.58	NA	7.27	NA	7.10	NA	7.29	NA	7.34	NA	6.61	NA	7.07	NA	7.15	NA	6.74	NA	7.03	NA	6.96
Temperature	NA	NA	14.22	NA	10.18	NA	13.86	NA	16.26	NA	13.65	NA	11.77	NA	16.18	NA	17.98	NA	14.14	NA	9.60	NA	13.54	NA	17.54	NA	16.62	NA	10.22	NA	19.98
Conductivity	NA	NA	3.51	NA	3.39	NA	3.51	NA	5.26	NA	2.99	NA	3.22	NA	4.11	NA	4.73	NA	3.85	NA	3.28	NA	2.44	NA	3.58	NA	2.84	NA	1.42	NA	3.06
Dissolved Oxygen	NA	NA	NM	NA	0.73	NA	2.72	NA	0.03	NA	0.11	NA	0.16	NA	0.03	NA	0.03	NA	0.06	NA	1.88	NA	1.07	NA	0.34	NA	0.36	NA	0.81	NA	1.66
ORP	NA	NA	NM	NA	-235.2	NA	44.8	NA	-269	NA	-104	NA	-41	NA	-76	NA	-66	NA	-79	NA	87.2	NA	-3.9	NA	-38.2	NA	-127.7	NA	-1.6	NA	-0.8

Sample: MW-04	Date	8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/11/2015		2/17/2016		5/25/2016		8/11/2016		10/27/2016		2/1/2017		5/11/2017		9/8/2017		11/16/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0010	0.0010	0.0011	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	0.0019	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.001	0.0012	0.001	ND	0.001	ND
Barium	2.0	0.0025	0.034	0.0025	0.037	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.039	0.0025	0.038	0.0025	0.034	0.0025	0.038	0.0025	0.044	0.0025	0.035	0.0025	0.043	0.0025	0.036	0.0025	0.039	0.0025	0.039
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	4.8	0.50	4.5	1.0	3.9	0.25	4.0	0.50	5.4	0.50	5.0	0.050	4.9	0.050	4.3	0.25	4.8	0.50	6.1	0.50	5.0	0.50	5.0	0.5	5.4	1	5.5	1	5.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2.0	67	10	82	10	120	10	110	10	97	2.0	46	10	84	2.0	73	2.0	54	2.0	72	2.0	57	2.0	46	2	31	2	37	2	37
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	0.0013	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0013	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0010	0.0010	0.0014	0.001	ND	0.001	0.0012	0.001	0.0012
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.035	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.47	0.10	0.54	0.10	0.52	0.10	0.47	0.10	0.56	0.10	0.43	0.10	0.52	0.10	0.50	0.10	0.46	0.10	0.50	0.10	0.43	0.10	0.33	0.1	0.46	0.1	0.48	0.1	0.48
Iron	5.0	0.10	0.26	0.10	0.27	0.10	0.28	0.10	ND	0.10	0.16	0.10	0.51	0.10	0.11	0.10	0.12	0.10	0.28	0.10	0.16	0.10	0.11	0.10	0.28	0.1	0.21	0.1	0.17	0.1	0.17
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.88	0.0025	0.64	0.0025	0.52	0.0025	0.45	0.0025	0.77	0.0025	0.62	0.0025	0.70	0.0025	0.45	0.0025	0.57 B	0.0025	0.64	0.0025	0.57	0.0025	0.70	0.0025	0.54	0.0025	0.51	0.0025	0.51
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	0.00025	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0058	0.0020	0.0065	0.0020	0.0043	0.0020	0.0057	0.0020	0.0053	0.0020	0.0070	0.0020	0.0079	0.0020	0.0047	0.0020	0.0057	0.0020	0.0058	0.0020	0.0046	0.0020	0.0047	0.002	0.0039	0.002	0.005	0.002	0.005
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND	0.10	0.34	0.10	0.25	0.10	ND	0.10	ND	0.10	0.86	0.10	ND	0.1	ND	0.1	0.19	0.1	0.19
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND	0.10	0.34	0.10	0.25	0.10	ND	0.10	ND	0.10	0.86	0.10	ND	0.1	ND	0.1	0.19	0.1	0.19
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0055	0.0025	0.010	0.0025	0.0087	0.0025	0.020	0.0025	0.0046	0.0025	0.0081	0.0025	0.0077	0.0025	0.012	0.0025	0.0042	0.0025	ND	0.0050	0.011	0.0025	0.0026	0.0025	ND	0.0025	0.0056	0.0025	0.0056
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND ^	0.0005	ND ^
Sulfate	400.0	250	1200	250	1600	250	1100	250	860	500	1600	250	870	500	1800	500	1300	250	880	500	1400	500	1200	500	1300	250	830	250	1100	250	1100
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	2200	10	2600	10	2600	10	2300	17	3200	10	1900	13	3200	13	2700	10	2200	10	2800	10	2700	10	2800	10	2000	10	2200	10	2200
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00050	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00099
pH	6.5 - 9.0	NA	6.75	NA	5.87	NA	7.13	NA	7.15	NA	7.29	NA	6.65	NA	7.05	NA	6.85	NA	6.78	NA	7.01	NA	6.87	NA	7.67	NA	6.86	NA	6.63	NA	6.81
Temperature	NA	NA	18.18	NA	16.64	NA	8.13	NA	13.74	NA	20.17	NA	16.27	NA	10.03	NA	18.45	NA	21.76	NA	14.80	NA	8.85	NA	12.24	NA	17.50	NA	13.78	NA	11.33
Conductivity	NA	NA	2.41	NA	3.07	NA	2.21	NA	2.364	NA	3.852	NA	2.183	NA	2.46	NA	3.10	NA	2.74	NA	2.67	NA	2.29	NA	2.45	NA	2.00	NA	2.03	NA	1.607
Dissolved Oxygen	NA	NA	0.43	NA	0.44	NA	2.01	NA	1.83	NA	0.90	NA	1.12	NA	0.95	NA	1.81	NA	1.68	NA	3.02	NA	2.13	NA	3.44	NA	0.39	NA	1.54	NA	2.35
ORP	NA	NA	3.6	NA	3.1	NA	16.7	NA	9.3	NA	-73.4	NA	-33.0	NA	-18.7	NA	-10.3	NA	-116.2	NA	-6.4	NA	-27.0	NA	-7.8	NA	1.5	NA	-79.4	NA	-16.8

Sample: MW-04	Date	5/2/2018		7/24/2018		10/3/2018		2/20/2019		5/29/2019		8/21/2019		12/5/2019		2/27/2020		5/26/2020		8/7/2020		11/4/2020		2/22/2021		5/24/2021		8/24/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0014	0.001	0.0013	0.001	0.0012	0.001	ND	0.001	0.0022	0.001	0.0017	0.001	0.0011	0.001	ND	0.001	0.002	0.001	0.0049
Barium	2.0	0.0025	0.034	0.0025	0.043	0.0025	0.042	0.0025	0.052	0.0025	0.045	0.0025	0.054	0.0025	0.047	0.0025	0.039	0.0025	0.04	0.0025	0.041	0.0025	0.037	0.0025	0.04	0.0025	0.044	0.0025	0.046	0.0025	0.045
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	4.0	0.5	6.0	0.5	4.4	0.5	3.4	0.5	3.3	0.5	5.9	0.5	6.4	0.5	4.5	0.5	5.8	1	6.8	1	5.5	1	5.3	1	5.1	1	5.9	1	6.0
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	33	2	32	2	28	2	70	2	37	2	28	2	22	2	18	2	15	2	15	2	20	2	16	2	24	2	21	2	23
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	0.0013	0.001	0.0011	0.001	0.0012	0.001	ND	0.001	0.0015	0.001	ND	0.001	ND	0.001	0.0011	0.001	ND	0.001	0.0012	0.001	0.0018	0.001	0.0017	0.001	0.0018	0.001	0.0022
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0025	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.45	0.1	0.46	0.1	0.42	0.1	0.38	0.1	0.39	0.1	0.44	0.1	0.51	0.1	0.41	0.1	0.43	0.1	0.47	0.1	0.44	0.1	0.37	0.1	0.37	0.1	0.38	0.1	0.36
Iron	5.0	0.1	ND	0.1	0.4	0.1	0.35	0.1	0.19	0.1	0.24	0.1	0.91	0.1	0.31	0.1	0.26	0.1	0.52	0.1	0.85	0.1	0.72	0.1	0.43	0.1	0.58	0.1	0.89	0.1	1.6
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.38	0.0025	0.62	0.0025	0.55	0.0025	0.59	0.0025	0.55	0.0025	0.69	0.0025	0.5	0.0025	0.48	0.0025	0.52	0.0025	0.52	0.0025	0.56	0.0025	0.76	0.0025	0.74	0.0025	0.75	0.0025	0.9
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0035	0.002	0.0043	0.002	0.0041	0.002	0.0045	0.002	0.004	0.002	0.0063	0.002	0.0041	0.002	0.0031	0.002	0.0038	0.002	0.0034	0.002	0.0057	0.002	0.0054	0.002	0.0065	0.002	0.011	0.002	0.01
Nitrogen/Nitrate	10.0	0.1	0.42	0.1	ND	0.1	ND	0.1	0.93	0.1	ND	0.1	ND	0.1	0.52	0.1	0.32	0.1	ND	0.1	ND	0.1	ND	0.1	0.35	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	0.42	0.1	ND	0.1	ND	0.1	0.93	0.1	ND ^	0.1	ND	0.1	0.52	0.1	0.32	0.1	ND	0.1	ND	0.1	ND	0.1	0.35	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0071	0.0025	ND	0.0025	ND	0.0025	0.014	0.0025	0.0094	0.0025	ND	0.0025	0.009	0.0025	0.0066	0.0025	ND	0.0025	ND	0.0025	0.0089	0.0025	0.013	0.0025	ND	0.0025	ND	0.0025	0.004
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	250	1100	250	1300	250	410	250	920	250	650	250	1100	250	1200	250	1100	250	1100	250	970	100	630	100	860	130	990	150	1100	250	850
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	2200	10	2600	10	1600	10	2100	10	2000	10	2200	10	2400	10	2200	10	2200	150	1900	150	1800	10	1900 H	10	2000	10	2100	10	1900
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0015	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.25	NA	6.43	NA	6.96	NA	6.68	NA	6.91	NA	7.04	NA	6.86	NA	6.56	NA	6.84	NA	6.86	NA	6.69	NA	6.84	NA	6.9	NA	7.09	NA	6.69
Temperature	NA	NA	16.13	NA	18.56	NA	21.53	NA	10.70	NA	11.70	NA	15.00	NA	13.80	NA	10.01	NA	11.70	NA	15.10	NA	16.00	NA	11.20	NA	14.30	NA	17.21	NA	15.60
Conductivity	NA	NA	2.111	NA	2.389	NA	1.921	NA	2.653	NA	2.260	NA	0.224	NA	3.025	NA	1.628	NA	2.851	NA	2.365	NA	2.000	NA	2.299	NA	2.400	NA	2.791	NA	2.407
Dissolved Oxygen	NA	NA	1.08	NA	2.79	NA	1.79	NA	0.03	NA	0.29	NA	0.37	NA	0.68	NA	2.79	NA	0.66	NA	NM	NA	0.19	NA	6.03	NA	1.28	NA	0.23	NA	3.16
ORP	NA	NA	-35.3	NA	-68.7	NA	-4.4	NA	60.2	NA	7.7	NA	-46.3	NA	15.0	NA	-74.9	NA	-14.8	NA	-58.6	NA	-71.0	NA	-12.0	NA	133.8	NA	-106.1	NA	-55.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature °C degrees Celcius
Conductivity ms/cm^{c} millisiemens/centimeters
Dissolved Oxygen mg/L milligrams/liter
Oxygen Reduction Potential (ORP) mV millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-05	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		6/5/2013		8/14/2013		10/28/2013		2/13/2014		5/21/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0066	0.0010	0.0048	0.0050	ND	0.0010	0.0025	0.0010	0.0065	0.0010	0.0065	0.0010	0.0073	0.0010	0.0023	0.0010	0.0058	0.0010	0.0069	0.0010	0.0020	0.0010	0.0025	0.0010	0.0021	0.0010	0.0017	0.0010	0.0015
Barium	2.0	0.0025	0.051	0.0025	0.060	0.013	0.067	0.0025	0.070	0.0025	0.061	0.0025	0.053	0.0025	0.040	0.0025	0.073	0.0025	0.045	0.0025	0.050	0.0025	0.11	0.0025	0.042	0.0025	0.078	0.0025	0.056	0.0025	0.075
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	2.6	0.25	2.7	0.050	3.2	0.050	4.0	0.050	3.2	0.25	2.9	0.50	2.3	0.25	3.8	0.50	2.5	0.50	2.6	0.50	3.6	0.50	3.5	0.10	4.1	0.50	2.7	0.50	2.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	150	10	140	10	150	10	130	10	170	10	150	10	160	10	150	10	140	10	110	10	120	10	130	10	130	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.41	0.10	0.40	0.10	0.46	0.10	0.49	0.10	0.38	0.10	0.42	0.10	0.59	0.10	0.44	0.10	0.47 ^	0.10	0.42 ^	0.10	0.30	0.10	0.50	0.10	0.36	0.10	0.43	0.10	0.28
Iron	5.0	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0079	0.0025	0.0067	0.013	0.055	0.0025	0.13	0.0025	0.038	0.0025	0.032	0.0025	0.014	0.0025	0.073	0.0025	0.023	0.0025	0.036	0.0025	0.15	0.0025	0.060	0.0025	0.11	0.0025	0.053	0.0025	0.11
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0020	0.0020	0.0022	0.0020	0.0025	0.0020	0.0039	0.0020	0.0028	0.0020	0.0024	0.0020	0.0020
Nitrogen/Nitrate	10.0	0.10	0.27	0.10	1.6	0.10	1.1	0.10	0.11	0.10	1.0	0.10	0.11	0.10	0.24	0.10	0.11	0.10	ND	0.10	0.56	0.10	0.69	0.10	ND	0.10	0.27	0.10	0.24	0.10	0.72
Nitrogen/Nitrate, Nit	NA	0.10	0.27	0.10	1.9	0.10	0.97	0.10	0.11	0.10	1.2	0.10	0.25	0.10	0.27	0.10	0.11	0.10	1.2	0.10	1.3	0.10	0.75	0.10	ND	0.10	0.59	0.10	0.80	0.10	0.97
Nitrogen/Nitrite	NA	0.020	ND	0.10	0.31	0.020	0.13	0.020	ND	0.020	0.17	0.020	0.14	0.020	0.031	0.020	ND	0.20	1.2	0.10	0.74	0.020	0.059	0.020	ND	0.10	0.32	0.10	0.56	0.040	0.25
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.017	0.0025	0.014	0.013	0.016	0.0025	0.0080	0.0025	0.010	0.0025	0.0059	0.0025	ND	0.0025	0.017	0.0025	0.0079	0.0025	0.010	0.0025	0.026	0.0025	ND	0.0025	0.17	0.0025	0.024	0.0025	0.013
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	580	100	570	100	540	130	690	100	500	100	370	100	410	100	540	100	280	100	320	250	650	100	500	130	560	100	690	250	1700
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	1000	10	1300	10	1400	10	1500	10	1000	10	1000	10	750	10	1100	10	820	10	940	10	1600	10	1100	10	1300	10	1400	10	1600
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.034	0.0050	0.025	0.0050	0.010	0.0050	0.0054	0.0050	0.013	0.0050	0.012	0.0050	0.018
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	9.58	NA	9.51	NA	7.44	NA	7.38	NA	8.20	NA	9.30	NA	9.41	NA	7.54	NA	9.37	NA	7.43	NA	7.00	NA	7.88	NA	6.75	NA	8.45	NA	7.07
Temperature	NA	NA	12.79	NA	7.95	NA	14.62	NA	17.22	NA	13.19	NA	10.98	NA	16.59	NA	19.67	NA	13.41	NA	8.10	NA	14.77	NA	16.72	NA	17.04	NA	9.59	NA	16.68
Conductivity	NA	NA	1.66	NA	1.93	NA	1.97	NA	1.78	NA	1.10	NA	1.02	NA	1.01	NA	1.44	NA	1.05	NA	1.02	NA	1.66	NA	1.28	NA	1.55	NA	0.81	NA	1.92
Dissolved Oxygen	NA	NA	NM	NA	3.81	NA	3.22	NA	0.51	NA	0.39	NA	0.21	NA	0.22	NA	0.66	NA	0.19	NA	4.84	NA	0.56	NA	0.15	NA	0.92	NA	0.78	NA	0.46
ORP	NA	NA	NM	NA	-156.4	NA	173.2	NA	-196	NA	-46	NA	47	NA	-1	NA	66	NA	8	NA	205.5	NA	-11.3	NA	20.8	NA	-73.8	NA	89.4	NA	87.6

Sample: MW-05	Date	8/12/2014		10/20/2014		2/3/2015		5/1/2015		7/28/2015		11/11/2015		2/18/2016		5/26/2016		8/10/2016		10/26/2016		2/1/2017		5/11/2017		9/8/2017		11/16/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0031	0.0010	0.0014	0.0010	0.0028	0.0010	0.0019	0.0010	0.0011	0.0010	0.0014	0.0010	0.0015	0.0010	0.0024	0.0010	0.0050	0.0010	0.0060	0.0020	ND	0.0010	0.0035	0.001	0.0035	0.001	0.0051	0.001	0.0018
Barium	2.0	0.0025	0.066	0.0025	0.061	0.0025	0.048	0.0025	0.072	0.0025	0.063	0.0025	0.078	0.0025	0.054	0.0025	0.059	0.0025	0.071	0.0025	0.033	0.0025	0.050	0.0025	0.039	0.0025	0.039	0.0025	0.049	0.0025	0.065
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	2.7	0.50	4.7	1.0	2.4	0.25	3.7	0.50	5.3	0.50	5.9	0.050	4.1	0.050	3.7	0.25	4.1	0.50	3.9	0.50	4.2	0.50	3.5	0.5	3.5	0.5	4.3	1	4.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	170	10	81	10	200	10	180	10	100	10	110	10	120	10	96	10	110	10	120	2.0	54	10	86	10	86	10	82	2	47
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.52	0.10	0.35	0.10	0.50	0.10	0.31	0.10	0.38	0.10	0.31	0.10	0.31	0.10	0.32	0.10	0.46	0.10	0.72	0.10	0.36	0.10	0.40	0.1	0.4	0.1	0.57	0.1	0.45
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.062	0.0025	0.20	0.0025	0.046	0.0025	0.092	0.0025	0.13	0.0025	0.17	0.0025	0.11	0.0025	0.075	0.0025	0.14 B	0.0025	0.019	0.0025	0.072	0.0025	0.052	0.0025	0.052	0.0025	0.039	0.0025	0.096
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0031	0.0020	0.0049	0.0020	ND	0.0020	0.0023	0.0020	0.0034	0.0020	0.0026	0.0020	0.0053	0.0020	0.0030	0.0020	0.0030	0.0020	0.0021	0.0020	0.0030	0.0020	ND	0.002	ND	0.002	0.002	0.002	0.0034
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.12	0.10	1.3	0.10	1.1	0.10	0.48	0.10	ND	0.10	0.61	0.10	0.51	0.10	ND	0.10	ND	0.10	0.75	0.10	ND	0.1	ND	0.1	ND	0.1	0.13
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	0.12	0.10	1.6	0.10	1.2	0.10	0.48	0.10	ND	0.10	0.65	0.10	0.66	0.10	0.13	0.10	ND	0.10	0.75	0.10	ND	0.1	ND	0.1	ND	0.1	0.13
Nitrogen/Nitrite	NA	0.020	0.098	0.020	ND	0.040	0.34	0.020	0.099	0.020	ND	0.020	ND	0.020	0.040	0.020	0.15	0.020	0.048	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0051	0.0025	0.010	0.0025	0.0058	0.0025	0.020	0.0025	0.021	0.0025	0.035	0.0025	0.017	0.0025	0.027	0.0025	0.012	0.0025	ND	0.0050	0.027	0.0025	0.0034	0.0025	0.0034	0.0025	0.0054	0.0025	0.014
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND ^
Sulfate	400.0	250	610	250	840	100	430	100	480	250	770	250	780	250	730	250	600	130	530	100	360	100	500	100	470	100	470	100	470	100	640
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	1400	10	2100	10	1100	10	1600	10	2000	10	1900	10	1700	10	1500	10	1200	10	820	10	1600	10	1000	10	1000	10	1000	10	1500
Vanadium	0.049	0.0050	0.013	0.0050	0.010	0.0050	0.019	0.0050	0.012	0.0050	0.011	0.0050	0.016	0.0050	0.010	0.0050	0.013	0.0050	0.022	0.0050	0.030	0.0050	0.0083	0.0050	0.0099	0.005	0.0099	0.005	0.011	0.005	0.011
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0015	0.0025	ND	0.0025	0.00068	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0016
pH	6.5 - 9.0	NA	7.36	NA	6.87	NA	9.70	NA	7.29	NA	7.13	NA	7.24	NA	6.99	NA	6.73	NA	8.62	NA	9.08	NA	6.81	NA	7.86	NA	7.86	NA	9.4	NA	6.7
Temperature	NA	NA	16.80	NA	18.46	NA	8.29	NA	12.11	NA	20.61	NA	15.77	NA	8.54	NA	15.42	NA	24.37	NA	13.90	NA	9.44	NA	13.04	NA	13.04	NA	17.40	NA	11.71
Conductivity	NA	NA	1.60	NA	2.59	NA	1.13	NA	1.691	NA	2.467	NA	2.016	NA	1.17	NA	1.69	NA	1.57	NA	1.09	NA	1.44	NA	1.24	NA	1.24	NA	1.12	NA	1.35
Dissolved Oxygen	NA	NA	0.35	NA	0.81	NA	2.40	NA	1.53	NA	1.41	NA	1.17	NA	1.42	NA	2.12	NA	0.85	NA	2.24	NA	2.90	NA	1.62	NA	1.62	NA	1.19	NA	2.53
ORP	NA	NA	-24.6	NA	58.1	NA	-53.5	NA	31.4	NA	-50.4	NA	46.1	NA	21.7	NA	91.9	NA	-207.6	NA	-76.7	NA	-10.3	NA	-34.8	NA	-34.8	NA	6.6	NA	-32.4

Sample: MW-05	Date	5/2/2018		7/25/2018		10/3/2018		2/20/2019		5/29/2019		8/21/2019		12/6/2019		2/27/2020		5/22/2020		8/6/2020		11/4/2020		2/23/2021		5/24/2021		8/24/2021		11/23/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	ND	0.001	0.0056	0.001	0.0024	0.001	0.0031	0.001	0.0034	0.001	0.0047	0.001	0.0027	0.001	0.002	0.001	0.0025	0.001	0.006	0.001	0.0016	0.001	ND	0.001	ND	0.001	0.0042	0.001	0.0024
Barium	2.0	0.0025	0.054	0.0025	0.03	0.0025	0.049	0.0025	0.029	0.0025	0.028	0.0025	0.036	0.0025	0.078	0.0025	0.049	0.0025	0.029	0.0025	0.025	0.0025	0.077	0.0025	0.038	0.0025	0.049	0.0025	0.028	0.0025	0.067
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	3.4	0.5	4.2	1	5.2	1	3.6	1	3.5	1	4.2	1	4.8	1	3.3	1	4.1	0.5	5.1	1	5.1	1	5.6	1	4.9	1	4.6	1	5.4
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	33	2	70	2	61	2	78	2	76	2	48	2	31	2	29	2	72	2	49	2	32	2	10	2	29	10	87	2	22
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND *+
Fluoride	4.0	0.1	0.38	0.1	0.69	0.1	0.57	0.1	0.59	0.1	0.64	0.1	0.78	0.1	0.43	0.1	0.48	0.1	0.56	0.1	0.77	0.1	0.34	0.1	0.56	0.1	0.52	0.1	0.72	0.1	0.41
Iron	5.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.17	0.1	0.17	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.35
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.071	0.0025	0.023	0.0025	0.083	0.0025	0.04	0.0025	0.027	0.0025	0.046	0.0025	0.15	0.0025	0.12	0.0025	0.035	0.0025	0.014	0.0025	0.21	0.0025	0.044	0.0025	0.043	0.0025	0.048	0.0025	0.18
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0028	0.002	0.0022	0.002	0.0023	0.002	ND	0.002	0.002	0.002	0.0024	0.002	0.0023	0.002	0.0022	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0025	0.002	0.0023
Nitrogen/Nitrate	10.0	0.1	0.41	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.25	0.1	0.43	0.1	ND	0.1	0.15	0.1	0.15	0.1	0.39	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	0.41	0.1	ND	0.1	ND	0.1	ND	0.1	ND ^	0.1	ND	0.1	ND	0.1	0.25	0.1	0.43	0.1	ND	0.1	0.15	0.1	0.15	0.1	0.39	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	0.038	0.02	0.021	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND ^1+	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0026	0.0025	0.0025	0.0025	0.011	0.0025	0.018 F1	0.0025	0.0029	0.0025	ND	0.0025	0.083	0.0025	0.037	0.0025	0.048	0.0025	0.0062	0.0025	0.0082
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	580	100	460	100	420	100	420	100	390	100	450	100	470	100	ND	100	410	100	420	50	410	100	380	150	440	50	400	100	380
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	1400	10	960	10	1000	10	890	10	1000	10	950	10	1200	10	1100	10	850	30	750	60	1200	10	830 H	10	1000	10	750	10	1000
Vanadium	0.049	0.005	0.0065	0.005	ND	0.005	ND	0.005	0.0066	0.005	0.015	0.005	0.0073	0.005	ND	0.005	0.0057	0.005	0.015	0.005	0.014	0.005	0.013	0.005	ND	0.005	ND	0.005	ND	0.005	0.0055
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0012	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.23	NA	7.33	NA	7.07	NA	9.04	NA	8.45	NA	8.64	NA	6.95	NA	6.75	NA	7.39	NA	9.02	NA	7.06	NA	7.29	NA	7.07	NA	9.42	NA	6.8
Temperature	NA	NA	17.08	NA	19.00	NA	18.05	NA	10.40	NA	11.80	NA	16.20	NA	13.50	NA	9.76	NA	11.40	NA	15.40	NA	16.30	NA	10.70	NA	12.70	NA	16.93	NA	15.50
Conductivity	NA	NA	1.371	NA	1.070	NA	1.380	NA	1.301	NA	1.360	NA	0.193	NA	1.814	NA	1.097	NA	1.593	NA	1.123	NA	1.480	NA	1.269	NA	1.488	NA	1.781	NA	1.456
Dissolved Oxygen	NA	NA	2.66	NA	2.19	NA	3.00	NA	0.10	NA	0.22	NA	0.43	NA	0.72	NA	3.98	NA	0.80	NA	NM	NA	0.46	NA	2.97	NA	1.87	NA	0.18	NA	0.70
ORP	NA	NA	-13.7	NA	-89.1	NA	100.6	NA	59.3	NA	-9.7	NA	-78.8	NA	-2.6	NA	-66.0	NA	-11.1	NA	-55.6	NA	-42.1	NA	-11.0	NA	156.3	NA	-234.1	NA	163.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature °C degrees Celcius
Conductivity ms/cm^{c} millisiemens/centimeters
Dissolved Oxygen mg/L milligrams/liter
Oxygen Reduction Potential (ORP) mV millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-06	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013		2/13/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0018	0.0010	0.0018	0.0050	ND	0.0010	0.0031	0.0010	0.0022	0.0010	0.0022	0.0010	0.0021	0.0010	0.0026	0.0010	0.0020	0.0010	0.0019	0.0010	0.0014	0.0010	0.0022	0.0010	0.0031	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.050	0.0025	0.040	0.013	0.045	0.0025	0.041	0.0025	0.053	0.0025	0.044	0.0025	0.046	0.0025	0.054	0.0025	0.051	0.0025	0.044	0.0025	0.057	0.0025	0.053	0.0025	0.063	0.0025	0.052	0.0025	0.045
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	2.7	0.25	2.5	0.050	2.4	0.050	3.0	0.050	2.5	0.25	2.5	0.50	2.9	0.25	3.0	0.50	3.0	0.50	2.7	0.50	2.8	0.50	2.9	0.10	3.7	0.50	3.0	0.50	2.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	210	10	150	10	120	10	120	10	110	10	92	10	110	10	110	10	130	10	110	10	91	10	76	2.0	55	10	120
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.85	0.10	0.88	0.10	0.79	0.10	0.97	0.10	0.77	0.10	0.68	0.10	0.81	0.10	ND	0.10	0.71 ^	0.10	0.71 ^	0.10	0.65	0.10	0.57	0.10	0.57	0.10	0.45	0.10	0.42
Iron	5.0	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.073	0.0025	0.051	0.013	0.047	0.0025	0.024	0.0025	0.038	0.0025	0.029	0.0025	0.033	0.0025	0.038	0.0025	0.034	0.0025	0.030	0.0025	0.082	0.0025	0.023	0.0025	0.083	0.0025	0.099	0.0025	0.056
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	0.0020	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.26	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.63	0.10	0.10	0.10	ND	0.10	ND	0.10	ND	0.10	0.72
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	0.10	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^	0.10	0.82	0.10	0.20	0.10	ND	0.10	ND	0.10	ND	0.10	0.91
Nitrogen/Nitrite	NA	0.020	ND	0.020	0.048	0.020	0.16	0.020	ND	0.020	ND	0.020	ND	0.020	0.052	0.020	0.026	0.020	ND	0.040	0.19	0.020	0.099	0.020	ND	0.020	ND	0.020	ND	0.020	0.19
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0062	0.0025	0.0028	0.013	ND	0.0025	0.011	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	0.014	0.0025	0.0057	0.0025	0.0075	0.0025	0.0071	0.0025	0.0040	0.0025	ND	0.0025	0.0041	0.0025	0.0057
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	500	100	540	100	570	100	420	100	440	100	380	100	450	100	550	100	360	100	370	100	360	100	400	100	310	100	270	100	320
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Soli	1,200	10	990	10	1100	10	1200	10	870	10	880	10	900	10	770	10	890	10	820	10	840	10	880	10	860	10	790	10	780	10	840
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	0.011	0.0050	ND	0.0050	0.0087	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	8.89	NA	9.65	NA	9.27	NA	9.44	NA	8.82	NA	9.39	NA	9.07	NA	9.17	NA	9.18	NA	8.22	NA	8.41	NA	9.13	NA	8.50	NA	8.27	NA	8.52
Temperature	NA	NA	14.59	NA	10.01	NA	13.63	NA	16.28	NA	14.24	NA	10.74	NA	18.03	NA	18.96	NA	14.00	NA	10.00	NA	15.89	NA	18.56	NA	15.76	NA	9.46	NA	16.13
Conductivity	NA	NA	1.64	NA	1.63	NA	1.69	NA	1.11	NA	1.05	NA	0.92	NA	1.04	NA	1.21	NA	0.99	NA	0.97	NA	1.19	NA	1.04	NA	0.96	NA	0.57	NA	1.08
Dissolved Oxygen	NA	NA	NM	NA	0.54	NA	0.12	NA	0.06	NA	0.13	NA	3.47	NA	3.06	NA	0.01	NA	0.36	NA	3.48	NA	0.37	NA	0.37	NA	0.23	NA	1.19	NA	0.32
ORP	NA	NA	NM	NA	-239.1	NA	54.4	NA	-305	NA	-241	NA	-50	NA	-106	NA	-134	NA	-174	NA	175.2	NA	-14.3	NA	-16.6	NA	-173.8	NA	35.4	NA	-94.2

Sample: MW-06	Date	8/12/2014		10/20/2014		2/3/2015		4/30/2015		7/28/2015		11/10/2015		2/18/2016		5/26/2016		8/11/2016		10/26/2016		2/1/2017		5/11/2017		9/7/2017		11/16/2017		2/28/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0018	0.0010	0.0017	0.0010	0.0028	0.0010	0.0010	0.0010	ND	0.0010	0.0017	0.0010	ND	0.0010	0.0022	0.0010	0.0029	0.0010	0.0031	0.0020	ND	0.0010	0.0011	0.001	0.0027	0.001	0.0024	0.001	0.0024
Barium	2.0	0.0025	0.039	0.0025	0.066	0.0025	0.071	0.0025	0.072	0.0025	0.061	0.0025	0.044	0.0025	0.062	0.0025	0.075	0.0025	0.087	0.0025	0.084	0.0025	0.056	0.0025	0.055	0.0025	0.078	0.0025	0.076	0.0025	0.076
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	2.8	0.50	3.4	1.0	3.2	0.25	3.0	0.50	3.6	0.50	3.4	0.050	2.4	0.050	2.9	0.25	3.6	0.50	3.9	0.25	2.9	0.50	3.0 F1	0.5	3.6	0.5	3.7	0.5	3.7
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	120	10	81	2.0	49	10	160	10	120	10	110	10	150	10	83	2.0	61	2.0	73	10	90	10	89	2	66	2	55	2	55
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.96	0.10	0.56	0.10	0.37	0.10	0.38	0.10	0.45	0.10	0.63	0.10	0.45	0.10	0.38	0.10	0.34	0.10	0.39	0.10	0.41	0.10	0.30	0.1	0.39	0.1	0.37	0.1	0.37
Iron	5.0	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	0.15	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.028	0.0025	0.11	0.0025	0.12	0.0025	0.068	0.0025	0.066	0.0025	0.037	0.0025	0.051	0.0025	0.089	0.0025	0.13 B	0.0025	0.13	0.0025	0.062	0.0025	0.049	0.0025	0.087	0.0025	0.13	0.0025	0.13
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	ND	0.0020	0.0024	0.0020	0.0039	0.0020	ND	0.0020	ND	0.002	ND	0.002	0.002	0.002	0.002
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.14	0.10	0.60	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	0.16	0.10	ND	0.10	ND	0.10	0.30	0.10	ND	0.10	ND	0.10	0.14	0.10	ND	0.10	ND	0.10	ND	0.10	0.18	0.10	0.75	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.10	0.29	0.020	ND	0.020	ND	0.020	0.067	0.020	0.077	0.020	0.032	0.020	0.047	0.020	ND	0.020	ND	0.020	ND	0.020	0.039	0.040	0.15	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0036	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0048	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0050	ND	0.0025	0.0047	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.0005	ND	0.0005	ND ^	0.0005	ND ^
Sulfate	400.0	100	200	100	420	50	310	50	350	100	330	50	360	50	290	100	350	100	360	50	320	50	260	50	280	50	350	100	280	100	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	660	10	800	10	770	10	780	10	800	10	660	10	720	10	780	10	810	10	750	10	750	10	650	10	700	10	800	10	800
Vanadium	0.049	0.0050	0.014	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0058	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.0005	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	0.00058	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00278	0.0025	0.0012
pH	6.5 - 9.0	NA	8.16	NA	7.26	NA	8.38	NA	8.08	NA	8.60	NA	8.63	NA	8.58	NA	7.79	NA	7.74	NA	8.16	NA	7.88	NA	8.68	NA	8.2	NA	7.59	NA	7.3
Temperature	NA	NA	16.21	NA	18.31	NA	8.28	NA	10.95	NA	25.89	NA	17.67	NA	7.76	NA	16.74	NA	20.61	NA	13.77	NA	10.00	NA	14.88	NA	17.40	NA	12.60	NA	13.06
Conductivity	NA	NA	1.00	NA	1.20	NA	0.77	NA	0.935	NA	1.289	NA	0.978	NA	0.63	NA	0.99	NA	1.10	NA	0.94	NA	0.80	NA	0.83	NA	0.91	NA	0.84	NA	0.864
Dissolved Oxygen	NA	NA	0.62	NA	0.66	NA	1.69	NA	1.90	NA	0.88	NA	1.67	NA	1.57	NA	4.37	NA	2.23	NA	1.84	NA	3.40	NA	2.82	NA	0.71	NA	1.91	NA	2.04
ORP	NA	NA	-3.7	NA	-94.0	NA	-142.5	NA	-61.3	NA	-132.5	NA	-101.6	NA	-33.1	NA	-67.5	NA	-125.1	NA	-78.4	NA	-78.4	NA	-81.3	NA	-39.9	NA	-108.1	NA	-52.5

Sample: MW-06	Date	5/3/2018		7/25/2018		10/3/2018		2/20/2019		5/29/2019		8/21/2019		12/6/2019		2/19/2020		5/22/2020		8/5/2020		11/3/2020		2/23/2021		5/24/2021		8/24/2021		11/23/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.0022	0.001	0.0034	0.001	0.0032	0.001	0.002	0.001	0.0018	0.001	0.0032	0.001	0.0028	0.001	0.002	0.001	ND	0.001	0.0028	0.001	0.0022	0.001	0.001	0.001	ND	0.001	0.0019	0.001	0.0012
Barium	2.0	0.0025	0.078	0.0025	0.086	0.0025	0.085	0.0025	0.076	0.0025	0.1	0.0025	0.082	0.0025	0.087	0.0025	0.08	0.0025	0.072	0.0025	0.084	0.0025	0.083	0.0025	0.073	0.0025	0.078	0.0025	0.089	0.0025	0.082
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	3.0	0.5	3.7	0.95	7.1	0.95	2.9	0.95	3.8	0.95	3.2	0.95	7.3	0.95	3.1	0.95	3.2	0.25	3.1	0.5	3.4	0.5	2.8	0.5	2.5	0.5	2.9	0.5	2.9
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	2	53	2	48	2	47	2	53	2	37	2	39	2	30	2	25	2	58	2	50	2	42	2	31	2	46	2	45	2	42
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.27	0.1	0.29	0.1	0.32	0.1	0.26	0.1	0.21	0.1	0.28	0.1	0.33	0.1	0.29	0.1	0.3	0.1	0.31	0.1	0.35	0.1	0.33	0.1	0.32	0.1	0.33	0.1	0.36
Iron	5.0	0.1	ND	0.1	0.2	0.1	0.23	0.1	0.15	0.1	ND	0.1	0.3	0.1	0.12	0.1	0.15	0.1	ND	0.1	0.24	0.1	0.47	0.1	0.33	0.1	0.1	0.1	0.23	0.1	0.21
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.12	0.0025	0.13	0.0025	0.12	0.0025	0.12	0.0025	0.11	0.0025	0.14	0.0025	0.13	0.0025	0.14	0.0025	0.14	0.0025	0.18	0.0025	0.23	0.0025	0.24	0.0025	0.24	0.0025	0.23	0.0025	0.25
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	ND	0.002	ND	0.002	ND	0.002	0.0021	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0025	0.002	ND
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.31	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.31	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND ^1+	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.045	0.0025	ND	0.0025	0.004	0.0025	0.012	0.0025	0.011	0.0025	ND	0.0025	0.004	0.0025	0.0086	0.0025	ND	0.0025	0.0099	0.0025	ND
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	340	100	230	100	210	100	250	100	410	100	230	100	250	100	ND	100	280	100	200	25	160	25	150	100	150	100	160	25	150
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Soli	1,200	10	720	10	760	10	740	10	730	10	1200	10	720	10	760	10	740	10	710	30	640	30	710	10	580 H	10	620	10	520	10	620
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	0.00054	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	6.91	NA	7.47	NA	7.83	NA	7.8	NA	7.51	NA	7.83	NA	7.91	NA	7.81	NA	7.47	NA	7.58	NA	7.29	NA	7.79	NA	7.65	NA	7.09	NA	7.49
Temperature	NA	NA	14.41	NA	18.43	NA	19.92	NA	10.70	NA	11.60	NA	16.10	NA	14.10	NA	10.17	NA	11.20	NA	15.60	NA	16.50	NA	10.70	NA	12.90	NA	17.40	NA	15.60
Conductivity	NA	NA	0.082	NA	0.842	NA	0.910	NA	1.120	NA	1.590	NA	1.070	NA	1.029	NA	0.722	NA	1.170	NA	1.037	NA	1.090	NA	1.000	NA	1.000	NA	1.120	NA	1.036
Dissolved Oxygen	NA	NA	2.53	NA	1.81	NA	6.47	NA	0.10	NA	0.31	NA	0.36	NA	0.91	NA	1.89	NA	0.68	NA	NM	NA	0.18	NA	0.16	NA	0.23	NA	1.42	NA	0.28
ORP	NA	NA	33.4	NA	-88.6	NA	-43.3	NA	-97.1	NA	-15.8	NA	-137.3	NA	-90.8	NA	-82.1	NA	-37.6	NA	-106.4	NA	-185.7	NA	-72.6	NA	104.4	NA	-119.5	NA	71.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature °C degrees Celcius
Conductivity ms/cm^{c} millisiemens/centimeters
Dissolved Oxygen mg/L milligrams/liter
Oxygen Reduction Potential (ORP) mV millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Attachment 9-3. Table. CCA Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-07	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/15/2013		10/29/2013		2/20/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0040	0.0010	0.0037	0.0050	ND	0.0010	0.0042	0.0010	0.0042	0.0010	0.0041	0.0010	0.0039	0.0010	0.0049	0.0010	0.0034	0.0010	0.0033	0.0010	0.0031	0.0010	0.0032	0.0010	0.0035	0.0010	0.0030	0.0010	0.0022
Barium	2.0	0.0025	0.045	0.0025	0.067	0.013	0.076	0.0025	0.082	0.0025	0.082	0.0025	0.069	0.0025	0.057	0.0025	0.086	0.0025	0.044	0.0025	0.041	0.0025	0.048	0.0025	0.067	0.0025	0.040	0.0025	0.064	0.0025	0.074
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	4.7	1.0	5.0	1.0	5.7	0.25	3.4	0.050	5.0	0.25	5.1	0.50	5.6	0.25	5.5	0.50	5.1	0.50	4.3	0.50	2.6	0.50	3.5	0.10	3.0	0.50	4.0	0.50	4.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	160	10	140	10	140	10	160	10	150	10	130	10	120	10	150	10	140	10	140	10	190	10	180	10	180	10	210	10	190
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	0.016	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.017	0.010	ND	0.010	0.014	0.010	0.013	0.010	0.012	0.010	0.019	0.010	0.029
Fluoride	4.0	0.10	0.96	0.10	0.77	0.10	0.71	0.10	0.82	0.10	0.86	0.10	0.76	0.10	0.83	0.10	ND	0.10	0.89 ^	0.10	0.92 ^	0.10	0.97	0.10	0.96	0.10	0.96	0.10	0.81	0.10	0.73
Iron	5.0	0.10	0.23	0.10	0.18	0.50	ND	0.10	0.37	0.10	0.50	0.10	0.57	0.10	0.60	0.10	0.51	0.10	0.62	0.10	0.47	0.10	0.21	0.10	0.36	0.10	0.21	0.10	0.36	0.10	0.53
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.12	0.0025	0.11	0.013	0.15	0.0025	0.18	0.0025	0.20	0.0025	0.20	0.0025	0.19	0.0025	0.19	0.0025	0.19	0.0025	0.15	0.0025	0.043	0.0025	0.064	0.0025	0.049	0.0025	0.16	0.0025	0.12
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0029	0.0020	0.0023	0.010	ND	0.0020	0.0024	0.0020	0.0021	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0036	0.0020	0.0038	0.0020	0.0042	0.0020	0.0032	0.0020	0.0027
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	0.077	0.020	0.035	0.020	0.050	0.020	0.043	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0068	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0066	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	610	250	650	200	1000	100	710	130	710	100	770	100	670	100	600	100	480	100	400	100	390	100	460	100	530	130	380	100	540
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	1300	10	1500	10	1600	10	1400	10	1300	10	1400	10	1300	10	1200	10	1200	10	1000	10	1100	10	1100	10	1200	10	1300	10	1300
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	8.61	NA	8.79	NA	8.13	NA	7.91	NA	7.69	NA	8.16	NA	7.92	NA	8.02	NA	7.75	NA	8.08	NA	8.14	NA	8.43	NA	8.07	NA	8.18	NA	8.22
Temperature	NA	NA	14.84	NA	11.80	NA	14.23	NA	15.96	NA	15.17	NA	14.21	NA	15.67	NA	17.28	NA	14.37	NA	12.00	NA	14.25	NA	15.62	NA	13.06	NA	11.16	NA	16.71
Conductivity	NA	NA	1.96	NA	2.12	NA	2.08	NA	1.61	NA	1.55	NA	1.43	NA	1.44	NA	1.46	NA	1.33	NA	1.20	NA	1.13	NA	1.21	NA	1.20	NA	1.20	NA	1.50
Dissolved Oxygen	NA	NA	NM	NA	0.43	NA	0.08	NA	0.05	NA	2.54	NA	0.02	NA	0.41	NA	0.20	NA	0.15	NA	0.17	NA	0.36	NA	0.10	NA	0.41	NA	0.94	NA	0.57
ORP	NA	NA	NM	NA	-277.2	NA	-135.2	NA	-301	NA	-210	NA	-189	NA	-161	NA	-171	NA	-150	NA	-219.9	NA	-155.1	NA	-204.2	NA	-168.1	NA	-118.7	NA	-76.6

Sample: MW-07	Date	8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015		2/17/2016		5/24/2016		8/9/2016		10/25/2016		1/31/2017		5/9/2017		9/7/2017		11/14/2017		2/27/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0035	0.0010	0.0031	0.0010	0.0027	0.0010	0.0029	0.0010	0.0020	0.0010	0.0027	0.0010	0.0023	0.0010	0.0024	0.0010	0.0028	0.0010	0.0025	0.0020	0.0033	0.0010	0.0024	0.001	0.0031	0.001	0.0047	0.001	0.0047
Barium	2.0	0.0025	0.062	0.0025	0.072	0.0025	0.042	0.0025	0.048	0.0025	0.037	0.0025	0.035	0.0025	0.046	0.0025	0.046	0.0025	0.048	0.0025	0.046	0.0025	0.045	0.0025	0.061	0.0025	0.057	0.0025	0.08	0.0025	0.08
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.50	3.9	0.50	5.1	1.0	3.0	0.25	3.3	0.25	3.1	0.50	2.9	0.050	3.8	0.050	2.9	0.25	2.8	0.50	3.2	0.50	3.7	0.50	4.3	0.5	3.4	1	8.0	1	8.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	200	10	190	10	170	10	160	10	170	10	160	10	150	10	140	10	150	10	130	10	130	10	150	10	160	10	180	10	180
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	0.0013	0.001	0.0013
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	0.021	0.010	ND	0.010	0.016	0.010	ND	0.010	ND	0.010	0.034	0.010	ND	0.010	0.037	0.010	0.017 F1,2	0.010	0.021	0.010	0.011	0.010	0.025	0.01	0.028	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.97	0.10	0.84	0.10	0.91	0.10	0.85	0.10	0.90	0.10	0.96	0.10	0.79	0.10	0.75	0.10	0.86	0.10	0.87	0.10	0.72	0.10	0.39	0.1	0.71	0.1	0.33	0.1	0.33
Iron	5.0	0.10	0.44	0.10	0.55	0.10	0.16	0.10	0.22	0.10	0.19	0.10	0.19	0.10	0.17	0.10	0.21	0.10	0.28	0.10	0.31	0.10	0.28	0.10	0.39	0.1	0.37	0.1	1.5	0.1	1.5
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.10	0.0025	0.12	0.0025	0.031	0.0025	0.044	0.0025	0.024	0.0025	0.025	0.0025	0.040	0.0025	0.035	0.0025	0.044 B	0.0025	0.061	0.0025	0.081	0.0025	0.10	0.0025	0.087	0.0025	0.42	0.0025	0.42
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0037	0.0020	0.0034	0.0020	0.0036	0.0020	0.0033	0.0020	0.0034	0.0020	0.0035	0.0020	0.0040	0.0020	0.0034	0.0020	0.0035	0.0020	0.0035	0.0020	0.0030	0.0020	0.0023	0.002	0.0028	0.002	0.0022	0.002	0.0022
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	0.0046	0.0025	ND	0.0025	0.0039	0.0025	ND	0.0025	0.012	0.0025	0.0039	0.0025	0.0028	0.0025	0.0027	0.0025	0.0061	0.0050	ND	0.0025	0.0029	0.0025	0.026	0.0025	0.0038	0.0025	0.0038
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	570	130	680	100	400	100	440	100	420	100	420	200	700	100	530	100	350	100	510	100	500	250	540	100	540	250	890	250	890
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	1300	10	1500	10	1100	10	1200	10	950	10	960	10	1300	10	1100	10	940	10	1200	10	1500	10	1500	10	1200	10	2200	10	2200
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	0.0006	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0018	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00508	0.0025	0.0014
pH	6.5 - 9.0	NA	8.26	NA	7.88	NA	8.68	NA	8.53	NA	8.75	NA	7.11	NA	8.36	NA	7.89	NA	7.60	NA	8.20	NA	7.73	NA	7.51	NA	7.75	NA	6.98	NA	7.75
Temperature	NA	NA	14.78	NA	14.85	NA	8.76	NA	12.23	NA	20.84	NA	14.48	NA	10.48	NA	15.41	NA	17.85	NA	13.94	NA	9.87	NA	11.32	NA	14.90	NA	13.21	NA	12.94
Conductivity	NA	NA	1.24	NA	1.60	NA	1.10	NA	1.32	NA	1.49	NA	1.21	NA	1.00	NA	1.37	NA	1.30	NA	1.27	NA	1.27	NA	1.19	NA	1.27	NA	2.08	NA	1.199
Dissolved Oxygen	NA	NA	0.28	NA	0.39	NA	1.50	NA	2.30	NA	2.23	NA	2.36	NA	0.91	NA	1.53	NA	1.20	NA	1.16	NA	2.37	NA	5.98	NA	0.33	NA	2.20	NA	1.81
ORP	NA	NA	-126.7	NA	-151.3	NA	-154.5	NA	-134.3	NA	-163.1	NA	-69.7	NA	-123.3	NA	-126.9	NA	-108.9	NA	-86.1	NA	-70.7	NA	-73.9	NA	-112.2	NA	-109.8	NA	-102.3

Sample: MW-07	Date	5/1/2018		7/25/2018		10/2/2018		2/19/2019		5/28/2019		8/21/2019		12/6/2019		2/18/2020		5/26/2020		8/6/2020		11/3/2020		3/1/2021		5/24/2021		8/25/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.0014	0.001	0.002	0.001	0.002	0.001	0.0018	0.001	0.0019	0.001	0.0029	0.001	0.0029	0.001	0.0021	0.001	ND	0.001	0.0026	0.001	0.0025	0.001	0.0021	0.001	0.0014	0.001	0.002	0.001	0.0045
Barium	2.0	0.0025	0.05	0.0025	0.04	0.0025	0.036	0.0025	0.069	0.0025	0.045	0.0025	0.079	0.0025	0.057	0.0025	0.047	0.0025	0.039	0.0025	0.071	0.0025	0.079	0.0025	0.084	0.0025	0.062	0.0025	0.067	0.0025	0.061
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	3.3	0.5	2.9	0.25	2.6	0.25	3.5	0.25	3.0	0.25	4.3	0.25	ND	0.25	5.7	0.25	4.4	0.5	3.8	1	4.5	1	4.1	1	3.7	0.5	3.1	1	5.9
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	0.0005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	130	10	150	10	160	10	140	10	100	10	120	10	72	10	65	10	130	10	140	10	160	10	140	10	110	10	140	20	210
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0019
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	0.017	0.01	0.024	0.01	ND	0.01	0.011	0.01	0.03	0.01	0.018	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.012	0.005	0.017	0.005	0.02	0.005	ND	0.005	0.0063
Fluoride	4.0	0.1	0.69	0.1	0.77	0.1	0.82	0.1	0.56	0.1	0.68	0.1	0.63	0.1	0.49	0.1	0.47	0.1	0.61	0.1	0.67	0.1	0.68	0.1	0.56	0.1	0.69	0.1	0.66	0.1	0.38
Iron	5.0	0.1	0.17	0.1	0.12	0.1	ND	0.1	0.48	0.1	0.13	0.1	0.58	0.1	0.59	0.1	0.42	0.1	0.42	0.1	0.87	0.1	1.4	0.1	1.3	0.1	0.46	0.1	0.63	0.1	3.3
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.038	0.0025	0.013	0.0025	0.012	0.0025	0.22	0.0025	0.068	0.0025	0.19	0.0025	0.43	0.0025	0.48	0.0025	0.45	0.0025	0.14	0.0025	0.23	0.0025	0.31	0.0025	0.2	0.0025	0.091	0.0025	2.2
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0024	0.002	0.0029	0.002	0.0026	0.002	0.003	0.002	0.0025	0.002	0.0036	0.002	0.0026	0.002	0.0023	0.002	0.0026	0.002	0.0026	0.002	0.0028	0.002	0.0027	0.002	0.0023	0.002	0.0037	0.002	0.0029
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	0.22	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.15	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.21	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	0.22	0.1	ND	0.1	ND ^	0.1	ND	0.1	ND	0.1	0.15	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.21	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.008	ND
Selenium	0.05	0.0025	0.0085	0.0025	ND	0.0025	0.0095	0.0025	0.0032	0.0025	0.0032	0.0025	0.0057	0.0025	0.0032	0.0025	0.012	0.0025	ND	0.0025	ND	0.0025	0.0089	0.0025	0.0098	0.0025	0.0079	0.0025	0.0086	0.0025	0.038
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	590	100	360	100	340	100	600	100	460	100	600	100	820	100	770	100	620	100	540	100	540	100	680	100	530	100	460	100	730
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	1200	10	950	10	970	10	1500	10	1300	10	1400	10	1800	10	1500	10	1400	60	1200	60	1300	10	1500	10	1100	10	810	10	2100
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.02	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0052	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.37	NA	7.06	NA	7.81	NA	7.58	NA	8.65	NA	7.54	NA	6.97	NA	8.42	NA	7.08	NA	7.28	NA	7.08	NA	7.21	NA	8.38	NA	8.63	NA	6.62
Temperature	NA	NA	17.02	NA	16.51	NA	14.85	NA	11.70	NA	11.50	NA	14.00	NA	13.70	NA	11.50	NA	11.90	NA	13.70	NA	14.90	NA	11.30	NA	12.50	NA	16.10	NA	14.60
Conductivity	NA	NA	1.264	NA	1.159	NA	1.206	NA	1.785	NA	1.490	NA	1.415	NA	2.383	NA	2.520	NA	1.617	NA	1.535	NA	1.866	NA	1.894	NA	1.507	NA	1.829	NA	2.770
Dissolved Oxygen	NA	NA	2.02	NA	2.47	NA	2.20	NA	0.02	NA	0.48	NA	NM	NA	0.89	NA	0.17	NA	0.68	NA	NM	NA	1.70	NA	0.01	NA	0.29	NA	0.63	NA	0.25
ORP	NA	NA	-3.1	NA	-134.3	NA	-116.2	NA	-90.7	NA	-65.3	NA	-191.7	NA	-76.0	NA	-3.9	NA	-25.4	NA	-109.7	NA	-132.8	NA	-118.3	NA	53.7	NA	-234.8	NA	-26.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D,
Section 620.410 - Groundwater Quality Standards for Class I: Potable
Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-08	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/15/2013		10/28/2013		2/20/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0067	0.0010	0.0059	0.0050	0.0082	0.0010	0.014	0.0010	0.012	0.0010	0.0066	0.0010	0.013	0.0010	0.018	0.0010	0.0088	0.0010	0.0088	0.0010	0.0072	0.0010	0.016	0.0010	0.0069	0.0010	0.0077	0.0010	0.0036
Barium	2.0	0.0025	0.069	0.0025	0.089	0.013	0.085	0.0025	0.099	0.0025	0.078	0.0025	0.066	0.0025	0.074	0.0025	0.090	0.0025	0.079	0.0025	0.069	0.0025	0.079	0.0025	0.084	0.0025	0.14	0.0025	0.086	0.0025	0.076
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	1.7	0.25	1.3	0.050	1.7	0.050	2.3	0.050	1.9	0.25	1.5	0.50	2.0	0.25	2.6	0.50	2.1	0.50	1.8	0.50	1.9	0.50	2.4	0.10	3.2	0.25	2.0	0.50	2.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	93	10	270	10	200	10	160	10	130	10	160	10	160	10	150	10	150	10	150	10	190	10	170	10	150	10	180	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.61	0.10	0.55	0.10	0.57	0.10	0.64	0.10	0.61	0.10	0.52	0.10	0.60	0.10	0.65	0.10	0.58 ^	0.10	0.55 ^	0.10	0.55	0.10	0.64	0.10	0.45	0.10	0.46	0.10	0.43
Iron	5.0	0.10	0.48	0.10	0.38	0.50	0.76	0.10	0.46	0.10	0.68	0.20	ND	0.10	0.58	0.10	0.66	0.10	0.50	0.10	0.43	0.10	0.68	0.10	1.3	0.10	ND	0.10	0.72	0.10	0.43
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.33	0.0025	0.44	0.013	0.47	0.0025	0.45	0.0025	0.40	0.0050	ND	0.0025	0.36	0.0025	0.41	0.0025	0.43	0.0025	0.33	0.0025	0.47	0.0025	0.31	0.0025	0.42	0.0025	0.39	0.0025	0.35
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0034	0.0020	0.0020	0.0040	ND	0.0020	0.0022	0.0020	0.0035	0.0020	0.0033	0.0020	0.0031	0.0020	ND	0.0020	0.0032	0.0020	0.0043	0.0020	0.0037	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	0.23	0.10	ND	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.015	0.0025	0.0034	0.0025	0.0032
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	440	100	440	100	420	100	600	100	330	50	330	100	370	100	630	100	380	100	360	100	270	100	440	130	650	130	330	100	450
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	930	10	1200	10	1100	10	1300	10	980	10	910	10	1000	10	1200	10	1200	10	1000	10	1100	10	1100	10	1600	10	1300	10	1400
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.65	NA	8.17	NA	7.47	NA	7.30	NA	6.99	NA	7.61	NA	7.36	NA	7.31	NA	7.43	NA	7.87	NA	7.19	NA	7.46	NA	6.87	NA	8.18	NA	7.04
Temperature	NA	NA	12.82	NA	9.51	NA	13.28	NA	16.18	NA	14.05	NA	12.16	NA	15.28	NA	17.41	NA	13.82	NA	9.50	NA	13.12	NA	18.25	NA	15.59	NA	9.15	NA	17.97
Conductivity	NA	NA	1.43	NA	1.96	NA	1.76	NA	1.50	NA	1.13	NA	1.02	NA	1.23	NA	1.49	NA	1.27	NA	1.11	NA	1.09	NA	1.35	NA	1.73	NA	1.26	NA	1.70
Dissolved Oxygen	NA	NA	NM	NA	0.51	NA	0.50	NA	0.76	NA	0.32	NA	1.15	NA	0.66	NA	0.94	NA	0.29	NA	1.35	NA	0.20	NA	0.30	NA	0.64	NA	1.20	NA	0.44
ORP	NA	NA	NM	NA	-254.6	NA	-62.2	NA	-207	NA	-139	NA	-54	NA	-105	NA	-60	NA	-80	NA	-94.1	NA	-111.3	NA	-114.8	NA	-145.3	NA	-86.8	NA	87.7

Sample: MW-08	Date	8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015		2/16/2016		5/24/2016		8/9/2016		10/25/2016		1/31/2017		5/9/2017		9/6/2017		11/14/2017		2/27/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.014	0.0010	0.0082	0.0010	0.0036	0.0010	0.0047	0.0010	0.0064	0.0010	0.0040	0.0010	0.0024	0.0010	0.0049	0.0010	0.0095	0.0010	0.0064	0.0020	ND	0.0010	ND	0.001	0.012	0.001	0.0063	0.001	0.0063
Barium	2.0	0.0025	0.078	0.0025	0.087	0.0025	0.081	0.0025	0.083	0.0025	0.066	0.0025	0.086	0.0025	0.060	0.0025	0.064	0.0025	0.062	0.0025	0.063	0.0025	0.052	0.0025	0.059	0.0025	0.065	0.0025	0.084	0.0025	0.084
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	2.4	0.50	2.8	1.0	2.3	0.25	2.3	0.25	2.8	0.50	4.0	0.050	2.8	0.050	2.3	0.25	2.6	0.50	4.1	0.50	2.5	0.25	1.7	0.25	3.0	1	4.5	1	4.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	170	10	180	10	170	10	150	10	170	10	170	10	140	10	140	10	150	10	130	10	110	10	100	10	140	10	120	10	120
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0012	0.0010	ND	0.0010	ND	0.001	ND	0.001	0.002	0.001	0.002
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.74	0.10	0.56	0.10	0.51	0.10	0.54	0.10	0.68	0.10	0.52	0.10	0.52	0.10	0.52	0.10	0.70	0.10	0.54	0.10	0.46	0.10	0.34	0.1	0.71	0.1	0.52	0.1	0.52
Iron	5.0	0.10	1.0	0.10	1.0	0.10	0.19	0.10	0.22	0.10	0.46	0.10	0.11	0.10	0.12	0.10	0.38	0.10	0.54	0.10	1.1	0.10	ND	0.10	0.20	0.1	1.1	0.1	1.6	0.1	1.6
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.30	0.0025	0.44	0.0025	0.31	0.0025	0.28	0.0025	0.31	0.0025	0.25	0.0025	0.24	0.0025	0.36	0.0025	0.27 B	0.0025	0.62	0.0025	0.096	0.0025	0.24	0.0025	0.32	0.0025	0.63	0.0025	0.63
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0040	0.0020	0.0048	0.0020	0.0036	0.0020	0.0037	0.0020	0.0041	0.0020	0.0052	0.0020	0.0065	0.0020	0.0035	0.0020	0.0045	0.0020	0.010	0.0020	0.0035	0.0020	ND	0.002	0.0037	0.002	0.007	0.002	0.007
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	0.0032	0.0025	0.0083	0.0025	0.010	0.0025	ND	0.0025	0.0065	0.0025	0.0049	0.0025	ND	0.0025	ND	0.0025	ND	0.0050	0.012	0.0025	0.0069	0.0025	0.011	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	430	200	730	100	530	100	520	100	650	200	800	250	750	100	580	130	520	250	680	100	450	50	210	100	600	250	830	250	830
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	1200	10	1500	10	1400	10	1400	10	1200	10	1600	10	1600	10	1400	10	1300	10	1700	10	1500	10	920	10	1200	10	2000	10	2000
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0019	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00095	0.0025	0.00091
pH	6.5 - 9.0	NA	7.09	NA	7.03	NA	7.24	NA	7.23	NA	7.36	NA	6.88	NA	7.10	NA	6.85	NA	7.13	NA	7.06	NA	7.02	NA	7.15	NA	7.08	NA	6.83	NA	7.05
Temperature	NA	NA	16.04	NA	14.76	NA	9.43	NA	12.42	NA	17.57	NA	16.00	NA	7.88	NA	16.06	NA	21.11	NA	15.60	NA	8.97	NA	11.75	NA	16.40	NA	12.12	NA	110.84
Conductivity	NA	NA	1.49	NA	2.00	NA	1.46	NA	1.587	NA	1.657	NA	1.958	NA	1.23	NA	1.61	NA	1.63	NA	1.95	NA	1.37	NA	1.08	NA	1.40	NA	1.84	NA	1.03
Dissolved Oxygen	NA	NA	0.69	NA	0.68	NA	2.26	NA	5.61	NA	1.23	NA	1.81	NA	1.63	NA	1.61	NA	1.25	NA	0.79	NA	2.71	NA	3.97	NA	0.39	NA	2.13	NA	4.01
ORP	NA	NA	-53.3	NA	-52.9	NA	10.7	NA	14.8	NA	-124.4	NA	19.0	NA	19.4	NA	-43.1	NA	-114.0	NA	-63.0	NA	-25.9	NA	-43.2	NA	-52.7	NA	-77.3	NA	-8.3

Sample: MW-08	Date	5/1/2018		7/25/2018		10/2/2018		2/19/2019		5/29/2019		8/21/2019		12/6/2019		2/18/2020		5/26/2020		8/6/2020		11/3/2020		3/1/2021		5/25/2021		8/25/2021		11/19/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	ND	ND	0.003	ND
Arsenic	0.010	0.001	ND	0.001	0.0067	0.001	0.011	0.001	0.0018	0.001	0.0032	0.001	0.0083	0.001	0.0069	0.001	0.006	0.001	0.003	0.001	0.011	0.001	0.002	0.001	ND	0.001	0.0057	0.0088	0.0088	0.001	0.0066 F1
Barium	2.0	0.0025	0.06	0.0025	0.068	0.0025	0.064	0.0025	0.077	0.0025	0.069	0.0025	0.064	0.0025	0.082	0.0025	0.075	0.0025	0.086	0.0025	0.081	0.0025	0.067	0.0025	0.063	0.0025	0.089	0.069	0.069	0.0025	0.064 F1
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	ND	ND	0.001	ND
Boron	2.0	0.05	2.4	0.5	3.0	0.25	2.7	0.25	1.5	0.25	1.0	0.25	2.5	0.25	2.6	0.25	2.4	0.25	1.1	0.25	2.8	0.5	3.0	0.25	1.6	0.5	2.5	3.1	3.1	0.5	3.8
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	ND	ND	0.0005	ND
Chloride	200.0	10	100	10	130	10	140	10	64	10	27	10	130	10	50	10	150	10	200	10	180	10	210	10	180	40	300	150	150	20	340
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	ND	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	0.001	0.001	ND	0.001	ND	0.001	0.0012	0.001	0.0011	0.001	0.0011	0.001	ND	0.001	0.0012	0.001	ND	0.001	0.0012	ND	ND	0.001	0.0017
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	ND	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	0.0058	0.005	0.087 H	ND	ND	0.005	ND
Fluoride	4.0	0.1	0.5	0.1	0.63	0.1	0.74	0.1	0.47	0.1	0.48	0.1	0.67	0.1	0.58	0.1	0.54	0.1	0.48	0.1	0.63	0.1	0.61	0.1	0.46	0.1	0.49	0.58	0.58	0.1	0.47
Iron	5.0	0.1	ND	0.1	1.2	0.1	1.2	0.1	0.52	0.1	1.3	0.1	1.4 F1	0.1	2.1	0.1	1.9	0.1	2.0	0.1	2.0	0.1	0.51	0.1	0.22	0.1	2.3	1.3	1.3	0.1	1.2 F1
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	ND	ND	0.0005	ND
Manganese	0.15	0.0025	0.15	0.0025	0.3	0.0025	0.23	0.0025	0.3	0.0025	0.28	0.0025	0.23	0.0025	0.45	0.0025	0.44	0.0025	0.45	0.0025	0.36	0.0025	0.38	0.0025	0.21	0.0025	0.52	0.27	0.27	0.0025	0.63 F1
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	0.0022 F1	0.0002	ND	0.0002	ND	0.0002	ND	ND	ND	0.0002	ND
Nickel	0.1	0.002	0.0034	0.002	0.0042	0.002	0.0035	0.002	0.0024	0.002	ND	0.002	0.0032	0.002	0.0038	0.002	0.0036	0.002	ND	0.002	0.0037	0.002	0.0057	0.002	0.0021	0.002	0.004	0.0043	0.0043	0.002	0.0053
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	0.11	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	ND	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	0.11	0.1	ND	0.1	ND ^	0.1	ND	0.1	ND	0.1	ND F2	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	ND	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.02	0.02	ND	0.02	ND H3	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	ND	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	ND	ND	0.004	ND
Selenium	0.05	0.0025	0.0051	0.0025	ND	0.0025	0.0025	0.0025	0.011	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0044	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	0.032	0.0025	ND	0.0025	0.0025	0.0025	0.0045 F1
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND ^	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	ND	ND	0.0005	ND
Sulfate	400.0	100	660	250	470	100	510	100	290	100	80	100	530	100	500	100	ND	100	150	100	560	100	620	100	250	100	540	500	500	100	620
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	ND	ND	0.002	ND F1
Total Dissolved Solic	1,200	10	1300	10	1300	10	1200	10	1100	10	630	10	1100	10	1200	10	1100	10	1000	60	1300	150	1800	10	1200	10	1600	1200	1200	10	2000
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	ND	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	ND	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.00502	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.04	NA	6.39	NA	7.31	NA	6.9	NA	6.99	NA	7.23	NA	6.98	NA	7.08	NA	6.86	NA	6.92	NA	6.83	NA	7.03	NA	6.9	NA	7.45	NA	6.66
Temperature	NA	NA	16.09	NA	19.51	NA	17.44	NA	9.60	NA	11.70	NA	15.30	NA	13.10	NA	10.20	NA	11.70	NA	15.00	NA	16.00	NA	9.10	NA	12.10	NA	16.30	NA	15.20
Conductivity	NA	NA	1.324	NA	1.434	NA	1.496	NA	1.558	NA	0.980	NA	0.165	NA	1.806	NA	1.717	NA	1.509	NA	1.826	NA	2.530	NA	1.682	NA	2.430	NA	2.941	NA	2.933
Dissolved Oxygen	NA	NA	1.97	NA	2.66	NA	2.40	NA	0.89	NA	0.37	NA	0.23	NA	0.93	NA	0.70	NA	0.66	NA	NM	NA	1.90	NA	2.30	NA	0.19	NA	0.17	NA	0.36
ORP	NA	NA	11.04	NA	-46.30	NA	-36.30	NA	-22.20	NA	-58.90	NA	-97.60	NA	-69.20	NA	-67.90	NA	-57.80	NA	-85.30	NA	-60.10	NA	-23.50	NA	73.90	NA	-136.00	NA	180.80

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D,
Section 620.410 - Groundwater Quality Standards for Class I: Potable
Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Sample: MW-09	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/15/2013		10/29/2013		2/13/2014		5/20/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0059	0.0010	0.0049	0.0050	0.0052	0.0010	0.0065	0.0010	0.0078	0.0010	0.0053	0.0010	0.0056	0.0010	0.0068	0.0010	0.0060	0.0010	0.0051	0.0010	0.0047	0.0010	0.0050	0.0010	0.0066	0.0010	0.0029	0.0010	0.0029
Barium	2.0	0.0025	0.025	0.0025	0.031	0.013	0.025	0.0025	0.023	0.0025	0.017	0.0025	0.023	0.0025	0.022	0.0025	0.026	0.0025	0.020	0.0025	0.016	0.0025	0.025	0.0025	0.026	0.0025	0.023	0.0025	0.022	0.0025	0.028
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND
Boron	2.0	0.25	2.2	0.25	1.4	0.050	1.7	0.050	2.0	0.050	1.9	0.25	1.4	1.0	1.8	0.25	2.0	0.50	1.7	0.50	1.5	0.50	1.7	0.50	1.8	0.10	2.2	0.50	1.4	0.50	1.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	100	10	280	10	230	10	190	10	140	10	200	10	160	10	160	10	130	10	140	10	160	10	170	10	110	10	270	10	250
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.018	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.33	0.10	0.36	0.10	0.28	0.10	0.28	0.10	0.38	0.10	0.39	0.10	0.32	0.10	0.41	0.10	0.42 ^	0.10	0.43 ^	0.10	0.32	0.10	0.47	0.10	0.48	0.10	0.44	0.10	0.41
Iron	5.0	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023	0.0020	0.0022	0.0020	ND	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.20	2.4	0.10	1.1	0.10	ND	0.10	1.9	0.10	3.2	0.10	ND	0.10	ND	0.10	4.1	0.10	6.2	0.10	0.40	0.10	ND	0.10	1.6	0.10	2.3	0.10	1.0
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	3.6	0.10	0.94	0.10	0.18	0.10	2.0	0.50	3.3	0.10	ND	0.10	ND^	0.10	4.6	1.0	6.8	0.10	1.4	0.10	0.44	0.50	2.2	0.50	2.9	0.10	1.5
Nitrogen/Nitrite	NA	0.10	0.44	0.20	1.2	0.020	0.16	0.040	0.22	0.020	0.15	0.020	0.12	0.020	0.027	0.020	0.023	0.10	0.55	0.10	0.65	0.20	1.0	0.10	0.49	0.10	0.65	0.10	0.59	0.10	0.48
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0036	0.0025	0.0042	0.013	ND	0.0025	0.0045	0.0025	0.0031	0.0025	ND	0.0025	0.0026	0.0025	0.0031	0.0025	0.0039	0.0025	0.0029	0.0025	0.0027	0.0025	0.0034	0.0025	0.0053	0.0025	0.0032	0.0025	0.0026
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	410	100	320	100	410	50	400	50	270	50	340	100	340	100	380	50	310	50	250	50	320	50	310	50	310	50	220	100	380
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	800	10	1000	10	940	10	850	10	660	10	820	10	880	10	800	10	780	10	600	10	690	10	700	10	680	10	780	10	880
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.031	0.0050	0.024	0.0050	0.029	0.0050	0.023	0.0050	0.034	0.0050	0.017	0.0050	0.017
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	10.88	NA	10.87	NA	10.44	NA	10.27	NA	9.55	NA	10.56	NA	10.31	NA	10.23	NA	10.42	NA	10.39	NA	9.93	NA	9.86	NA	10.01	NA	9.69	NA	9.71
Temperature	NA	NA	15.09	NA	11.33	NA	14.55	NA	16.79	NA	15.70	NA	13.35	NA	15.35	NA	18.14	NA	14.68	NA	11.10	NA	13.62	NA	16.90	NA	16.28	NA	11.58	NA	16.41
Conductivity	NA	NA	1.33	NA	1.75	NA	1.52	NA	1.12	NA	0.90	NA	1.00	NA	1.06	NA	1.09	NA	0.90	NA	0.76	NA	0.83	NA	0.93	NA	0.85	NA	0.85	NA	1.25
Dissolved Oxygen	NA	NA	NM	NA	0.27	NA	0.07	NA	0.03	NA	0.05	NA	0.30	NA	0.03	NA	0.06	NA	0.11	NA	0.52	NA	0.25	NA	0.48	NA	0.56	NA	0.94	NA	0.43
ORP	NA	NA	NM	NA	-289.3	NA	79.8	NA	-341	NA	-118	NA	-12	NA	-70	NA	-112	NA	-200	NA	-36	NA	-107.1	NA	-91.6	NA	-182.7	NA	195.4	NA	-22.8

Sample: MW-09	Date	8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/11/2015		2/16/2016		5/24/2016		8/9/2016		10/25/2016		1/31/2017		5/9/2017		9/6/2017		11/14/2017		2/27/2018	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.0010	0.0043	0.0010	0.0046	0.0010	0.0038	0.0010	0.0044	0.0010	0.0032	0.0010	0.0057	0.0010	0.0041	0.0010	0.0039	0.0010	0.0049	0.0010	0.0078	0.0020	0.0050	0.0010	0.0038	0.001	0.0048	0.001	0.0049	0.001	0.0049
Barium	2.0	0.0025	0.027	0.0025	0.026	0.0025	0.033	0.0025	0.032	0.0025	0.026	0.0025	0.030	0.0025	0.019	0.0025	0.024	0.0025	0.030	0.0025	0.023	0.0025	0.025	0.0025	0.038	0.0025	0.036	0.0025	0.034	0.0025	0.034
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.25	1.7	0.50	1.9	1.0	1.4	0.25	1.5	0.25	2.0	0.50	2.1	0.050	1.9	0.050	1.4	0.25	1.8	0.50	2.6	0.25	1.7	0.25	1.6	0.25	1.9	0.25	1.9	0.25	1.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	210	10	200	10	200	10	310	10	230	10	190	10	160	10	170	10	150	10	130	10	250	10	360	10	320	10	270	10	270
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.10	0.61	0.10	0.55	0.10	0.44	0.10	0.47	0.10	0.51	0.10	0.57	0.10	0.53	0.10	0.45	0.10	0.51	0.10	0.79	0.10	0.56	0.10	0.43	0.1	0.52	0.1	0.5	0.1	0.5
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	ND	0.0025	0.0025	0.0025	0.0026	0.0025	ND	0.0025	0.0044	0.0025	0.0032	0.0025	0.0025	0.0025	0.0044	0.0025	0.0050	0.0025	0.0035	0.0025	0.0032	0.0025	0.0050	0.0025	0.0076	0.0025	0.0053	0.0025	0.0053
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND	0.0002	ND F1 F2	0.0002	ND	0.0002	ND
Nickel	0.1	0.0020	0.0025	0.0020	0.0024	0.0020	0.0020	0.0020	ND	0.0020	0.0020	0.0020	0.0023	0.0020	0.0024	0.0020	ND	0.0020	0.0028	0.0020	0.0023	0.0020	ND	0.0020	ND	0.002	0.002	0.002	0.002	0.002	0.002
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	2.2	0.10	2.7	0.10	0.32	0.10	ND	0.10	0.37	0.10	0.55	0.10	ND	0.10	0.70	0.10	0.11	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.10	0.20	0.10	ND	0.20	2.4	0.20	2.9	0.10	0.43	0.10	ND	0.10	0.39	0.10	0.59	0.10	ND	0.10	0.70	0.10	0.11	0.10	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.10	0.43	0.020	0.078	0.040	0.21	0.040	0.25	0.020	0.11	0.020	ND	0.020	0.022	0.020	0.040	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0031	0.0025	0.0035	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0026	0.0025	ND	0.0050	ND	0.0025	ND	0.0025	0.0071	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	310	100	430	50	300	50	270	50	290	100	400	50	240	50	240	50	260	50	240	50	170	50	200	50	240	50	280	50	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	870	10	820	10	810	10	930	10	760	10	760	10	660	10	670	10	750	10	640	10	800	10	960	10	920	10	930	10	930
Vanadium	0.049	0.0050	0.015	0.0050	0.015	0.0050	0.011	0.0050	0.010	0.0050	0.0063	0.0050	0.0080	0.0050	0.011	0.0050	0.0069	0.0050	0.0091	0.0050	0.028	0.0050	0.014	0.0050	0.0094	0.005	ND	0.005	0.0055	0.005	0.0055
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.00057	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00287	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0014	0.0025	0.0013
pH	6.5 - 9.0	NA	9.26	NA	8.73	NA	9.48	NA	9.49	NA	9.50	NA	9.12	NA	9.10	NA	8.79	NA	8.35	NA	9.16	NA	8.59	NA	8.58	NA	8.98	NA	8.1	NA	8.11
Temperature	NA	NA	16.36	NA	15.98	NA	5.11	NA	13.72	NA	20.11	NA	13.45	NA	9.62	NA	16.98	NA	21.67	NA	15.36	NA	9.23	NA	13.61	NA	17.10	NA	13.31	NA	12.05
Conductivity	NA	NA	1.12	NA	1.19	NA	0.83	NA	1.224	NA	1.197	NA	0.996	NA	0.65	NA	0.97	NA	1.14	NA	0.88	NA	0.88	NA	1.10	NA	1.27	NA	1.12	NA	0.95
Dissolved Oxygen	NA	NA	0.52	NA	0.48	NA	4.87	NA	1.93	NA	0.62	NA	0.76	NA	1.99	NA	2.42	NA	1.45	NA	1.74	NA	1.74	NA	3.23	NA	0.14	NA	2.63	NA	0.90
ORP	NA	NA	27.4	NA	-10.8	NA	-42.0	NA	-53.3	NA	-153.7	NA	39.7	NA	-66.2	NA	-83.9	NA	-151.8	NA	-89.2	NA	-90.1	NA	-72.5	NA	-45.8	NA	-122.7	NA	-59.8

Sample: MW-09	Date	5/1/2018		7/25/2018		10/2/2018		2/19/2019		5/29/2019		8/21/2019		12/6/2019		2/18/2020		5/26/2020		8/6/2020		11/3/2020		3/1/2021		5/25/2021		8/25/2021		11/23/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.0041	0.001	0.0047	0.001	0.006	0.001	0.0033	0.001	0.0034	0.001	0.0039	0.001	0.0055	0.001	0.003	0.001	0.0021	0.001	0.0047	0.001	0.0056	0.001	0.0037	0.001	0.0037	0.001	0.0055	0.001	0.0076
Barium	2.0	0.0025	0.031	0.0025	0.035	0.0025	0.033	0.0025	0.034	0.0025	0.031	0.0025	0.027	0.0025	0.025	0.0025	0.04	0.0025	0.037	0.0025	0.036	0.0025	0.03	0.0025	0.043	0.0025	0.053	0.0025	0.05	0.0025	0.041
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.05	1.7	0.5	2.2	0.5	2.3	0.5	1.1	0.5	1.1	0.5	1.6	0.5	1.9	0.5	1.3	0.5	1.3	0.25	1.8	0.5	2.0	0.25	1.3	0.25	1.4	0.25	1.7	0.25	1.8
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	200	10	200	10	190F1	10	350	10	270	10	230	10	150	10	340	10	310	10	280	10	250	40	310	40	380	40	340	20	280
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	0.0064	0.005	ND	0.005	ND	0.005	ND
Fluoride	4.0	0.1	0.52	0.1	0.5	0.1	0.54	0.1	0.26	0.1	0.29	0.1	0.36	0.1	0.46	0.1	0.34	0.1	0.32	0.1	0.45	0.1	0.52	0.1	0.37	0.1	0.36	0.1	0.41	0.1	0.47
Iron	5.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.0051	0.0025	0.0071	0.0025	0.0069	0.0025	0.0044	0.0025	0.0059	0.0025	0.0066	0.0025	0.0074	0.0025	0.011	0.0025	0.011	0.0025	0.011	0.0025	0.0097	0.0025	0.014	0.0025	0.017	0.0025	0.016	0.0025	0.012
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.002	0.002	0.0022	0.002	0.002	0.002	0.0024	0.002	0.0025	0.002	0.0029	0.002	0.0023	0.002	ND	0.002	0.0021	0.002	0.0026	0.002	0.0026	0.002	0.0022	0.002	0.0027	0.002	0.0037	0.002	0.0034
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	ND	0.1	2.8	0.1	0.96	0.1	ND	0.1	ND	0.1	0.32	0.1	ND	0.1	ND	0.1	ND	0.1	0.18	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	ND	0.1	2.9	0.1	1.1	0.1	ND	0.1	ND	0.1	0.4	0.1	ND	0.1	ND	0.1	ND	0.1	0.23	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	0.063	0.02	0.14	0.02	ND	0.02	ND H3	0.02	0.076	0.02	ND	0.02	ND	0.02	ND	0.02	0.054	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND ^	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND ^	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	0.0005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	350	100	290	100	260	100	150	100	160	100	200	100	190	100	150	100	140	25	190	25	180	25	170	25	190	25	200	25	210
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	860	10	850	10	810	10	870	10	830	10	710	10	620	10	810	10	800	30	760	30	760	10	860	10	930	10	760	10	1000
Vanadium	0.049	0.005	0.0087	0.005	ND	0.005	ND	0.005	0.0054	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	0.005	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.02	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0128	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.81	NA	7.05	NA	8.09	NA	8.29	NA	8.9	NA	8.87	NA	8.65	NA	8.44	NA	8.66	NA	8.03	NA	8.64	NA	8.02	NA	8.74	NA	9.06	NA	8.73
Temperature	NA	NA	16.36	NA	25.16	NA	17.73	NA	11.4	NA	11.9	NA	15.5	NA	14.8	NA	11.6	NA	12.4	NA	15.3	NA	17.1	NA	11.2	NA	12.8	NA	17.2	NA	16.2
Conductivity	NA	NA	1.031	NA	1.203	NA	1.136	NA	1.541	NA	1.34	NA	9.14	NA	1.161	NA	1.519	NA	1.377	NA	1.346	NA	1.433	NA	1.481	NA	1.678	NA	1.921	NA	1.562
Dissolved Oxygen	NA	NA	1.39	NA	4.04	NA	1.88	NA	2.52	NA	0.31	NA	NM	NA	0.72	NA	0.81	NA	0.62	NA	NM	NA	1.6	NA	0.06	NA	0.18	NA	0.16	NA	0.21
ORP	NA	NA	-9.6	NA	-97.6	NA	-103.1	NA	-37.9	NA	129.4	NA	-189.2	NA	-64.6	NA	-5.1	NA	-48.6	NA	-89.4	NA	-134.8	NA	-61.3	NA	76.7	NA	-178.4	NA	38.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D,
Section 620.410 - Groundwater Quality Standards for Class I: Potable
Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Attachment 9-3. Table. CCA Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-10	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0041	0.0010	0.0046	0.0050	ND	0.0010	0.0088	0.0010	0.0083	0.0010	0.0056	0.0010	0.0058	0.0010	0.0098	0.0010	0.0085
Barium	2.0	0.0025	0.098	0.0025	0.091	0.013	0.091	0.0025	0.11	0.0025	0.11	0.0025	0.10	0.0025	0.10	0.0025	0.097	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	2.1	0.25	1.8	0.050	2.2	0.050	2.8	0.050	2.5	0.25	2.1	0.50	2.1	0.25	3.2	0.50	2.7
Cadmium	0.005	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	92	10	130	10	150	10	120	10	120	10	100	10	120	10	140	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	0.010	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.66	0.10	0.64	0.10	0.65	0.10	0.67	0.10	0.59	0.10	0.52	0.10	0.58	0.10	0.72	0.10	0.59 ^
Iron	5.0	0.10	0.32	0.10	0.46	0.50	0.63	0.10	0.60	0.10	0.71	0.10	0.61	0.10	0.58	0.10	0.77	0.10	0.91
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00050
Manganese	0.15	0.0025	0.25	0.0025	0.22	0.013	0.25	0.0025	0.27	0.0025	0.29	0.0025	0.25	0.0025	0.26	0.0025	0.23	0.0025	0.29
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0032	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	370	100	370	100	350	100	420	100	290	50	330	100	350	100	380	100	270
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	990	10	960	10	990	10	1000	10	1100	10	990	10	1000	10	970	10	1100
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND
pH	6.5 - 9.0	NA	7.61	NA	8.14	NA	7.53	NA	7.45	NA	7.10	NA	7.59	NA	7.39	NA	7.60	NA	7.47
Temperature	NA	NA	15.01	NA	10.51	NA	13.34	NA	16.84	NA	14.72	NA	11.27	NA	16.14	NA	18.45	NA	14.44
Conductivity	NA	NA	1.53	NA	1.47	NA	1.51	NA	1.32	NA	1.29	NA	1.06	NA	1.26	NA	1.30	NA	1.32
Dissolved Oxygen	NA	NA	NM	NA	0.42	NA	0.08	NA	0.05	NA	0.09	NA	0.02	NA	0.03	NA	0.01	NA	0.36
ORP	NA	NA	NM	NA	-208	NA	-88.7	NA	-241	NA	-177	NA	-119	NA	-124	NA	-126	NA	-120

Sample: MW-10	Date	3/5/2013		5/22/2013		8/15/2013		10/28/2013		2/20/2014		5/20/2014		8/13/2014		10/20/2014		2/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0072	0.0010	0.0077	0.0010	0.0040	0.0010	0.012	0.0010	0.0027	0.0010	0.0012	0.0010	0.0033	0.0010	0.0090	0.0010	0.012
Barium	2.0	0.0025	0.098	0.0025	0.10	0.0025	0.082	0.0025	0.10	0.0025	0.094	0.0025	0.071	0.0025	0.071	0.0025	0.10	0.0025	0.12
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.50	2.7	0.50	2.7	0.50	2.3	0.10	3.8	0.25	2.5	0.50	2.2	0.25	2.1	0.50	3.3	1.0	3.3
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	10	140	10	130	10	140	10	140	10	140	10	140	10	140	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.57 ^	0.10	0.66	0.10	0.73	0.10	0.73	0.10	0.64	0.10	0.74	0.10	0.99	0.10	0.75	0.10	0.58
Iron	5.0	0.10	0.93	0.10	1.1	0.10	0.48	0.10	0.79	0.10	0.36	0.10	0.28	0.10	0.45	0.10	1.0	0.10	1.5
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.29	0.0025	0.24	0.0025	0.14	0.0025	0.22	0.0025	0.18	0.0025	0.12	0.0025	0.12	0.0025	0.25	0.0025	0.38
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0027	0.0020	0.0020	0.0020	0.0020	0.0020	0.0030	0.0020	0.0023	0.0020	ND	0.0020	0.0024	0.0020	0.0033	0.0020	0.0027
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0059	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	350	50	350	100	300	50	330	50	290	100	270	100	260	100	380	50	260
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	1000	10	1100	10	900	10	920	10	1000	10	940	10	880	10	1100	10	1100
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.54	NA	7.53	NA	7.38	NA	7.27	NA	9.18	NA	7.54	NA	7.54	NA	6.84	NA	7.32
Temperature	NA	NA	10.50	NA	13.44	NA	16.41	NA	16.70	NA	10.54	NA	15.30	NA	16.39	NA	18.21	NA	10.10
Conductivity	NA	NA	1.18	NA	1.21	NA	1.09	NA	1.25	NA	1.03	NA	1.13	NA	1.11	NA	1.46	NA	1.17
Dissolved Oxygen	NA	NA	0.20	NA	0.30	NA	0.15	NA	0.23	NA	1.50	NA	0.46	NA	0.29	NA	2.15	NA	0.79
ORP	NA	NA	-117.4	NA	-97.8	NA	-112.1	NA	-165.8	NA	-187.5	NA	-68.3	NA	-77.9	NA	-159.3	NA	-98.60

Sample: MW-10	Date	4/30/2015		7/27/2015		11/10/2015		2/16/2016		5/25/2016		8/10/2016		10/26/2016		2/2/2017		5/10/2017	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND
Arsenic	0.010	0.0010	0.014	0.0010	0.0065	0.0010	0.017	0.0010	0.0075	0.0010	0.0099	0.0010	0.011	0.0010	0.025	0.0020	0.013	0.0010	0.0081
Barium	2.0	0.0025	0.10	0.0025	0.084	0.0025	0.11	0.0025	0.092	0.0025	0.089	0.0025	0.10	0.0025	0.14	0.0025	0.10	0.0025	0.098
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND
Boron	2.0	0.25	3.6	0.25	3.1	0.50	4.4	0.050	3.6	0.050	3.8	0.25	3.7	0.50	3.5	0.25	3.2	0.50	3.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Chloride	200.0	10	130	10	140	10	140	10	130	10	120	10	120	2.0	73	10	86	10	100
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.67	0.10	0.77	0.10	0.77	0.10	0.75	0.10	0.74	0.10	0.76	0.10	0.52	0.10	0.52	0.10	0.44
Iron	5.0	0.10	1.4	0.10	1.1	0.10	1.3	0.10	1.1	0.10	1.2	0.10	0.92	0.10	2.6	0.10	1.9	0.10	1.5
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.29	0.0025	0.19	0.0025	0.26	0.0025	0.25	0.0025	0.20	0.0025	0.25 B	0.0025	0.43	0.0025	0.32	0.0025	0.21
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	0.00035	0.00020	ND	0.00020	ND	0.00020	ND ^	0.00020	ND
Nickel	0.1	0.0020	0.0036	0.0020	0.0025	0.0020	0.0030	0.0020	0.0049	0.0020	0.0032	0.0020	0.0037	0.0020	0.0023	0.0020	0.0023	0.0020	0.0022
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nit	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0029	0.0050	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	50	260	50	350	50	330	50	270	50	270	50	240	50	240	50	180	50	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solic	1,200	10	1000	10	970	10	990	10	1000	10	920	10	1000	10	980	10	1000	10	1000
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND ^	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	0.0019	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.43	NA	7.73	NA	7.34	NA	7.29	NA	7.26	NA	7.22	NA	7.30	NA	7.16	NA	7.83
Temperature	NA	NA	10.95	NA	18.29	NA	15.44	NA	8.85	NA	16.52	NA	21.72	NA	12.27	NA	10.19	NA	15.58
Conductivity	NA	NA	1.93	NA	1.31	NA	1.25	NA	0.87	NA	1.26	NA	1.40	NA	1.17	NA	1.04	NA	1.08
Dissolved Oxygen	NA	NA	1.57	NA	0.85	NA	0.58	NA	0.67	NA	0.97	NA	1.43	NA	2.21	NA	0.79	NA	1.68
ORP	NA	NA	-115.0	NA	-141.9	NA	-68.9	NA	-60.3	NA	-123.3	NA	-73.2	NA	-87.5	NA	-65.6	NA	-92.4

Sample: MW-10	Date	9/7/2017		11/15/2017		2/27/2018		5/1/2018		7/25/2018		10/3/2018		2/20/2019		5/29/2019		8/21/2019	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.0073	0.001	0.013	0.001	0.013	0.001	0.0077	0.001	0.0072	0.001	0.0058	0.001	0.0029	0.001	0.0059	0.001	0.0076
Barium	2.0	0.0025	0.081	0.0025	0.11	0.0025	0.11	0.0025	0.096	0.0025	0.086	0.0025	0.067	0.0025	0.079	0.0025	0.071	0.0025	0.07
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND ^
Boron	2.0	0.25	2.6	0.5	4.1	0.5	4.1	0.05	2.9	0.5	3.0	0.5	2.6	0.5	2.5	0.5	1.9	0.5	2.3
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	120	10	120	10	120	10	120	10	130	10	150	10	130	10	140	10	150
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND
Fluoride	4.0	0.1	0.77	0.1	0.76	0.1	0.76	0.1	0.64	0.1	0.76	0.1	0.91	0.1	0.76	0.1	0.81	0.1	0.9
Iron	5.0	0.1	0.91	0.1	1.7	0.1	1.7	0.1	1.6	0.1	1.3	0.1	0.85	0.1	0.43	0.1	0.93	0.1	1.2
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.15	0.0025	0.24	0.0025	0.24	0.0025	0.21	0.0025	0.15	0.0025	0.12	0.0025	0.14	0.0025	0.13	0.0025	0.13
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND F2	0.0002	ND
Nickel	0.1	0.002	0.0024	0.002	0.0029	0.002	0.0029	0.002	0.0027	0.002	0.0029	0.002	ND	0.002	0.0028	0.002	0.0025	0.002	0.0026
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.10 ^	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	0.0051 F1	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND ^
Sulfate	400.0	100	300	50	260	50	260	50	300	100	240	100	310	100	260	100	250	100	280
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	860	10	1000	10	1000	10	950	10	930	10	850	10	920	10	970	10	800
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	0.0014	0.0025	0.00063	0.0025	ND	0.0025	ND	0.0025	0.0013	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.37	NA	7.10	NA	7.03	NA	7.31	NA	7.39	NA	7.60	NA	7.16	NA	7.53	NA	7.58
Temperature	NA	NA	16.70	NA	13.79	NA	10.82	NA	16.60	NA	27.53	NA	20.65	NA	11.40	NA	11.50	NA	15.10
Conductivity	NA	NA	1.11	NA	1.14	NA	0.985	NA	1.156	NA	0.006	NA	1.139	NA	1.386	NA	1.320	NA	0.182
Dissolved Oxygen	NA	NA	0.30	NA	2.19	NA	1.52	NA	1.35	NA	7.21	NA	1.49	NA	0.63	NA	0.22	NA	0.34
ORP	NA	NA	-96.8	NA	-113.2	NA	-56.1	NA	-45.9	NA	-138.2	NA	-105.4	NA	-78.3	NA	-116.4	NA	-130.4

Sample: MW-10	Date	12/5/2019		2/18/2020		5/27/2020		8/6/2020		11/3/2020		2/25/2021		5/25/2021		8/26/2021		11/23/2021	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND
Arsenic	0.010	0.001	0.011	0.001	0.016	0.001	0.0056	0.001	0.008	0.001	0.011	0.001	0.0074	0.001	0.011	0.001	0.007	0.001	0.018
Barium	2.0	0.0025	0.089	0.0025	0.11	0.0025	0.076	0.0025	0.084	0.0025	0.088	0.0025	0.13	0.0025	0.14	0.0025	0.082	0.0025	0.14
Beryllium	0.004	0.001	ND	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND ^	0.001	ND ^	0.001	ND	0.001	ND	0.001	ND
Boron	2.0	0.5	3.5	0.5	3.7	0.5	2.4	0.25	3.0	0.5	3.8	0.5	2.9	0.5	3.2	0.5	2.6	0.5	3.6
Cadmium	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Chloride	200.0	10	120	10	160	10	160	10	140	10	140	10	150	10	150	10	130	10	130
Chromium	0.1	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Cobalt	1.0	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Copper	0.65	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Cyanide	0.2	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.005	ND	0.005	0.0058	0.005	ND	0.005	0.0065*+
Fluoride	4.0	0.1	0.92	0.1	0.76	0.1	0.9	0.1	0.91	0.1	0.91	0.1	0.59	0.1	0.7	0.1	0.8	0.1	0.72
Iron	5.0	0.1	1.3	0.1	1.8	0.1	1.2	0.1	1.2	0.1	1.4	0.1	1.5	0.1	1.6	0.1	1.2	0.1	2.6
Lead	0.0075	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	0.00066	0.0005	ND	0.0005	ND	0.0005	ND
Manganese	0.15	0.0025	0.21	0.0025	0.25	0.0025	0.14	0.0025	0.17	0.0025	0.25	0.0025	0.26	0.0025	0.29	0.0025	0.15	0.0025	0.3
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	0.1	0.002	0.0029	0.002	0.0023	0.002	0.0025	0.002	0.0027	0.002	0.0026	0.002	0.0023	0.002	0.0054	0.002	0.0034	0.002	0.0041
Nitrogen/Nitrate	10.0	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.13	0.1	0.19	0.1	ND	0.1	ND
Nitrogen/Nitrate, Nit	NA	0.1	ND ^	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	0.13	0.1	0.19	0.1	ND	0.1	ND
Nitrogen/Nitrite	NA	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Selenium	0.05	0.0025	ND	0.0025	0.012	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Sulfate	400.0	100	220	100	ND	100	280	100	240	25	170	25	190 F1	25	160	50	260	100	240
Thallium	0.002	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
Total Dissolved Solic	1,200	10	890	10	1000	10	870 F1	30	860	30	890	10	950	10	940	10	820	10	1000
Vanadium	0.049	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Zinc	5.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	7.21	NA	7.05	NA	7.29	NA	7.50	NA	7.02	NA	7.20	NA	7.16	NA	7.70	NA	7.07
Temperature	NA	NA	14.30	NA	10.80	NA	11.60	NA	14.90	NA	16.10	NA	10.20	NA	12.90	NA	21.38	NA	12.60
Conductivity	NA	NA	1.503	NA	1.641	NA	1.300	NA	1.348	NA	1.420	NA	1.485	NA	1.601	NA	1.220	NA	1.591
Dissolved Oxygen	NA	NA	0.84	NA	0.17	NA	0.63	NA	NM	NA	0.16	NA	2.12	NA	0.16	NA	0.39	NA	0.59
ORP	NA	NA	-94.6	NA	-106.0	NA	-110.6	NA	-128.7	NA	-149.2	NA	-49.9	NA	-29.7	NA	-158.2	NA	-120.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected

NM - Not Measured
NR - Not Required
NS - Not Sampled

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits
F2 - MS/MSD RPD exceeds control limits
H - Prepped/analyzed beyond the holding time

Attachment 9-4 – IL PE Stamp

CERTIFICATION
35 Ill. Adm. Code 845.630

In accordance with Section 35 Ill. Adm. Code 845.630(g), I hereby certify based on review of the information contained within the Initial Operating Permit Application for Will County Station Ponds 1 North and 1 South dated March 31, 2022, the groundwater monitoring system has been designed and constructed to satisfy the requirements of 35 Ill. Adm. Code 845.630. For this site the minimum number of wells required is deemed sufficient based on the following: 1) The number of wells, placement and screened intervals are based on a hydrogeologic assessment performed for the site; 2) hydrogeologic considerations included aquifer characteristics affecting flow velocity and physical transport processes; 3) available historical groundwater flow data indicate consistent flow conditions over time; 4) Illinois Environmental Protection Agency (IEPA) approved the overall hydrogeologic assessment as part of a larger study.

Certified by: ______________________________

Date: 3/31/22

Joshua Davenport, P.E.
Professional Engineer Registration No.: 062-061945
KPRG and Associates, Inc.

JOSHUA D. DAVENPORT
062-061945

Attachment 9-5 – CCR Compliance Statistical Approach

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

ILLINOIS STATE CCR RULE COMPLIANCE STATISTICAL APPROACH FOR GROUNDWATER DATA EVALUATION

Midwest Generation, LLC
Will County Generating Station
529 E. Romeo Rd.
Romeoville, Illinois

PREPARED BY:

KPRG and Associates, Inc.
14665 West Lisbon Road, Suite 1A
Brookfield, WI 53005

August 31, 2021

TABLE OF CONTENTS

1.0 INTRODUCTION

On April 21, 2021, the Illinois Pollution Control Board (IPCB) and Illinois Environmental Protection Agency (Illinois EPA) enacted a final rule regulating coal combustion residuals (CCR) as part of Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule). The State CCR Rule specifically requires that the owner or operator of a CCR unit must develop an Operating Permit that will specify a sampling and analysis program that includes procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, chain of custody (COC) control, and quality assurance and quality control. As a result, each regulated facility must develop a program that meets the State CCR Rule. At the Will County facility, ponds 1N, 1S, 2S and 3S require monitoring under the State CCR Rule. The monitoring well networks around these ponds consist of the following wells:

- Combined Ponds 1N and 1S monitoring network - upgradient wells MW-01 through MW-04, and downgradient wells MW-07, MW-08 and wells MW-13 through MW-15.

- Combined Ponds 2S and 3S monitoring network - upgradient wells MW-05 and MW-06 and downgradient wells MW-09 thru MW-12.

The well locations are shown on Figure 1.

Section 845.640(f) of the State CCR Rule requires the development of the statistical approach that will be used for assessing the data and determining whether a statistically significant increase over background concentrations in groundwater has occurred at identified downgradient monitoring points. Potential statistical methods that can be applied to the data are listed in Section 845.640(f) and performance standards are provided in 845.640(g).

This narrative of the statistical approach that will be used for the Will County facility's groundwater monitoring data is intended to fulfill certification requirements under Section 845.640(f)(2). The professional engineer's certification of this statistical approach is provided in Section 4.0 of this document.

2.0 STATISTICAL METHOD SELECTION and BACKGROUND DATA EVALUATION

Section 845.640(f)(1) identifies five statistical data evaluation methods that can be used for assessing site groundwater data. Relative to the subject site, the prediction interval procedure identified in 845.640(f)(1)(C) will be used. This approach is robust and conforms to varying data distributions and facilitates various non-detect frequencies. U.S. EPA identifies this method as preferred over establishment of tolerance intervals (Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance, March 2009 [Unified Guidance]).

Total recoverable metals groundwater data has been collected for this site at the wells associated with the Ponds 2S and 3S monitoring well locations since 2015 as part of Federal CCR Rule requirements. Under the Federal CCR Rule, the initial eight rounds of quarterly data generated were used to develop a representative background concentration with which to develop applicable prediction limits for subsequent statistical downgradient monitoring well data comparisons. Since additional data has been generated since the initial eight rounds of groundwater monitoring under the Federal CCR Rule, the full, currently available data set through the second quarter 2021 will be evaluated for potential use in developing a representative background dataset. If appending this additional data to the original eight rounds of background sampling is determined to be not statistically appropriate, then the background calculations will be reverted to using the initial eight rounds of background data for subsequent calculations. The established, representative background concentration for the upgradient well locations will be used to develop prediction limits for the regulated unit for each constituent listed in Section 845.600(a) and (b) as provided in Table 1.

Statistical evaluations will be performed with the assistance of the Sanitas^{TM} software package.

2.1 Outlier Testing

The background dataset will be first checked for potential outliers for each constituent. Potential causes of outliers can be, but are not limited to:

- Changes in sampling technique;
- Changes in analytical methods;
- Data transcription errors;
- Unnatural localized event such as a spill; or
- Natural but extreme variations in constituent concentration.

The Unified Guidance does not recommend removing an outlier from the data set unless it can be shown that the outlier is not caused by extreme natural variation. If the outlier can be traced to other than natural causes, the data set will be adjusted appropriately.

2.2 Spatial Variability

If more than one background well is being used for the monitored unit, an evaluation of spatial variability will be performed to determine whether the mean concentration of a constituent varies statistically between the background points. This is generally accomplished by performing an

Analysis of Variance (ANOVA). If statistically significant spatial variation is determined to be present, the background points will not be combined between the wells. If the spatial variability is determined to be natural, an intrawell data evaluation approach may be considered for both upgradient and downgradient wells.

2.3 Temporal Variability

Temporal variability in groundwater data from a specific monitoring point occurs when a consistent fluctuation of constituent concentrations occurs over time. The most common example is seasonal variation. If such a variation is noted in the data, the dataset should be corrected to account for the trend; however, any such corrections must be applied judiciously and would be completed in accordance with the Unified Guidance recommended procedures.

2.4 Trend Testing

As discussed above, it is intended to expand the initial background dataset collected under the Federal CCR Rule which consisted of eight rounds of quarterly sampling, with any additional data collected for a specific well since that time to facilitate a larger background data set upon which to develop subsequent interwell, and if necessary intrawell, prediction limits. The expanded background dataset for each upgradient well, for each constituent listed in Table 1, will undergo trend analysis to determine if there may be a potential statistically significant trend in the data. Linear regression will be the primary trend analysis tool, however, other methods such Sen's Slope Estimator may also be used. If a statistically significant trend is identified in the larger combined background dataset, the new data cannot be added to the initial background dataset, and only the original eight rounds of data can be used for that well in background development and associated subsequent calculations.

2.5 Test of Normality

The main underlying assumption in parametric data evaluations, such as establishing prediction limits, is that the underlying data distribution is normal. A quick approximation can be made by calculating the Coefficient of Variance (CV) which is the quotient of the standard deviation divided by the sample mean. In general, if this quotient is greater than 1, the underlying data distribution is probably not normal. The new Unified Guidance is more conservative and suggests that if this quotient is greater than 0.5, the dataset may not be normal and a more robust distribution evaluation should be performed. Therefore, for any CV value greater than 0.5 for a specific dataset, normality will be evaluated using the Shapiro-Wilk Test with an alpha (α) value of 0.05 (or 95%).

If the dataset does not pass this initial test, the data will undergo a log transformation and the test will be repeated for the natural log values of the dataset. If it is determined that this dataset is log-normal, statistical evaluations will be completed on those values and the result converted back to the standard value. If the underlying distribution is also determined not to be log-normal, the Unified Guidance provides for a number of other data transformations that can be performed to evaluate whether those underlying distributions may be normal at which point the entire dataset would be transformed for subsequent calculations.

If a normal underlying distribution can not be determined, non-parametric statistical evaluations will need to be considered which do not rely on a specific underlying distribution.

2.6 Non-Detects

It is not uncommon in environmental datasets to have parameters being detected at low concentrations during one sampling event and being not detected in other sampling events. Having a consistent approach to the handling of non-detect values is an important part of the statistical evaluation process. The handling of non-detect values will be accomplished as follows:

- 100 Percent Non-Detects – Assumed that the constituent is not present and no statistical evaluations will be performed. The upper prediction limit will be set at the Reporting Limit (RL) established by the analytical laboratory.

- 50 Percent or Greater Non-Detects – A non-parametric evaluation will be performed where the confidence interval will be constructed using the highest detected concentration as the upper prediction limit.

- 15 to 50 Percent Non-Detects – Aitchison’s Adjustment will be used with subsequent parametric or non-parametric evaluations, as appropriate, based on underlying distributions.

- 0 to 15 Percent Non-Detects - The non-detect values will be replaced with RL/2 and the dataset will be evaluated for distribution normality with subsequent parametric or non-parametric evaluations, as appropriate, based on underlying distributions.

2.7 Prediction Limit Calculation for Normally Distributed Data

For datasets where the distribution or underlying transformed distribution is normal, a parametric statistical approach will be used for establishing the prediction limit at the required 95% statistical confidence. In accordance with Unified Guidance, the following equation will be used:

$$95\%\ Prediction\ Limit\ = \bar{x} + t_{1-0.05/m,n-1} s \sqrt{1 + \frac{1}{n}}$$

Where:

$\bar{x}$ = the sample mean of the detected or adjusted results
S = sample standard deviation of the detected or adjusted results
$t_{1-0.05/m,n-1}$ = the students t-coefficient for degrees of freedom (n-1) and confidence level (1-0.05/m)
n = the number of samples
m = the number of future samples

The number of future sampling events (*m*) will be set at 2 which will account for one sampling event and a confirmation resampling. This will assist in limiting the potential number of false positives. An acceptable site-wide false positive (SWFP) rate of 10% or less is acceptable under the Unified Guidance.

2.8 Prediction Limit Calculation for Non-Normally Distributed Data

If the dataset distribution or underlying distribution is determined not to be normal, a non-parametric approach will need to be used for the establishment of the prediction limit. The non-parametric evaluation will use the highest detected concentration as the upper prediction limit for the specific constituent.

3.0 GROUNDWATER MONITORING

The State CCR Rule does not distinguish between detection monitoring or assessment monitoring as was defined under the Federal CCR Rule. To meet the requirements set forth in Section 845.650(b), a minimum of eight rounds of groundwater data need to be collected for establishing background. As noted above, if more than eight rounds of data are available, then the larger dataset will be evaluated to determine whether the background dataset can be expanded to provide a more robust statistical assessment. At that point, statistical evaluation of the background dataset will be performed to establish the upper prediction limits for each Section 845.600(a) and (b) constituent. It is noted that in the case of pH, a lower prediction limit will also be established since this parameter has an established upper and lower value range for compliance.

Site specific Groundwater Protection Standards (GWPSs) will be developed in accordance with Section 845.600(a)(2) as follows:

- If the constituent has an established State standard listed in Section 845.600(a)(1) and the standard is greater than the calculated background upper prediction limit, then the standard will serve as the GWPS. If the background upper prediction limit is greater than the standard, the upper prediction limit will serve as the GWPS.

- If the constituent does not have an established standard (i.e., calcium and turbidity) then the calculated upper prediction limit will serve as the GWPS.

Once the proposed GWPSs are determined and approved by Illinois EPA, subsequent downgradient well concentrations will be compared against the upper prediction limit (and lower prediction limit in the case of pH), and the GWPSs. If an exceedance of the GWPS is identified during a quarterly sampling event, an immediate resampling of the specific well(s) will be completed for those specific parameters. If the exceedance is confirmed by the resampling, the Illinois EPA will be notified of the exceedance(s) and the notification will be placed in the facilities operating record in accordance with 845.800(d)(16). It is noted that there are some constituents that historically may have had no detections (i.e., 100% non-detects). In this case, in accordance with the Unified Guidance, if there is a detection of such a constituent, then the Double Quantification Rule will be applied. Under this rule, a confirmed exceedance is registered if any well-constituent pair in the 100% non-detect group exhibits quantified measurements (i.e., at or above the Reporting Limit in two consecutive sample and resample events.

If an exceedance of the GWPS is recorded and reported to Illinois EPA, an Alternate Source Demonstration (ASD) may be completed within 60-days of the confirmed exceedance in accordance with Section 845.650(e) and submitted to the Illinois EPA as well as placing the ASD on the facility's publically accessible CCR website. Illinois EPA will review and approve or disapprove the ASD.

If it is decided not to complete an ASD or if Illinois EPA does not concur with and approve the ASD, a characterization of the nature and extent of the potential release must be completed in accordance with Section 845.650(d)(1) as well as meeting the requirements of Sections 845.660, 845.670 and 845.680.

4.0 CERTIFICATION

In accordance with Section 845.640(f)(2) of the State CCR Rule, I hereby certify based on a review of the information contained within this Illinois State CCR Rule Compliance Statistical Approach for Groundwater Data Evaluation dated August 31, 2021, the statistical procedures developed and selected for evaluation of groundwater data associated with the Midwest Generation Will County Station CCR Units are adequate and appropriate for evaluating the groundwater data

Certified by: ______________________________

Date: 8/31/21

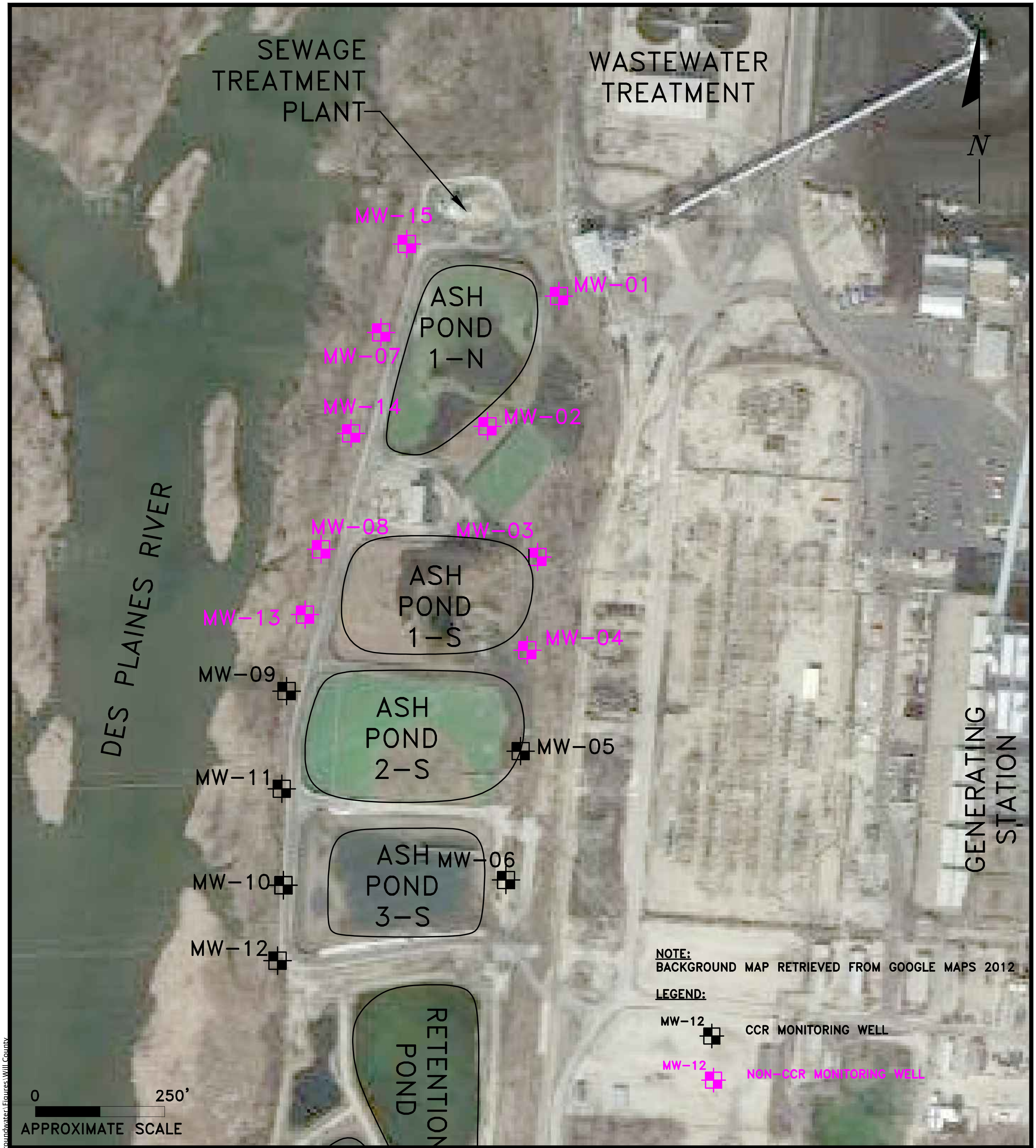
JOSHUA D. DAVENPORT
062-061945

Joshua Davenport, P.E.

Professional Engineer Registration No. 062-061945

KPRG and Associates, Inc.

FIGURE



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LEGEND:

MW-12 ■	CCR MONITORING WELL
MW-12 ■	NON-CCR MONITORING WELL

E N V I R O N M E N T A L   C O N S U L T A T I O N & R E M E D I A T I O N

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

CCR MONITORING WELL LOCATIONS

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'

Date: August 27, 2021

KPRG Project No. 19520.3

FIGURE 1

W:\Projects\Midwest Generation\12313 Ash Pond Groundwater\Figures\Will County

TABLE

Table 1. Section 845.600 Groundwater Monitoring Parameter List

Parameter	Section 845.600 Standards
Antimony	0.006
Arsenic	0.01
Barium	2
Beryllium	0.004
Boron	2.0
Cadmium	0.005
Chloride	200
Chromium	0.1
Cobalt	0.006
Combined Radium 226 + 228 (pCi/L)	5.0
Fluoride	4.0
Lead	0.0075
Lithium	0.04
Mercury	0.002
Molybdenum	0.10
pH (standard units)	6.5-9.0
Selenium	0.05
Sulfate	400
Thallium	0.002
Total Dissolved Solids	1200
Calcium	NE
Turbidity	NE

All vaues in mg/l unless otherwise specified.
NE- Not Established

Attachment 9-6 – Statistical Evaluation Summary

ATTACHMENT 9-6

BACKGROUND STATISTICAL EVALUATION SUMMARY STATE RULE CCR GROUNDWATER MONITORING WILL COUNTY GENERATING STATION PONDS 1N/1S

The newly enacted Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule) requires development of proposed Groundwater Protection Standards (GWPSs) for inclusion within the Operating Permit for the regulated surface impoundments at the facility. Upon Illinois Environmental Protection Agency (EPA) review, concurrence and approval of these site-specific proposed GWPSs, subsequent quarterly downgradient groundwater monitoring data will be compared against these standards to determine whether standard quarterly monitoring is to continue or whether additional evaluations need to occur to in accordance with Section 845.650(d), 845.650(e), 845.660 and 845.670. The overall statistical approach to be used for the development of the proposed GWPSs is provided in Attachment 9-5 of the Operating Permit.

Will County Generating Station has four separate regulated units. These are Ponds 1 North (1N), 1 South (1S), 2 South (2S) and 3 South (3S). Ponds 2S and 3S were the subject of the Initial Application for Operating Permit – Will County Station submitted on October 31, 2021. Ponds 1N and 1S are the subject/focus of this submittal. Ponds 1N and 1S are treated as having distinct monitoring networks and therefore, for the development of GWPSs, will be discussed separately. The proposed site-specific GWPSs for the Will County Generating Station are summarized in Section 9 of this Operating Permit. Table 9-7 summarizes GWPSs for Pond 1N and Table 9-8 summarizes GWPSs for Pond 1S. The background Prediction Limit values presented in those tables were developed, where possible, by combining or “pooling” as many background data points as possible from the various upgradient monitoring wells. Since Ponds 1N and 1S were not included as part of Federal CR Rule monitoring, the initial eight rounds of background sampling were completed between April and December 2021. The following general decision process was followed to determine whether background data from within a well and/or between upgradient wells can be pooled for background calculations:

- A trend analysis was performed for each background well. If a statistically significant trend in the data is noted to exist for a parameter, that background dataset for that specific parameter cannot be used for development of background. If there is more than one background monitoring well, and one of the combined datasets for a specific parameter shows a statistically significant trend but the other does not, then the specific parameter data for the well that did not indicate a trend can potentially be used for subsequent evaluations.

- If there is more than one upgradient monitoring well, then datasets for individual parameters between the wells (interwell evaluation) must pass an analysis of variance to determine whether there may be a statistically significant variation between the two datasets. If no statistically significant variance is noted between the two (or more) upgradient monitoring points, and the individual parameter data passes the intrawell trend evaluation noted above, then the datasets for that parameter can be pooled between the wells to establish a larger background dataset. If there is a statistically significant variation noted between the two (or more) upgradient monitoring points, then the specific parameter datasets from those wells cannot be combined.

- If it is determined that datasets from upgradient monitoring points cannot be combined, then a decision needs to be made as to which monitoring point will be used for a specific parameter for background calculations. At this point some professional judgement needs to be used by considering the number of data points within each dataset, any potential statistical outliers, any statistical seasonality, the distribution and/or underlying distribution of that data, number of detects versus non-detects, etc.

With the above decision process in mind, the various statistical evaluations performed are summarized below. The evaluations were performed with the assistance of the Sanitas® statistical software package.

Outlier Testing

Outlier tests were performed for all monitoring wells (upgradient and downgradient) in the proposed State CCR monitoring well network for all data available.

Pond 1N

Wells MW-01 and MW-02 are designated background wells. The following statistically significant outliers (dates in parentheses) were noted:

- Barium – MW-02 (7/12/21) and MW-07 (6/25/21)
- Boron – MW-02 (6/7/21)
- Chloride – MW-01 (11/19/21)
- Lead – MW-14 (8/2/21)
- Molybdenum – MW-14 (6/28/21 and 8/25/21)
- pH – MW-15 (8/25/21)
- Selenium – MW-07 (6/25/21)
- Total Dissolved Solids (TDS) – MW-01 (6/7/21) and MW-15 (8/25/21)
- Turbidity – MW-07 (5/4/21)

Since the outliers cannot be attributed to either lab error, transcription error or field sampling error, the outlier values were not removed from the datasets at this time but may be considered during subsequent data evaluations. A statistical run summary which includes the specific statistical method used for each parameter for each well is provided at the end of this discussion.

Pond 1S

Wells MW-03 and MW-04 are designated background wells. The following statistically significant outliers were noted:

- Barium – MW-09 (11/14/17) and MW-08 (7/12/21)
- Boron – MW-03 (8/2/21), MW-08 (6/7/21 and 7/12/21) and MW-13 (6/28/21)
- Calcium – MW-09 (11/14/17)
- Chloride – MW-03 (8/24/21), MW-04 (8/24/21) and MW-13 (6/28/21)
- Cobalt – MW-13 (8/26/21)
- Lead – MW-09 (1/31/17)
- Sulfate – MW-13 (6/28/21)
- Turbidity – MW-08 (4/10/21)

Since the outliers cannot be attributed to either lab error, transcription error or field sampling error, the outlier values were not removed from the datasets at this time but may be considered during subsequent data evaluations. A statistical run summary which includes the specific statistical method used for each parameter for each well is provided at the end of this discussion.

Seasonality/Temporal Variability Testing

Since all background data collection for Ponds 1N and 1S was competed between April 2021 and December 2021, a seasonality evaluation cannot be completed due to the short background collection timeframe.

Trend Analysis

To determine whether background for each parameter can be used and/or pooled at a specific upgradient monitoring well location, trend analysis for each constituent at each designated background well location was performed. The results are summarized as flows:

Pond 1N

- MW-01 – A statistically significant trend was noted for boron.
- MW-02 – A statistically significant trend was noted for arsenic.

A statistical run summary which includes the specific statistical method used for each parameter for each well is provided at the end of this discussion.

Pond 1S

- MW-03 – A statistically significant trend was noted for sulfate.
- MW-04 – No statistically significant trends were noted for any parameter.

A statistical run summary which includes the specific statistical method used for each parameter for each well is provided at the end of this discussion.

Spatial Variability Testing

To determine whether the background data sets from background wells can be pooled to establish a representative statistical background, spatial variability testing was performed on the datasets using a parametric analysis of variance (ANOVA). This analysis was done for each of the monitoring parameters. The following observations are made:

Pond 1N

- Background wells MW-01 and MW-02 – No statistically significant variance between the full datasets for chromium, TDS and turbidity.

It is noted that antimony, beryllium, cadmium, cobalt lead, mercury and thallium had no detections at any of the designated background well locations during any sampling event, therefore, although an analysis of variance cannot be formally completed, these data sets can be pooled since there is no variation in the reporting limits.

Statistical run summaries which include the specific statistical method used for each parameter for each of the dataset comparisons are provided at the end of this discussion.

Pond 1S

- Background wells MW-03 and MW-04 – No statistically significant variance between the full datasets for chloride, pH, cadmium, combined radium 226/228 and selenium.

It is noted that antimony, beryllium, chromium, lead, mercury and thallium had no detections at any of the upgradient well locations during any sampling event, therefore, although an analysis of variance cannot be formally completed, these data sets can be pooled since there is no variation in the reporting limits.

Statistical run summaries which include the specific statistical method used for each parameter for each of the dataset comparisons are provided at the end of this discussion.

Test of Normality

The Shapiro-Wilk Normality Test with an alpha (α) value of 0.05 (or 95%) was used to evaluate the distribution of the background datasets for each constituent at each background well location and the distribution of pooled datasets for both background wells. A Test of Ladders was also run to evaluate other potential underlying transformational distributions in the case that the non-transformed dataset was found not to be normally distributed. The statistical runs are provided for the various combinations of upgradient wells by parameter at the end of this discussion.

Prediction Limits

Based on the various statistical evaluations discussed above, the following background data sets were used for background prediction limit calculations:

Pond 1N

- Background wells MW-01 and MW-02 all parameter values pooled for antimony, beryllium, cadmium, chromium, cobalt, lead, mercury, thallium and turbidity. As noted above there were no detections of antimony, beryllium cadmium, cobalt, lead, mercury or thallium at any of the two upgradient well locations and the reporting limits were the same. Relative to the other parameters, there were no statistically significant trends within wells for the background data observations and there was no statistically significant variance noted between the datasets.
- Background well MW-01 parameter values were used for fluoride, pH, sulfate, arsenic, barium and selenium. For these compounds, there were no outliers or statistically significant trends in the background datasets and all datasets except arsenic had normal or underlying normal distributions. The arsenic dataset had a non-parametric distribution, however, the background arsenic dataset for well MW-02 had a statistically significant trend which precludes its use for background statistical calculations for that parameter.
- Background well MW-02 parameter values were used for boron, calcium, chloride, TDS, lithium, molybdenum and combined radium 226/228. For these compounds, with the exception of boron, there were no statistically significant outliers and for all the datasets there were no statistically significant trends. Also, with the exception of boron, all the datasets had normal or underlying normal distributions. Relative to boron, this dataset did have a noted outlier and the data distribution was non-parametric, however, the background boron dataset for well MW-01 had a statistically significant trend in the background dataset which precludes its use in development of background statistical calculations for that parameter.

Ponds 1S

- Background wells MW-03 and MW-04 all parameter values pooled for antimony, beryllium, cadmium, chloride, chromium, cobalt, lead, mercury, combined radium 226/228, selenium and thallium. As noted above there were no detections of antimony, beryllium chromium, lead, mercury or thallium at any of the two upgradient well locations and the reporting limits were the same. Relative to the other parameters, there were no statistically significant trends within wells for the background data observations and there was no statistically significant variance noted between the datasets. Both upgradient wells had an outlier value for chloride.
- Background well MW-03 parameter values were used for barium and lithium. For these compounds, there were no statistically significant outliers or statistically significant trends in the background datasets and all datasets had normal or underlying normal distributions.
- Background well MW-04 parameter values were used for boron, calcium, fluoride, sulfate, TDS, arsenic, cobalt, molybdenum and turbidity. For these compounds there were no statistically significant outliers and for all the datasets there were no statistically significant trends. Also, all the datasets had normal or underlying normal distributions.

The calculated prediction limits under the various background dataset selection scenarios for the Pond 1N and Pond 1S are summarized in Tables 9-7 and 9-8, respectively, in Section 9 of this permit application. A prediction limit statistical run summary which includes the specific statistical method used for each parameter for each well scenario noted above are provided at the end of this discussion.

STATISTICAL RUN BACKUP – POND 1N

Outlier Analysis - Will Co 1N - All Wells

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 10:24 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Arsenic (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001025	0.0000...	unknown	ShapiroWilk
Arsenic (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.01124	0.0015	normal	ShapiroWilk
Arsenic (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	0.003325	0.001494	ln(x)	ShapiroWilk
Arsenic (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	0.004288	0.001469	normal	ShapiroWilk
Arsenic (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.00285	0.0009813	normal	ShapiroWilk
Barium (mg/L)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.09638	0.003662	normal	ShapiroWilk
Barium (mg/L)	**MW-02 (bg)**	**Yes**	**0.067**	**7/12/2021**	**Dixon`s**	**0.05**	**8**	**0.05963**	**0.003204**	**normal**	**ShapiroWilk**
Barium (mg/L)	**MW-07**	**Yes**	**0.12**	**6/25/2021**	**Dixon`s**	**0.05**	**8**	**0.069**	**0.02161**	**normal**	**ShapiroWilk**
Barium (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	0.115	0.05765	ln(x)	ShapiroWilk
Barium (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.1148	0.03147	ln(x)	ShapiroWilk
Beryllium (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Boron (mg/L)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	2.488	0.28	normal	ShapiroWilk
Boron (mg/L)	**MW-02 (bg)**	**Yes**	**6.5**	**6/7/2021**	**NP (nrm)**	**NaN**	**8**	**5.313**	**0.5083**	**unknown**	**ShapiroWilk**
Boron (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	4.075	0.9721	normal	ShapiroWilk
Boron (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	4.463	0.9841	normal	ShapiroWilk
Boron (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	3.25	0.2673	normal	ShapiroWilk
Cadmium (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Calcium (mg/L)	MW-01 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	191.3	13.56	unknown	ShapiroWilk
Calcium (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	92.13	4.998	normal	ShapiroWilk
Calcium (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	160	69.08	normal	ShapiroWilk
Calcium (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	116.8	25.64	normal	ShapiroWilk
Calcium (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	170	25.63	normal	ShapiroWilk
Chloride (mg/L)	**MW-01 (bg)**	**Yes**	**29**	**11/19/2021**	**Dixon`s**	**0.05**	**8**	**19.75**	**4.027**	**normal**	**ShapiroWilk**
Chloride (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	24.75	2.252	normal	ShapiroWilk
Chloride (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	155	46.6	normal	ShapiroWilk
Chloride (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	105.3	12.83	normal	ShapiroWilk
Chloride (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	117.3	13.22	normal	ShapiroWilk
Chromium (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005087	0.0002475	unknown	ShapiroWilk
Chromium (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.008625	0.01025	unknown	ShapiroWilk
Chromium (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Cobalt (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Cobalt (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Cobalt (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001025	0.0000...	unknown	ShapiroWilk
Cobalt (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Cobalt (mg/L)	MW-15	No	n/a	n/a	NP (nrm)	NaN	8	0.001138	0.00022	unknown	ShapiroWilk

Outlier Analysis - Will Co 1N - All Wells

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 10:24 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Combined Radium 226 + 228 (pCi/L)	MW-01 (bg)	No	n/a	n/a	Dixon`s	0.05	8	0.6533	0.3018	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	1.014	0.2944	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	1.282	0.5028	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	0.8971	0.4706	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.9659	0.4841	normal	ShapiroWilk
Fluoride (mg/L)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.6113	0.028	normal	ShapiroWilk
Fluoride (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.385	0.01927	normal	ShapiroWilk
Fluoride (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	0.61	0.1163	normal	ShapiroWilk
Fluoride (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	0.5225	0.1091	ln(x)	ShapiroWilk
Fluoride (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.48	0.08976	normal	ShapiroWilk
Lead (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Lead (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Lead (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Lead (mg/L)	**MW-14**	**Yes**	**0.0016**	**8/2/2021**	**NP (nrm)**	**NaN**	**8**	**0.000...**	**0.0003831**	**unknown**	**ShapiroWilk**
Lead (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0006	0.0002828	unknown	ShapiroWilk
Lithium (mg/L)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.03938	0.004274	normal	ShapiroWilk
Lithium (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.0465	0.002878	normal	ShapiroWilk
Lithium (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	0.02663	0.006368	normal	ShapiroWilk
Lithium (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	0.04188	0.01448	normal	ShapiroWilk
Lithium (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.02088	0.003796	normal	ShapiroWilk
Mercury (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-01 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	0.01273	0.001446	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.07313	0.00398	normal	ShapiroWilk
Molybdenum (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	0.056	0.01416	normal	ShapiroWilk
Molybdenum (mg/L)	**MW-14**	**Yes**	**0.064,0.081**	**8/25/2021...**	**Dixon`s**	**0.05**	**8**	**0.05663**	**0.01094**	**normal**	**ShapiroWilk**
Molybdenum (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	0.03075	0.005523	normal	ShapiroWilk
pH (n/a)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	6.698	0.1725	normal	ShapiroWilk
pH (n/a)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	7.734	0.1771	normal	ShapiroWilk
pH (n/a)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	7.591	0.8732	normal	ShapiroWilk
pH (n/a)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	7.9	0.239	normal	ShapiroWilk
pH (n/a)	**MW-15**	**Yes**	**7.73**	**8/25/2021**	**Dixon`s**	**0.05**	**8**	**7.206**	**0.2488**	**normal**	**ShapiroWilk**
Selenium (mg/L)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.009975	0.003946	normal	ShapiroWilk
Selenium (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0025	0	unknown	ShapiroWilk
Selenium (mg/L)	**MW-07**	**Yes**	**0.0039**	**6/25/2021**	**NP (nrm)**	**NaN**	**8**	**0.00275**	**0.0005099**	**unknown**	**ShapiroWilk**
Selenium (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0025	0	unknown	ShapiroWilk
Selenium (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0025	0	unknown	ShapiroWilk
Sulfate (mg/L)	MW-01 (bg)	No	n/a	n/a	Dixon`s	0.05	8	365	52.64	normal	ShapiroWilk
Sulfate (mg/L)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	8	517.5	23.15	normal	ShapiroWilk
Sulfate (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	558.8	143.9	normal	ShapiroWilk
Sulfate (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	476.3	47.79	normal	ShapiroWilk
Sulfate (mg/L)	MW-15	No	n/a	n/a	EPA 1989	0.05	8	546.3	33.78	normal	ShapiroWilk
Thallium (mg/L)	MW-01 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-02 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-07	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-14	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-15	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk

Outlier Analysis - Will Co 1N - All Wells

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 10:24 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Total Dissolved Solids (mg/L)	**MW-01 (bg)**	**Yes**	**510**	**6/7/2021**	**Dixon`s**	**0.05**	**8**	**1048**	**242.9**	**normal**	**ShapiroWilk**
Total Dissolved Solids (mg/L)	MW-02 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	1075	122.4	unknown	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-07	No	n/a	n/a	EPA 1989	0.05	8	1335	506	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-14	No	n/a	n/a	EPA 1989	0.05	8	1090	119.6	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	**MW-15**	**Yes**	**820**	**8/25/2021**	**Dixon`s**	**0.05**	**8**	**1240**	**185.8**	**normal**	**ShapiroWilk**
Turbidity (NTU)	MW-01 (bg)	No	n/a	n/a	EPA 1989	0.05	12	4.318	4.412	ln(x)	ShapiroWilk
Turbidity (NTU)	MW-02 (bg)	No	n/a	n/a	EPA 1989	0.05	12	4.631	3.455	ln(x)	ShapiroWilk
Turbidity (NTU)	**MW-07**	**Yes**	**37.65**	**5/4/2021**	**Dixon`s**	**0.05**	**12**	**8.205**	**9.429**	**normal**	**ShapiroWilk**
Turbidity (NTU)	MW-14	No	n/a	n/a	EPA 1989	0.05	9	6.536	2.915	normal	ShapiroWilk
Turbidity (NTU)	MW-15	No	n/a	n/a	EPA 1989	0.05	9	13.19	7.444	ln(x)	ShapiroWilk

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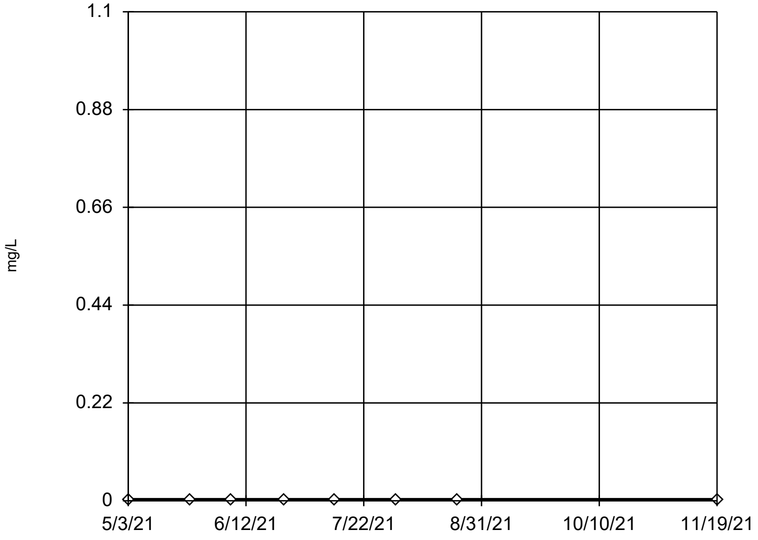
Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

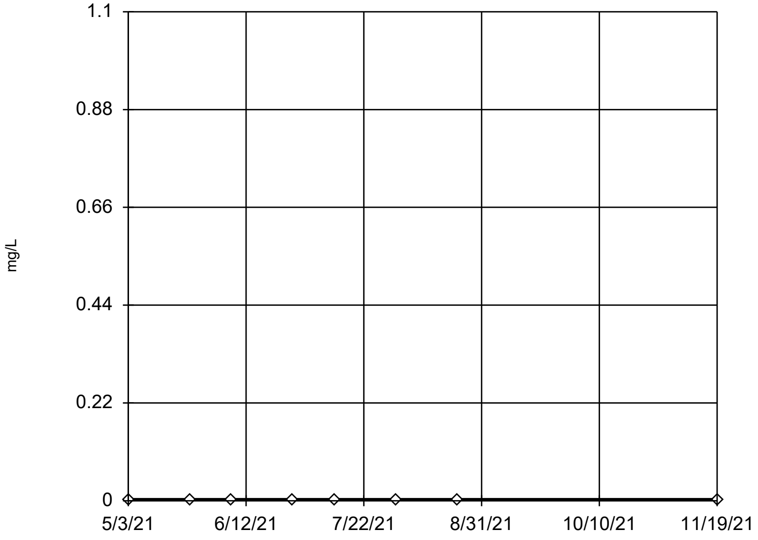
Constituent: Antimony Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

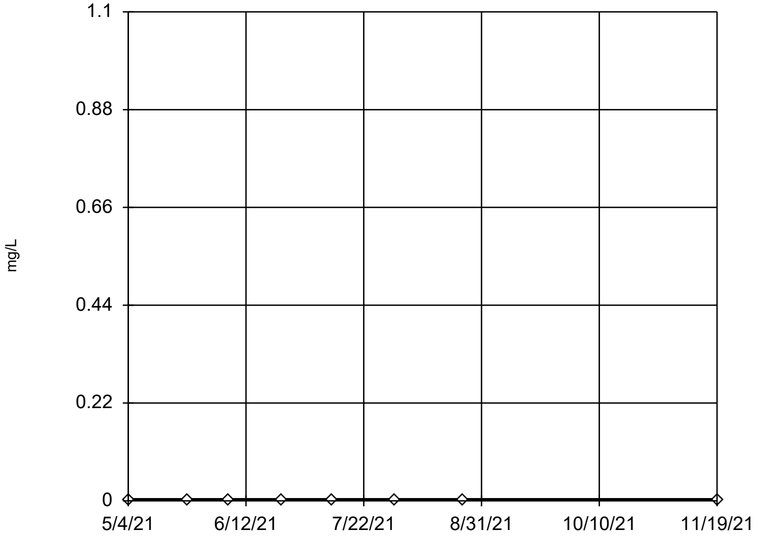
Constituent: Antimony Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

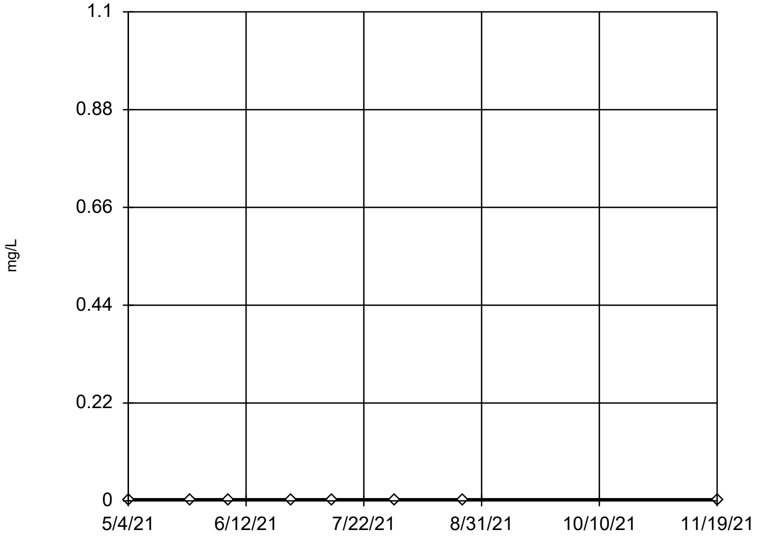
Constituent: Antimony Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

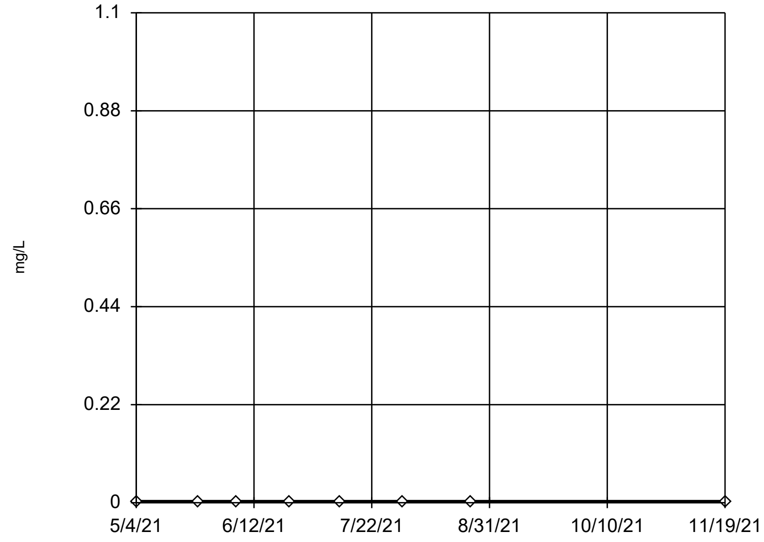
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Antimony Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

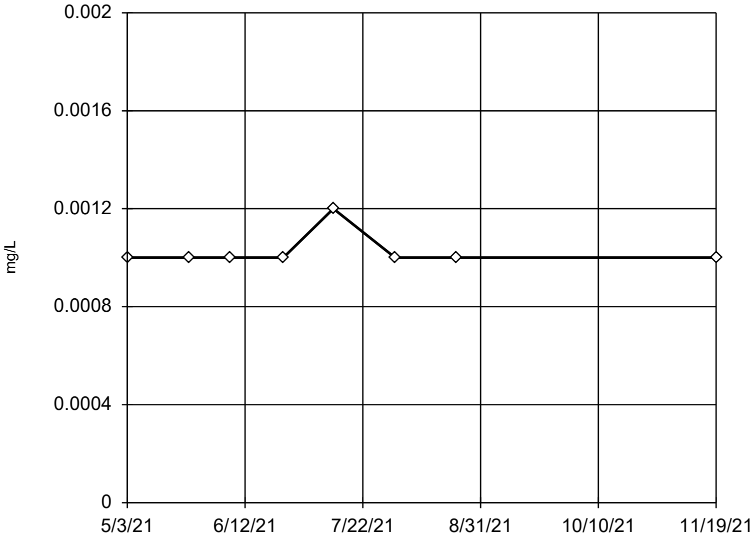
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Antimony   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

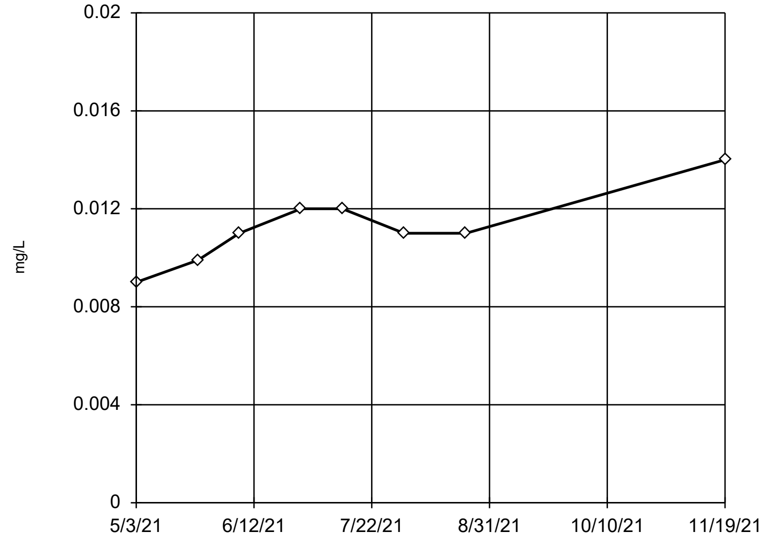
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Arsenic   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.01124, std. dev. 0.0015, critical Tn 2.032

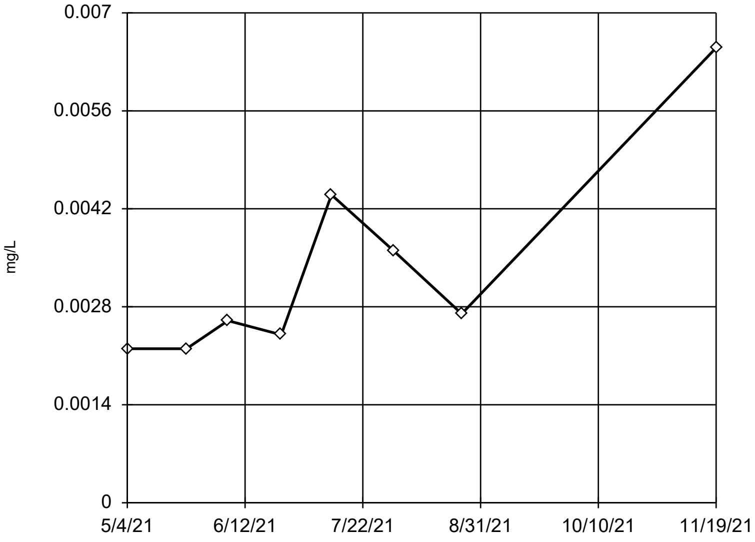
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9478
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Arsenic   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.003325, std. dev. 0.001494, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8604
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

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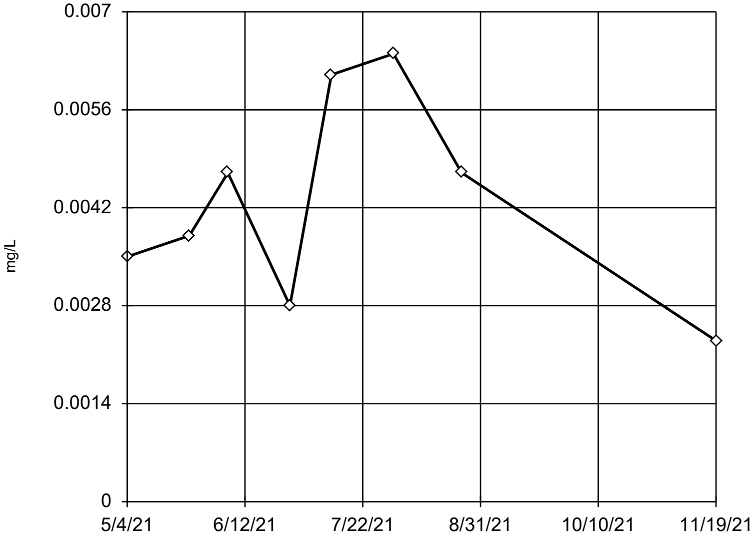
EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.004288, std. dev.
0.001469, critical Tn
2.032

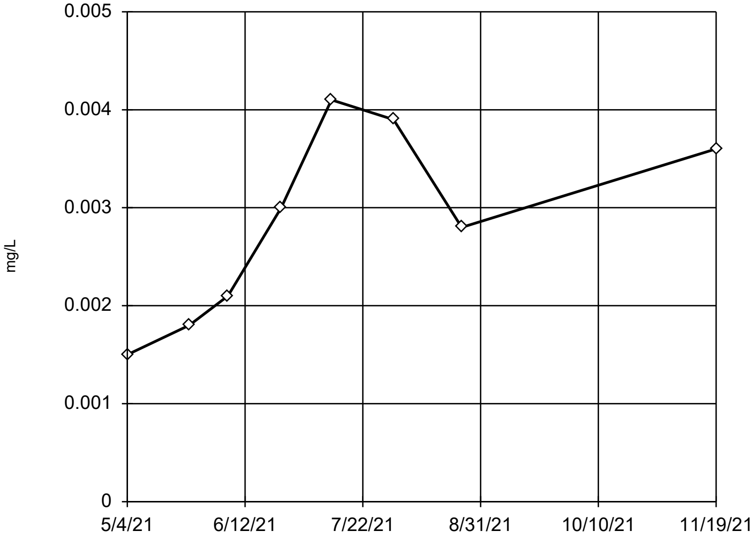
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9483
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Arsenic Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.00285, std. dev.
0.0009813, critical Tn
2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9352
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Arsenic Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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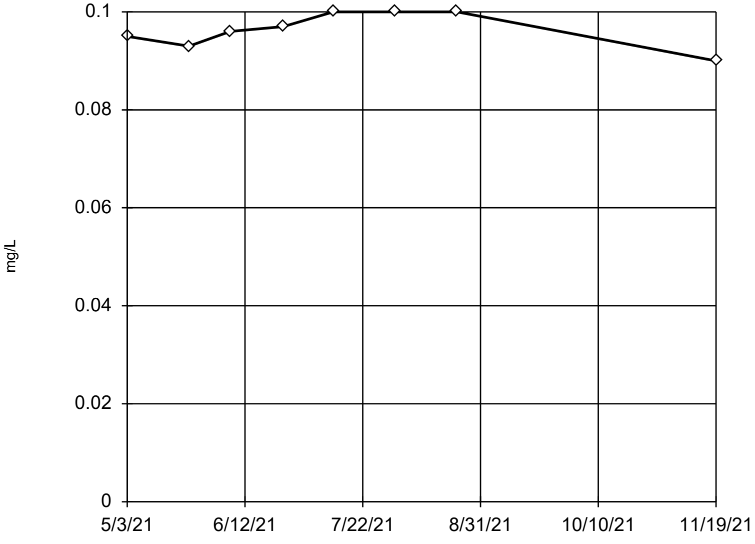
EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.09638, std. dev.
0.003662, critical Tn
2.032

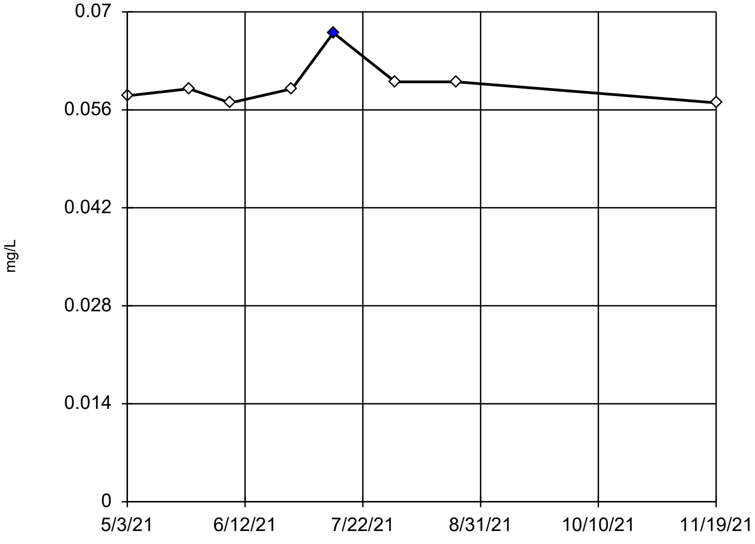
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9005
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Dixon's Outlier Test

MW-02 (bg)



n = 8

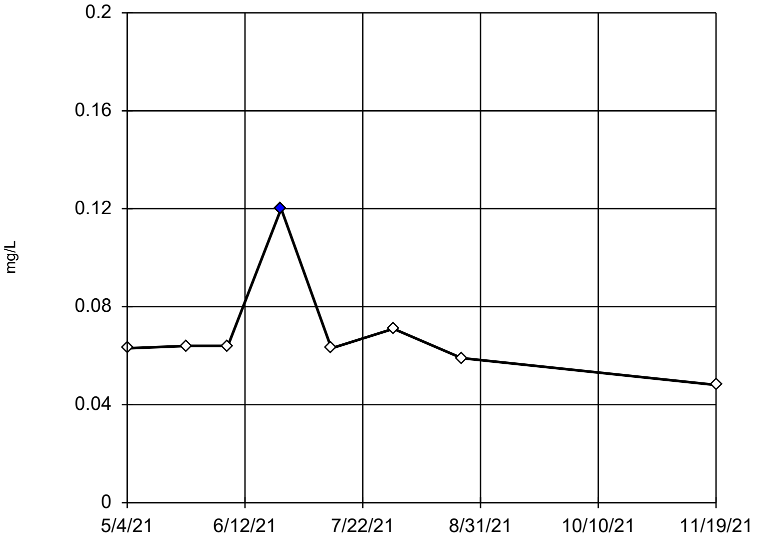
Statistical outlier is
drawn as solid.
Testing for 1 high outlier.
Mean = 0.05963.
Std. Dev. = 0.003204.
0.067: c = 0.7
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8773
Critical = 0.838
The distribution, after
removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-07



n = 8

Statistical outlier is drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 0.069.
Std. Dev. = 0.02161.
0.12: c = 0.8033
tabl = 0.554.
0.048: c = 0.4783
tabl = 0.554.
Alpha = 0.05.

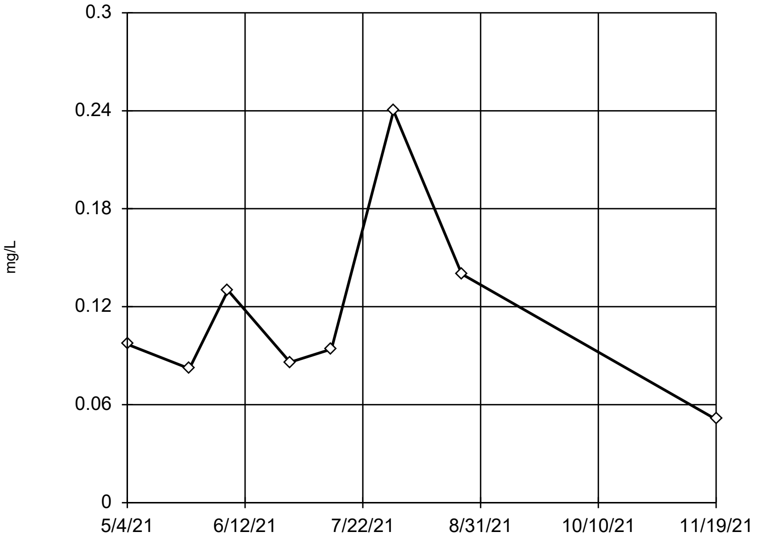
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8602
Critical = 0.826
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.115, std. dev. 0.05765, critical Tn 2.032

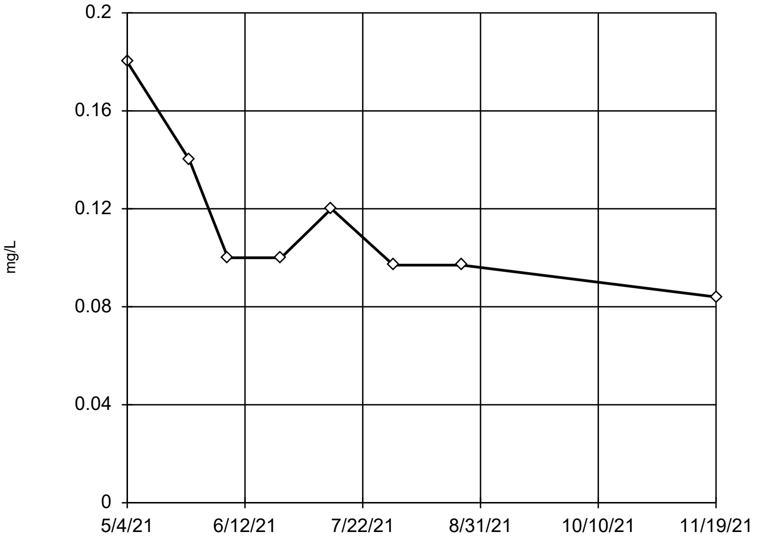
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9591
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Barium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.1148, std. dev. 0.03147, critical Tn 2.032

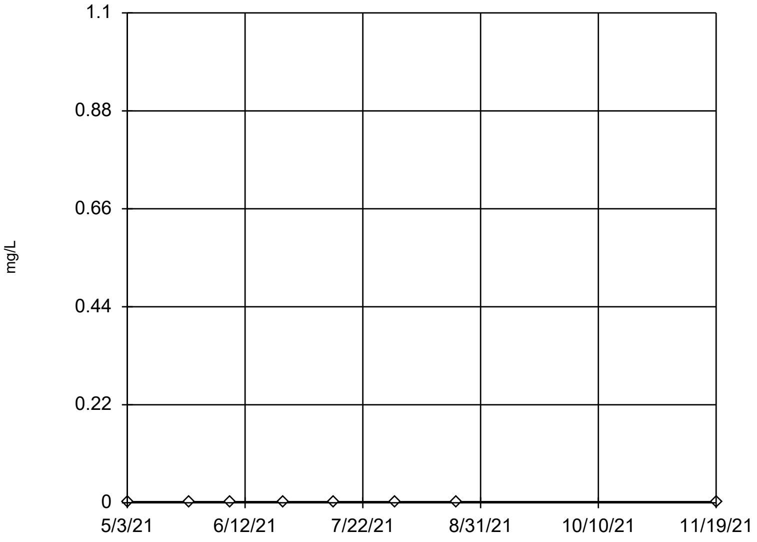
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8794
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Barium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

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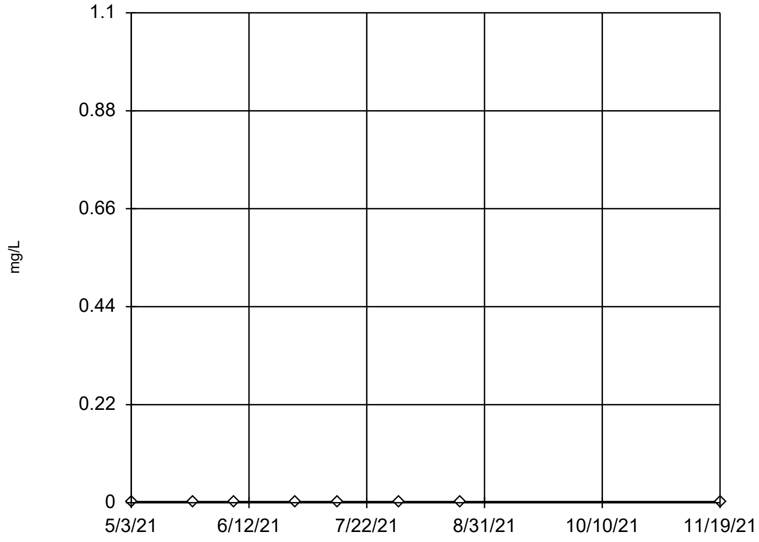
Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

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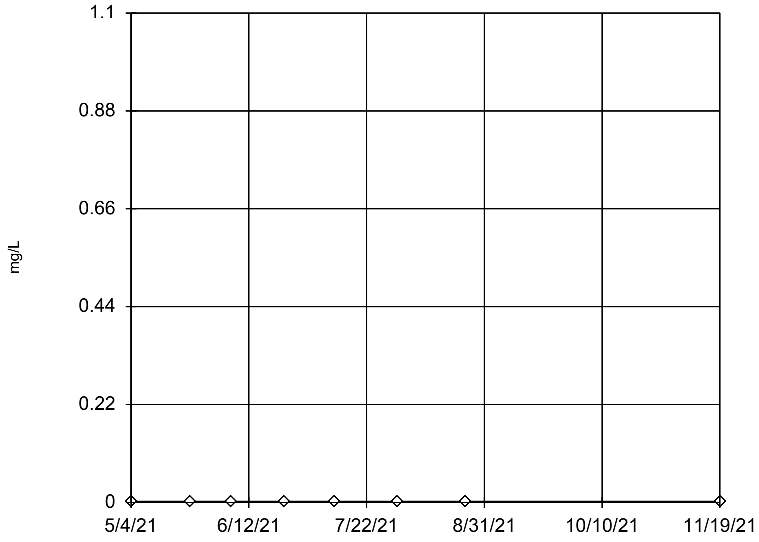
Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

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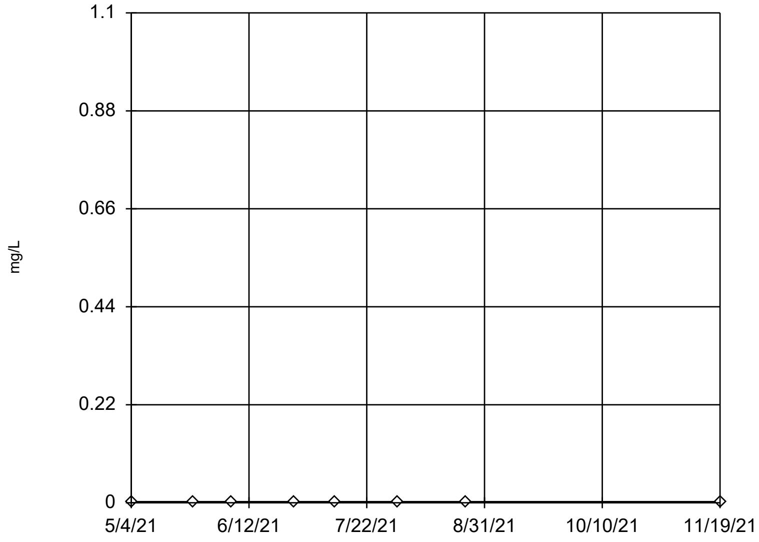
Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

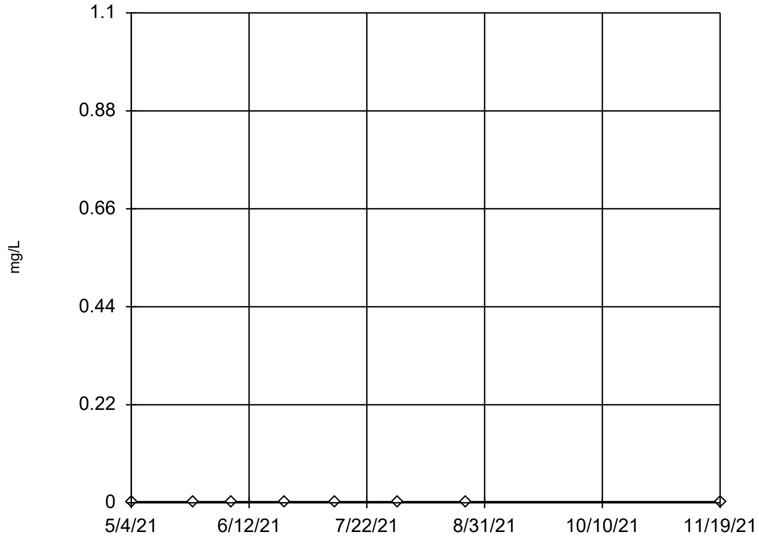
Constituent: Beryllium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

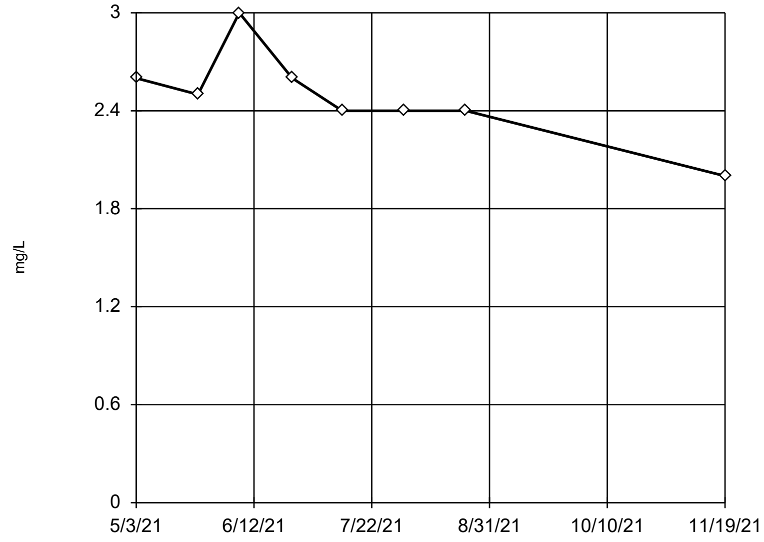
Constituent: Beryllium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 2.488, std. dev.
0.28, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9159
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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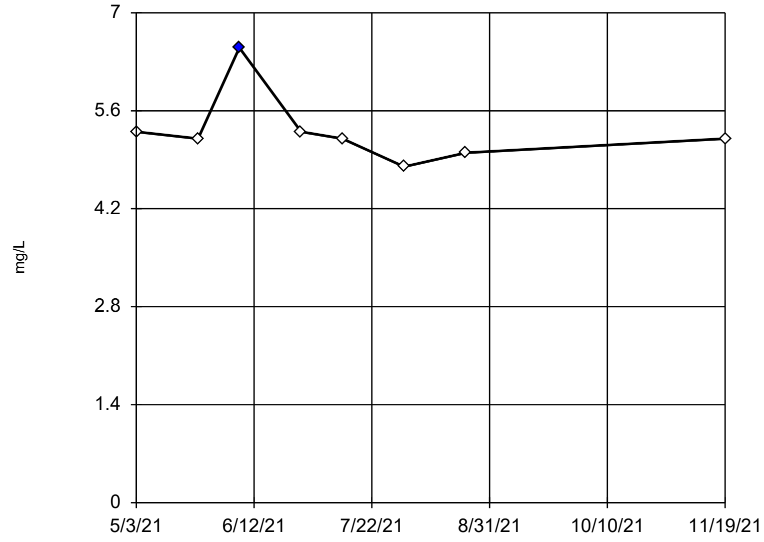
Tukey's Outlier Screening

MW-02 (bg)



n = 8

Outlier is drawn as solid.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

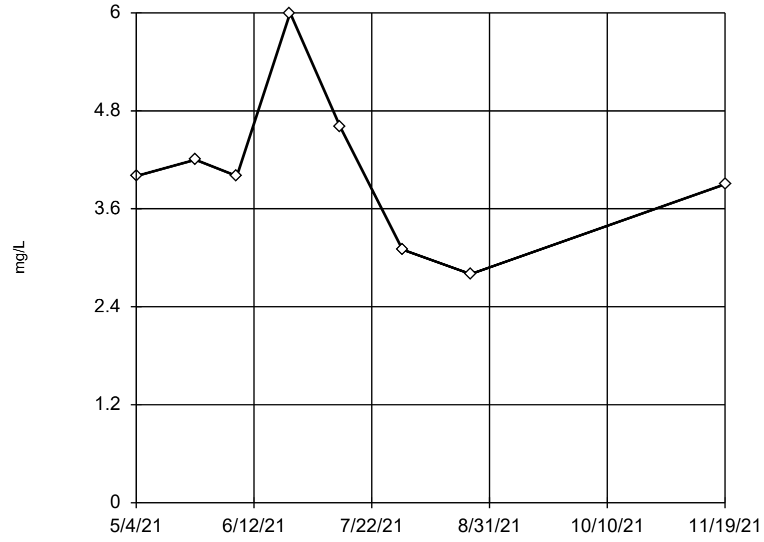
High cutoff = 5.952, low
cutoff = 4.541, based
on IQR multiplier of 3.

Constituent: Boron Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 4.075, std. dev.
0.9721, critical Tn 2.032

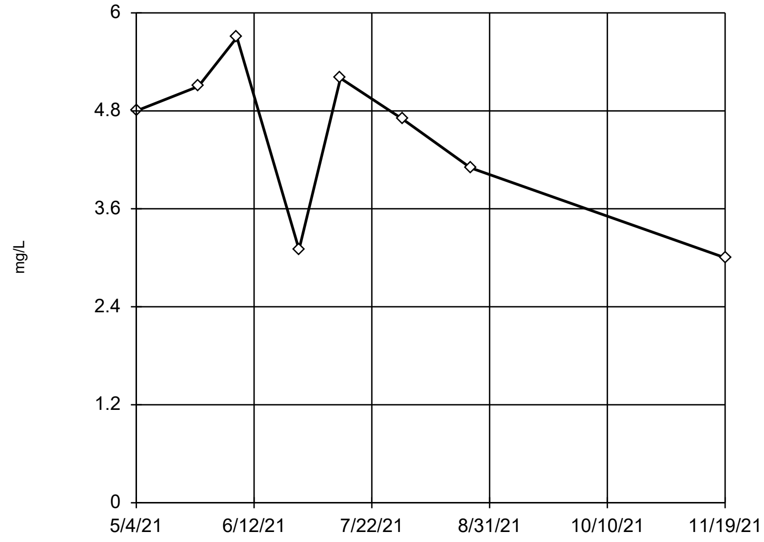
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9175
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 4.463, std. dev.
0.9841, critical Tn 2.032

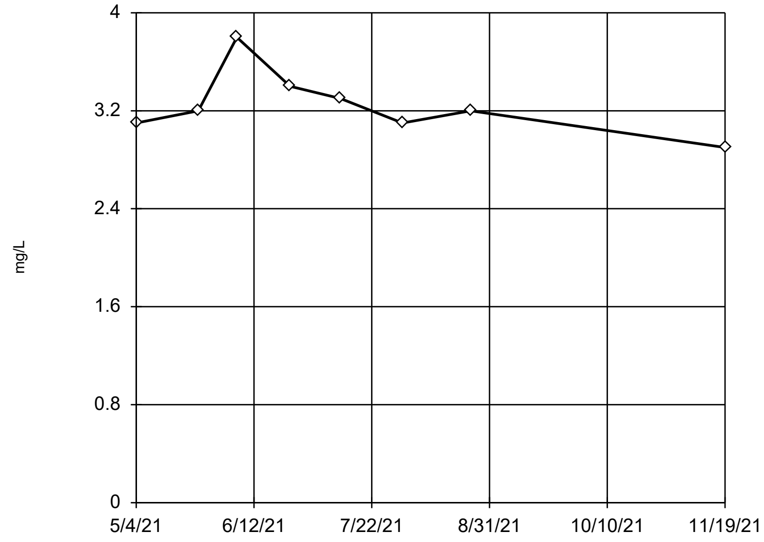
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9061
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 3.25, std. dev. 0.2673,
critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9098
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Boron   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

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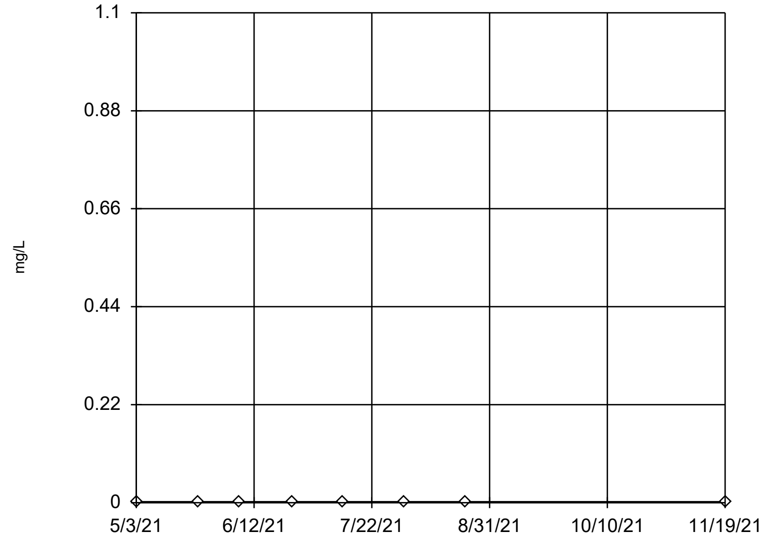
Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cadmium   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

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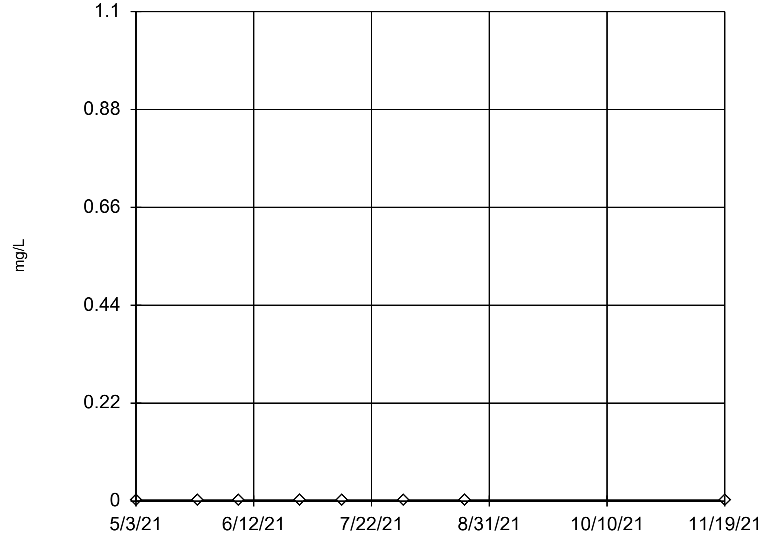
Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cadmium   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

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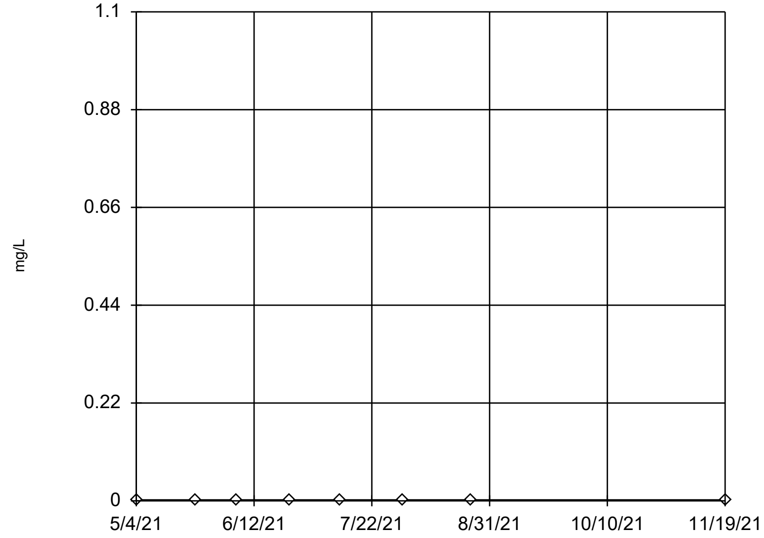
Tukey's Outlier Screening

MW-07



n = 8

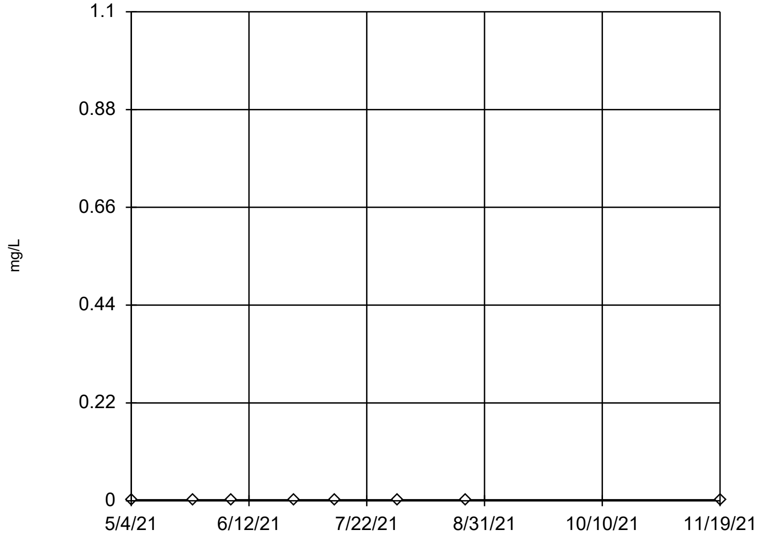
No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cadmium   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County



Tukey's Outlier Screening

MW-14

n = 8

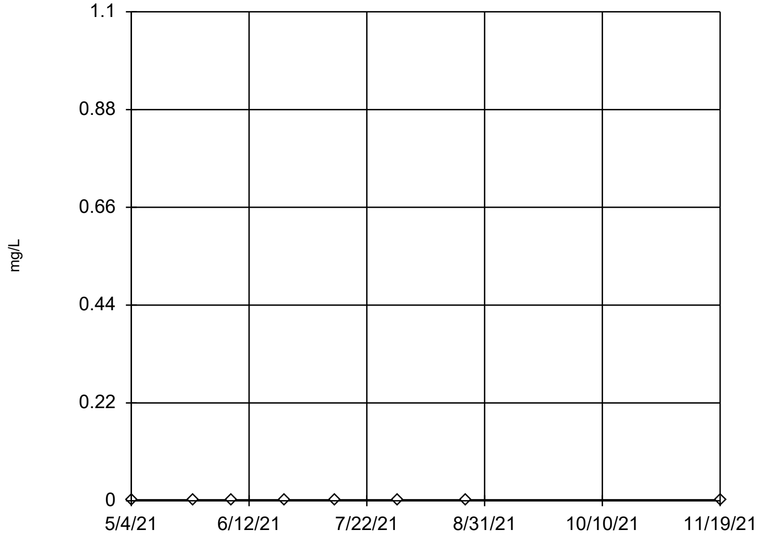
No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cadmium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County



Tukey's Outlier Screening

MW-15

n = 8

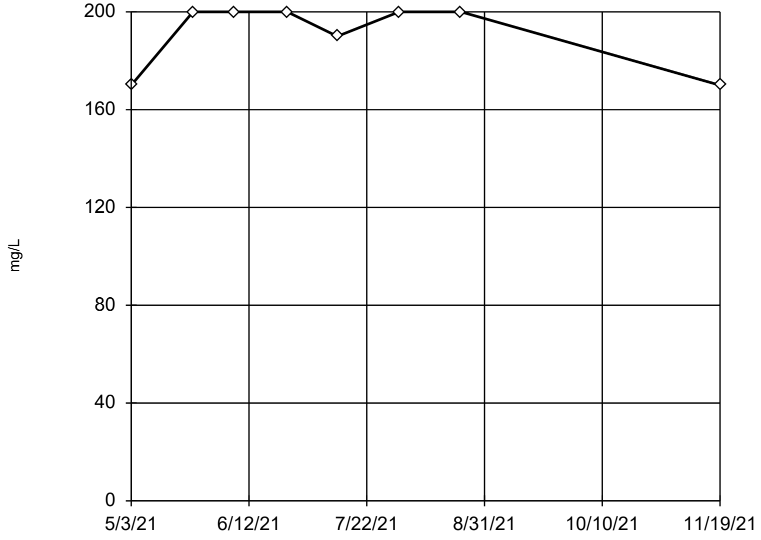
No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cadmium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County



Tukey's Outlier Screening

MW-01 (bg)

n = 8

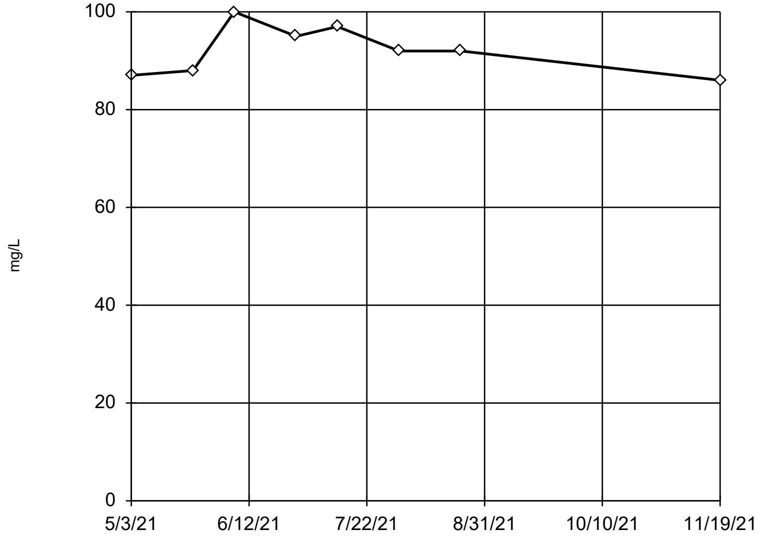
No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

High cutoff = 230.3, low
cutoff = -191.7, based
on IQR multiplier of 3.

Constituent: Calcium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County



EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)

n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 92.13, std. dev.
4.998, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9452
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

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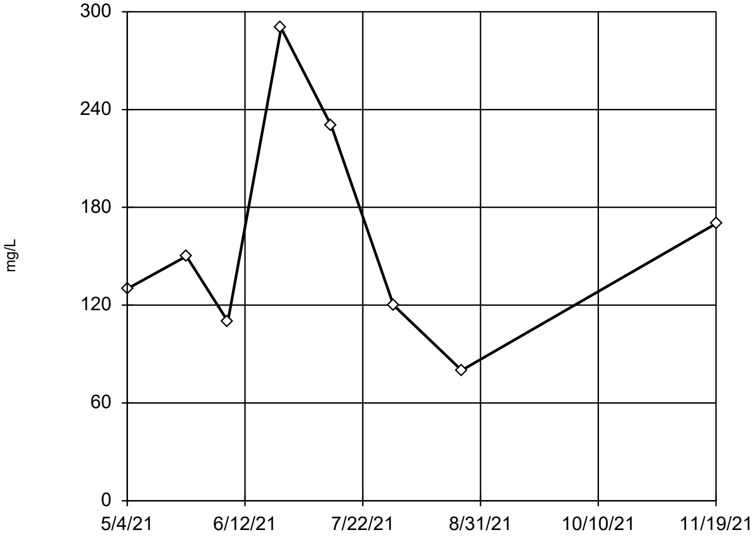
EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 160, std. dev. 69.08,
critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9158
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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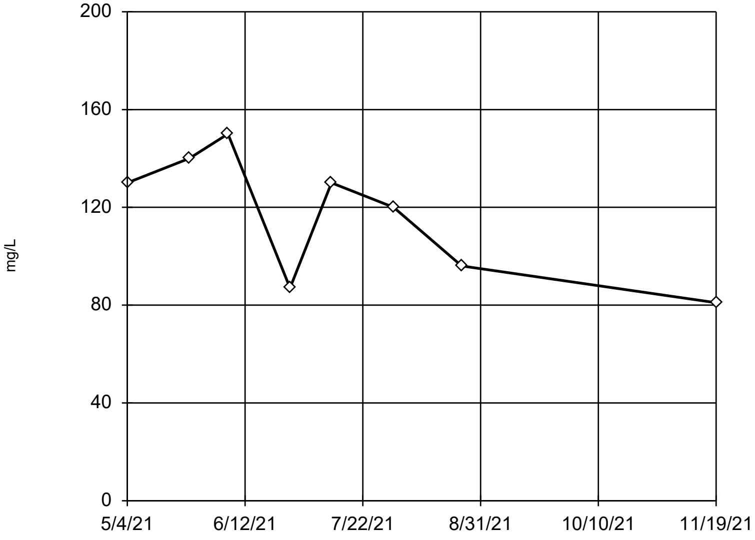
EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 116.8, std. dev.
25.64, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9186
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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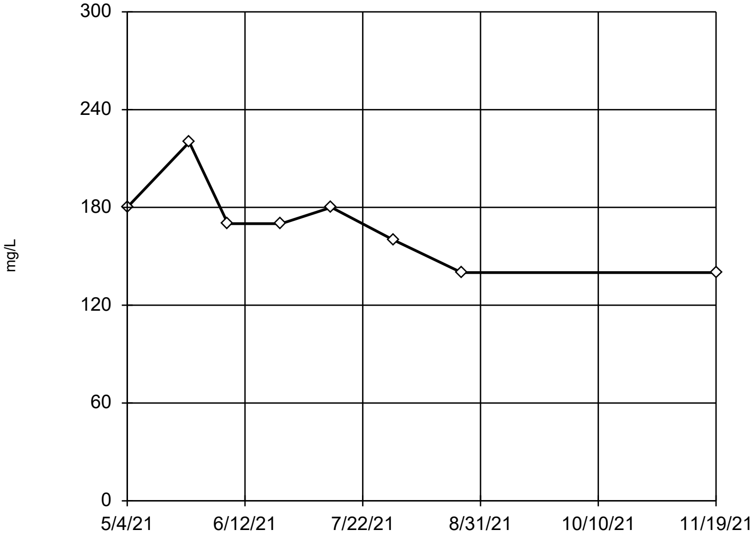
EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 170, std. dev. 25.63,
critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.906
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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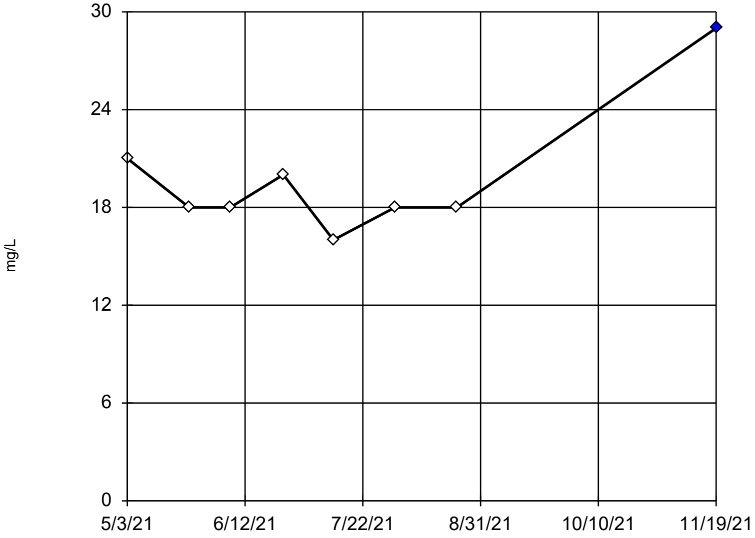
Dixon's Outlier Test

MW-01 (bg)



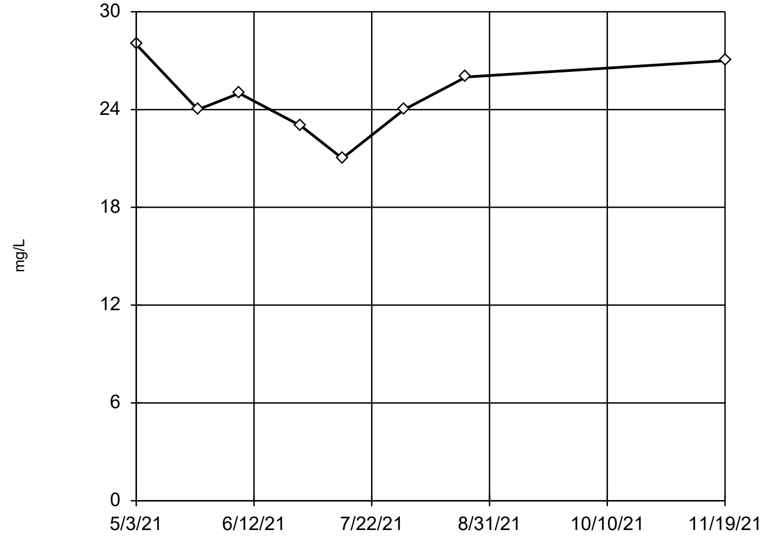
n = 8

Statistical outlier is
drawn as solid.
Testing for 1 high outlier.
Mean = 19.75.
Std. Dev. = 4.027.
29: c = 0.7273
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8819
Critical = 0.838
The distribution, after
removal of suspect value, was found to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG


EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)

n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 24.75, std. dev.
2.252, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9828
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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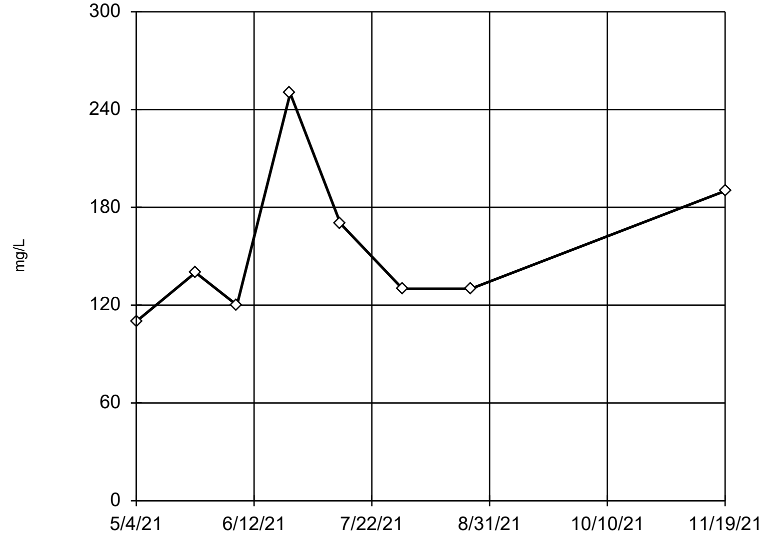

EPA Screening (suspected outliers for Dixon's Test)

MW-07

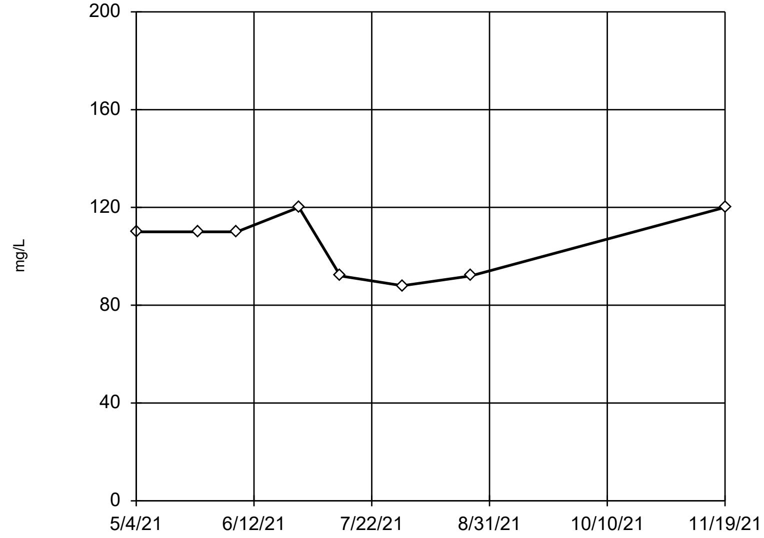
n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 155, std. dev. 46.6,
critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8611
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG


EPA Screening (suspected outliers for Dixon's Test)

MW-14

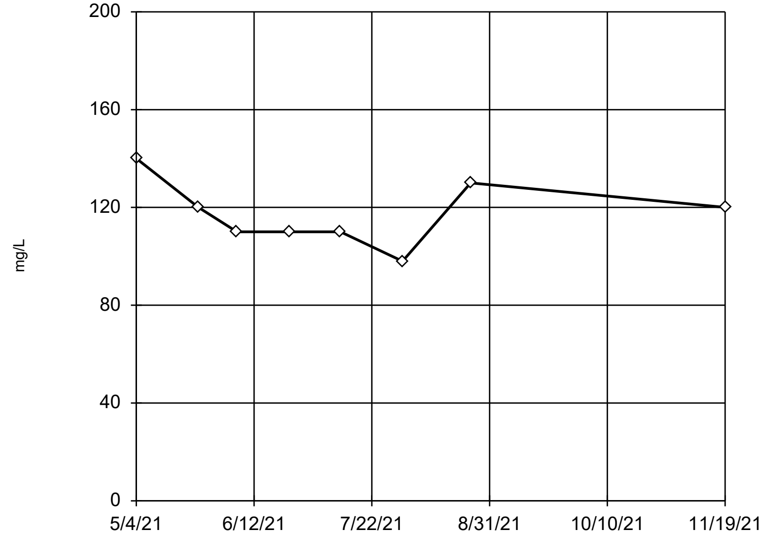
n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 105.3, std. dev.
12.83, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8542
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG


EPA Screening (suspected outliers for Dixon's Test)

MW-15

n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 117.3, std. dev.
13.22, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9476
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 10:21 AM
Will County Generating Station Client: NRG Data: Will County

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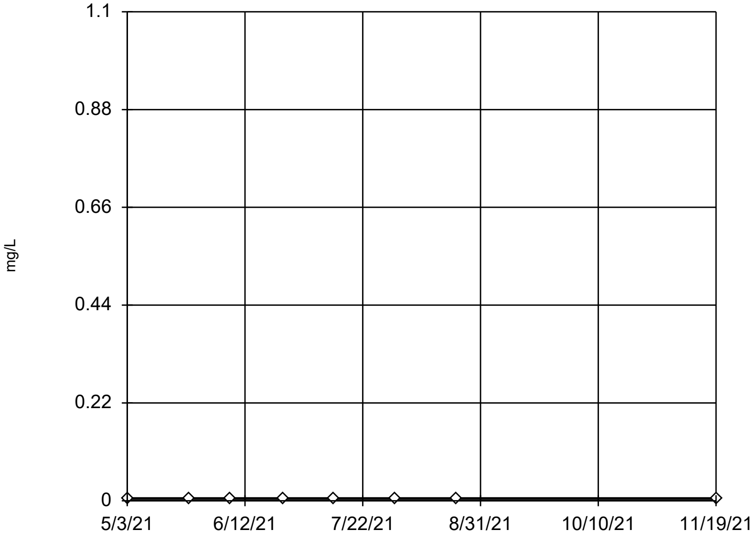
Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

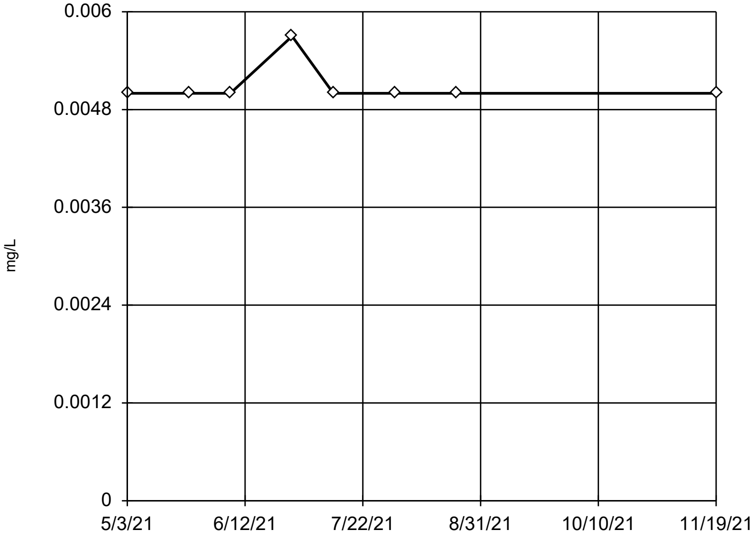
Constituent: Chromium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

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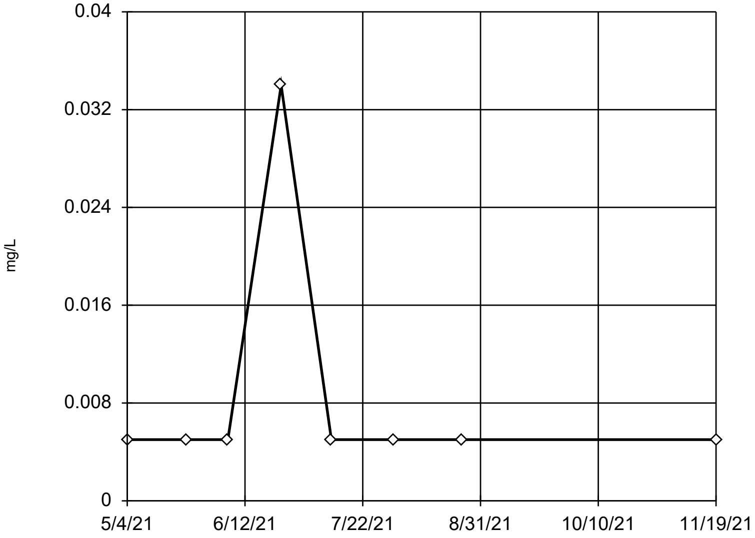
Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

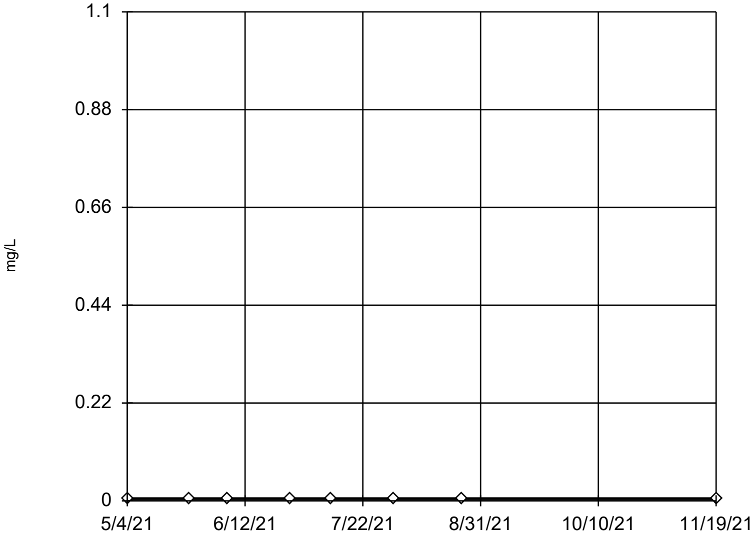
Constituent: Chromium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

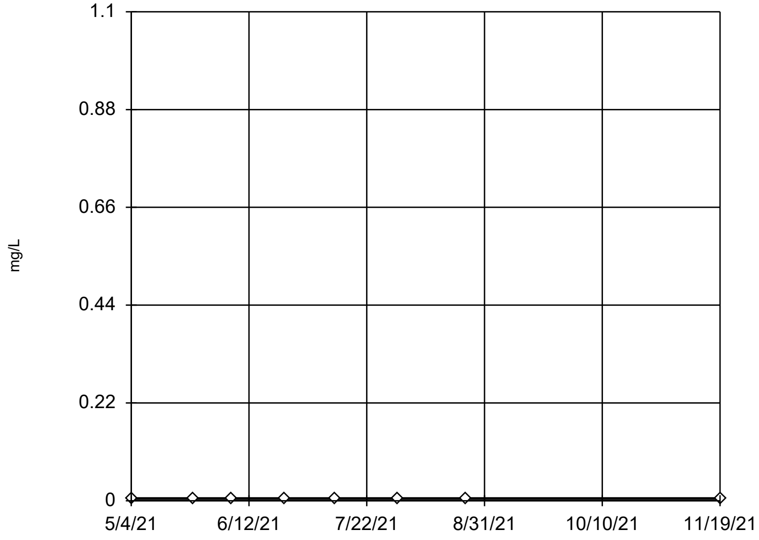
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

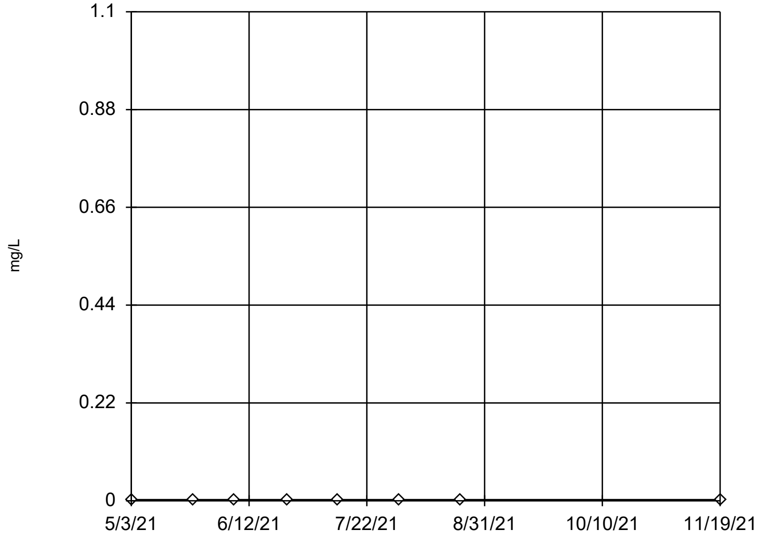
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Chromium Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

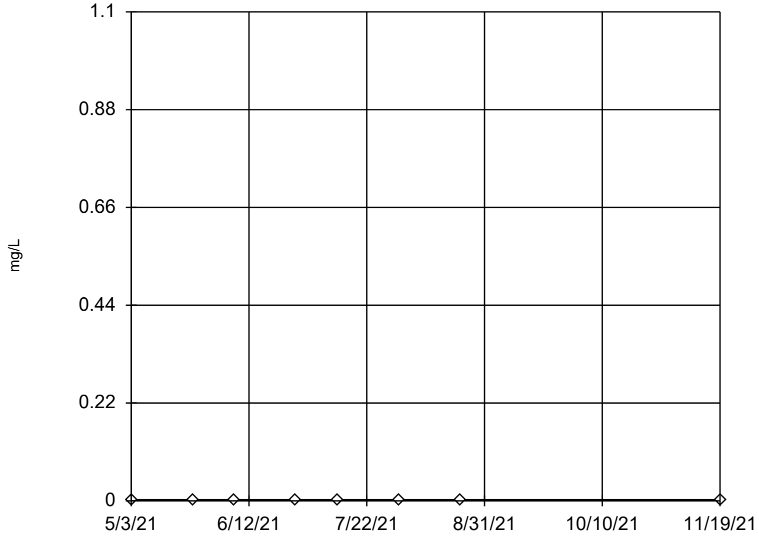
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cobalt Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

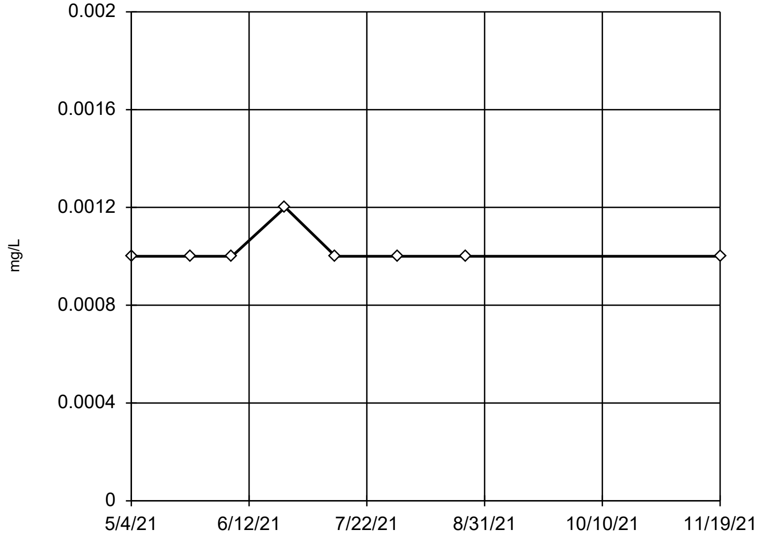
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cobalt Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

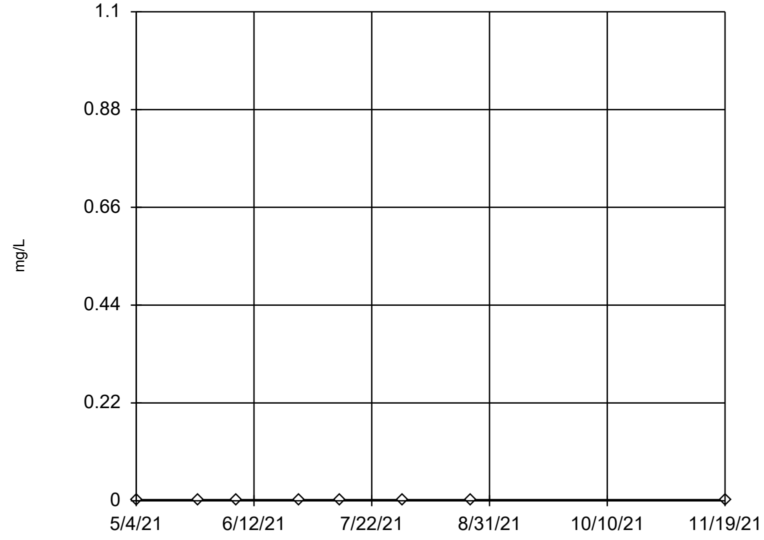
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Cobalt Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-14



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

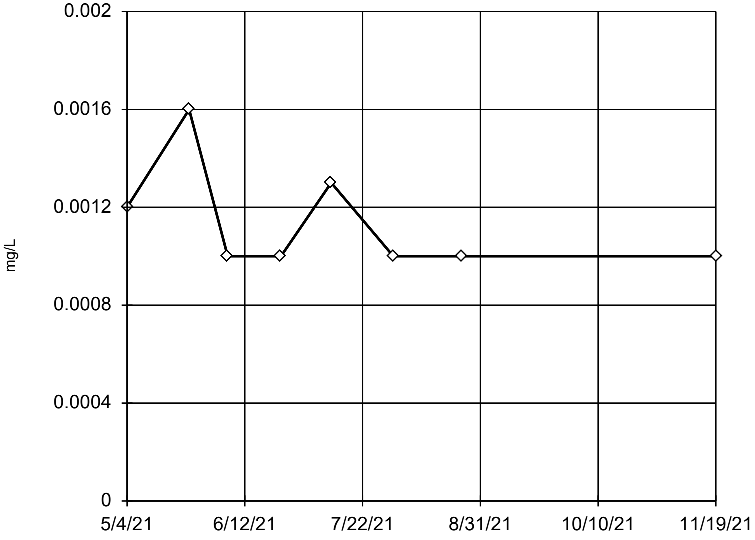
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cobalt   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-15



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

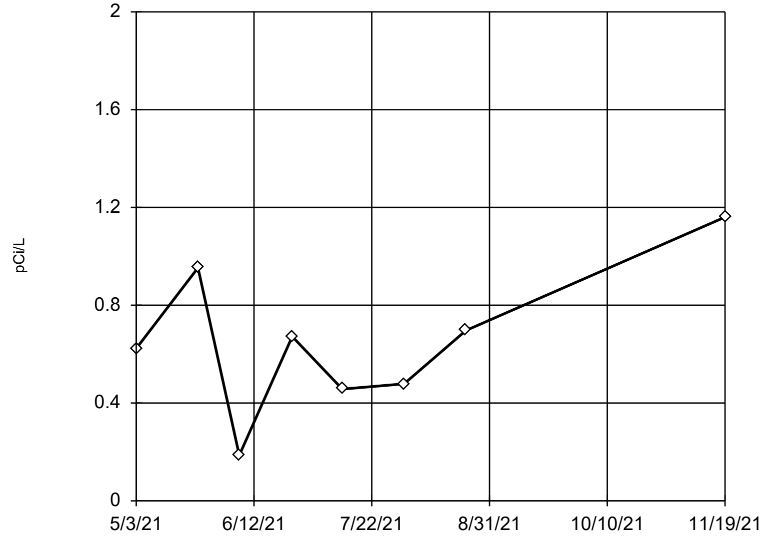
High cutoff = 0.002434, low cutoff = 0.0005132, based on IQR multiplier of 3.

Constituent: Cobalt   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Dixon's Outlier Test

MW-01 (bg)



n = 8

No statistical outliers.
Testing for 1 low outlier.
Mean = 0.6533.
Std. Dev. = 0.3018.
<0.372: c = 0.3533
tabl = 0.554.
Alpha = 0.05.

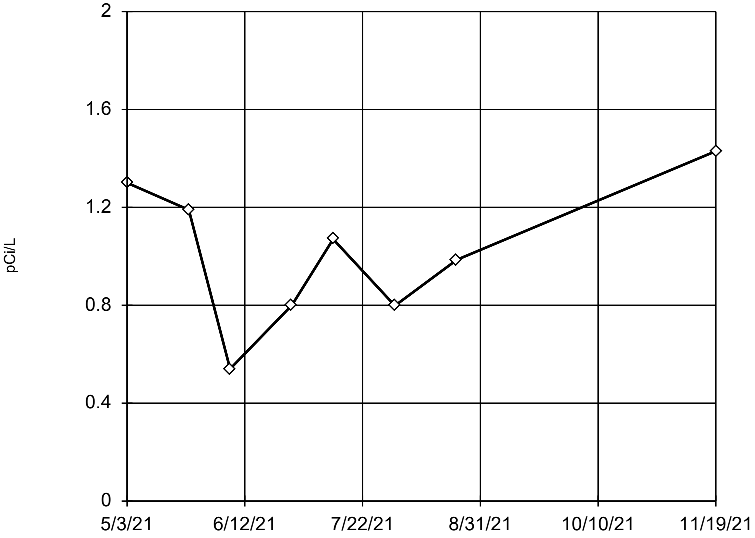
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9052
Critical = 0.838
The distribution was found to be normally distributed.

Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 1.014, std. dev. 0.2944, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9774
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

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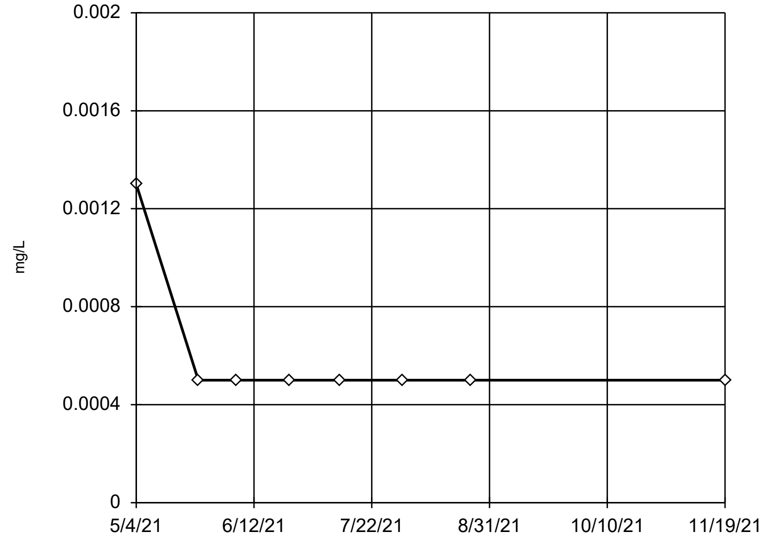
Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

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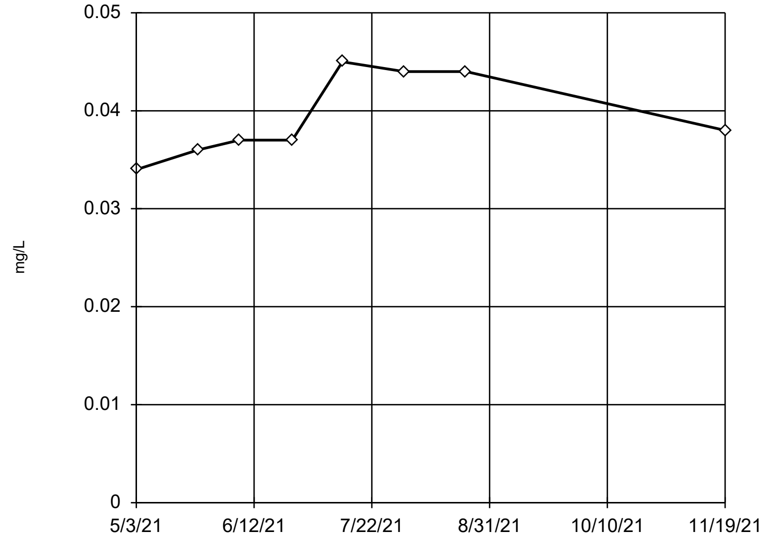
EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.03938, std. dev. 0.004274, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8564
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Lithium   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

---

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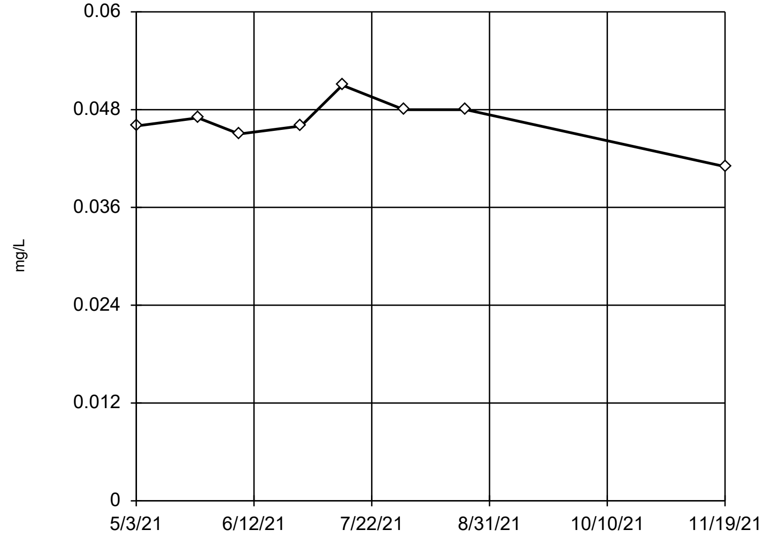
EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.0465, std. dev. 0.002878, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9456
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Lithium   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

---

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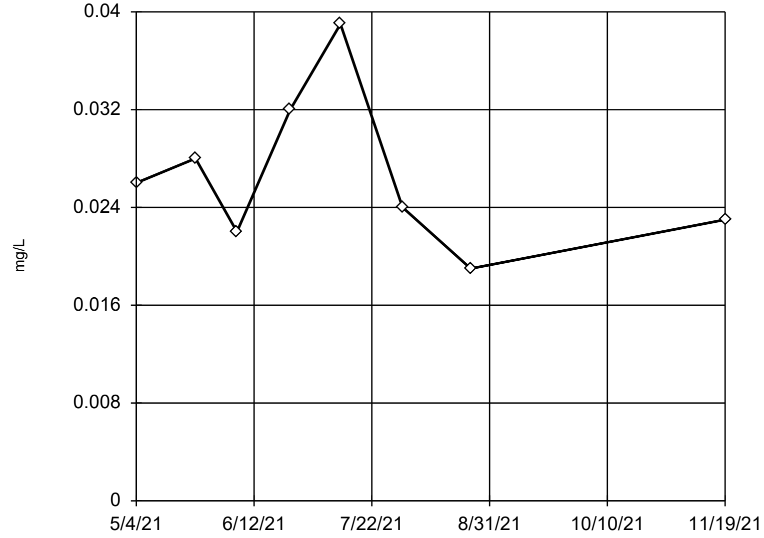
EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.02663, std. dev. 0.006368, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9304
Critical = 0.851
The distribution was found to be normally distributed.

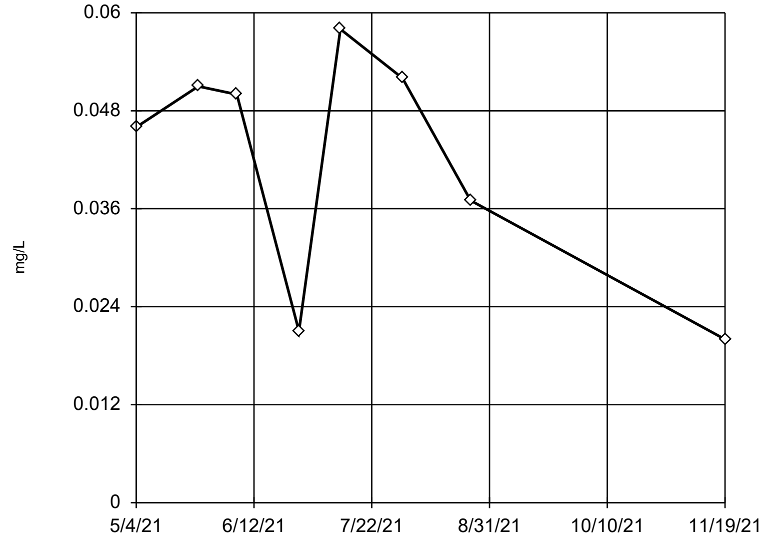
Constituent: Lithium   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.04188, std. dev.
0.01448, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8577
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Lithium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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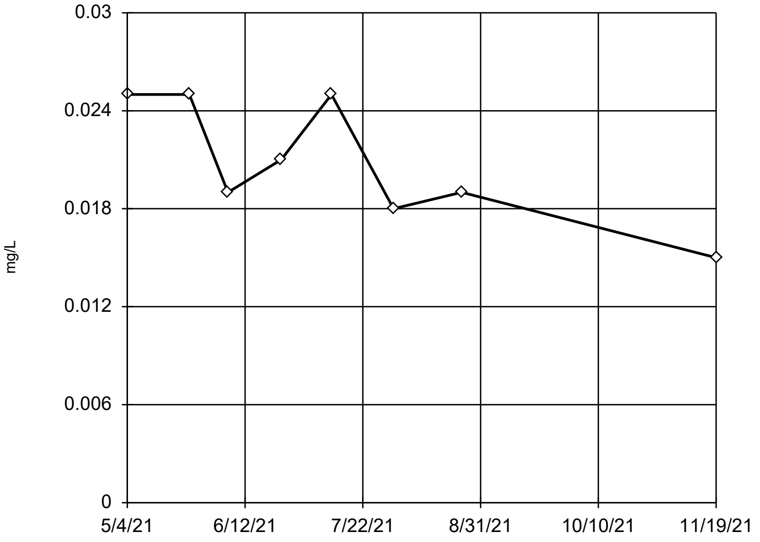
EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.02088, std. dev.
0.003796, critical Tn
2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8806
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Lithium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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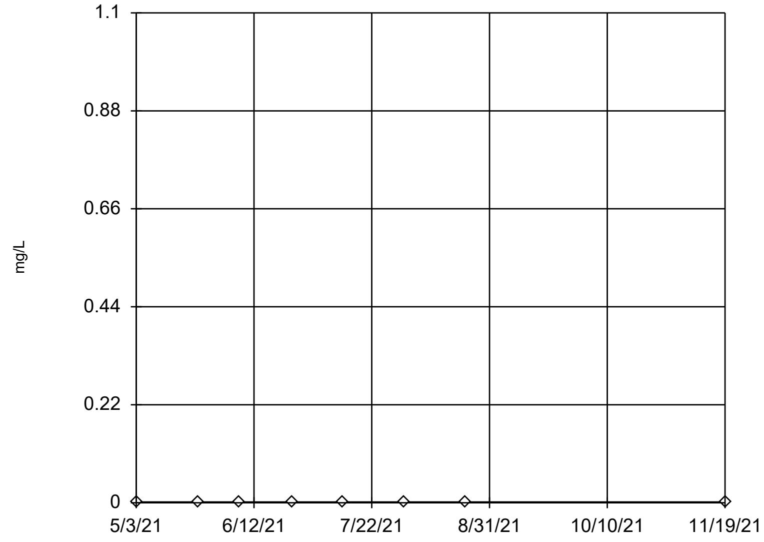
Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Mercury Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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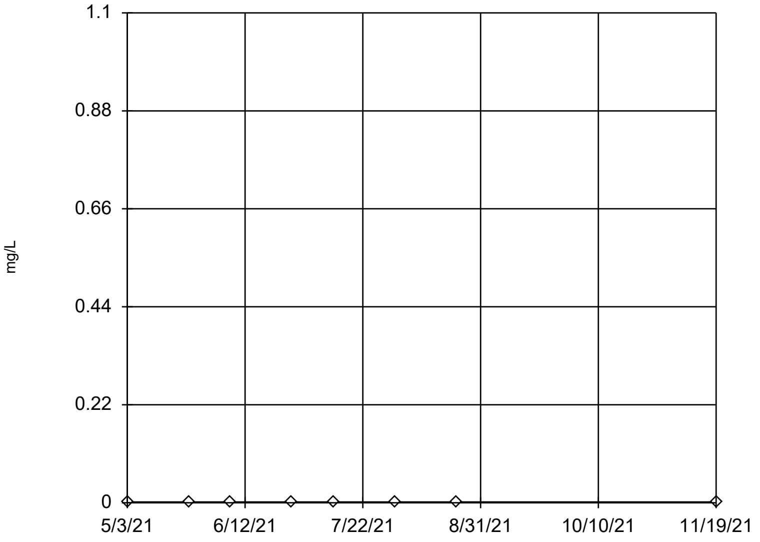
Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

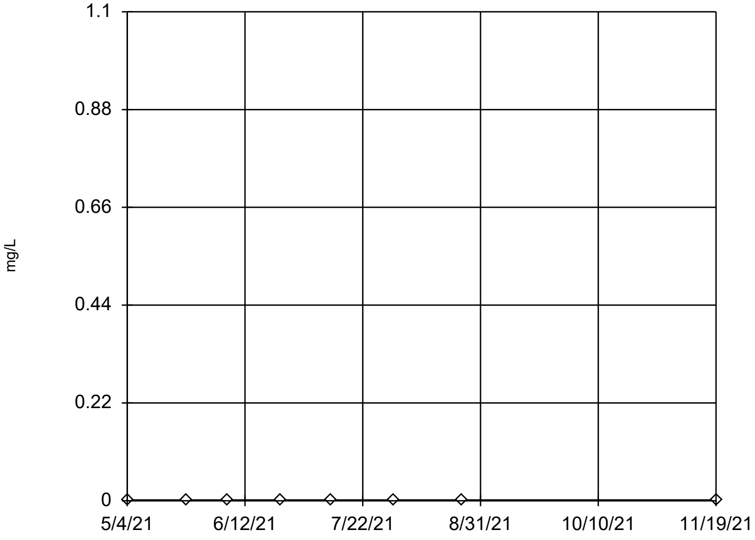
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Mercury Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalid-
ated, because the lower
and upper quartiles are
equal.

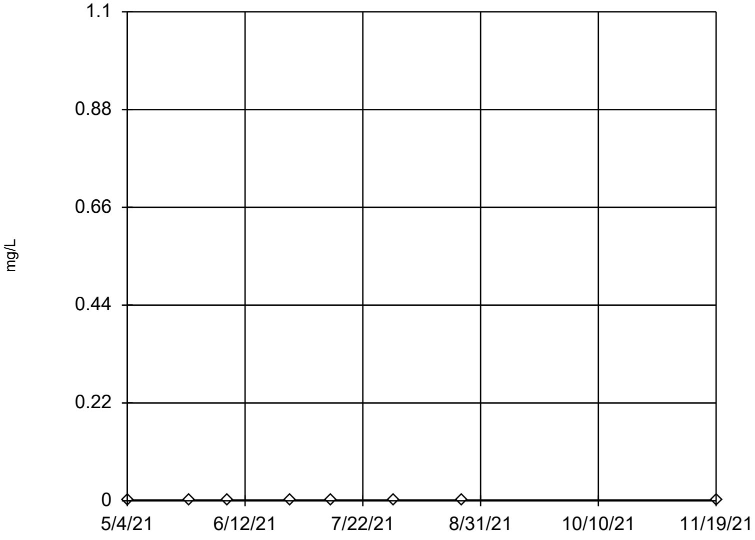
Constituent: Mercury   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

---

Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalid-
ated, because the lower
and upper quartiles are
equal.

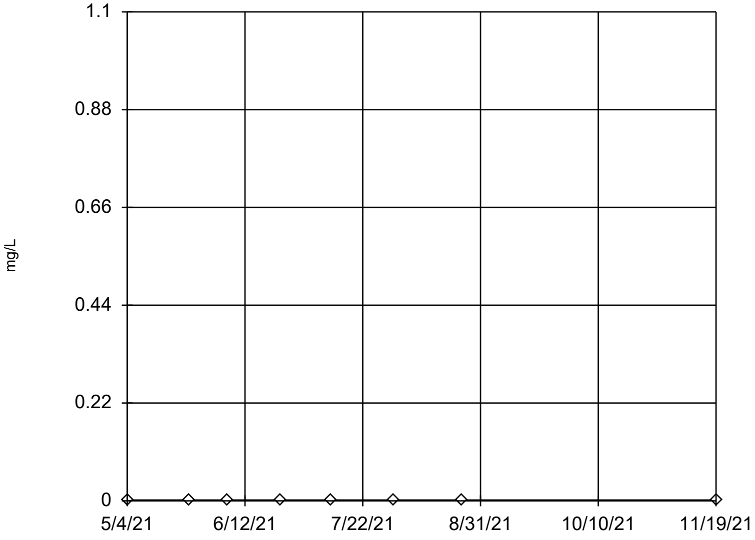
Constituent: Mercury   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

---

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalid-
ated, because the lower
and upper quartiles are
equal.

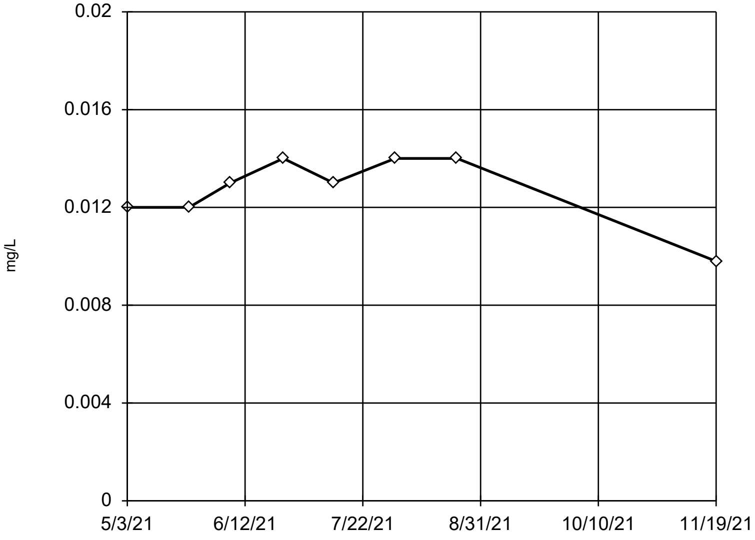
Constituent: Mercury   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

---

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

Data were x^5 transform-
ed to achieve best W stat-
istic (graph shown in
original units).

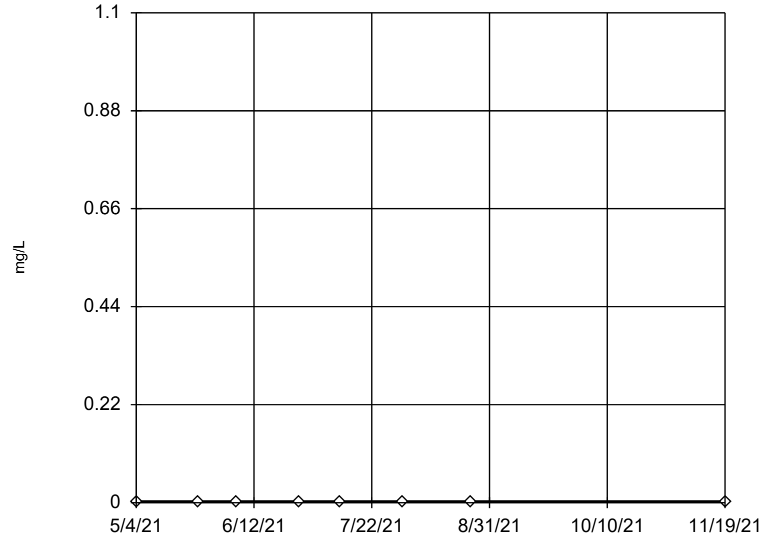
High cutoff = 0.01696,
low cutoff = -0.0144,
based on IQR multiplier
of 3.

Constituent: Molybdenum   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

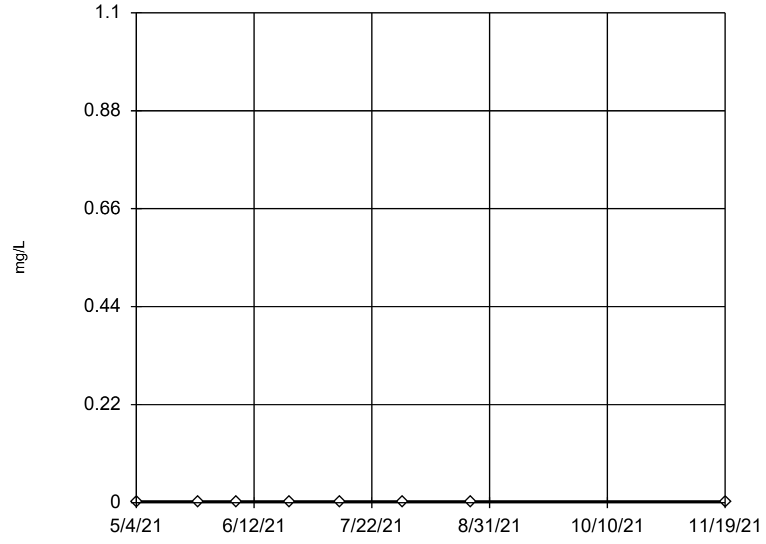
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Selenium   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

---

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

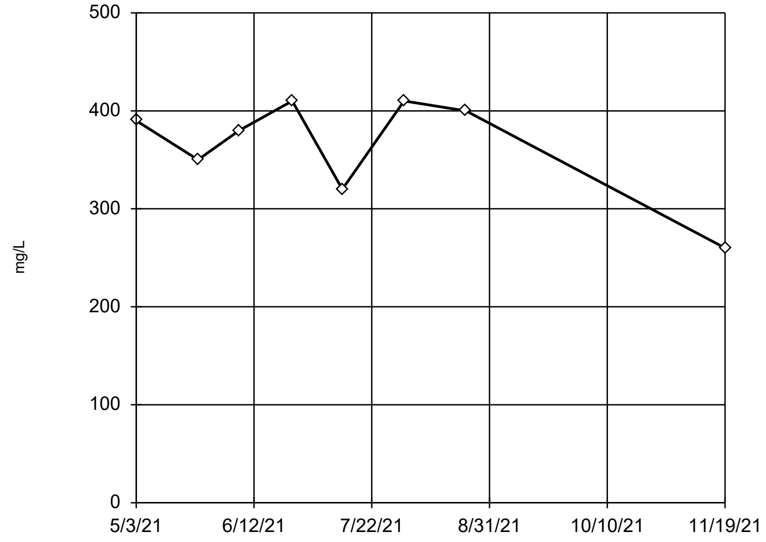
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Selenium   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

---

Dixon's Outlier Test

MW-01 (bg)



n = 8

No statistical outliers.
Testing for 1 low outlier.
Mean = 365.
Std. Dev. = 52.64.
260: c = 0.4
tabl = 0.554.
Alpha = 0.05.

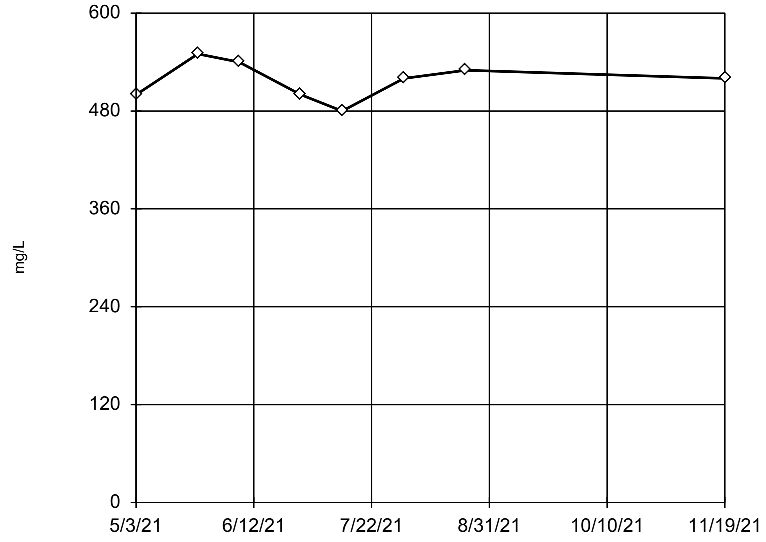
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8738
Critical = 0.838
The distribution was found to be normally distributed.

Constituent: Sulfate   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

---

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 517.5, std. dev. 23.15, critical Tn 2.032

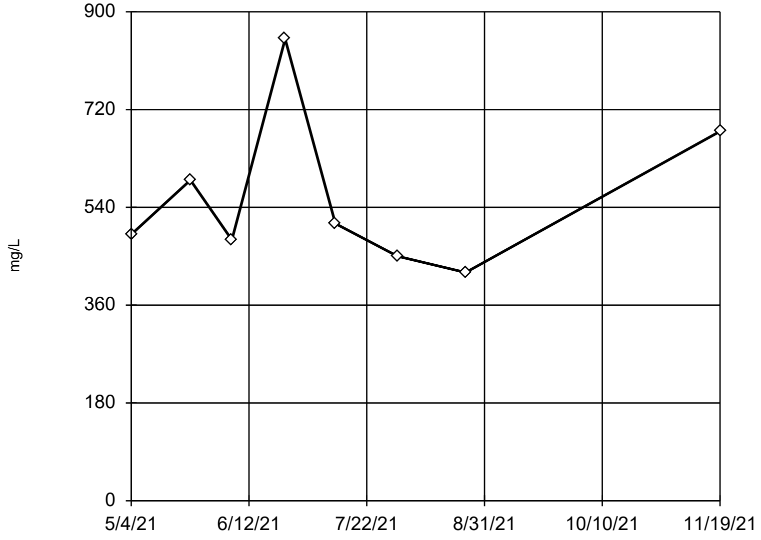
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.968
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Sulfate   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 558.8, std. dev. 143.9, critical Tn 2.032

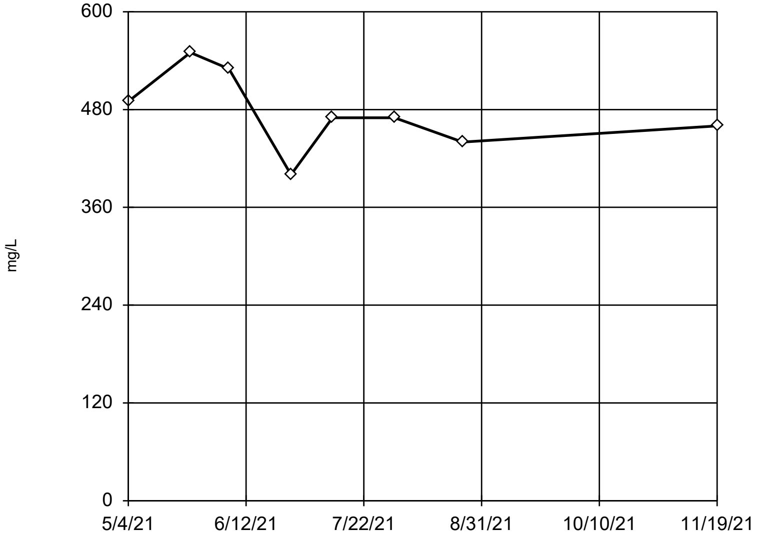
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8615
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Sulfate Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 476.3, std. dev. 47.79, critical Tn 2.032

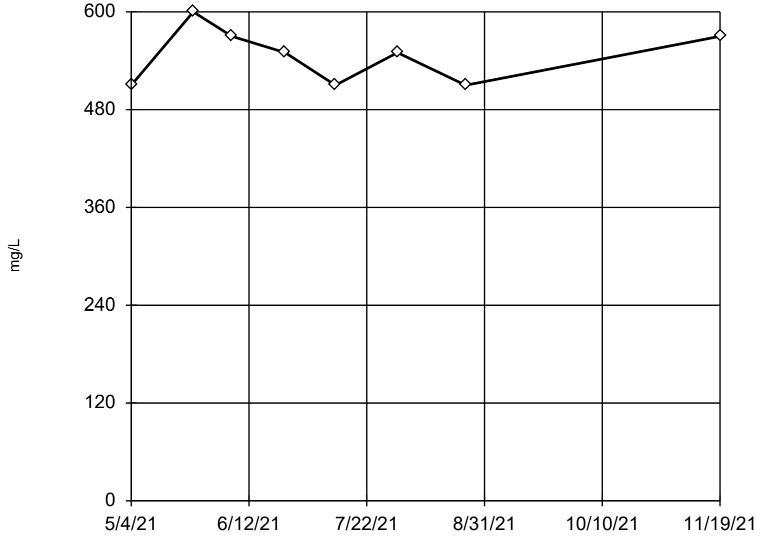
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9693
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Sulfate Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 546.3, std. dev. 33.78, critical Tn 2.032

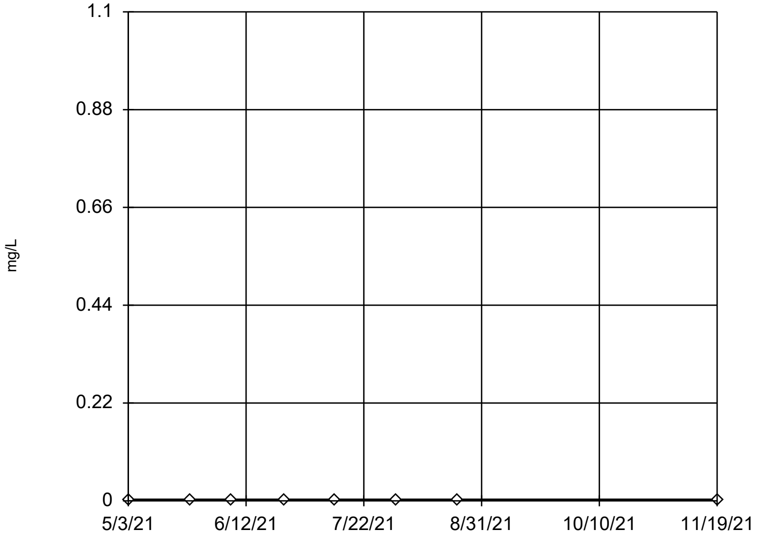
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8815
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Sulfate Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

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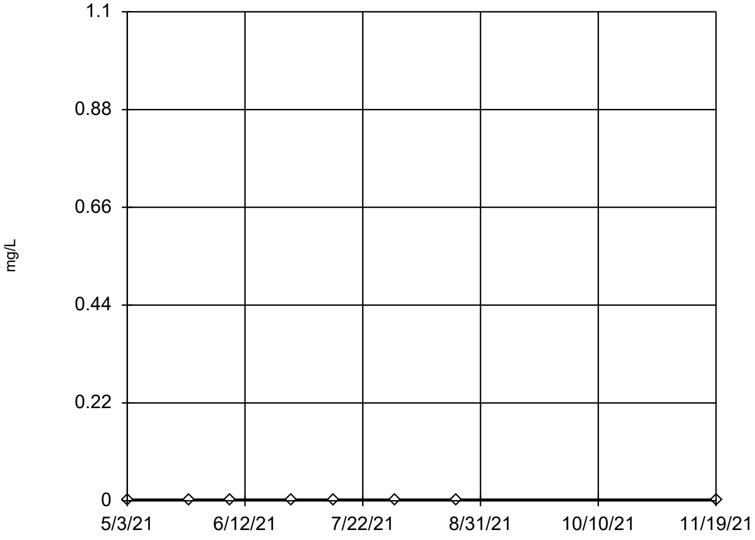
Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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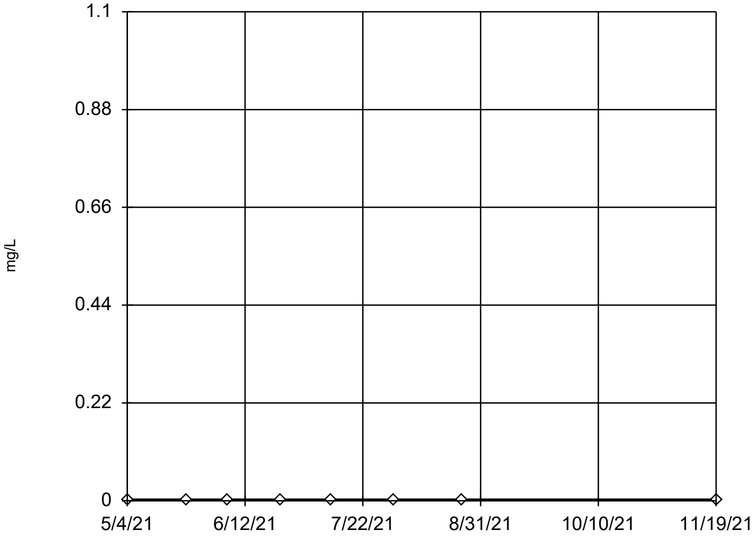
Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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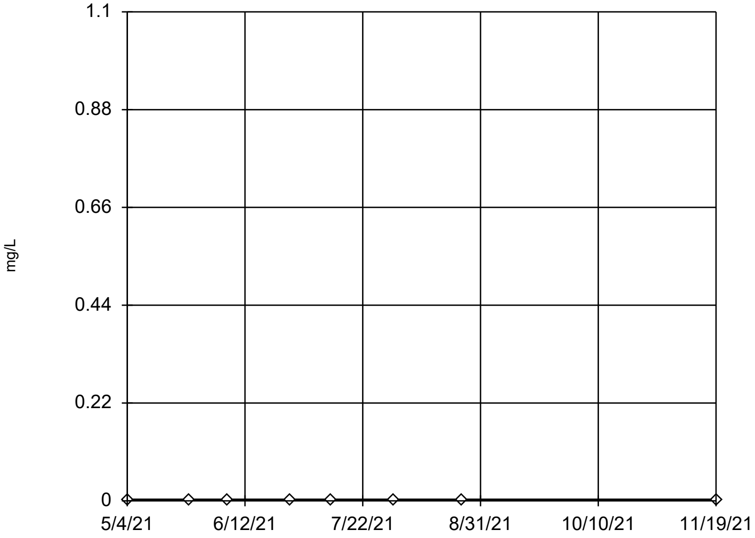
Tukey's Outlier Screening

MW-14



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

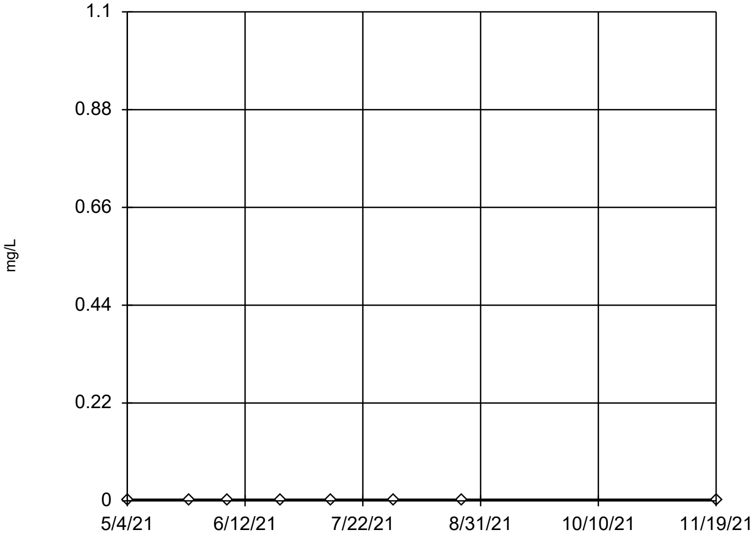
Constituent: Thallium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-15



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

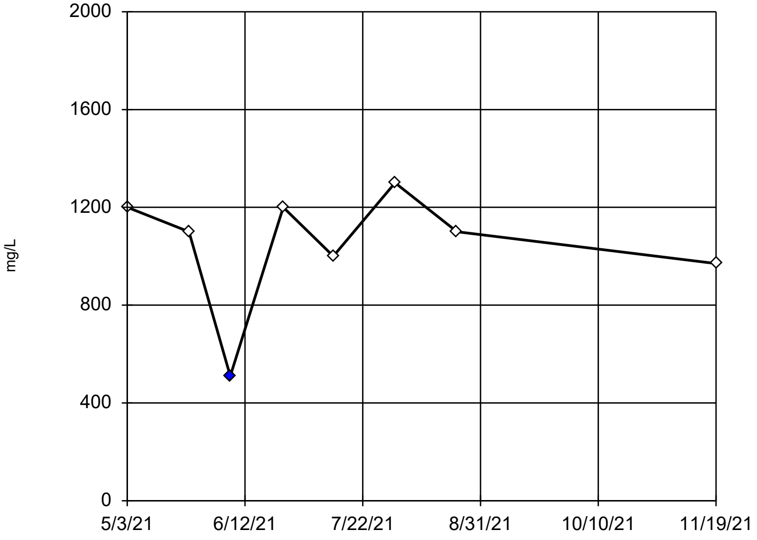
Constituent: Thallium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Dixon's Outlier Test

MW-01 (bg)



n = 8

Statistical outlier is
drawn as solid.
Testing for 1 low outlier.
Mean = 1048.
Std. Dev. = 242.9.
510: c = 0.6667
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9493
Critical = 0.838
The distribution, after
removal of suspect value, was found to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

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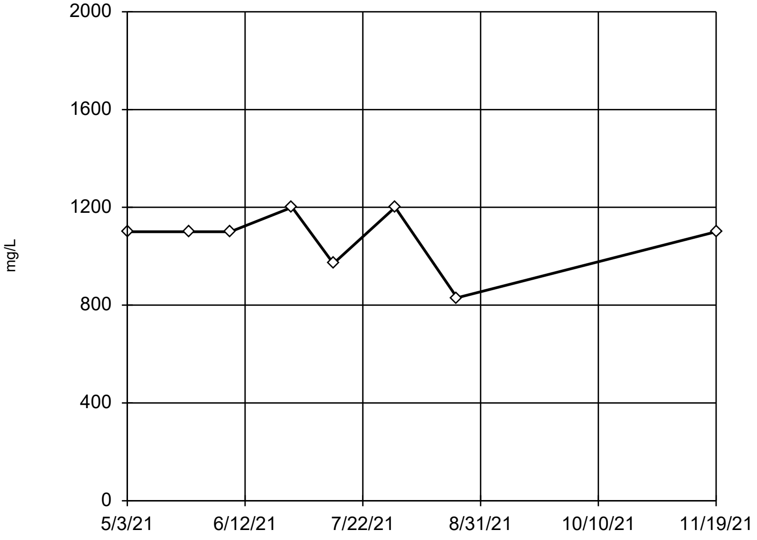
Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in
original units).

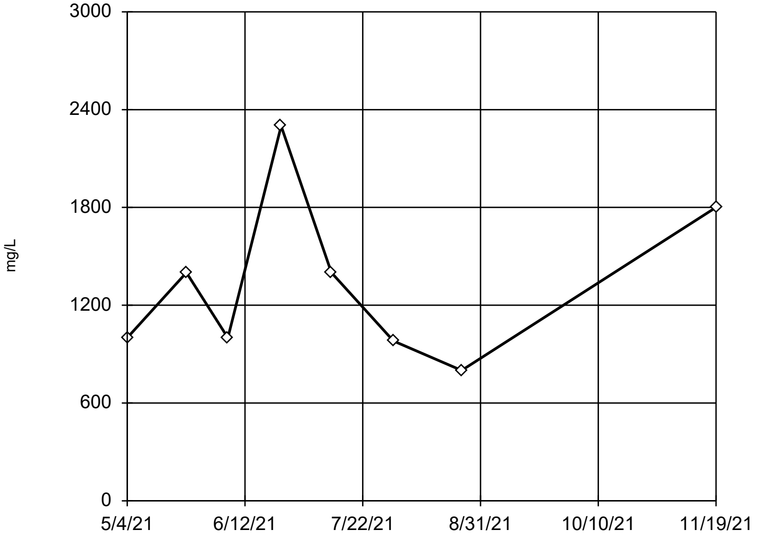
High cutoff = 1351, low
cutoff = -1039, based
on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 1335, std. dev. 506,
critical Tn 2.032

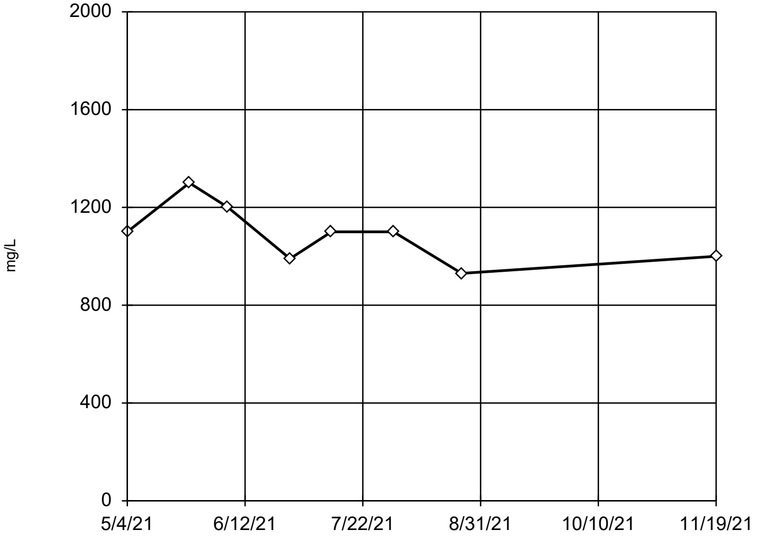
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8848
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 1090, std. dev. 119.6,
critical Tn 2.032

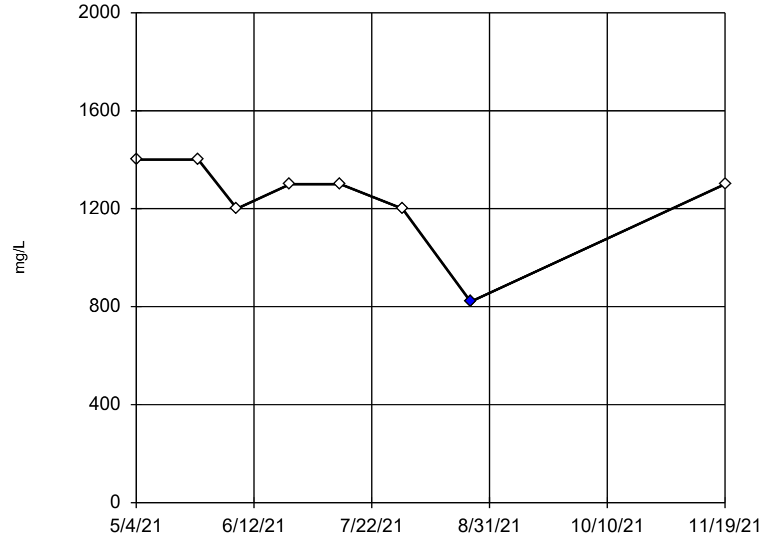
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9455
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Dixon's Outlier Test

MW-15



n = 8

Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 1240.
Std. Dev. = 185.8.
820: c = 0.6552
tabl = 0.554.
Alpha = 0.05.

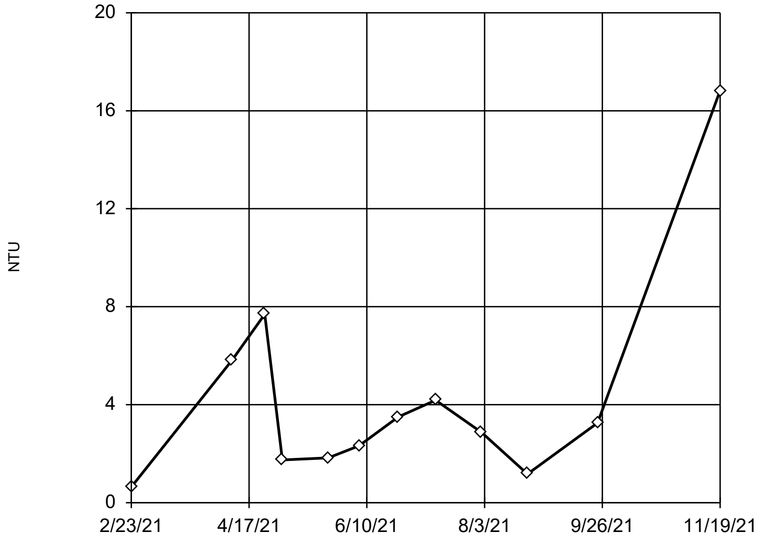
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8582
Critical = 0.838
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Total Dissolved Solids   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 12

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 4.318, std. dev. 4.412, critical Tn 2.285

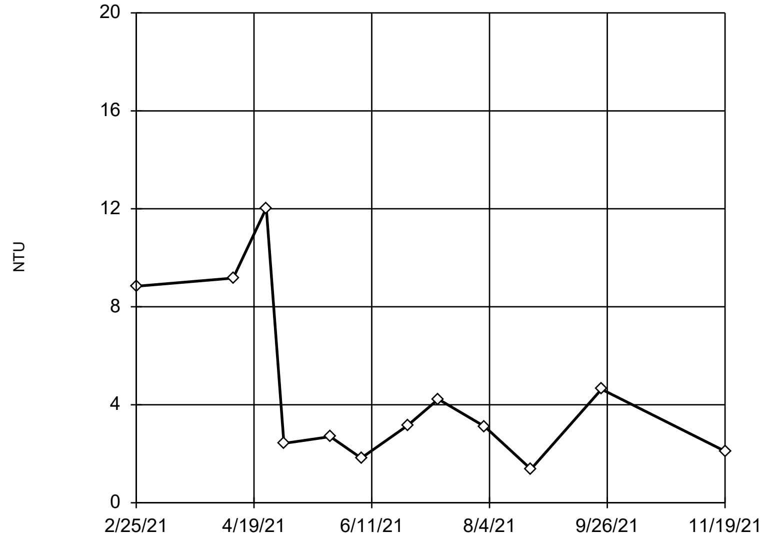
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9913
Critical = 0.883 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Turbidity   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 12

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 4.631, std. dev. 3.455, critical Tn 2.285

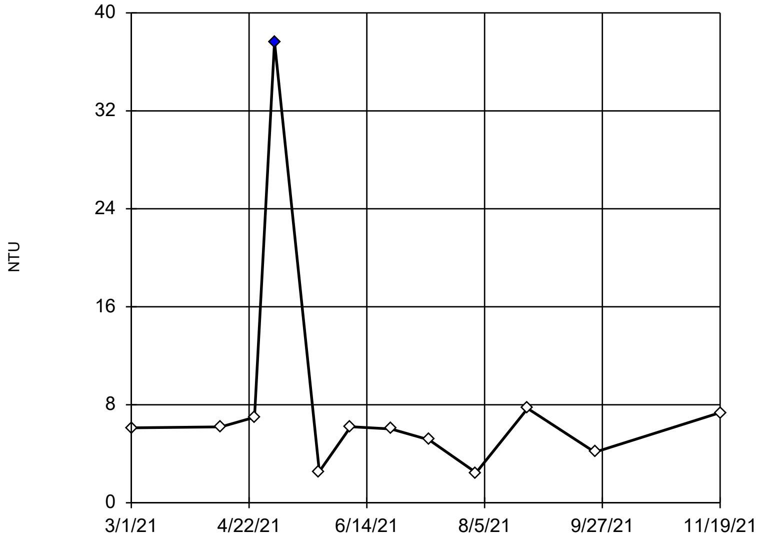
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9408
Critical = 0.883 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Turbidity   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Dixon's Outlier Test

MW-07



n = 12

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 8.205.
Std. Dev. = 9.429.
37.65: c = 0.863
tabl = 0.546.
Alpha = 0.05.

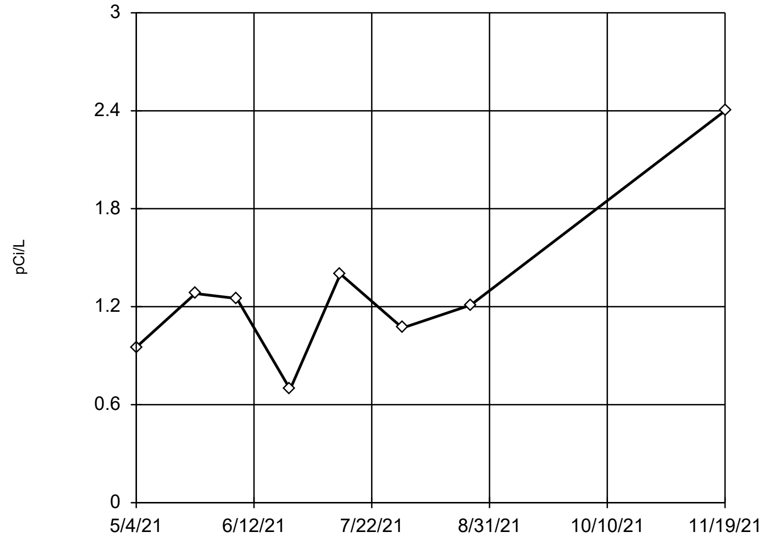
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8889
Critical = 0.876
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Turbidity   Analysis Run 3/7/2022 10:22 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 1.282, std. dev.
0.5028, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9368
Critical = 0.851 (after
natural log transformation)
The distribution was found
to be log-normal.

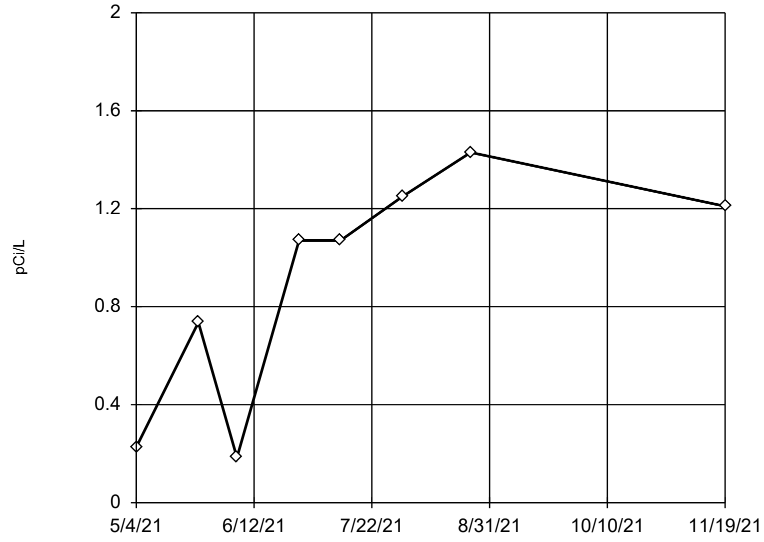
Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.8971, std. dev.
0.4706, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8687
Critical = 0.851
The distribution was found
to be normally distributed.

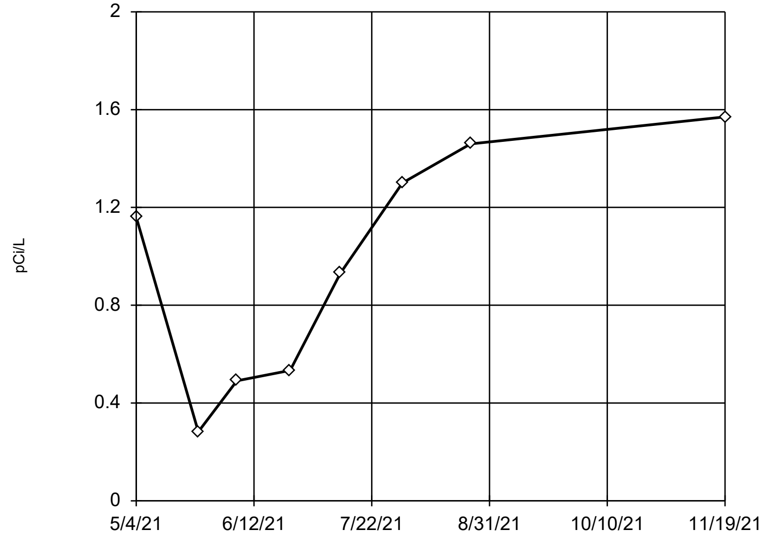
Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.9659, std. dev.
0.4841, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9263
Critical = 0.851
The distribution was found
to be normally distributed.

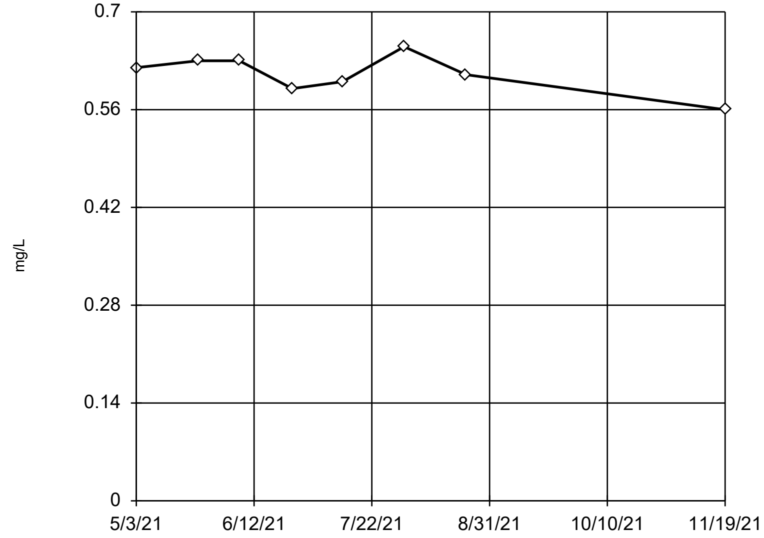
Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.6113, std. dev.
0.028, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9688
Critical = 0.851
The distribution was found
to be normally distributed.

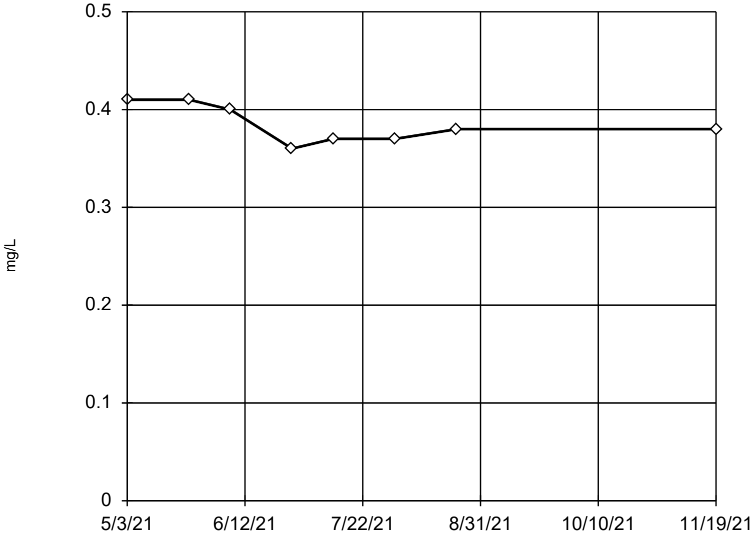
Constituent: Fluoride   Analysis Run 3/7/2022 10:21 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.385, std. dev. 0.01927, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8915
Critical = 0.851
The distribution was found to be normally distributed.

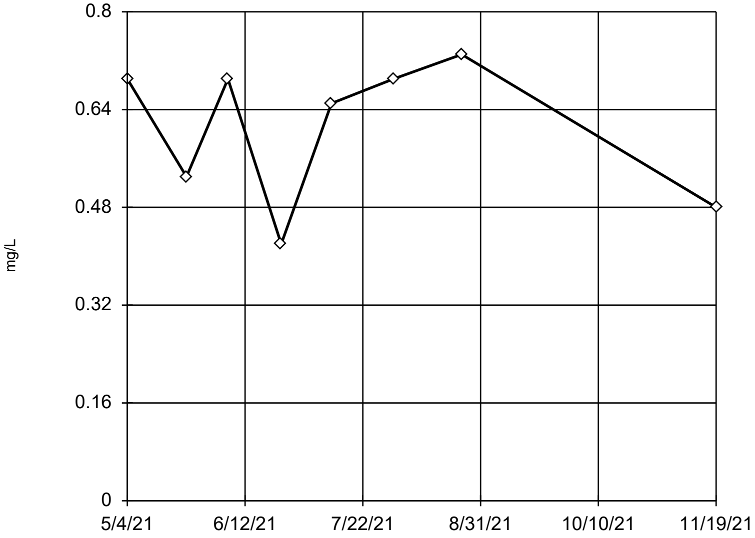
Constituent: Fluoride Analysis Run 3/7/2022 10:21 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.61, std. dev. 0.1163, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8537
Critical = 0.851
The distribution was found to be normally distributed.

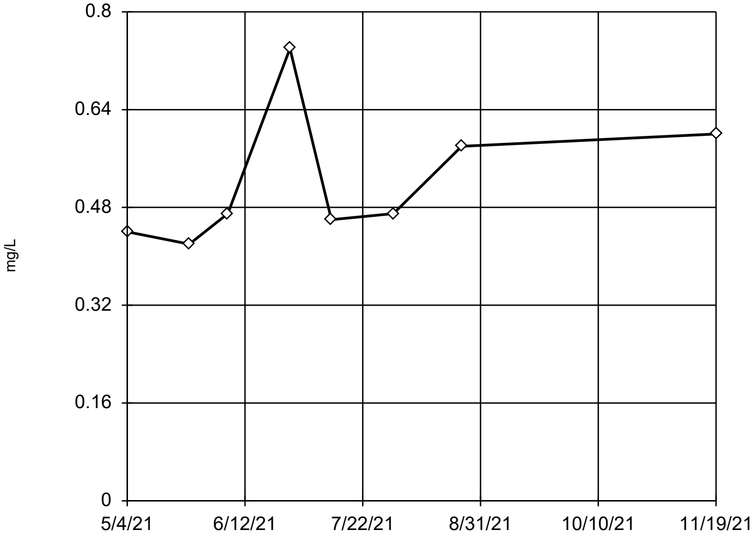
Constituent: Fluoride Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.5225, std. dev. 0.1091, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8755
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

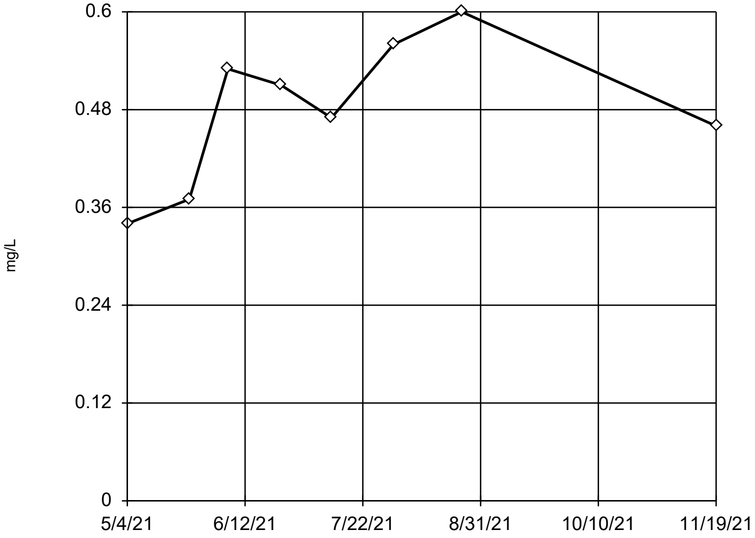
Constituent: Fluoride Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.48, std. dev. 0.08976, critical Tn 2.032

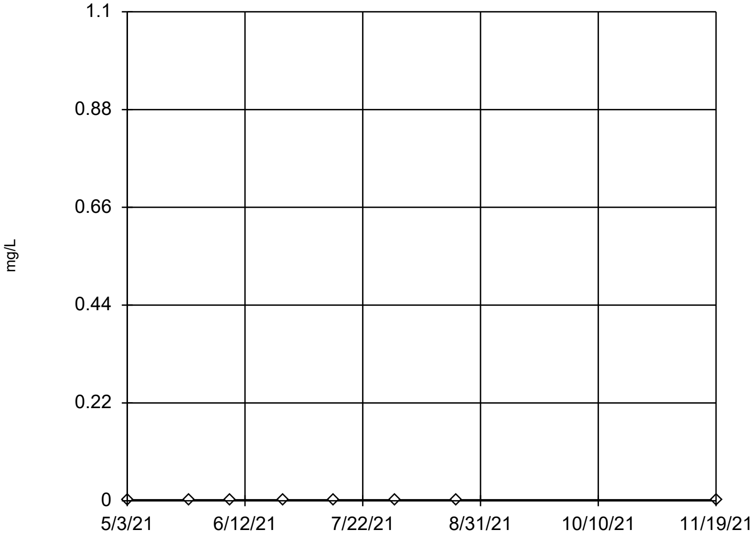
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9536
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Fluoride Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-01 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

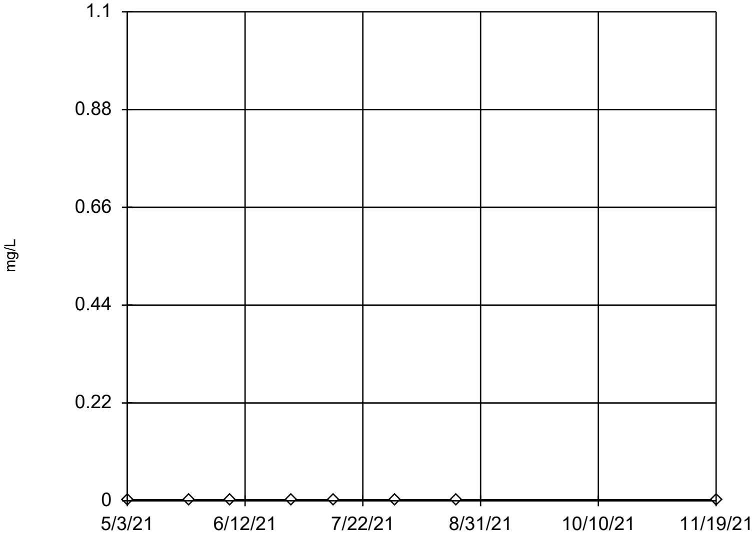
Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

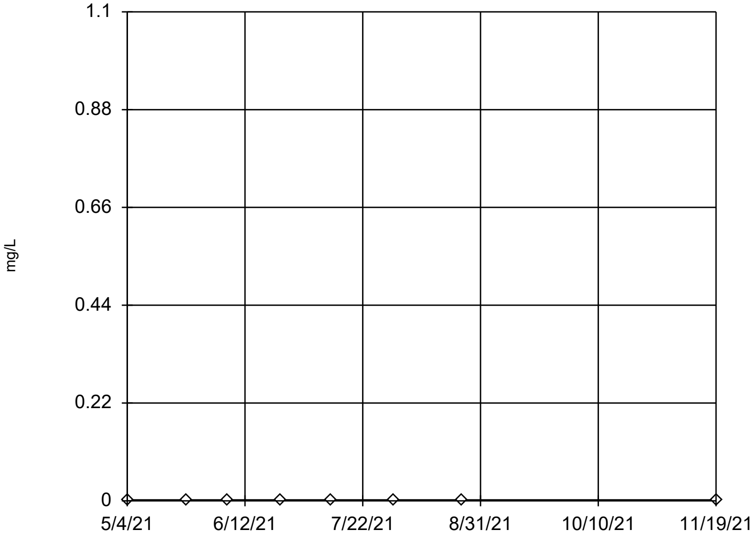
Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-07



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

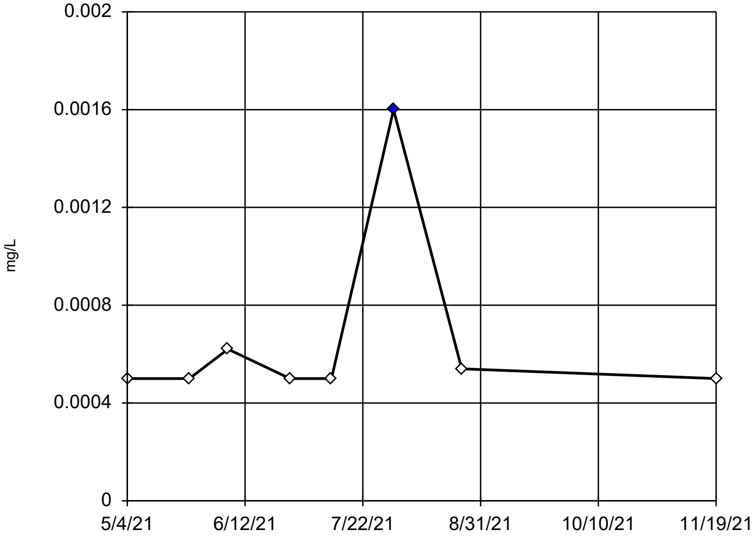
Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-14



n = 8

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.0008967, low cutoff = 0.0003226, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 3/7/2022 10:22 AM
Will County Generating Station Client: NRG Data: Will County

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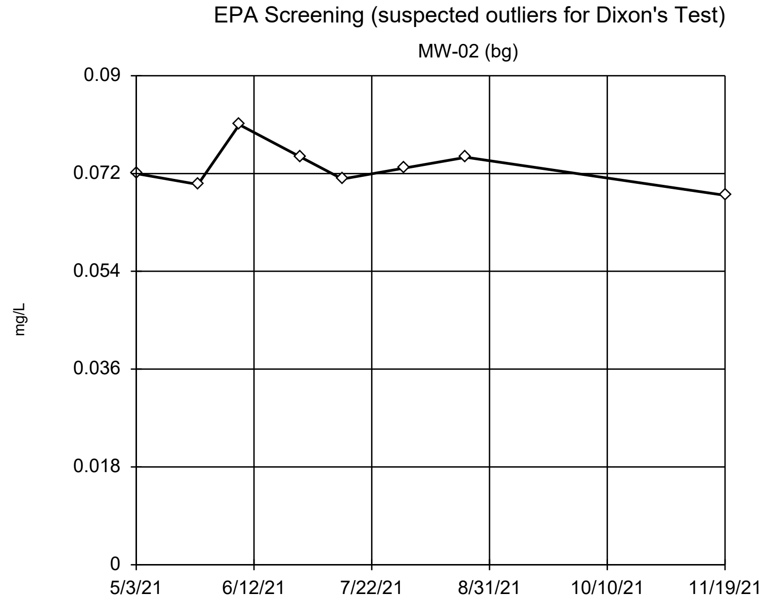

n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.07313, std. dev. 0.00398, critical Tn 2.032

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9389 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Molybdenum Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

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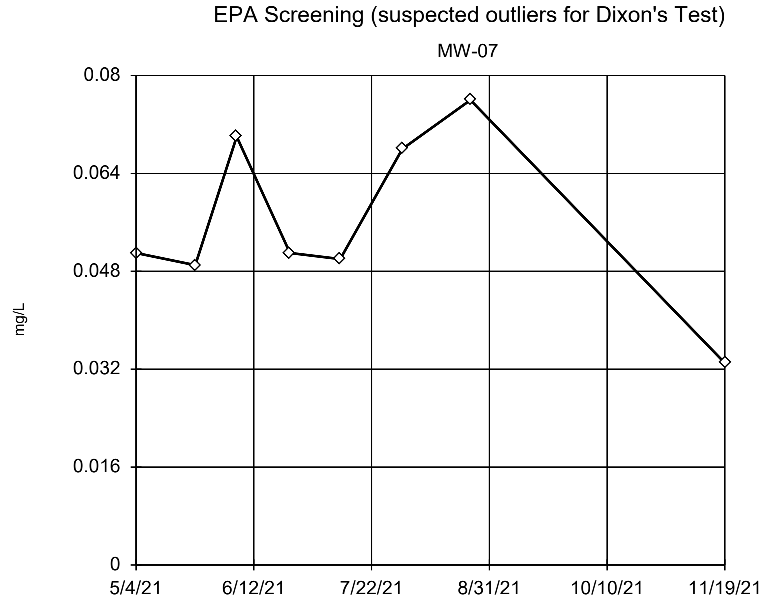


n = 8

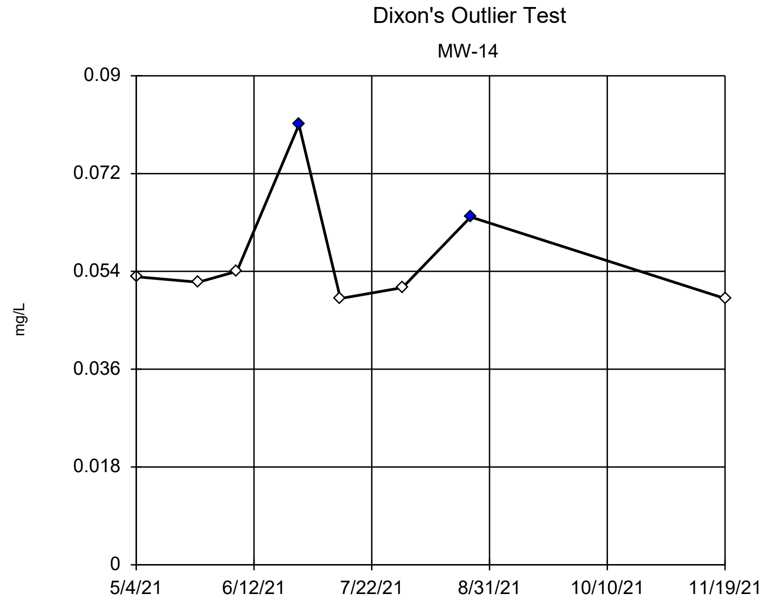
Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.056, std. dev. 0.01416, critical Tn 2.032

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9131 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Molybdenum Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG



n = 8

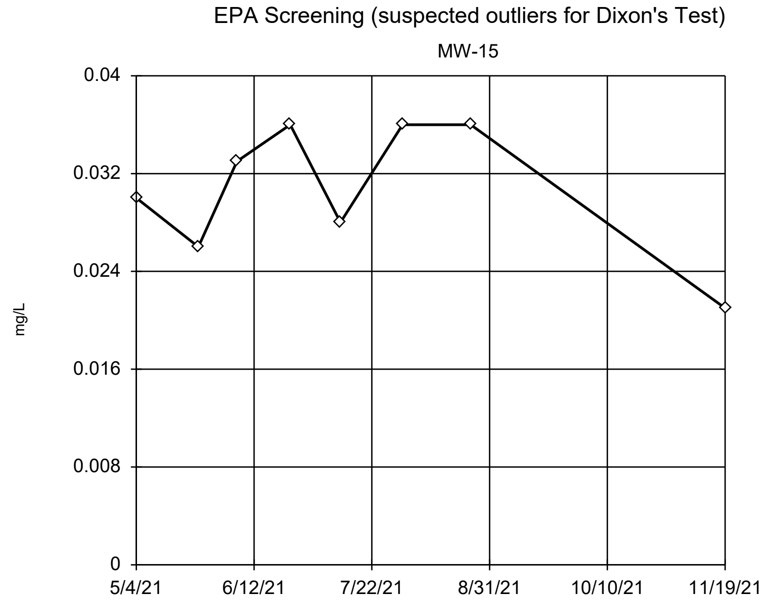
Statistical outliers are drawn as solid. Testing for 2 high outliers. Mean = 0.05663. Std. Dev. = 0.01094. 0.064: c = 0.6667 tabl = 0.554. Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.918 Critical = 0.826 The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Molybdenum Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.03075, std. dev. 0.005523, critical Tn 2.032

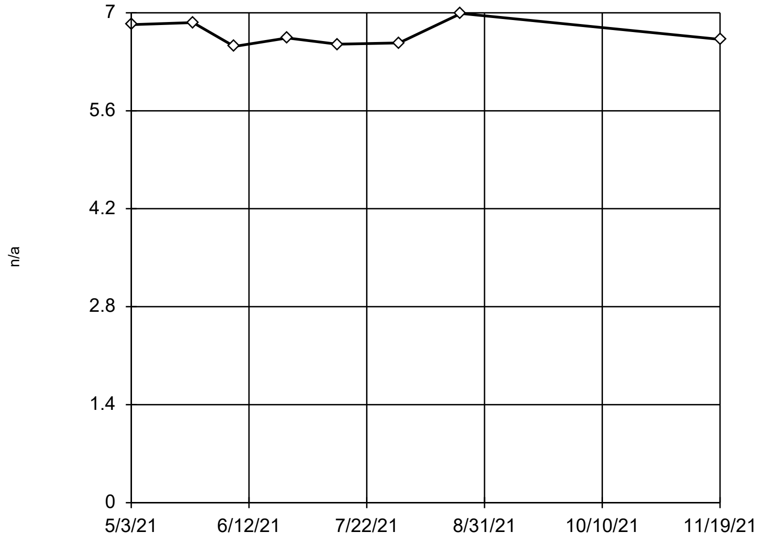
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.8926 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Molybdenum Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 6.698, std. dev.
0.1725, critical Tn 2.032

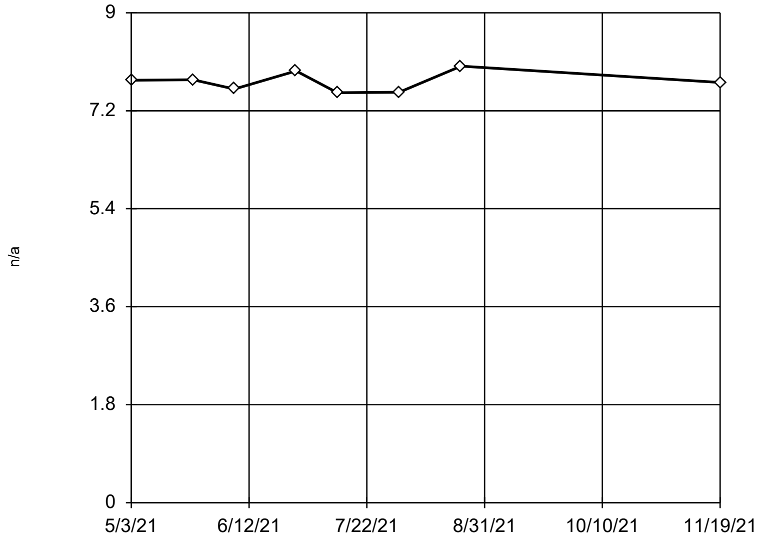
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8832
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-02 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 7.734, std. dev.
0.1771, critical Tn 2.032

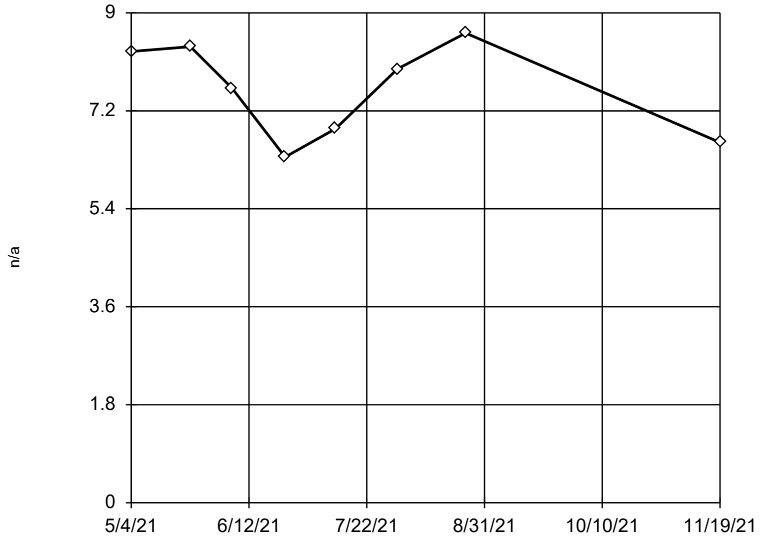
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9297
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-07



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 7.591, std. dev.
0.8732, critical Tn 2.032

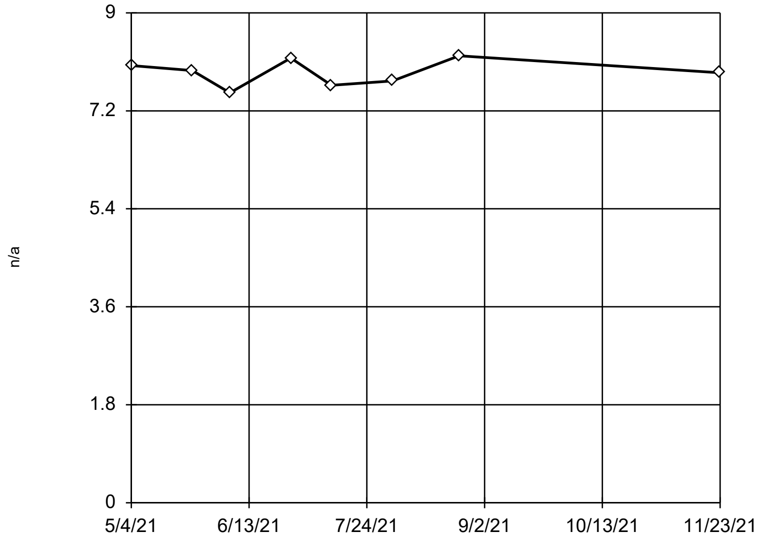
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9099
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 7.9, std. dev. 0.239,
critical Tn 2.032

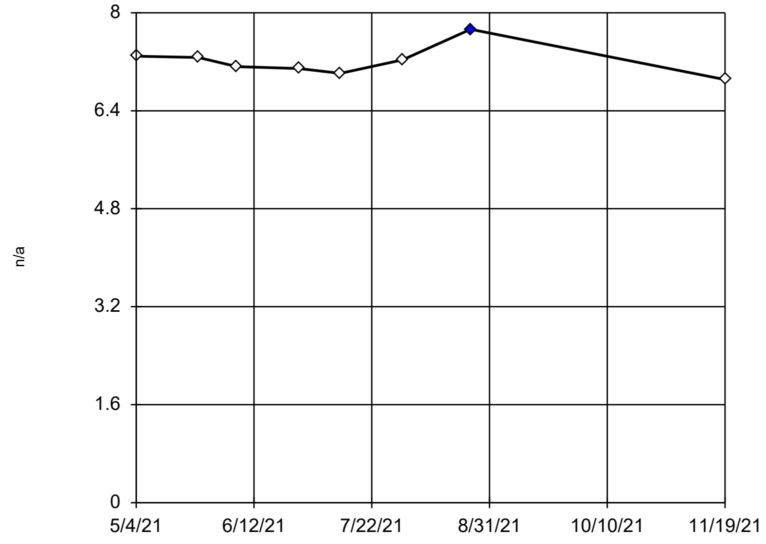
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9639
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-15



n = 8

Statistical outlier is drawn as solid. Testing for 1 high outlier. Mean = 7.206. Std. Dev. = 0.2488. 7.73: c = 0.6111 tabl = 0.554. Alpha = 0.05.

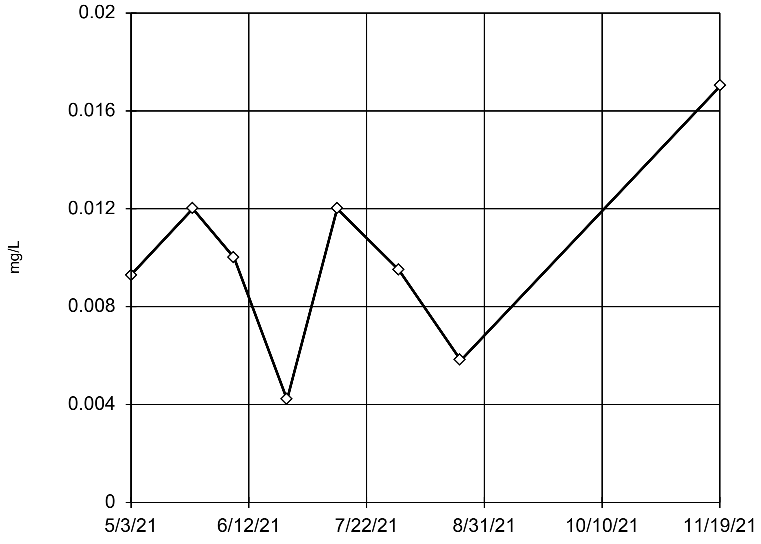
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9392 Critical = 0.838 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-01 (bg)



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.009975, std. dev. 0.003946, critical Tn 2.032

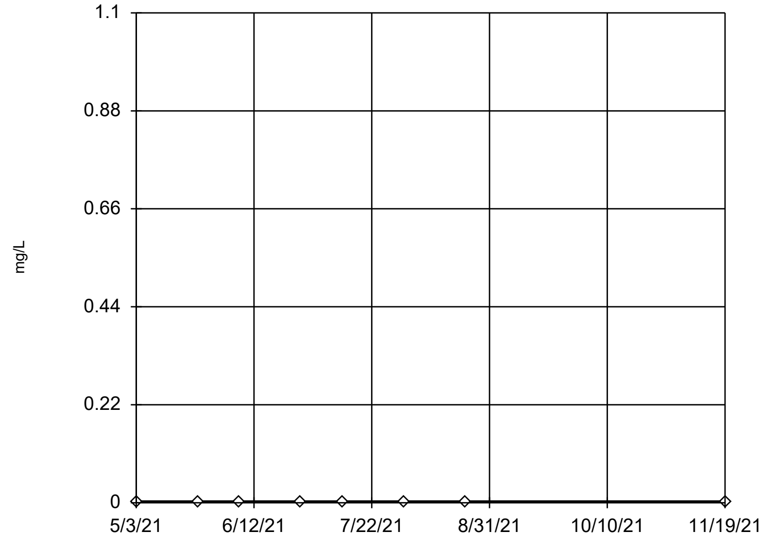
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9557 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Selenium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-02 (bg)



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

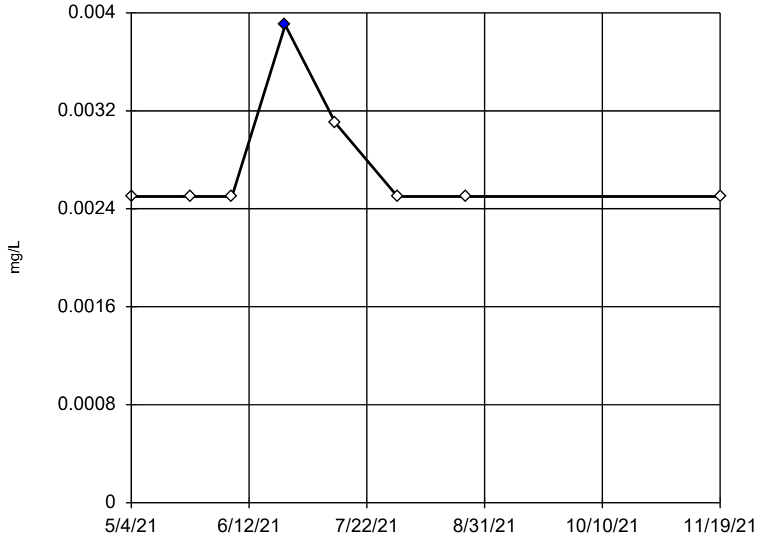
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Selenium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-07



n = 8

Outlier is drawn as solid. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

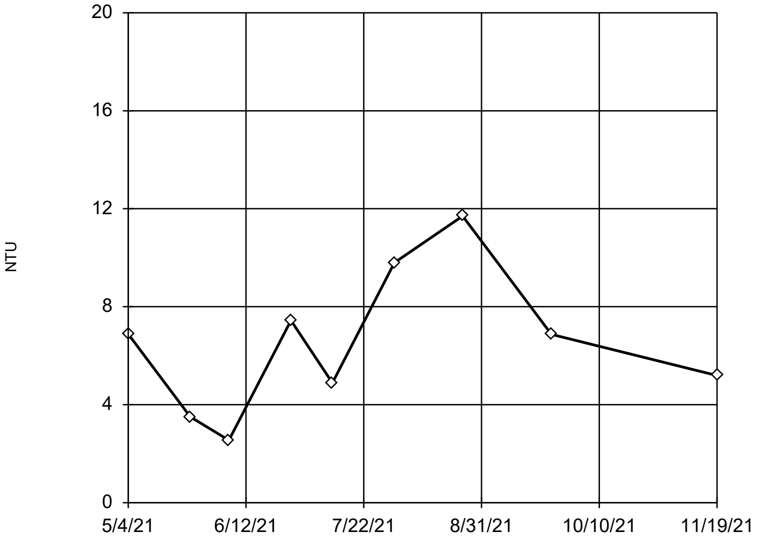
High cutoff = 0.003844, low cutoff = 0.001811, based on IQR multiplier of 3.

Constituent: Selenium Analysis Run 3/7/2022 10:22 AM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-14



n = 9

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 6.536, std. dev. 2.915, critical Tn 2.11

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9638
Critical = 0.859
The distribution was found to be normally distributed.

Constituent: Turbidity   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

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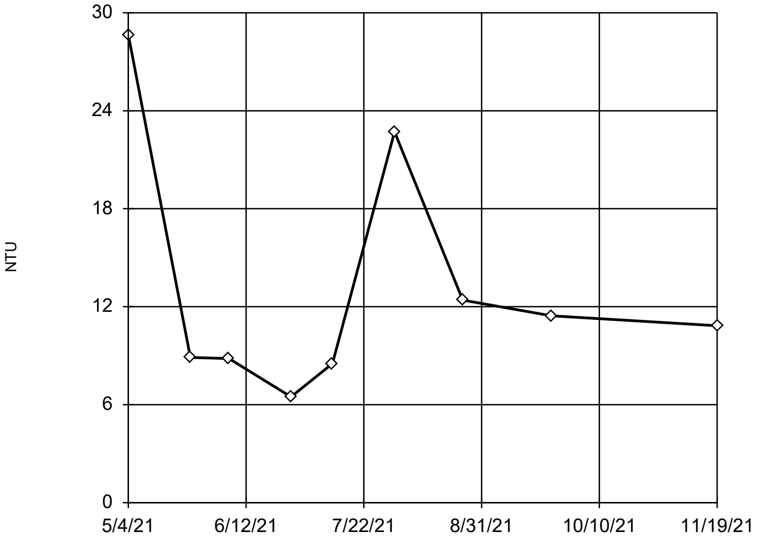
EPA Screening (suspected outliers for Dixon's Test)

MW-15



n = 9

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 13.19, std. dev. 7.444, critical Tn 2.11

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8887
Critical = 0.859 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Turbidity   Analysis Run 3/7/2022 10:22 AM

Will County Generating Station   Client: NRG   Data: Will County

Trend Test Will Co 1N UG Wells MW-1 and MW-2 All Data

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 10:49 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Antimony (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Arsenic (mg/L)	MW-01 (bg)	0	1	20	No	8	75	n/a	n/a	0.02	NP (Nor...
Arsenic (mg/L)	**MW-02 (bg)**	**0.007423**	**4.001**	**2.612**	**Yes**	**8**	**0**	**Yes**	**no**	**0.02**	**Param.**
Barium (mg/L)	MW-01 (bg)	-0.00...	-0.5175	2.612	No	8	0	Yes	no	0.02	Param.
Barium (mg/L)	MW-02 (bg)	-0.00...	-0.1253	2.612	No	8	0	Yes	no	0.02	Param.
Beryllium (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Beryllium (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Boron (mg/L)	**MW-01 (bg)**	**-1.275**	**-3.096**	**-2.612**	**Yes**	**8**	**0**	**Yes**	**no**	**0.02**	**Param.**
Boron (mg/L)	MW-02 (bg)	-0.9676	-0.8446	2.612	No	8	0	Yes	no	0.02	Param.
Cadmium (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Cadmium (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Calcium (mg/L)	MW-01 (bg)	-21.07	-0.6782	2.612	No	8	0	Yes	no	0.02	Param.
Calcium (mg/L)	MW-02 (bg)	-7.359	-0.6383	2.612	No	8	0	Yes	no	0.02	Param.
Chloride (mg/L)	MW-01 (bg)	15.04	2.058	2.612	No	8	0	Yes	no	0.02	Param.
Chloride (mg/L)	MW-02 (bg)	2.03	0.3827	2.612	No	8	0	Yes	no	0.02	Param.
Chromium (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Chromium (mg/L)	MW-02 (bg)	0	-1	-20	No	8	87.5	n/a	n/a	0.02	NP (NDs)
Cobalt (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Cobalt (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-01 (bg)	0.8849	1.43	2.612	No	8	12.5	Yes	no	0.02	Param.
Combined Radium 226 + 228 (pCi/L)	MW-02 (bg)	0.5173	0.7735	2.612	No	8	0	Yes	no	0.02	Param.
Fluoride (mg/L)	MW-01 (bg)	-0.1013	-1.954	2.612	No	8	0	Yes	no	0.02	Param.
Fluoride (mg/L)	MW-02 (bg)	-0.05693	-1.44	2.612	No	8	0	Yes	no	0.02	Param.
Lead (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Lead (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Lithium (mg/L)	MW-01 (bg)	0.0102	1.1	2.612	No	8	0	Yes	no	0.02	Param.
Lithium (mg/L)	MW-02 (bg)	-0.00...	-1.173	2.612	No	8	0	Yes	no	0.02	Param.
Mercury (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Mercury (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Molybdenum (mg/L)	MW-01 (bg)	-0.00...	-1.012	2.612	No	8	0	Yes	no	0.02	Param.
Molybdenum (mg/L)	MW-02 (bg)	-0.00...	-0.9887	2.612	No	8	0	Yes	no	0.02	Param.
pH (n/a)	MW-01 (bg)	-0.1379	-0.3392	2.612	No	8	0	Yes	no	0.02	Param.
pH (n/a)	MW-02 (bg)	0.05905	0.1401	2.612	No	8	0	Yes	no	0.02	Param.
Selenium (mg/L)	MW-01 (bg)	0.01014	1.206	2.612	No	8	0	Yes	no	0.02	Param.
Selenium (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Sulfate (mg/L)	MW-01 (bg)	-177.5	-1.748	2.612	No	8	0	Yes	no	0.02	Param.
Sulfate (mg/L)	MW-02 (bg)	-0.09872	-0.00...	2.612	No	8	0	Yes	no	0.02	Param.
Thallium (mg/L)	MW-01 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Thallium (mg/L)	MW-02 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Total Dissolved Solids (mg/L)	MW-01 (bg)	5.31	0.009188	2.612	No	8	0	Yes	no	0.02	Param.
Total Dissolved Solids (mg/L)	MW-02 (bg)	-131.8	-0.4599	2.612	No	8	0	Yes	no	0.02	Param.
Turbidity (NTU)	MW-01 (bg)	10.79	1.862	2.359	No	12	0	Yes	no	0.02	Param.
Turbidity (NTU)	MW-02 (bg)	-9.861	-2.311	2.359	No	12	0	Yes	no	0.02	Param.

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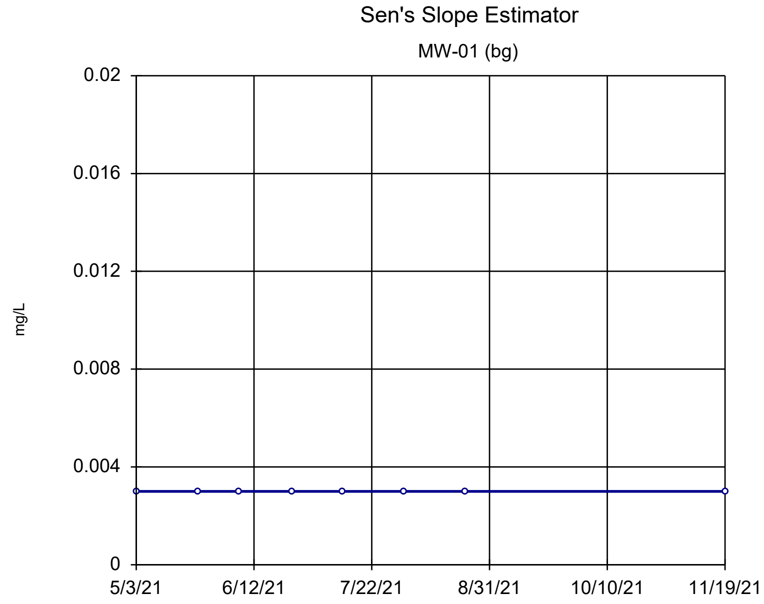
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Antimony   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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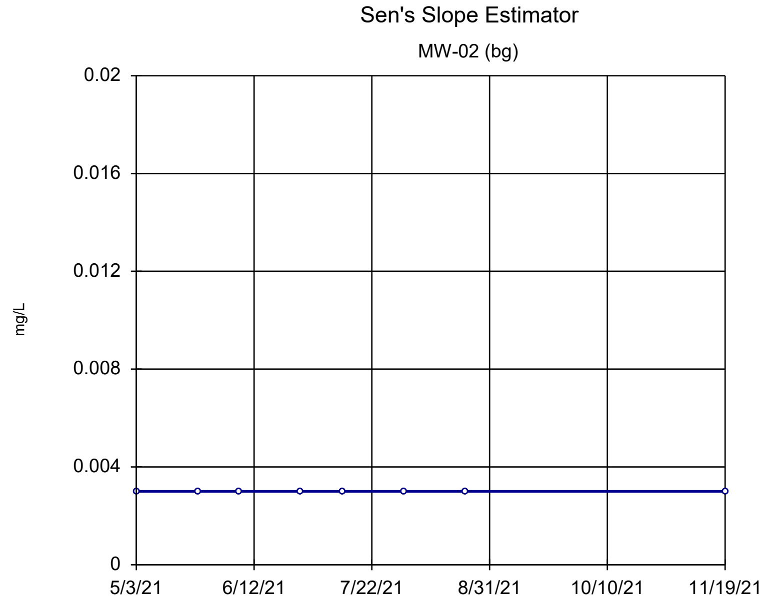
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Antimony   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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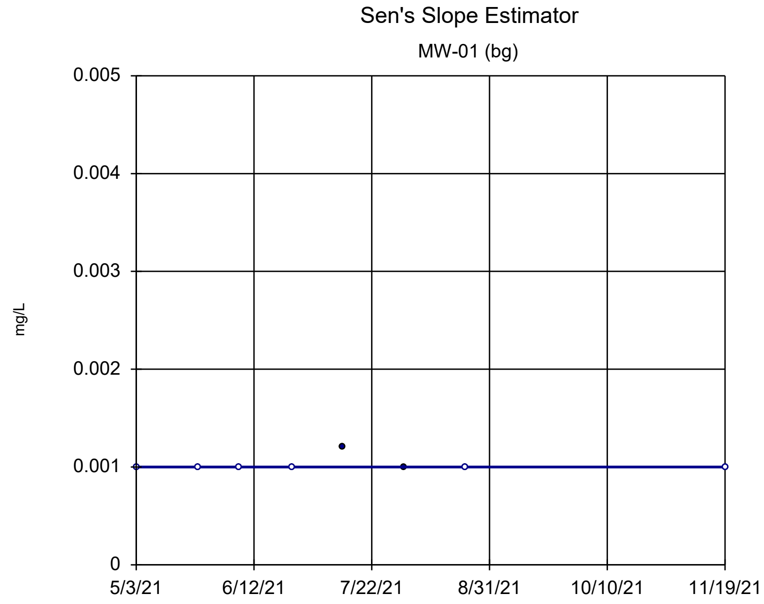
Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 1
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
the Shapiro Wilk
normality test
showed the residuals
to be non-normal
at the 0.01 alpha
level, calculated
= 0.4345, critical
= 0.749.

Constituent: Arsenic   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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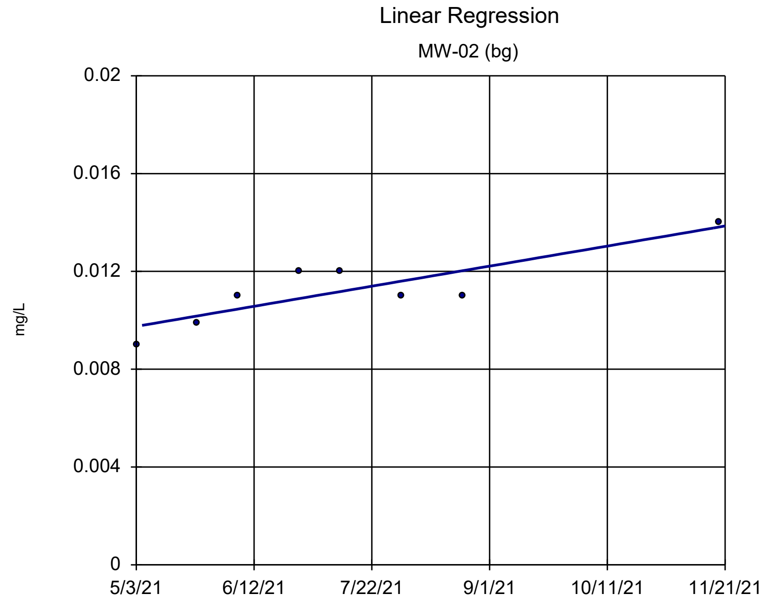

n = 8

Slope = 0.007423
units/year.

alpha = 0.02
t = 4.001
critical = 2.612

Significant increasing trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9471, critical
= 0.749.

Constituent: Arsenic   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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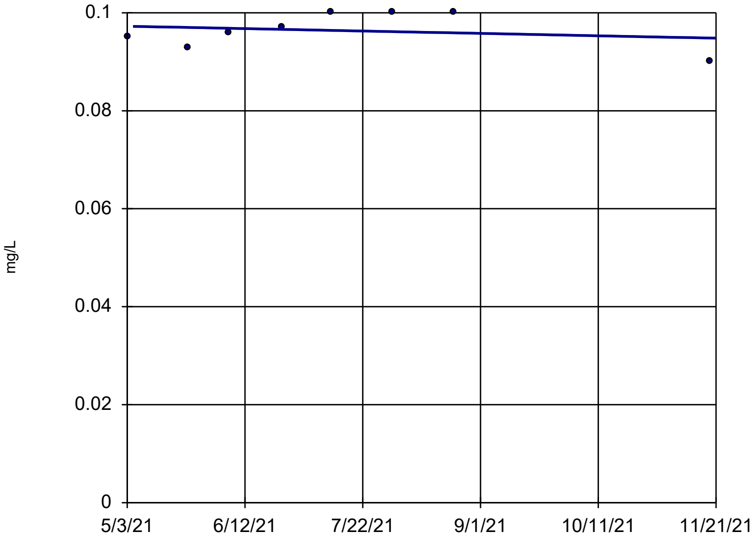

Linear Regression

MW-01 (bg)

n = 8

Slope = -0.004408
units/year.

alpha = 0.02
t = -0.5175
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8975, critical
= 0.749.

Constituent: Barium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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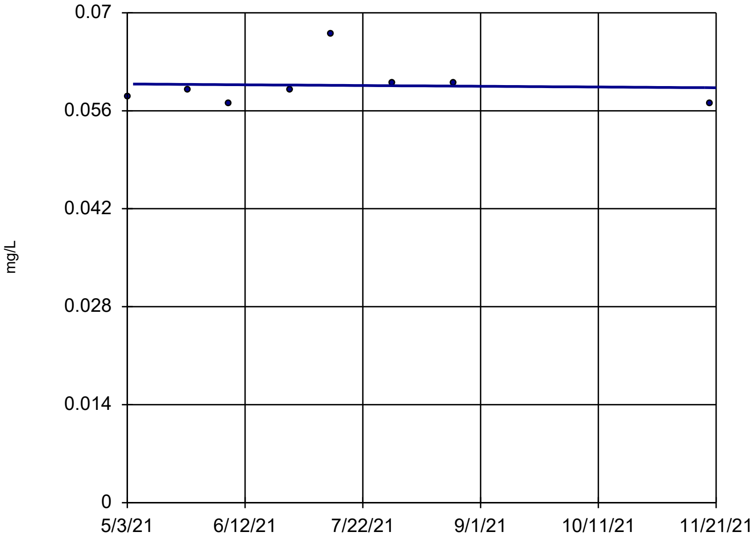

Linear Regression

MW-02 (bg)

n = 8

Slope = -0.0009559
units/year.

alpha = 0.02
t = -0.1253
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.7596, critical
= 0.749.

Constituent: Barium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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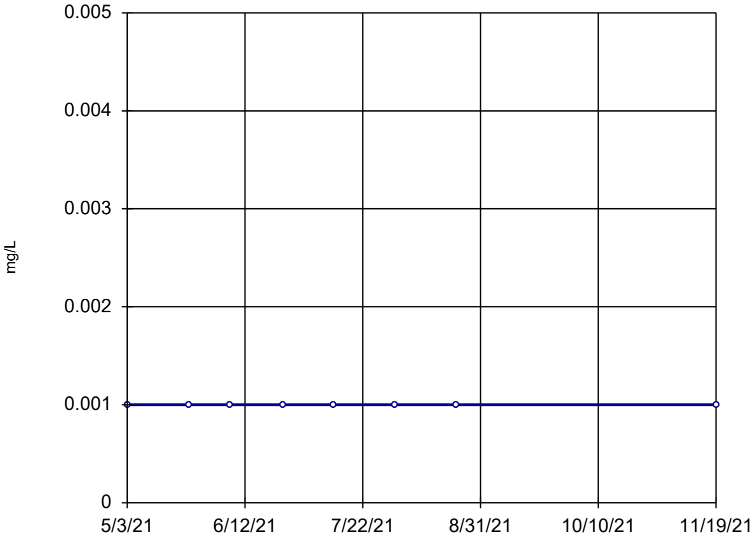
Hollow symbols indicate censored values.



Sen's Slope Estimator

MW-01 (bg)

n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Beryllium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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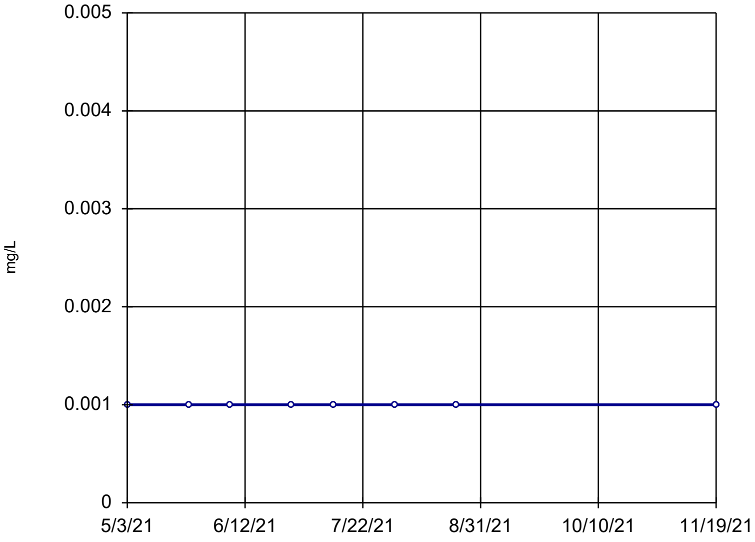
Hollow symbols indicate censored values.



Sen's Slope Estimator

MW-02 (bg)

n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Beryllium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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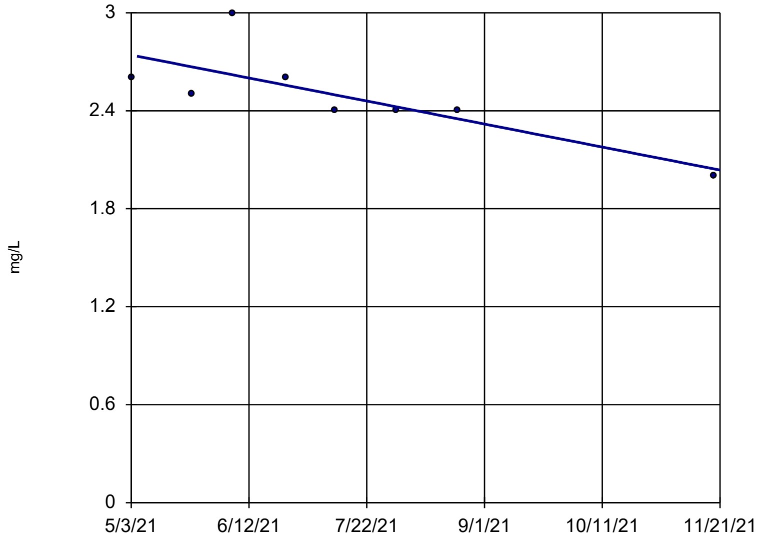
Linear Regression

MW-01 (bg)



n = 8

Slope = -1.275
units/year.

alpha = 0.02
t = -3.096
critical = -2.612

Significant decreasing trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8349, critical
= 0.749.

Constituent: Boron   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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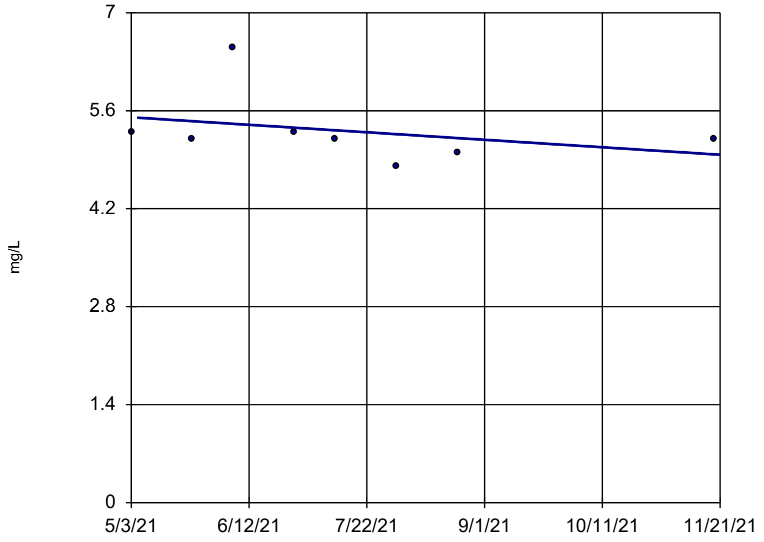
Linear Regression

MW-02 (bg)



n = 8

Slope = -0.9676
units/year.

alpha = 0.02
t = -0.8446
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.7776, critical
= 0.749.

Constituent: Boron   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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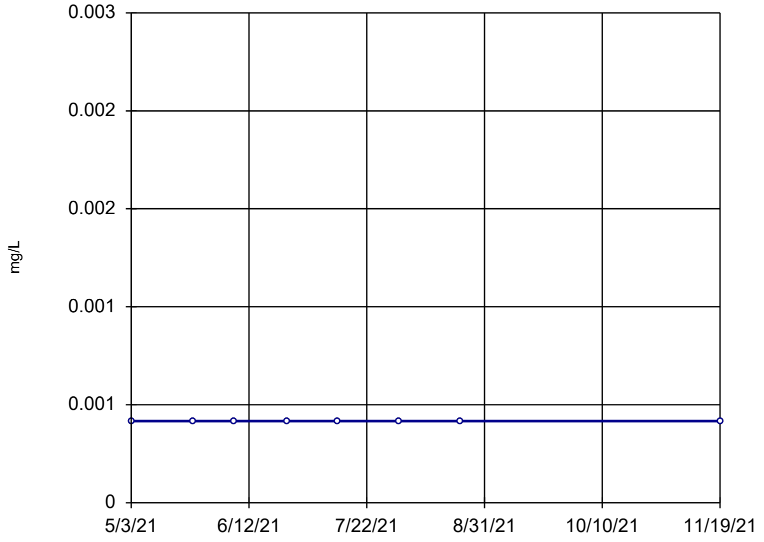
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-01 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Cadmium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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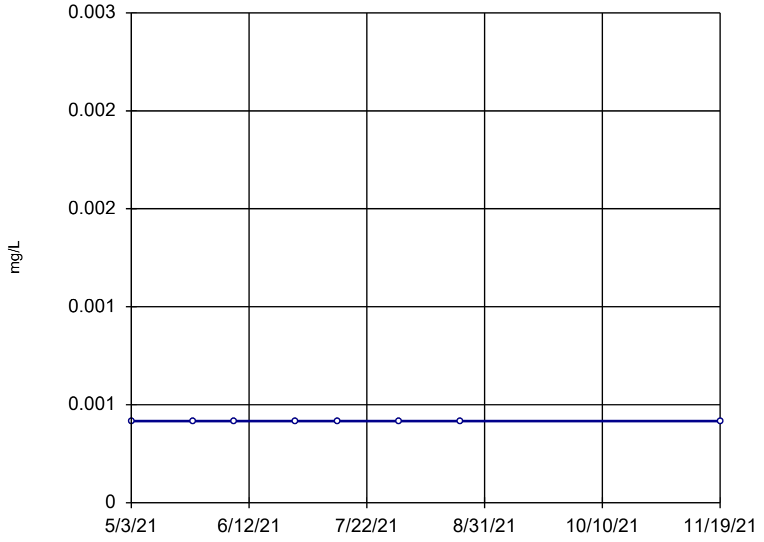
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-02 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

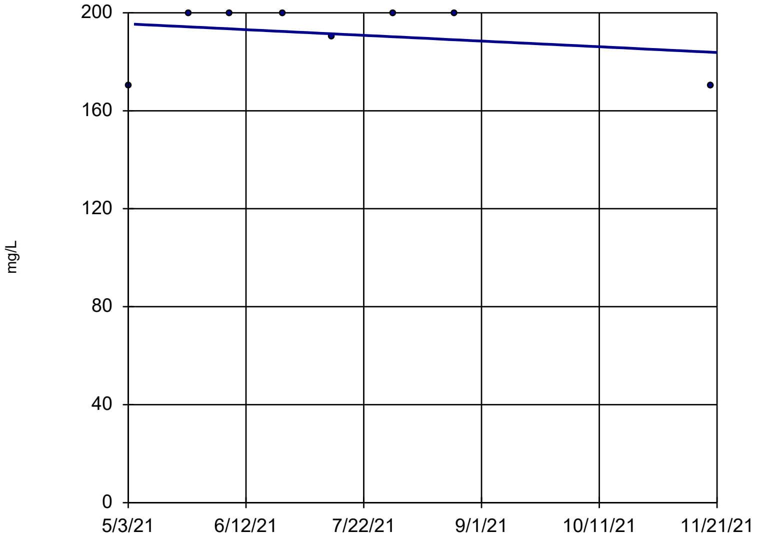
Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Cadmium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

Linear Regression

MW-01 (bg)



n = 8

Slope = -21.07
units/year.

alpha = 0.02
t = -0.6782
critical = 2.612

No significant trend.

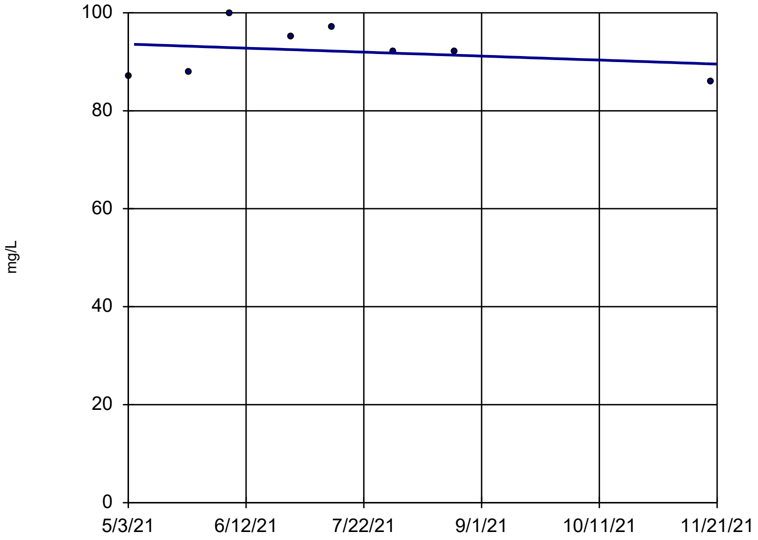
Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.8141, critical = 0.749.

Constituent: Calcium Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-02 (bg)



n = 8

Slope = -7.359
units/year.

alpha = 0.02
t = -0.6383
critical = 2.612

No significant trend.

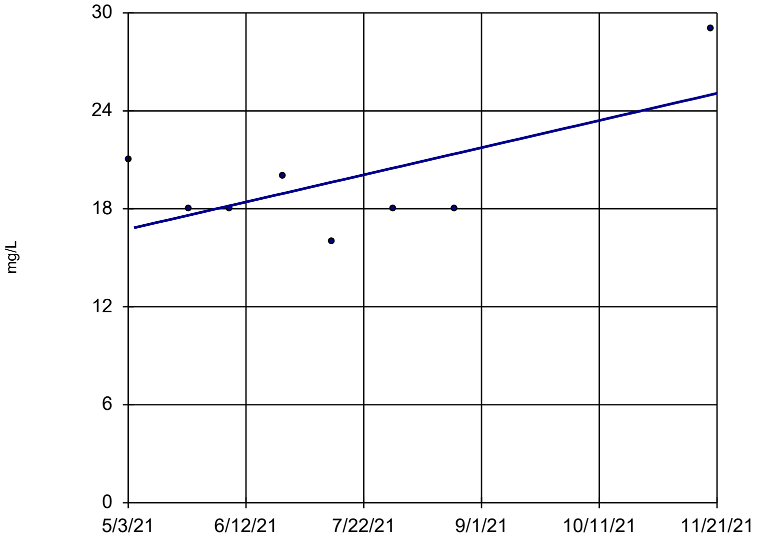
Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9613, critical = 0.749.

Constituent: Calcium Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-01 (bg)



n = 8

Slope = 15.04
units/year.

alpha = 0.02
t = 2.058
critical = 2.612

No significant trend.

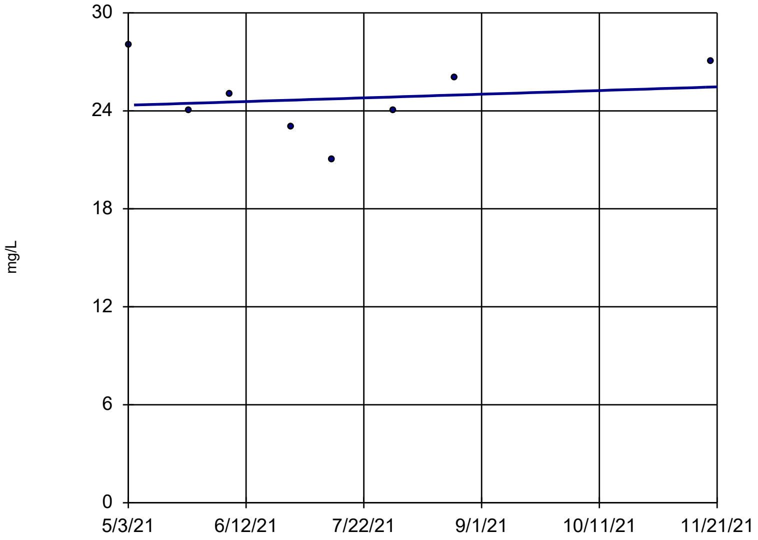
Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9087, critical = 0.749.

Constituent: Chloride Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-02 (bg)



n = 8

Slope = 2.03
units/year.

alpha = 0.02
t = 0.3827
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9927, critical = 0.749.

Constituent: Chloride Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

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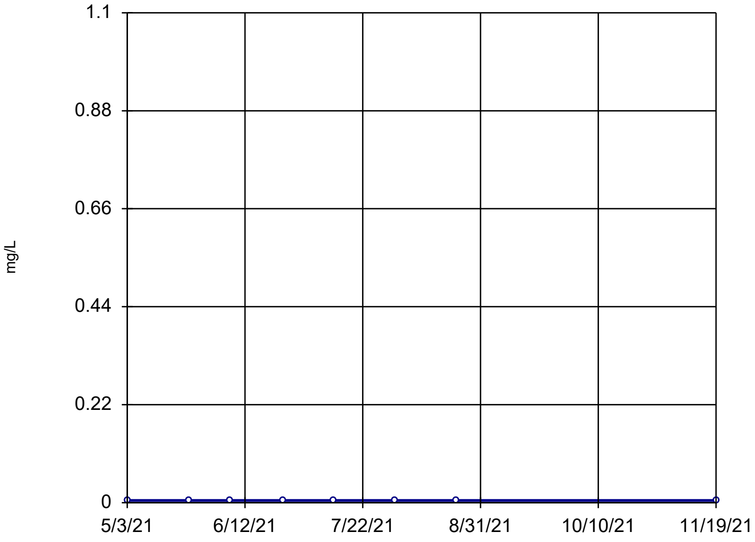
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-01 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Chromium Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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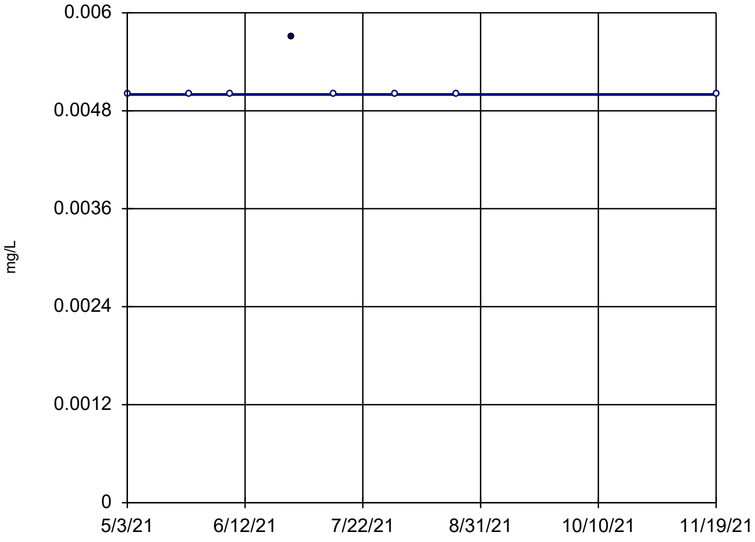
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-02 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = -1
critical = -20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Chromium Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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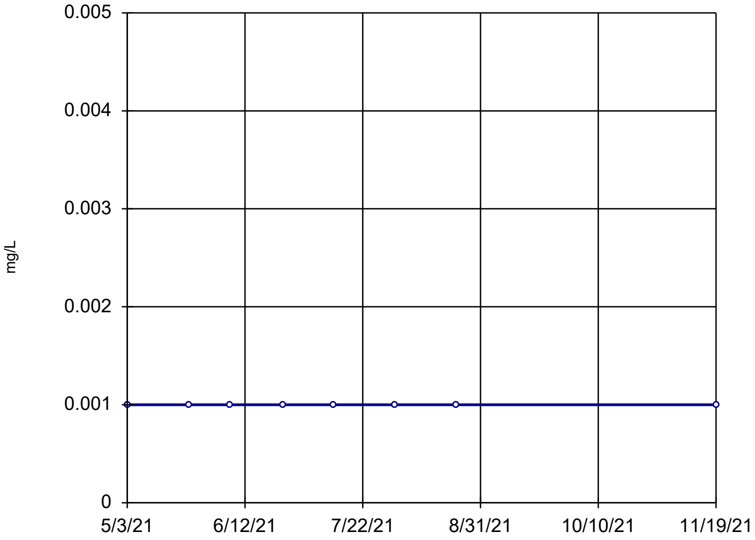
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-01 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Cobalt Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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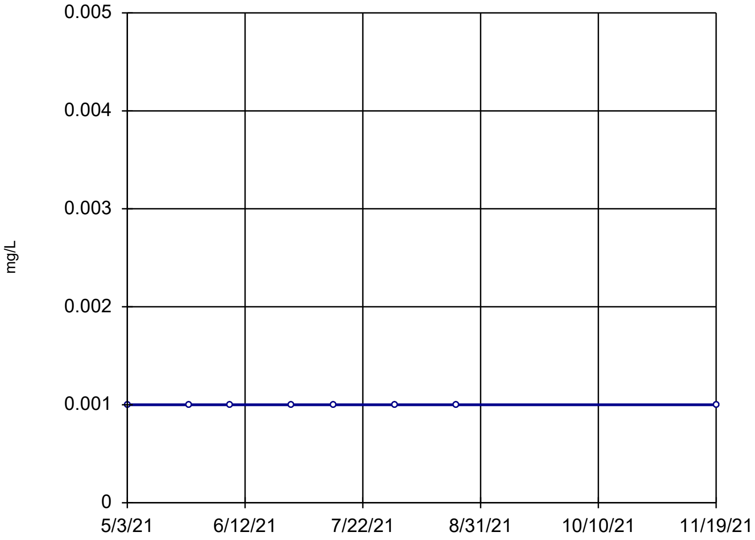
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-02 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

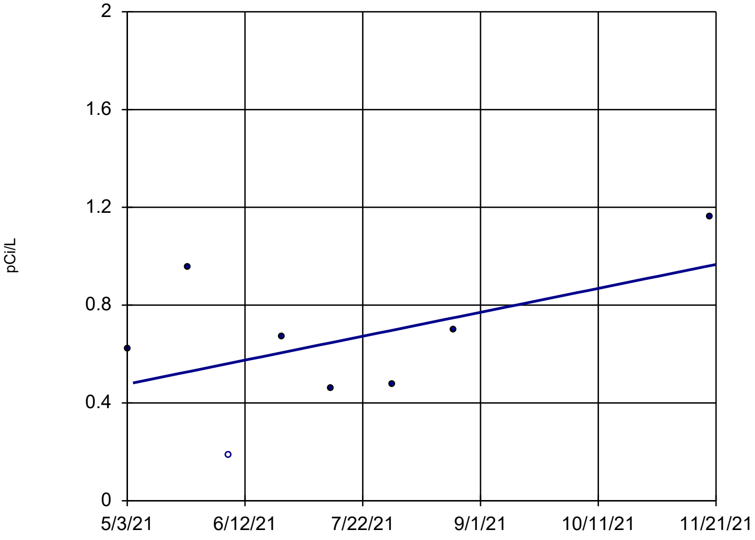
Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Cobalt Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.

Linear Regression

MW-01 (bg)



n = 8
12.5% NDs

Slope = 0.8849
units/year.

alpha = 0.02
t = 1.43
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9818, critical
= 0.749.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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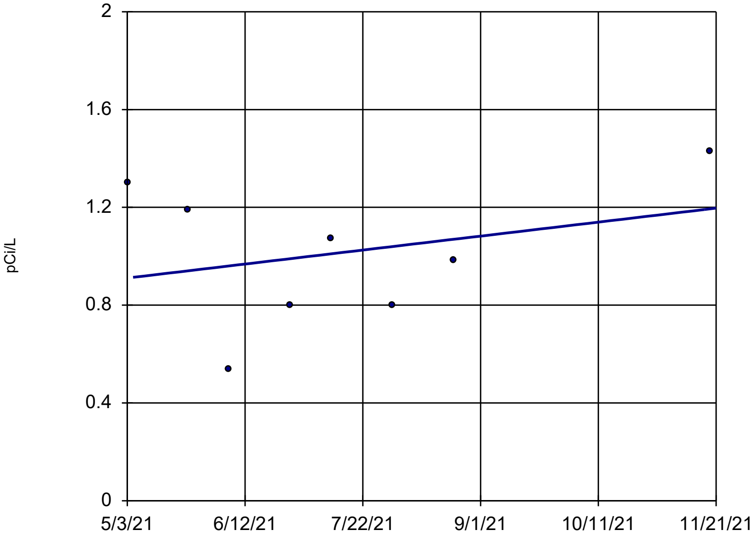
Linear Regression

MW-02 (bg)



n = 8

Slope = 0.5173
units/year.

alpha = 0.02
t = 0.7735
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9606, critical
= 0.749.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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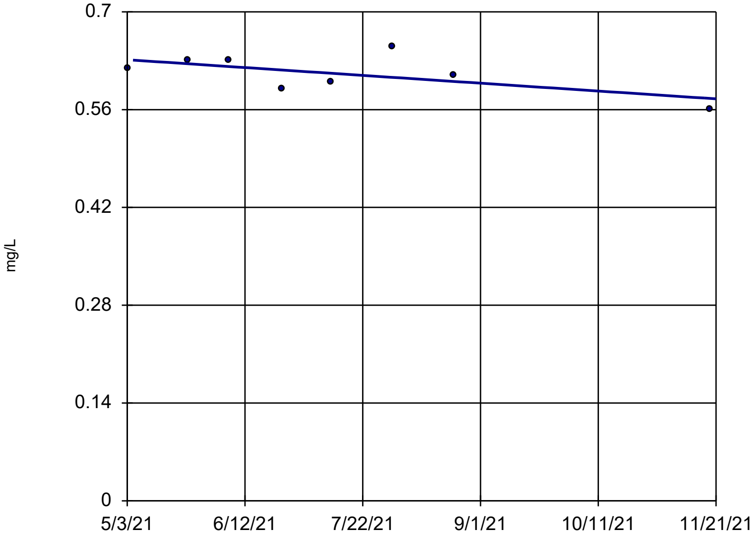
Linear Regression

MW-01 (bg)



n = 8

Slope = -0.1013
units/year.

alpha = 0.02
t = -1.954
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9116, critical
= 0.749.

Constituent: Fluoride Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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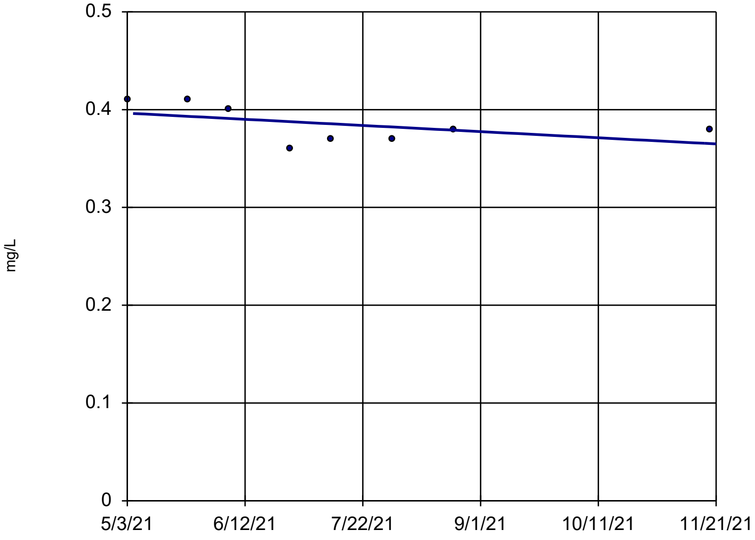
Linear Regression

MW-02 (bg)



n = 8

Slope = -0.05693
units/year.

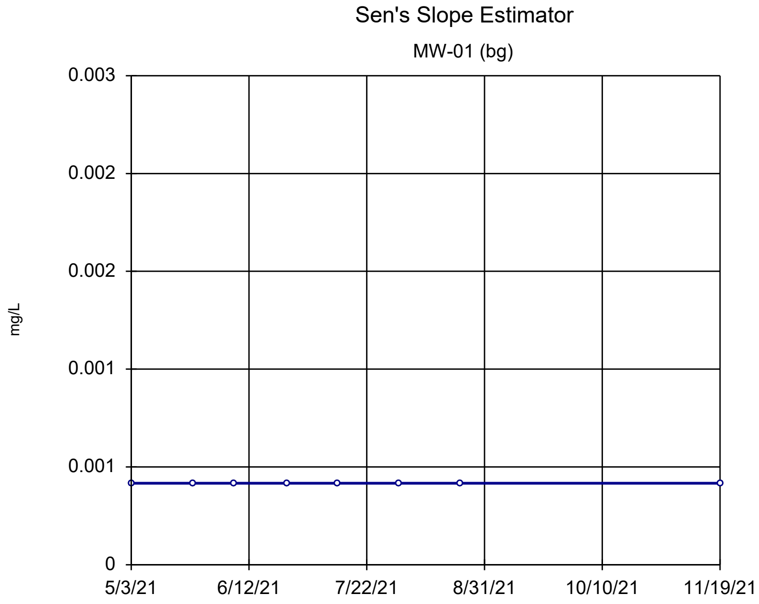
alpha = 0.02
t = -1.44
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8935, critical
= 0.749.

Constituent: Fluoride Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Lead   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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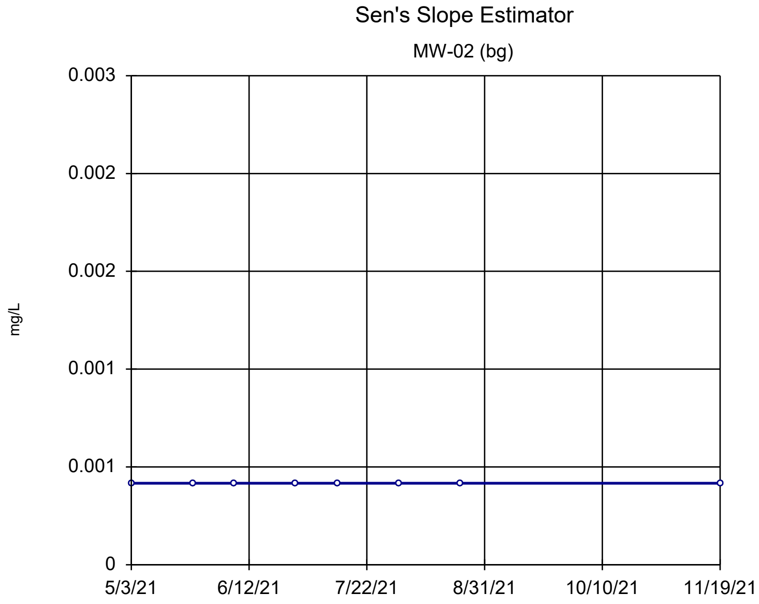
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Lead   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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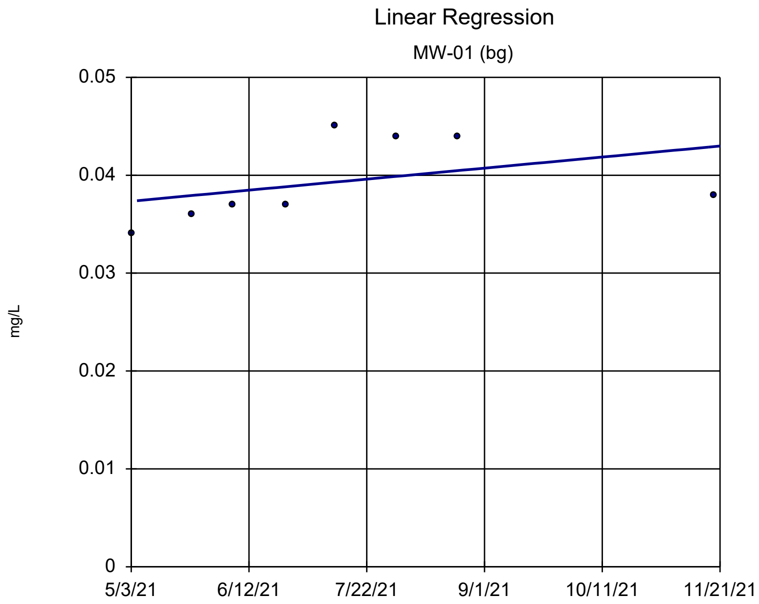

n = 8

Slope = 0.0102
units/year.

alpha = 0.02
t = 1.1
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha = 0.01, calculated = 0.8996, critical = 0.749.

Constituent: Lithium   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

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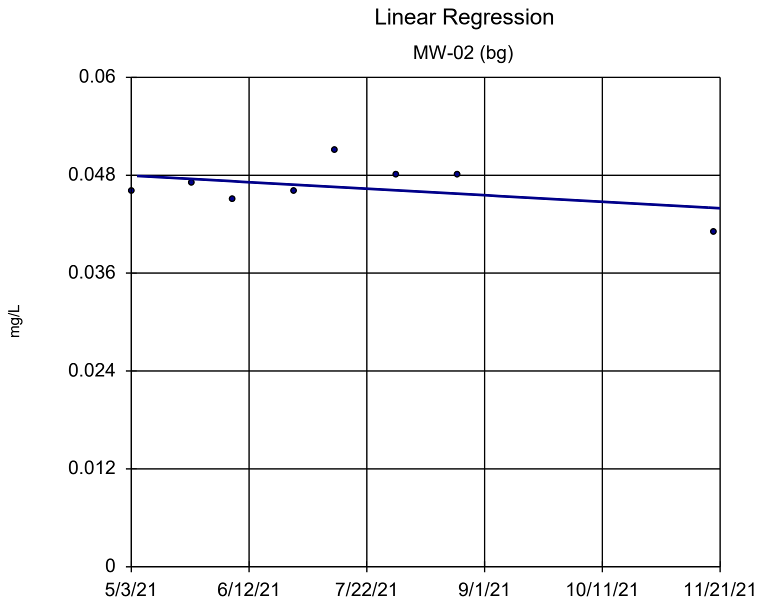


n = 8

Slope = -0.007246
units/year.

alpha = 0.02
t = -1.173
critical = 2.612

No significant trend.

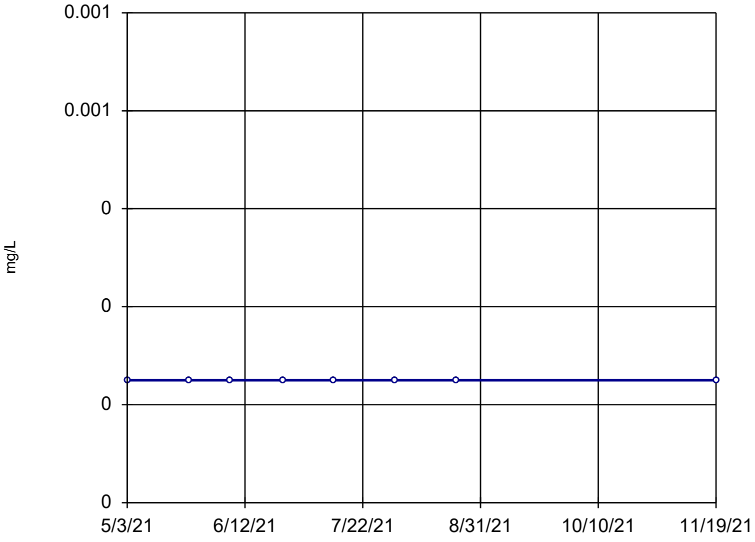
Normality test on residuals:
Shapiro Wilk @alpha = 0.01, calculated = 0.9264, critical = 0.749.

Constituent: Lithium   Analysis Run 3/7/2022 10:47 AM
Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-01 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

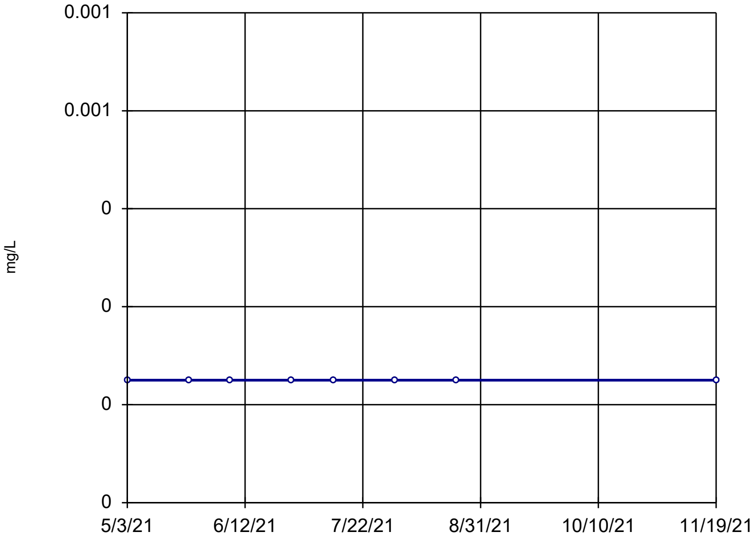
Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Mercury Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-02 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

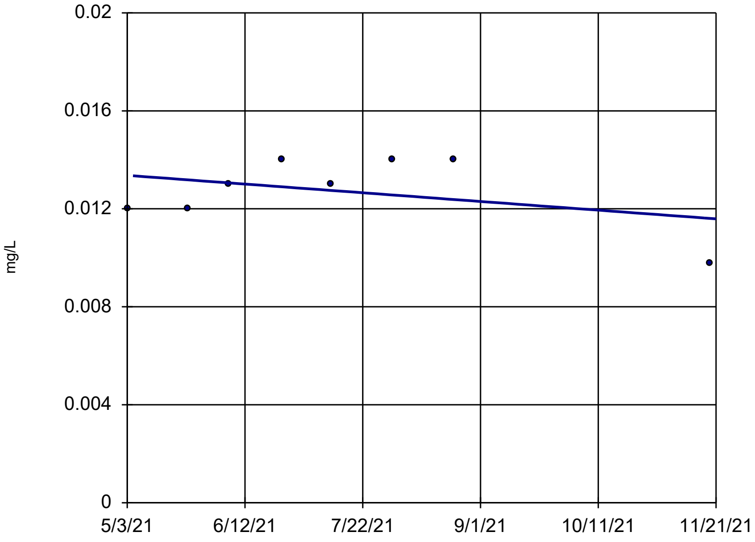
Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Mercury Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Linear Regression

MW-01 (bg)



n = 8

Slope = -0.003211
units/year.

alpha = 0.02
t = -1.012
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9123, critical = 0.749.

Constituent: Molybdenum Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

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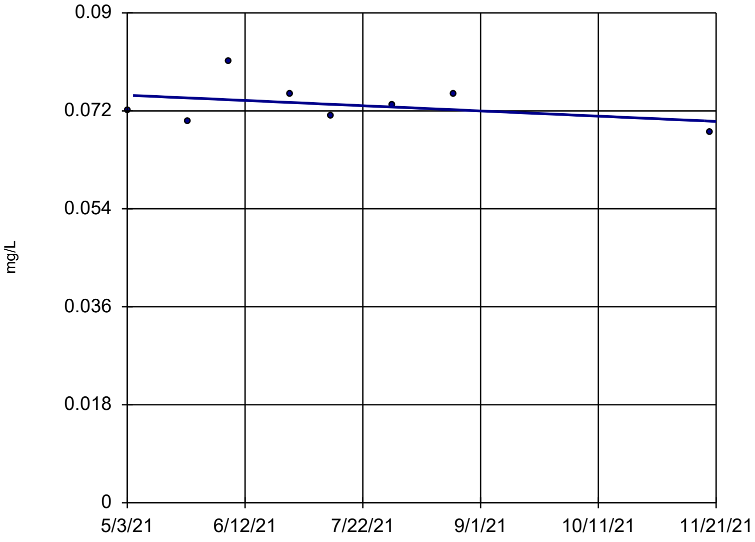
Linear Regression

MW-02 (bg)



n = 8

Slope = -0.008689
units/year.

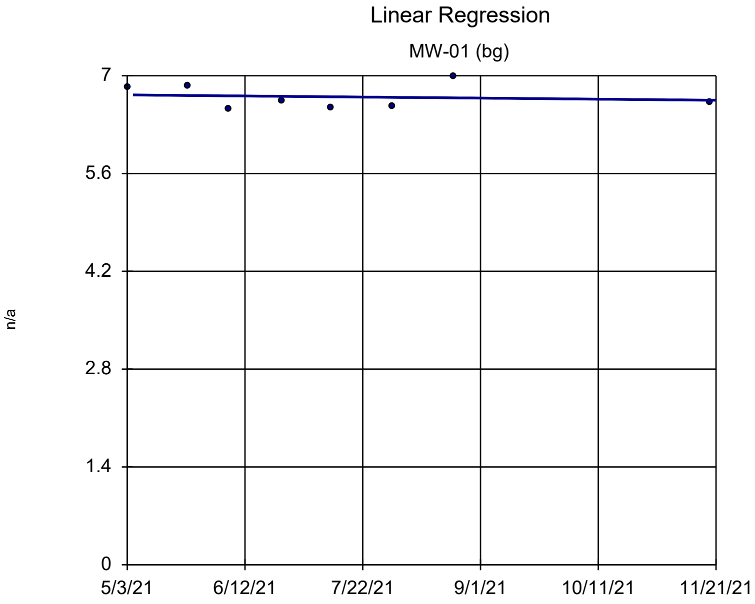
alpha = 0.02
t = -0.9887
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9334, critical = 0.749.

Constituent: Molybdenum Analysis Run 3/7/2022 10:47 AM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG



n = 8

Slope = -0.1379
units/year.

alpha = 0.02
t = -0.3392
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9283, critical
= 0.749.

Constituent: pH Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

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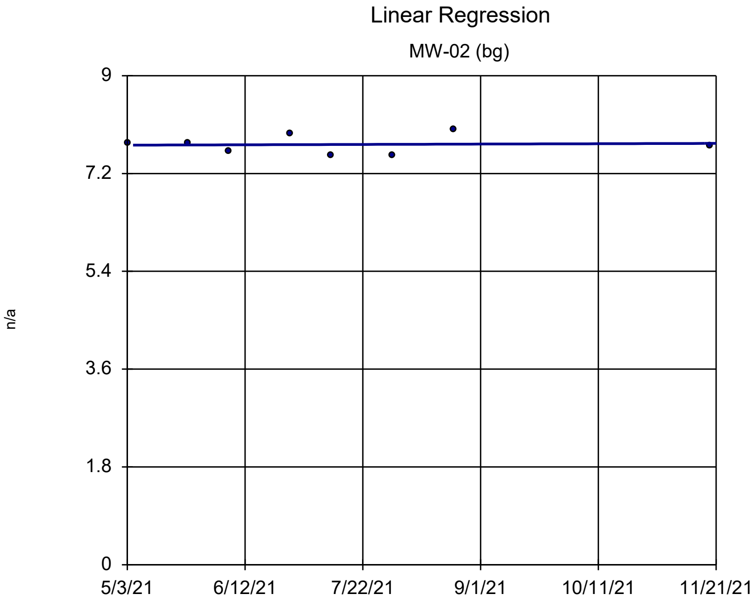

n = 8

Slope = 0.05905
units/year.

alpha = 0.02
t = 0.1401
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9323, critical
= 0.749.

Constituent: pH Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

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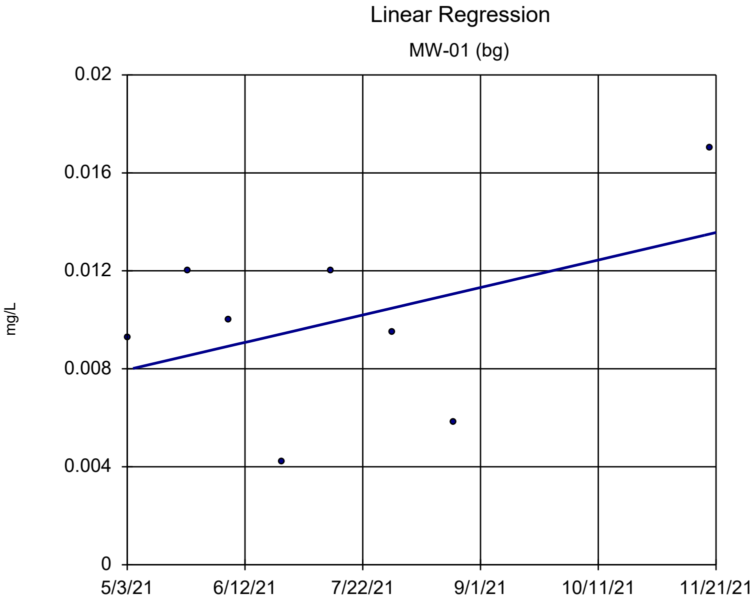

n = 8

Slope = 0.01014
units/year.

alpha = 0.02
t = 1.206
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8451, critical
= 0.749.

Constituent: Selenium Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

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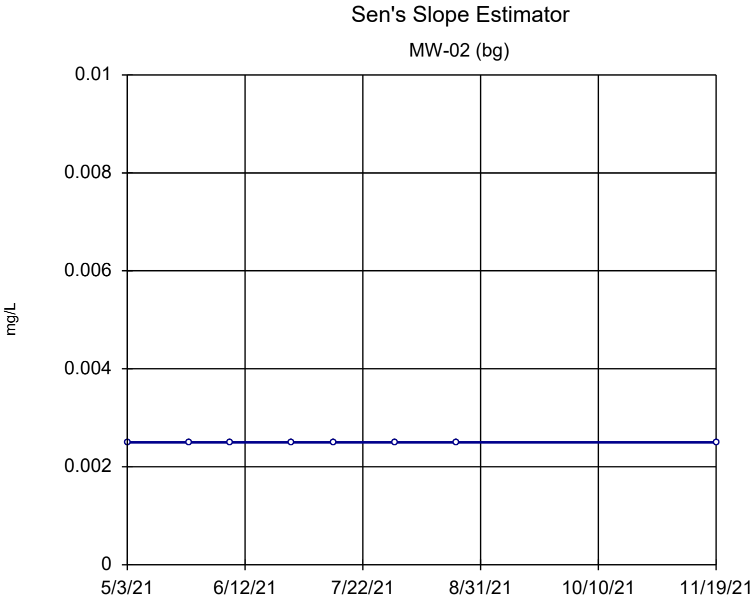
Hollow symbols indicate censored values.



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

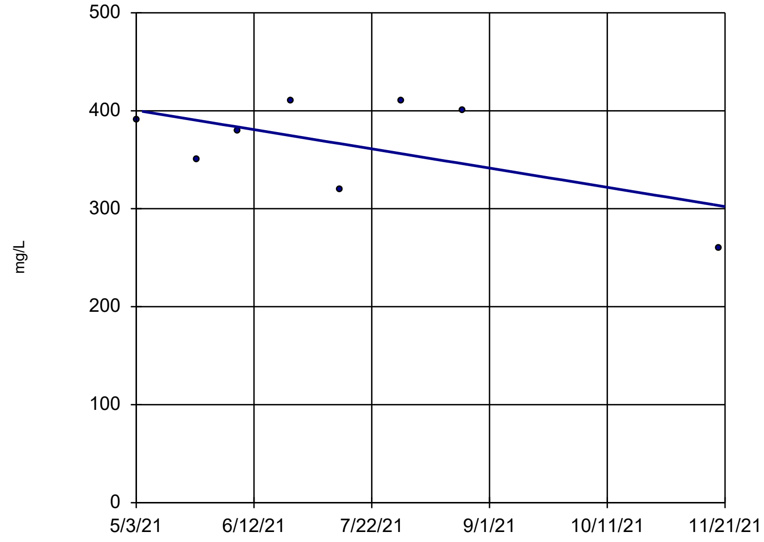
Constituent: Selenium Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Linear Regression

MW-01 (bg)



n = 8

Slope = -177.5
units/year.

alpha = 0.02
t = -1.748
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8605, critical
= 0.749.

Constituent: Sulfate   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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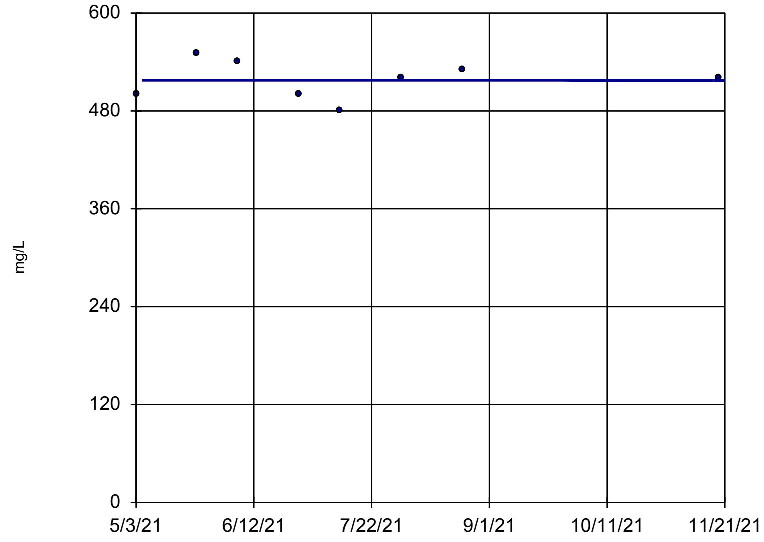
Linear Regression

MW-02 (bg)



n = 8

Slope = -0.09872
units/year.

alpha = 0.02
t = -0.001789
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.968, critical =
0.749.

Constituent: Sulfate   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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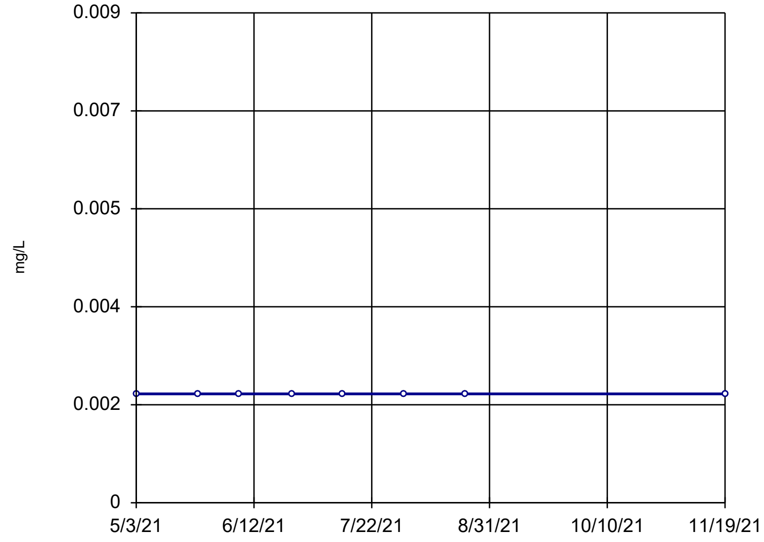
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-01 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Thallium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

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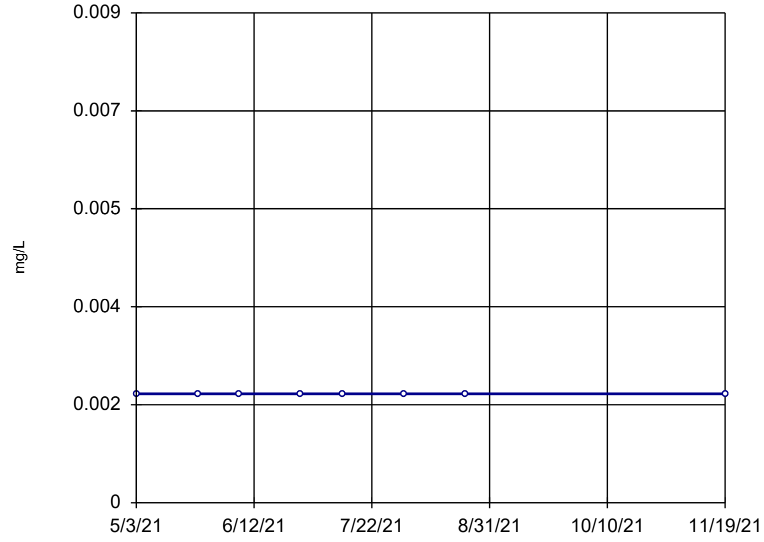
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-02 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

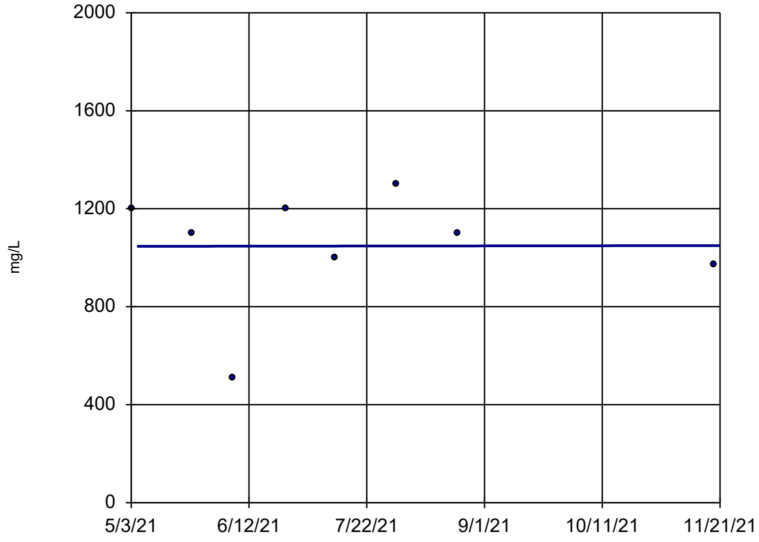
Constituent: Thallium   Analysis Run 3/7/2022 10:47 AM

Will County Generating Station   Client: NRG   Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Linear Regression

MW-01 (bg)



n = 8

Slope = 5.31
units/year.

alpha = 0.02
t = 0.009188
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8324, critical
= 0.749.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

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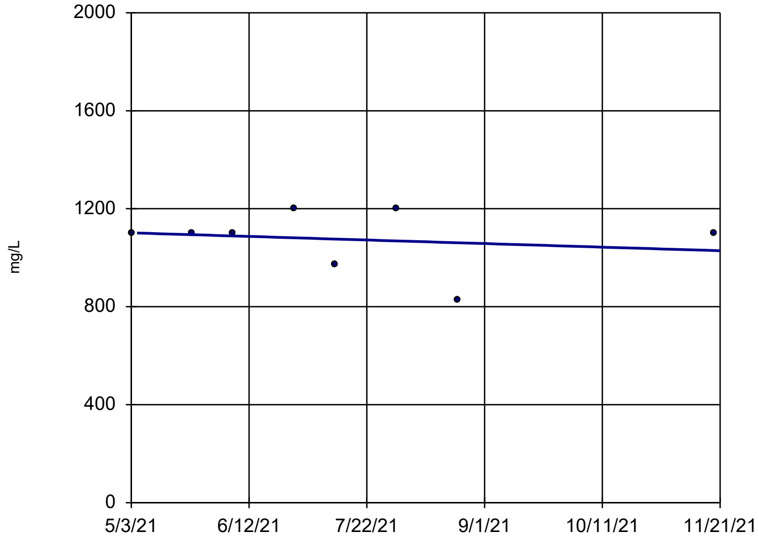
Linear Regression

MW-02 (bg)



n = 8

Slope = -131.8
units/year.

alpha = 0.02
t = -0.4599
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9096, critical
= 0.749.

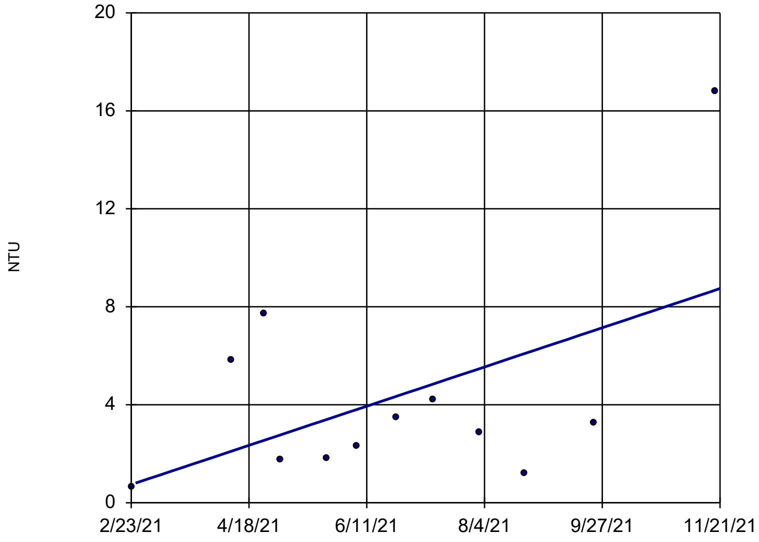
Constituent: Total Dissolved Solids Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Linear Regression

MW-01 (bg)



n = 12

Slope = 10.79
units/year.

alpha = 0.02
t = 1.862
critical = 2.359

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8944, critical
= 0.805.

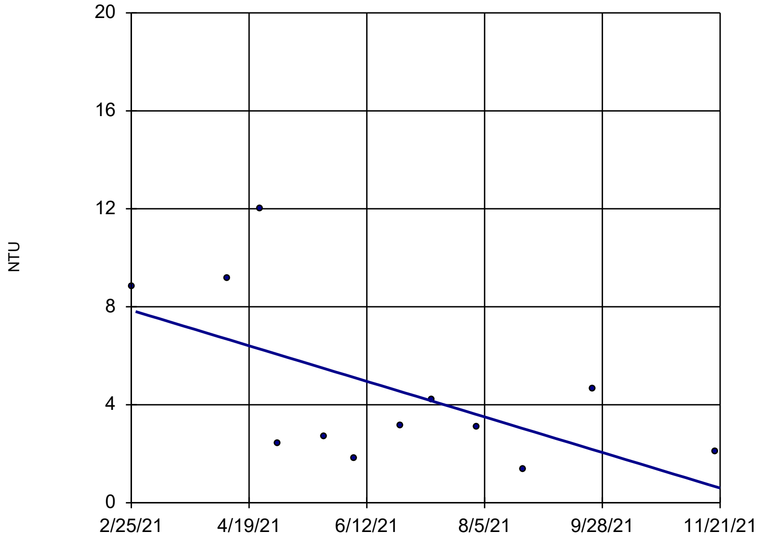
Constituent: Turbidity Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Linear Regression

MW-02 (bg)



n = 12

Slope = -9.861
units/year.

alpha = 0.02
t = -2.311
critical = 2.359

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9558, critical
= 0.805.

Constituent: Turbidity Analysis Run 3/7/2022 10:47 AM

Will County Generating Station Client: NRG Data: Will County

ANOVA Will Co 1N UG Wells MW-1/MW-2

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 10:55 AM

Constituent	Well	Calc.	Crit.	Sig.	Alpha	Transform	ANOVA Sig.	Alpha	Method
Arsenic (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Barium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Boron (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Calcium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Chloride (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Chromium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Fluoride (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Lithium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Molybdenum (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
pH (n/a)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Selenium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Sulfate (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Total Dissolved Solids (mg/L)	n/a	n/a	n/a	n/a	n/a	x^2	No	0.05	Param.
Turbidity (NTU)	n/a	n/a	n/a	n/a	n/a	x^(1/3)	No	0.05	Param.

Non-Parametric ANOVA

Constituent: Arsenic   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 12.41

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 3 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 12.41

Parametric ANOVA

Constituent: Barium Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 456.3

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9591, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.5985, tabulated = 4.6.

Non-Parametric ANOVA

Constituent: Boron   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 11.46

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 4 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 11.46

Non-Parametric ANOVA

Constituent: Calcium Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 11.67

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 3 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 11.67

Non-Parametric ANOVA

Constituent: Chloride Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 6.2

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 3 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 6.091
Adjusted Kruskal-Wallis statistic (H') = 6.2

Non-Parametric ANOVA

Constituent: Chromium Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates NO DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is less than or equal to the Chi-squared value, we conclude that no group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 1

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 1 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 0.1765
Adjusted Kruskal-Wallis statistic (H') = 1

Parametric ANOVA

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 5.865

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9652, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.03323, tabulated = 4.6.

Parametric ANOVA

Constituent: Fluoride   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 354.4

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9699, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.5926, tabulated = 4.6.

Parametric ANOVA

Constituent: Lithium   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 15.29

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9428, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 3.826, tabulated = 4.6.

Parametric ANOVA

Constituent: Molybdenum   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

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For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 1628

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9126, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 3.803, tabulated = 4.6.

Parametric ANOVA

Constituent: pH   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 140.5

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9132, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.05917, tabulated = 4.6.

Non-Parametric ANOVA

Constituent: Selenium   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 12.91

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 2 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 12.91

Parametric ANOVA

Constituent: Sulfate Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 56.26

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.8992, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 4.334, tabulated = 4.6.

Parametric ANOVA

Constituent: Total Dissolved Solids   Analysis Run 3/7/2022 10:55 AM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test (after square transformation) indicates NO VARIATION at the 5% significance level. Because the calculated F statistic is less than or equal to the tabulated F statistic, the hypothesis of a single homogeneous population is accepted.

Calculated F statistic = 0.01253

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed after square transformation. Alpha = 0.05, calculated = 0.9076, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 1.378, tabulated = 4.6.

Parametric ANOVA

Constituent: Turbidity Analysis Run 3/7/2022 10:55 AM
Will County Generating Station Client: NRG Data: Will County

For observations made between 2/23/2021 and 11/19/2021 the parametric analysis of variance test (after cube root transformation) indicates NO VARIATION at the 5% significance level. Because the calculated F statistic is less than or equal to the tabulated F statistic, the hypothesis of a single homogeneous population is accepted.

Calculated F statistic = 0.2287

Tabulated F statistic = 4.3 with 1 and 22 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	0.03988	1	0.03988	0.2287
Error Within Groups	3.837	22	0.1744	
Total	3.877	23		

The Shapiro Wilk normality test on the residuals passed after cube root transformation. Alpha = 0.05, calculated = 0.9389, critical = 0.916. Levene's Equality of Variance test passed. Calculated = 0.04509, tabulated = 4.3.

Shapiro-Wilk Normality Test

Constituent: Antimony   Analysis Run 3/7/2022 10:28 AM
Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             -1                    0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Arsenic   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.4186	0.818	No
	square root	0.4186	0.818	No
	square	0.4186	0.818	No
	cube root	0.4186	0.818	No
	cube	0.4186	0.818	No
	natural log	0.4186	0.818	No
	x^4	0.4186	0.818	No
	x^5	0.4186	0.818	No
	x^6	0.4186	0.818	No
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.9478	0.818	Yes
	square root	0.9542	0.818	Yes
	square	0.9262	0.818	Yes
	cube root	0.9556	0.818	Yes
	cube	0.8948	0.818	Yes
	natural log	0.9575	0.818	Yes
	x^4	0.8564	0.818	Yes
	x^5	0.8142	0.818	No
	x^6	0.771	0.818	No
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7514	0.887	No
	square root	0.7226	0.887	No
	square	0.799	0.887	No
	cube root	0.7138	0.887	No
	cube	0.8113	0.887	No
	natural log	0.6987	0.887	No
	x^4	0.7885	0.887	No
	x^5	0.7429	0.887	No
	x^6	0.6868	0.887	No

Shapiro-Wilk Normality Test

Constituent: Barium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

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```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.9005                0.818                 Yes
                      square root           0.8998                0.818                 Yes
                      square                0.9016                0.818                 Yes
                      cube root             0.8995                0.818                 Yes
                      cube                  0.9021                0.818                 Yes
                      natural log           0.899                 0.818                 Yes
                      x^4                   0.9022                0.818                 Yes
                      x^5                   0.9018                0.818                 Yes
                      x^6                   0.901                 0.818                 Yes
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.7516                0.818                 No
                      square root           0.7605                0.818                 No
                      square                0.7337                0.818                 No
                      cube root             0.7634                0.818                 No
                      cube                  0.7159                0.818                 No
                      natural log           0.7693                0.818                 No
                      x^4                   0.6982                0.818                 No
                      x^5                   0.6809                0.818                 No
                      x^6                   0.6639                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.7617                0.887                 No
                      square root           0.7607                0.887                 No
                      square                0.7645                0.887                 No
                      cube root             0.7605                0.887                 No
                      cube                  0.7684                0.887                 No
                      natural log           0.7601                0.887                 No
                      x^4                   0.7728                0.887                 No
                      x^5                   0.7774                0.887                 No
                      x^6                   0.7816                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Beryllium   Analysis Run 3/7/2022 10:28 AM
Will County Generating Station   Client: NRG   Data: Will County

---

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           -1                    0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Boron   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.9159                0.818                 Yes
                      square root           0.916                 0.818                 Yes
                      square                0.906                 0.818                 Yes
                      cube root             0.9153                0.818                 Yes
                      cube                  0.8845                0.818                 Yes
                      natural log           0.9128                0.818                 Yes
                      x^4                   0.8544                0.818                 Yes
                      x^5                   0.8188                0.818                 Yes
                      x^6                   0.7806                0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.72                  0.818                 No
                      square root           0.7365                0.818                 No
                      square                0.6874                0.818                 No
                      cube root             0.742                 0.818                 No
                      cube                  0.6561                0.818                 No
                      natural log           0.753                 0.818                 No
                      x^4                   0.6267                0.818                 No
                      x^5                   0.5996                0.818                 No
                      x^6                   0.5749                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.8296                0.887                 No
                      square root           0.8301                0.887                 No
                      square                0.8262                0.887                 No
                      cube root             0.8303                0.887                 No
                      cube                  0.8119                0.887                 No
                      natural log           0.8308                0.887                 No
                      x^4                   0.7794                0.887                 No
                      x^5                   0.7287                0.887                 No
                      x^6                   0.6668                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Cadmium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           -1                    0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Calcium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.6709                0.818                 No
                      square root           0.6691                0.818                 No
                      square                0.6744                0.818                 No
                      cube root             0.6685                0.818                 No
                      cube                  0.6776                0.818                 No
                      natural log           0.6673                0.818                 No
                      x^4                   0.6806                0.818                 No
                      x^5                   0.6834                0.818                 No
                      x^6                   0.6859                0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.9452                0.818                 Yes
                      square root           0.9459                0.818                 Yes
                      square                0.9434                0.818                 Yes
                      cube root             0.946                 0.818                 Yes
                      cube                  0.9409                0.818                 Yes
                      natural log           0.9463                0.818                 Yes
                      x^4                   0.9377                0.818                 Yes
                      x^5                   0.9337                0.818                 Yes
                      x^6                   0.929                 0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.7501                0.887                 No
                      square root           0.7517                0.887                 No
                      square                0.7481                0.887                 No
                      cube root             0.7523                0.887                 No
                      cube                  0.7465                0.887                 No
                      natural log           0.7538                0.887                 No
                      x^4                   0.7441                0.887                 No
                      x^5                   0.7401                0.887                 No
                      x^6                   0.7348                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Chloride   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.7401                0.818                 No
                      square root           0.7698                0.818                 No
                      square                0.6815                0.818                 No
                      cube root             0.7795                0.818                 No
                      cube                  0.6276                0.818                 No
                      natural log           0.7987                0.818                 No
                      x^4                   0.5809                0.818                 No
                      x^5                   0.5425                0.818                 No
                      x^6                   0.5119                0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.9828                0.818                 Yes
                      square root           0.9805                0.818                 Yes
                      square                0.9843                0.818                 Yes
                      cube root             0.9795                0.818                 Yes
                      cube                  0.9818                0.818                 Yes
                      natural log           0.9771                0.818                 Yes
                      x^4                   0.9758                0.818                 Yes
                      x^5                   0.9668                0.818                 Yes
                      x^6                   0.9553                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.942                 0.887                 Yes
                      square root           0.9426                0.887                 Yes
                      square                0.9349                0.887                 Yes
                      cube root             0.9424                0.887                 Yes
                      cube                  0.9208                0.887                 Yes
                      natural log           0.9413                0.887                 Yes
                      x^4                   0.9009                0.887                 Yes
                      x^5                   0.8767                0.887                 No
                      x^6                   0.8495                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Chromium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.4186                0.818                 No
                      square root           0.4186                0.818                 No
                      square                0.4186                0.818                 No
                      cube root             0.4186                0.818                 No
                      cube                  0.4186                0.818                 No
                      natural log           0.4186                0.818                 No
                      x^4                   0.4186                0.818                 No
                      x^5                   0.4186                0.818                 No
                      x^6                   0.4186                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.2727                0.887                 No
                      square root           0.2727                0.887                 No
                      square                0.2727                0.887                 No
                      cube root             0.2727                0.887                 No
                      cube                  0.2727                0.887                 No
                      natural log           0.2727                0.887                 No
                      x^4                   0.2727                0.887                 No
                      x^5                   0.2727                0.887                 No
                      x^6                   0.2727                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Cobalt   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           -1                    0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Combined Radium 226 + 228   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                 Transformation       Calculated           Critical             Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                     no                   0.9725               0.818                Yes
                     square root          0.9682               0.818                Yes
                     square               0.8889               0.818                Yes
                     cube root            0.9558               0.818                Yes
                     cube                 0.7845               0.818                No
                     natural log          0.9144               0.818                Yes
                     x^4                  0.7018               0.818                No
                     x^5                  0.6408               0.818                No
                     x^6                  0.5956               0.818                No
MW-02 (bg) (n = 8, alpha = 0.05)
                     no                   0.9774               0.818                Yes
                     square root          0.967                0.818                Yes
                     square               0.9716               0.818                Yes
                     cube root            0.9613               0.818                Yes
                     cube                 0.9419               0.818                Yes
                     natural log          0.9464               0.818                Yes
                     x^4                  0.901                0.818                Yes
                     x^5                  0.8569               0.818                Yes
                     x^6                  0.8139               0.818                No
Pooled Background (bg) (n = 16, alpha = 0.05)
                     no                   0.9831               0.887                Yes
                     square root          0.9689               0.887                Yes
                     square               0.9366               0.887                Yes
                     cube root            0.9538               0.887                Yes
                     cube                 0.8644               0.887                No
                     natural log          0.9053               0.887                Yes
                     x^4                  0.7933               0.887                No
                     x^5                  0.7281               0.887                No
                     x^6                  0.6698               0.887                No
```

Shapiro-Wilk Normality Test

Constituent: Fluoride   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.9688	0.818	Yes
	square root	0.9653	0.818	Yes
	square	0.975	0.818	Yes
	cube root	0.9641	0.818	Yes
	cube	0.9801	0.818	Yes
	natural log	0.9615	0.818	Yes
	x^4	0.984	0.818	Yes
	x^5	0.9867	0.818	Yes
	x^6	0.9882	0.818	Yes
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.8915	0.818	Yes
	square root	0.8938	0.818	Yes
	square	0.8867	0.818	Yes
	cube root	0.8946	0.818	Yes
	cube	0.8816	0.818	Yes
	natural log	0.896	0.818	Yes
	x^4	0.8764	0.818	Yes
	x^5	0.8709	0.818	Yes
	x^6	0.8653	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7946	0.887	No
	square root	0.7943	0.887	No
	square	0.7963	0.887	No
	cube root	0.7944	0.887	No
	cube	0.7994	0.887	No
	natural log	0.7945	0.887	No
	x^4	0.8035	0.887	No
	x^5	0.8078	0.887	No
	x^6	0.8118	0.887	No

Shapiro-Wilk Normality Test

Constituent: Lead   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           -1                    0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Lithium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.8564	0.818	Yes
	square root	0.8619	0.818	Yes
	square	0.8451	0.818	Yes
	cube root	0.8637	0.818	Yes
	cube	0.8339	0.818	Yes
	natural log	0.8673	0.818	Yes
	x^4	0.823	0.818	Yes
	x^5	0.8126	0.818	No
	x^6	0.8029	0.818	No
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.9456	0.818	Yes
	square root	0.9403	0.818	Yes
	square	0.9538	0.818	Yes
	cube root	0.9383	0.818	Yes
	cube	0.9583	0.818	Yes
	natural log	0.9341	0.818	Yes
	x^4	0.9593	0.818	Yes
	x^5	0.9567	0.818	Yes
	x^6	0.9509	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.9276	0.887	Yes
	square root	0.9218	0.887	Yes
	square	0.937	0.887	Yes
	cube root	0.9197	0.887	Yes
	cube	0.9429	0.887	Yes
	natural log	0.9153	0.887	Yes
	x^4	0.9449	0.887	Yes
	x^5	0.9426	0.887	Yes
	x^6	0.9358	0.887	Yes

Shapiro-Wilk Normality Test

Constituent: Mercury   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           -1                    0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Molybdenum   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

---

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.8482	0.818	Yes
	square root	0.837	0.818	Yes
	square	0.8663	0.818	Yes
	cube root	0.833	0.818	Yes
	cube	0.8785	0.818	Yes
	natural log	0.8245	0.818	Yes
	x^4	0.885	0.818	Yes
	x^5	0.8866	0.818	Yes
	x^6	0.884	0.818	Yes
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.9389	0.818	Yes
	square root	0.9452	0.818	Yes
	square	0.9251	0.818	Yes
	cube root	0.9473	0.818	Yes
	cube	0.91	0.818	Yes
	natural log	0.9512	0.818	Yes
	x^4	0.8938	0.818	Yes
	x^5	0.8766	0.818	Yes
	x^6	0.8586	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7192	0.887	No
	square root	0.7187	0.887	No
	square	0.7381	0.887	No
	cube root	0.7204	0.887	No
	cube	0.7655	0.887	No
	natural log	0.7268	0.887	No
	x^4	0.7895	0.887	No
	x^5	0.8056	0.887	No
	x^6	0.8126	0.887	No

Shapiro-Wilk Normality Test

Constituent: pH   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.8832	0.818	Yes
	square root	0.8843	0.818	Yes
	square	0.8809	0.818	Yes
	cube root	0.8847	0.818	Yes
	cube	0.8786	0.818	Yes
	natural log	0.8854	0.818	Yes
	x^4	0.8763	0.818	Yes
	x^5	0.8738	0.818	Yes
	x^6	0.8713	0.818	Yes
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.9297	0.818	Yes
	square root	0.9303	0.818	Yes
	square	0.9283	0.818	Yes
	cube root	0.9305	0.818	Yes
	cube	0.9268	0.818	Yes
	natural log	0.9308	0.818	Yes
	x^4	0.9252	0.818	Yes
	x^5	0.9234	0.818	Yes
	x^6	0.9215	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.8644	0.887	No
	square root	0.8635	0.887	No
	square	0.8659	0.887	No
	cube root	0.8632	0.887	No
	cube	0.8672	0.887	No
	natural log	0.8626	0.887	No
	x^4	0.8682	0.887	No
	x^5	0.8689	0.887	No
	x^6	0.8692	0.887	No

Shapiro-Wilk Normality Test

Constituent: Selenium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

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```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.9557                0.818                 Yes
                      square root           0.9566                0.818                 Yes
                      square                0.8853                0.818                 Yes
                      cube root             0.9511                0.818                 Yes
                      cube                  0.7744                0.818                 No
                      natural log           0.9323                0.818                 Yes
                      x^4                   0.6729                0.818                 No
                      x^5                   0.5961                0.818                 No
                      x^6                   0.5418                0.818                 No
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.7923                0.887                 No
                      square root           0.7966                0.887                 No
                      square                0.7266                0.887                 No
                      cube root             0.7944                0.887                 No
                      cube                  0.6159                0.887                 No
                      natural log           0.7856                0.887                 No
                      x^4                   0.5118                0.887                 No
                      x^5                   0.4345                0.887                 No
                      x^6                   0.3817                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Sulfate   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-01 (bg) (n = 8, alpha = 0.05)
                      no                    0.8516                0.818                 Yes
                      square root           0.8371                0.818                 Yes
                      square                0.8761                0.818                 Yes
                      cube root             0.8319                0.818                 Yes
                      cube                  0.8947                0.818                 Yes
                      natural log           0.8212                0.818                 Yes
                      x^4                   0.9077                0.818                 Yes
                      x^5                   0.9159                0.818                 Yes
                      x^6                   0.9201                0.818                 Yes
MW-02 (bg) (n = 8, alpha = 0.05)
                      no                    0.968                 0.818                 Yes
                      square root           0.9667                0.818                 Yes
                      square                0.97                  0.818                 Yes
                      cube root             0.9662                0.818                 Yes
                      cube                  0.9713                0.818                 Yes
                      natural log           0.9652                0.818                 Yes
                      x^4                   0.9718                0.818                 Yes
                      x^5                   0.9716                0.818                 Yes
                      x^6                   0.9708                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.921                 0.887                 Yes
                      square root           0.9129                0.887                 Yes
                      square                0.9252                0.887                 Yes
                      cube root             0.9091                0.887                 Yes
                      cube                  0.9193                0.887                 Yes
                      natural log           0.8998                0.887                 Yes
                      x^4                   0.9085                0.887                 Yes
                      x^5                   0.8963                0.887                 Yes
                      x^6                   0.8842                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Thallium   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	-1	0.818	No
	square root	0	0.818	No
	square	-1	0.818	No
	cube root	-1	0.818	No
	cube	-1	0.818	No
	natural log	-1	0.818	No
	x^4	-1	0.818	No
	x^5	-1	0.818	No
	x^6	-1	0.818	No
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	-1	0.818	No
	square root	0	0.818	No
	square	-1	0.818	No
	cube root	-1	0.818	No
	cube	-1	0.818	No
	natural log	-1	0.818	No
	x^4	-1	0.818	No
	x^5	-1	0.818	No
	x^6	-1	0.818	No
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	-1	0.887	No
	square root	0	0.887	No
	square	-1	0.887	No
	cube root	-1	0.887	No
	cube	-1	0.887	No
	natural log	0	0.887	No
	x^4	-1	0.887	No
	x^5	-1	0.887	No
	x^6	-1	0.887	No

Shapiro-Wilk Normality Test

Constituent: Total Dissolved Solids   Analysis Run 3/7/2022 10:28 AM
Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-01 (bg) (n = 8, alpha = 0.05)				
	no	0.8308	0.818	Yes
	square root	0.7815	0.818	No
	square	0.9131	0.818	Yes
	cube root	0.7645	0.818	No
	cube	0.9622	0.818	Yes
	natural log	0.7304	0.818	No
	x^4	0.9784	0.818	Yes
	x^5	0.9709	0.818	Yes
	x^6	0.9498	0.818	Yes
MW-02 (bg) (n = 8, alpha = 0.05)				
	no	0.84	0.818	Yes
	square root	0.8281	0.818	Yes
	square	0.8601	0.818	Yes
	cube root	0.8239	0.818	Yes
	cube	0.875	0.818	Yes
	natural log	0.8152	0.818	No
	x^4	0.8843	0.818	Yes
	x^5	0.888	0.818	Yes
	x^6	0.8866	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.818	0.887	No
	square root	0.7671	0.887	No
	square	0.8954	0.887	Yes
	cube root	0.7489	0.887	No
	cube	0.9371	0.887	Yes
	natural log	0.7109	0.887	No
	x^4	0.9495	0.887	Yes
	x^5	0.942	0.887	Yes
	x^6	0.9222	0.887	Yes

Shapiro-Wilk Normality Test

Constituent: Turbidity   Analysis Run 3/7/2022 10:28 AM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                Transformation      Calculated          Critical            Normal
MW-01 (bg) (n = 12, alpha = 0.05)
                    no                  0.7269              0.859               No
                    square root         0.8928              0.859               Yes
                    square              0.4881              0.859               No
                    cube root           0.9391              0.859               Yes
                    cube                0.3906              0.859               No
                    natural log         0.9913              0.859               Yes
                    x^4                 0.3532              0.859               No
                    x^5                 0.3381              0.859               No
                    x^6                 0.3318              0.859               No
MW-02 (bg) (n = 12, alpha = 0.05)
                    no                  0.8167              0.859               No
                    square root         0.884               0.859               Yes
                    square              0.6997              0.859               No
                    cube root           0.9051              0.859               Yes
                    cube                0.6175              0.859               No
                    natural log         0.9408              0.859               Yes
                    x^4                 0.5559              0.859               No
                    x^5                 0.5059              0.859               No
                    x^6                 0.4652              0.859               No
Pooled Background (bg) (n = 24, alpha = 0.05)
                    no                  0.7876              0.916               No
                    square root         0.911               0.916               No
                    square              0.563               0.916               No
                    cube root           0.9444              0.916               Yes
                    cube                0.4219              0.916               No
                    natural log         0.9839              0.916               Yes
                    x^4                 0.3406              0.916               No
                    x^5                 0.2933              0.916               No
                    x^6                 0.2647              0.916               No
```

Interwell Prediction Limit Will Co 1N UG Wells MW-01/02 Pooled

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Beryllium (mg/L)	n/a	0.001	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Cadmium (mg/L)	n/a	0.0005	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Chromium (mg/L)	n/a	0.0057	n/a	n/a	3 future	n/a	16	93.75	n/a	0.005781	NP (NDs) 1 of 2
Cobalt (mg/L)	n/a	0.001	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Lead (mg/L)	n/a	0.0005	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Mercury (mg/L)	n/a	0.0002	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Thallium (mg/L)	n/a	0.002	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Turbidity (NTU)	n/a	16.22	n/a	n/a	3 future	n/a	24	0	x^(1/3)	0.000399	Param 1 of 2

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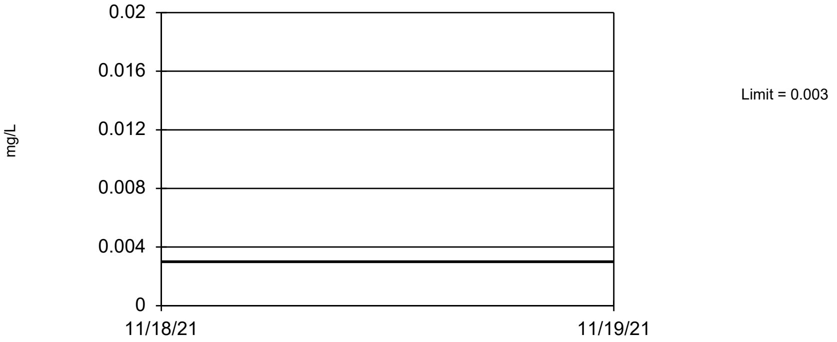
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Antimony Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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Prediction Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Beryllium Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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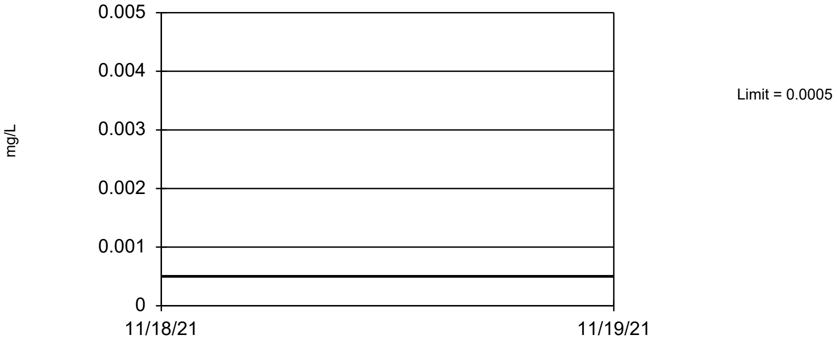
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Cadmium Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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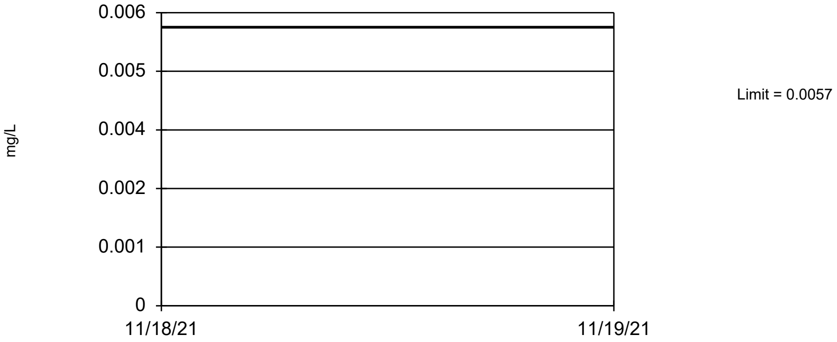
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Chromium Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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Prediction Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Cobalt Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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Prediction Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lead Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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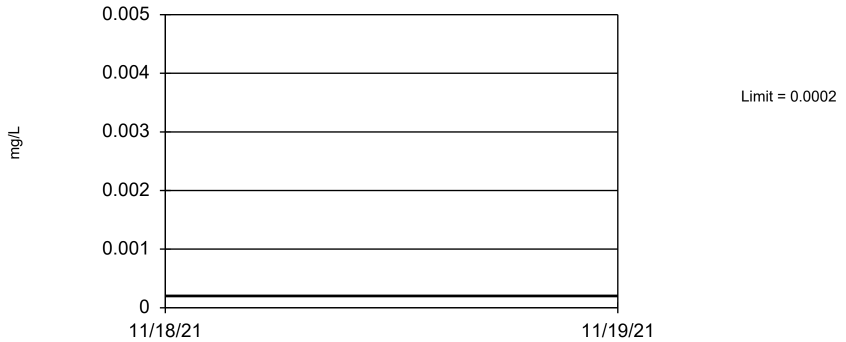
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Mercury Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

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Prediction Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Thallium Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric

Background Data Summary (based on cube root transformation): Mean=1.543, Std. Dev.=0.4105, n=24. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9444, critical = 0.916. Kappa = 2.407 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Turbidity Analysis Run 3/7/2022 1:54 PM

Will County Generating Station Client: NRG Data: Will County

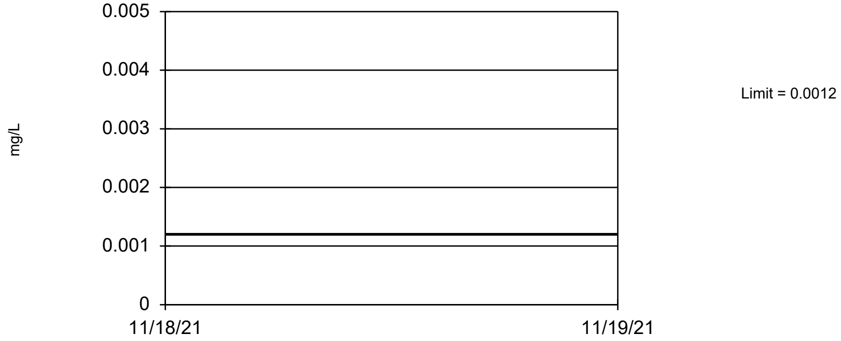
Interwell Prediction Limit Will Co 1N UG Well MW-01

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 1:53 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	n/a	0.0012	n/a	n/a	3 future	n/a	8	75	n/a	0.01648	NP (NDs) 1 of 2
Barium (mg/L)	n/a	0.1091	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Fluoride (mg/L)	n/a	0.7084	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
pH (n/a)	n/a	7.296	6.099	n/a	3 future	n/a	8	0	No	0.000...	Param 1 of 2
Selenium (mg/L)	n/a	0.02366	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Sulfate (mg/L)	n/a	547.6	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2

Prediction Limit

Interwell Non-parametric



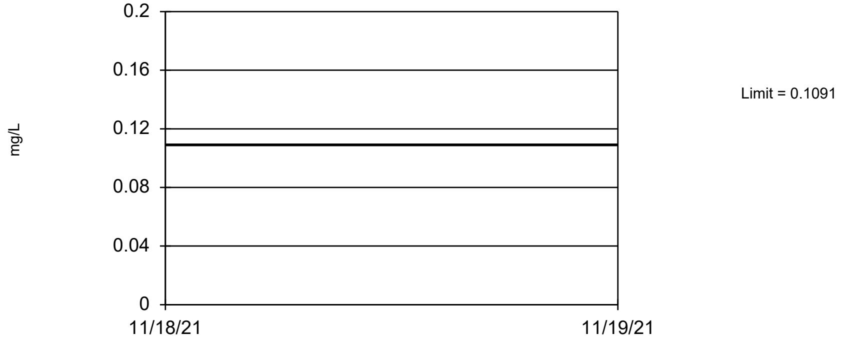
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 75% NDs. Annual per-constituent alpha = 0.1808. Individual comparison alpha = 0.01648 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Arsenic Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



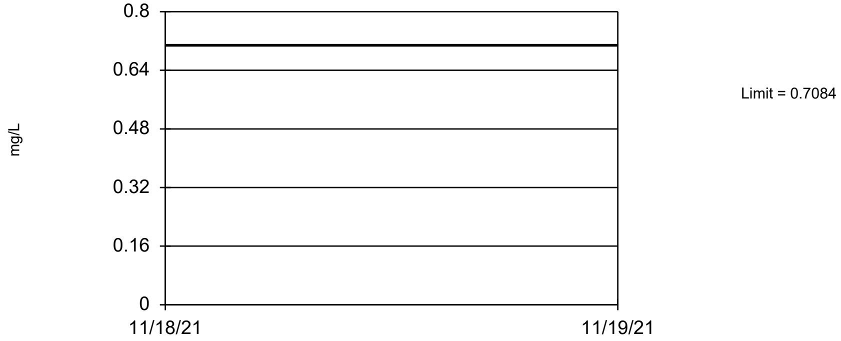
Background Data Summary: Mean=0.09638, Std. Dev.=0.003662, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9005, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Barium Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



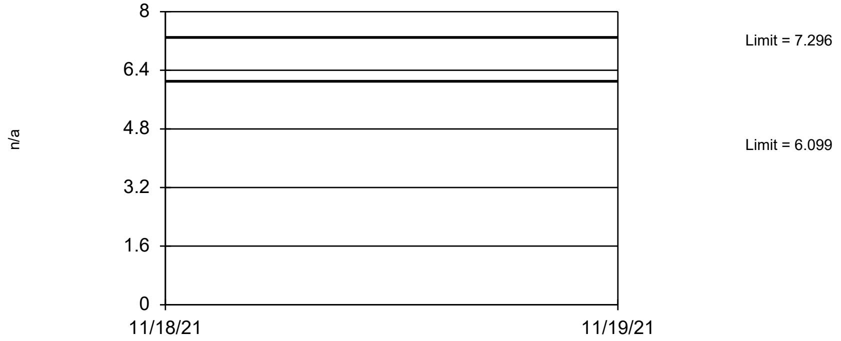
Background Data Summary: Mean=0.6113, Std. Dev.=0.028, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9688, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Fluoride Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



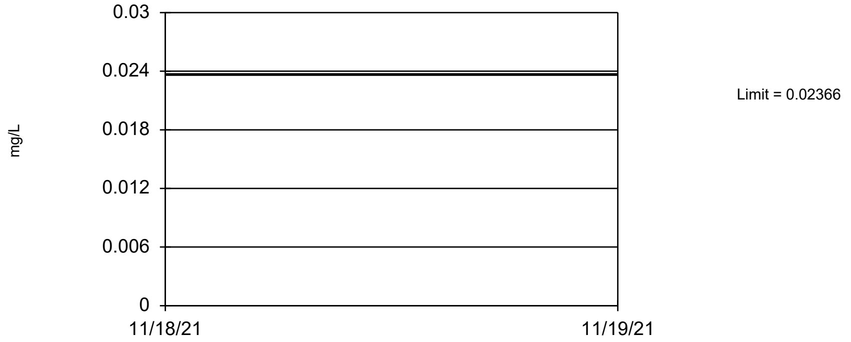
Background Data Summary: Mean=6.698, Std. Dev.=0.1725, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8832, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.0001995. Assumes 3 future values.

Constituent: pH Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



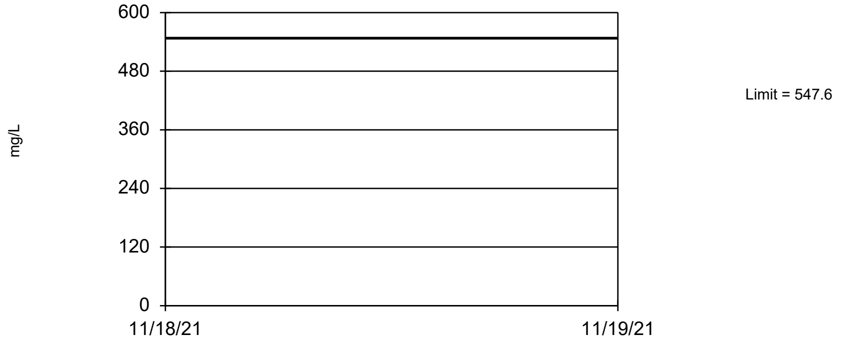
Background Data Summary: Mean=0.009975, Std. Dev.=0.003946, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9557, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Selenium Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=365, Std. Dev.=52.64, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8516, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Sulfate Analysis Run 3/7/2022 1:51 PM

Will County Generating Station Client: NRG Data: Will County

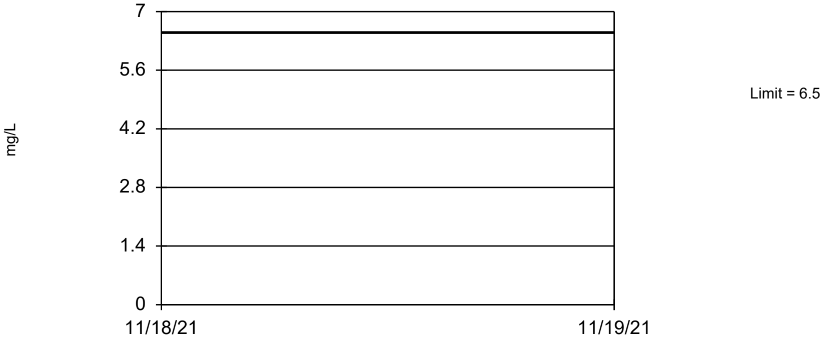
Interwell Prediction Limit Will Co 1N UG Well MW-02

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 1:50 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	n/a	6.5	n/a	n/a	3 future	n/a	8	0	n/a	0.01648	NP (normality) 1 of 2
Calcium (mg/L)	n/a	109.5	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Chloride (mg/L)	n/a	32.56	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Combined Radium 226 + 228 (pCi/L)	n/a	2.036	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Lithium (mg/L)	n/a	0.05649	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Molybdenum (mg/L)	n/a	0.08693	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Total Dissolved Solids (mg/L)	n/a	1499	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2

Prediction Limit

Interwell Non-parametric



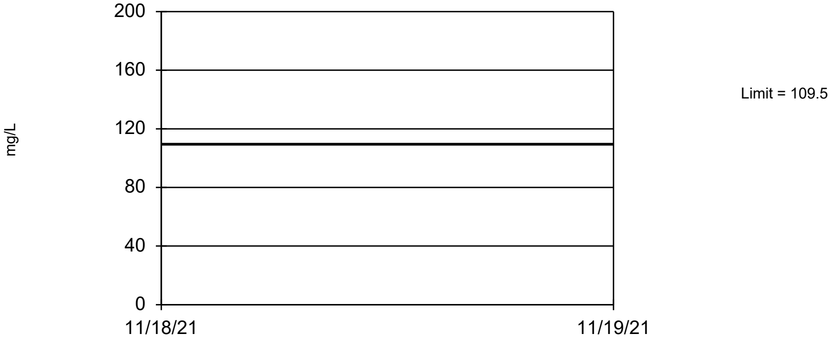
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 8 background values. Annual per-constituent alpha = 0.1808. Individual comparison alpha = 0.01648 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Boron Analysis Run 3/7/2022 1:49 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=92.13, Std. Dev.=4.998, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9452, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Calcium Analysis Run 3/7/2022 1:49 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric

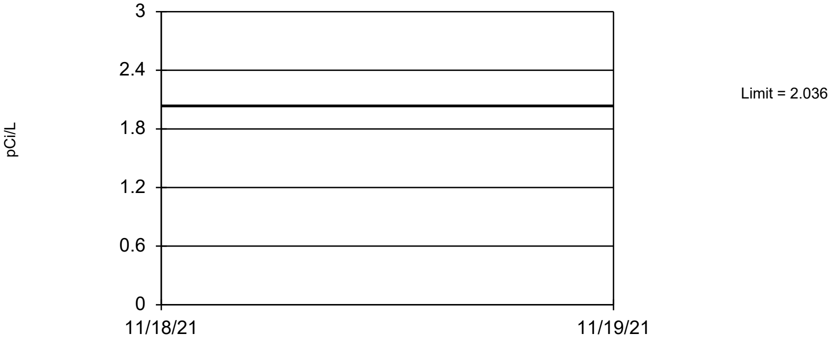
Background Data Summary: Mean=24.75, Std. Dev.=2.252, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9828, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Chloride Analysis Run 3/7/2022 1:49 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

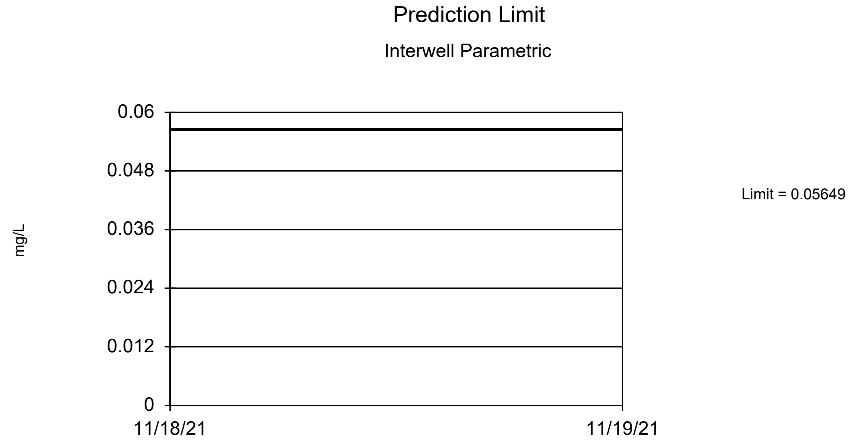
Interwell Parametric



Background Data Summary: Mean=1.014, Std. Dev.=0.2944, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9774, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 1:49 PM

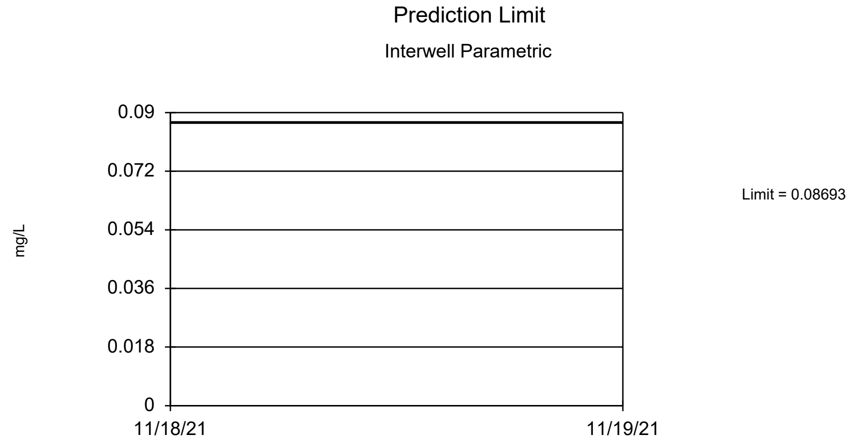
Will County Generating Station Client: NRG Data: Will County



Background Data Summary: Mean=0.0465, Std. Dev.=0.002878, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9456, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Lithium Analysis Run 3/7/2022 1:49 PM

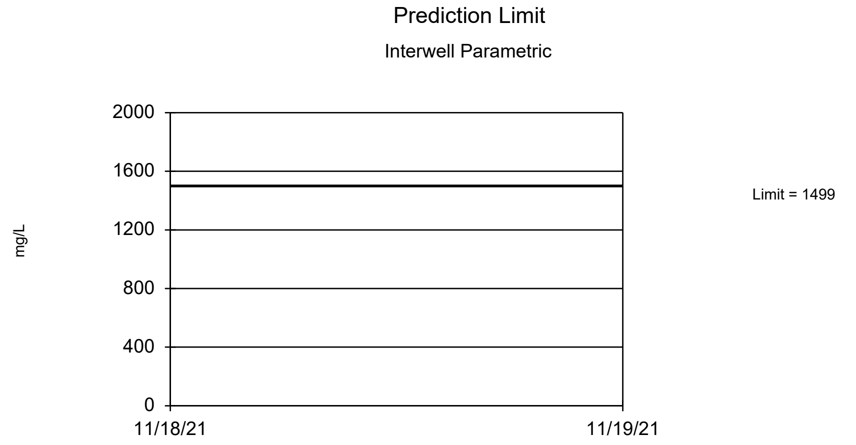
Will County Generating Station Client: NRG Data: Will County



Background Data Summary: Mean=0.07313, Std. Dev.=0.00398, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9389, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Molybdenum Analysis Run 3/7/2022 1:49 PM

Will County Generating Station Client: NRG Data: Will County



Background Data Summary: Mean=1075, Std. Dev.=122.4, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.84, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 1:49 PM

Will County Generating Station Client: NRG Data: Will County

STATISTICAL RUN BACKUP – POND 1S

Outlier Analysis - Will Co 1S - All Wells

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 2:31 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Antimony (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.003	0	unknown	ShapiroWilk
Arsenic (mg/L)	MW-09	No	n/a	n/a	NP (nrm)	NaN	13	0.004938	0.001286	unknown	ShapiroWilk
Arsenic (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.002263	0.001437	ln(x)	ShapiroWilk
Arsenic (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.006025	0.003223	normal	ShapiroWilk
Arsenic (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	0.01051	0.002458	normal	ShapiroWilk
Arsenic (mg/L)	MW-13	No	n/a	n/a	EPA 1989	0.05	8	0.001788	0.001434	ln(x)	ShapiroWilk
Barium (mg/L)	**MW-09**	**Yes**	**0.11**	**11/14/2017**	**Dixon`s**	**0.05**	**13**	**0.04008**	**0.02323**	**normal**	**ShapiroWilk**
Barium (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.1023	0.01026	normal	ShapiroWilk
Barium (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.046	0.001852	normal	ShapiroWilk
Barium (mg/L)	**MW-08**	**Yes**	**0.17**	**7/12/2021**	**Dixon`s**	**0.05**	**8**	**0.08638**	**0.03457**	**normal**	**ShapiroWilk**
Barium (mg/L)	MW-13	No	n/a	n/a	Dixon`s	0.05	8	0.1265	0.0227	normal	ShapiroWilk
Beryllium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Beryllium (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	0	unknown	ShapiroWilk
Boron (mg/L)	MW-09	No	n/a	n/a	Dixon`s	0.05	19	1.842	0.3405	normal	ShapiroWilk
Boron (mg/L)	**MW-03 (bg)**	**Yes**	**6.2**	**8/2/2021**	**Dixon`s**	**0.05**	**8**	**3.85**	**0.9754**	**normal**	**ShapiroWilk**
Boron (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	5.675	0.3808	normal	ShapiroWilk
Boron (mg/L)	**MW-08**	**Yes**	**4.2,7**	**6/7/2021,...**	**Dixon`s**	**0.05**	**8**	**3.625**	**1.445**	**normal**	**ShapiroWilk**
Boron (mg/L)	**MW-13**	**Yes**	**0.68**	**6/28/2021**	**Dixon`s**	**0.05**	**8**	**1.673**	**0.4495**	**normal**	**ShapiroWilk**
Cadmium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.000...	0.0000...	unknown	ShapiroWilk
Cadmium (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Cadmium (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Calcium (mg/L)	**MW-09**	**Yes**	**160**	**11/14/2017**	**Dixon`s**	**0.05**	**19**	**57.16**	**27.02**	**normal**	**ShapiroWilk**
Calcium (mg/L)	MW-03 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	130	15.12	unknown	ShapiroWilk
Calcium (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	317.5	12.82	normal	ShapiroWilk
Calcium (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	172.5	23.75	normal	ShapiroWilk
Calcium (mg/L)	MW-13	No	n/a	n/a	NP (nrm)	NaN	8	157.5	23.15	unknown	ShapiroWilk
Chloride (mg/L)	MW-09	No	n/a	n/a	EPA 1989	0.05	19	245.3	79.54	normal	ShapiroWilk
Chloride (mg/L)	**MW-03 (bg)**	**Yes**	**50**	**8/24/2021**	**Dixon`s**	**0.05**	**8**	**27**	**10.3**	**normal**	**ShapiroWilk**
Chloride (mg/L)	**MW-04 (bg)**	**Yes**	**90**	**8/24/2021**	**Dixon`s**	**0.05**	**8**	**30.75**	**24.19**	**normal**	**ShapiroWilk**
Chloride (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	223.8	72.49	normal	ShapiroWilk
Chloride (mg/L)	**MW-13**	**Yes**	**160**	**6/28/2021**	**Dixon`s**	**0.05**	**8**	**226.3**	**31.14**	**normal**	**ShapiroWilk**
Chromium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005	0	unknown	ShapiroWilk
Chromium (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.005275	0.0007778	unknown	ShapiroWilk
Cobalt (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.001	0	unknown	ShapiroWilk
Cobalt (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.001	2.2e-11	unknown	ShapiroWilk
Cobalt (mg/L)	MW-04 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	0.001788	0.0002295	unknown	ShapiroWilk
Cobalt (mg/L)	MW-08	No	n/a	n/a	NP (nrm)	NaN	8	0.001138	0.0002066	unknown	ShapiroWilk
Cobalt (mg/L)	**MW-13**	**Yes**	**0.0035**	**8/26/2021**	**NP (nrm)**	**NaN**	**8**	**0.00135**	**0.0008751**	**unknown**	**ShapiroWilk**

Outlier Analysis - Will Co 1S - All Wells

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 2:31 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Combined Radium 226 + 228 (pCi/L)	MW-09	No	n/a	n/a	EPA 1989	0.05	13	0.3966	0.2924	normal	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	1.271	0.6124	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-04 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	1.14	0.5922	unknown	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	0.9093	0.3552	ln(x)	ShapiroWilk
Combined Radium 226 + 228 (pCi/L)	MW-13	No	n/a	n/a	EPA 1989	0.05	8	0.8425	0.3858	normal	ShapiroWilk
Fluoride (mg/L)	MW-09	No	n/a	n/a	NP (nrm)	NaN	19	0.4926	0.1109	unknown	ShapiroWilk
Fluoride (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.3238	0.01598	normal	ShapiroWilk
Fluoride (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.3725	0.01581	normal	ShapiroWilk
Fluoride (mg/L)	MW-08	No	n/a	n/a	NP (nrm)	NaN	8	0.535	0.04209	unknown	ShapiroWilk
Fluoride (mg/L)	MW-13	No	n/a	n/a	EPA 1989	0.05	8	0.3288	0.02232	normal	ShapiroWilk
Lead (mg/L)	**MW-09**	**Yes**	**0.0014**	**1/31/2017**	**NP (nrm)**	**NaN**	**13**	**0.0006**	**0.0002497**	**unknown**	**ShapiroWilk**
Lead (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Lead (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0005	0	unknown	ShapiroWilk
Lead (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.000575	0.0002121	unknown	ShapiroWilk
Lead (mg/L)	MW-13	No	n/a	n/a	NP (nrm)	NaN	8	0.001151	0.001467	unknown	ShapiroWilk
Lithium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.006	0.003606	unknown	ShapiroWilk
Lithium (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.04188	0.003182	normal	ShapiroWilk
Lithium (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.0265	0.00233	normal	ShapiroWilk
Lithium (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	0.0185	0.003381	normal	ShapiroWilk
Lithium (mg/L)	MW-13	No	n/a	n/a	NP (nrm)	NaN	8	0.00975	0.005312	unknown	ShapiroWilk
Mercury (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Mercury (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0002	0	unknown	ShapiroWilk
Molybdenum (mg/L)	MW-09	No	n/a	n/a	EPA 1989	0.05	13	0.08585	0.03432	normal	ShapiroWilk
Molybdenum (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.02125	0.003919	normal	ShapiroWilk
Molybdenum (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	0.029	0.004	normal	ShapiroWilk
Molybdenum (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	0.06513	0.01864	normal	ShapiroWilk
Molybdenum (mg/L)	MW-13	No	n/a	n/a	EPA 1989	0.05	8	0.01638	0.004104	normal	ShapiroWilk
pH (n/a)	MW-09	No	n/a	n/a	EPA 1989	0.05	17	8.589	0.4354	normal	ShapiroWilk
pH (n/a)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	6.928	0.2031	normal	ShapiroWilk
pH (n/a)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	6.798	0.1677	normal	ShapiroWilk
pH (n/a)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	6.985	0.2833	normal	ShapiroWilk
pH (n/a)	MW-13	No	n/a	n/a	EPA 1989	0.05	8	7.319	0.2169	normal	ShapiroWilk
Selenium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.002777	0.0009985	unknown	ShapiroWilk
Selenium (mg/L)	MW-03 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	0.003612	0.002166	unknown	ShapiroWilk
Selenium (mg/L)	MW-04 (bg)	No	n/a	n/a	NP (nrm)	NaN	8	0.005912	0.005625	unknown	ShapiroWilk
Selenium (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.0025	0	unknown	ShapiroWilk
Selenium (mg/L)	MW-13	No	n/a	n/a	NP (nrm)	NaN	8	0.005175	0.002754	unknown	ShapiroWilk
Sulfate (mg/L)	MW-09	No	n/a	n/a	EPA 1989	0.05	20	245.5	83.57	ln(x)	ShapiroWilk
Sulfate (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	283.8	26.15	normal	ShapiroWilk
Sulfate (mg/L)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	8	951.3	76.61	normal	ShapiroWilk
Sulfate (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	543.8	63.23	ln(x)	ShapiroWilk
Sulfate (mg/L)	**MW-13**	**Yes**	**120**	**6/28/2021**	**Dixon`s**	**0.05**	**8**	**245**	**56.57**	**normal**	**ShapiroWilk**
Thallium (mg/L)	MW-09	n/a	n/a	n/a	NP (nrm)	NaN	13	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-03 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-04 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-08	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk
Thallium (mg/L)	MW-13	n/a	n/a	n/a	NP (nrm)	NaN	8	0.002	0	unknown	ShapiroWilk

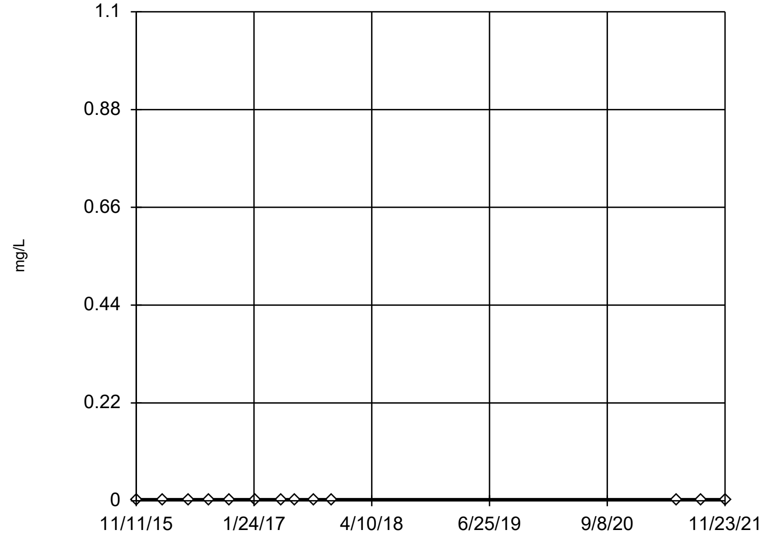
Outlier Analysis - Will Co 1S - All Wells

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 2:31 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Total Dissolved Solids (mg/L)	MW-09	No	n/a	n/a	EPA 1989	0.05	19	781.1	106	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	8	913.8	32.49	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-04 (bg)	No	n/a	n/a	Dixon`s	0.05	8	2000	151.2	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-08	No	n/a	n/a	EPA 1989	0.05	8	1538	272.2	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-13	No	n/a	n/a	NP (nrm)	NaN	8	1103	132	unknown	ShapiroWilk
Turbidity (NTU)	MW-09	No	n/a	n/a	NP (nrm)	NaN	9	4.104	4.244	unknown	ShapiroWilk
Turbidity (NTU)	MW-03 (bg)	No	n/a	n/a	EPA 1989	0.05	12	2.447	1.527	normal	ShapiroWilk
Turbidity (NTU)	MW-04 (bg)	No	n/a	n/a	EPA 1989	0.05	12	10.21	10.82	ln(x)	ShapiroWilk
Turbidity (NTU)	**MW-08**	**Yes**	**271**	**4/10/2021**	**Dixon`s**	**0.05**	**12**	**30.22**	**76.1**	**ln(x)**	**ShapiroWilk**
Turbidity (NTU)	MW-13	No	n/a	n/a	EPA 1989	0.05	9	10.42	5.743	normal	ShapiroWilk

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

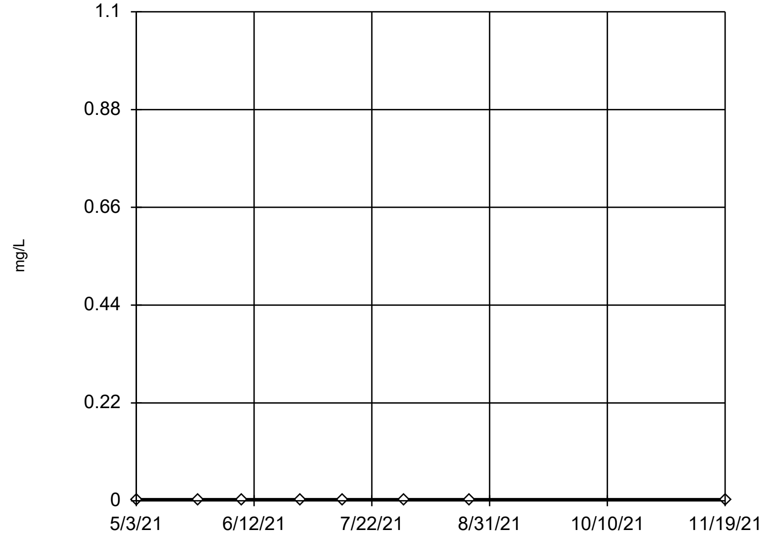
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Antimony Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

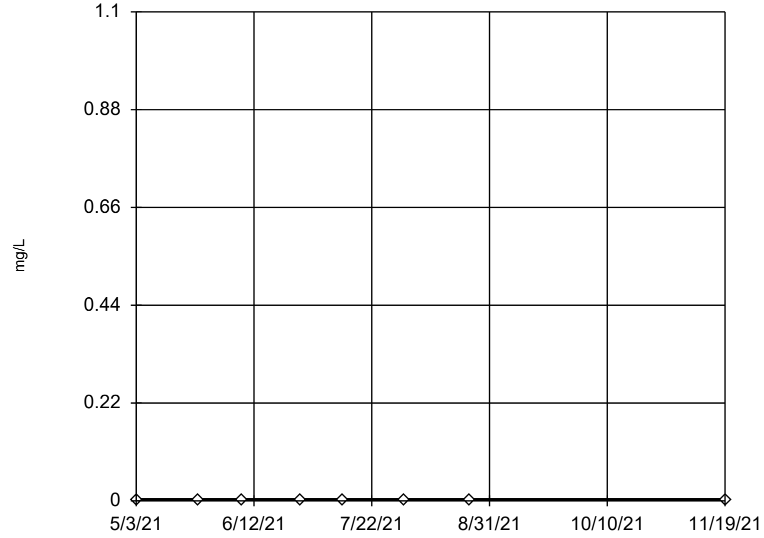
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Antimony Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

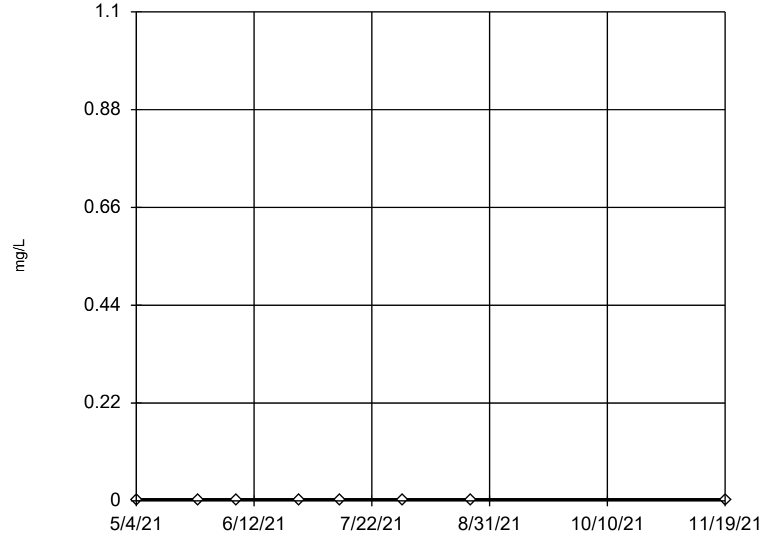
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Antimony Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

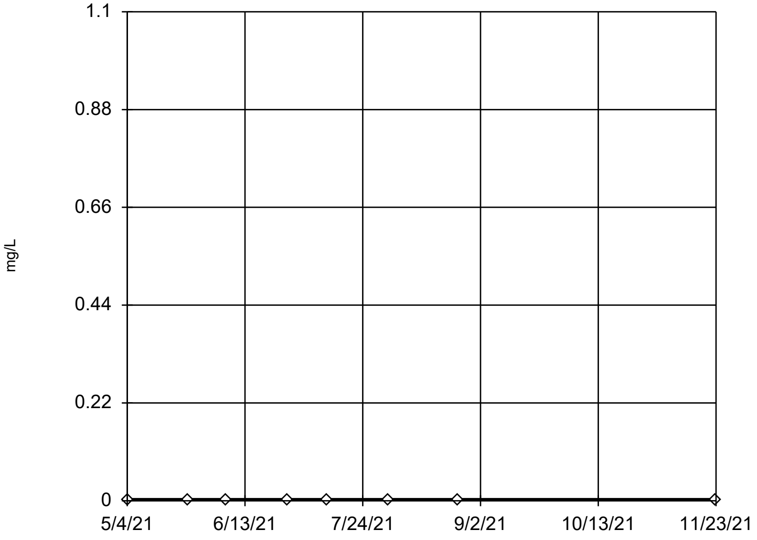
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Antimony Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

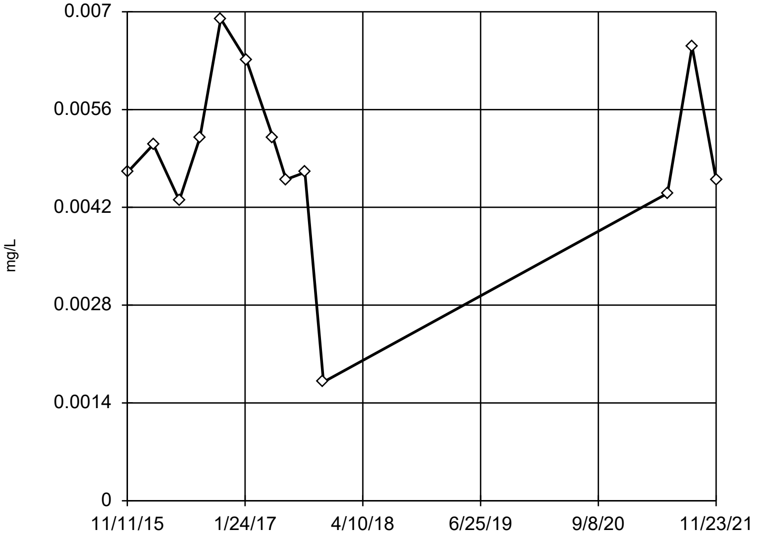
The results were invalid-
ated, because the lower
and upper quartiles are
equal.

Constituent: Antimony Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

Data were square trans-
formed to achieve best
W statistic (graph shown
in original units).

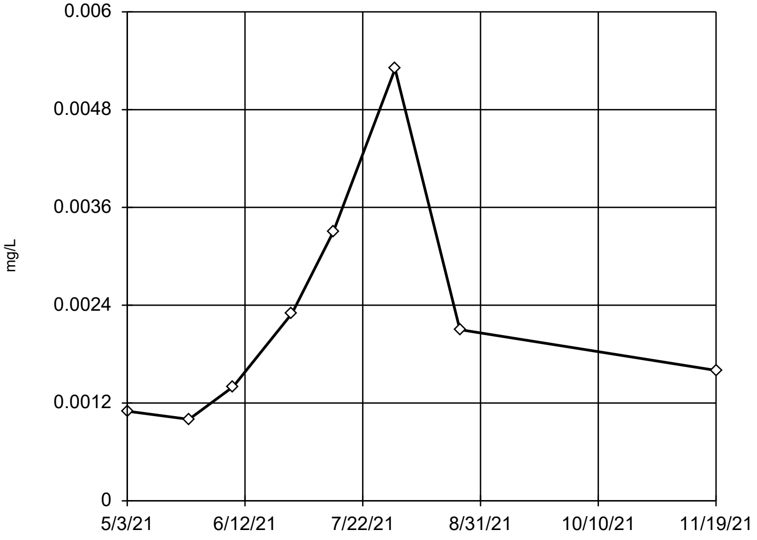
High cutoff = 0.008525,
low cutoff = -0.004365,
based on IQR multiplier
of 3.

Constituent: Arsenic Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.002263, std. dev.
0.001437, critical Tn
2.032

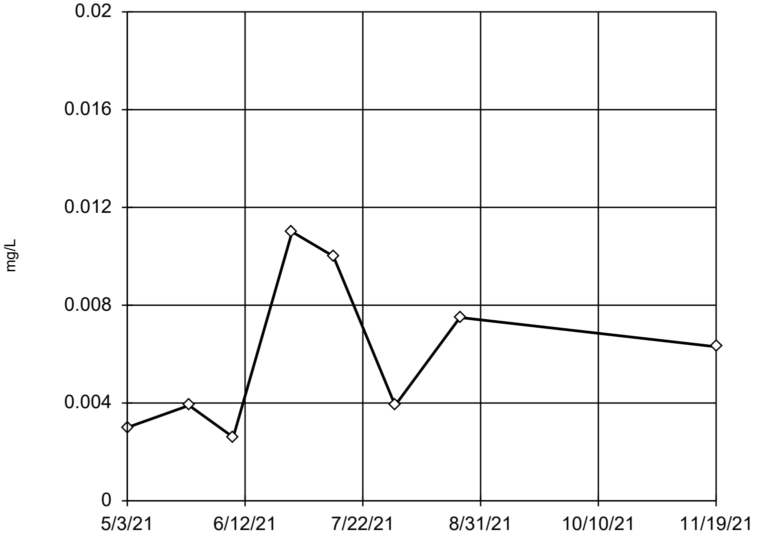
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9533
Critical = 0.851 (after
natural log transforma-
tion)
The distribution was found
to be log-normal.

Constituent: Arsenic Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.006025, std. dev.
0.003223, critical Tn
2.032

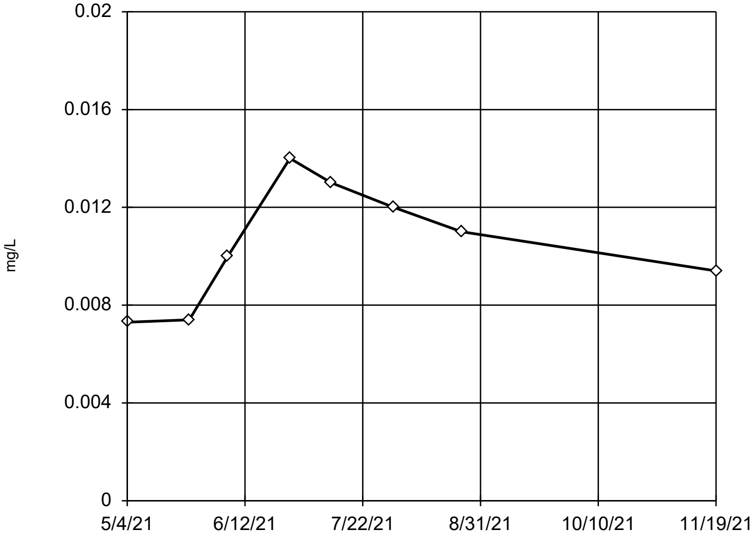
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8935
Critical = 0.851
The distribution was found
to be normally distrib-
uted.

Constituent: Arsenic Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.01051, std. dev. 0.002458, critical Tn 2.032

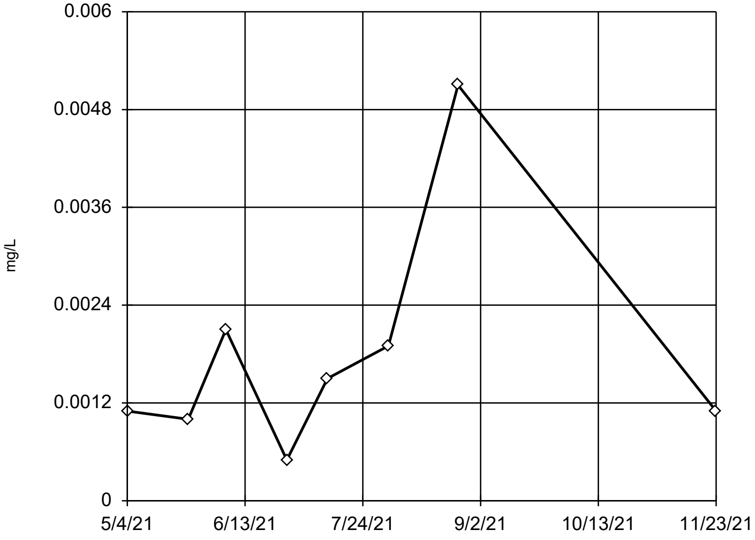
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9488 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Arsenic Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-13



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.001788, std. dev. 0.001434, critical Tn 2.032

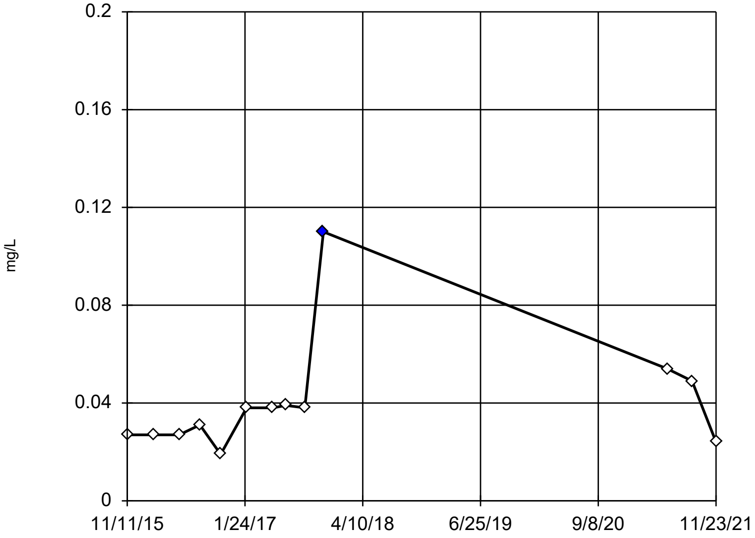
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9551 Critical = 0.851 (after natural log transformation) The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-09



n = 13

Statistical outlier is drawn as solid. Testing for 1 high outlier. Mean = 0.04008. Std. Dev. = 0.02323. 0.11: c = 0.7093 tabl = 0.521. Alpha = 0.05.

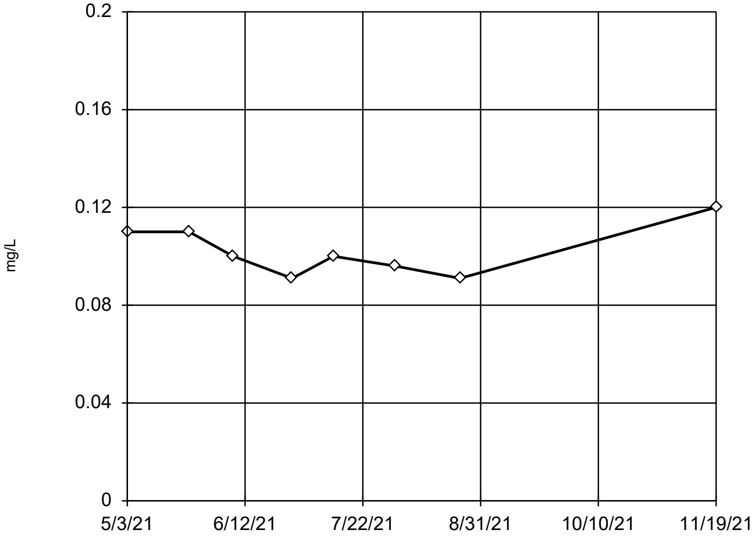
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.939 Critical = 0.883 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.1023, std. dev. 0.01026, critical Tn 2.032

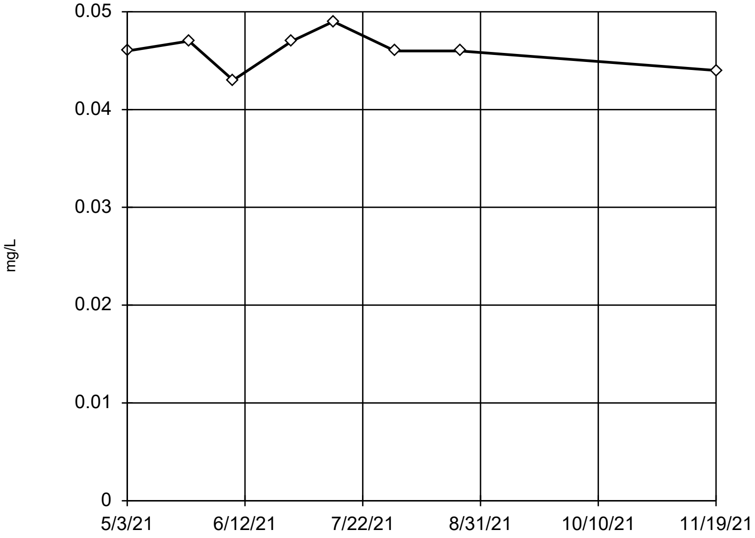
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9168 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.046, std. dev. 0.001852, critical Tn 2.032

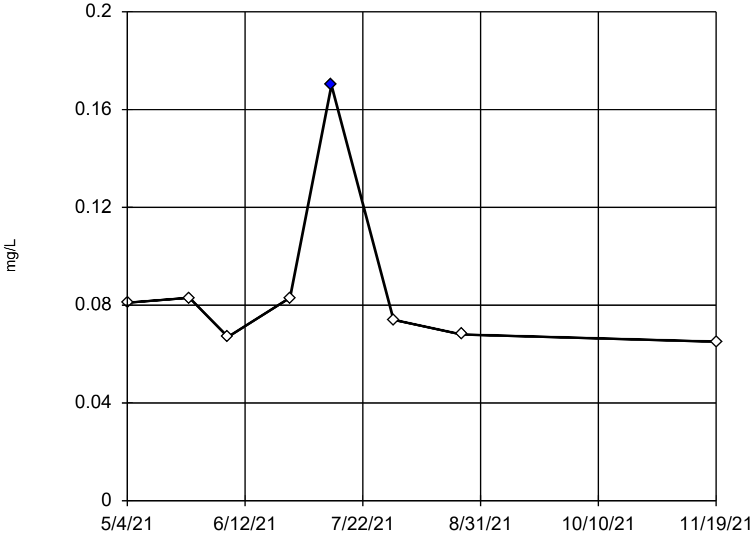
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.942 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-08



n = 8

Statistical outlier is drawn as solid. Testing for 1 high outlier. Mean = 0.08638. Std. Dev. = 0.03457. 0.17: c = 0.8447 tabl = 0.554. Alpha = 0.05.

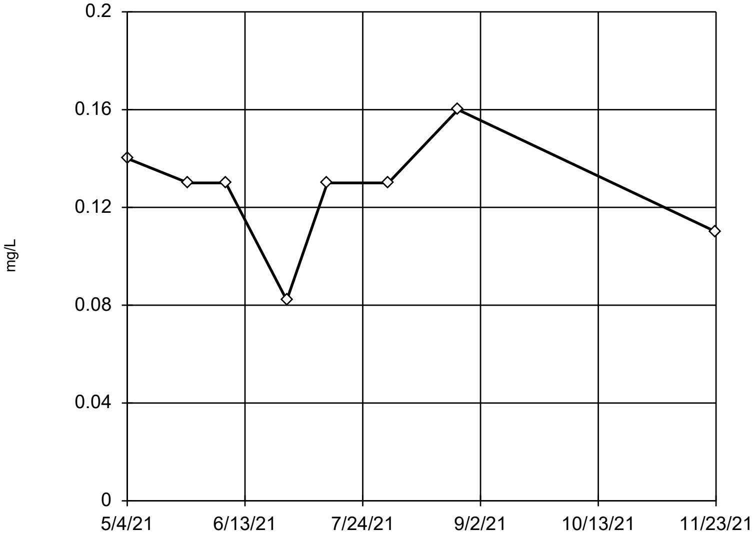
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.8519 Critical = 0.838 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-13



n = 8

No statistical outliers. Testing for 1 low outlier. Mean = 0.1265. Std. Dev. = 0.0227. 0.082: c = 0.4828 tabl = 0.554. Alpha = 0.05.

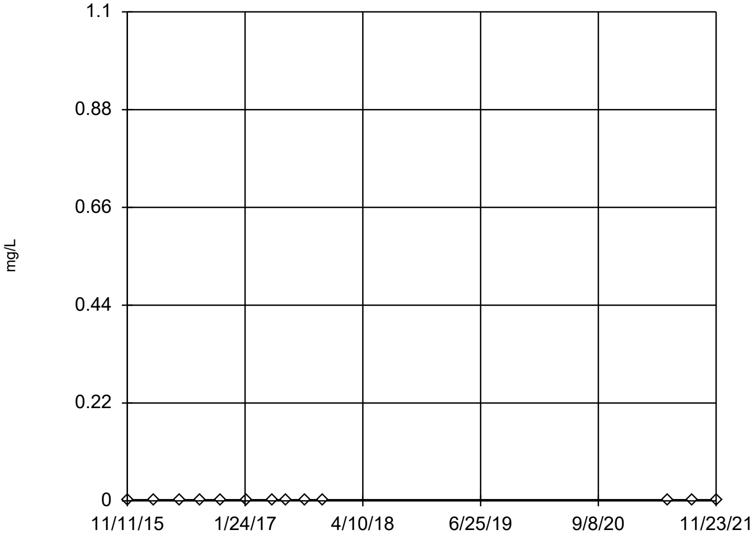
Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.8708 Critical = 0.838 The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 3/7/2022 2:27 PM

Will County Generating Station Client: NRG Data: Will County

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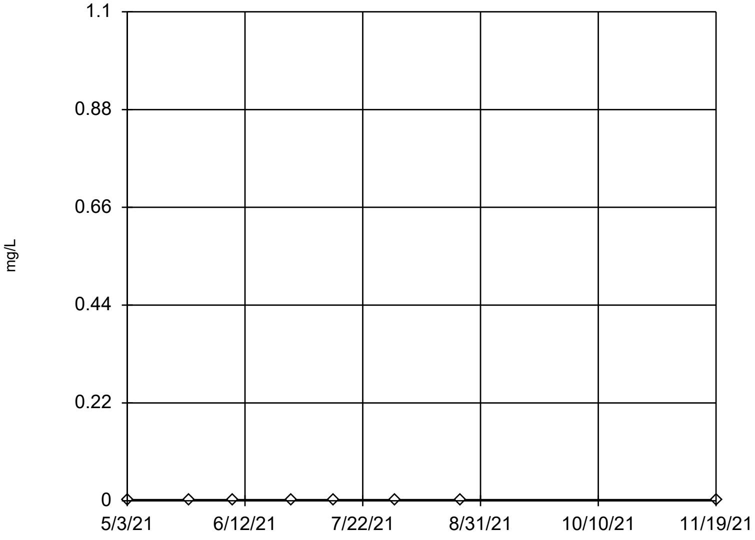
Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

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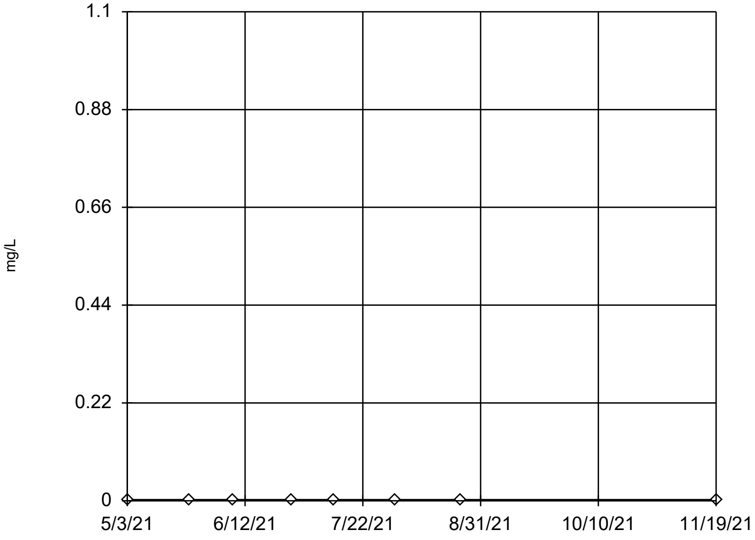
Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

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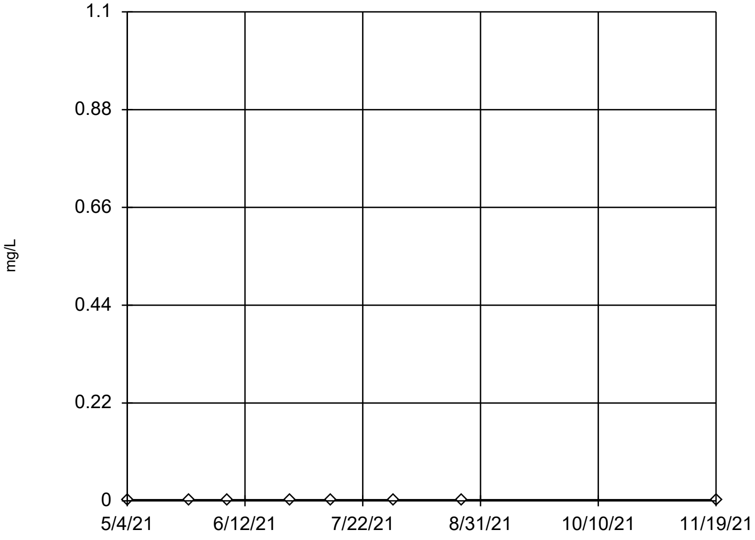
Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

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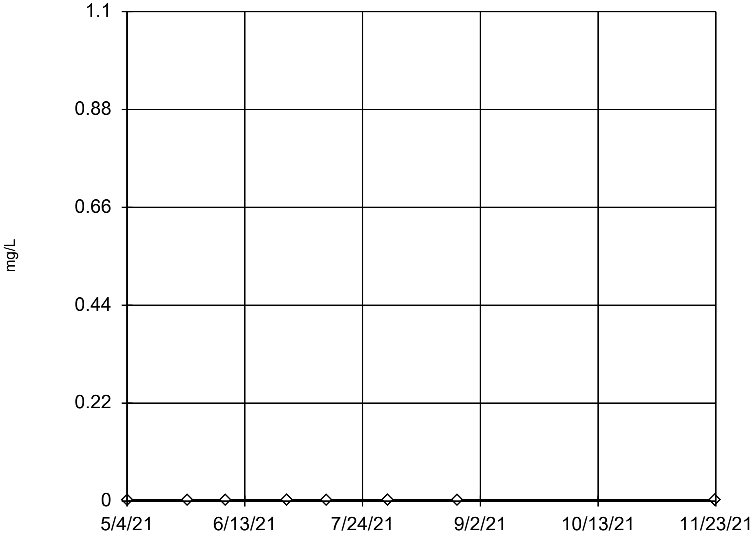
Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

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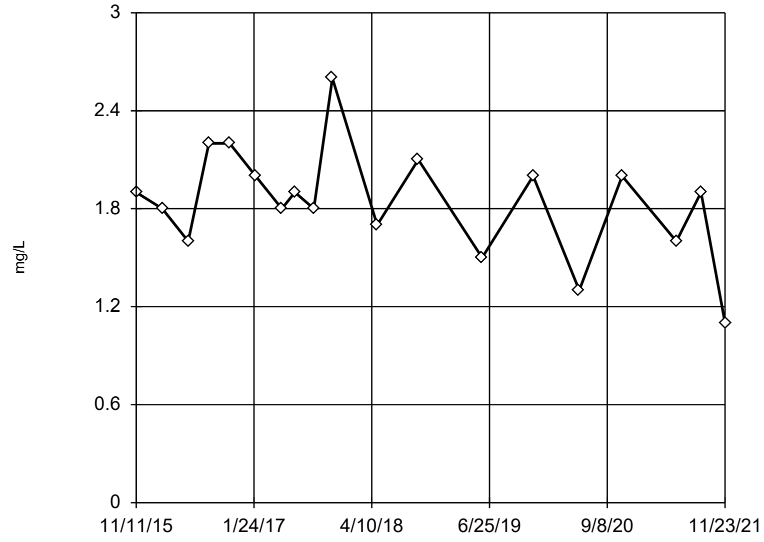
Dixon's Outlier Test

MW-09



n = 19

No statistical outliers.
Testing for 1 low outlier.
Mean = 1.842.
Std. Dev. = 0.3405.
1.1: c = 0.3636
tabl = 0.462.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9739
Critical = 0.914
The distribution was found to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

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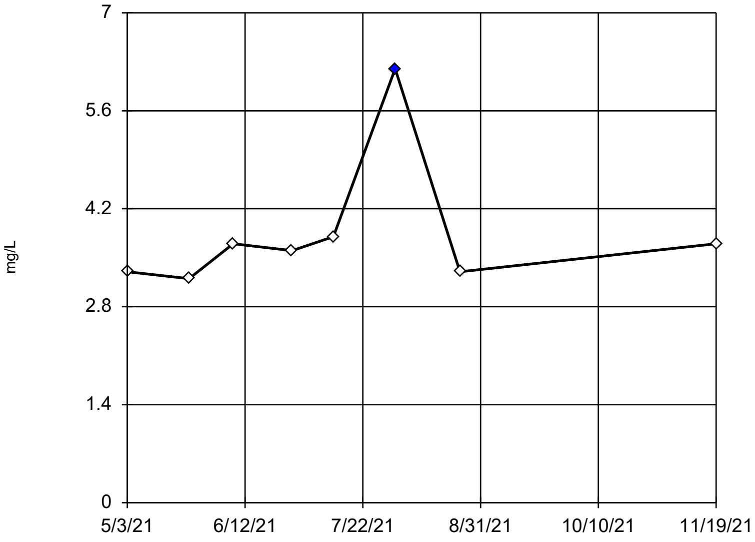
Dixon's Outlier Test

MW-03 (bg)



n = 8

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 3.85.
Std. Dev. = 0.9754.
6.2: c = 0.8276
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8718
Critical = 0.838
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

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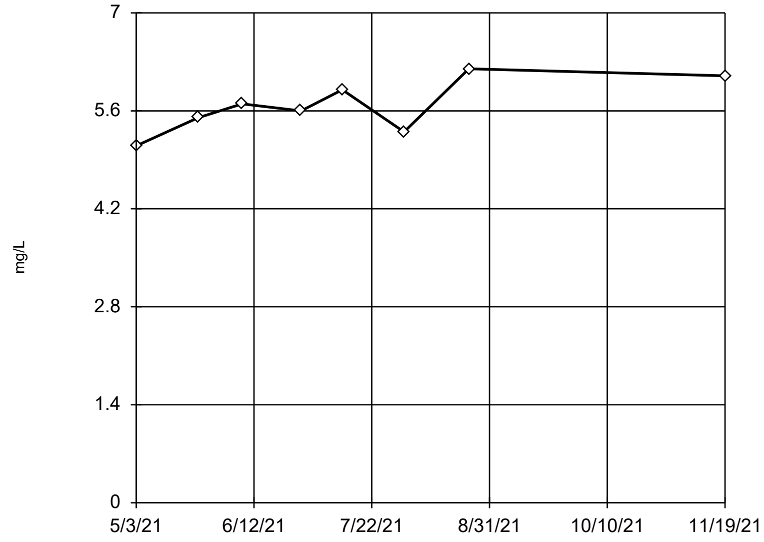
EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 5.675, std. dev. 0.3808, critical Tn 2.032

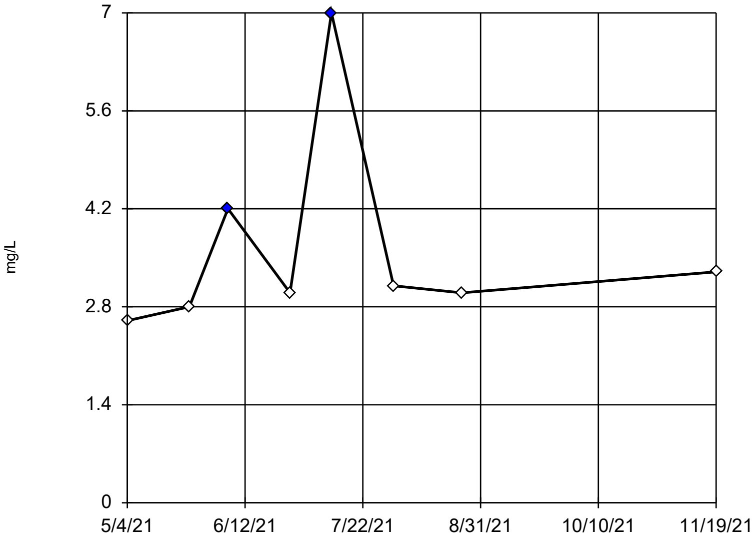
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9738
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Dixon's Outlier Test

MW-08



n = 8

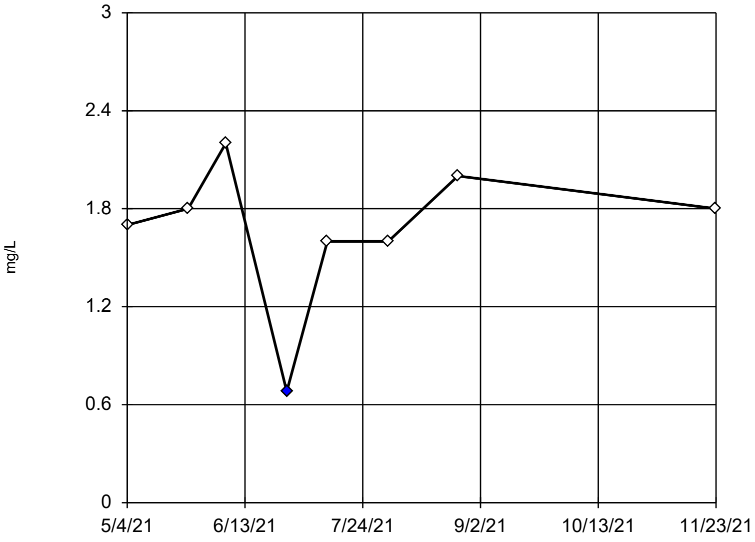
Statistical outliers are drawn as solid.
Testing for 2 high outliers.
Mean = 3.625.
Std. Dev. = 1.445.
4.2: c = 0.6429
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9734
Critical = 0.826
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Boron Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-13



n = 8

Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 1.673.
Std. Dev. = 0.4495.
0.68: c = 0.697
tabl = 0.554.
Alpha = 0.05.

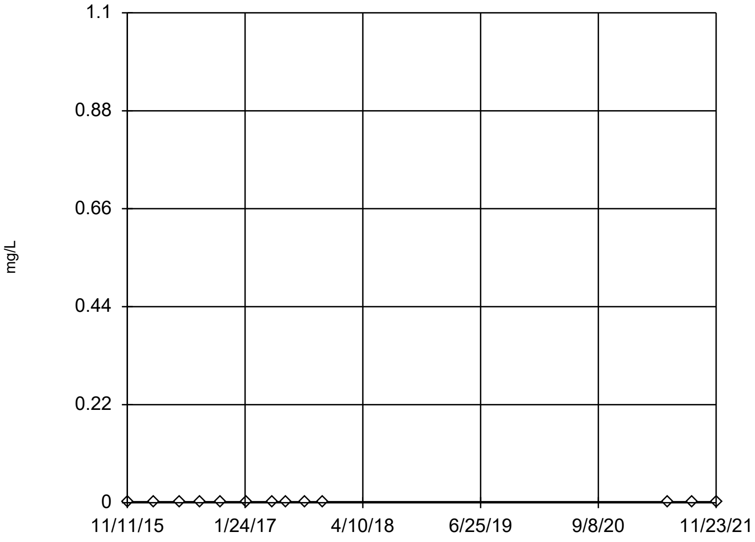
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8986
Critical = 0.838
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Boron   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

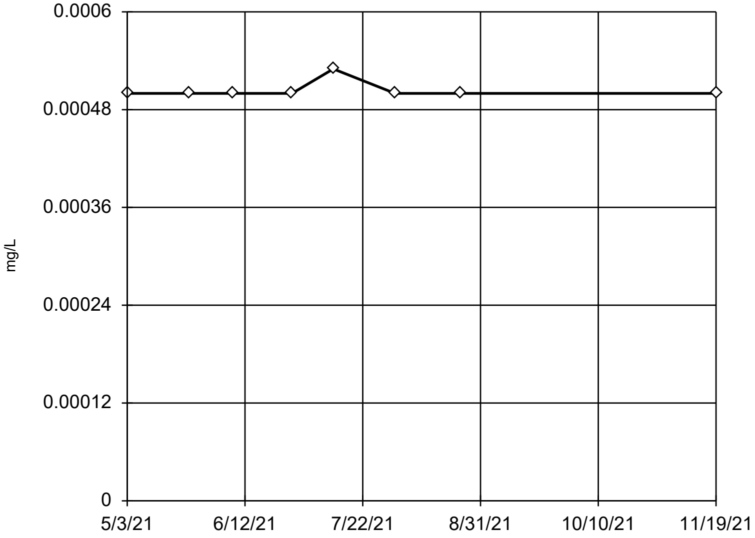
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cadmium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

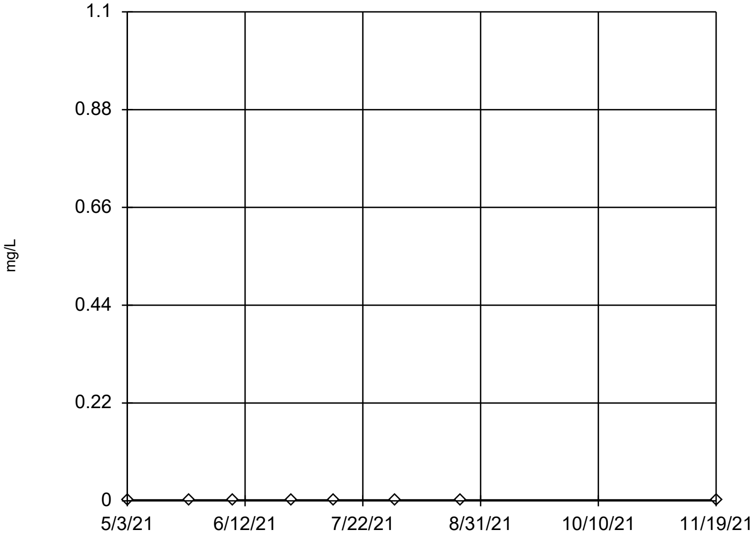
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cadmium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cadmium   Analysis Run 3/7/2022 2:27 PM

Will County Generating Station   Client: NRG   Data: Will County

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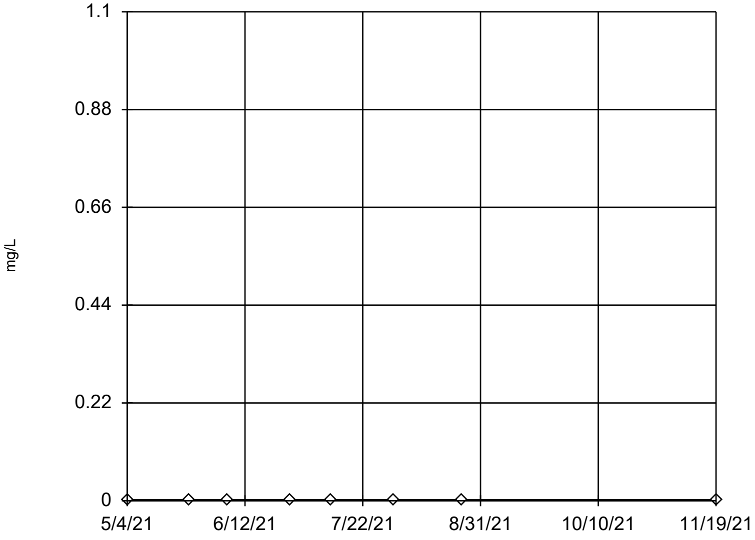
Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

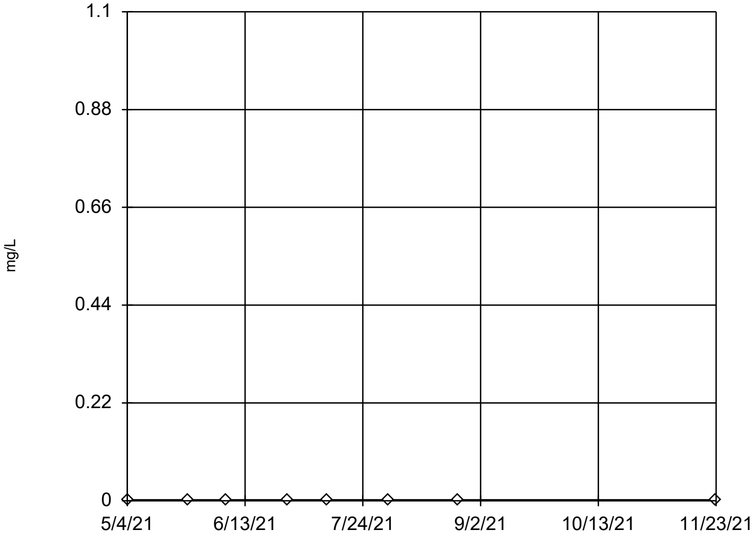
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cadmium Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cadmium Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

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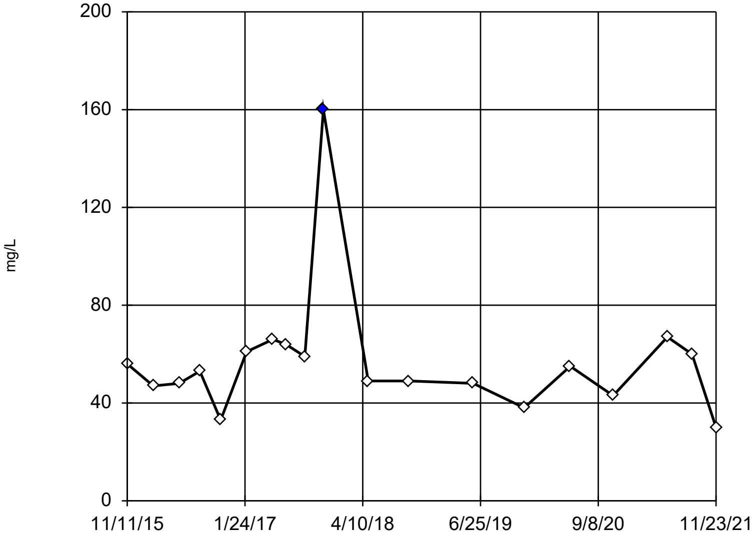
Dixon's Outlier Test

MW-09



n = 19

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 57.16.
Std. Dev. = 27.02.
160: c = 0.7705
tabl = 0.462.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9579
Critical = 0.914
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

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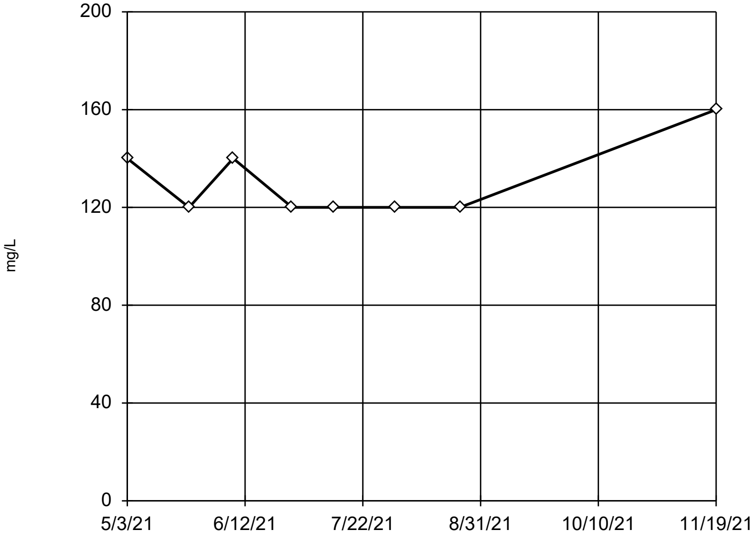
Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 222.3, low cutoff = 75.57, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 3/7/2022 2:27 PM
Will County Generating Station Client: NRG Data: Will County

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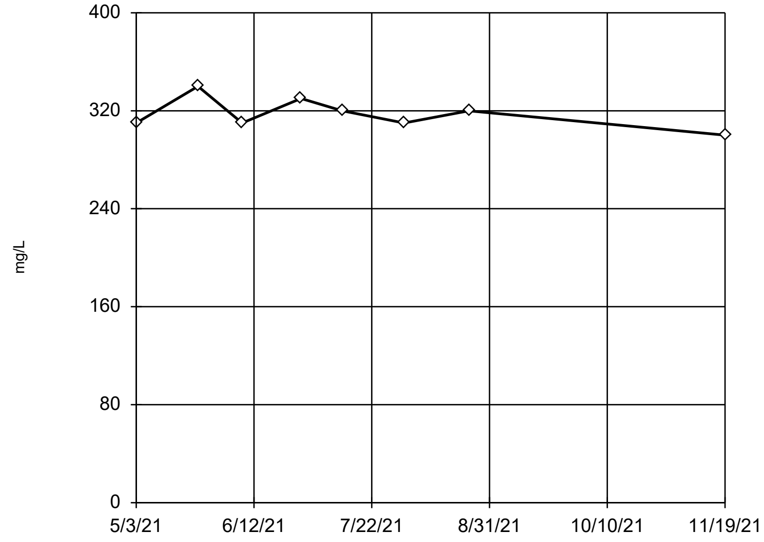
EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 317.5, std. dev.
12.82, critical Tn 2.032

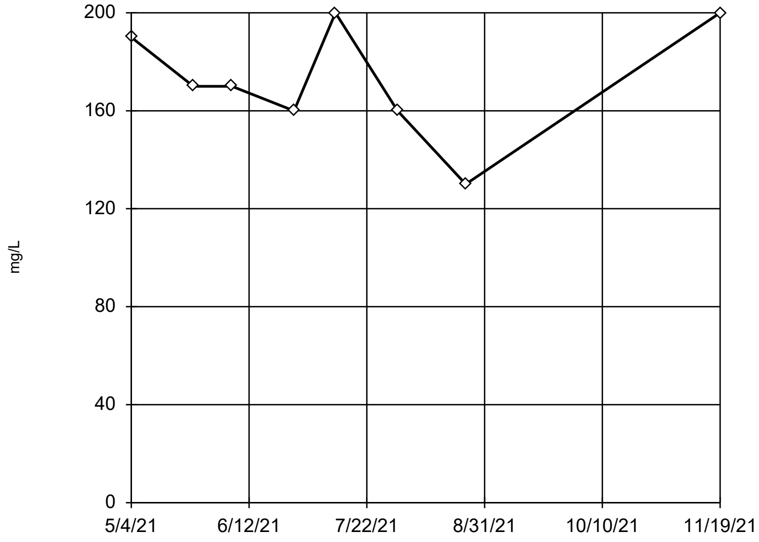
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9378
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 172.5, std. dev.
23.75, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.919
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Calcium Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

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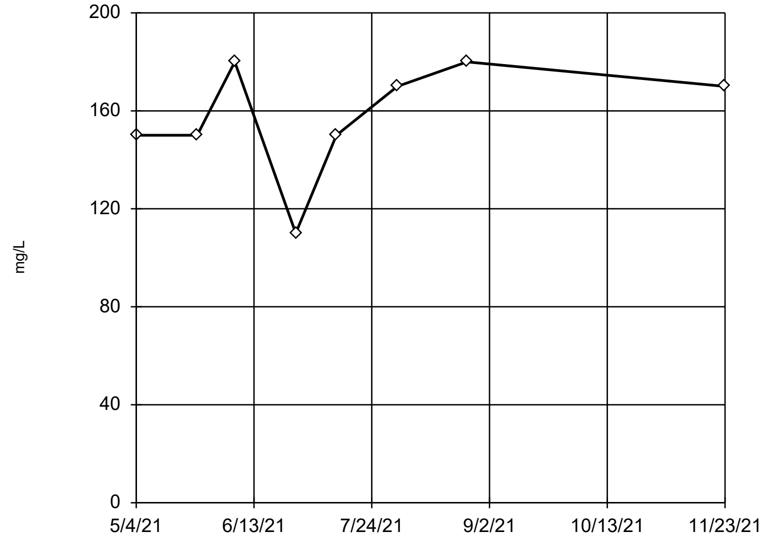
Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

Data were x^4 transformed to achieve best W statistic (graph shown in
original units).

High cutoff = 217.8, low
cutoff = -168.3, based
on IQR multiplier of 3.

Constituent: Calcium Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

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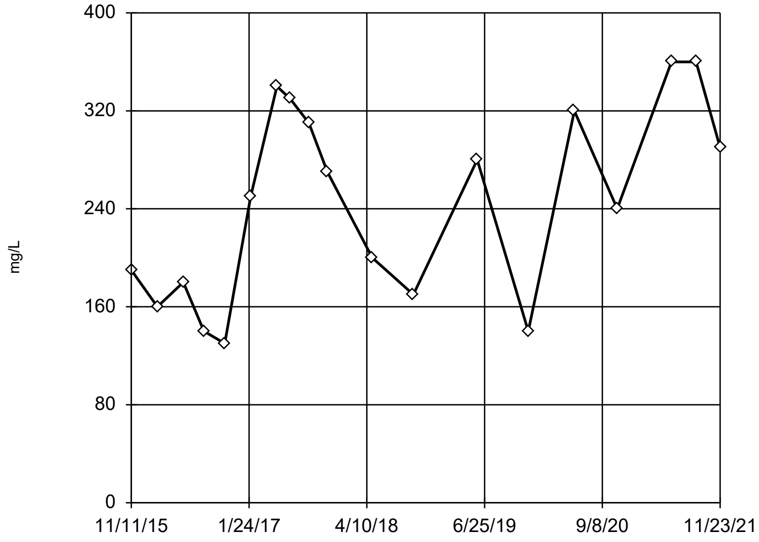
EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 19

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 245.3, std. dev.
79.54, critical Tn 2.532

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9229
Critical = 0.917
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

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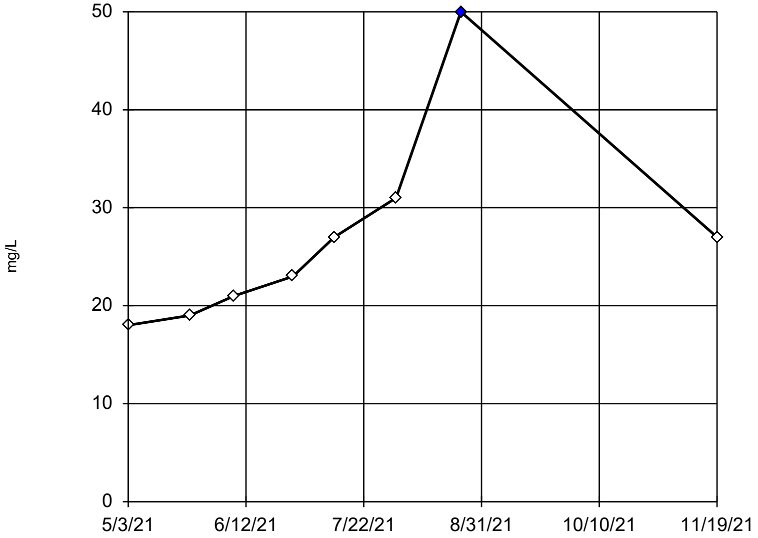

Dixon's Outlier Test

MW-03 (bg)

n = 8

Statistical outlier is
drawn as solid.
Testing for 1 high outlier.
Mean = 27.
Std. Dev. = 10.3.
50 (F1): c = 0.6129
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9404
Critical = 0.838
The distribution, after
removal of suspect value,
was found to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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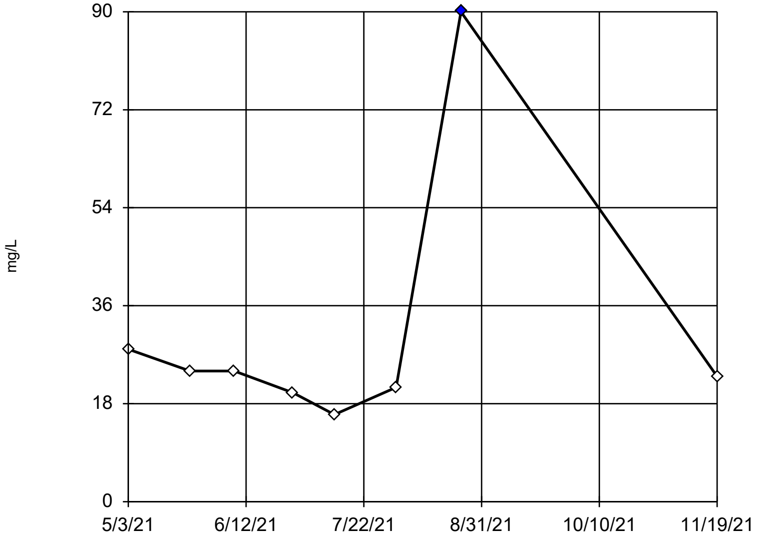

Dixon's Outlier Test

MW-04 (bg)

n = 8

Statistical outlier is
drawn as solid.
Testing for 1 high outlier.
Mean = 30.75.
Std. Dev. = 24.19.
90: c = 0.8857
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.972
Critical = 0.838
The distribution, after
removal of suspect value,
was found to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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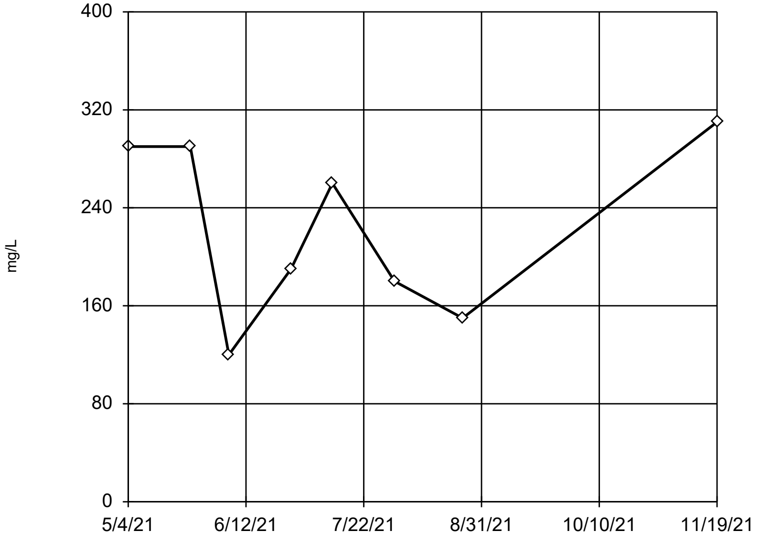


EPA Screening (suspected outliers for Dixon's Test)

MW-08

n = 8

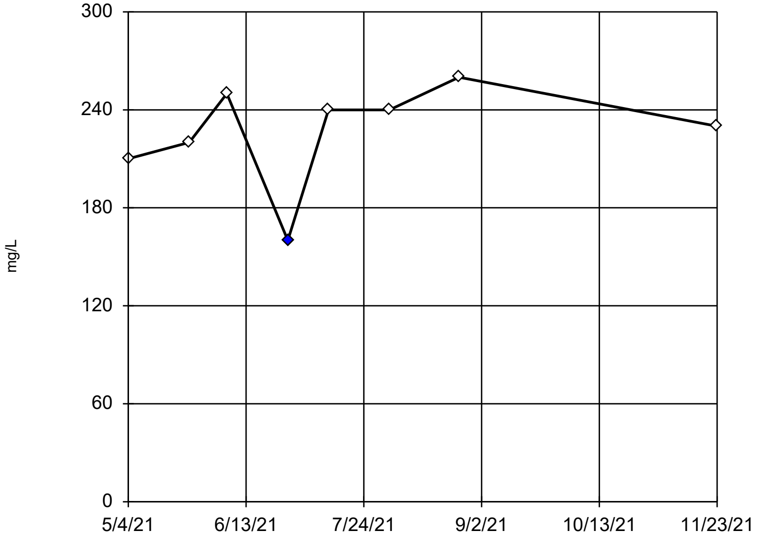
Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 223.8, std. dev.
72.49, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9042
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG



Dixon's Outlier Test

MW-13

n = 8

Statistical outlier is
drawn as solid.
Testing for 1 low outlier.
Mean = 226.3.
Std. Dev. = 31.14.
160: c = 0.5556
tabl = 0.554.
Alpha = 0.05.

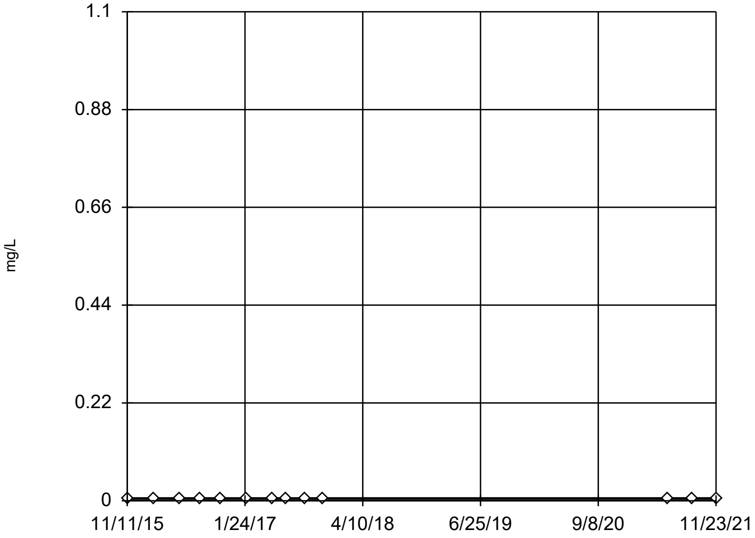
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9797
Critical = 0.838
The distribution, after
removal of suspect value,
was found to be normally distributed.

Constituent: Chloride Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

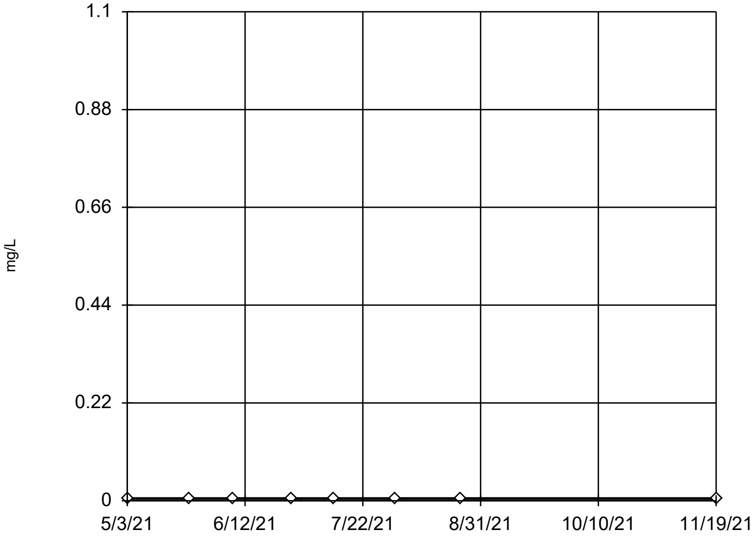
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

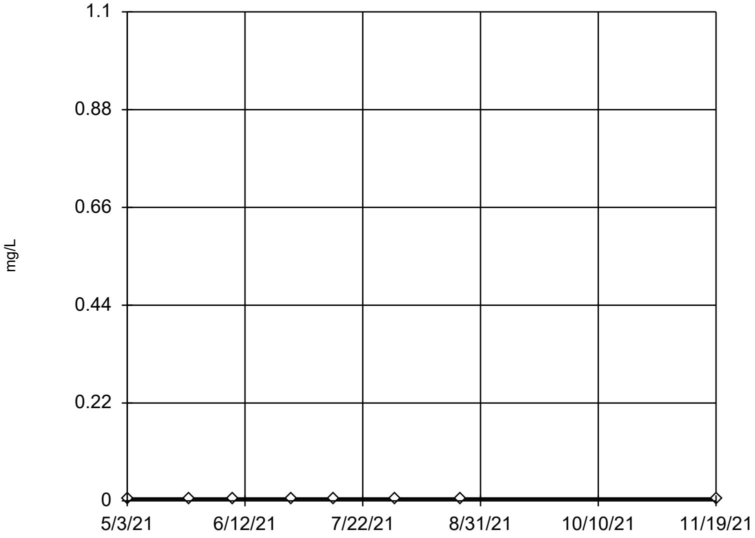
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

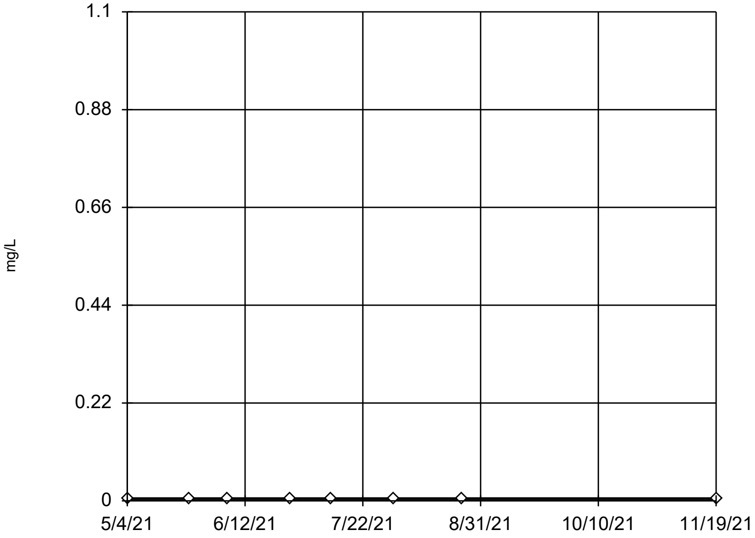
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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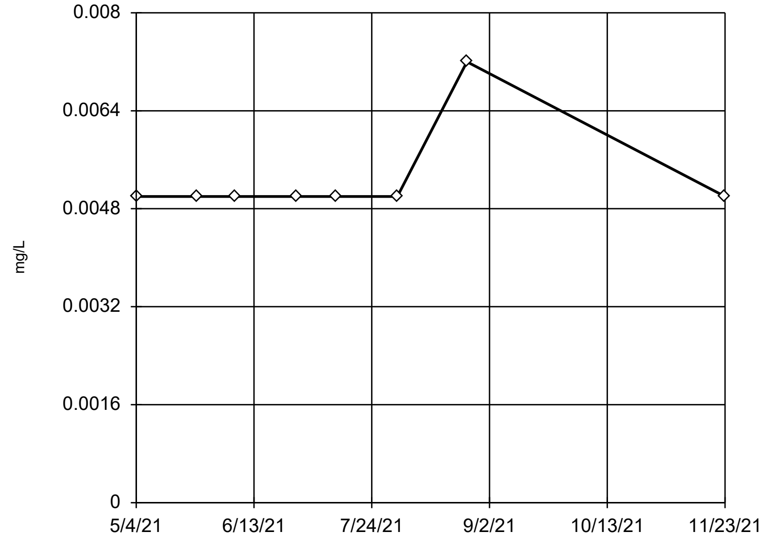
Tukey's Outlier Screening

MW-13



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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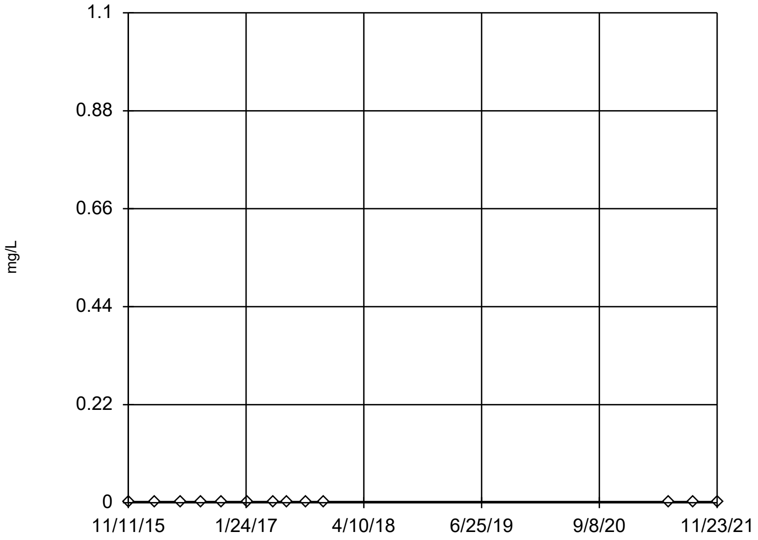
Tukey's Outlier Screening

MW-09



n = 13

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Cobalt Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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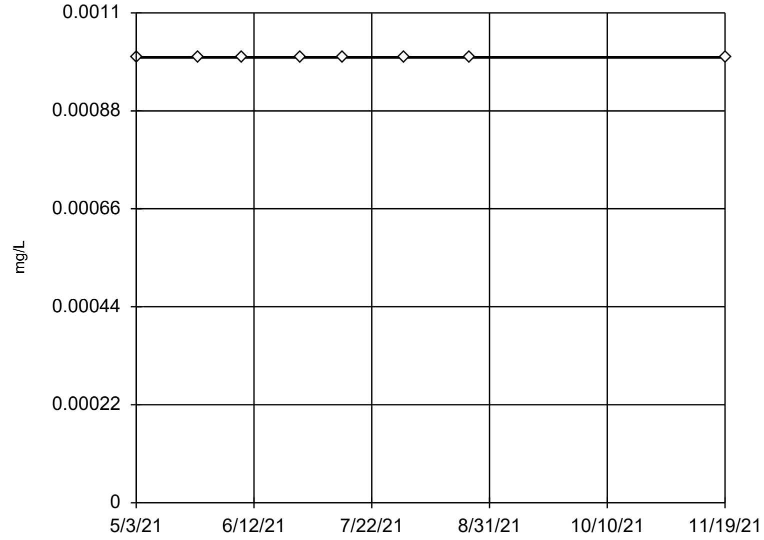
Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

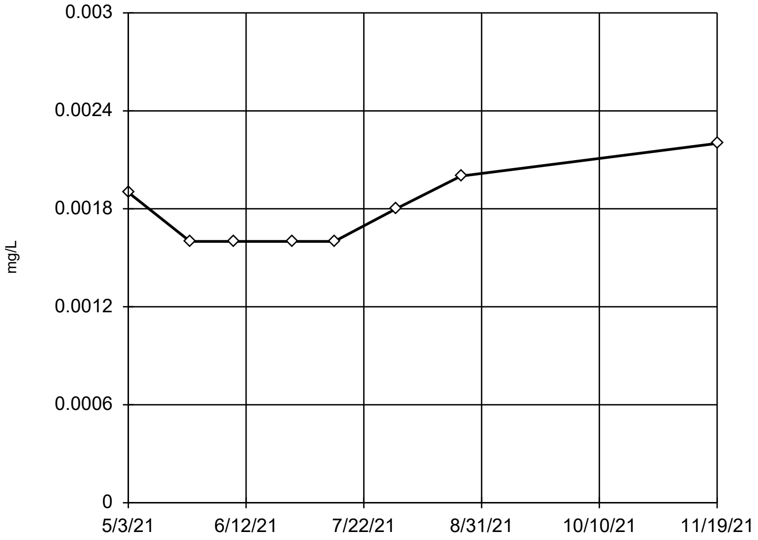
Constituent: Cobalt Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.003296, low cutoff = 0.0008062, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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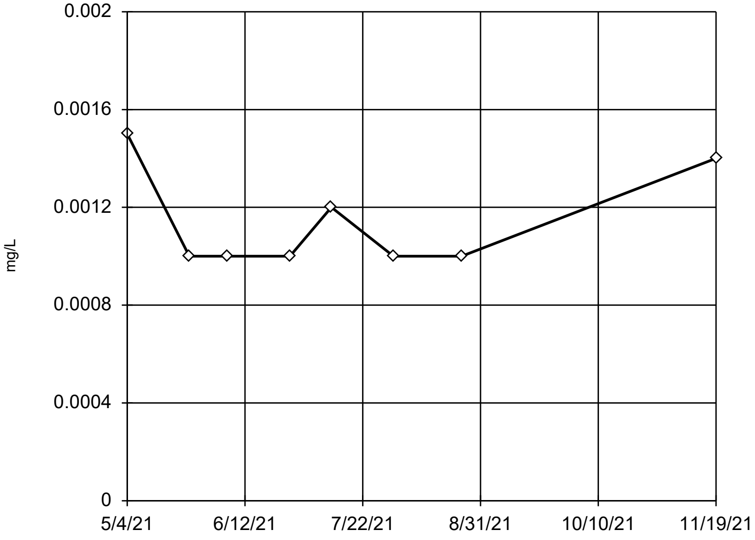
Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.00253, low cutoff = 0.0003858, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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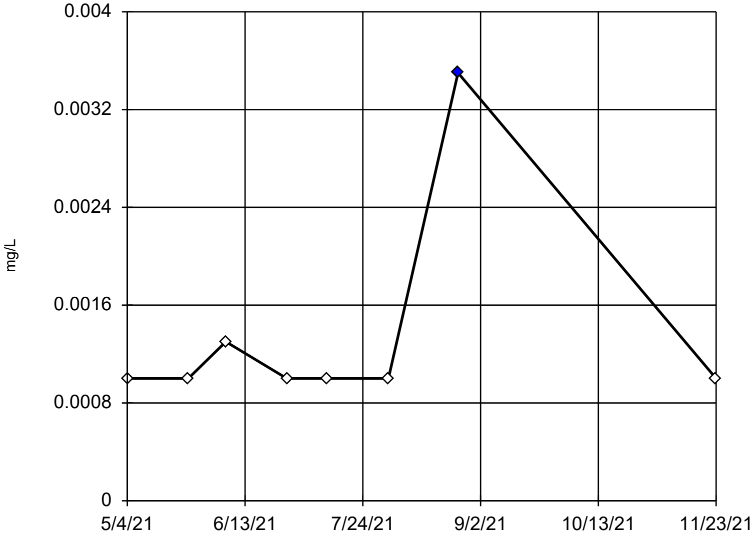
Tukey's Outlier Screening

MW-13



n = 8

Outlier is drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.00169, low cutoff = 0.0006747, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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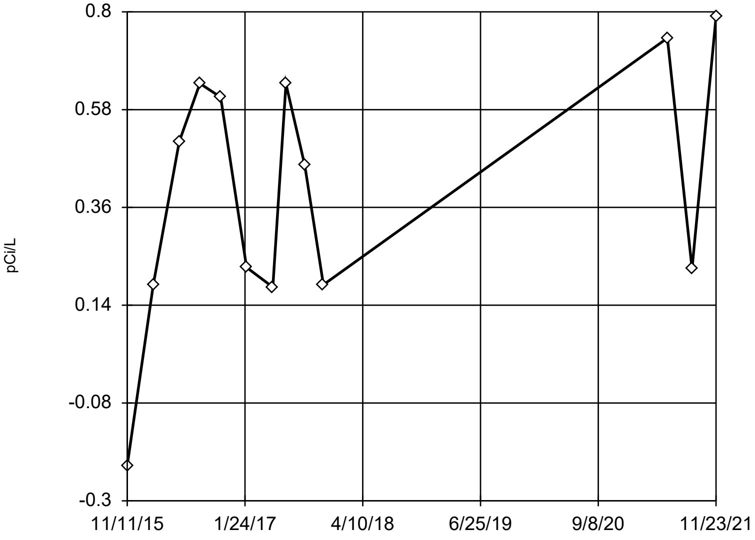
EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 13

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.3966, std. dev. 0.2924, critical Tn 2.331

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9197
Critical = 0.889
The distribution was found to be normally distributed.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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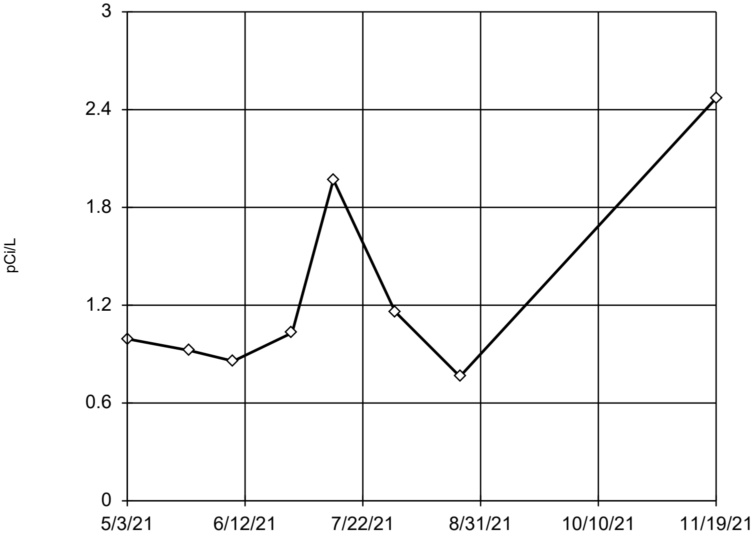
EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 1.271, std. dev. 0.6124, critical Tn 2.032

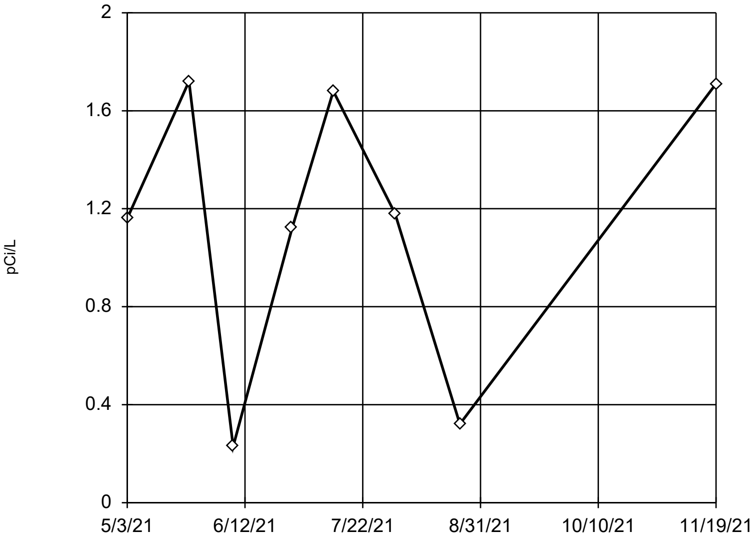
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8541
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

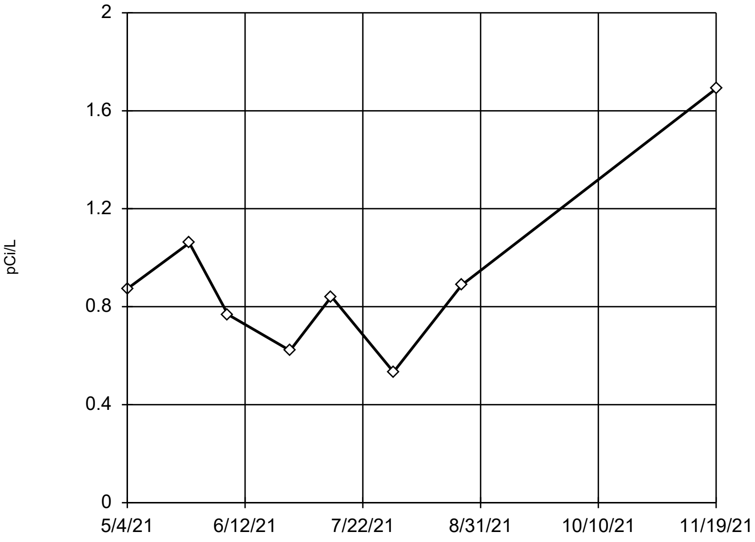
High cutoff = 3.075, low cutoff = -2.43, based on IQR multiplier of 3.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.9093, std. dev. 0.3552, critical Tn 2.032

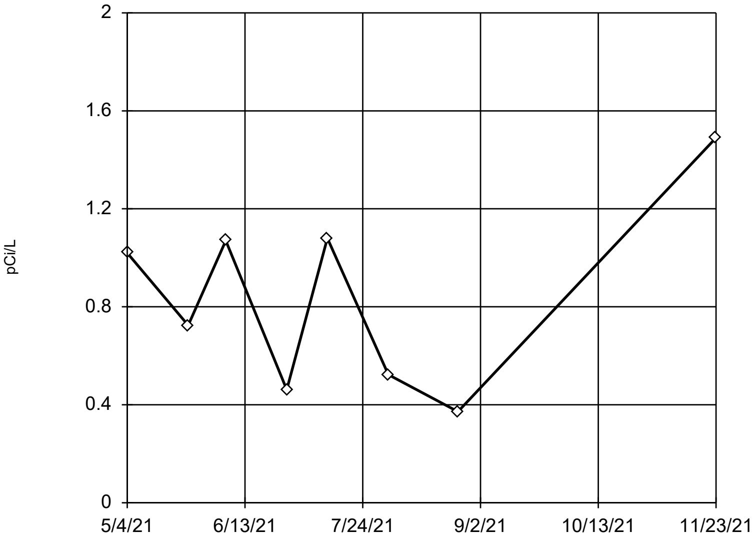
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9428
Critical = 0.851 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-13



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.8425, std. dev. 0.3858, critical Tn 2.032

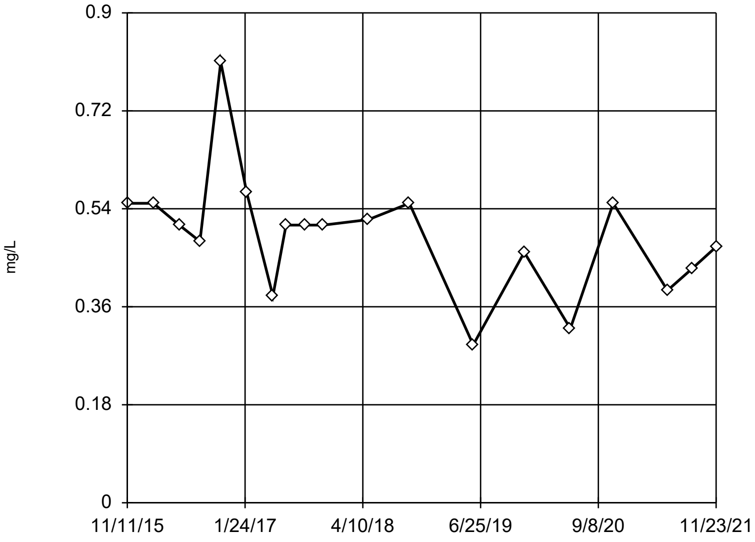
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.93
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 19

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 1.039, low cutoff = 0.1767, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

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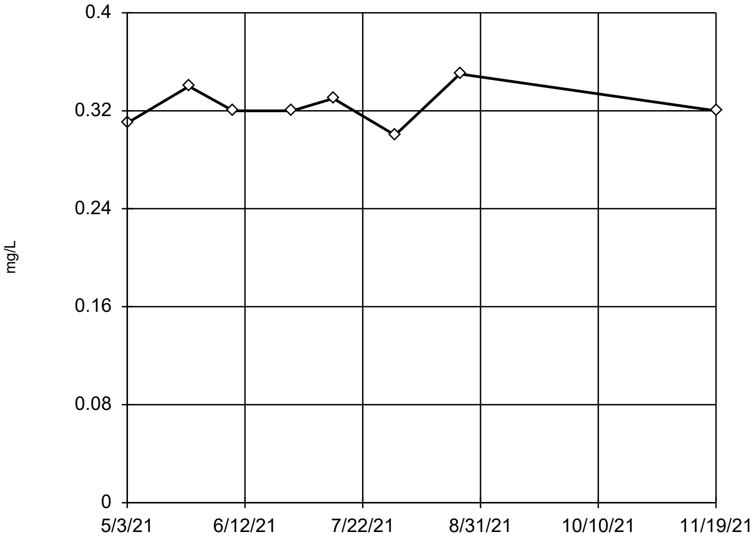
EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.3238, std. dev. 0.01598, critical Tn 2.032

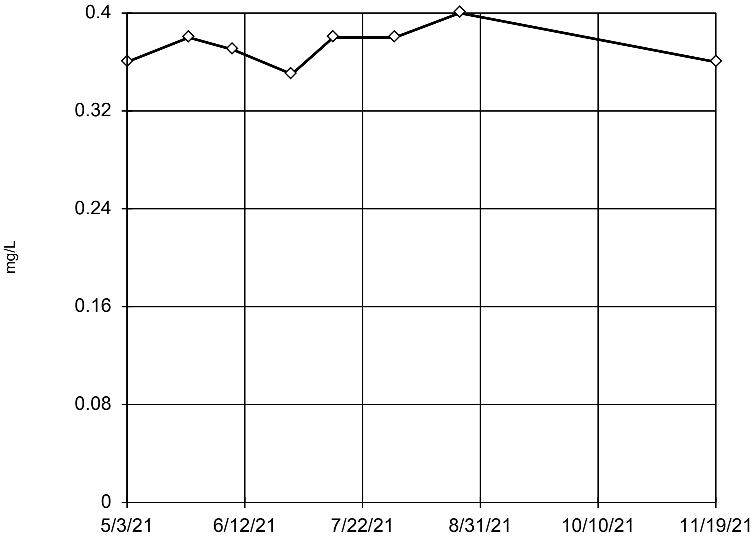
Normality test used: Shapiro Wilk@alpha = 0.1
Calculated = 0.9633
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Fluoride Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.3725, std. dev. 0.01581, critical Tn 2.032

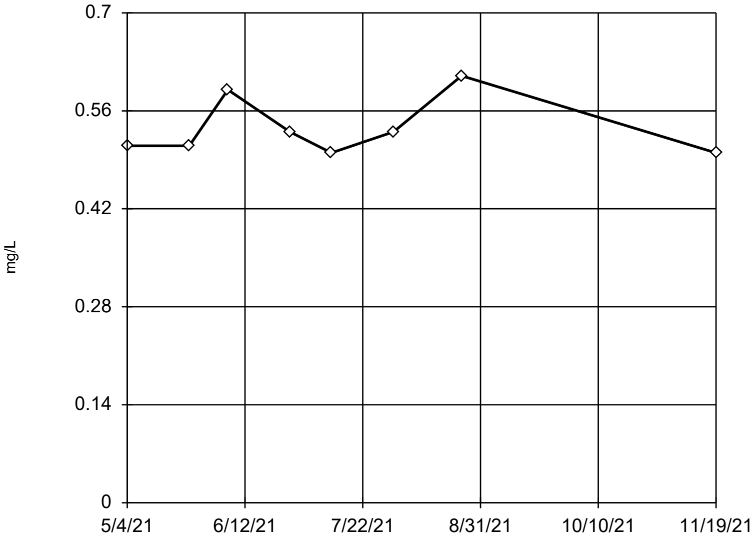
Normality test used: Shapiro Wilk@alpha = 0.1
Calculated = 0.9435
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Fluoride Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-08



n = 8

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

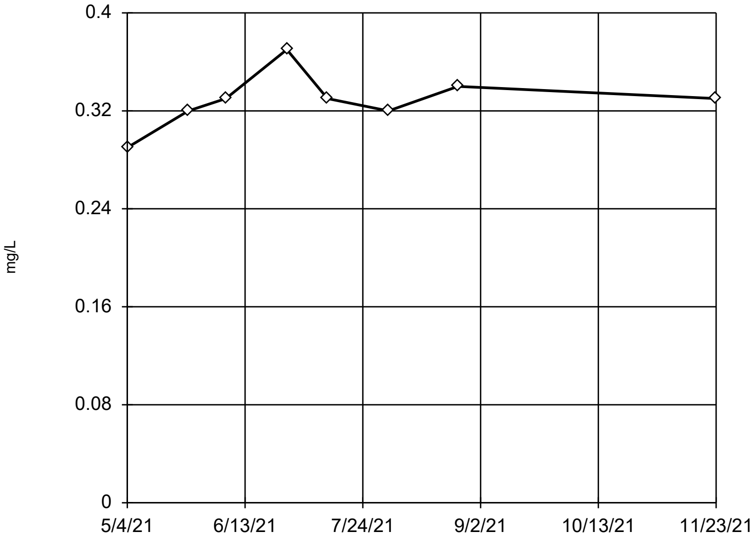
High cutoff = 0.7594, low cutoff = 0.3719, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

EPA Screening (suspected outliers for Dixon's Test)

MW-13



n = 8

Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 0.3288, std. dev. 0.02232, critical Tn 2.032

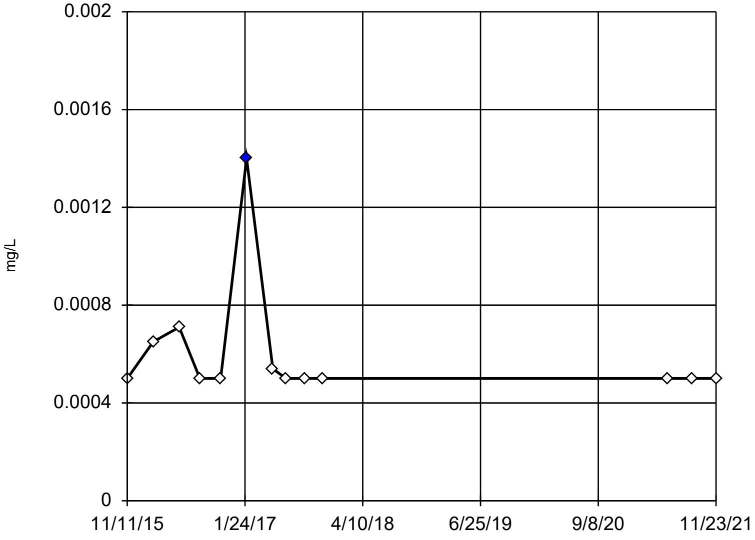
Normality test used: Shapiro Wilk@alpha = 0.1
Calculated = 0.9149
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Fluoride Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-09



n = 13

Outlier is drawn as solid.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

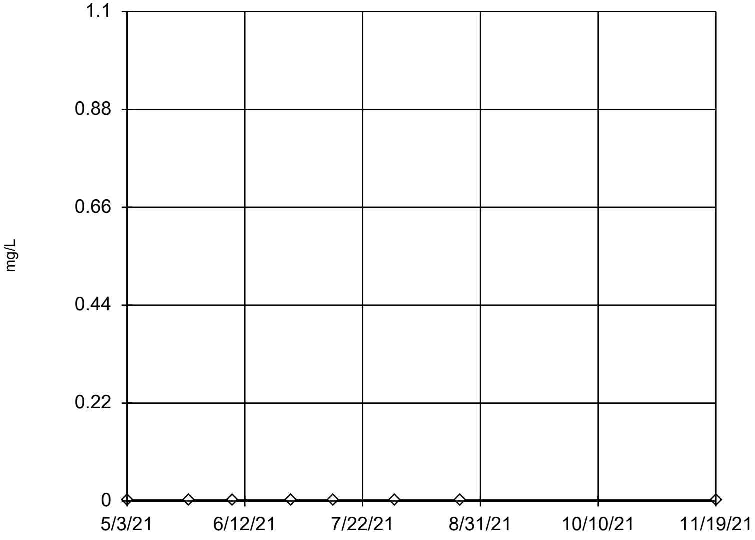
High cutoff = 0.0009856,
low cutoff = 0.0003006,
based on IQR multiplier
of 3.

Constituent: Lead Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Lead Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

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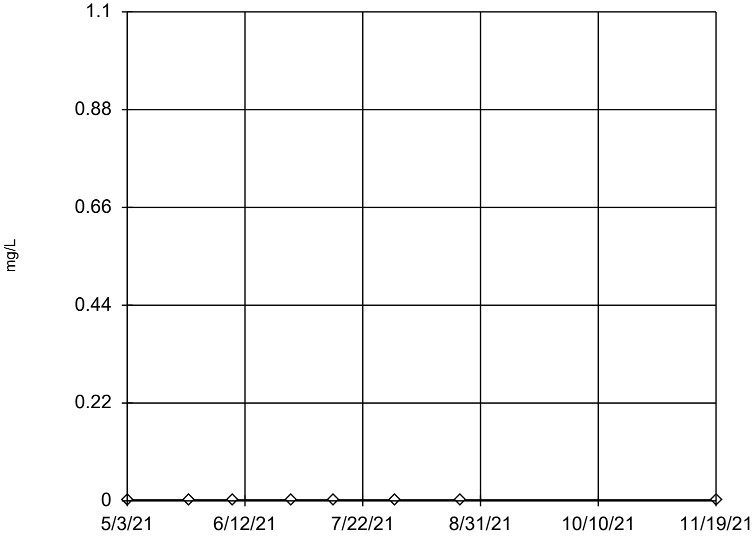
Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

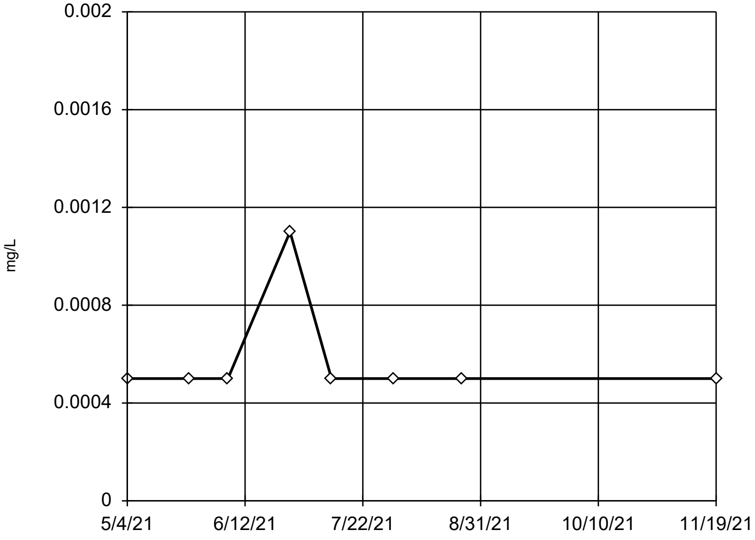
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Lead Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

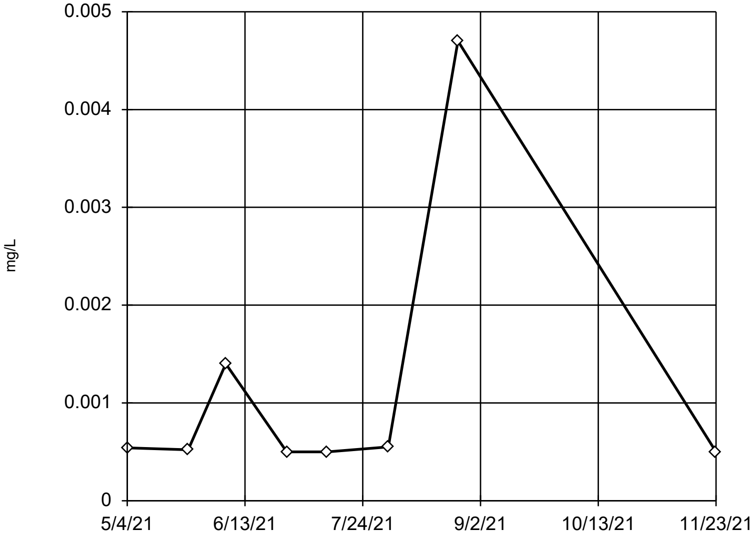
Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Lead Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

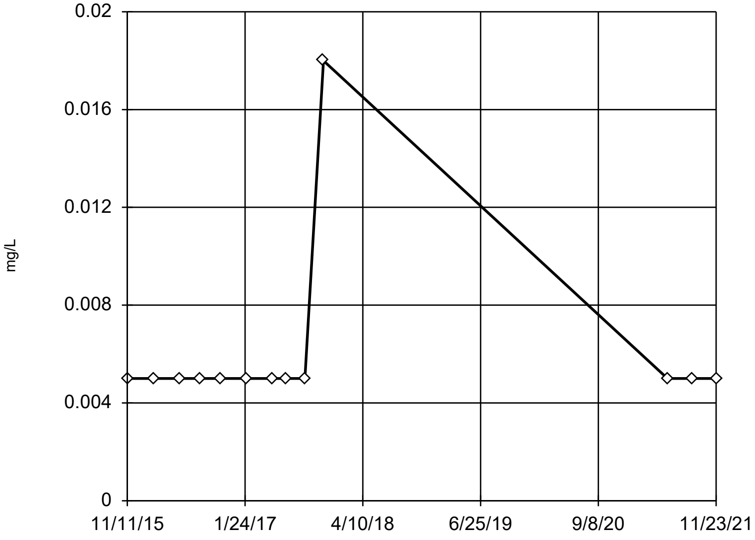
High cutoff = 0.004743, low cutoff = 0.0000925, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

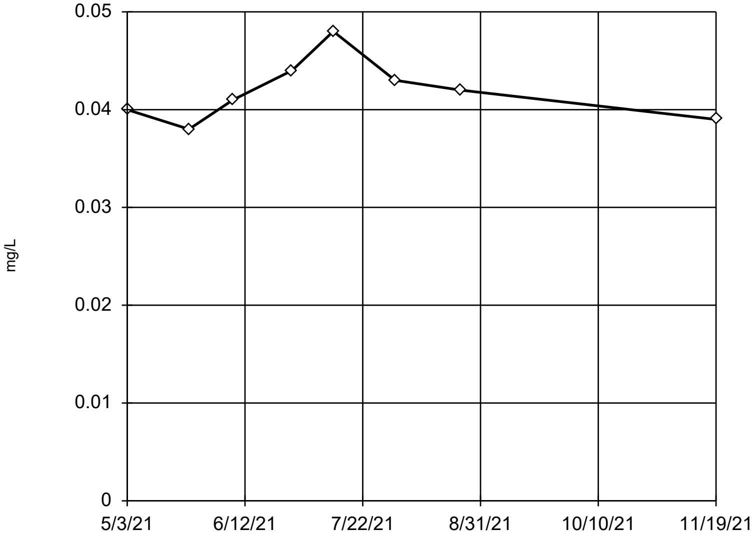
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lithium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.04188, std. dev. 0.003182, critical Tn 2.032

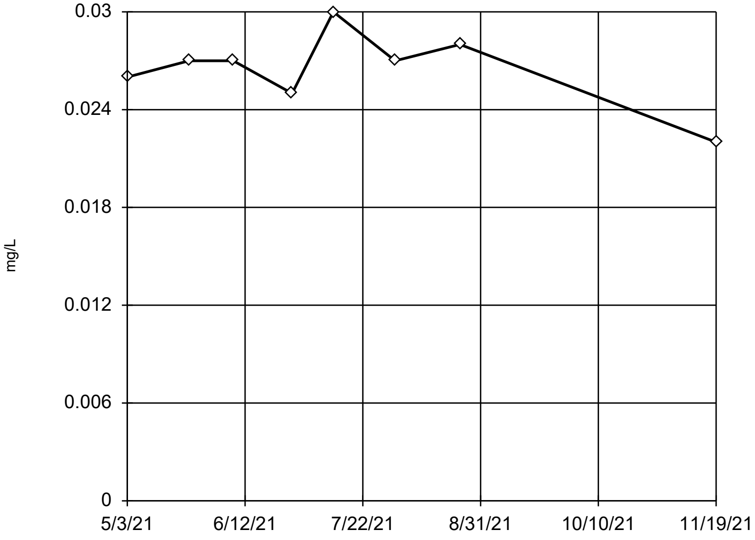
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9517
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Lithium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.0265, std. dev. 0.00233, critical Tn 2.032

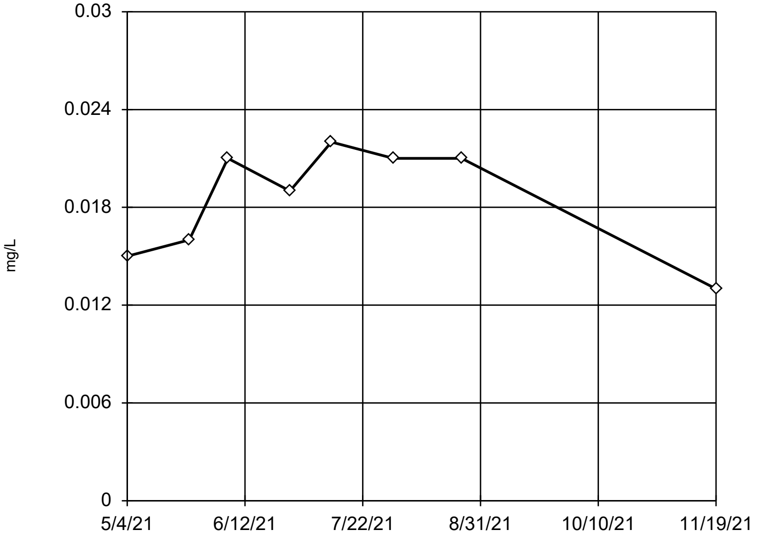
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9364
Critical = 0.851
The distribution was found to be normally distributed.

Constituent: Lithium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.0185, std. dev.
0.003381, critical Tn
2.032

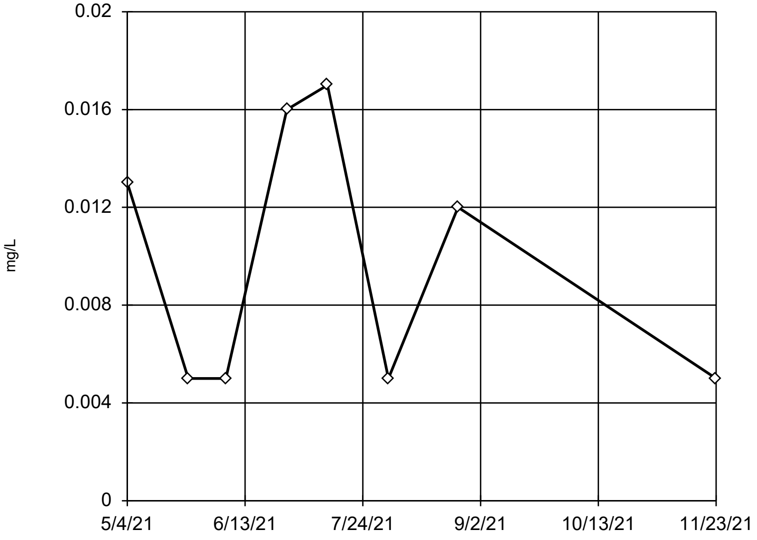
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8671
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Lithium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

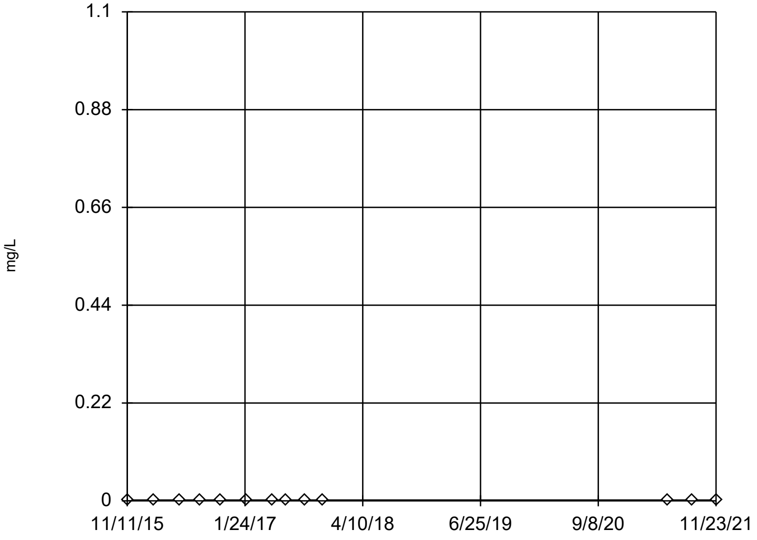
High cutoff = 0.02784,
low cutoff = -0.02318,
based on IQR multiplier
of 3.

Constituent: Lithium Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

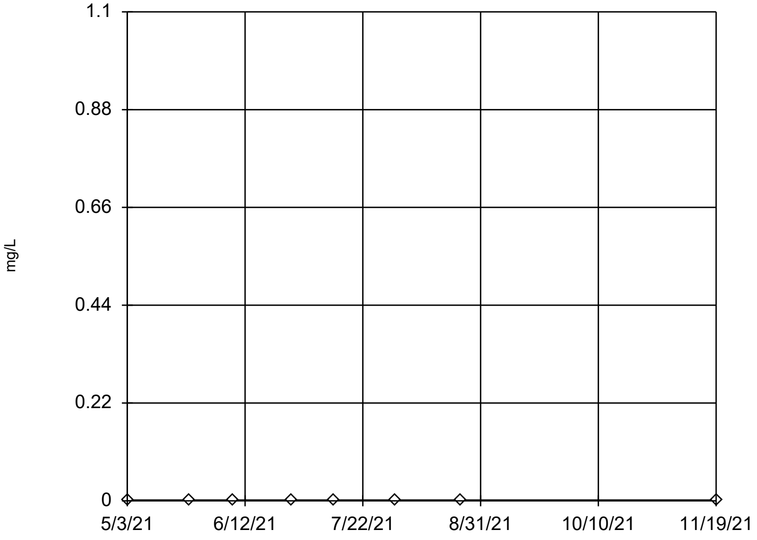
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Mercury Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

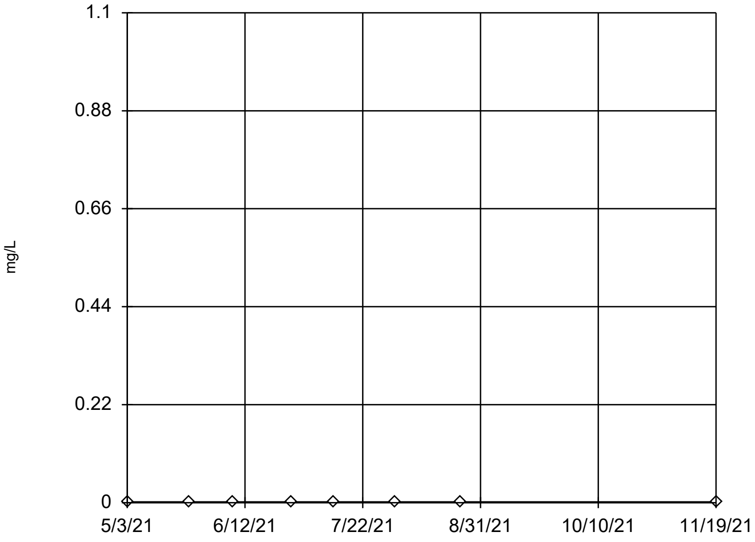
The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Mercury Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

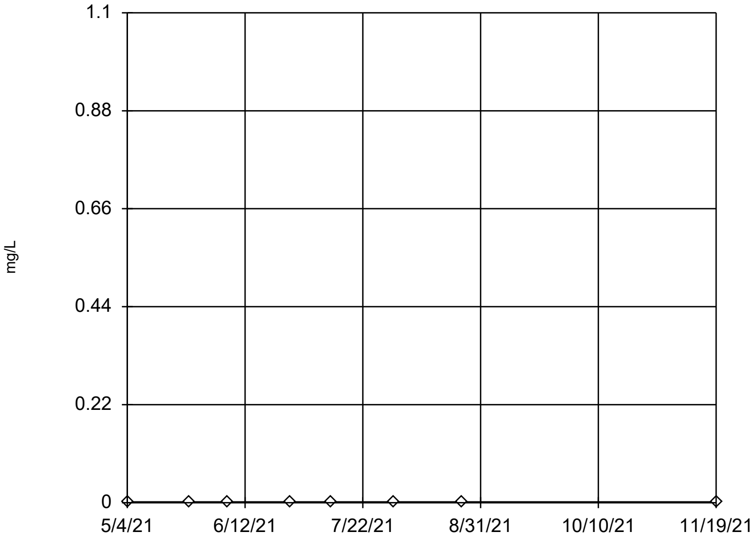
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

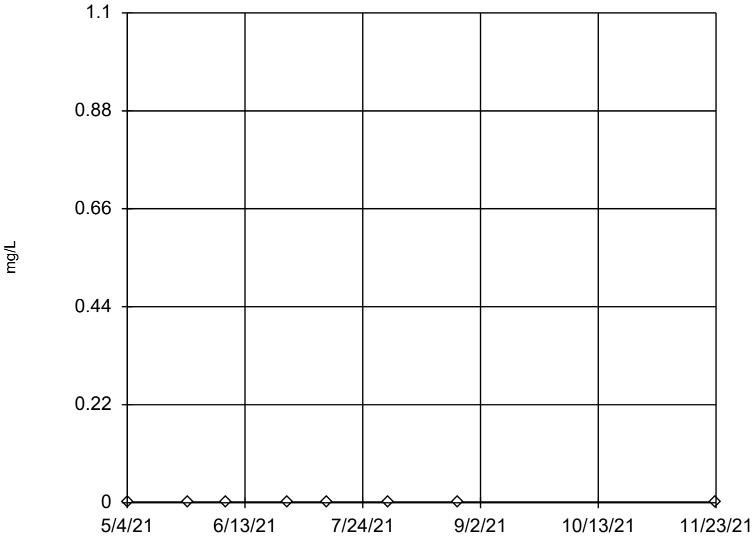
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

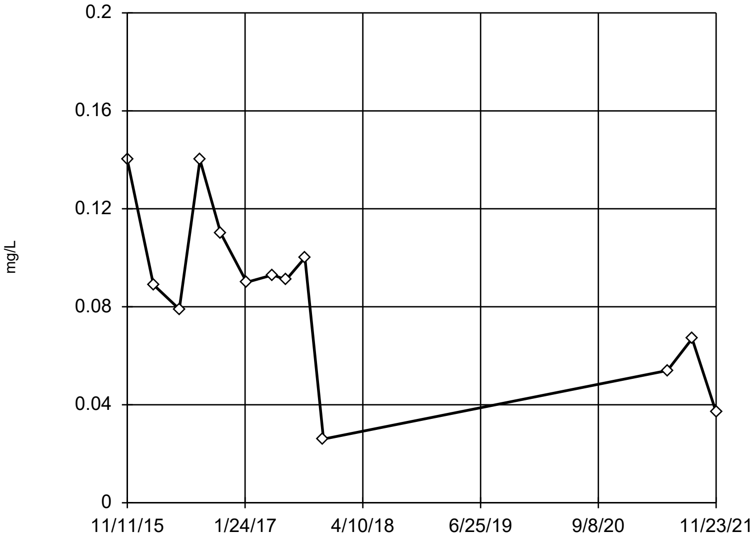
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 13

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.08585, std. dev. 0.03432, critical Tn 2.331

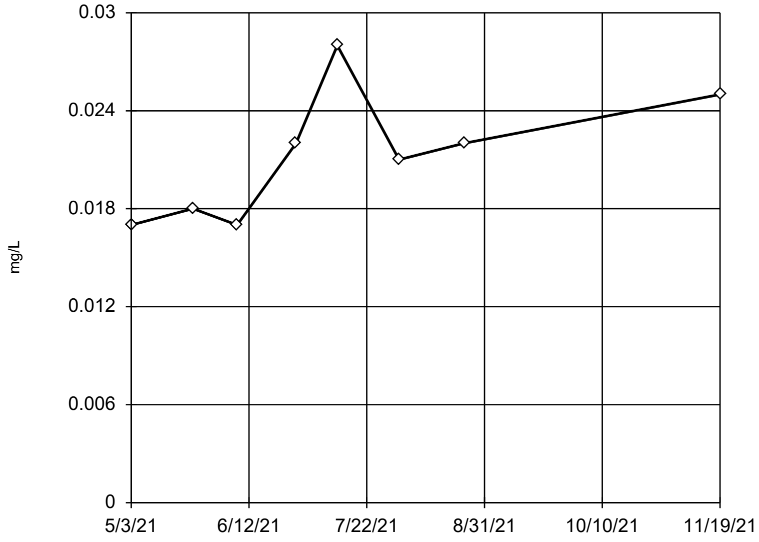
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9539
Critical = 0.889
The distribution was found to be normally distributed.

Constituent: Molybdenum Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.02125, std. dev.
0.003919, critical Tn
2.032

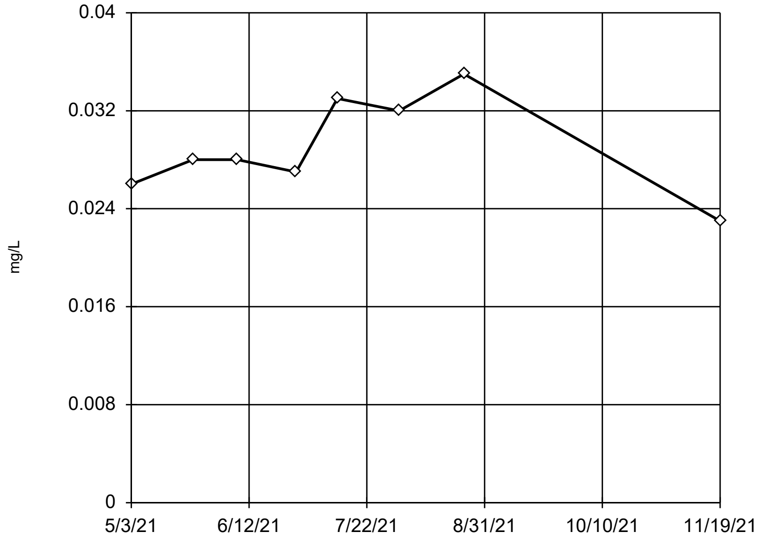
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9194
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:28 PM
Will County Generating Station   Client: NRG   Data: Will County

---

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.029, std. dev.
0.004, critical Tn 2.032

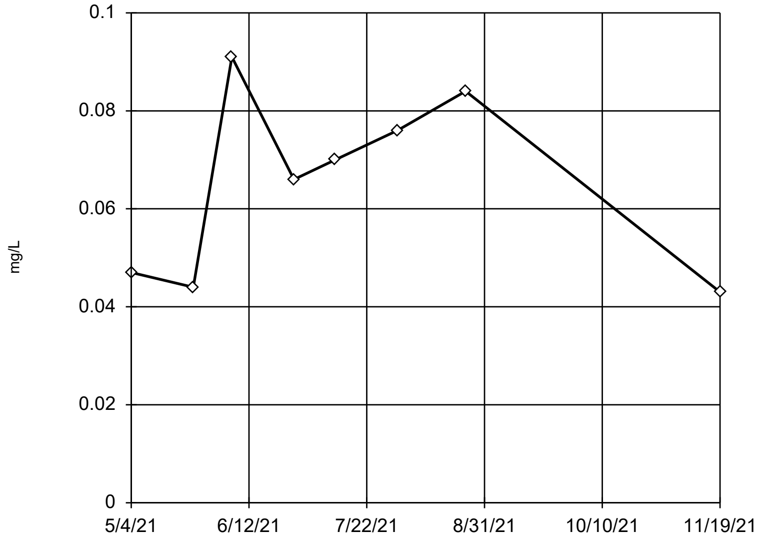
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9562
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:28 PM
Will County Generating Station   Client: NRG   Data: Will County

---

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.06513, std. dev.
0.01864, critical Tn 2.032

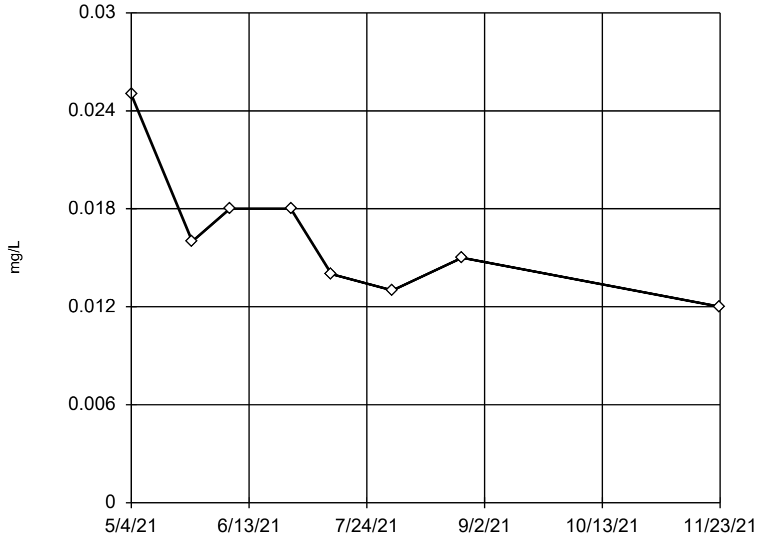
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9074
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:28 PM
Will County Generating Station   Client: NRG   Data: Will County

---

EPA Screening (suspected outliers for Dixon's Test)

MW-13



n = 8

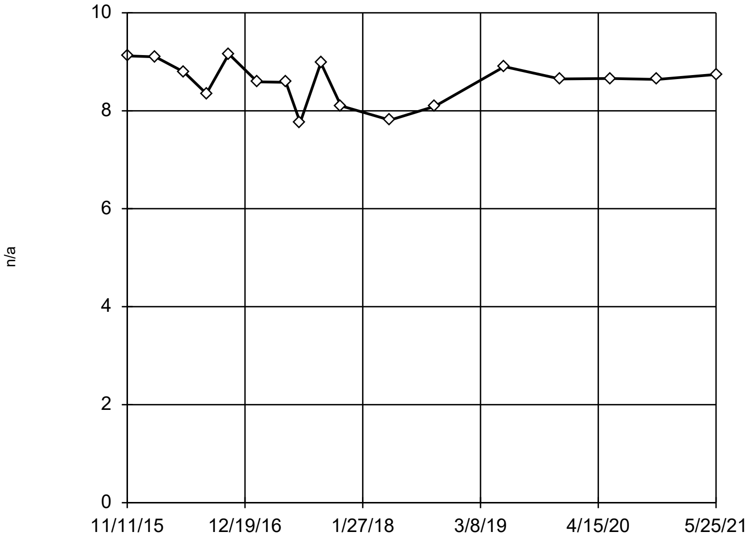
Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.01638, std. dev.
0.004104, critical Tn
2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8831
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:28 PM
Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 17

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 8.589, std. dev.
0.4354, critical Tn 2.475

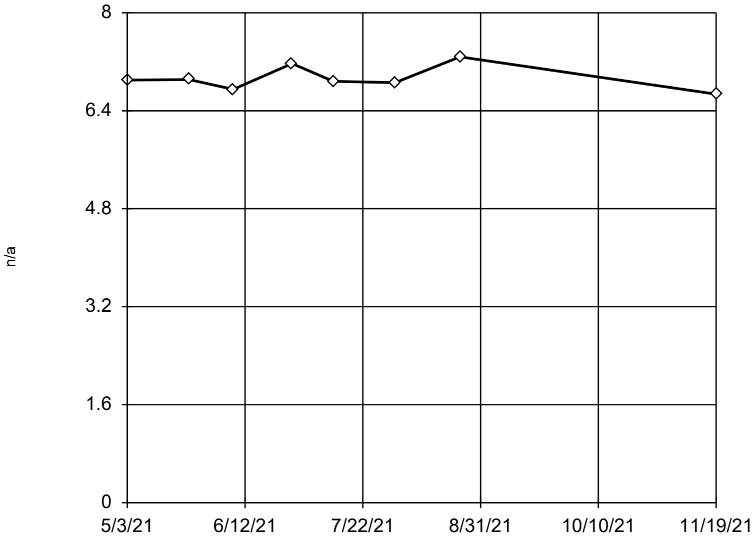
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9245
Critical = 0.91
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 6.928, std. dev.
0.2031, critical Tn 2.032

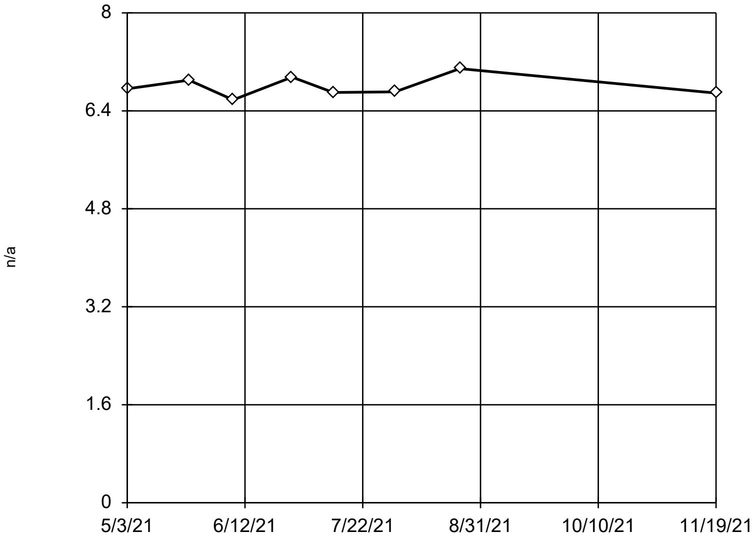
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9075
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 6.798, std. dev.
0.1677, critical Tn 2.032

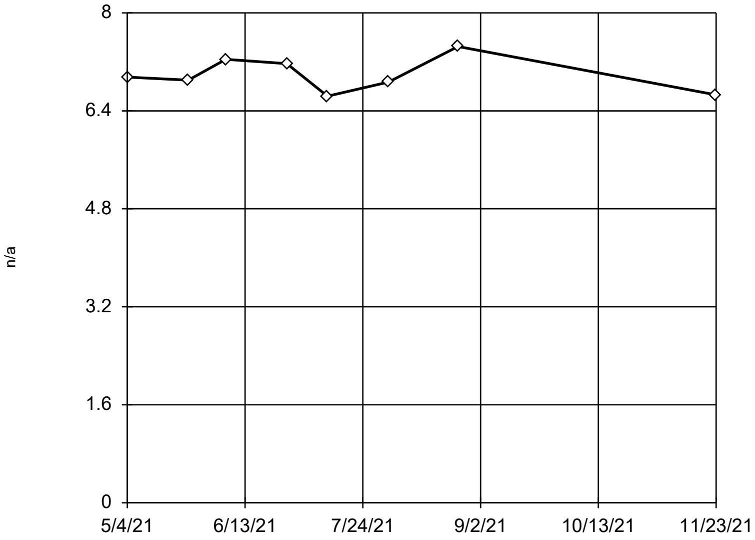
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9336
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 2:28 PM

Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



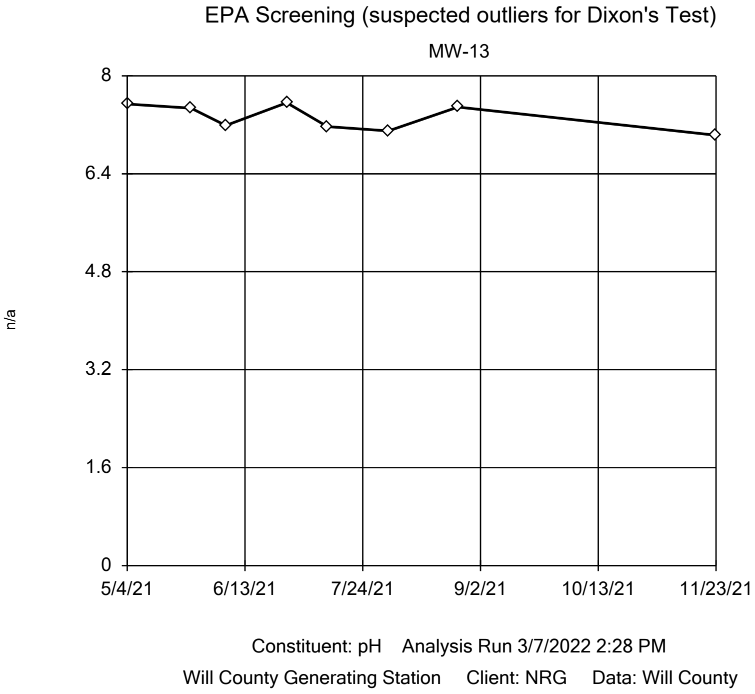
n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 6.985, std. dev.
0.2833, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9455
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: pH Analysis Run 3/7/2022 2:28 PM

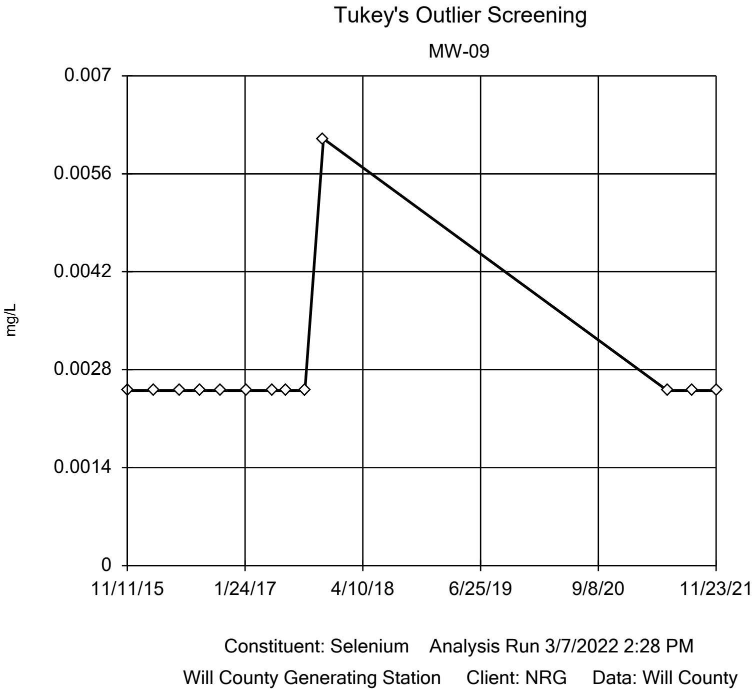
Will County Generating Station Client: NRG Data: Will County



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 7.319, std. dev.
0.2169, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8577
Critical = 0.851
The distribution was found
to be normally distributed.

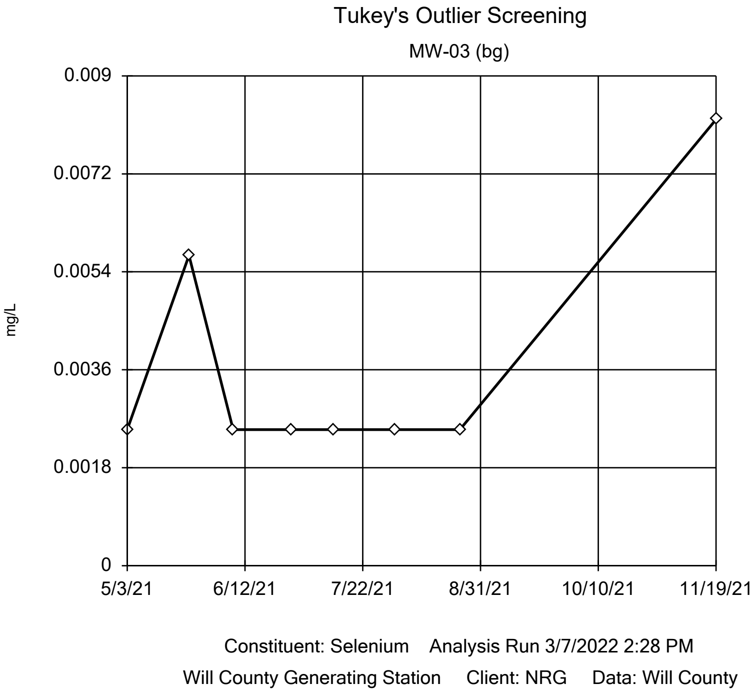


n = 13

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

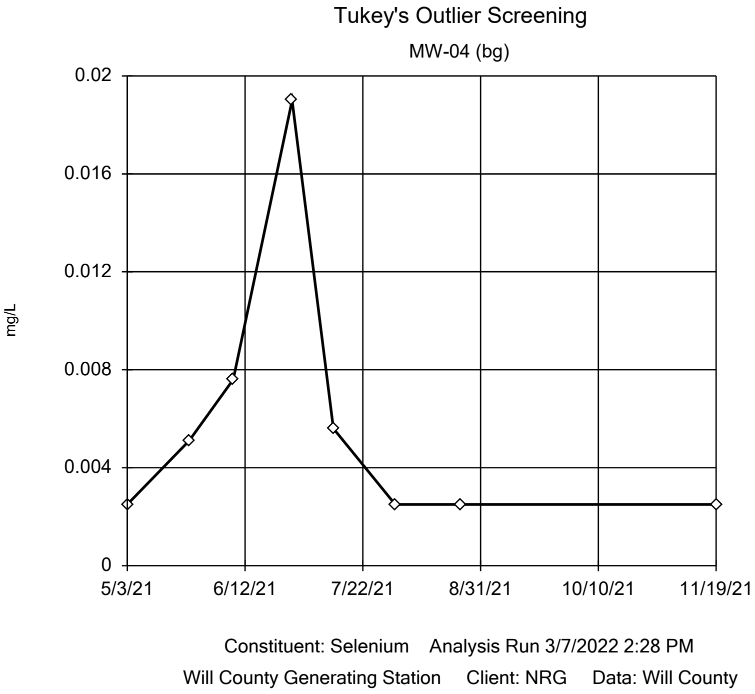


n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

High cutoff = 0.0102,
low cutoff = 0.0001381,
based on IQR multiplier
of 3.



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

High cutoff = 0.1159,
low cutoff = 0.0001407,
based on IQR multiplier
of 3.

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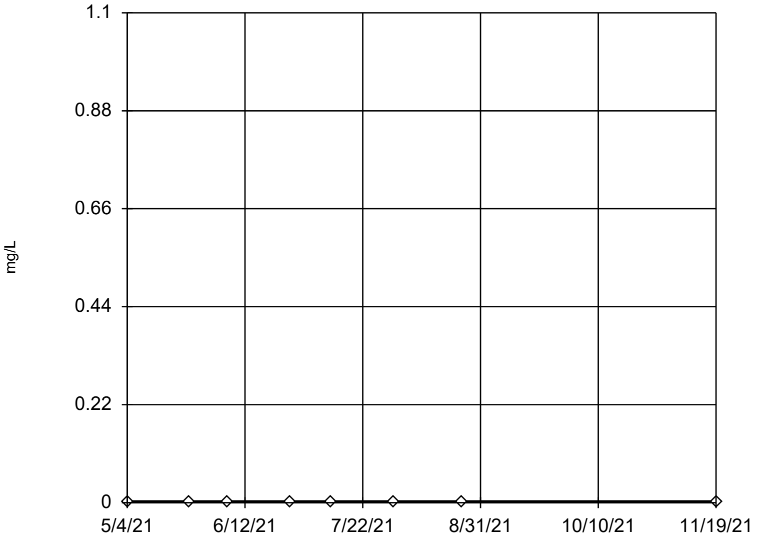
Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

The results were invalidated, because the lower
and upper quartiles are
equal.

Constituent: Selenium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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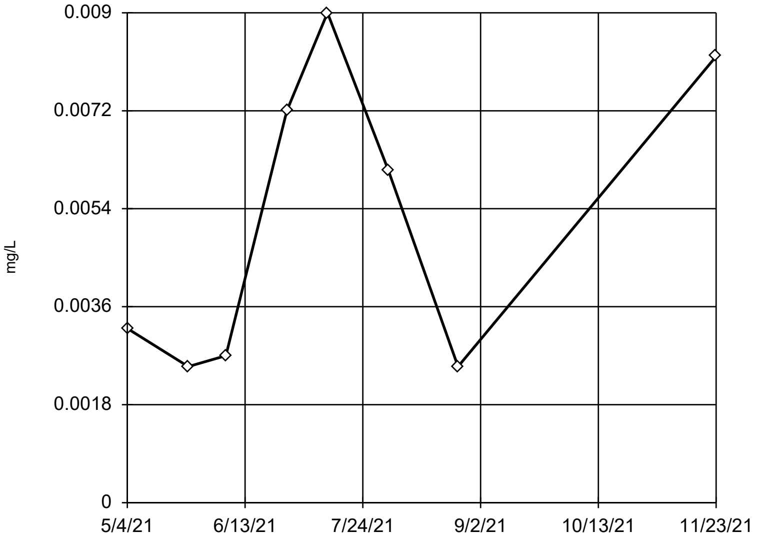
Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in
lieu of parametric test
because the Shapiro Wilk
normality test failed
at the 0.1 alpha level.

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

High cutoff = 0.01476,
low cutoff = -0.01231,
based on IQR multiplier
of 3.

Constituent: Selenium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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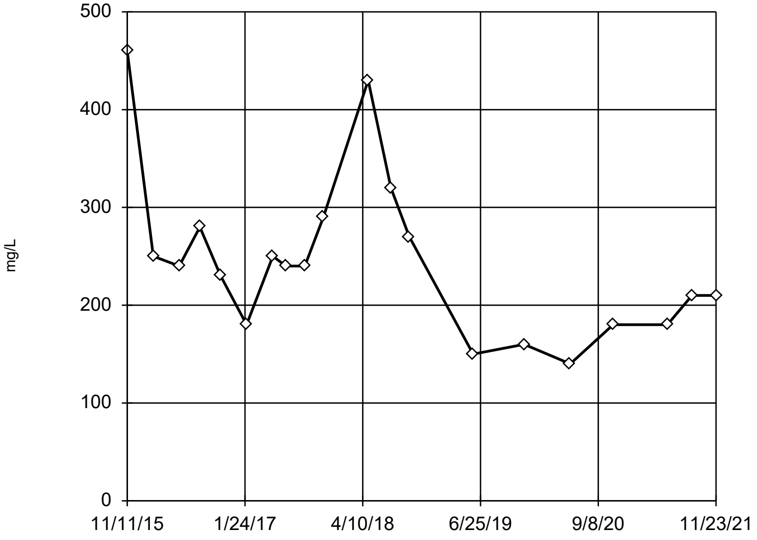
EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 20

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 245.5, std. dev.
83.57, critical Tn 2.557

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9584
Critical = 0.92 (after
natural log transformation)
The distribution was found
to be log-normal.

Constituent: Sulfate   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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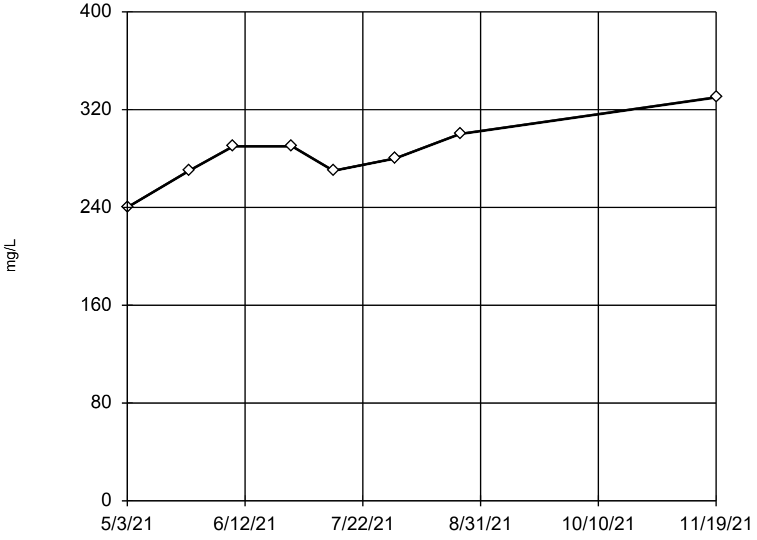
EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 283.8, std. dev.
26.15, critical Tn 2.032

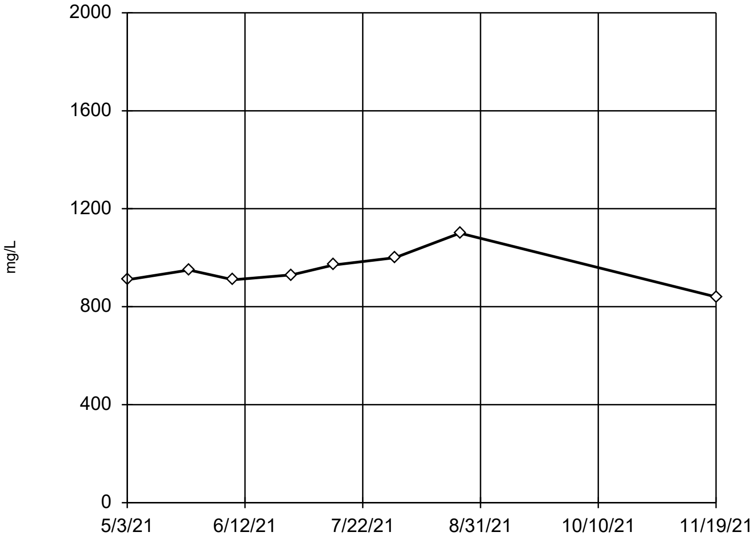
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.966
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Sulfate   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 8

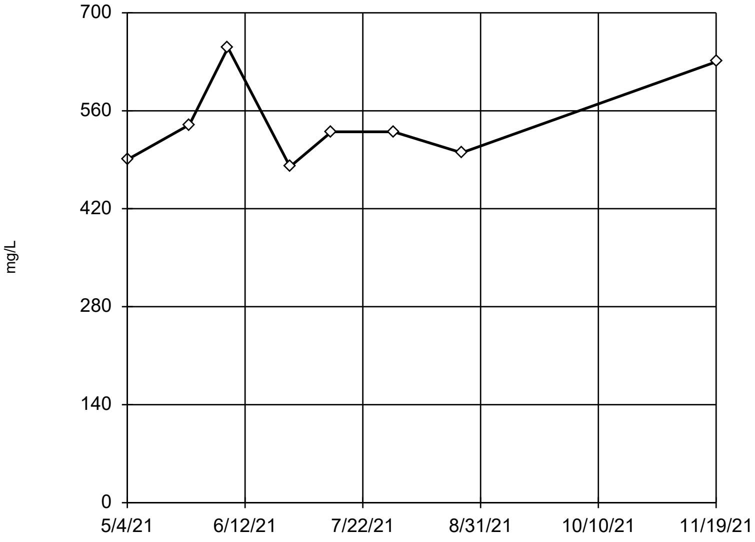
Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 951.3, std. dev. 76.61, critical Tn 2.032

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9485 Critical = 0.851 The distribution was found to be normally distributed.

Constituent: Sulfate Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

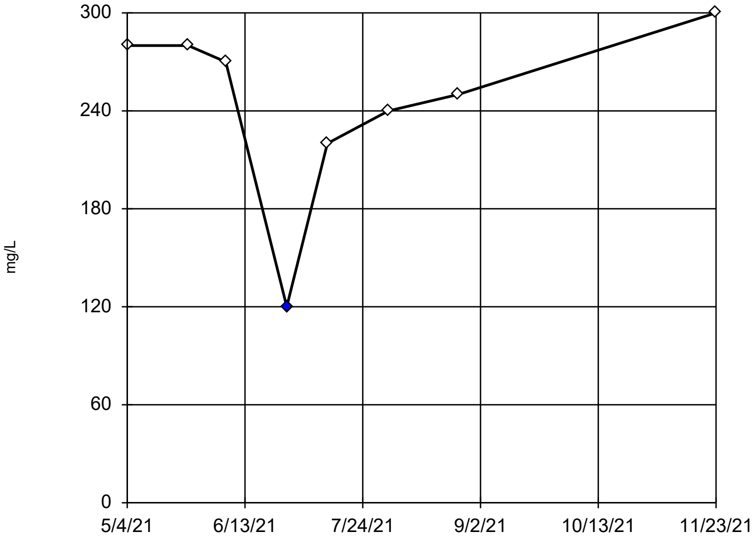
Dixon's will not be run. No suspect values identified or unable to establish suspect values. Mean 543.8, std. dev. 63.23, critical Tn 2.032

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.8677 Critical = 0.851 (after natural log transformation) The distribution was found to be log-normal.

Constituent: Sulfate Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-13



n = 8

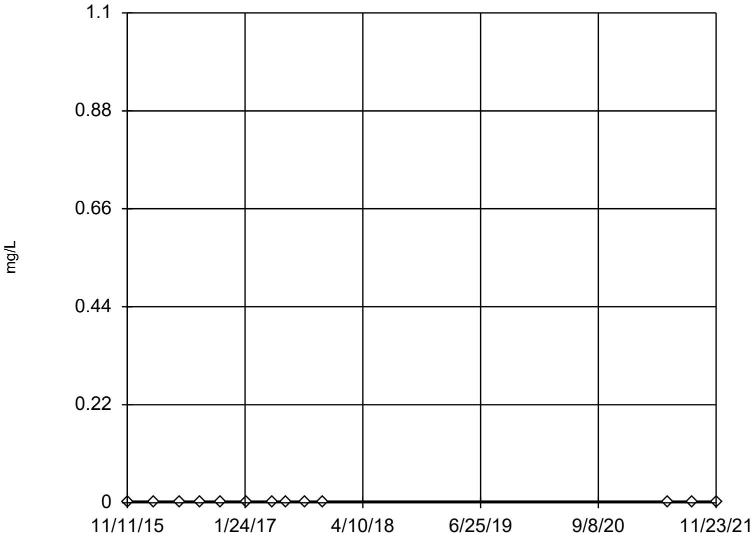
Statistical outlier is drawn as solid. Testing for 1 low outlier. Mean = 245. Std. Dev. = 56.57. 120: c = 0.625 tabl = 0.554. Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9644 Critical = 0.838 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Sulfate Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Tukey's Outlier Screening

MW-09



n = 13

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

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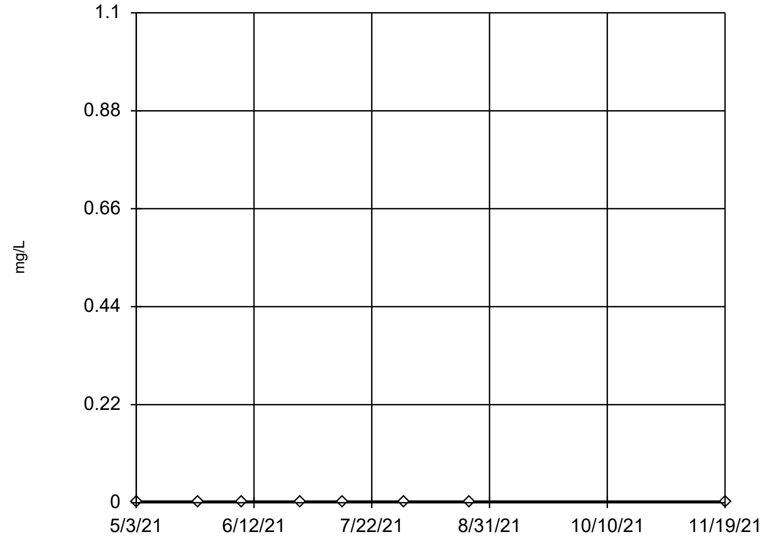
Tukey's Outlier Screening

MW-03 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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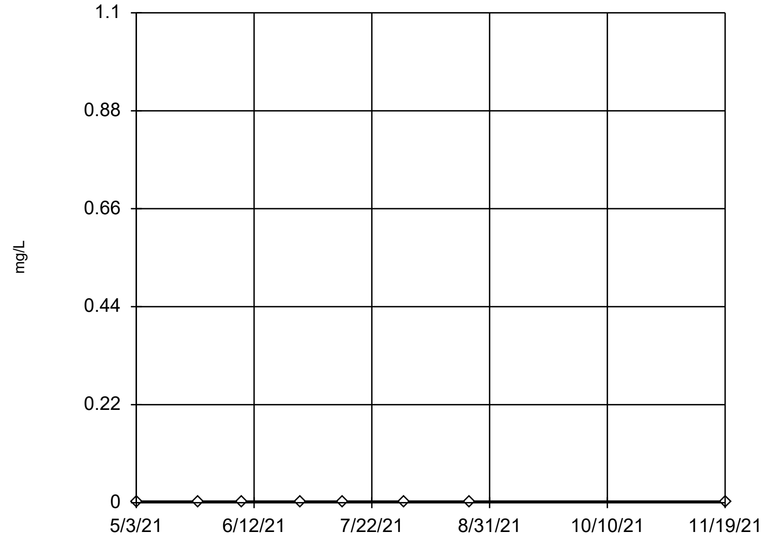
Tukey's Outlier Screening

MW-04 (bg)



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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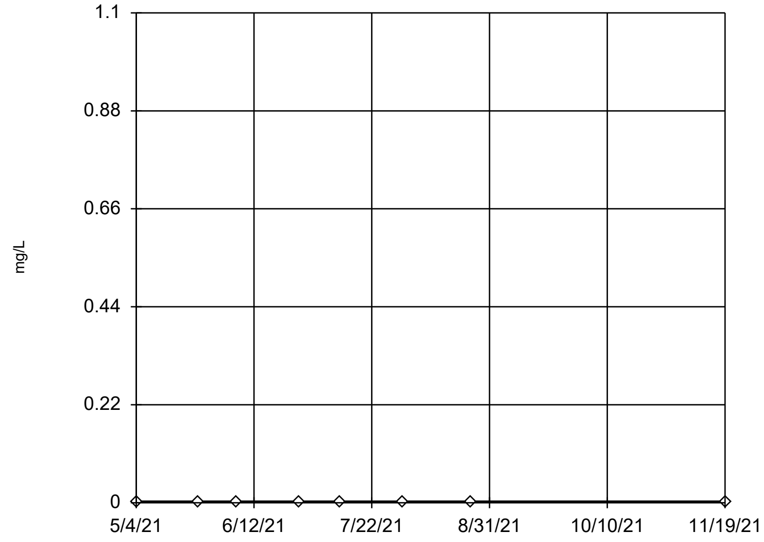
Tukey's Outlier Screening

MW-08



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

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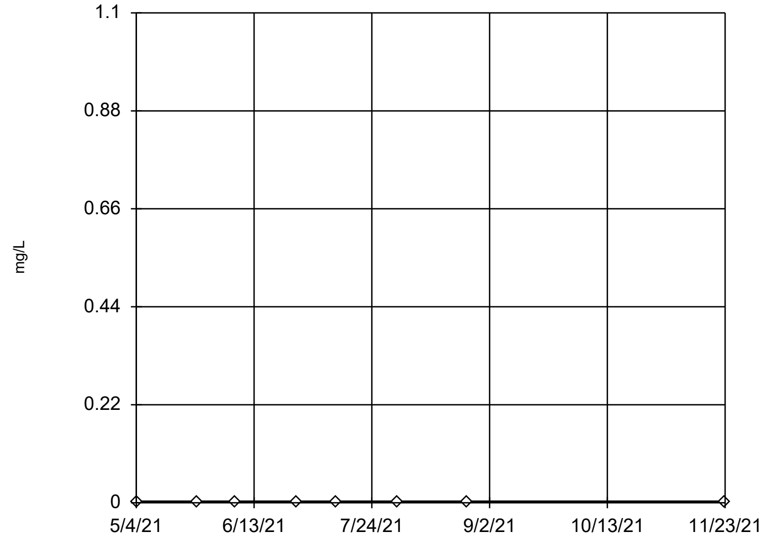
Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

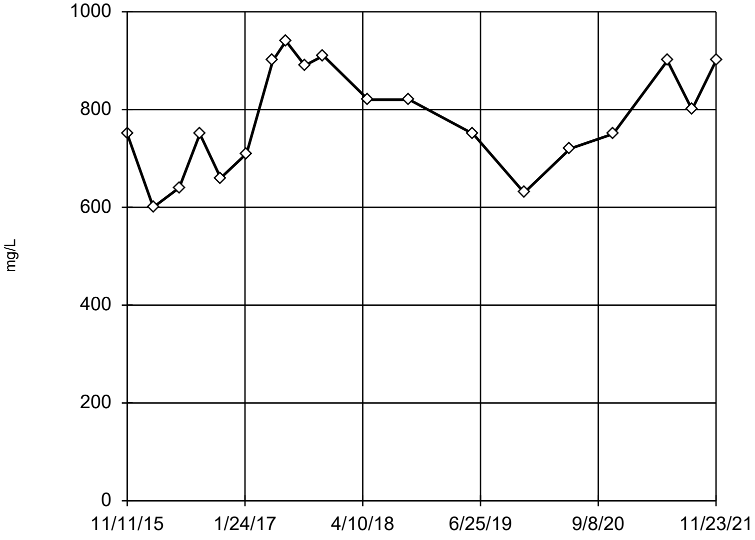
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium   Analysis Run 3/7/2022 2:28 PM

Will County Generating Station   Client: NRG   Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-09



n = 19

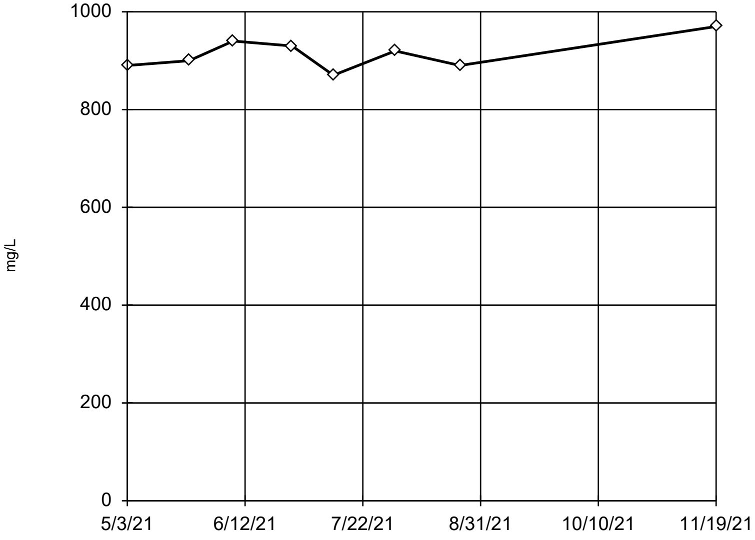
Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 781.1, std. dev.
106, critical Tn 2.532

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9353
Critical = 0.917
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 8

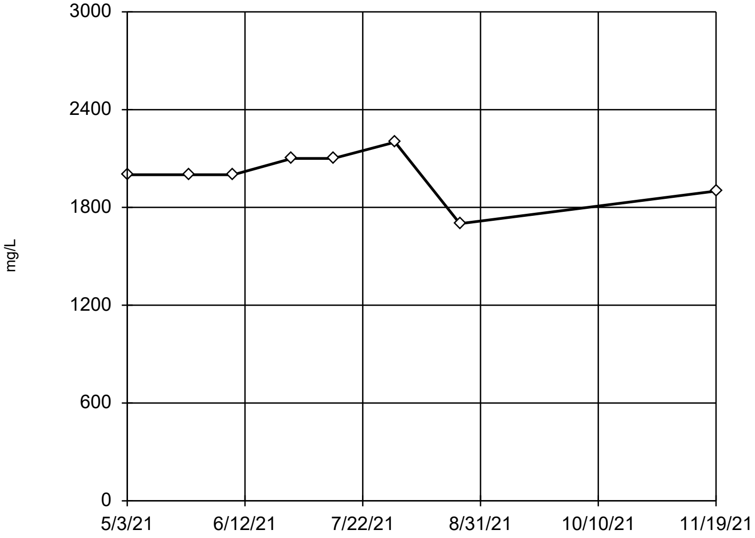
Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 913.8, std. dev.
32.49, critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.965
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:28 PM
Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-04 (bg)



n = 8

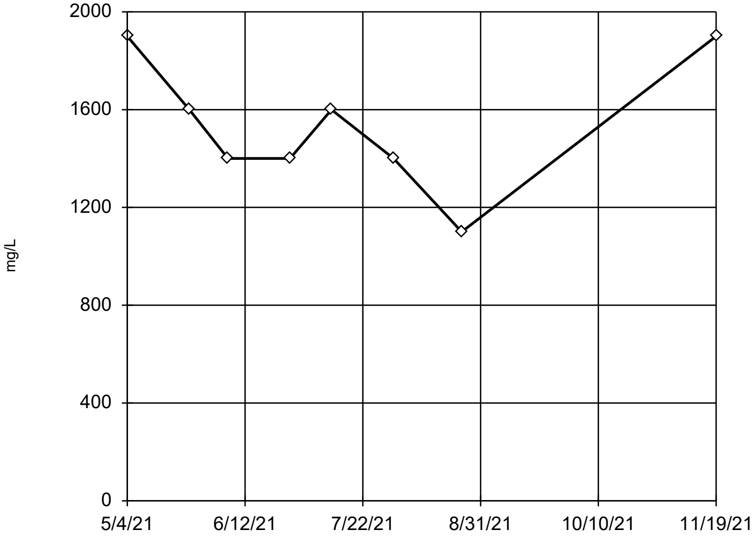
No statistical outliers.
Testing for 1 low outlier.
Mean = 2000.
Std. Dev. = 151.2.
1700: c = 0.5
tabl = 0.554.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9363
Critical = 0.838
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:29 PM
Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-08



n = 8

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 1538, std. dev. 272.2,
critical Tn 2.032

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9136
Critical = 0.851
The distribution was found
to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:29 PM
Will County Generating Station Client: NRG Data: Will County

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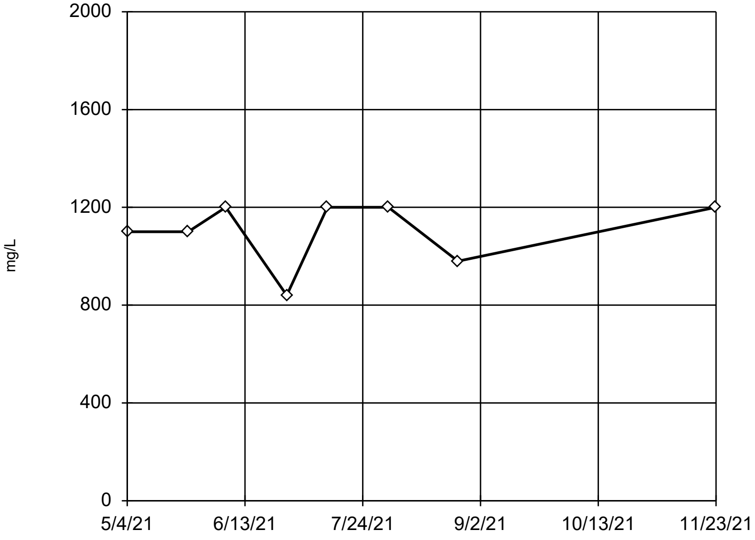
Tukey's Outlier Screening

MW-13



n = 8

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1440, low cutoff = -1195, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:29 PM

Will County Generating Station Client: NRG Data: Will County

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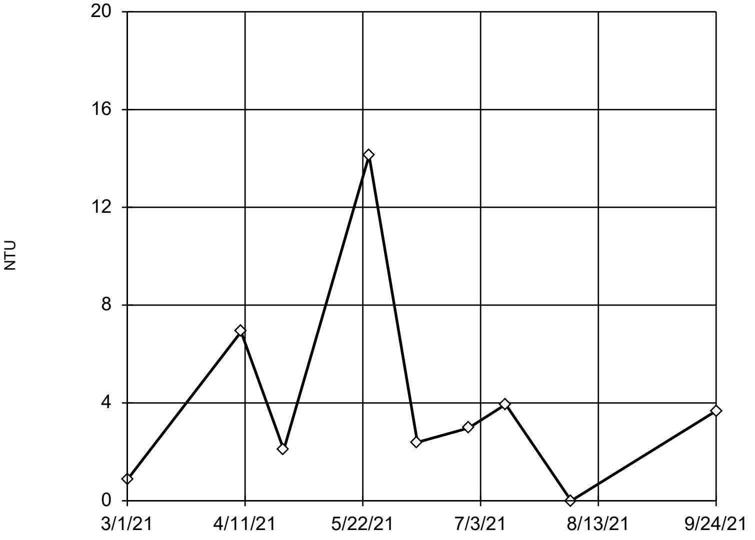
Tukey's Outlier Screening

MW-09



n = 9

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 32.18, low cutoff = -4.758, based on IQR multiplier of 3.

Constituent: Turbidity Analysis Run 3/7/2022 2:29 PM

Will County Generating Station Client: NRG Data: Will County

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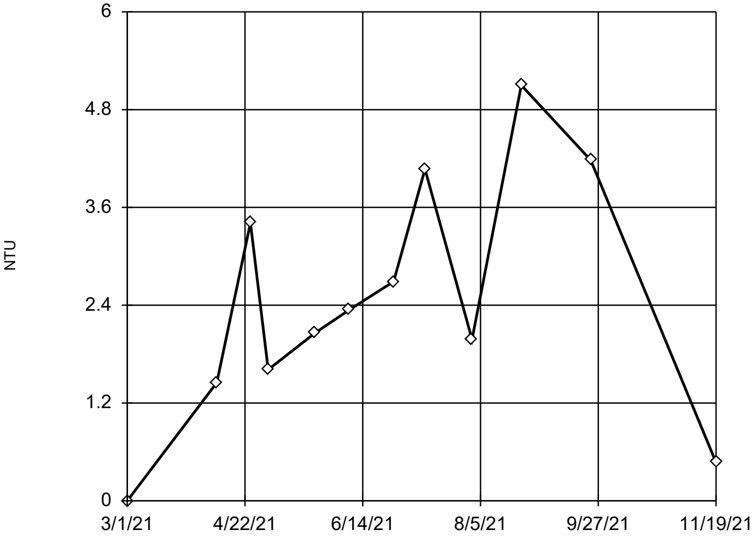
EPA Screening (suspected outliers for Dixon's Test)

MW-03 (bg)



n = 12

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 2.447, std. dev. 1.527, critical Tn 2.285

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9754
Critical = 0.883
The distribution was found to be normally distributed.

Constituent: Turbidity Analysis Run 3/7/2022 2:29 PM

Will County Generating Station Client: NRG Data: Will County

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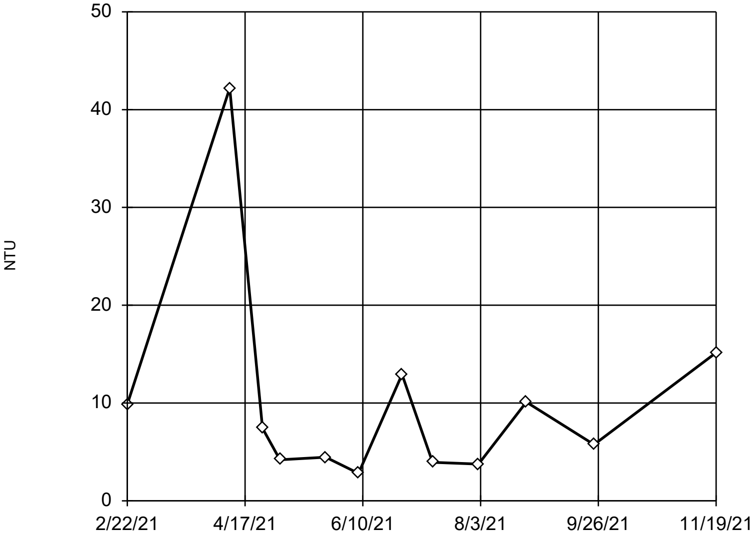
EPA Screening (suspected outliers for Dixon's Test)

MW-04 (bg)



n = 12

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 10.21, std. dev. 10.82, critical Tn 2.285

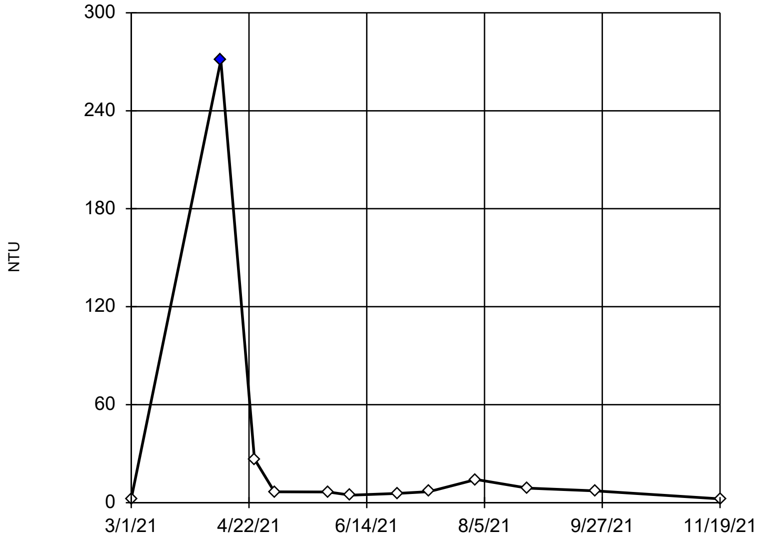
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9249
Critical = 0.883 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Turbidity Analysis Run 3/7/2022 2:29 PM

Will County Generating Station Client: NRG Data: Will County

Dixon's Outlier Test

MW-08



n = 12

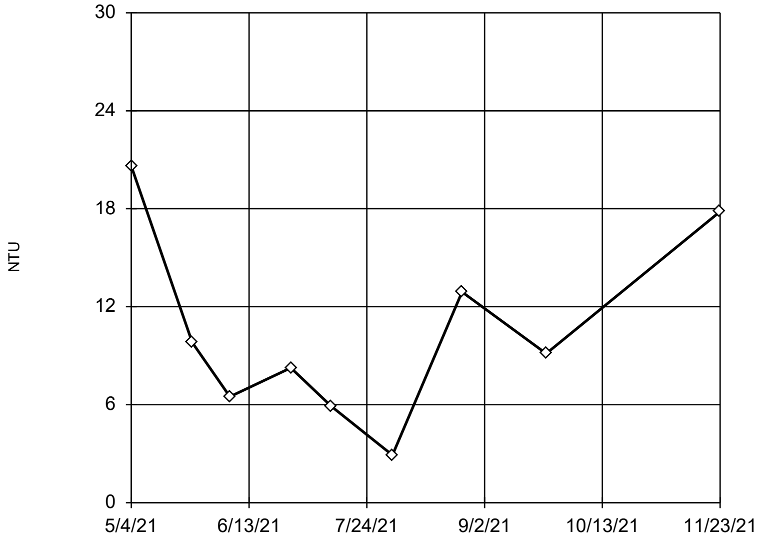
Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 30.22.
Std. Dev. = 76.1.
270.98: c = 0.6213
tabl = 0.546.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9346
Critical = 0.876 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Turbidity Analysis Run 3/7/2022 2:29 PM
Will County Generating Station Client: NRG Data: Will County

EPA Screening (suspected outliers for Dixon's Test)

MW-13



n = 9

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 10.42, std. dev. 5.743, critical Tn 2.11

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9346
Critical = 0.859
The distribution was found to be normally distributed.

Constituent: Turbidity Analysis Run 3/7/2022 2:29 PM
Will County Generating Station Client: NRG Data: Will County

Trend Test Will Co 1S UG Wells MW-3 and MW-4 All Data

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 2:40 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Antimony (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Arsenic (mg/L)	MW-03 (bg)	0.001878	0.5624	2.612	No	8	0	Yes	no	0.02	Param.
Arsenic (mg/L)	MW-04 (bg)	0.005491	0.7482	2.612	No	8	0	Yes	no	0.02	Param.
Barium (mg/L)	MW-03 (bg)	0.01322	0.5541	2.612	No	8	0	Yes	no	0.02	Param.
Barium (mg/L)	MW-04 (bg)	-0.00...	-0.6844	2.612	No	8	0	Yes	no	0.02	Param.
Beryllium (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Beryllium (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Boron (mg/L)	MW-03 (bg)	1.047	10	20	No	8	0	n/a	n/a	0.02	NP (Nor...
Boron (mg/L)	MW-04 (bg)	1.566	2.45	2.612	No	8	0	Yes	no	0.02	Param.
Cadmium (mg/L)	MW-03 (bg)	0	1	20	No	8	87.5	n/a	n/a	0.02	NP (NDs)
Cadmium (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Calcium (mg/L)	MW-03 (bg)	37.51	1.152	2.612	No	8	0	Yes	no	0.02	Param.
Calcium (mg/L)	MW-04 (bg)	-37.15	-1.403	2.612	No	8	0	Yes	no	0.02	Param.
Chloride (mg/L)	MW-03 (bg)	30.99	1.475	2.612	No	8	0	Yes	no	0.02	Param.
Chloride (mg/L)	MW-04 (bg)	0.4982	0.4039	2.612	No	8	0	Yes	natura...	0.02	Param.
Chromium (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Chromium (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Cobalt (mg/L)	MW-03 (bg)	0	0	20	No	8	75	n/a	n/a	0.02	NP (Nor...
Cobalt (mg/L)	MW-04 (bg)	0.000...	2.555	2.612	No	8	0	Yes	no	0.02	Param.
Combined Radium 226 + 228 (pCi/L)	MW-03 (bg)	2.444	2.314	2.612	No	8	0	Yes	no	0.02	Param.
Combined Radium 226 + 228 (pCi/L)	MW-04 (bg)	0.5414	0.3885	2.612	No	8	25	Yes	no	0.02	Param.
Fluoride (mg/L)	MW-03 (bg)	0.006432	0.1693	2.612	No	8	0	Yes	no	0.02	Param.
Fluoride (mg/L)	MW-04 (bg)	0.008193	0.2182	2.612	No	8	0	Yes	no	0.02	Param.
Lead (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Lead (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Lithium (mg/L)	MW-03 (bg)	-0.00...	-0.04099	2.612	No	8	0	Yes	no	0.02	Param.
Lithium (mg/L)	MW-04 (bg)	-0.00...	-1.341	2.612	No	8	0	Yes	no	0.02	Param.
Mercury (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Mercury (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Molybdenum (mg/L)	MW-03 (bg)	0.7057	2.203	2.612	No	8	0	Yes	natura...	0.02	Param.
Molybdenum (mg/L)	MW-04 (bg)	-0.00...	-0.1911	2.612	No	8	0	Yes	no	0.02	Param.
pH (n/a)	MW-03 (bg)	-0.1884	-0.3942	2.612	No	8	0	Yes	no	0.02	Param.
pH (n/a)	MW-04 (bg)	-0.00...	-0.01227	2.612	No	8	0	Yes	no	0.02	Param.
Selenium (mg/L)	MW-03 (bg)	0.007293	1.737	2.612	No	8	75	Yes	no	0.02	Param.
Selenium (mg/L)	MW-04 (bg)	-1.538	-0.9381	2.612	No	8	50	Yes	natura...	0.02	Param.
Sulfate (mg/L)	**MW-03 (bg)**	**132.5**	**4.377**	**2.612**	**Yes**	**8**	**0**	**Yes**	**no**	**0.02**	**Param.**
Sulfate (mg/L)	MW-04 (bg)	-31.5	-0.173	2.612	No	8	0	Yes	no	0.02	Param.
Thallium (mg/L)	MW-03 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Thallium (mg/L)	MW-04 (bg)	0	0	20	No	8	100	n/a	n/a	0.02	NP (NDs)
Total Dissolved Solids (mg/L)	MW-03 (bg)	100.5	1.536	2.612	No	8	0	Yes	no	0.02	Param.
Total Dissolved Solids (mg/L)	MW-04 (bg)	-304	-0.899	2.612	No	8	0	Yes	no	0.02	Param.
Turbidity (NTU)	MW-03 (bg)	2.323	1.038	2.359	No	12	0	Yes	no	0.02	Param.
Turbidity (NTU)	MW-04 (bg)	-0.2229	-0.1909	2.359	No	12	0	Yes	natura...	0.02	Param.

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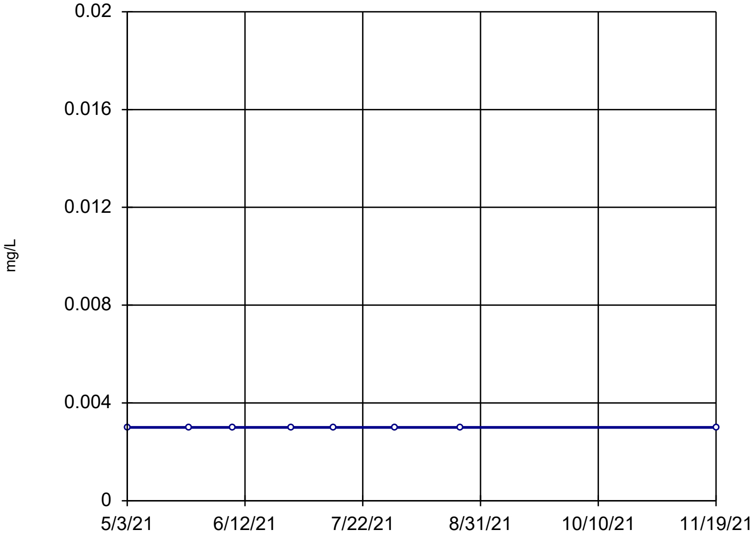
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Antimony Analysis Run 3/7/2022 2:37 PM
Will County Generating Station Client: NRG Data: Will County

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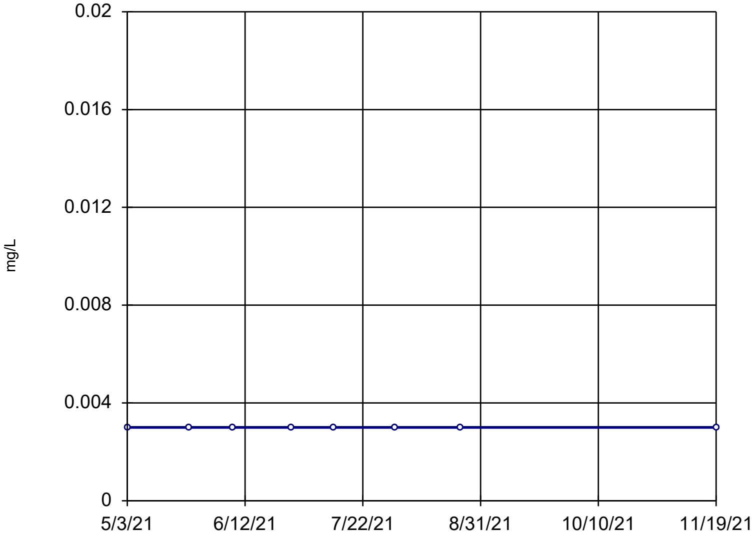
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Antimony Analysis Run 3/7/2022 2:37 PM
Will County Generating Station Client: NRG Data: Will County

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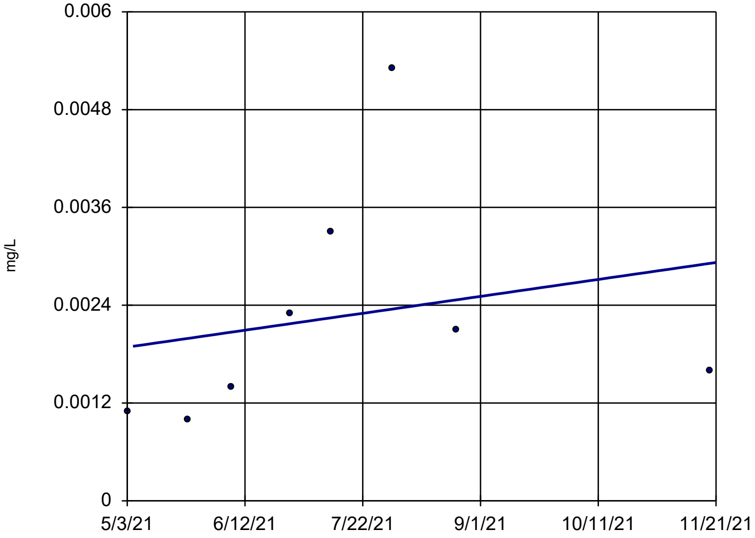
Linear Regression

MW-03 (bg)



n = 8

Slope = 0.001878
units/year.

alpha = 0.02
t = 0.5624
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.8435, critical = 0.749.

Constituent: Arsenic Analysis Run 3/7/2022 2:37 PM
Will County Generating Station Client: NRG Data: Will County

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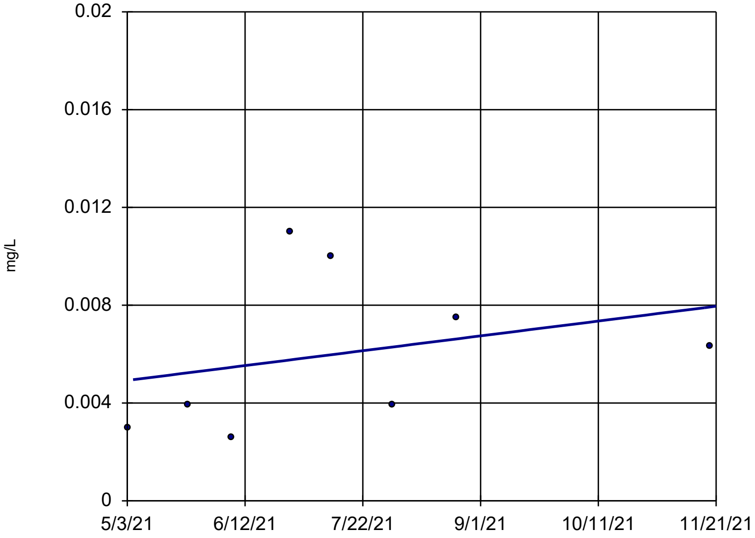
Linear Regression

MW-04 (bg)



n = 8

Slope = 0.005491
units/year.

alpha = 0.02
t = 0.7482
critical = 2.612

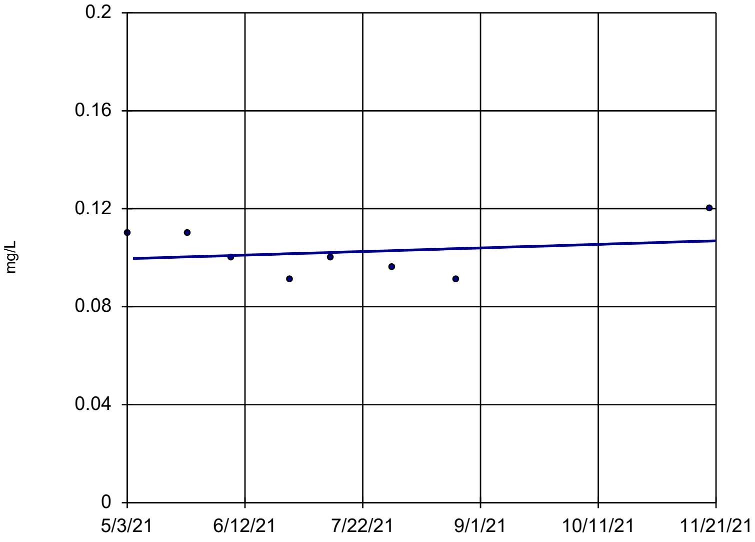
No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.8323, critical = 0.749.

Constituent: Arsenic Analysis Run 3/7/2022 2:37 PM
Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-03 (bg)



n = 8

Slope = 0.01322
units/year.

alpha = 0.02
t = 0.5541
critical = 2.612

No significant trend.

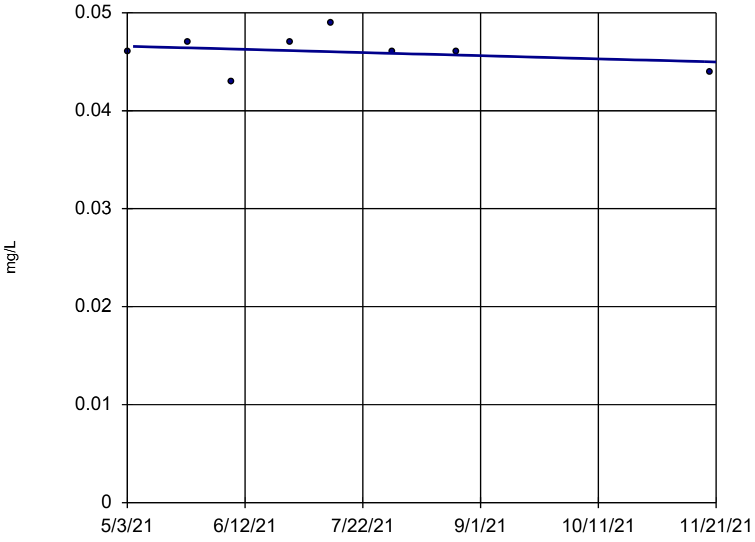
Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9092, critical
= 0.749.

Constituent: Barium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-04 (bg)



n = 8

Slope = -0.002909
units/year.

alpha = 0.02
t = -0.6844
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9492, critical
= 0.749.

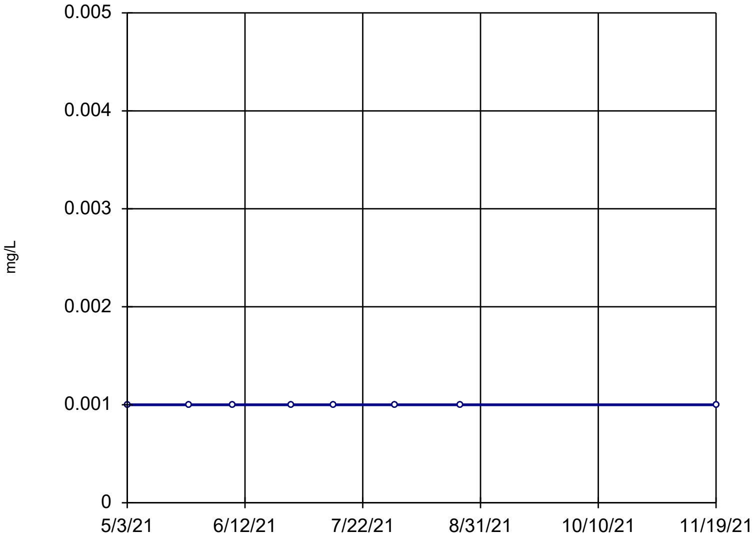
Constituent: Barium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

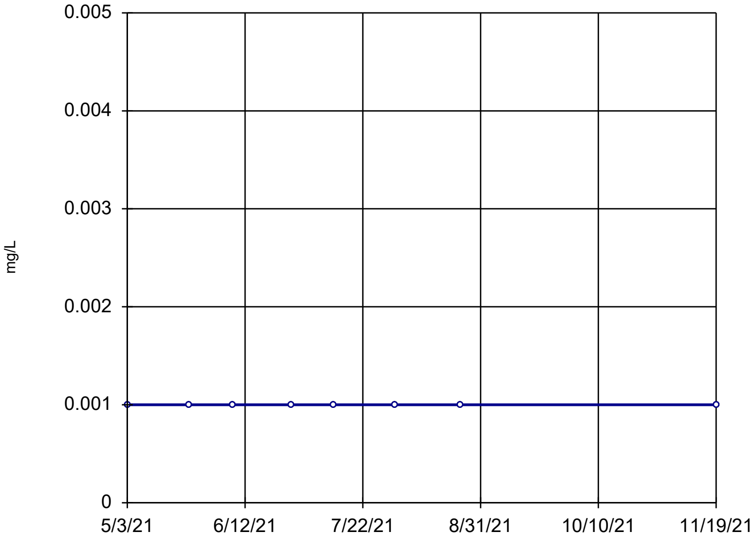
Constituent: Beryllium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Beryllium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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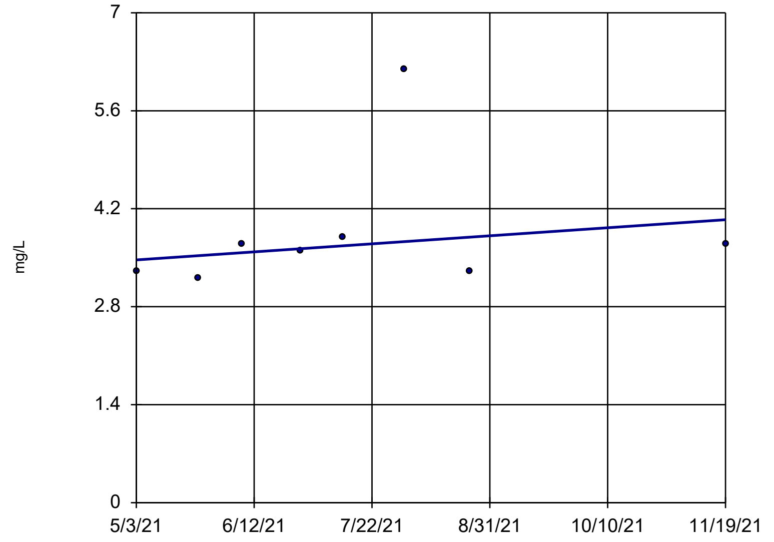
Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 1.047
units per year.

Mann-Kendall
statistic = 10
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail). Sen's Slope/Mann-Kendall used in lieu of Linear Regression because the Shapiro Wilk normality test showed the residuals to be non-normal at the 0.01 alpha level, calculated = 0.708, critical = 0.749.

Constituent: Boron Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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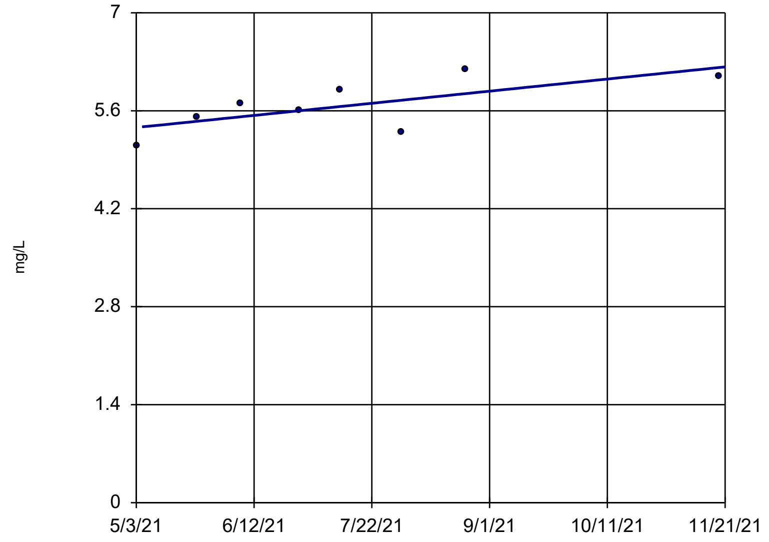
Linear Regression

MW-04 (bg)



n = 8

Slope = 1.566
units/year.

alpha = 0.02
t = 2.45
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9743, critical = 0.749.

Constituent: Boron Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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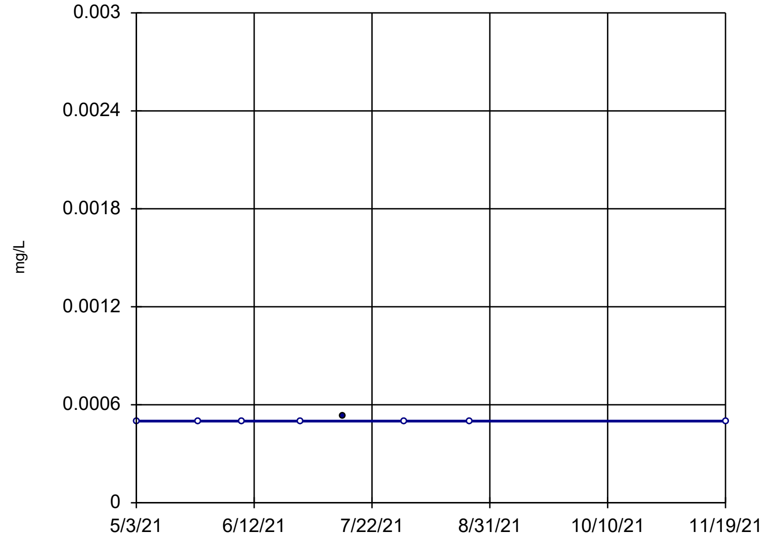
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 1
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail). Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Cadmium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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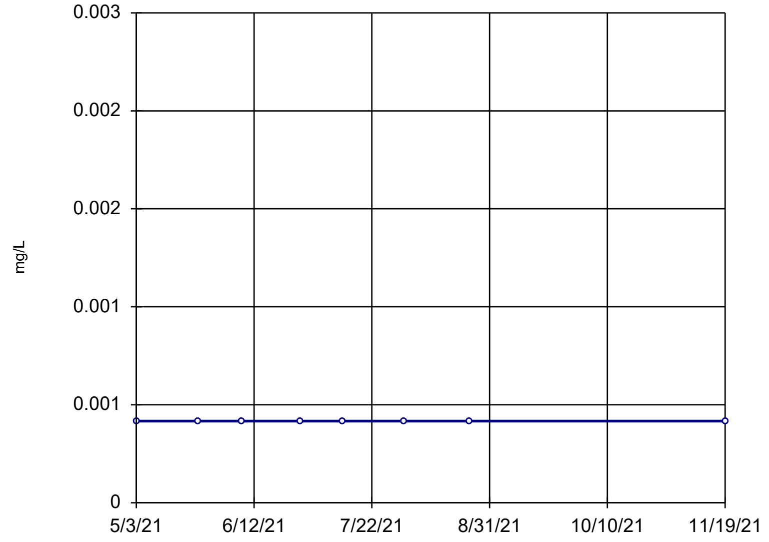
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail). Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Cadmium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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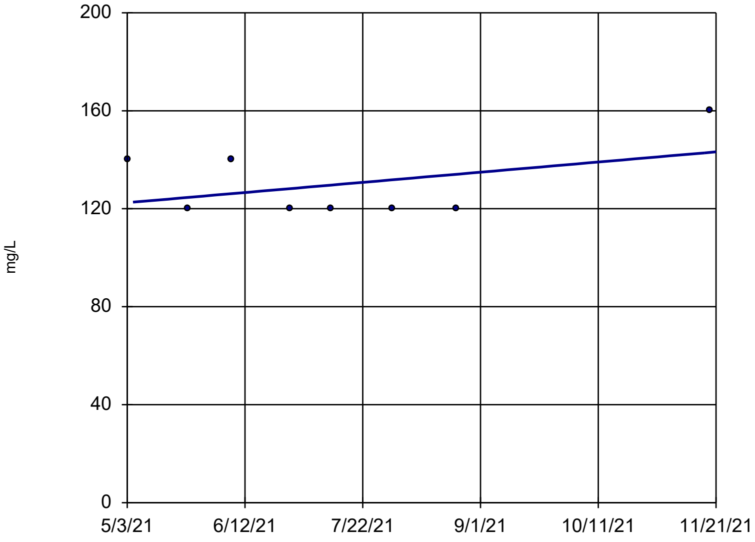
Linear Regression

MW-03 (bg)



n = 8

Slope = 37.51
units/year.

alpha = 0.02
t = 1.152
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8098, critical
= 0.749.

Constituent: Calcium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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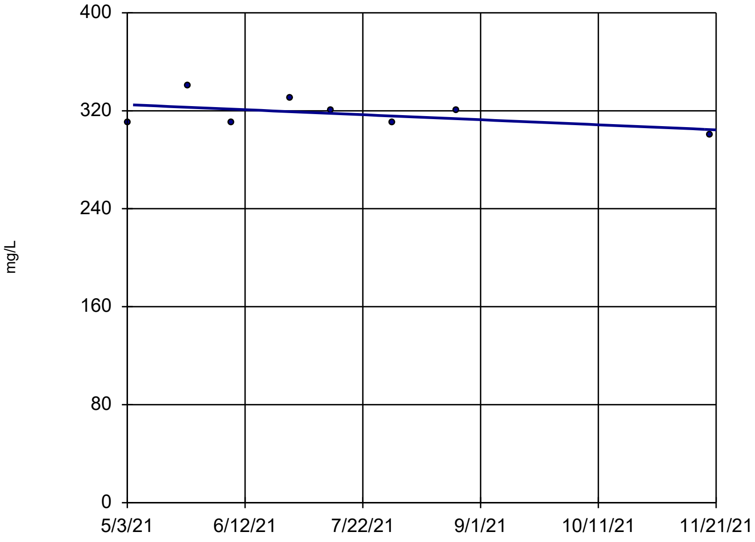
Linear Regression

MW-04 (bg)



n = 8

Slope = -37.15
units/year.

alpha = 0.02
t = -1.403
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9701, critical
= 0.749.

Constituent: Calcium Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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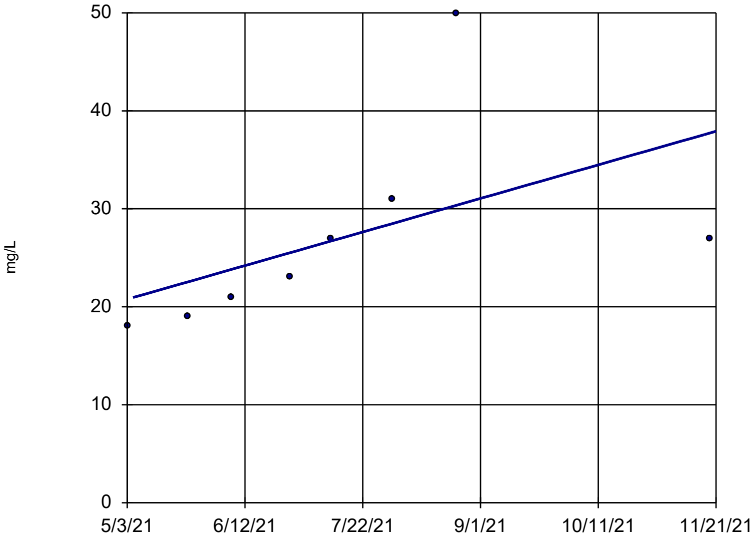
Linear Regression

MW-03 (bg)



n = 8

Slope = 30.99
units/year.

alpha = 0.02
t = 1.475
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8027, critical
= 0.749.

Constituent: Chloride Analysis Run 3/7/2022 2:37 PM

Will County Generating Station Client: NRG Data: Will County

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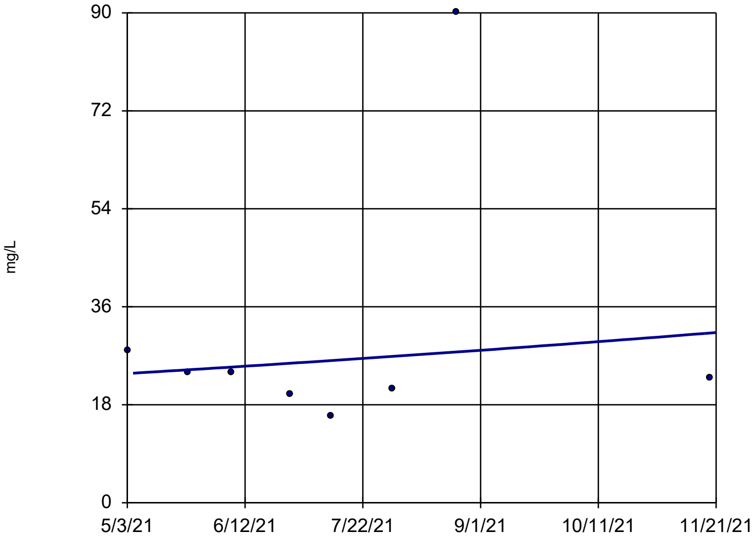
Linear Regression

MW-04 (bg)



n = 8

Slope = 0.4982
natural log units/year.

alpha = 0.02
t = 0.4039
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.7819 after natural
log transformation,
critical = 0.749.

Constituent: Chloride Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

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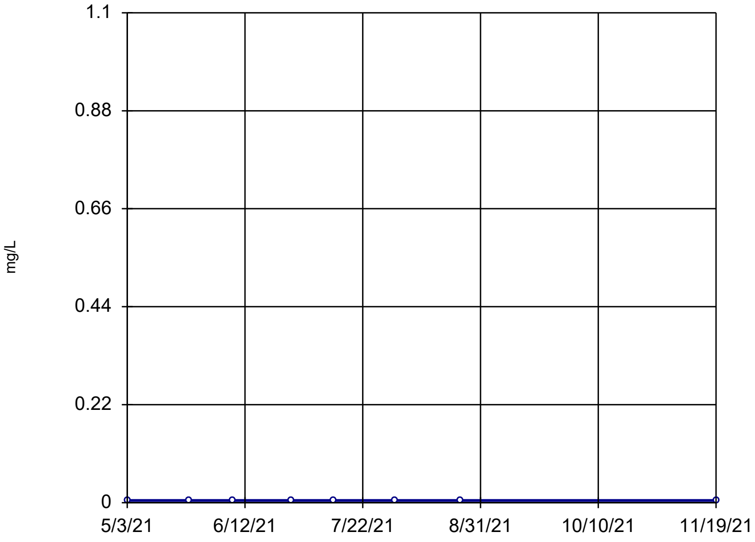
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Chromium   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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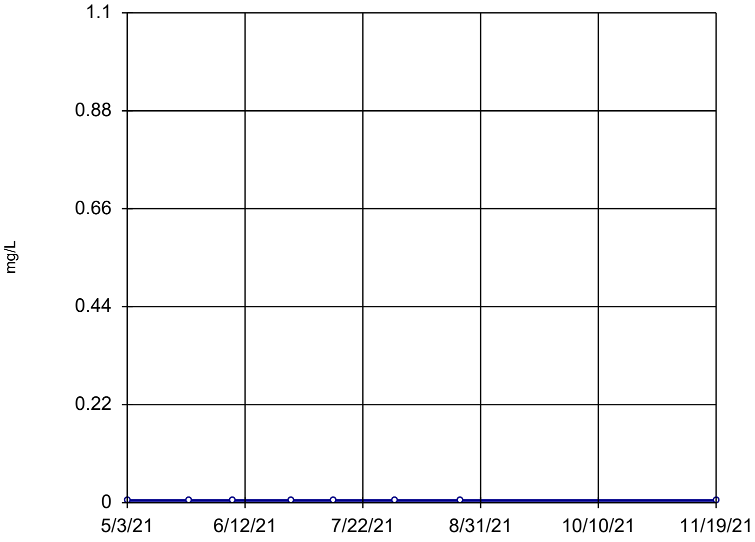
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Chromium   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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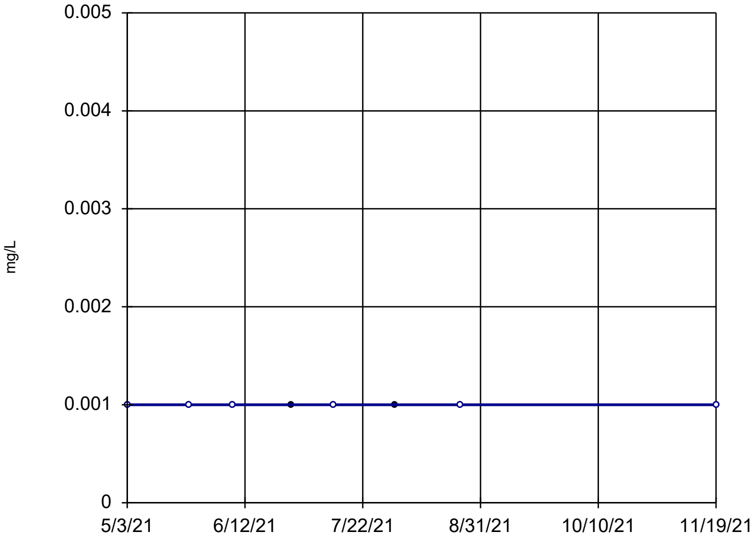
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because the Shapiro Wilk normality test showed the residuals to be non-normal at the 0.01 alpha level, calculated = 0.5674, critical = 0.749.

Constituent: Cobalt   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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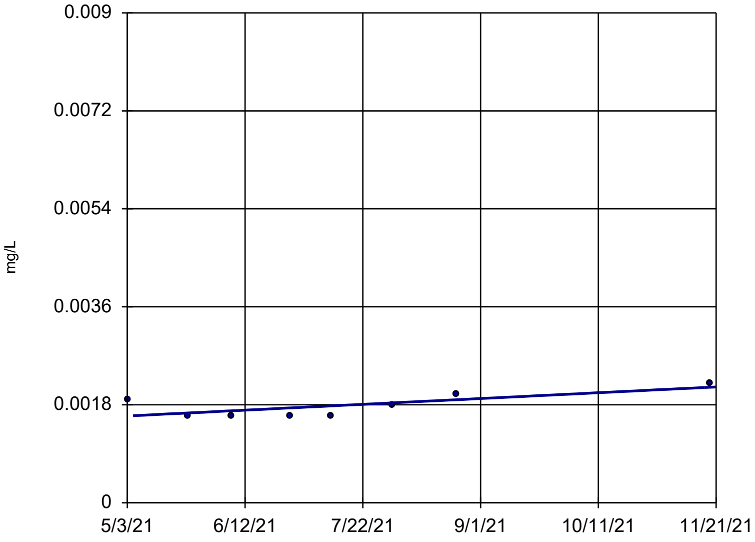
Linear Regression

MW-04 (bg)



n = 8

Slope = 0.0009652
units/year.

alpha = 0.02
t = 2.555
critical = 2.612

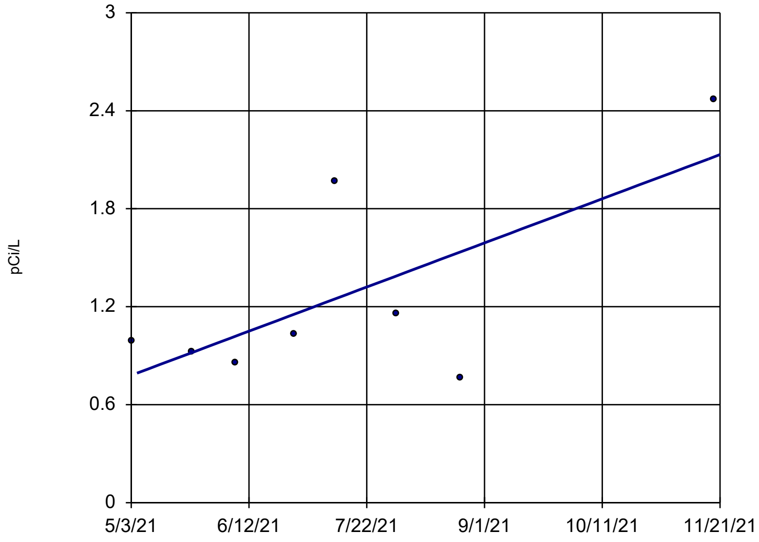
No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9251, critical = 0.749.

Constituent: Cobalt   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

Linear Regression

MW-03 (bg)



n = 8

Slope = 2.444 units/year.

alpha = 0.02
t = 2.314
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9753, critical = 0.749.

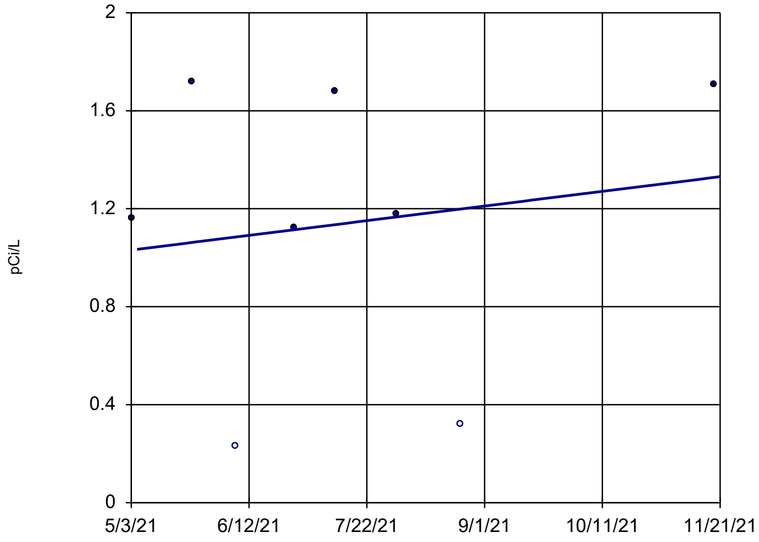
Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

Hollow symbols indicate censored values.

Linear Regression

MW-04 (bg)



n = 8
25% NDs

Slope = 0.5414 units/year.

alpha = 0.02
t = 0.3885
critical = 2.612

No significant trend.

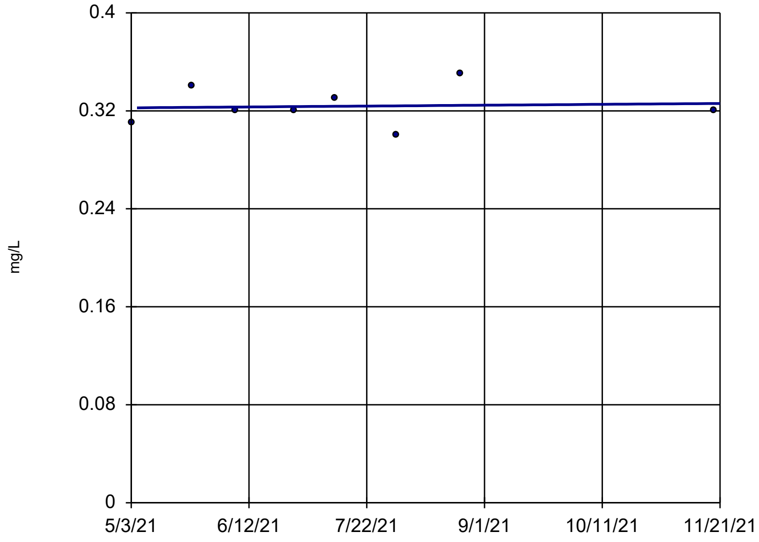
Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.8713, critical = 0.749.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-03 (bg)



n = 8

Slope = 0.006432 units/year.

alpha = 0.02
t = 0.1693
critical = 2.612

No significant trend.

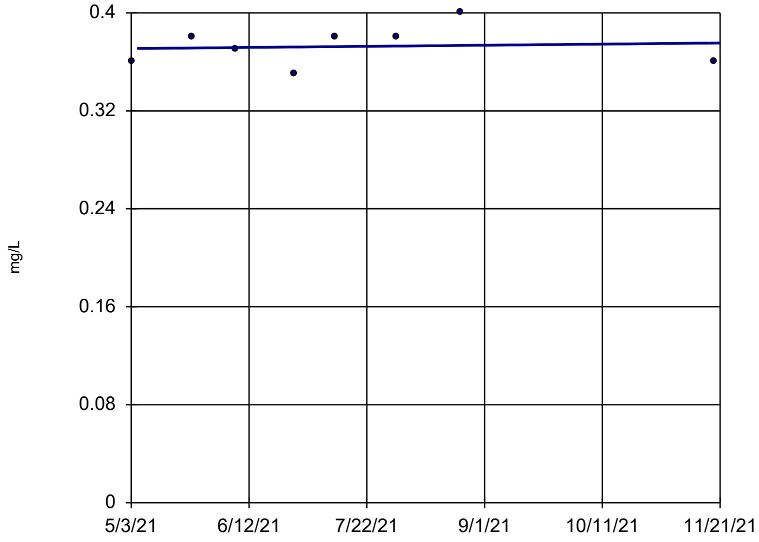
Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9711, critical = 0.749.

Constituent: Fluoride Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

Linear Regression

MW-04 (bg)



n = 8

Slope = 0.008193 units/year.

alpha = 0.02
t = 0.2182
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9583, critical = 0.749.

Constituent: Fluoride Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

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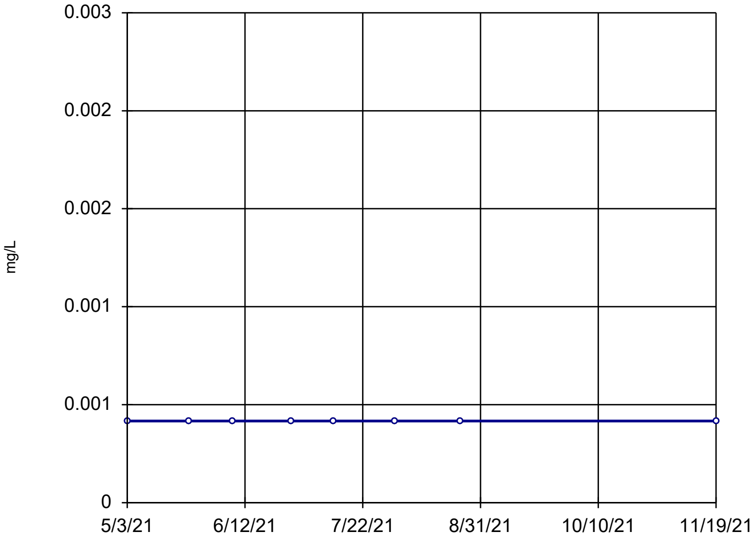
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Lead Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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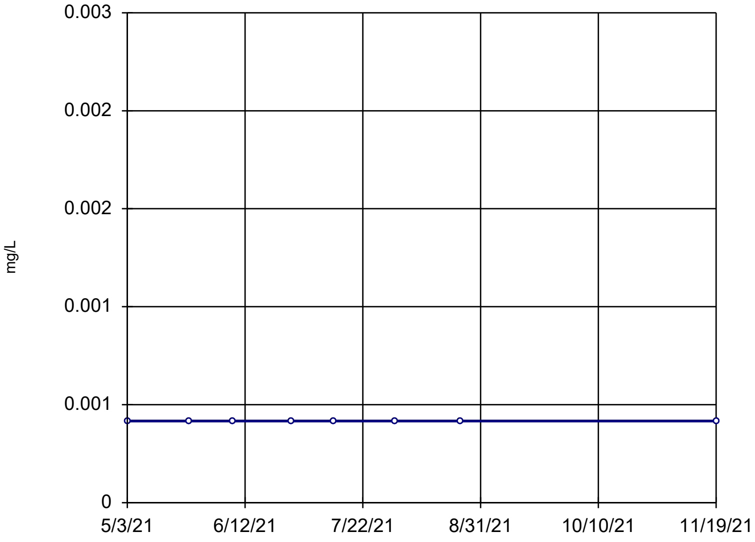
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Lead Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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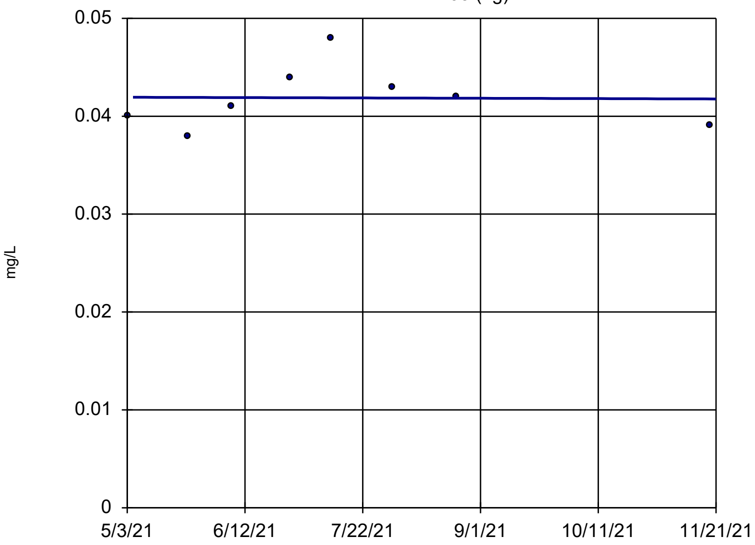
Linear Regression

MW-03 (bg)



n = 8

Slope = -0.0003109
units/year.

alpha = 0.02
t = -0.04099
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9528, critical = 0.749.

Constituent: Lithium Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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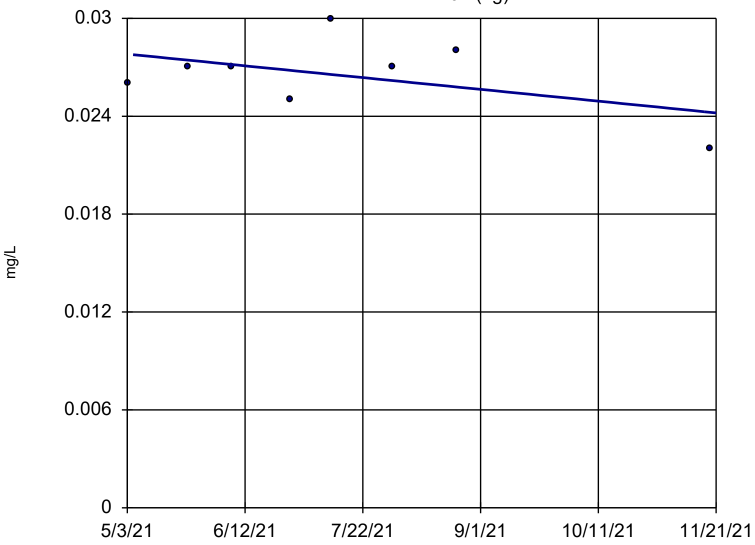
Linear Regression

MW-04 (bg)



n = 8

Slope = -0.006521
units/year.

alpha = 0.02
t = -1.341
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9206, critical = 0.749.

Constituent: Lithium Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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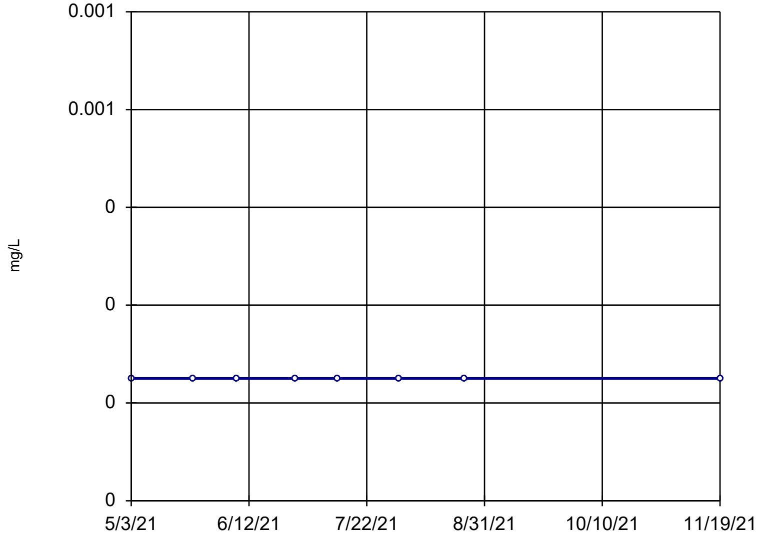
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Mercury   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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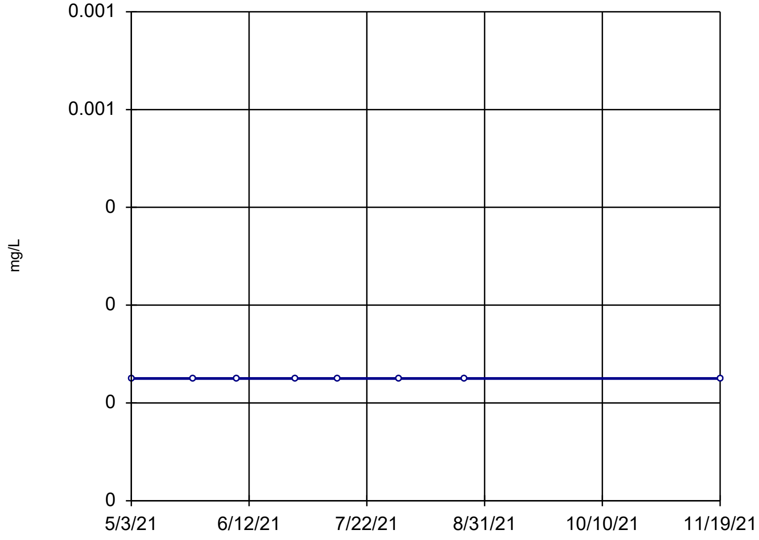
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98% confidence level (α = 0.01 per tail).
Sen's Slope/Mann-Kendall used in lieu of Linear Regression because censored data exceeded 75%.

Constituent: Mercury   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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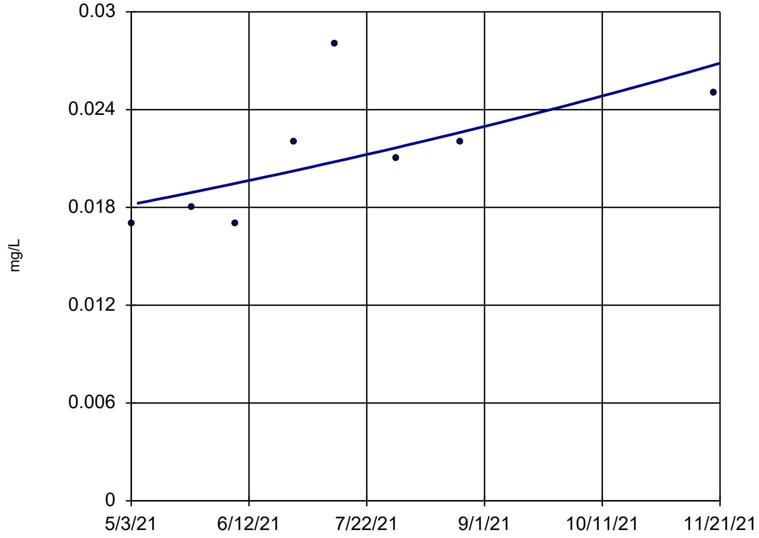
Linear Regression

MW-03 (bg)



n = 8

Slope = 0.7057
natural log units/year.

alpha = 0.02
t = 2.203
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.7957 after natural log transformation, critical = 0.749.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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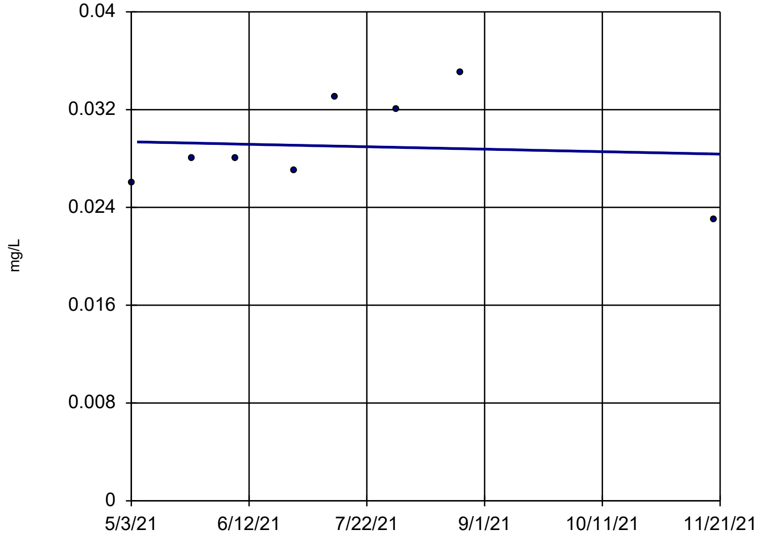
Linear Regression

MW-04 (bg)



n = 8

Slope = -0.001816
units/year.

alpha = 0.02
t = -0.1911
critical = 2.612

No significant trend.

Normality test on residuals: Shapiro Wilk @alpha = 0.01, calculated = 0.9404, critical = 0.749.

Constituent: Molybdenum   Analysis Run 3/7/2022 2:38 PM
Will County Generating Station   Client: NRG   Data: Will County

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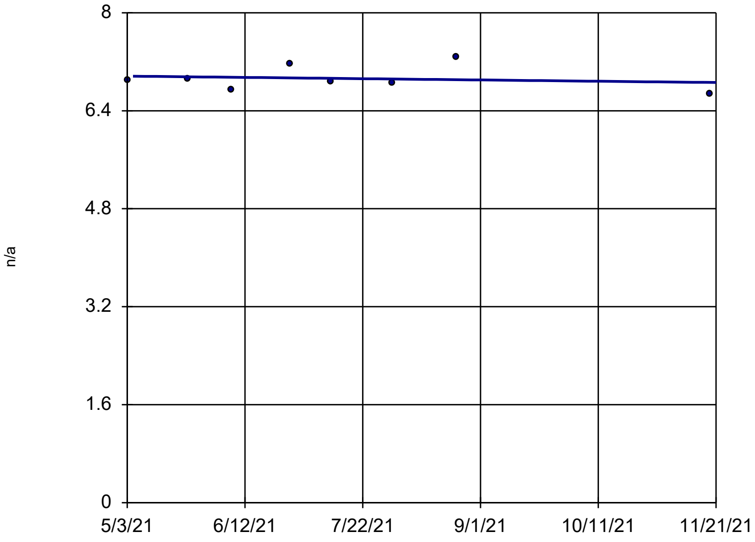
Linear Regression

MW-03 (bg)



n = 8

Slope = -0.1884
units/year.

alpha = 0.02
t = -0.3942
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.8313, critical
= 0.749.

Constituent: pH   Analysis Run 3/7/2022 2:38 PM

Will County Generating Station   Client: NRG   Data: Will County

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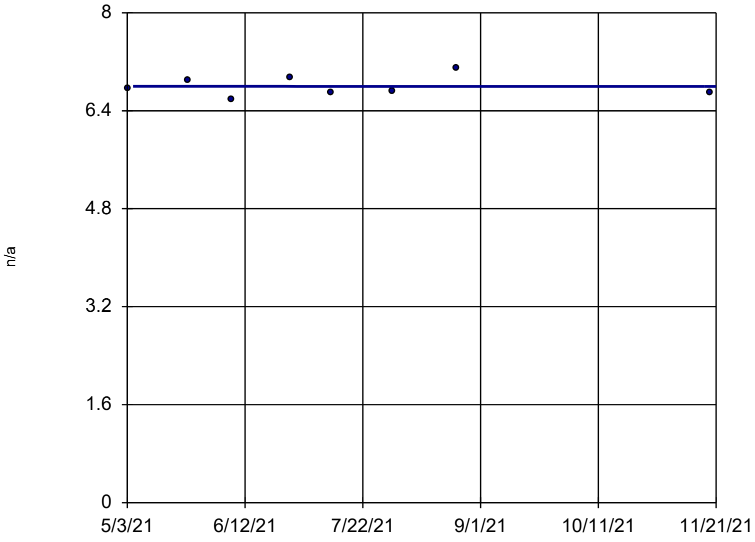
Linear Regression

MW-04 (bg)



n = 8

Slope = -0.004902
units/year.

alpha = 0.02
t = -0.01227
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9329, critical
= 0.749.

Constituent: pH   Analysis Run 3/7/2022 2:38 PM

Will County Generating Station   Client: NRG   Data: Will County

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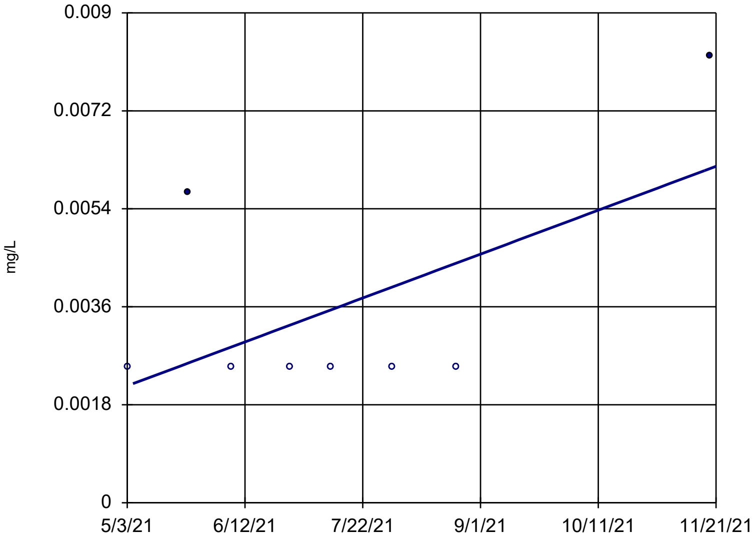
Hollow symbols indicate censored values.

Linear Regression

MW-03 (bg)



n = 8
75% NDs

Slope = 0.007293
units/year.

alpha = 0.02
t = 1.737
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9015, critical
= 0.749.

Constituent: Selenium   Analysis Run 3/7/2022 2:38 PM

Will County Generating Station   Client: NRG   Data: Will County

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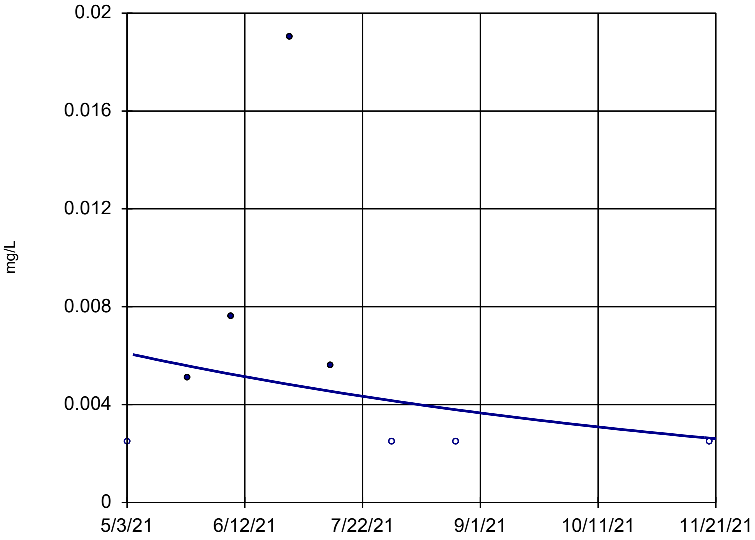
Hollow symbols indicate censored values.

Linear Regression

MW-04 (bg)



n = 8
50% NDs

Slope = -1.538
natural log units/year.

alpha = 0.02
t = -0.9381
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9379 after natural
log transformation,
critical = 0.749.

Constituent: Selenium   Analysis Run 3/7/2022 2:38 PM

Will County Generating Station   Client: NRG   Data: Will County

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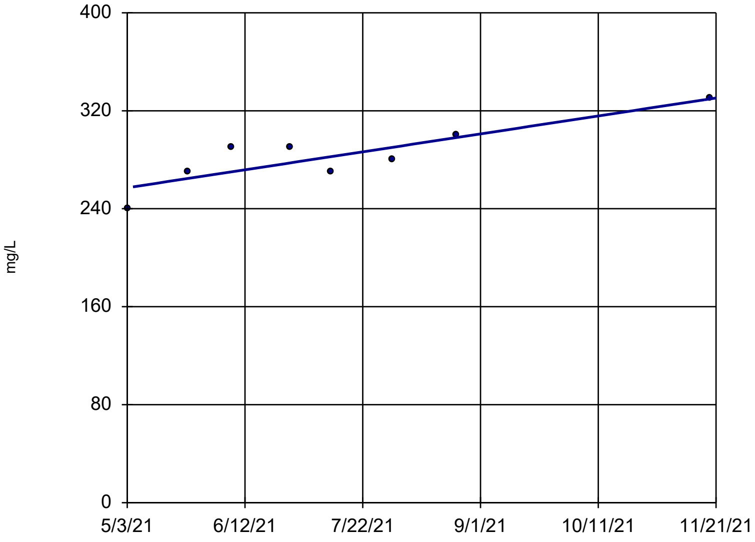
Linear Regression

MW-03 (bg)



n = 8

Slope = 132.5
units/year.

alpha = 0.02
t = 4.377
critical = 2.612

Significant increasing trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9636, critical
= 0.749.

Constituent: Sulfate Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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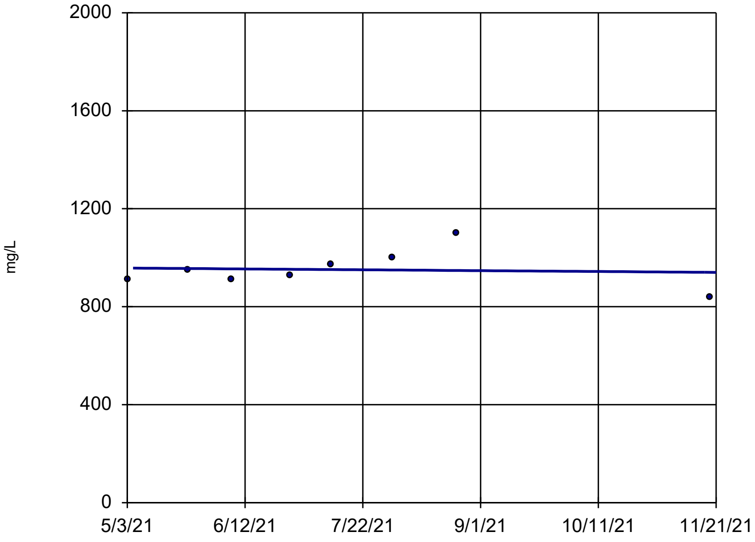
Linear Regression

MW-04 (bg)



n = 8

Slope = -31.5
units/year.

alpha = 0.02
t = -0.173
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9367, critical
= 0.749.

Constituent: Sulfate Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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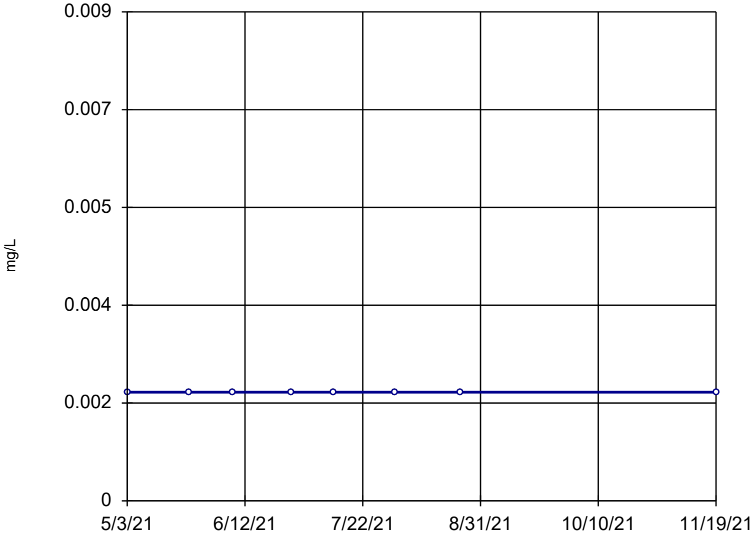
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-03 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

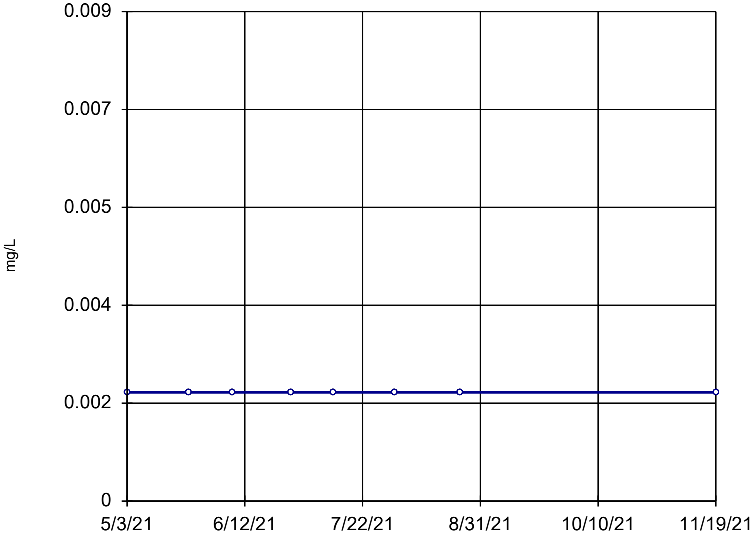
Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Thallium Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-04 (bg)



n = 8

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 20

Trend not significant at 98%
confidence level
(α = 0.01 per
tail).
Sen's Slope/Mann-Kendall used in
lieu of Linear
Regression because
censored data
exceeded 75%.

Constituent: Thallium Analysis Run 3/7/2022 2:38 PM
Will County Generating Station Client: NRG Data: Will County

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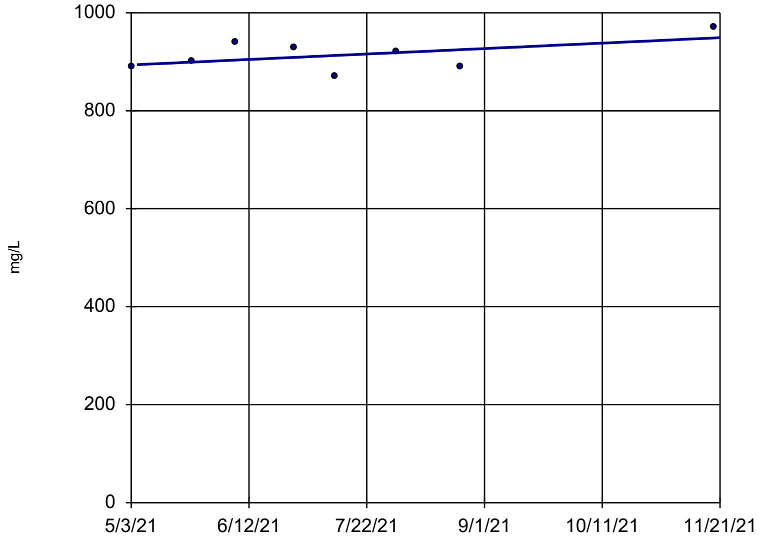
Linear Regression

MW-03 (bg)



n = 8

Slope = 100.5
units/year.

alpha = 0.02
t = 1.536
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9295, critical
= 0.749.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

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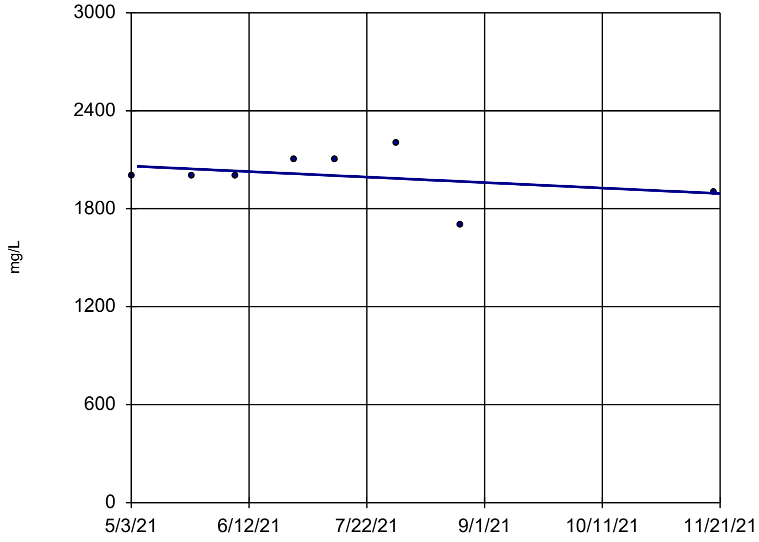
Linear Regression

MW-04 (bg)



n = 8

Slope = -304
units/year.

alpha = 0.02
t = -0.899
critical = 2.612

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9524, critical
= 0.749.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

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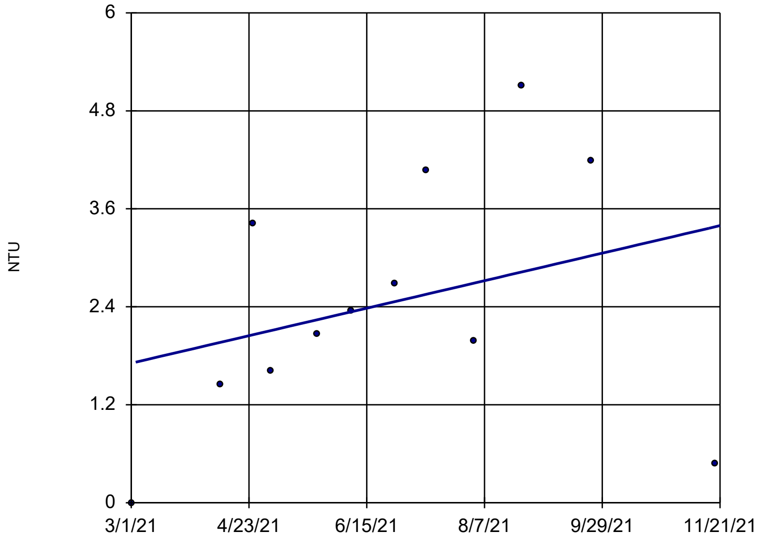
Linear Regression

MW-03 (bg)



n = 12

Slope = 2.323
units/year.

alpha = 0.02
t = 1.038
critical = 2.359

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9681, critical
= 0.805.

Constituent: Turbidity Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

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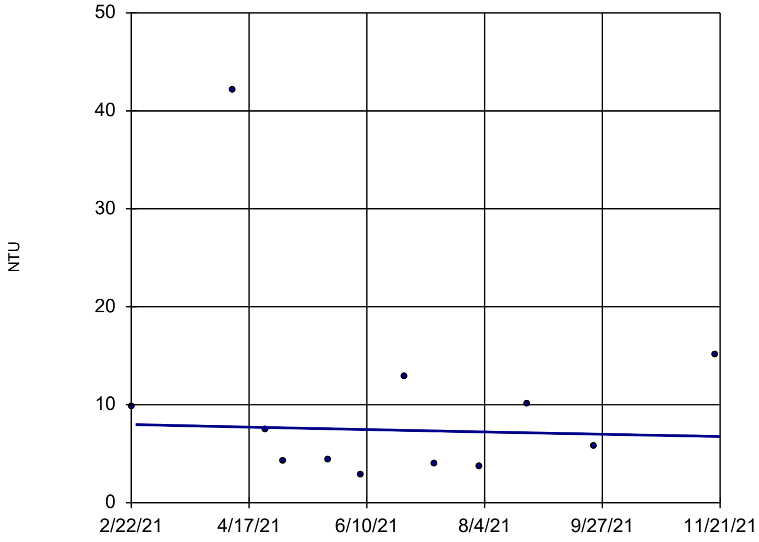
Linear Regression

MW-04 (bg)



n = 12

Slope = -0.2229
natural log units/year.

alpha = 0.02
t = -0.1909
critical = 2.359

No significant trend.

Normality test on residuals:
Shapiro Wilk @alpha
= 0.01, calculated
= 0.9309 after natural
log transformation,
critical = 0.805.

Constituent: Turbidity Analysis Run 3/7/2022 2:38 PM

Will County Generating Station Client: NRG Data: Will County

ANOVA Will Co 1S UG Wells MW-3/MW-4

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 2:46 PM

Constituent	Well	Calc.	Crit.	Sig.	Alpha	Transform	ANOVA Sig.	Alpha	Method
Arsenic (mg/L)	n/a	n/a	n/a	n/a	n/a	sqrt(x)	Yes	0.05	Param.
Barium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)
Boron (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (eq. var.)
Cadmium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	NP (NDs)
Calcium (mg/L)	n/a	n/a	n/a	n/a	n/a	x^2	Yes	0.05	Param.
Chloride (mg/L)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	NP (normality)
Cobalt (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	NP (normality)
Combined Radium 226 + 228 (pCi/L)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	Param.
Fluoride (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Lithium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Molybdenum (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
pH (n/a)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	Param.
Selenium (mg/L)	n/a	n/a	n/a	n/a	n/a	No	No	0.05	NP (normality)
Sulfate (mg/L)	n/a	n/a	n/a	n/a	n/a	No	Yes	0.05	Param.
Total Dissolved Solids (mg/L)	n/a	n/a	n/a	n/a	n/a	sqrt(x)	Yes	0.05	Param.
Turbidity (NTU)	n/a	n/a	n/a	n/a	n/a	x^(1/3)	Yes	0.05	Param.

Parametric ANOVA

Constituent: Arsenic   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test (after square root transformation) indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 11.25

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed after square root transformation. Alpha = 0.05, calculated = 0.9315, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 2.945, tabulated = 4.6.

Non-Parametric ANOVA

Constituent: Barium   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 11.43

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 5 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 11.43

Non-Parametric ANOVA

Constituent: Boron   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 6.65

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 3 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 6.62
Adjusted Kruskal-Wallis statistic (H') = 6.65

Non-Parametric ANOVA

Constituent: Cadmium Analysis Run 3/7/2022 2:46 PM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates NO DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is less than or equal to the Chi-squared value, we conclude that no group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 1

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 1 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 0.1765
Adjusted Kruskal-Wallis statistic (H') = 1

Parametric ANOVA

Constituent: Calcium   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

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For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test (after square transformation) indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 663.2

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed after square transformation. Alpha = 0.05, calculated = 0.9225, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 2.84, tabulated = 4.6.

Non-Parametric ANOVA

Constituent: Chloride   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates NO DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is less than or equal to the Chi-squared value, we conclude that no group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 0.04438

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 4 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 0.04412
Adjusted Kruskal-Wallis statistic (H') = 0.04438

Non-Parametric ANOVA

Constituent: Cobalt   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates a DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is greater than the Chi-squared value, we conclude that at least one group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 13.11

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 2 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 11.29
Adjusted Kruskal-Wallis statistic (H') = 13.11

Parametric ANOVA

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 2:46 PM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates NO VARIATION at the 5% significance level. Because the calculated F statistic is less than or equal to the tabulated F statistic, the hypothesis of a single homogeneous population is accepted.

Calculated F statistic = 0.1879

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9605, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.04452, tabulated = 4.6.

Parametric ANOVA

Constituent: Fluoride   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 37.62

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9521, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.004975, tabulated = 4.6.

Parametric ANOVA

Constituent: Lithium Analysis Run 3/7/2022 2:46 PM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 121.6

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.974, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.739, tabulated = 4.6.

Parametric ANOVA

Constituent: Molybdenum Analysis Run 3/7/2022 2:46 PM
Will County Generating Station Client: NRG Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 15.32

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9603, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.05556, tabulated = 4.6.

Parametric ANOVA

Constituent: pH   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates NO VARIATION at the 5% significance level. Because the calculated F statistic is less than or equal to the tabulated F statistic, the hypothesis of a single homogeneous population is accepted.

Calculated F statistic = 1.949

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9275, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 0.04979, tabulated = 4.6.

Non-Parametric ANOVA

Constituent: Selenium   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021, the non-parametric analysis of variance test indicates NO DIFFERENCE between the medians of the groups tested at the 5% significance level. Because the calculated Kruskal-Wallis statistic is less than or equal to the Chi-squared value, we conclude that no group has a significantly different median concentration of this constituent when compared to another group.

Calculated Kruskal-Wallis statistic = 0.7136

Tabulated Chi-Squared value = 3.841 with 1 degree of freedom at the 5% significance level.

There were 1 groups of ties in the data, consequently the Kruskal-Wallis statistic (H) was adjusted. The adjusted statistic (H') was utilized to determine if the medians were equal.
Kruskal-Wallis statistic (H) = 0.5404
Adjusted Kruskal-Wallis statistic (H') = 0.7136

Parametric ANOVA

Constituent: Sulfate   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 543.9

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed on the raw data. Alpha = 0.05, calculated = 0.9094, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 3.548, tabulated = 4.6.

Parametric ANOVA

Constituent: Total Dissolved Solids   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 5/3/2021 and 11/19/2021 the parametric analysis of variance test (after square root transformation) indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 517.1

Tabulated F statistic = 4.6 with 1 and 14 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed after square root transformation. Alpha = 0.05, calculated = 0.894, critical = 0.887. Levene's Equality of Variance test passed. Calculated = 2.608, tabulated = 4.6.

Parametric ANOVA

Constituent: Turbidity   Analysis Run 3/7/2022 2:46 PM
Will County Generating Station   Client: NRG   Data: Will County

For observations made between 2/22/2021 and 11/19/2021 the parametric analysis of variance test (after cube root transformation) indicates VARIATION at the 5% significance level. Because the calculated F statistic is greater than the tabulated F statistic, the hypothesis of a single homogeneous population is rejected.

Calculated F statistic = 13.47

Tabulated F statistic = 4.3 with 1 and 22 degrees of freedom at the 5% significance level.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Groups	3.672	1	3.672	13.47
Error Within Groups	5.999	22	0.2727	
Total	9.671	23		

The Shapiro Wilk normality test on the residuals passed after cube root transformation. Alpha = 0.05, calculated = 0.9395, critical = 0.916. Levene's Equality of Variance test passed. Calculated = 0.6794, tabulated = 4.3.

Shapiro-Wilk Normality Test

Constituent: Antimony   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             -1                    0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Arsenic   Analysis Run 3/7/2022 3:02 PM
Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.8392                0.818                 Yes
                      square root           0.9062                0.818                 Yes
                      square                0.6945                0.818                 No
                      cube root             0.9247                0.818                 Yes
                      cube                  0.585                 0.818                 No
                      natural log           0.9533                0.818                 Yes
                      x^4                   0.5171                0.818                 No
                      x^5                   0.4772                0.818                 No
                      x^6                   0.4538                0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.8935                0.818                 Yes
                      square root           0.9128                0.818                 Yes
                      square                0.8403                0.818                 Yes
                      cube root             0.9175                0.818                 Yes
                      cube                  0.7835                0.818                 No
                      natural log           0.9237                0.818                 Yes
                      x^4                   0.7346                0.818                 No
                      x^5                   0.696                 0.818                 No
                      x^6                   0.6664                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.863                 0.887                 No
                      square root           0.9337                0.887                 Yes
                      square                0.7087                0.887                 No
                      cube root             0.9505                0.887                 Yes
                      cube                  0.5998                0.887                 No
                      natural log           0.9683                0.887                 Yes
                      x^4                   0.532                 0.887                 No
                      x^5                   0.4888                0.887                 No
                      x^6                   0.4596                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Barium Analysis Run 3/7/2022 3:02 PM

Will County Generating Station Client: NRG Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	0.9168	0.818	Yes
	square root	0.9205	0.818	Yes
	square	0.9073	0.818	Yes
	cube root	0.9216	0.818	Yes
	cube	0.8953	0.818	Yes
	natural log	0.9236	0.818	Yes
	x^4	0.8808	0.818	Yes
	x^5	0.8643	0.818	Yes
	x^6	0.8461	0.818	Yes
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	0.942	0.818	Yes
	square root	0.941	0.818	Yes
	square	0.9433	0.818	Yes
	cube root	0.9406	0.818	Yes
	cube	0.9435	0.818	Yes
	natural log	0.9397	0.818	Yes
	x^4	0.9428	0.818	Yes
	x^5	0.9411	0.818	Yes
	x^6	0.9383	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7971	0.887	No
	square root	0.788	0.887	No
	square	0.8141	0.887	No
	cube root	0.7851	0.887	No
	cube	0.8232	0.887	No
	natural log	0.7796	0.887	No
	x^4	0.8194	0.887	No
	x^5	0.8022	0.887	No
	x^6	0.7745	0.887	No

Shapiro-Wilk Normality Test

Constituent: Beryllium   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           -1                    0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           0                     0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           -1                    0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Boron   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.6305                0.818                 No
                      square root           0.6622                0.818                 No
                      square                0.5741                0.818                 No
                      cube root             0.6732                0.818                 No
                      cube                  0.5289                0.818                 No
                      natural log           0.6956                0.818                 No
                      x^4                   0.4947                0.818                 No
                      x^5                   0.47                  0.818                 No
                      x^6                   0.4527                0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9738                0.818                 Yes
                      square root           0.9738                0.818                 Yes
                      square                0.9726                0.818                 Yes
                      cube root             0.9737                0.818                 Yes
                      cube                  0.97                  0.818                 Yes
                      natural log           0.9735                0.818                 Yes
                      x^4                   0.9661                0.818                 Yes
                      x^5                   0.961                 0.818                 Yes
                      x^6                   0.9548                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.8432                0.887                 No
                      square root           0.8399                0.887                 No
                      square                0.849                 0.887                 No
                      cube root             0.8388                0.887                 No
                      cube                  0.853                 0.887                 No
                      natural log           0.8365                0.887                 No
                      x^4                   0.8544                0.887                 No
                      x^5                   0.8527                0.887                 No
                      x^6                   0.8476                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Cadmium   Analysis Run 3/7/2022 3:02 PM
Will County Generating Station   Client: NRG   Data: Will County

---

```
Well                 Transformation       Calculated           Critical             Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                     no                   0.4186               0.818                No
                     square root          0.4186               0.818                No
                     square               0.4186               0.818                No
                     cube root            0.4186               0.818                No
                     cube                 0.4186               0.818                No
                     natural log          0.4186               0.818                No
                     x^4                  0.4186               0.818                No
                     x^5                  0.4186               0.818                No
                     x^6                  -1                   0.818                No
MW-04 (bg) (n = 8, alpha = 0.05)
                     no                   -1                   0.818                No
                     square root          0                    0.818                No
                     square               -1                   0.818                No
                     cube root            -1                   0.818                No
                     cube                 -1                   0.818                No
                     natural log          -1                   0.818                No
                     x^4                  -1                   0.818                No
                     x^5                  -1                   0.818                No
                     x^6                  -1                   0.818                No
Pooled Background (bg) (n = 16, alpha = 0.05)
                     no                   0.2727               0.887                No
                     square root          0.2727               0.887                No
                     square               0.2727               0.887                No
                     cube root            0.2727               0.887                No
                     cube                 0.2727               0.887                No
                     natural log          0.2727               0.887                No
                     x^4                  0.2727               0.887                No
                     x^5                  0.2727               0.887                No
                     x^6                  -1                   0.887                No
```

Shapiro-Wilk Normality Test

Constituent: Calcium Analysis Run 3/7/2022 3:02 PM

Will County Generating Station Client: NRG Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	0.7234	0.818	No
	square root	0.7251	0.818	No
	square	0.7182	0.818	No
	cube root	0.7256	0.818	No
	cube	0.7105	0.818	No
	natural log	0.7262	0.818	No
	x^4	0.7003	0.818	No
	x^5	0.6879	0.818	No
	x^6	0.6736	0.818	No
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	0.9378	0.818	Yes
	square root	0.94	0.818	Yes
	square	0.9328	0.818	Yes
	cube root	0.9408	0.818	Yes
	cube	0.9273	0.818	Yes
	natural log	0.9421	0.818	Yes
	x^4	0.9212	0.818	Yes
	x^5	0.9147	0.818	Yes
	x^6	0.9076	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7455	0.887	No
	square root	0.7449	0.887	No
	square	0.7506	0.887	No
	cube root	0.745	0.887	No
	cube	0.7607	0.887	No
	natural log	0.7455	0.887	No
	x^4	0.7739	0.887	No
	x^5	0.7875	0.887	No
	x^6	0.7996	0.887	No

Shapiro-Wilk Normality Test

Constituent: Chloride Analysis Run 3/7/2022 3:02 PM

Will County Generating Station Client: NRG Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	0.8046	0.818	No
	square root	0.8582	0.818	Yes
	square	0.6939	0.818	No
	cube root	0.8748	0.818	Yes
	cube	0.6007	0.818	No
	natural log	0.9048	0.818	Yes
	x^4	0.5338	0.818	No
	x^5	0.4897	0.818	No
	x^6	0.4619	0.818	No
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	0.5598	0.818	No
	square root	0.6314	0.818	No
	square	0.4736	0.818	No
	cube root	0.6594	0.818	No
	cube	0.4379	0.818	No
	natural log	0.7203	0.818	No
	x^4	0.425	0.818	No
	x^5	0.4206	0.818	No
	x^6	0.4192	0.818	No
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.5971	0.887	No
	square root	0.6965	0.887	No
	square	0.4452	0.887	No
	cube root	0.7309	0.887	No
	cube	0.3602	0.887	No
	natural log	0.7984	0.887	No
	x^4	0.3173	0.887	No
	x^5	0.2959	0.887	No
	x^6	0.285	0.887	No

Shapiro-Wilk Normality Test

Constituent: Chromium   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             0                     0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           0                     0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Cobalt   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.5662                0.818                 No
                      square root           0.5662                0.818                 No
                      square                0.5662                0.818                 No
                      cube root             0.5662                0.818                 No
                      cube                  0.5662                0.818                 No
                      natural log           0.5662                0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.8299                0.818                 Yes
                      square root           0.8308                0.818                 Yes
                      square                0.8255                0.818                 Yes
                      cube root             0.8309                0.818                 Yes
                      cube                  0.8175                0.818                 No
                      natural log           0.8309                0.818                 Yes
                      x^4                   0.8059                0.818                 No
                      x^5                   0.7912                0.818                 No
                      x^6                   0.7737                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.8025                0.887                 No
                      square root           0.7926                0.887                 No
                      square                0.8125                0.887                 No
                      cube root             0.7887                0.887                 No
                      cube                  0.8053                0.887                 No
                      natural log           0.7804                0.887                 No
                      x^4                   0.7808                0.887                 No
                      x^5                   0.7432                0.887                 No
                      x^6                   0.6988                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 3:02 PM
Will County Generating Station Client: NRG Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	0.7776	0.818	No
	square root	0.8156	0.818	No
	square	0.7097	0.818	No
	cube root	0.8284	0.818	Yes
	cube	0.6552	0.818	No
	natural log	0.8541	0.818	Yes
	x^4	0.612	0.818	No
	x^5	0.5772	0.818	No
	x^6	0.5484	0.818	No
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	0.8449	0.818	Yes
	square root	0.8104	0.818	No
	square	0.8607	0.818	Yes
	cube root	0.796	0.818	No
	cube	0.828	0.818	Yes
	natural log	0.7652	0.818	No
	x^4	0.7874	0.818	No
	x^5	0.7548	0.818	No
	x^6	0.7321	0.818	No
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.9564	0.887	Yes
	square root	0.9523	0.887	Yes
	square	0.8457	0.887	No
	cube root	0.9357	0.887	Yes
	cube	0.714	0.887	No
	natural log	0.8801	0.887	No
	x^4	0.606	0.887	No
	x^5	0.5224	0.887	No
	x^6	0.4591	0.887	No

Shapiro-Wilk Normality Test

Constituent: Fluoride   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

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```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.9633                0.818                 Yes
                      square root           0.9648                0.818                 Yes
                      square                0.9594                0.818                 Yes
                      cube root             0.9653                0.818                 Yes
                      cube                  0.9544                0.818                 Yes
                      natural log           0.9661                0.818                 Yes
                      x^4                   0.9484                0.818                 Yes
                      x^5                   0.9415                0.818                 Yes
                      x^6                   0.9338                0.818                 Yes
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9435                0.818                 Yes
                      square root           0.9451                0.818                 Yes
                      square                0.9399                0.818                 Yes
                      cube root             0.9455                0.818                 Yes
                      cube                  0.9354                0.818                 Yes
                      natural log           0.9463                0.818                 Yes
                      x^4                   0.93                  0.818                 Yes
                      x^5                   0.9238                0.818                 Yes
                      x^6                   0.9168                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.958                 0.887                 Yes
                      square root           0.9579                0.887                 Yes
                      square                0.9565                0.887                 Yes
                      cube root             0.9578                0.887                 Yes
                      cube                  0.9528                0.887                 Yes
                      natural log           0.9573                0.887                 Yes
                      x^4                   0.9469                0.887                 Yes
                      x^5                   0.939                 0.887                 Yes
                      x^6                   0.929                 0.887                 Yes
```

Shapiro-Wilk Normality Test

Constituent: Lead   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    -1                    0.818                 No
                      square root           0                     0.818                 No
                      square                -1                    0.818                 No
                      cube root             -1                    0.818                 No
                      cube                  -1                    0.818                 No
                      natural log           -1                    0.818                 No
                      x^4                   -1                    0.818                 No
                      x^5                   -1                    0.818                 No
                      x^6                   -1                    0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    -1                    0.887                 No
                      square root           0                     0.887                 No
                      square                -1                    0.887                 No
                      cube root             0                     0.887                 No
                      cube                  -1                    0.887                 No
                      natural log           -1                    0.887                 No
                      x^4                   -1                    0.887                 No
                      x^5                   -1                    0.887                 No
                      x^6                   -1                    0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Lithium   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

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```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.9517                0.818                 Yes
                      square root           0.959                 0.818                 Yes
                      square                0.9353                0.818                 Yes
                      cube root             0.9612                0.818                 Yes
                      cube                  0.9167                0.818                 Yes
                      natural log           0.9655                0.818                 Yes
                      x^4                   0.896                 0.818                 Yes
                      x^5                   0.8738                0.818                 Yes
                      x^6                   0.8504                0.818                 Yes
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9364                0.818                 Yes
                      square root           0.9274                0.818                 Yes
                      square                0.9497                0.818                 Yes
                      cube root             0.9241                0.818                 Yes
                      cube                  0.9565                0.818                 Yes
                      natural log           0.917                 0.818                 Yes
                      x^4                   0.9566                0.818                 Yes
                      x^5                   0.9503                0.818                 Yes
                      x^6                   0.9384                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.8957                0.887                 Yes
                      square root           0.8968                0.887                 Yes
                      square                0.8909                0.887                 Yes
                      cube root             0.897                 0.887                 Yes
                      cube                  0.8821                0.887                 No
                      natural log           0.8969                0.887                 Yes
                      x^4                   0.8682                0.887                 No
                      x^5                   0.8483                0.887                 No
                      x^6                   0.8223                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Mercury   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                 Transformation       Calculated           Critical             Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                     no                   -1                   0.818                No
                     square root          0                    0.818                No
                     square               -1                   0.818                No
                     cube root            -1                   0.818                No
                     cube                 -1                   0.818                No
                     natural log          -1                   0.818                No
                     x^4                  -1                   0.818                No
                     x^5                  -1                   0.818                No
                     x^6                  -1                   0.818                No
MW-04 (bg) (n = 8, alpha = 0.05)
                     no                   -1                   0.818                No
                     square root          0                    0.818                No
                     square               -1                   0.818                No
                     cube root            -1                   0.818                No
                     cube                 -1                   0.818                No
                     natural log          -1                   0.818                No
                     x^4                  -1                   0.818                No
                     x^5                  -1                   0.818                No
                     x^6                  -1                   0.818                No
Pooled Background (bg) (n = 16, alpha = 0.05)
                     no                   -1                   0.887                No
                     square root          0                    0.887                No
                     square               -1                   0.887                No
                     cube root            0                    0.887                No
                     cube                 -1                   0.887                No
                     natural log          -1                   0.887                No
                     x^4                  -1                   0.887                No
                     x^5                  -1                   0.887                No
                     x^6                  -1                   0.887                No
```

Shapiro-Wilk Normality Test

Constituent: Molybdenum   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.9194                0.818                 Yes
                      square root           0.9232                0.818                 Yes
                      square                0.9039                0.818                 Yes
                      cube root             0.9239                0.818                 Yes
                      cube                  0.8787                0.818                 Yes
                      natural log           0.9244                0.818                 Yes
                      x^4                   0.8461                0.818                 Yes
                      x^5                   0.809                 0.818                 No
                      x^6                   0.7702                0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9562                0.818                 Yes
                      square root           0.9588                0.818                 Yes
                      square                0.9467                0.818                 Yes
                      cube root             0.9592                0.818                 Yes
                      cube                  0.9324                0.818                 Yes
                      natural log           0.9596                0.818                 Yes
                      x^4                   0.9149                0.818                 Yes
                      x^5                   0.8954                0.818                 Yes
                      x^6                   0.8749                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.9573                0.887                 Yes
                      square root           0.9562                0.887                 Yes
                      square                0.944                 0.887                 Yes
                      cube root             0.9546                0.887                 Yes
                      cube                  0.9132                0.887                 Yes
                      natural log           0.9497                0.887                 Yes
                      x^4                   0.871                 0.887                 No
                      x^5                   0.8235                0.887                 No
                      x^6                   0.7757                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: pH Analysis Run 3/7/2022 3:02 PM

Will County Generating Station Client: NRG Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.9075                0.818                 Yes
                      square root           0.9099                0.818                 Yes
                      square                0.9025                0.818                 Yes
                      cube root             0.9107                0.818                 Yes
                      cube                  0.8973                0.818                 Yes
                      natural log           0.9123                0.818                 Yes
                      x^4                   0.892                 0.818                 Yes
                      x^5                   0.8864                0.818                 Yes
                      x^6                   0.8808                0.818                 Yes
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9336                0.818                 Yes
                      square root           0.935                 0.818                 Yes
                      square                0.9305                0.818                 Yes
                      cube root             0.9355                0.818                 Yes
                      cube                  0.9274                0.818                 Yes
                      natural log           0.9365                0.818                 Yes
                      x^4                   0.924                 0.818                 Yes
                      x^5                   0.9205                0.818                 Yes
                      x^6                   0.9169                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.9384                0.887                 Yes
                      square root           0.9409                0.887                 Yes
                      square                0.9332                0.887                 Yes
                      cube root             0.9417                0.887                 Yes
                      cube                  0.9277                0.887                 Yes
                      natural log           0.9432                0.887                 Yes
                      x^4                   0.9218                0.887                 Yes
                      x^5                   0.9156                0.887                 Yes
                      x^6                   0.9091                0.887                 Yes
```

Shapiro-Wilk Normality Test

Constituent: Selenium   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.6065                0.818                 No
                      square root           0.6079                0.818                 No
                      square                0.5913                0.818                 No
                      cube root             0.6075                0.818                 No
                      cube                  0.5631                0.818                 No
                      natural log           0.6058                0.818                 No
                      x^4                   0.5308                0.818                 No
                      x^5                   0.5017                0.818                 No
                      x^6                   0.4784                0.818                 No
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.6815                0.818                 No
                      square root           0.7628                0.818                 No
                      square                0.5373                0.818                 No
                      cube root             0.785                 0.818                 No
                      cube                  0.4651                0.818                 No
                      natural log           0.8161                0.818                 No
                      x^4                   0.4363                0.818                 No
                      x^5                   0.4253                0.818                 No
                      x^6                   0.4212                0.818                 No
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.5979                0.887                 No
                      square root           0.6767                0.887                 No
                      square                0.4298                0.887                 No
                      cube root             0.6954                0.887                 No
                      cube                  0.3368                0.887                 No
                      natural log           0.7187                0.887                 No
                      x^4                   0.2982                0.887                 No
                      x^5                   0.2829                0.887                 No
                      x^6                   0.2768                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Sulfate   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 8, alpha = 0.05)
                      no                    0.966                 0.818                 Yes
                      square root           0.9668                0.818                 Yes
                      square                0.959                 0.818                 Yes
                      cube root             0.9666                0.818                 Yes
                      cube                  0.9451                0.818                 Yes
                      natural log           0.9656                0.818                 Yes
                      x^4                   0.9252                0.818                 Yes
                      x^5                   0.9007                0.818                 Yes
                      x^6                   0.8728                0.818                 Yes
MW-04 (bg) (n = 8, alpha = 0.05)
                      no                    0.9485                0.818                 Yes
                      square root           0.9558                0.818                 Yes
                      square                0.9306                0.818                 Yes
                      cube root             0.958                 0.818                 Yes
                      cube                  0.909                 0.818                 Yes
                      natural log           0.962                 0.818                 Yes
                      x^4                   0.8846                0.818                 Yes
                      x^5                   0.8582                0.818                 Yes
                      x^6                   0.8305                0.818                 Yes
Pooled Background (bg) (n = 16, alpha = 0.05)
                      no                    0.7648                0.887                 No
                      square root           0.7595                0.887                 No
                      square                0.784                 0.887                 No
                      cube root             0.7587                0.887                 No
                      cube                  0.8044                0.887                 No
                      natural log           0.7586                0.887                 No
                      x^4                   0.8153                0.887                 No
                      x^5                   0.8117                0.887                 No
                      x^6                   0.7939                0.887                 No
```

Shapiro-Wilk Normality Test

Constituent: Thallium   Analysis Run 3/7/2022 3:02 PM

Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	-1	0.818	No
	square root	0	0.818	No
	square	-1	0.818	No
	cube root	-1	0.818	No
	cube	-1	0.818	No
	natural log	-1	0.818	No
	x^4	-1	0.818	No
	x^5	-1	0.818	No
	x^6	-1	0.818	No
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	-1	0.818	No
	square root	0	0.818	No
	square	-1	0.818	No
	cube root	-1	0.818	No
	cube	-1	0.818	No
	natural log	-1	0.818	No
	x^4	-1	0.818	No
	x^5	-1	0.818	No
	x^6	-1	0.818	No
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	-1	0.887	No
	square root	0	0.887	No
	square	-1	0.887	No
	cube root	-1	0.887	No
	cube	-1	0.887	No
	natural log	0	0.887	No
	x^4	-1	0.887	No
	x^5	-1	0.887	No
	x^6	-1	0.887	No

Shapiro-Wilk Normality Test

Constituent: Total Dissolved Solids   Analysis Run 3/7/2022 3:02 PM
Will County Generating Station   Client: NRG   Data: Will County

Well	Transformation	Calculated	Critical	Normal
MW-03 (bg) (n = 8, alpha = 0.05)				
	no	0.965	0.818	Yes
	square root	0.9666	0.818	Yes
	square	0.9615	0.818	Yes
	cube root	0.9671	0.818	Yes
	cube	0.9574	0.818	Yes
	natural log	0.9681	0.818	Yes
	x^4	0.953	0.818	Yes
	x^5	0.948	0.818	Yes
	x^6	0.9426	0.818	Yes
MW-04 (bg) (n = 8, alpha = 0.05)				
	no	0.9183	0.818	Yes
	square root	0.9089	0.818	Yes
	square	0.9345	0.818	Yes
	cube root	0.9056	0.818	Yes
	cube	0.9472	0.818	Yes
	natural log	0.8988	0.818	Yes
	x^4	0.956	0.818	Yes
	x^5	0.961	0.818	Yes
	x^6	0.9624	0.818	Yes
Pooled Background (bg) (n = 16, alpha = 0.05)				
	no	0.7574	0.887	No
	square root	0.7517	0.887	No
	square	0.7706	0.887	No
	cube root	0.75	0.887	No
	cube	0.784	0.887	No
	natural log	0.7471	0.887	No
	x^4	0.7951	0.887	No
	x^5	0.8023	0.887	No
	x^6	0.8052	0.887	No

Shapiro-Wilk Normality Test

Constituent: Turbidity Analysis Run 3/7/2022 3:02 PM
Will County Generating Station Client: NRG Data: Will County

```
Well                  Transformation        Calculated            Critical              Normal
MW-03 (bg) (n = 12, alpha = 0.05)
                      no                    0.9754                0.859                 Yes
                      square root           0.9235                0.859                 Yes
                      square                0.8702                0.859                 Yes
                      cube root             0.8235                0.859                 No
                      cube                  0.7665                0.859                 No
                      x^4                   0.6853                0.859                 No
                      x^5                   0.6196                0.859                 No
                      x^6                   0.5653                0.859                 No
MW-04 (bg) (n = 12, alpha = 0.05)
                      no                    0.6509                0.859                 No
                      square root           0.8043                0.859                 No
                      square                0.441                 0.859                 No
                      cube root             0.8515                0.859                 No
                      cube                  0.3638                0.859                 No
                      natural log           0.9249                0.859                 Yes
                      x^4                   0.339                 0.859                 No
                      x^5                   0.331                 0.859                 No
                      x^6                   0.3283                0.859                 No
Pooled Background (bg) (n = 24, alpha = 0.05)
                      no                    0.5862                0.916                 No
                      square root           0.8653                0.916                 No
                      square                0.3121                0.916                 No
                      cube root             0.9258                0.916                 Yes
                      cube                  0.2397                0.916                 No
                      x^4                   0.2196                0.916                 No
                      x^5                   0.2135                0.916                 No
                      x^6                   0.2116                0.916                 No
```

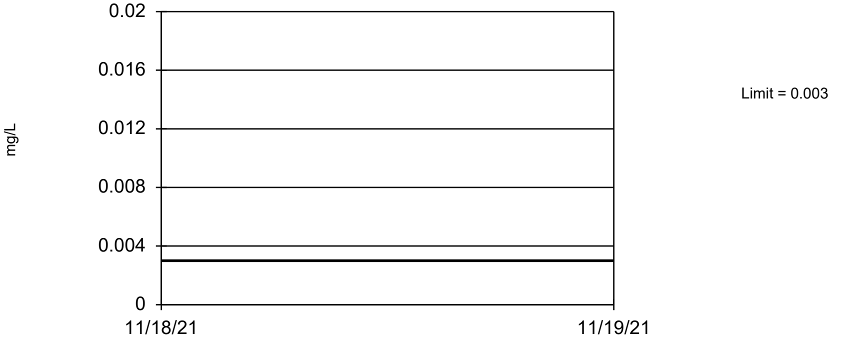
Interwell Prediction Limit Will Co 1S UG Wells MW-03 and MW-04 Pooled

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 4:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Beryllium (mg/L)	n/a	0.001	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Cadmium (mg/L)	n/a	0.00053	n/a	n/a	3 future	n/a	16	93.75	n/a	0.005781	NP (NDs) 1 of 2
Chloride (mg/L)	n/a	90	n/a	n/a	3 future	n/a	16	0	n/a	0.005781	NP (normality) 1 of 2
Chromium (mg/L)	n/a	0.005	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Combined Radium 226 + 228 (pCi/L)	n/a	2.742	n/a	n/a	3 future	n/a	16	12.5	No	0.000399	Param 1 of 2
Lead (mg/L)	n/a	0.0005	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
Mercury (mg/L)	n/a	0.0002	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2
pH (n/a)	n/a	7.366	6.359	n/a	3 future	n/a	16	0	No	0.000...	Param 1 of 2
Selenium (mg/L)	n/a	0.019	n/a	n/a	3 future	n/a	16	62.5	n/a	0.005781	NP (NDs) 1 of 2
Thallium (mg/L)	n/a	0.002	n/a	n/a	3 future	n/a	16	100	n/a	0.005781	NP (NDs) 1 of 2

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Antimony   Analysis Run 3/7/2022 4:00 PM

Will County Generating Station   Client: NRG   Data: Will County

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Prediction Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Beryllium   Analysis Run 3/7/2022 4:00 PM

Will County Generating Station   Client: NRG   Data: Will County

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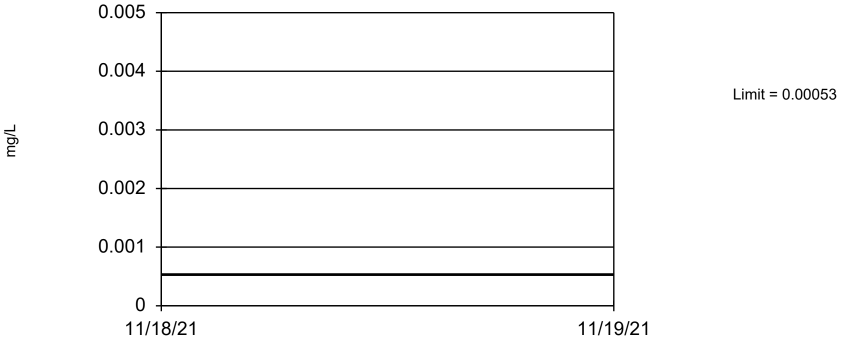
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Cadmium   Analysis Run 3/7/2022 4:00 PM

Will County Generating Station   Client: NRG   Data: Will County

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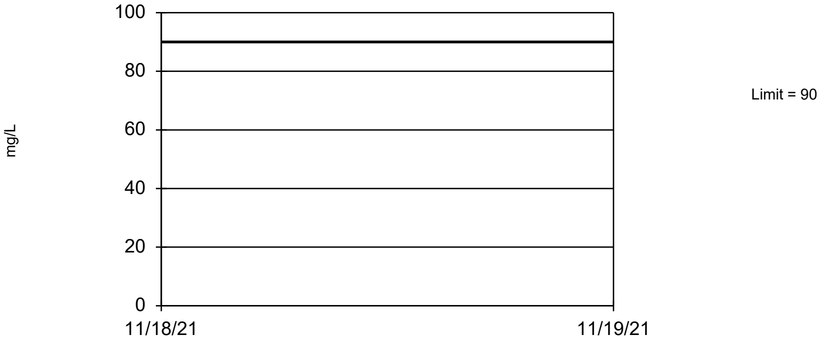
Prediction Limit

Interwell Non-parametric



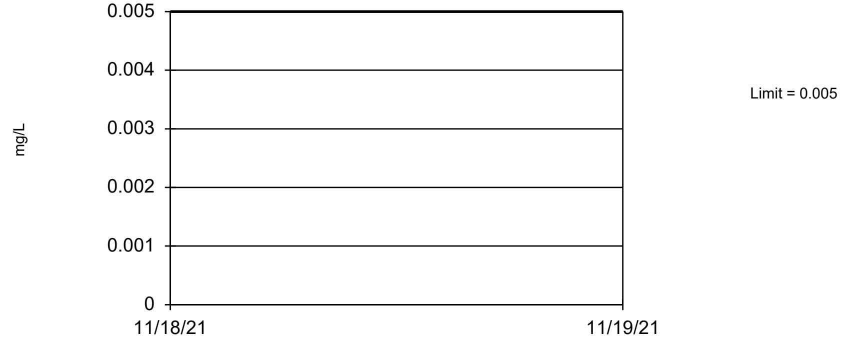
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 16 background values. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Chloride   Analysis Run 3/7/2022 4:00 PM

Will County Generating Station   Client: NRG   Data: Will County

Prediction Limit

Interwell Non-parametric

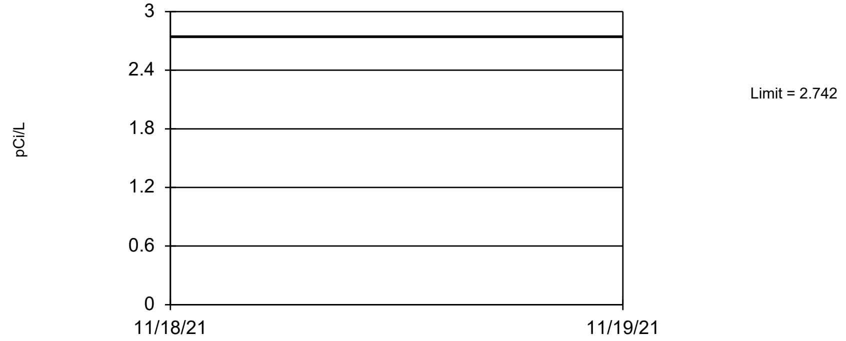


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Chromium Analysis Run 3/7/2022 4:00 PM
Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric

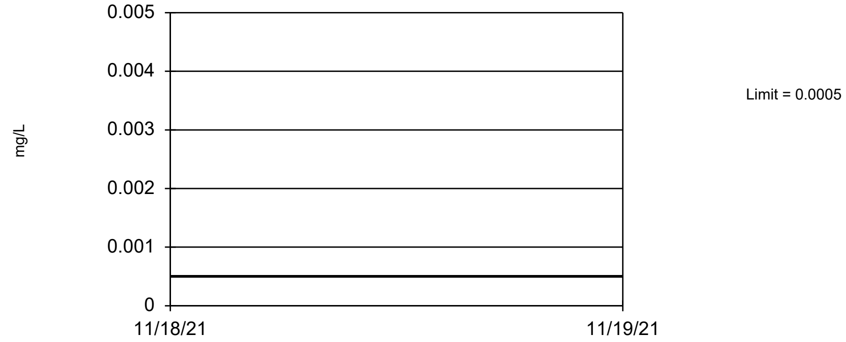


Background Data Summary: Mean=1.205, Std. Dev.=0.5859, n=16, 12.5% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9564, critical = 0.887. Kappa = 2.623 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Combined Radium 226 + 228 Analysis Run 3/7/2022 4:00 PM
Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Non-parametric

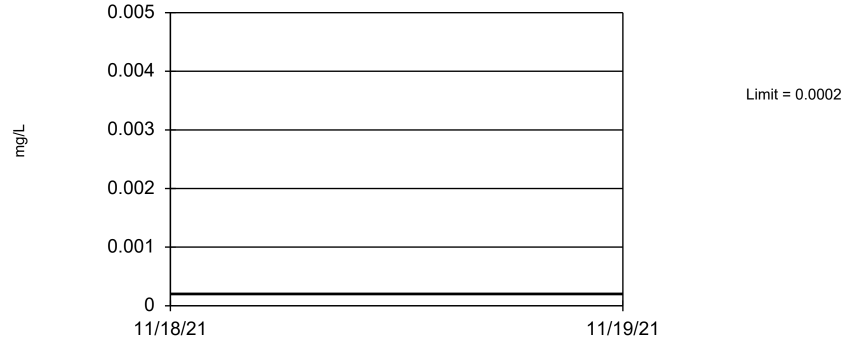


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lead Analysis Run 3/7/2022 4:00 PM
Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Mercury Analysis Run 3/7/2022 4:00 PM
Will County Generating Station Client: NRG Data: Will County

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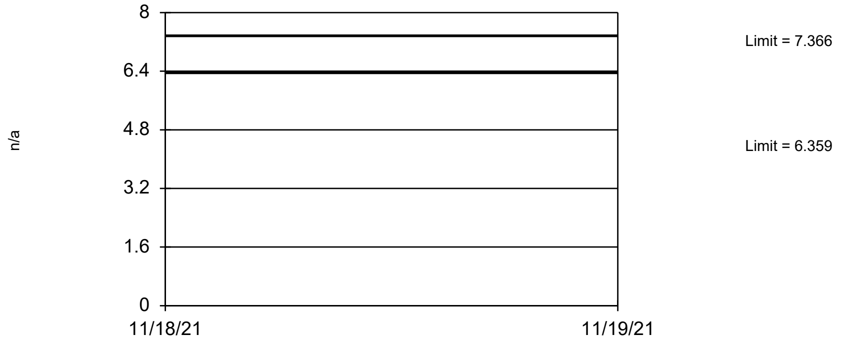
Prediction Limit

Interwell Parametric



Background Data Summary: Mean=6.863, Std. Dev.=0.192, n=16. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9384, critical = 0.887. Kappa = 2.623 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.0001995. Assumes 3 future values.

Constituent: pH Analysis Run 3/7/2022 4:00 PM

Will County Generating Station Client: NRG Data: Will County

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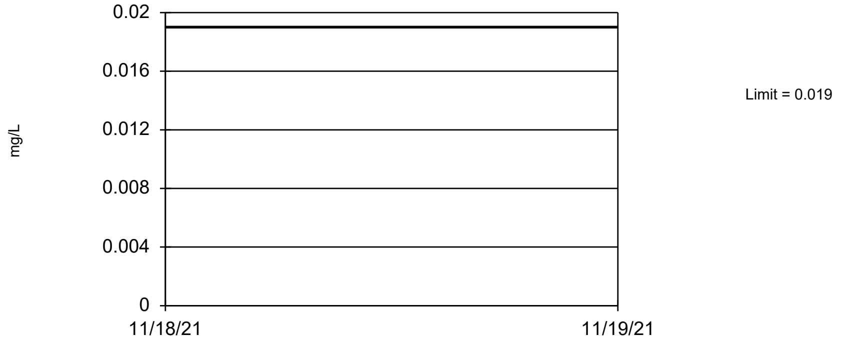
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 62.5% NDs. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Selenium Analysis Run 3/7/2022 4:00 PM

Will County Generating Station Client: NRG Data: Will County

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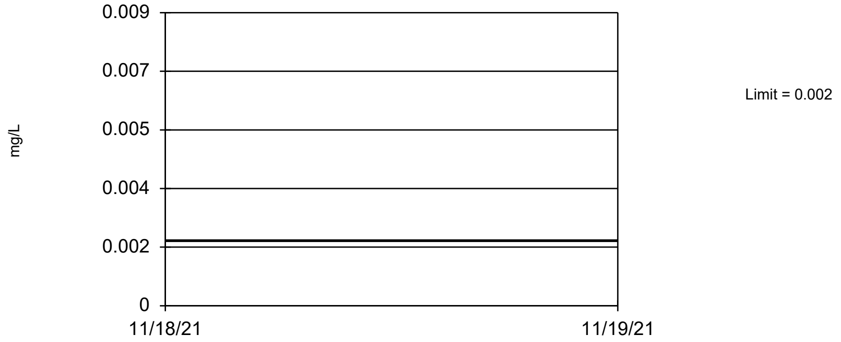
Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 16) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.06721. Individual comparison alpha = 0.005781 (1 of 2). Assumes 3 future values. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Thallium Analysis Run 3/7/2022 4:00 PM

Will County Generating Station Client: NRG Data: Will County

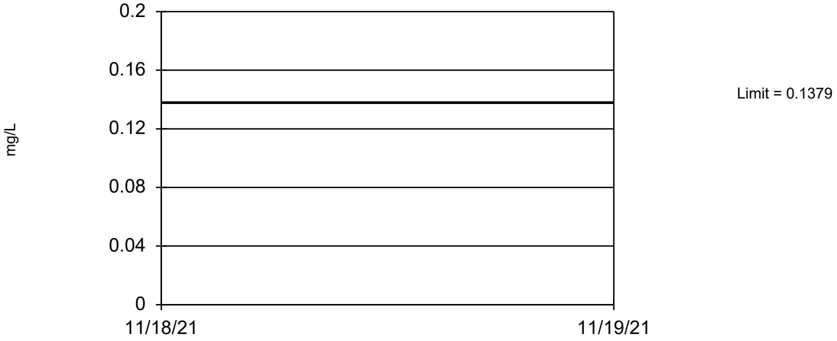
Interwell Prediction Limit Will Co 1S UG Well MW-03

Will County Generating Station   Client: NRG   Data: Will County   Printed 3/7/2022, 4:05 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Barium (mg/L)	n/a	0.1379	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Lithium (mg/L)	n/a	0.05291	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2

Prediction Limit

Interwell Parametric



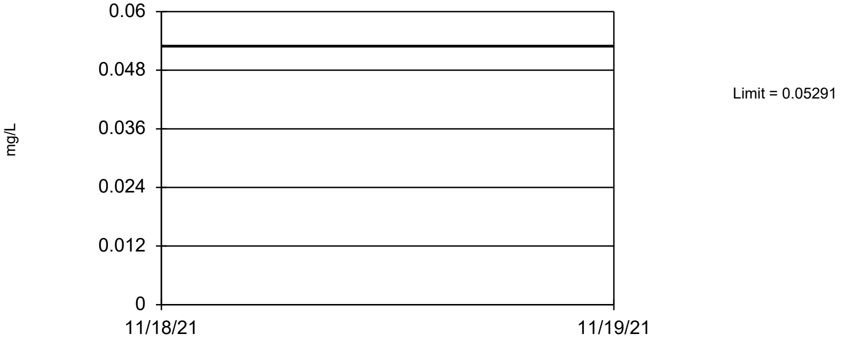
Background Data Summary: Mean=0.1023, Std. Dev.=0.01026, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9168, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Barium Analysis Run 3/7/2022 4:03 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.04188, Std. Dev.=0.003182, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9517, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Lithium Analysis Run 3/7/2022 4:03 PM

Will County Generating Station Client: NRG Data: Will County

Interwell Prediction Limit Will Co 1S UG Well MW-04

Will County Generating Station Client: NRG Data: Will County Printed 3/7/2022, 4:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	n/a	0.01721	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Boron (mg/L)	n/a	6.996	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Calcium (mg/L)	n/a	362	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Cobalt (mg/L)	n/a	0.002584	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Fluoride (mg/L)	n/a	0.4273	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Molybdenum (mg/L)	n/a	0.04288	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Sulfate (mg/L)	n/a	1217	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Total Dissolved Solids (mg/L)	n/a	2524	n/a	n/a	3 future	n/a	8	0	No	0.000399	Param 1 of 2
Turbidity (NTU)	n/a	66.09	n/a	n/a	3 future	n/a	12	0	ln(x)	0.000399	Param 1 of 2

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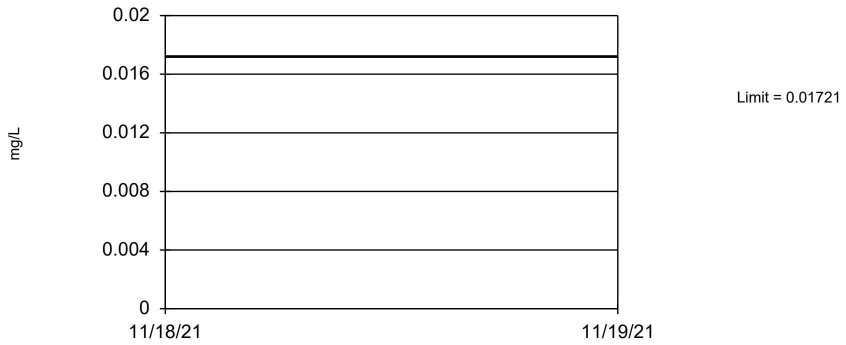
Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.006025, Std. Dev.=0.003223, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8935, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

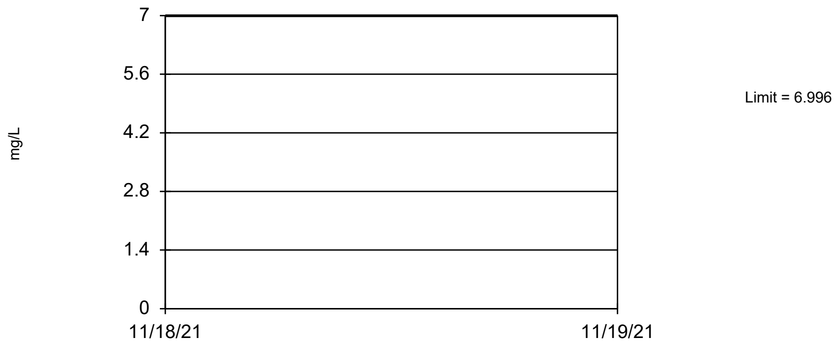
Constituent: Arsenic Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.675, Std. Dev.=0.3808, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9738, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

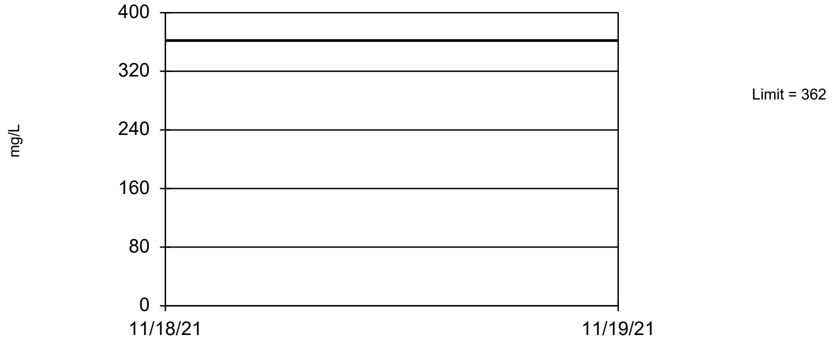
Constituent: Boron Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=317.5, Std. Dev.=12.82, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9378, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

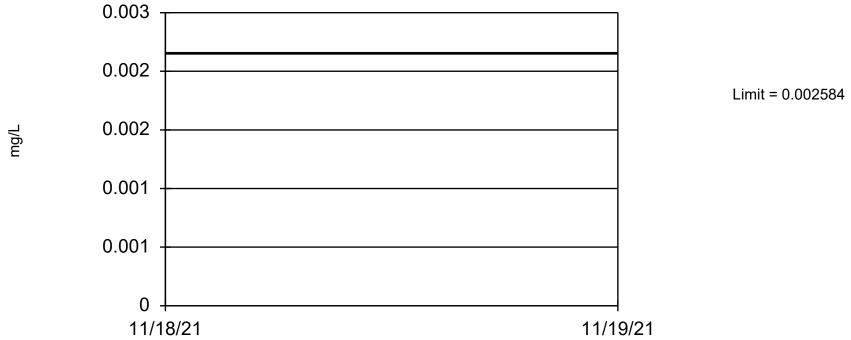
Constituent: Calcium Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.001788, Std. Dev.=0.0002295, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8299, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

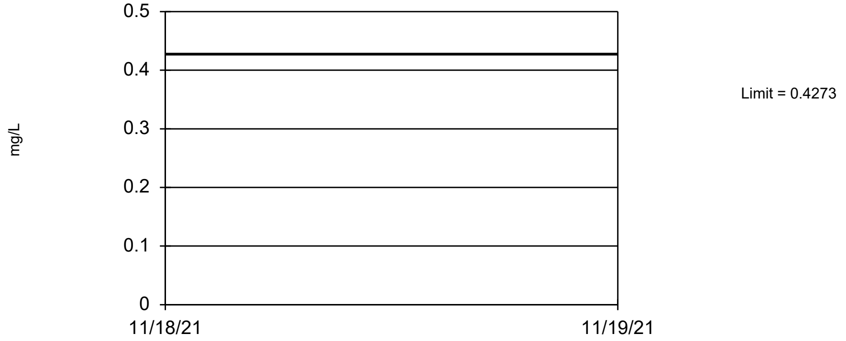
Constituent: Cobalt Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.3725, Std. Dev.=0.01581, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9435, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Fluoride Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric

Background Data Summary: Mean=0.029, Std. Dev.=0.004, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9562, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Molybdenum Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric

Background Data Summary: Mean=951.3, Std. Dev.=76.61, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9485, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

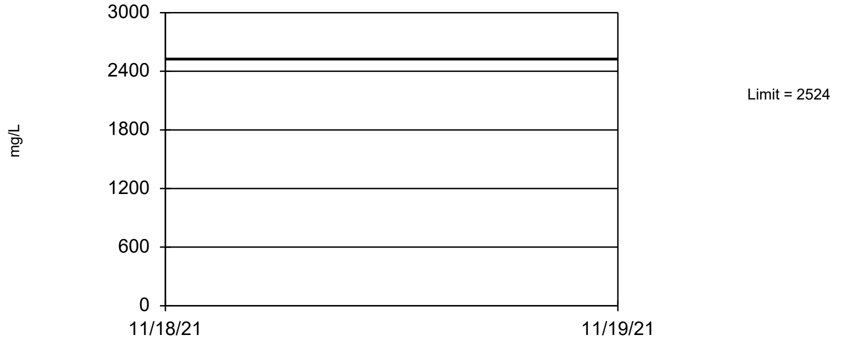
Constituent: Sulfate Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Sanitas™ v.9.6.09 Software licensed to KPRG and Associates, Inc. UG

Prediction Limit

Interwell Parametric



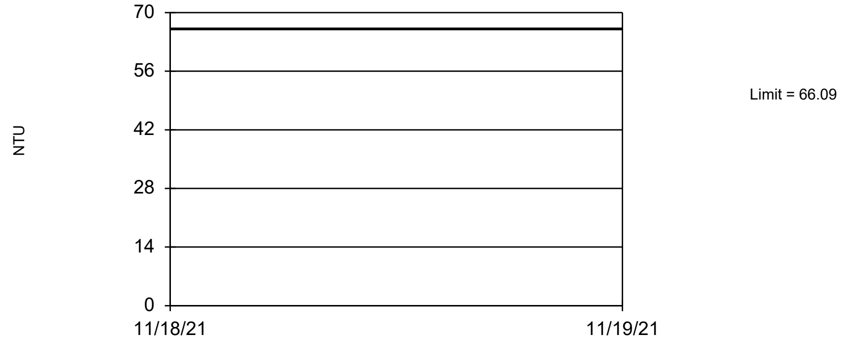
Background Data Summary: Mean=2000, Std. Dev.=151.2, n=8. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9183, critical = 0.818. Kappa = 3.469 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Total Dissolved Solids Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

Prediction Limit

Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=2.002, Std. Dev.=0.7679, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9249, critical = 0.859. Kappa = 2.851 (c=22, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001197. Individual comparison alpha = 0.000399. Assumes 3 future values.

Constituent: Turbidity Analysis Run 3/7/2022 4:06 PM

Will County Generating Station Client: NRG Data: Will County

ATTACHMENT 10
PRELIMINARY CLOSURE PLAN

KPRG

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

PRELIMINARY CLOSURE PLAN
POND 1N AND POND 1S
WILL COUNTY STATION
MARCH 2022

This closure plan has been prepared in accordance with 35 Ill. Adm. Code 845.720(a) for Pond 1N and Pond 1S at the Will County Station, operated by Midwest Generation, LLC (Midwest Generation), in Romeoville, IL. Pond 1N and Pond 1S are inactive and were taken out of service around 2010. This closure plan describes the schedule and steps necessary for closure and methods for compliance with closure requirements for Pond 1N and Pond 1S.

1.0 Closure Narrative [845.720(a)(1)(A)]

The closure of Pond 1N and Pond 1S will be accomplished by leaving the coal combustion residual (CCR) in place and covering with a final cover system in accordance with 845.750. The closure will achieve the closure performance standards in accordance with 845.720(a).

2.0 CCR Removal and Decontamination [845.720(a)(1)(B)]

The closure of Pond 1N and Pond 1S will occur by leaving the CCR in place in accordance with 845.750.

3.0 Closure with CCR Left in Place [845.720(a)(1)(C)]

Pond 1N and Pond 1S will be closed by leaving the CCR in place in accordance with 845.750. As required, a final cover system (FCS) will be installed over the CCR in accordance with 845.750(c).

The closure will be implemented using the following methods and procedures:

1. The vegetation present will be removed as necessary to allow for CCR regrading;

2. The CCR in each pond will be regraded to a uniform elevation to allow for the placement of the FCS. The CCR will be compacted to stabilize it prior to placement of the FCS and to reduce the potential for future settling. Either one of the two following FCS's will be used for closure;

3. The FCS that will be installed over the regraded and compacted CCR will consist of either a geomembrane/soil cover system or the ClosureTurf cover system. The components for the geomembrane/soil cover system are as follows (from the bottom layer to the top layer):
    - An infiltration layer consisting of a geomembrane layer with a permeability no greater than $1x10^{-7}$ cm/sec;
    - Three (3) feet of imported clean material;
    - An erosion control layer consisting of six (6”) inches of topsoil; and
    - Vegetation (mulch, fertilizer, and seed).

    The components for the proprietary ClosureTurf cover system are as follows (from the bottom layer to the top layer):
    - MicroDrain geomembrane liner;
    - Engineered synthetic turf; and
    - Sand infill within the synthetic turf.

4.0 Maximum Inventory of CCR [845.720(a)(1)(D)]

The maximum inventory of CCR ever on-site is based upon the estimated capacity of CCR in Pond 1N and Pond 1S. The estimated maximum inventory of CCR in Pond 1N is 19,259 cubic yards (CY) and the estimated maximum inventory in Pond 1S is 17,037 CY.

5.0 Largest Area of CCR Requiring a Final Cover [845.720(a)(1)(E)]

The FCS will cover a maximum area of approximately 2.13 acres for Pond 1N and 1.94 acres for Pond 1S.

6.0 Closure Schedule [845.720(a)(1)(F)]

Implementation of closure, as described, is estimated to require 30 months. Closure completion is estimated to occur by the end of 20XX. Closure design documents will be prepared to support applications for required local, state, and federal permits, construction-bidding specifications will be prepared, and contracting of the work for closure will be performed. Closure construction documents may include construction drawings for closure, technical specifications, and adequate CCR removal confirmation procedures. All necessary Federal, State, and Local permits required for closure construction will be evaluated and obtained, as necessary, at the time of closure, but are anticipated to include permits from the Illinois Environmental Protection Agency (IEPA). A preliminary schedule of anticipated closure activities and associated dates is included below.

Closure Schedule

Closure Activity	Estimated Duration
Prepare Closure Construction Design Documents	7 Months
Obtain Closure Construction Permit from Illinois EPA	11 Months
Hire Closure Contractor	4 Months
Remove Existing Vegetation	1 Month
Grade Existing CCR	1 Month
Install Final Cover System	2 Months
Submit Closure Report and Certification to Illinois EPA	1 Month
Obtain Approval of Closure Report and Certification from Illinois EPA	3 Months
Certify Closures of Pond 1N and Pond 1S	--

7.0 Closure Activities Initiation [257.102(e)]

Closure activities will commence when one or more of the following conditions have occurred:

- No later than 30 days after the date on which the CCR unit received the known final receipt of CCR or non-CCR waste;
- No later than 30 days after the removal of the known final volume of CCR for the purpose of beneficial use;
- Within two years of the last receipt of waste for a unit that has not received CCR or non-CCR waste; or
- Within two years of the last removal of CCR material for the purposes of beneficial use.

In accordance with §845.760(f), notification of closure of a CCR unit will be made within 30 days of the completion of closure of the CCR unit. The notification will include certification from a qualified professional engineer, as required by §845.760(e)(2).

8.0 Closure Plan Amendments [845.720(a)(3)]

This Closure Plan will be amended in accordance with 845.720(a)(3). If a change in the operation of Pond 1N or Pond 1S would be substantially affect the content of this Closure Plan or if unanticipated events necessitate revision of the plan. If a change in operation requires amendment to the Closure Plan, the plan will be amended no later than 60 days prior to the change in operation being implemented. If an unexpected event occurs that requires amendment of the Closure Plan, the plan will be amended within 60 days of the unexpected event or within 30 days of the unexpected event if the event occurs after closure activities have commenced. Amendments to this Closure Plan will be certified by a professional engineer registered in the State of Illinois in accordance with 845.720(a)(4).

9.0 Professional Engineer's Certification [845.720(a)(4)]

This Closure Plan has been prepared to meet the requirements of 35 Ill. Adm. Code 845.720(a).

Joshua D. Davenport, P.E.
Illinois Professional Engineer

JOSHUA D. DAVENPORT
062-061945

ATTACHMENT 11
PRELIMINARY POST-CLOSURE PLAN

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

POST-CLOSURE PLAN
POND 1N AND POND 1S
WILL COUNTY STATION
MARCH 2022

This post-closure plan has been prepared in accordance with 35 Ill. Adm. Code Part 845.780 for Pond 1N and Pond 1S at the Will County Station, operated by Midwest Generation, LLC (Midwest Generation), in Romeoville, Illinois. Pond 1N and Pond 1S are inactive CCR surface impoundments that were taken out of service in 2010. This post-closure plan describes the schedule and steps necessary for post closure and methods for compliance with post-closure requirements for Pond 1N and Pond 1S. This post-closure care plan is based upon the regulatory requirement to maintain and monitor the site for 30 years after closure.

1.0 Post-Closure Monitoring and Maintenance Description [845.780(b)]

The post-closure monitoring and maintenance activities will be performed in compliance with 845.780(b). The post-closure care will consist of the following:

- Maintaining the integrity and effectiveness of the final cover system (FCS), including making repairs as necessary, and preventing run-on and run-off from eroding or otherwise damaging the final cover; and
- Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with 35 Ill. Adm. Code Subpart F.

In accordance with 845.780(b)(1), the FCS will be inspected annually for settlement, subsidence, erosion, stressed vegetation, sand infill displacement (if necessary), and stormwater damage to the final cover. The FCS will be repaired if any of the above conditions are observed.

Groundwater monitoring will be performed in accordance with 35 Ill. Adm. Code Subpart F for the duration of the post-closure period. Groundwater sampling will be conducted as required during the post-closure care period. The groundwater sampling and analysis methods will be appropriate for environmental groundwater monitoring.

2.0 Post-Closure Care Contact Information [257.104(d)(1)(ii)]

Environmental Specialist
Will County Generating Station
529 E. Romeo Road
Romeoville, IL 60446
815-207-5489

3.0 Planned Uses of the Property [845.780(d)(1)(C)]

Pond 1N and Pond 1S will be not developed during the post-closure care period. Pond 1N and Pond 1S will be inactive during the post-closure care period, and it will only be accessed to perform groundwater monitoring or inspections, as noted above. The groundwater monitoring will not involve access to the FCS. Access to the FCS for inspections will be kept to a minimum.

4.0 Post-Closure Plan Amendments [845.780(d)(3)]

This Post-Closure Plan will be amended in accordance with §845.780(d)(3) if a change in the operation of Pond 1N and Pond 1S would substantially affect the content of this Post-Closure Plan or if unanticipated events necessitate revision of the plan. If a change in operation requires amendment to the Post-Closure Plan, the plan will be amended no later than 60 days prior to the change in operation being implemented. If an unexpected event occurs that requires amendment of the Closure Plan, the plan will be amended within 60 days of the unexpected event or within 30 days of the unexpected event if the event occurs after post-closure activities have commenced. Amendments to this Post-Closure Plan will be certified by a professional engineer registered in the State of Illinois in accordance with §845.780(d)(4).

5.0 Professional Engineer's Certification [845.780(d)(4)]

This Closure and Post-Closure Plan has been prepared to meet the requirements of 35 Ill. Adm. Code Part 845.780(d)(4).

Joshua D. Davenport, P.E.
Illinois Professional Engineer

SEAL

062-061945

ATTACHMENT 12
LINER CERTIFICATION

Attachment 12: Liquid Flow Rate through Alternative Composite Liner
Will County Pond 1N

Darcy's Law for Gravity Flow through Porous Media

Q/A = q = k((h/t)+1)
Q= flow rate (cubic centimeters/second)
A = Surface area of the liner (squared centimeters)
q = flow rate per unit area (cubic centimeters/second/squared centimeter)
k = hydraulic conductivity of the liner (centimeters/second)
h = hydraulic head above the liner (centimeters)
t = thickness of the liner (centimeters)

Section 845.400(c) Comparison Flow Rate

Q/A = q = k((h/t)+1)
Q= calculated
A = 65,867.00 ft^2 = 61,192,445.36 cm^2 Based on surface area at toe of embankment
q = calculated
k = 1.00E-07 cm/s
h = 6.5 ft = 198.12 cm
t = 2 ft = 60.96 cm

$$Q = 1.00\text{E-}07 \quad \frac{198.12}{60.96} + 1 \quad * \quad 61{,}192{,}445.36$$

Q = 26.01 cm^3/s Compare to Surface Impoundment Flow Rate

Pond Profile

Layers	Depth (ft)	Elevation (ft msl)		Layer Description	Permeability (cm/s)	Layer Thickness (inch)	Layer Thickness (cm)	Product of Permeability & Layer Thickness
		From	To					
Pond	0	590	582.5	Pond embankment crest	--	--	--	--
	7.5	582.5	582.5	Pond bottom	--	--	--	--
Upper Liner Component	7.5-8.5	582.5	581.5	Poz-O-Pac	3.12E-05	12	30.48	0.000950976
	8.5-9.5	581.5	580.5	Fill	4.02E-03	12	30.48	1.23E-01
	9.5-10.5	580.5	579.5	Poz-O-Pac	3.12E-05	12	30.48	0.000950976
Lower Liner Component	10.5-11.5	579.5	578.5	Sand with gravel, dark brown	4.02E-03	12	30.48	0.1225296

Totals	121.92	2.47E-01

Permeability (weighted) = 2.03E-03

Will County Pond 1N Flow Rate Calculation

Q/A = q = k((h/t)+1)
Q= calculated
A = 65867 ft^2 = 61,192,445.36 cm^2 Based on surface area at toe of embankment
q = calculated
k = 2.03E-03 cm/s
h = 6.5 ft = 198.12 cm
t = 3.000 ft = 91.44 cm

$$Q = 2.03\text{E-}03 \quad \frac{198.12}{91.44} + 1 \quad * \quad 61{,}192{,}445.36$$

Q = 392,512.82 cm^3/s Compare to Section 845.400(c) Comparison Flow Rate

Comparison of Surface Impoundment Flow Rate vs Section 845.400(c) Flow Rate

Is the Surface Impoundment Flow Rate of 392,512.82 less than the Section 845.400(c) Comparison Flow Rate of 26.01 **NO**

Will County Pond 1S

Darcy's Law for Gravity Flow through Porous Media

Q/A = q = k((h/t)+1)
Q= flow rate (cubic centimeters/second)
A = Surface area of the liner (squared centimeters)
q = flow rate per unit area (cubic centimeters/second/squared centimeter)
k = hydraulic conductivity of the liner (centimeters/second)
h = hydraulic head above the liner (centimeters)
t = thickness of the liner (centimeters)

Section 845.400(c) Comparison Flow Rate

Q/A = q = k((h/t)+1)
Q= calculated
A = 58,605.00 ft^2 = 54,445,826.59 cm^2 Based on surface area at toe of embankment
q = calculated
k = 1.00E-07 cm/s
h = 6.5 ft = 198.12 cm
t = 2 ft = 60.96 cm

$$Q = 1.00E-07 \quad \frac{198.12}{60.96} +1 \quad * \quad 54,445,826.59$$

Q = 23.14 cm^3/s Compare to Surface Impoundment Flow Rate

Pond Profile

Layers	Depth (ft)	Elevation (ft msl) From	To	Layer Description	Permeability (cm/s)	Layer Thickness (inch)	Layer Thickness (cm)	Product of Permeability & Layer Thickness
Pond	0	590	582.5	Pond embankment crest	--	--	--	--
	7.5	582.5	582.5	Pond bottom	--	--	--	--
Upper Liner Component	7.5-8.5	582.5	581.5	Poz-O-Pac	3.12E-05	12	30.48	0.000950976
	8.5-9.5	581.5	580.5	Fill	4.02E-03	12	30.48	1.23E-01
	9.5-10.5	580.5	579.5	Poz-O-Pac	3.12E-05	12	30.48	0.000950976
Lower Liner Component	10.5-11.5	579.5	578.5	Lean clay, dark brown	1.86E-06	12	30.48	5.66928E-05

Totals	121.92	1.24E-01

Permeability (weighted) = 1.02E-03

Will County Pond 1S Flow Rate Calculation

Q/A = q = k((h/t)+1)
Q= calculated
A = 58605 ft^2 = 54,445,826.59 cm^2 Based on surface area at toe of embankment
q = calculated
k = 1.02E-03 cm/s
h = 6.5 ft = 198.12 cm
t = 1.5 ft = 45.72 cm

$$Q = 1.02E-03 \quad \frac{198.12}{45.72} +1 \quad * \quad 54,445,826.59$$

Q = 296,494.55 cm^3/s Compare to Section 845.400(c) Comparison Flow Rate

Comparison of Surface Impoundment Flow Rate vs Section 845.400(c) Flow Rate

Is the Surface Impoundment Flow Rate of 296,494.55 less than the Section 845.400(c) Comparison Flow Rate of 23.14 **NO**

ATTACHMENT 13
HISTORY OF KNOWN EXCEEDANCES

Attachment 13 – No Attachment

ATTACHMENT 14
FINANCIAL ASSURANCE

CERTIFICATION
35 Ill. Adm. Code 845 Subpart I

In accordance with Section 35 Ill. Adm. Code 845.230(a)(17), Midwest Generation, LLC meets the financial assurance requirements of 35 Ill. Adm. Code 845 Subpart I: Financial Assurance for the Will County Generating Station. The performance bond is attached.

PERFORMANCE BOND

Date bond executed: 06/21/2021

Effective date: 06/21/2021

Principal: NRG Energy, Inc. on behalf of Midwest Generation, LLC

Type of organization: Corporation

State of incorporation: Delaware

Surety: Arch Insurance Company

Site Will County

Name Will County Generating Station

Address 529 East 135th Street

City Romeoville, IL 60446

Amount guaranteed by this bond: $5,359,872.34

Name

Address

City

Amount guaranteed by this bond: $

Please attach a separate page if more space is needed for all sites.

Total penal sum of bond: $ 5,359,872.34

Surety's bond number: SU1174122

The Principal and the Surety promise to pay the Illinois Environmental Protection Agency ("IEPA") the above penal sum unless the Principal or Surety provides closure and post-closure care for each site in accordance with the closure and post-closure care plans for that site. To the payment of this obligation the Principal and Surety jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns.

Whereas the Principal is required, under Section 21(d) of the Environmental Protection Act [415 ILCS 5/21(d)], to have a permit to conduct a waste disposal operation;

Whereas the Principal is required, under Section 21.1 of the Environmental Protection Act [415 ILCS 5/21.1], to provide financial assurance for closure and post-closure care;

Whereas the Surety is licensed by the Illinois Department of Insurance or is licensed to transact the business of insurance, or approved to provide insurance as an excess or surplus lines insurer, by the insurance department in one or more states; and

Whereas the Principal and Surety agree that this bond shall be governed by the laws of the State of Illinois;

The Surety shall pay the penal sum to the IEPA or provide closure and post-closure care in accordance with the closure and post-closure care plans for the site if, during the term of the bond, the Principal fails to provide closure or post-closure care for any site in accordance with the closure and post-closure care plans for that site as guaranteed by this bond. The Principal fails to so provide when the Principal:

a) Abandons the site;

b) Is adjudicated bankrupt;

c) Fails to initiate closure of the site or post-closure care when ordered to do so by the Illinois Pollution Control Board or a court of competent jurisdiction;

d) Notifies the IEPA that it has initiated closure, or initiates closure, but fails to close the site or provide post-closure care in accordance with the closure and post-closure care plans; or

e) Fails to provide alternate financial assurance and obtain the IEPA written approval of the assurance provided within 90 days after receipt by both the Principal and the IEPA of a notice from the Surety that the bond will not be renewed for another term.

The Surety shall pay the penal sum of the bond to the IEPA or notify the IEPA that it intends to provide closure and post-closure care in accordance with the closure and post-closure care plans for the site within 30 days after the IEPA mails notice to the Surety that the Principal has met one or more of the conditions described above. Payment shall be made by check or draft payable to the State of Illinois, Landfill Closure and Post-Closure Fund.

If the Surety notifies the IEPA that it intends to provide closure and post-closure care, then the Surety must initiate closure and post-closure care within 60 days after the IEPA mailed notice to the Surety that the Principal met one or more of the conditions described above. The Surety must complete closure and post-closure care in accordance with the closure and post-closure care plans, or pay the penal sum.

The liability of the Surety shall not be discharged by any payment or succession of payments unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety exceed the amount of the penal sum.

This bond shall expire on the __21st day of June__________, 2022 [date]; but such expiration date shall be automatically extended for a period of One [at least one year] on __21st day of June, 2022____ [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, the Surety notifies both the IEPA and the Principal by certified mail that the Surety has decided not to extend the term of this surety bond beyond the current expiration date. The 120 days will begin on the date when both the Principal and the IEPA have received the notice, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety; provided, however, that no such notice shall become effective until the Surety receives written authorization for termination of the bond from the IEPA in accordance with 35 Ill. Adm. Code 807.604.

In Witness Whereof, the Principal and Surety have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below certify that they are authorized to execute this surety bond on behalf of the Principal and Surety and that the wording of this surety bond is identical to the wording specified in 35 Ill. Adm. Code 807.Appendix A, Illustration D as such regulation was constituted on the date this bond was executed.

Principal: NRG Energy, Inc. on behalf of Midwest Generation, LLC		Corporate Surety
Signature		Name: Arch Insurance Company
Typed Name Edward Christopher Krupa		Address: Harborside 3, 210 Hudson Street, Suite 300, Jersey City, NJ 07311-1107
Title Vice President		State of Incorporation: Missourt
Date 6/21/2021		Signature
		Typed Name: Mark W. Edwards, II
		Title-Attorney-in-Fact
Corporate seal		Corporate seal

		Bond premium:	$	37,519.00

(Source: Amended at 35 Ill. Reg. 18867, effective October 24, 2011)

Section 807.APPENDIX A Financial Assurance Forms

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:
That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Alisa B. Ferris, Anna Childress, Jeffrey M. Wilson, Mark W. Edwards II, Richard H. Mitchell, Robert R. Freel and William M. Smith of Birmingham, AL (EACH)

R. E. Daniels and Shelby E. Daniels of Pensacola, FL (EACH)

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:
Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars ($90,000,000.00).
This authority does not permit the same obligation to be split into two or more bonds In order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on December 10, 2020, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:
"**VOTED**, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on December 10, 2020:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on December 10, 2020, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company. **In Testimony Whereof**, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this **23rd day of April, 2021**.

Attested and Certified

Regan A. Shulman, Secretary

Arch Insurance Company

Stephen C. Ruschak, Executive Vice President

STATE OF PENNSYLVANIA SS
COUNTY OF PHILADELPHIA SS

I, **Michele Tripodi**, a Notary Public, do hereby certify that Regan A. Shulman and Stephen C. Ruschak personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
MICHELE TRIPODI, Notary Public
City of Philadelphia, Phila. County
My Commission Expires July 31, 2021

Michele Tripodi
Michele Tripodi, Notary Public
My commission expires 07/31/2021

CERTIFICATION
I, **Regan A. Shulman**, Secretary of the Arch Insurance Company, do hereby certify that the attached **Power of Attorney dated April 23, 2021** on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said Stephen C. Ruschak, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.
IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 21st day of Jun, 20 21.

Regan A. Shulman, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:
Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102

To verify the authenticity of this Power of Attorney, please contact Arch Insurance Company at SuretyAuthentic@archinsurance.com
Please refer to the above named Attorney-in-Fact and the details of the bond to which the power is attached.

ATTACHMENT 15
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

HAZARD POTENTIAL CLASSIFICATION ASSESSMENT REPORT
ASH PONDS 1N AND 1S
WILL COUNTY STATION
SEPTEMBER 2021

This initial Hazard Potential Classification Assessment Report has been prepared pursuant to the coal combustion residuals (CCR) rule codified in Title 35 of the Illinois Administrative Code, Section 845.440(a) effective as of April 21, 2021 for Ash Ponds 1N and 1S at Will County Station in Romeoville, Illinois (Station). The purpose of this project is to perform the hazard potential classification assessment by a licensed professional engineer to document the hazard potential classification as either a Class 1 or a Class 2 surface impoundment including the basis for the determination. The site is a coal-fired power station owned and operated by Midwest Generation, LLC (Midwest Generation).

1.0 SUMMARY

The following sections provide a description of physical and operational features followed by an evaluation of the potential failure scenarios of the Ponds 1N and 1S. Based on the results of the analyses provided in this report, Ponds 1N and 1S are classified as a Class 2 CCR surface impoundment because their failure would not result in probable loss of life but could result in potential economic and environmental damages.

2.0 REGULATION REQUIREMENTS

According to Section 845.120 of the CCR regulations:

> "Hazard potential classification" means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. The hazardous potential classifications include Class 1 and Class 2, defined as follows:
>
> Class 1 CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
>
> Class 2 CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

3.0 SITE PLAN

Due to geographic constraints, the watershed area for the site is limited. Ponds 1N and 1S can be identified as well as important building and other surface impoundments on the site plan attached as Figure 1. The ponds are located along the eastern banks of the Des Plaines River and west of an electrical substation area.

The information for the ponds was obtained through available construction documents. From these documents, it was determined the ponds were constructed with elevated embankments surrounding the ponds, so run-on into the ponds is limited to the embankment's crests. Light detection and ranging (LiDAR) information for the impoundment breach modeling was obtained through Will County GIS Data Services. The capacity and embankment height of the ponds are shown in Table 1 below.

Table 1: Estimated Capacity and Maximum Depth

	Pond 1N	**Pond 1S**
Estimated Capacity	14.06 acre-ft	12.63 acre-ft
Estimated Maximum Depth	8 ft	8 ft

4.0 POND FAILURE IMPACT EVALUATION

To classify the hazard potential of the ponds, impacts of potential failures must be evaluated. Due to the proximity of the ponds to the Des Plaines River on the western side, a failure of the western embankment(s) of the pond(s) could result in potential economic and environmental damages.

The next step is to evaluate the potential loss of life due to failure or mis-operation. Occupied buildings, including the main power block, are located over 800 feet southeast of the ponds; no occupied buildings are located north or south of the ponds. Detailed modeling discussed in Section 5.0 was used to assess the impact on human life of a potential eastern embankment breach on the surrounding eastern buildings.

5.0 EASTERN EMBANKMENT FAILURE MODELING

Pond 1N and 1S were both analyzed for breach scenarios associated with failure of the eastern pond embankments while containing maximum storage with no rainfall event associated. No rainfall event was necessary as the study was to show the effects of a maximum storage breach. The ponds were breached using United States Army Corps of Engineers (USACE) Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) to generate flows. The resulting flood was routed in USACE Hydrologic Engineering Center's River Analysis System (HEC-RAS) to show the effects the breach would have on the site.

The hydrologic modeling process selected by Civil & Environmental Consultants, Inc. (CEC) utilizes the USACE HEC-HMS software to perform the breach analyses. HEC-HMS version 4.8 was used to simulate the impoundment breach hydrographs for Ponds 1N and 1S.

The hydraulic analysis follows standard engineering practices and utilizes GeoHECRAS which is an AutoCAD, Micro Station, and ESRI ArcGIS compatible interactive two-dimensional and three-dimensional graphical user interface data wrapper to the USACE HEC-RAS software. GeoHECRAS was developed by Civil Geo, Inc. and performs one-dimensional and two-dimensional hydraulic analyses using the HEC-RAS v5.0.7 engine. Hydrographs were developed in HEC-HMS and were then routed with two-dimensional GeoHECRAS functions.

LiDAR elevation data from Will County GIS Data Services, dated 2014, served as the basis of the terrain model for the entire study area. Two-dimensional surface mesh was created in GeoHECRAS to capture the elevation data in the terrain underneath for the NRG power station located between the Des-Plaines and the shipping canal. A hexagonal mesh of 50-foot grid sizes was selected as the final two-dimensional geometry of the two-dimensional model area.

Manning's 'n' values for the unsteady flow analysis were estimated from a combination of aerial imagery, National Land Cover Database land cover data, and engineering judgment. It was determined for this analysis a general manning's 'n' of 0.06 would be used for the site.

The minimum flow at the upstream ends of the analysis was set at 0 cubic feet per second. Ponds 1N and 1S were set to the normal pool elevation of 590.5 feet as the starting elevation for the simulations.

As a part of a breach evaluation, CEC performed a drawdown calculation to determine if Ponds 1N and 1S acted as a dynamic breach or level pool breach. By performing this calculation, CEC was able to determine what program to recreate the breach in (dynamic routing requires HEC-RAS, level pool can be performed in HEC-HMS). These calculations also gave us the selected breach width (BR) and time to failure (TFH).

A sensitivity analysis was conducted to evaluate the effects of changes in the breach width and full breach formation time on the peak discharge from the dam breach. The breach side slopes were held at a constant value to independently evaluate the effects of the breach width and full breach formation time on the peak discharges. Calibration of the start time of the breach was also performed to calculate the most conservative result with the maximum peak discharge. Table 2 and Table 3 below summarizes the results of the minimum and maximum parameters.

Table 2: Pond 1N Sensitivity Analysis Results

WILL COUNTY STATION POND 1N					
Breach Parameter	**Selected**	**Breach Width Sensitivity**		**Time to Failure Sensitivity**	
		Minimum	**Maximum**	**Minimum**	**Maximum**
BR (ft)	29.81	8	40	29.81	29.81
Z (H:V)	1 to 1	1 to 1	1 to 1	1 to 1	1 to 1
TFH (hrs)	0.3	0.3	0.3	0.1	1.0
Breach Scenario	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)
Sunny Day Breach	646.4	422.5	699.9	1220.8	254.2

Table 3: Pond 1S Sensitivity Analysis Results

WILL COUNTY STATION POND 1S					
Breach Parameter	**Selected**	**Breach Width Sensitivity**		**Time to Failure Sensitivity**	
		Minimum	**Maximum**	**Minimum**	**Maximum**
BR (ft)	28.76	8	40	28.76	28.76
Z (H:V)	1 to 1	1 to 1	1 to 1	1 to 1	1 to 1
TFH (hrs)	0.29	0.3	0.3	0.1	1.0
Breach Scenario	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)	Discharge at Dam (cfs)
Sunny Day Breach	609.2	407.8	666.1	1136	254.2

6.0 EASTERN EMBANKMENT FAILURE RESULTS

A summary of the results for the selected breach parameters are listed in Table 4 and Table 5 below.

Table 4: Summary of 1N Impoundment Breach Results

POND 1N	
Scenario	**Sunny Day**
Breach Trigger	Time
	4:00
Pool Elevation at Breach, Initial (ft)	590.5
Time Breach Occurs	4:00
Breach Type	Piping
Starting Pool Elevation (ft)	590.5
Storage Volume at Breach (ac-ft)	14.06
Breach Invert Elevation, Final (ft)	582.5
Discharge at Dam, Peak (cfs)	646.4

Table 5: Summary of 1S Impoundment Breach Results

POND 1S	
Scenario	**Sunny Day**
Breach Trigger	Time
	4:00
Pool Elevation at Breach, Initial (ft)	590.5
Time Breach Occurs	4:00
Breach Type	Piping
Starting Pool Elevation (ft)	590.5
Storage Volume at Breach (ac-ft)	12.63
Breach Invert Elevation, Final (ft)	582.5
Discharge at Dam, Peak (cfs)	609.2

Calculated maximum flow depth and maximum velocity from Ponds 1N and 1S can be found in Figures 2 through 5.

The result of the GeoHECRAS model for Pond 1N shows that the flow through the modeled breach travels from Pond 1N towards the north, south, and east, with the majority traveling to the northeast and releasing into the Shipping Canal. Estimated water depths near the buildings range from 0–1.0 foot with velocities less than 1.0 foot per second

The result of the GeoHECRAS model for Pond 1S shows that the flow through the modeled breach travels from Pond 1S towards the north, south, and east, with the majority traveling to the southeast. Estimated water depths near the buildings range from 0–1.75 feet with velocities less than 1.50 feet per second.

7.0 HAZARD CLASSIFICATION ASSESSMENT

As discussed in Section 1, a CCR surface impoundment is classified as Class 1 if failure or mis-operation will probably cause loss of human life. Guidelines for evaluating potential loss of life during flood conditions are provide in USBR [1998]. Attachment B presents a relationship between flood flow depth and velocity for buildings on foundations that could cause potential loss of human life. Both Pond 1N and 1S' eastern embankment breaches plot in the "low danger zone". This indicates that a breach of either pond will not result in probable loss of human life.

Based on the results of the analysis provided in this report, Ponds 1N and 1S are classified as a Class 2 CCR impoundment because their failure would not result in probable loss of life but could result in impacts to the Des Plaines River creating potential economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

8.0 LIMITATIONS AND CERTIFICATIONS

The findings and opinions presented are relative to the dates of the referenced and hydraulic data sets and should not be relied on to represent conditions at substantially later dates. The opinions included herein are based on information obtained during the study of CEC's experience. If additional information becomes available that might impact CEC's conclusions, CEC requests the opportunity to review the information, reassess the potential concerns, and modify CEC's opinions, if warranted. If our services included a review or use of documents or data sources prepared by others, CEC has no responsibility for accuracy of information contained therein.

CEC has relied on the accuracy of models and calculations enclosed by the regulatory authorities. Their analyses are in general accordance with industry standards. CEC makes no warrants or representations as to the accuracy or quality of these methods.

This initial Hazard Potential Classification Assessment Report has been prepared pursuant to the CCR rule codified in Title 35 of the Illinois Administrative Code, Section 845.440(a) and was prepared under the direction of Mr. M. Dean Jones, P.E.

By affixing my seal to this, I do hereby certify to the best of my knowledge, information, and belief that the information contained in this report is true and correct. I further certify I am licensed to practice in the State of Illinois and that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Seal:
MAURICE DEAN JONES, JR.
062-051317

Signature: Dean Jones

Name: M. Dean Jones, P.E.

Date of Certification: September 23, 2021

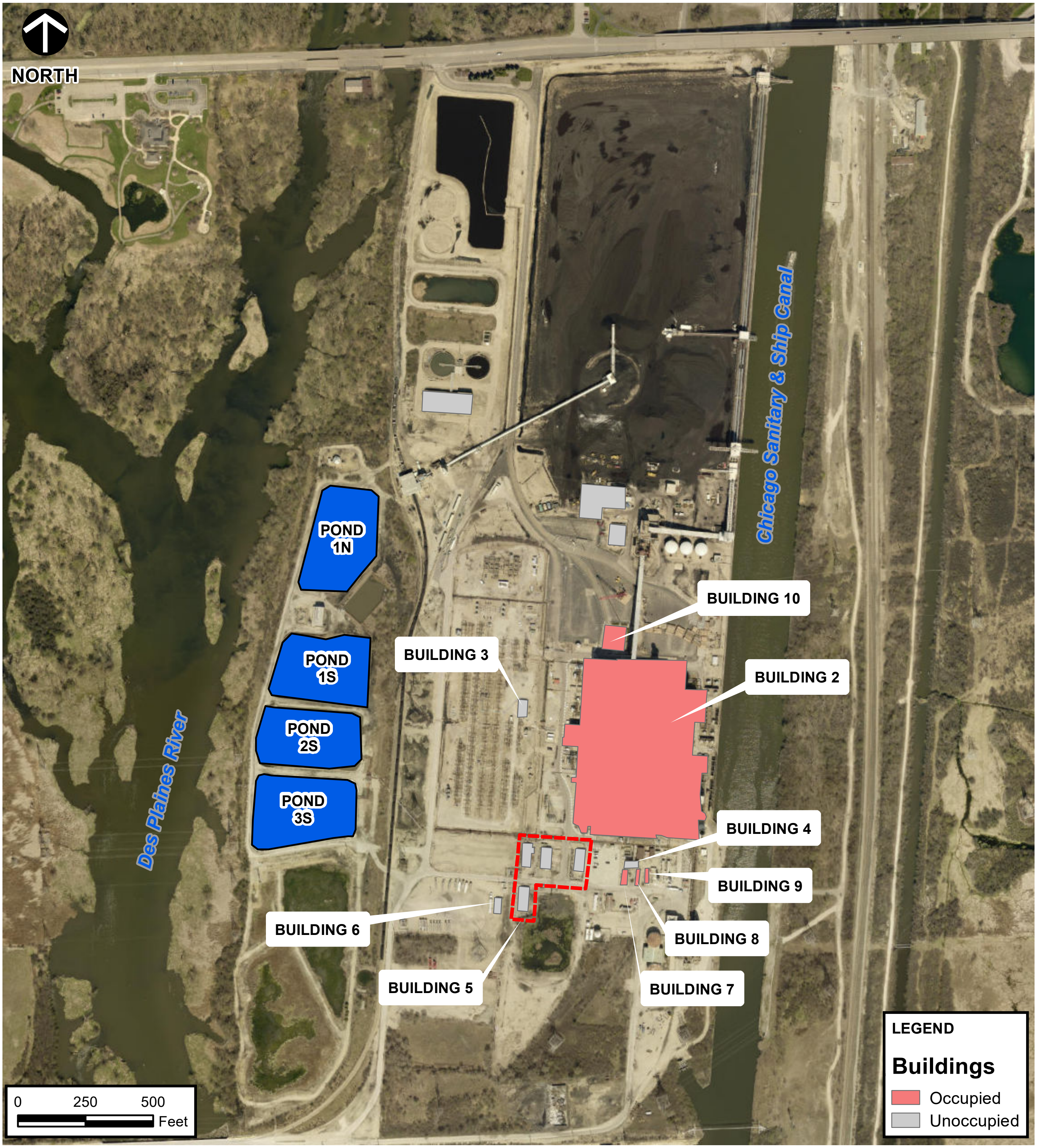
Illinois Professional Engineer No.: 062-051317

Expiration Date: November 30, 2021

Enclosures: Figures:
- Figure 1 - Site Map
- Figure 2 - Pond 1N Maximum Flow Depth
- Figure 3 - Pond 1N Maximum Velocity
- Figure 4 - Pond 1S Maximum Flow Depth
- Figure 5 - Pond 1S Maximum Velocity

Attachments:
- Attachment A - Storage Tables
- Attachment B - USBR Loss of Life Graph

FIGURES



SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: 04/20/2019

Civil & Environmental Consultants, Inc.
1230 East Diehl Road, Suite 200 - Naperville, IL 60563
630-963-6026 - 800-759-5614
www.cecinc.com

MIDWEST GENERATION, LLC
HAZARD POTENTIAL
CLASSIFICATION ASSESSMENT
POND 1N AND POND 1S
WILL COUNTY, IL

SITE MAP

DRAWN BY: CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	1
DATE: SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

\\SHONIGFORD\Share\312-192\GIS\312-192 WR01 Site Map.mxd - 9/23/2021 - 8:57:27 AM (shonigford)

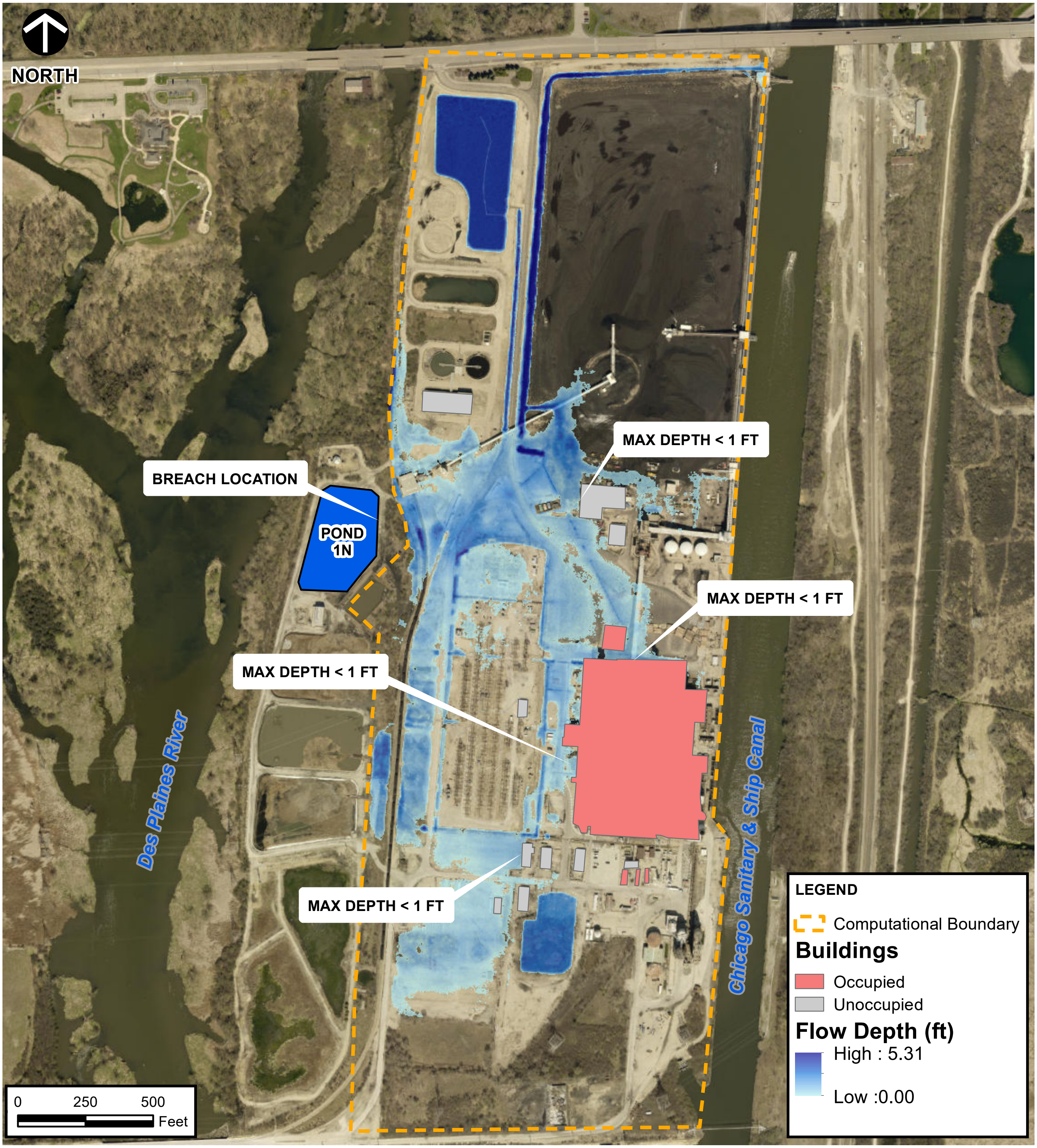


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IMAGE DATE: 04/20/2019

\\SHONIGFORD\Share\301-739 - CYSC\GIS\312-192 WR01 1N Depth Map.mxd - 9/23/2021 - 8:50:19 AM (shonigford)

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POND 1N AND POND 1S
WILL COUNTY, IL

POND 1N MAXIMUM FLOW DEPTH

DRAWN BY: CJG	CHECKED BY: CJG	APPROVED BY: MDG*	FIGURE NO:			
DATE: SEPTEMBER 23, 2021	DWG SCALE: 1 " = 500 '	PROJECT NO: 312-192	2			

Signature on File *

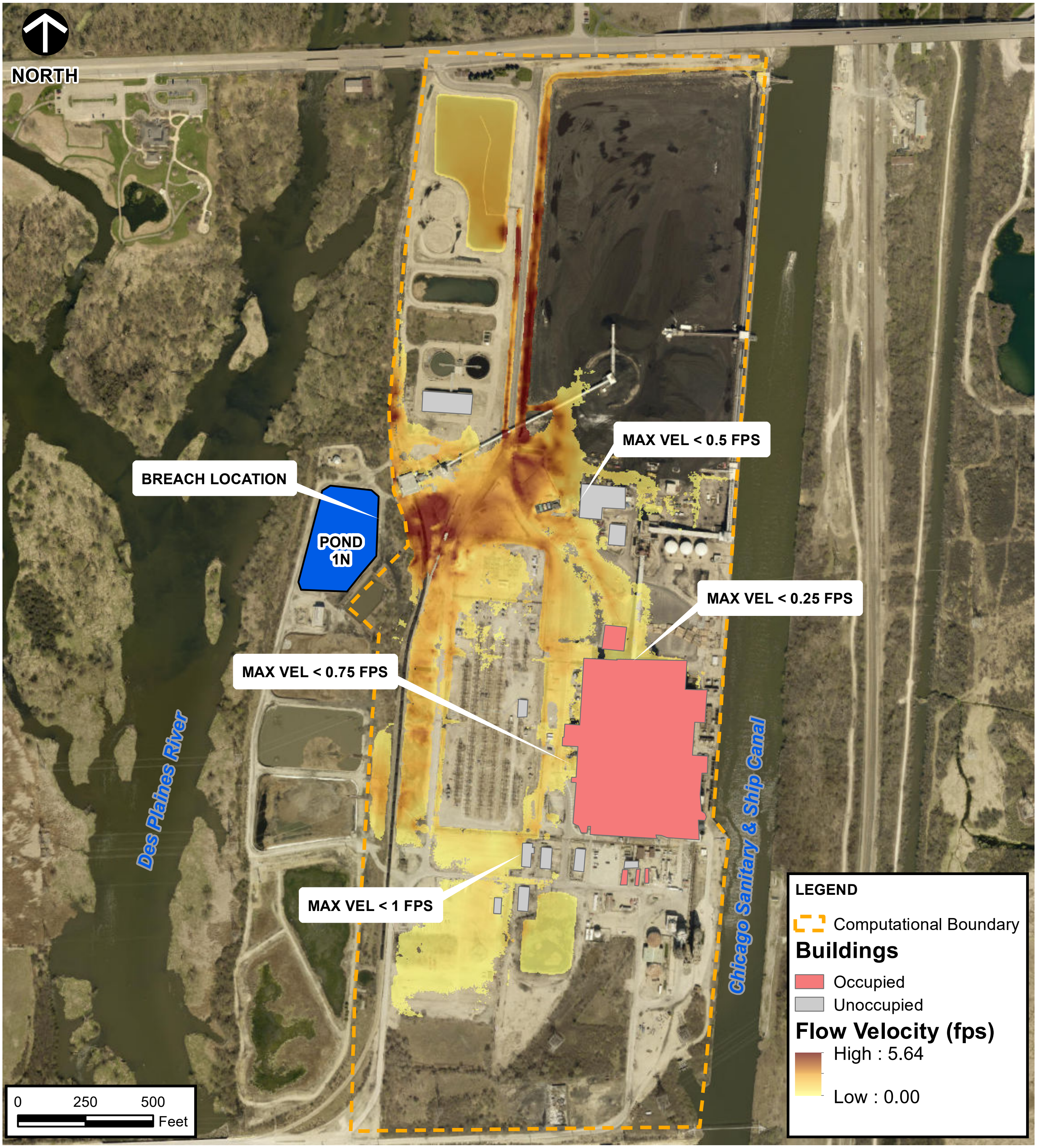

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IMAGE DATE: 04/20/2019

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POND 1N AND POND 1S
WILL COUNTY, IL

POND 1N MAXIMUM VELOCITY

DRAWN BY: CJG	CHECKED BY: CJG	APPROVED BY: MDG*	FIGURE NO: 3
DATE: SEPTEMBER 23, 2021	DWG SCALE: 1 " = 500 '	PROJECT NO: 312-192	

Signature on File *

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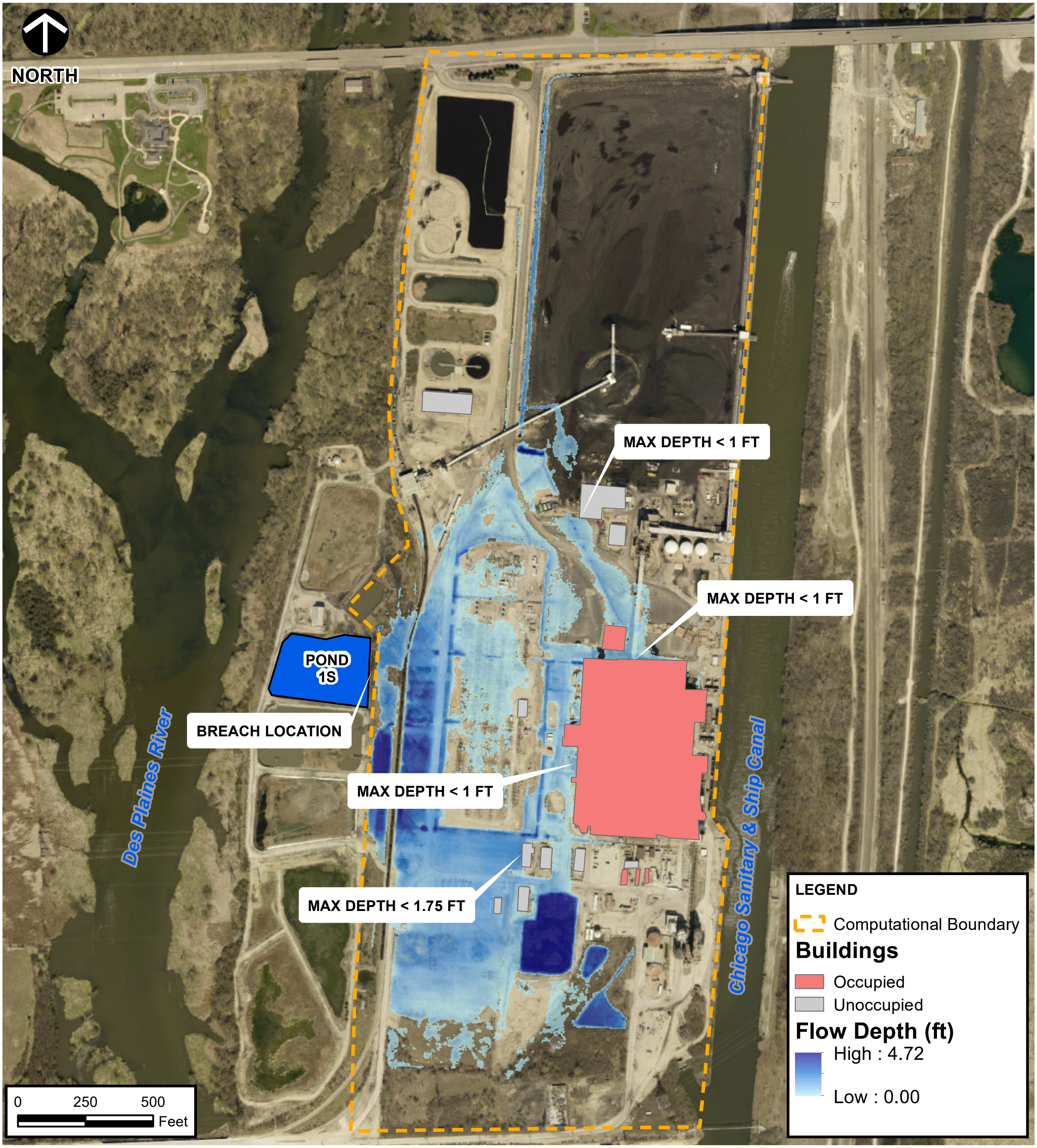

SOURCE: ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. LAST ACCESSED: 9/23/2021
IMAGE DATE: MM/DD/YYYY

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POND 1N AND POND 1S
WILL COUNTY, IL

POND 1S MAXIMUM FLOW DEPTH

DRAWN BY: CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	4
DATE: SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

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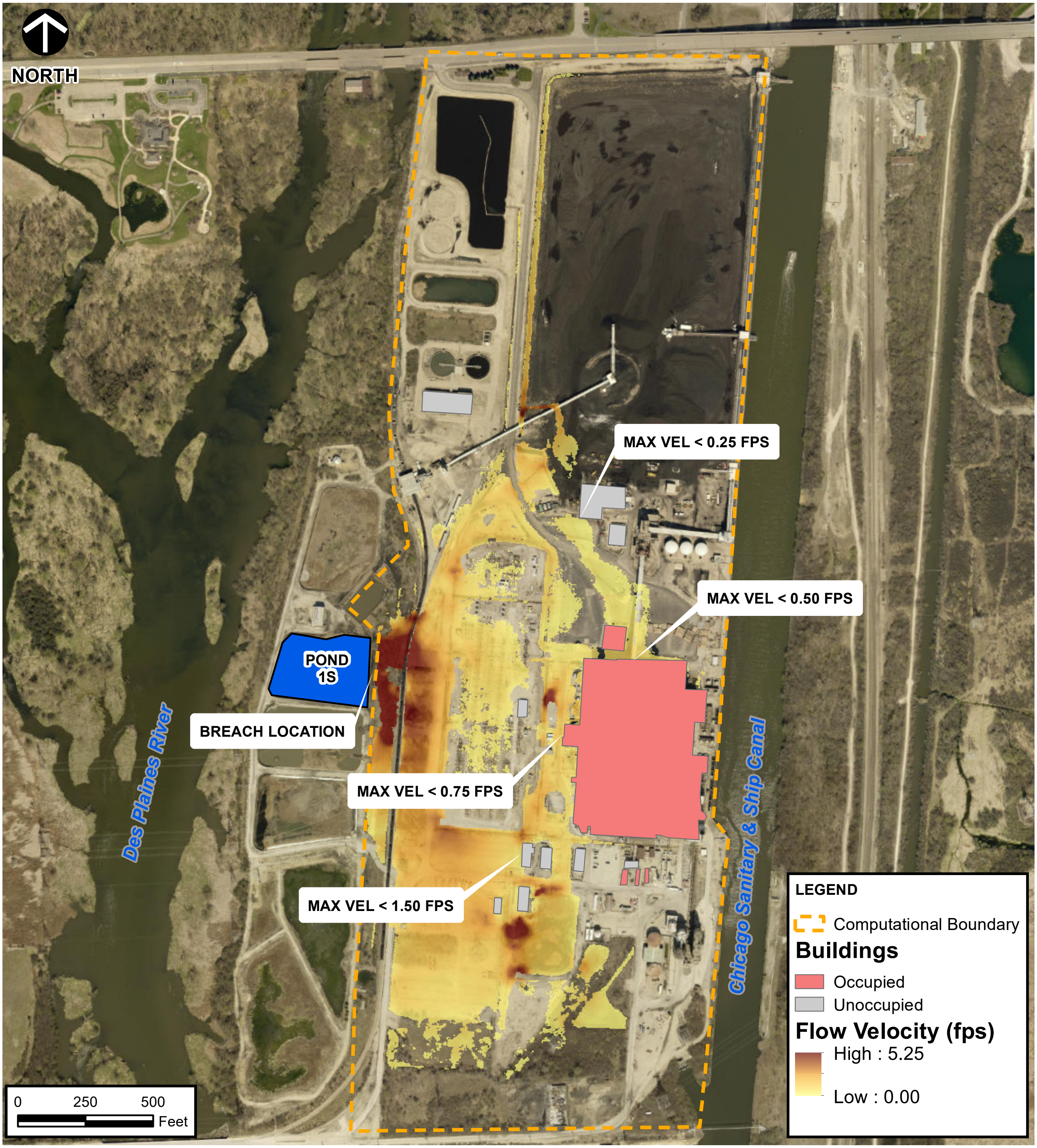

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POND 1N AND POND 1S
WILL COUNTY, IL

POND 1S MAXIMUM VELOCITY

DRAWN BY:	CJG	CHECKED BY:	CJG	APPROVED BY:	MDG*	FIGURE NO:	5
DATE:	SEPTEMBER 23, 2021	DWG SCALE:	1 " = 500 '	PROJECT NO:	312-192		

Signature on File *

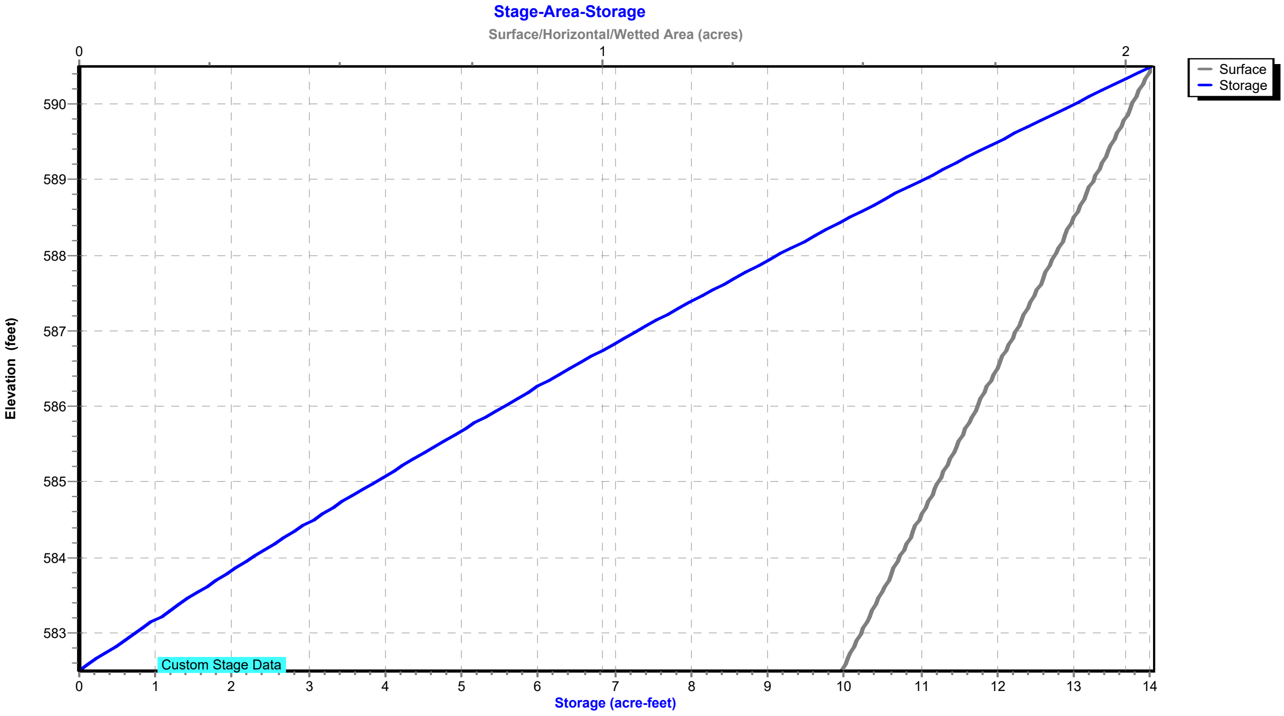
ATTACHMENT A

STORAGE TABLES

Stage-Area-Storage for Pond 1P: 1N CCR Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
582.50	1.456	0.000
582.60	1.463	0.146
582.70	1.471	0.293
582.80	1.478	0.440
582.90	1.486	0.588
583.00	1.493	0.737
583.10	1.500	0.887
583.20	1.508	1.037
583.30	1.515	1.188
583.40	1.523	1.340
583.50	1.530	1.493
583.60	1.537	1.646
583.70	1.545	1.800
583.80	1.552	1.955
583.90	1.560	2.111
584.00	1.567	2.267
584.10	1.574	2.424
584.20	1.582	2.582
584.30	1.589	2.741
584.40	1.597	2.900
584.50	1.604	3.060
584.60	1.611	3.221
584.70	1.619	3.382
584.80	1.626	3.545
584.90	1.634	3.708
585.00	1.641	3.871
585.10	1.648	4.036
585.20	1.656	4.201
585.30	1.663	4.367
585.40	1.671	4.534
585.50	1.678	4.701
585.60	1.685	4.869
585.70	1.693	5.038
585.80	1.700	5.208
585.90	1.708	5.378
586.00	1.715	5.549
586.10	1.722	5.721
586.20	1.730	5.894
586.30	1.737	6.067
586.40	1.745	6.241
586.50	1.752	6.416
586.60	1.759	6.592
586.70	1.767	6.768
586.80	1.774	6.945
586.90	1.782	7.123
587.00	1.789	7.301
587.10	1.796	7.481
587.20	1.804	7.661
587.30	1.811	7.841
587.40	1.819	8.023
587.50	1.826	8.205
587.60	1.833	8.388
587.70	1.841	8.572
587.80	1.848	8.756
587.90	1.856	8.941
588.00	1.863	9.127
588.10	1.870	9.314
588.20	1.878	9.501
588.30	1.885	9.689
588.40	1.893	9.878
588.50	1.900	10.068
588.60	1.907	10.258
588.70	1.915	10.449
588.80	1.922	10.641
588.90	1.930	10.834
589.00	1.937	11.027
589.10	1.944	11.221
589.20	1.952	11.416
589.30	1.959	11.612
589.40	1.967	11.808
589.50	1.974	12.005
589.60	1.981	12.203
589.70	1.989	12.401
589.80	1.996	12.601
589.90	2.004	12.801
590.00	2.011	13.001
590.10	2.018	13.203
590.20	2.026	13.405
590.30	2.033	13.608
590.40	2.041	13.812
590.50	**2.048**	**14.016**

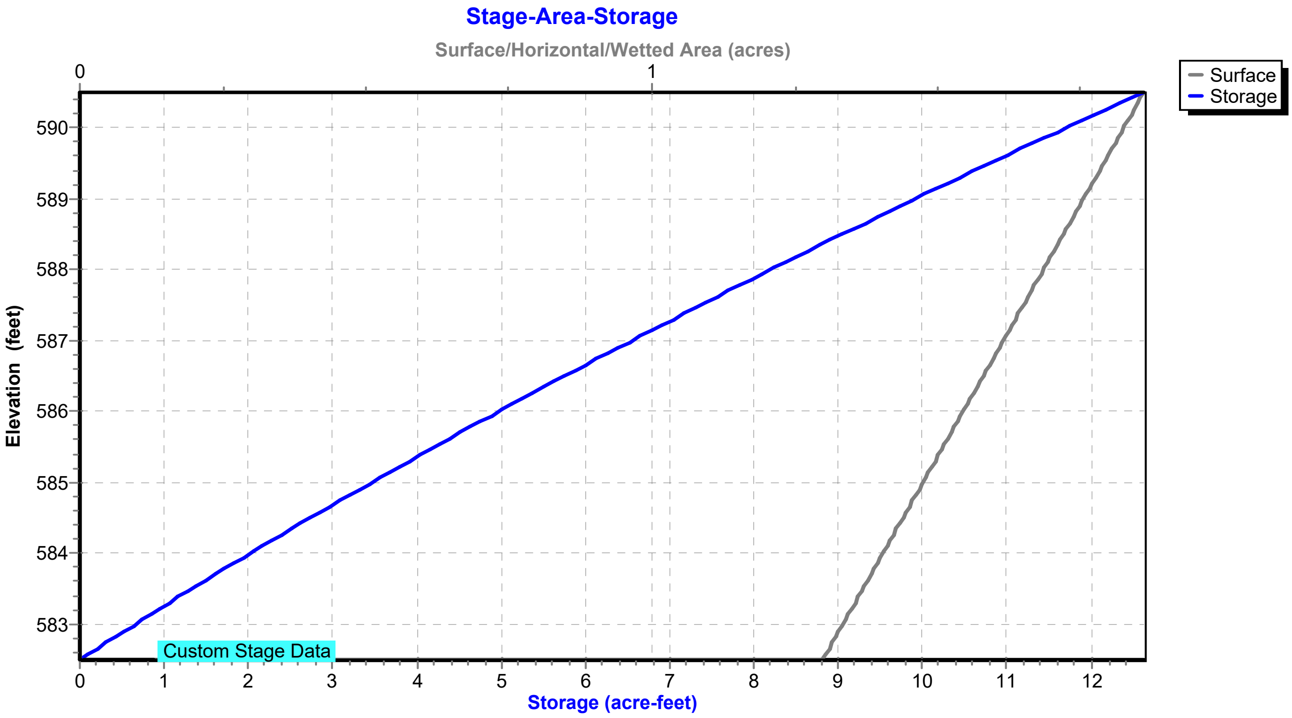
Pond 1P: 1N CCR Basin



Stage-Area-Storage for Pond 2P: 1S CCR Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
582.50	1.298	0.000
582.60	1.305	0.130
582.70	1.312	0.261
582.80	1.319	0.393
582.90	1.326	0.525
583.00	1.333	0.658
583.10	1.340	0.791
583.20	1.347	0.926
583.30	1.354	1.061
583.40	1.361	1.197
583.50	1.368	1.333
583.60	1.375	1.470
583.70	1.382	1.608
583.80	1.389	1.747
583.90	1.396	1.886
584.00	1.403	2.026
584.10	1.410	2.167
584.20	1.417	2.308
584.30	1.424	2.450
584.40	1.431	2.593
584.50	1.438	2.736
584.60	1.445	2.880
584.70	1.452	3.025
584.80	1.459	3.171
584.90	1.466	3.317
585.00	1.473	3.464
585.10	1.480	3.612
585.20	1.487	3.760
585.30	1.494	3.909
585.40	1.501	4.059
585.50	1.508	4.210
585.60	1.515	4.361
585.70	1.522	4.513
585.80	1.529	4.665
585.90	1.536	4.819
586.00	1.543	4.973
586.10	1.550	5.127
586.20	1.557	5.283
586.30	1.564	5.439
586.40	1.571	5.596
586.50	1.578	5.753
586.60	1.586	5.911
586.70	1.593	6.070
586.80	1.600	6.230
586.90	1.607	6.390
587.00	1.614	6.551
587.10	1.621	6.713
587.20	1.628	6.875
587.30	1.635	7.038
587.40	1.642	7.202
587.50	1.649	7.367
587.60	1.656	7.532
587.70	1.663	7.698
587.80	1.670	7.864
587.90	1.677	8.032
588.00	1.684	8.200
588.10	1.691	8.368
588.20	1.698	8.538
588.30	1.705	8.708
588.40	1.712	8.879
588.50	1.719	9.050
588.60	1.726	9.222
588.70	1.733	9.395
588.80	1.740	9.569
588.90	1.747	9.743
589.00	1.754	9.918
589.10	1.761	10.094
589.20	1.768	10.271
589.30	1.775	10.448
589.40	1.782	10.626
589.50	1.789	10.804
589.60	1.796	10.983
589.70	1.803	11.163
589.80	1.810	11.344
589.90	1.817	11.525
590.00	1.824	11.707
590.10	1.831	11.890
590.20	1.838	12.073
590.30	1.845	12.258
590.40	1.852	12.442
590.50	**1.859**	**12.628**

Pond 2P: 1S CCR Basin



ATTACHMENT B

USBR LOSS OF LIFE GRAPH

HIGH DANGER ZONE – Occupants of most houses are in danger from floodwater.

JUDGEMENT ZONE – Danger level is based upon engineering judgement.

LOW DANGER ZONE – Occupants of most houses are not seriously in danger from flood water.

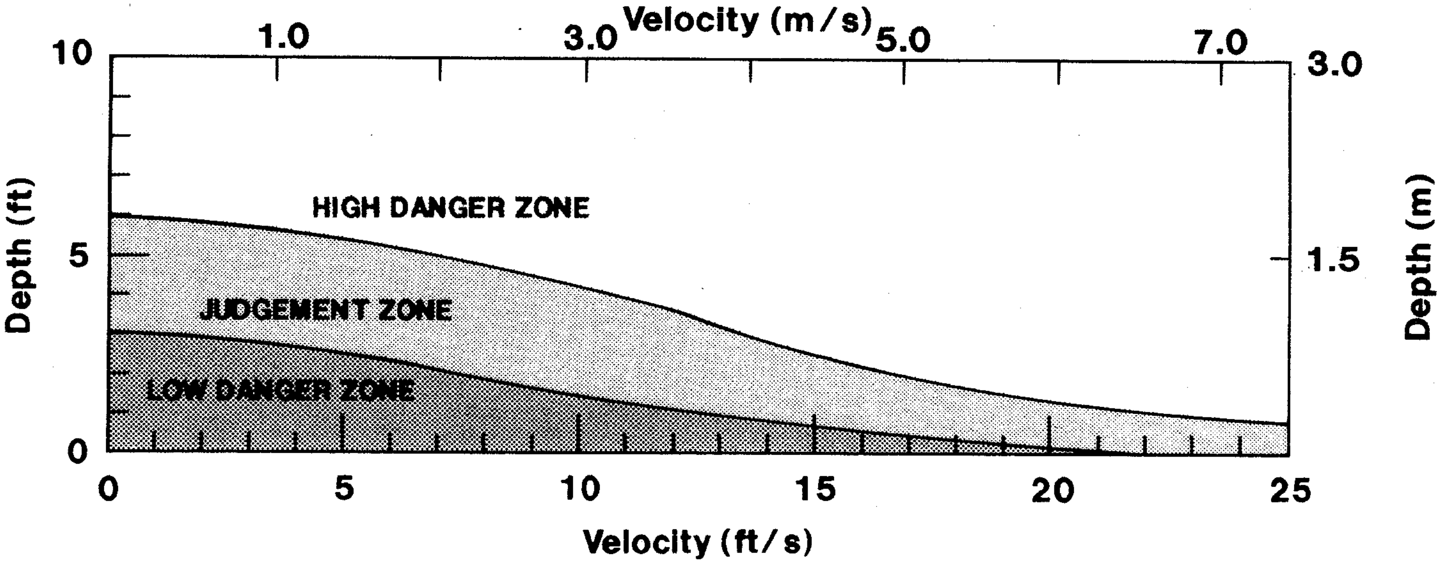


Figure 2. – Depth–velocity flood danger level relationship for houses built on foundations.

ATTACHMENT 16
STRUCTURAL STABILITY & SAFETY FACTOR ASSESSMENT

STRUCTURAL STABILITY AND FACTOR OF SAFETY ASSESSMENT
ASH PONDS 1N, 1S, 2S, AND 3S, WILL COUNTY STATION
SEPTEMBER 2021

This Structural Stability and Factor of Safety Assessment report has been prepared pursuant to the coal combustion residuals (CCR) rule codified in Title 35 of the Illinois Administrative Code, Section 845.440(a) effective as of April 21, 2021 for North Ash Pond 1 and South Ash Pond 1, South Ash Pond 2, and South Ash Pond 3 (herein referred to as Pond(s) 1N, 1S, 2S, and 3S) at Will County Station in Romeoville, Illinois (Station). The purpose of this project is to perform the initial structural stability and factor of safety assessments for the ponds by a licensed professional engineer. Civil & Environmental Consultants, Inc. (CEC) completed this structural stability and factor of safety assessment as described in the following sections.

1.0 REGULATION REQUIREMENTS - SECTIONS 845.450 AND 845.460

In accordance with Sections 845.450 and 845.460, owners or operator of a CCR impoundment are required to conduct initial and annual structural stability assessments to document whether the design, construction, operation, and maintenance of the CCR surface impoundment is consistent with recognized and generally accepted engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded; and to conduct an initial and annual safety factor assessment for each CCR surface impoundment and document whether the calculated factors of safety for each CCR surface impoundment achieve the minimum safety factors specified for the critical cross section of the embankment.

2.0 SITE CONDITIONS

Ponds 1N, 1S, 2S, and 3S are located at Will County Station, 529 East 135th Street in Romeoville, Will County, Illinois and situated south of 135th Street between the Des Plaines River and the Chicago Sanity and Ship Canal, see Figure 1. Basic information for each of the ponds are provided in Table 1. The ponds are of similar construction, size, and age. Each pond is constructed with a concrete weir spillway along the west half. Gravel access roads are located along the sides of the ponds.

Table 1 - Ash Pond Construction

Pond ID	Year of Original Construction	Dimension (ft x ft)	Depth (ft)	Capacity (ft^3)	Status
Pond 1N	1977	167 x 333	7	520,000	Closed
Pond 1S	1977	300 x 195	7	460,000	Closed
Pond 2S	1977	350 x 178	7	510,000	Active
Pond 3S	1977	234 x 322	7	530,000	Inactive

Based on information provided by Station personnel, the ponds were originally constructed in 1977, and have not undergone significant changes in the geometry. The original operation was designed to receive bottom ash via sluicing with wastewater treated in the wastewater treatment plant and discharged to the Chicago Sanitary and Ship Canal through the permitted National Pollutant Discharge Elimination System Outfall 002.

Ponds 1N and 1S were closed after the shutdown of Unit 1 and Unit 2, respectively. Pond 2S is still active, and at the time of our inspection, Pond 3S was inactive. The ponds are inspected weekly by the environmental specialist including checking the water level in the ponds.

3.0 STRUCTURAL STABILITY ASSESSMENT - SECTION 845.450

The following sections describe the structural stability assessment.

3.1 Stable Foundation and Abutments - Section 845.450(a)(1)

This assessment indicates the soils forming the pond foundations are stable. Soils data from soil boring logs and monitoring well logs within the vicinity of the ponds show the foundations consist of random sandy clay and gravel fill over weathered limestone bedrock. Inspection of the ponds did not show signs of distress due to settlement of the underlying foundation soils.

The ponds are partially incised and supported by earthen embankments. These type of basins constructed with earthen berms do not require abutments, and therefore consideration of abutment design, construction, and operation is not required.

3.2 Adequate Slope Protection - Section 845.450(a)(2)

Ponds 1N, 1S, 2S, and 3S are constructed with concrete overflows on the south end of each pond and the earthen bottom and sidewalls are protected with Poz-o-Pac liner. Additionally, Ponds 2S and 3S are also protected with a flexible membrane liner that provides adequate protection of the interior slopes against surface erosion, wave action, and adverse effects of sudden drawdown. From our inspection, Pond 2S has a protective layer comprised of concrete filled flexible reinforcement grid which is placed over a 6-inch warning layer, 12-inch cushion layer, and a 60 mil textured flexible membrane liner; while Pond 3S has been lined with flexible membrane liner. Our inspection of the ponds showed no signs of erosion.

3.3 Dike Compaction - Section 845.450(a)(3)

As-built construction documents for the initial construction of the ponds are unavailable. It would be standard practice for the dikes to be mechanically compacted to a density sufficient to withstand the range of loading conditions in the ponds. This is supported by the consideration that the ponds have been in operation since the 1977, and that the station has no record of observed distresses or repairs. Furthermore, the initial inspection of the dikes did not shows signs of distress that would be indicative of improperly placed and/or loosely compacted soils.

3.4 Downstream Slope Protection - Section 845.450(a)(4)

Consistent with Section 845.430, the basin slope protection consists of a combination of riprap and vegetative cover over the downstream slopes. Inspection shows the slope protection is maintained; protective against surface erosion, wave action, and adverse effect of rapid drawdown. At the time of inspection, the woody vegetation was observed on the downstream slope. Grassy vegetation did not exceed 12 inches in height.

3.5 Spillway - Section 845.450(a)(5)

Although each of the ponds are constructed with a concrete overflow connected to the on-site wastewater treatment plant, the ponds have not been designed or constructed with a spillway. Section 845.450 specifies a single spillway or a combination of spillways configured as specified in Subsection (a)(5)(A), and that the combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in Subsection (a)(5)(B). Not having an spillway is considered a deficiency in accordance with the Section 845.450(a)(5). Our inspection shows the ponds have been constructed and operated without incident since 1977, without any spillway, and that water levels are maintained at the level of the overflow.

3.6 Structural Integrity of Hydraulic Structures - Section 845.450(a)(6)

Although each of the ponds are constructed with a concrete overflow connected to the wastewater treatment plant, the pipe leading from the overflow is either a 36-inch (Ponds 2S and 3S) or 48-inch (Ponds 1N and 1S) diameter pipe that passes through earthen embankment. At the time of our inspection, the water flowed into the pipe and evidence showing the structural integrity of the pipe free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris could not be made. At the time of this report, inspection reports for the overflow were unavailable.

3.7 Down Stream Slopes Adjacent To Water Bodies - Section 845.450(a)(7)

The Des Plaines River is downstream of the ponds and a stability analysis was performed for both a low pool and rapid draw down condition. The stability analysis shows that the embankment is designed and constructed to maintain stability during both low pool and rapid draw down conditions.

3.8 Structural Stability Assessment Deficiencies

Structural deficiencies associated with the ponds were not identified during this initial structural stability assessment. Inspection records for the pipe were unavailable. Although our inspection did not identify distress that would suggest the existence of a structural deficiency, the overflow pipe should be inspected in accordance with Section 845.450(a)(6).

3.9 Annual Inspection Requirement

In completing the initial structural stability assessment, the ponds were inspected for signs of distress that would have the potential to disrupt operation and safety. No signs of distress that would have the potential to disrupt operation and safety of the ponds were identified. This inspection can suffice for the 2021 inspection.

4.0 SAFETY FACTOR ASSESSMENT - SECTION 845.460

In accordance with Section 845.460, the owner or operator of a CCR surface impoundment must conduct initial and annual safety factor assessments for each CCR surface impoundment and document whether the calculated factors of safety for each CCR surface impoundment achieve the minimum safety factors specified for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.

4.1 Slope Stability Methodology

Slope stability software Slide2 was used to calculate the minimum factor of safety for each pond at Cross Section 1N-1N, 1S-1S, 2S-2S, and 3S-3S, respectively. The program uses 2D limit equilibrium methods to determine the minimum factor of safety against slope instability. The auto-refine, non-circular search method with optimization was used utilizing Spencer’s method to calculate the factor of safety for each design criteria scenario, as discussed below. For each section analyzed, the program searches for the sliding surface that procures the lowest factor of safety which is defined as the ratio of the shear forces and moment resisting movement along the sliding surface to the forces and moments driving the instability.

Soil data provided by the station personnel was used to develop soil properties for the slope stability analysis. The data shows the soil materials in the vicinity of the ponds consists of up to approximately 5 feet of random clay fill overlying weathered and unweathered limestone bedrock.

4.2 Slope Stability Analysis - Section 845.460

Four cases were analyzed to satisfy the safety factor assessment as per Section 845.460(a)(2) through (a)(4).

4.2.1 Static, Long-Term - Section 845.460(a)(2)

The static, long-term condition with the maximum surcharge loading on the embankment was evaluated. The static, long-term analysis included a pool elevation at 592.5 feet mean sea level and a groundwater elevation at 580.5 feet mean sea level.

4.2.2 Static, Maximum Storage Pool - Section 845.460(a)(3)

The static, long-term, maximum storage pool condition with the maximum surcharge loading on the embankment was evaluated. The static, long-term analysis included a pool elevation set at the lowest points of the embankment crest, 589.5 feet mean sea level, and a groundwater elevation at 580.5 feet mean sea level.

4.2.3 Seismic - Section 845.460(a)(4)

Seismic analysis was performed by incorporating pseudo static seismic loading scenarios in the long-term global stability analysis calculations. A pseudo-static seismic horizontal load was applied to the long-term maximum storage pool loading condition model.

The seismic factor of safety is defined in the proposed CCR regulations as “the factor of safety (safety factor) determined using analysis under earthquake conditions using the peak ground acceleration (PGA) for a seismic event with a 2% probability of exceedance in 50 years, equivalent to a return period of approximately 2,500 years, based on the U.S. Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located”.

4.2.4 Liquefaction - Section 845.460(a)(5)

For dikes constructed of soils susceptible to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20. Soils with potential for liquefaction typically consist of poorly drained fine-grained soils. Soil boring data indicate that the embankment and foundation soils consist of random sandy clay and gravel fill over shallow weathered limestone bedrock. These soil types are not susceptible to liquefaction. Additionally, the Poz-o-Pac liner system makes it unlikely the embankment would become saturated or inundated. Because the likelihood of liquefaction and associated shear strength loss of the embankment soils is very low, the liquefaction condition is represented by the static factor of safety analysis and a separate analysis was not performed.

4.3 Factor of Safety Assessment Results

Results of the slope stability analysis for the critical cross section of the ponds are summarized in Table 2, below, and presented in Figures 1 through 13. The results meet the factor of safety requirements presented in 845.460(a)(2) through (4).

Table 2: Safety Factor Results - Ponds 1N, 1S, 2S, and 3S

Loading Condition	Required FS	Calculated Factor of safety			
		1N	1S	2S	3S
Static, Long-Term 845.460(a)(2)	1.50	3.76	2.87	2.87	3.48
Static, Maximum Storage Pool 845.460(a)(3)	1.40	3.76	2.87	2.87	3.48
Seismic 845.460(a)(4)	1.00	1.89	1.77	2.11	2.56
Liquefaction 845.460(a)(5)	1.20	>1.20	>1.20	>1.20	>1.20

5.0 LIMITATIONS AND CERTIFICATION

This initial Structural Stability and Factor of Safety Assessment report was prepared to meet the requirements of Sections 845.450 and 845.460 of the Illinois Administrative Code draft Title 35 Subtitle G Subchapter I Subchapter j Coal Combustion Waste Surface Impoundments, and was prepared under the direction of Mr. M. Dean Jones, P.E.

By affixing my seal to this, I do hereby certify to the best of my knowledge, information, and belief that the information contained in this report is true and correct. I further certify I am licensed to practice in the State of Illinois and that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Seal:

MAURICE DEAN JONES, JR.

Signature: Dean Jones

Name: M. Dean Jones, P.E.

Date of Certification: September 23, 2021

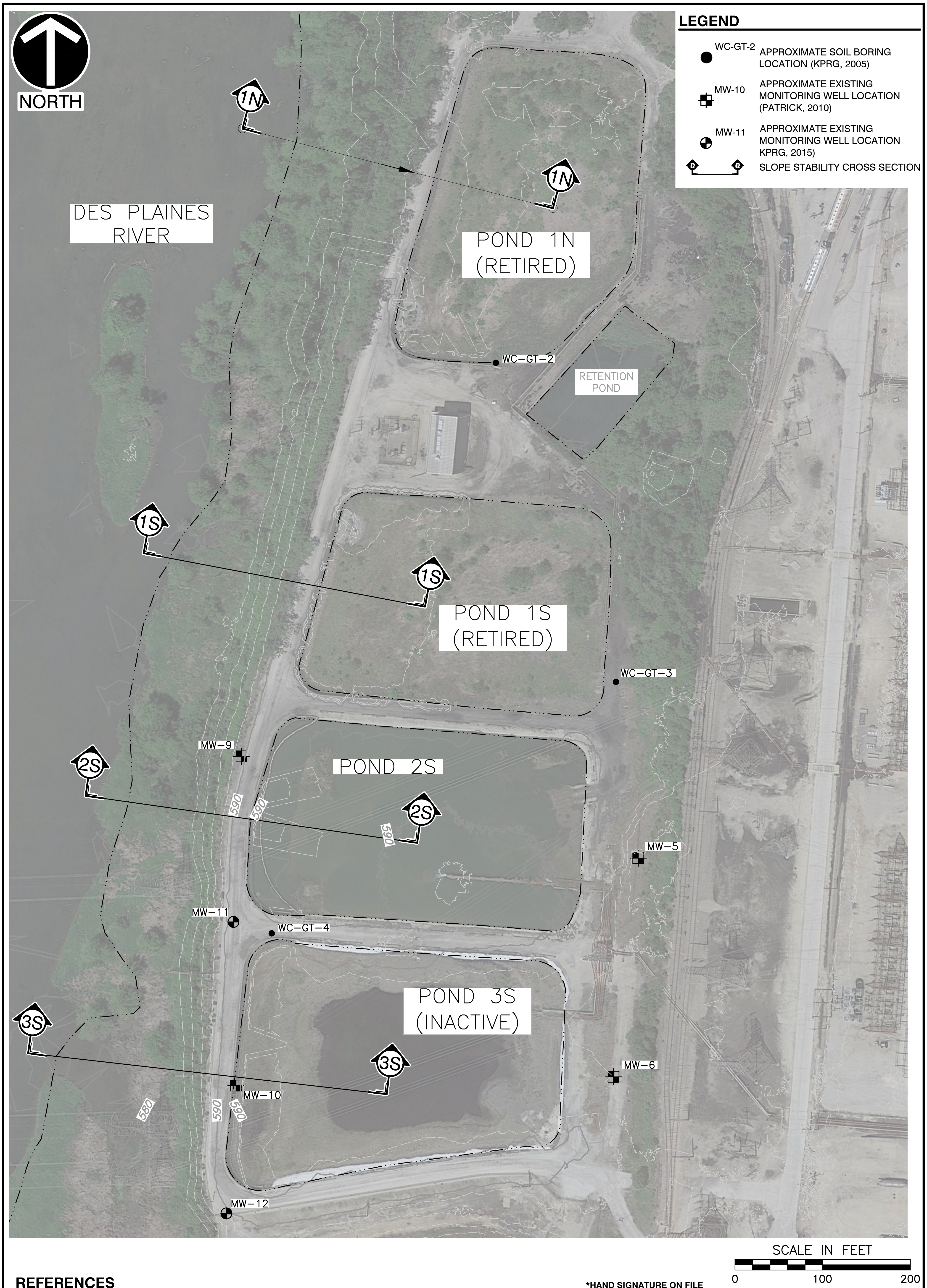
Illinois Professional Engineer No.: 062-051317

Expiration Date: November 30, 2021

Enclosure: Figures

FIGURES

P:\310-000\312-192\-CADD\Dwg\CV01 WILL COUNTY\312192-CV01-C200 EXISTING SITE CONDITIONS - WILL COUNTY.dwg{1} LS:(9/23/2021 - ccase) - LP: 9/23/2021 9:16 AM



*HAND SIGNATURE ON FILE

REFERENCES

1. TOPOGRAPHIC INFORMATION BASED UPON LiDAR POINT CLOUD DATA FROM WILL COUNTY ILLINOIS LiDAR ACQUISITION 2014, ACCESSED AUGUST 2021.
2. AERIAL IMAGE PROVIDED BY GOOGLE EARTH, DATED MAY 29, 2021, ACCESSED AUGUST 20, 2021.

CEC

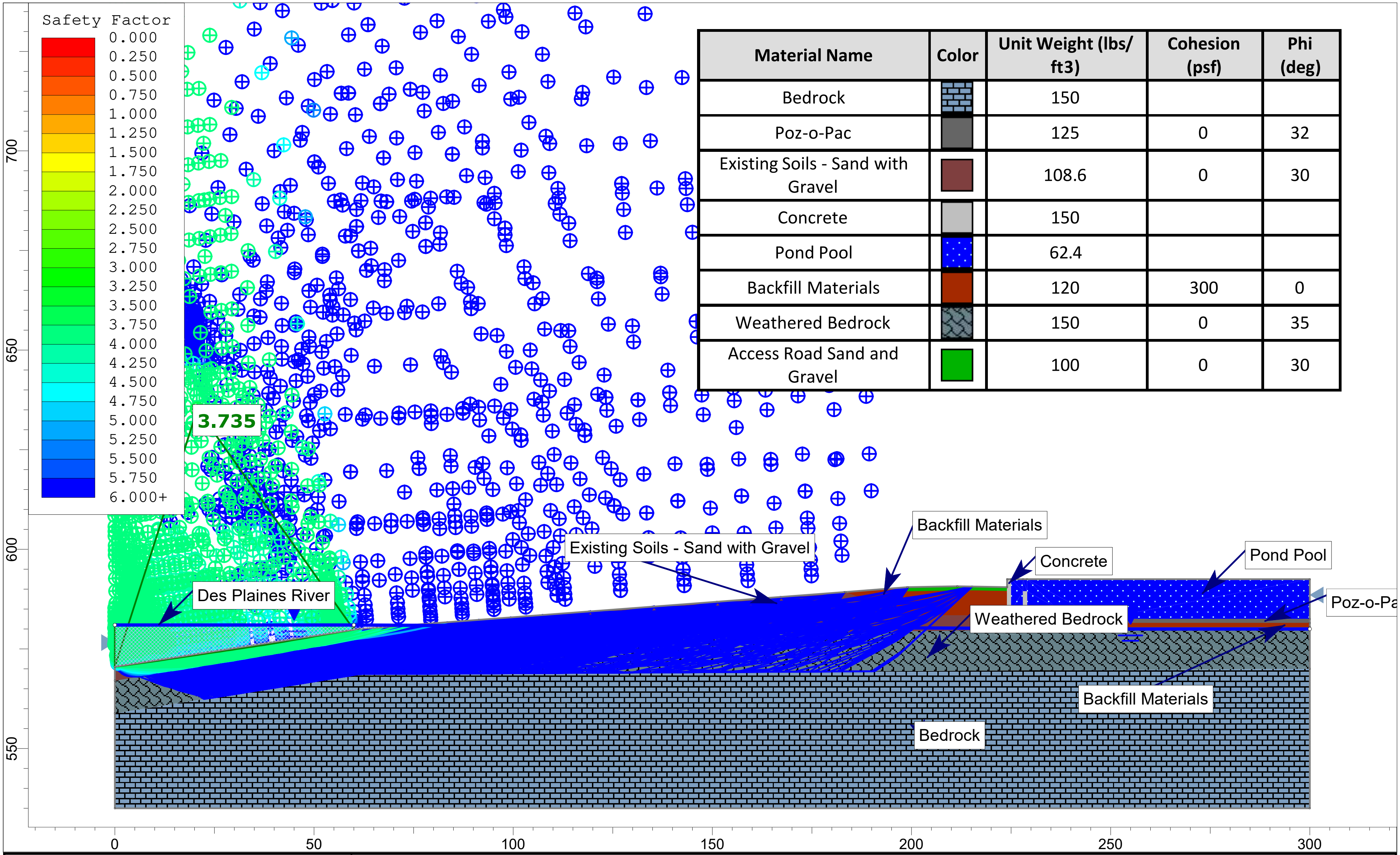
Civil & Environmental Consultants, Inc.

1230 East Diehl Road, Suite 200 - Naperville, IL 60563
630-963-6026 · 877-963-6026
www.cecinc.com

MIDWEST GENERATION LLC
WILL COUNTY STATION
PONDS 1N, 1S, 2S, AND 3S SLOPE STABILITY
ROMEOVILLE, WILL COUNTY, ILLINOIS

SITE PLAN WITH CROSS-SECTIONS

DRAWN BY:	CAC	CHECKED BY:	CAC	APPROVED BY:	MDJ*	FIGURE NO.:	1
DATE:	SEPTEMBER 2021	DWG SCALE:	1"=100'	PROJECT NO:	312-192.0230		



Material Name	Color	Unit Weight (lbs/ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	■	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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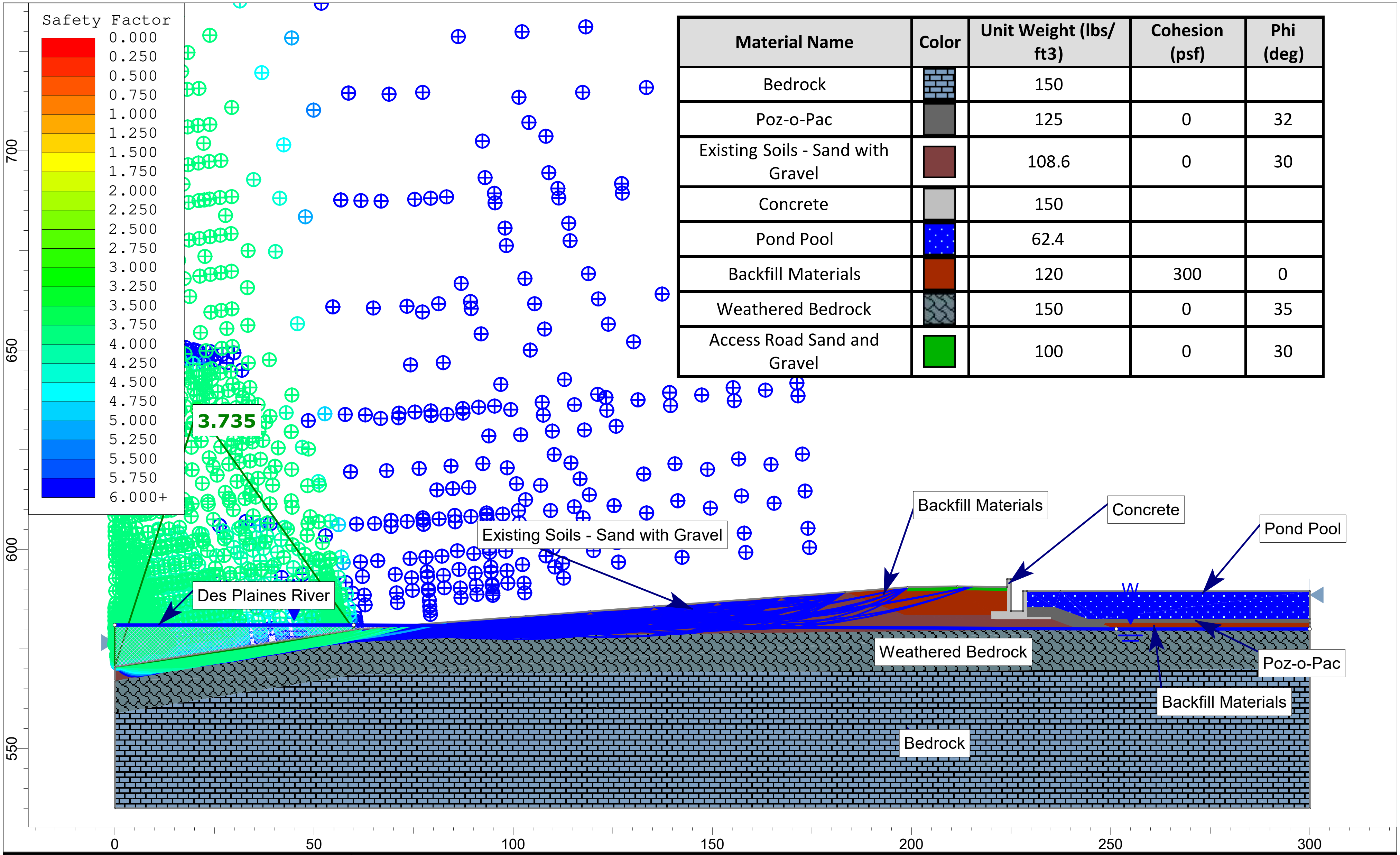
ProjectF

Figure 2: Pond 1N Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 1N, Long-Term, Maximum Surcharge Pool
Drawn By CAC	*Checked By:* MDB	*Approved By:* MDJ		*Company*	Civil & Environmental Consultants, Inc.
Date 08/25/2021	*Date:* 9/23/2021	*Date:* 9/23/2021		*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	■	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

Civil & Environmental Consultants, Inc.

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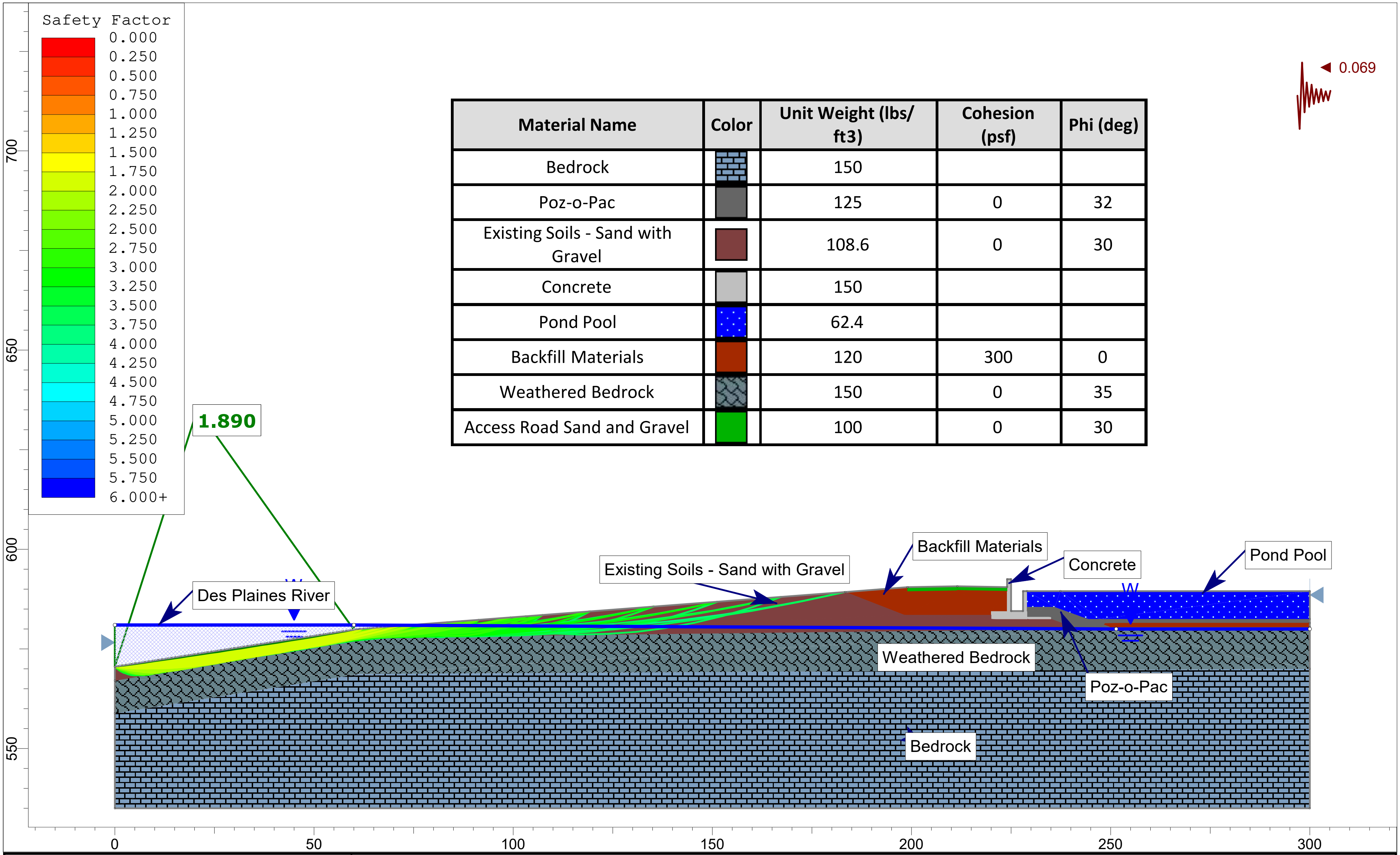
Project

Figure 3: Pond 1N Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 1N, Long-Term, Maximum Storage Pool
Drawn By CAC	*Checked By:* MDB	*Approved By:* MDJ		*Company*	Civil & Environmental Consultants, Inc.
Date 08/25/2021	*Date:* 9/23/2021	*Date:* 9/23/2021		*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	■	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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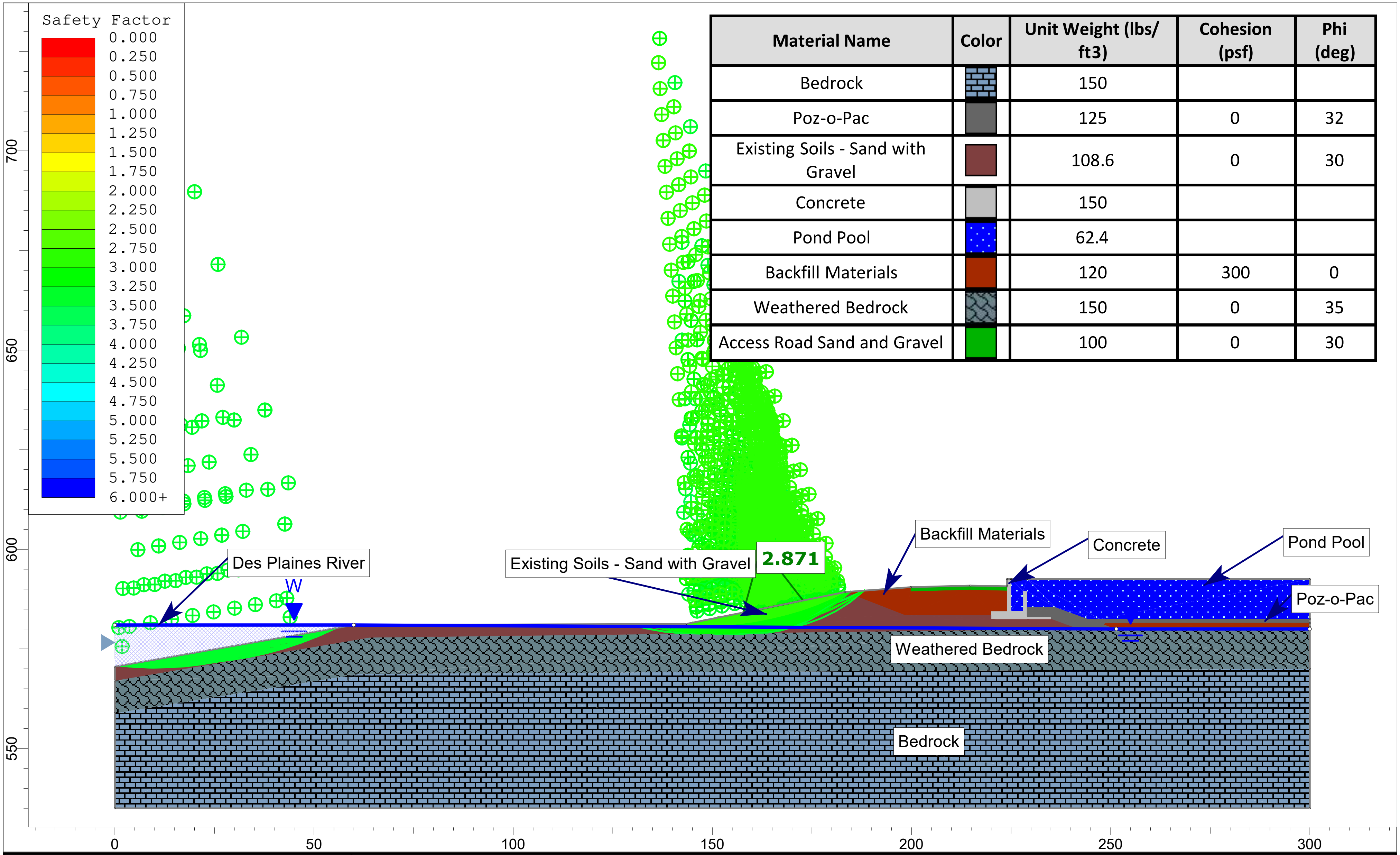
Figure 4: Pond 1N Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 1N, Long-Term, Maximum Storage Pool - Seismic		
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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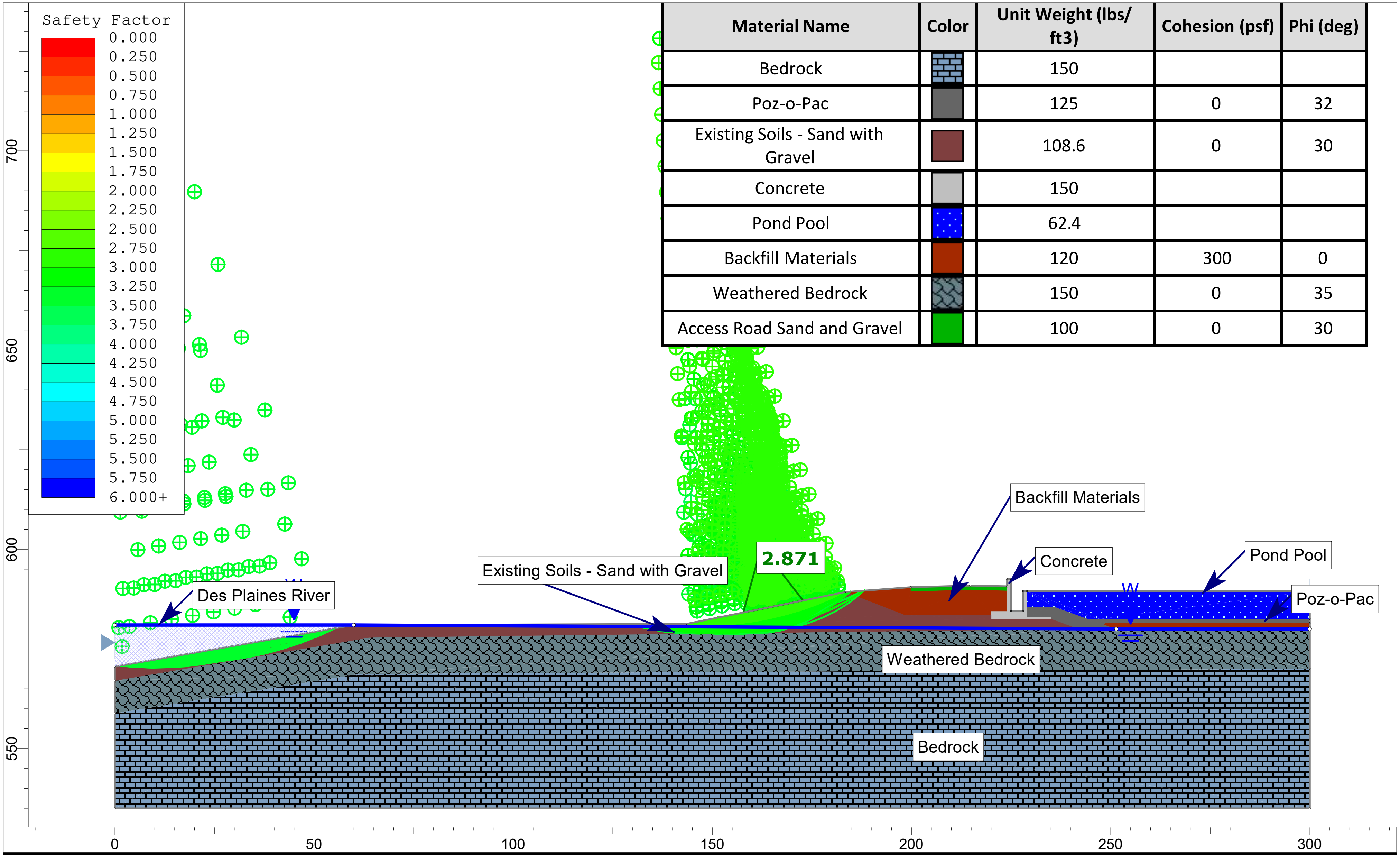
Figure 5: Pond 1S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 1S, Long-Term, Maximum Surcharge Pool
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ
Company	Civil & Environmental Consultants, Inc.				
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021
File Name	312192-WC-Pond 1N.slmd				



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	■	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	■	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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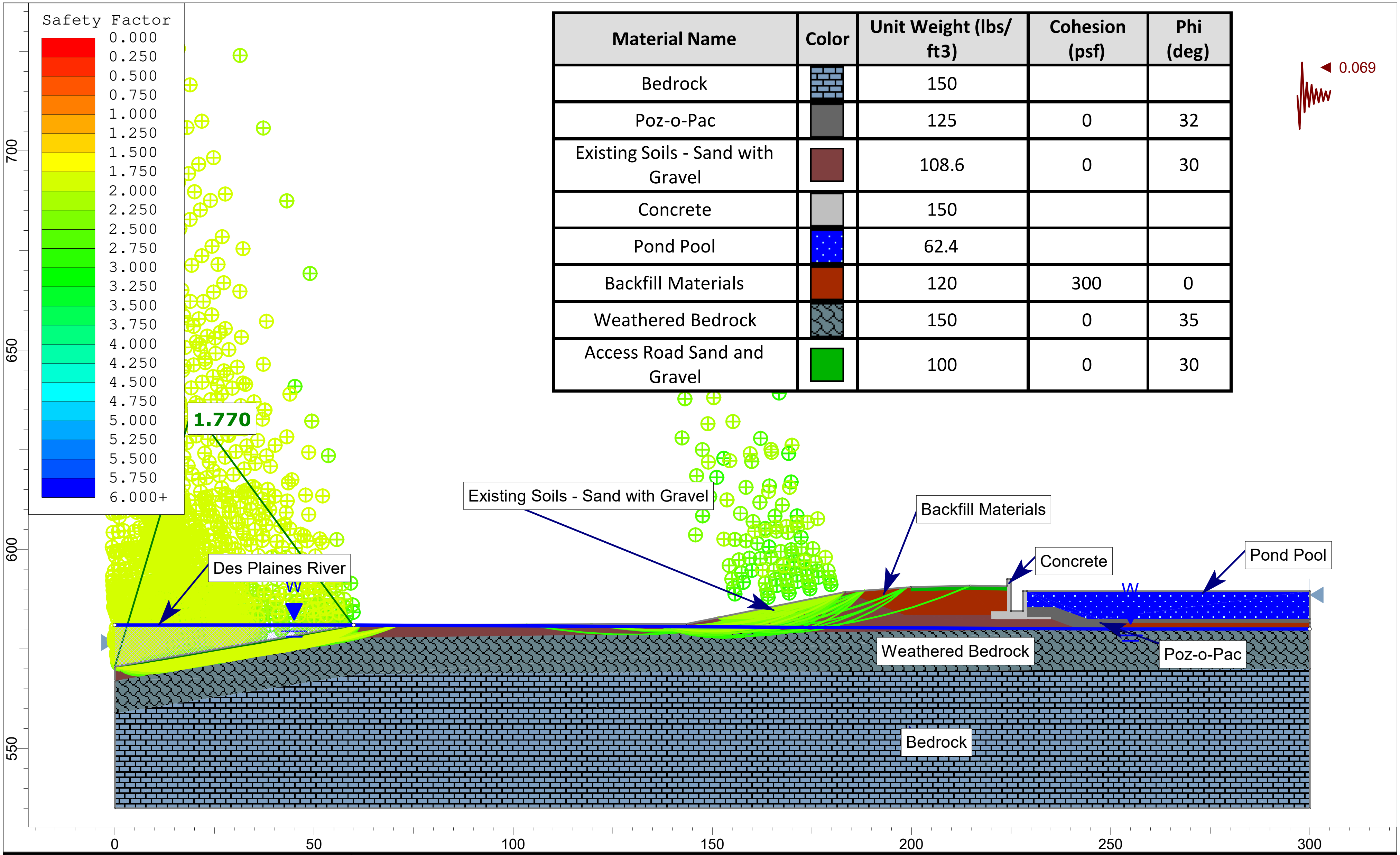
Figure 6: Pond 1S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400			*Scenario*	Pond 1S, Long-Term, Maximum Storage Pool
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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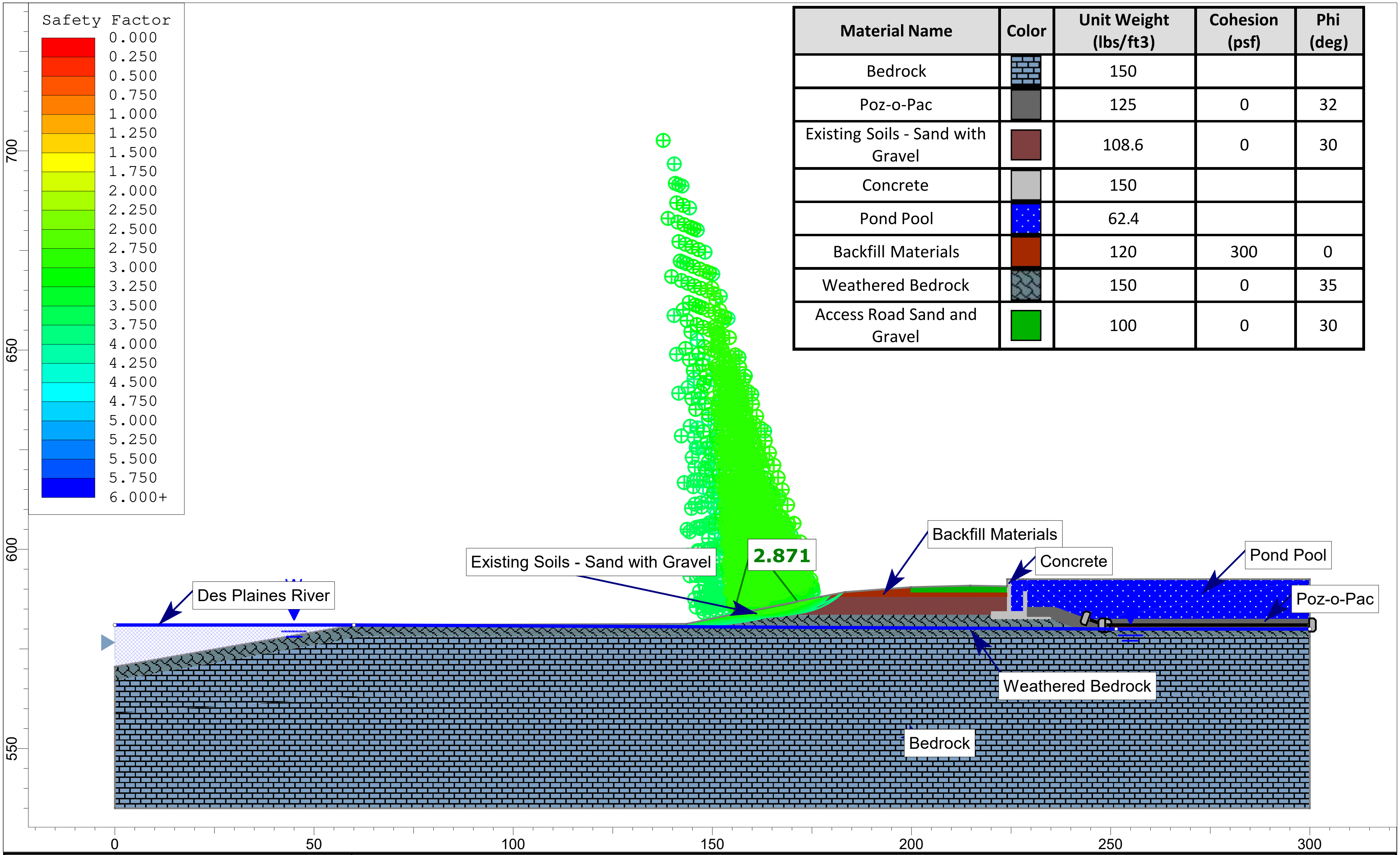
Project

Figure 7: Pond 1S Slope Stability Analysis

Analysis Spencer	*Scale:* 1:400		*Scenario* Pond 1S, Long-Term, Maximum Storage Pool - Seismic
Drawn By CAC	*Checked By:* MDB	*Approved By:* MDJ	*Company* Civil & Environmental Consultants, Inc.
Date 08/25/2021	*Date:* 9/23/2021	*Date:* 9/23/2021	*File Name* 312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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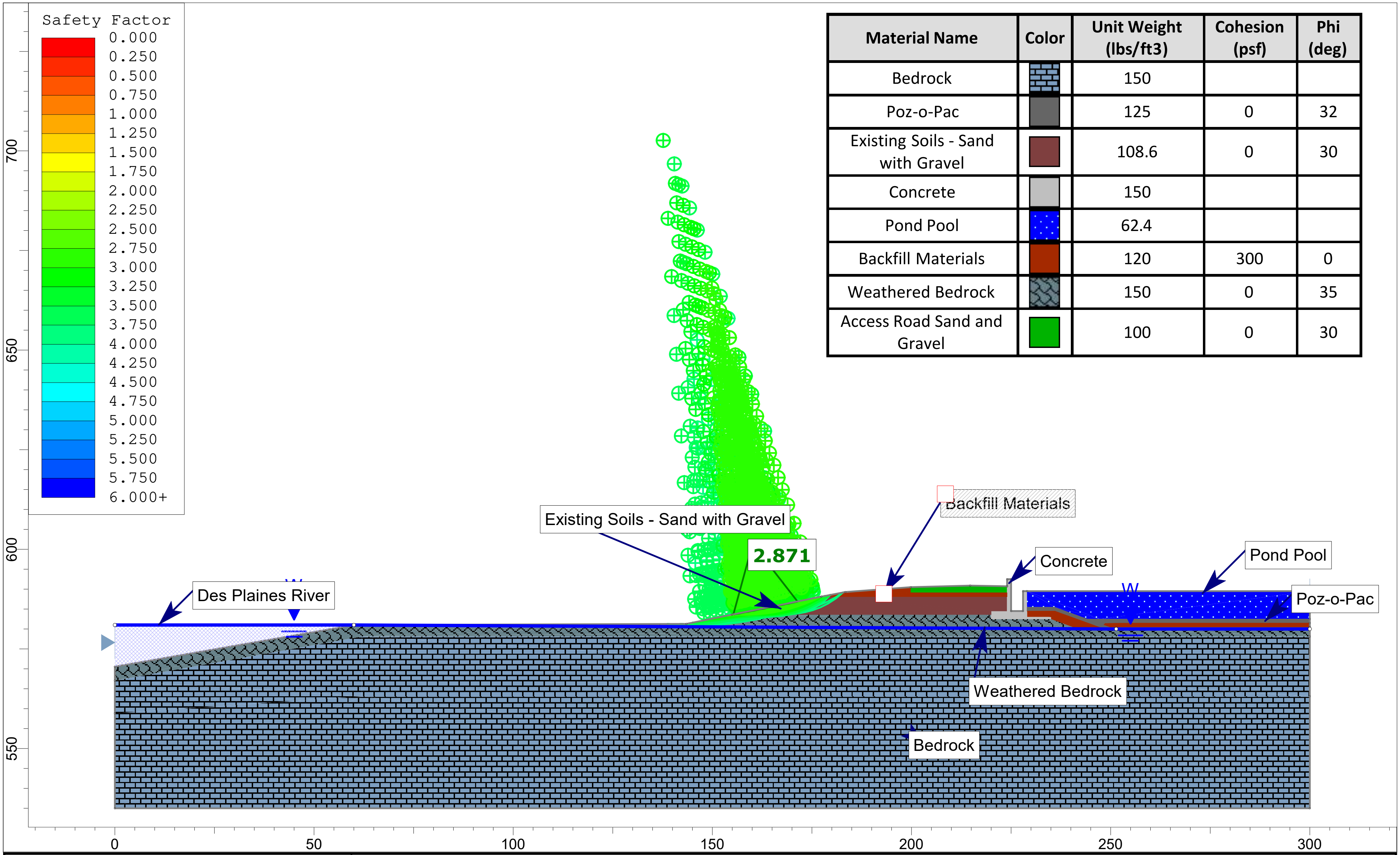
Figure 8: Pond 2S Slope Stability Analysis

Analysis	Spencer		*Scale:*	1:400		*Scenario*	Pond 2S, Long-Term, Maximum Surcharge Pool
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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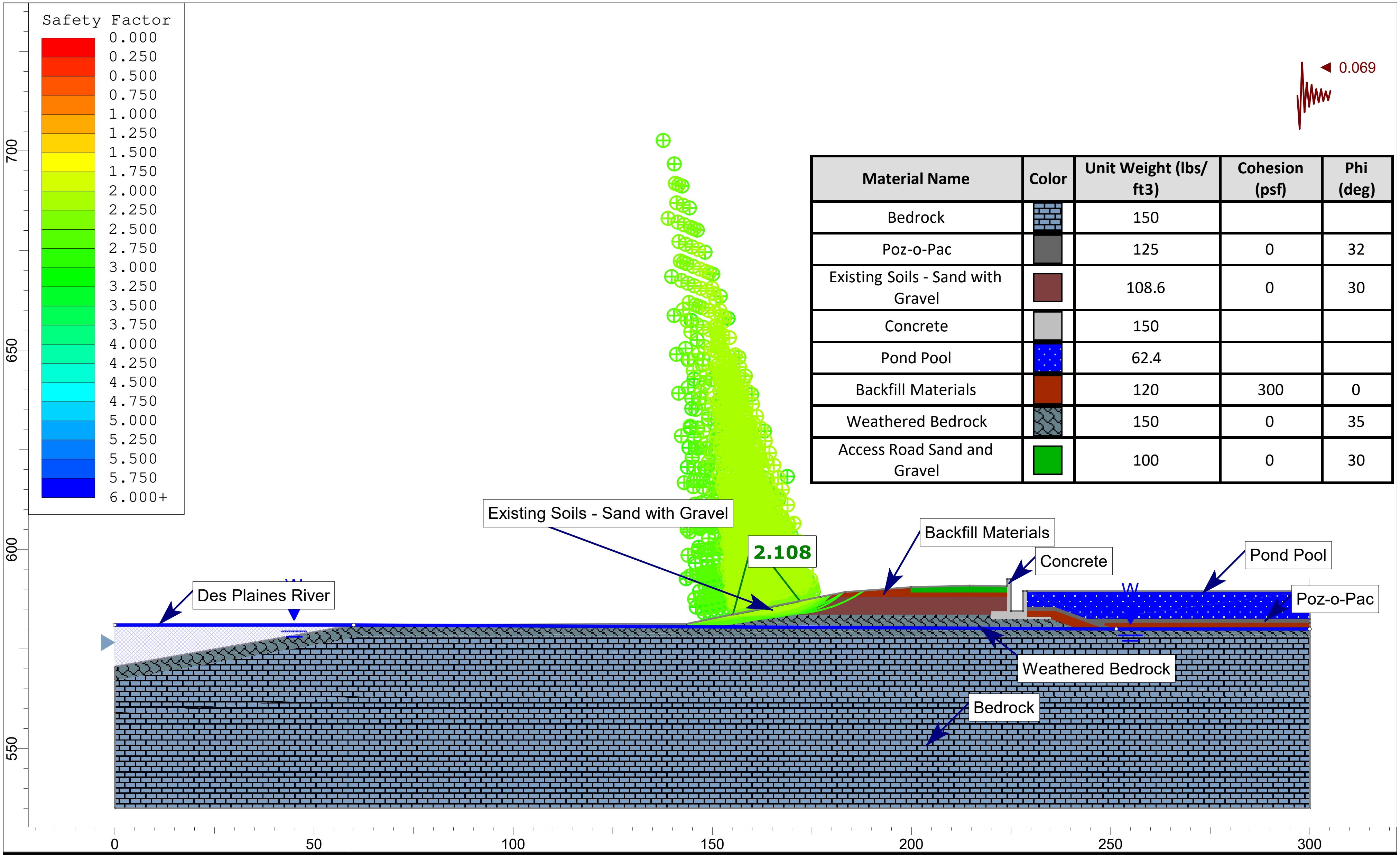
Figure 9: Pond 2S Slope Stability Analysis

Analysis Spencer
Scale: 1:400
Scenario Pond 2S, Long-Term, Maximum Storage Pool
Drawn By CAC
Checked By: MDB
Approved By: MDJ
Company Civil & Environmental Consultants, Inc.
Date 08/25/2021
Date: 9/23/2021
Date: 9/23/2021
File Name 312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Existing Soils - Sand with Gravel	🟫	108.6	0	30
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟥	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30

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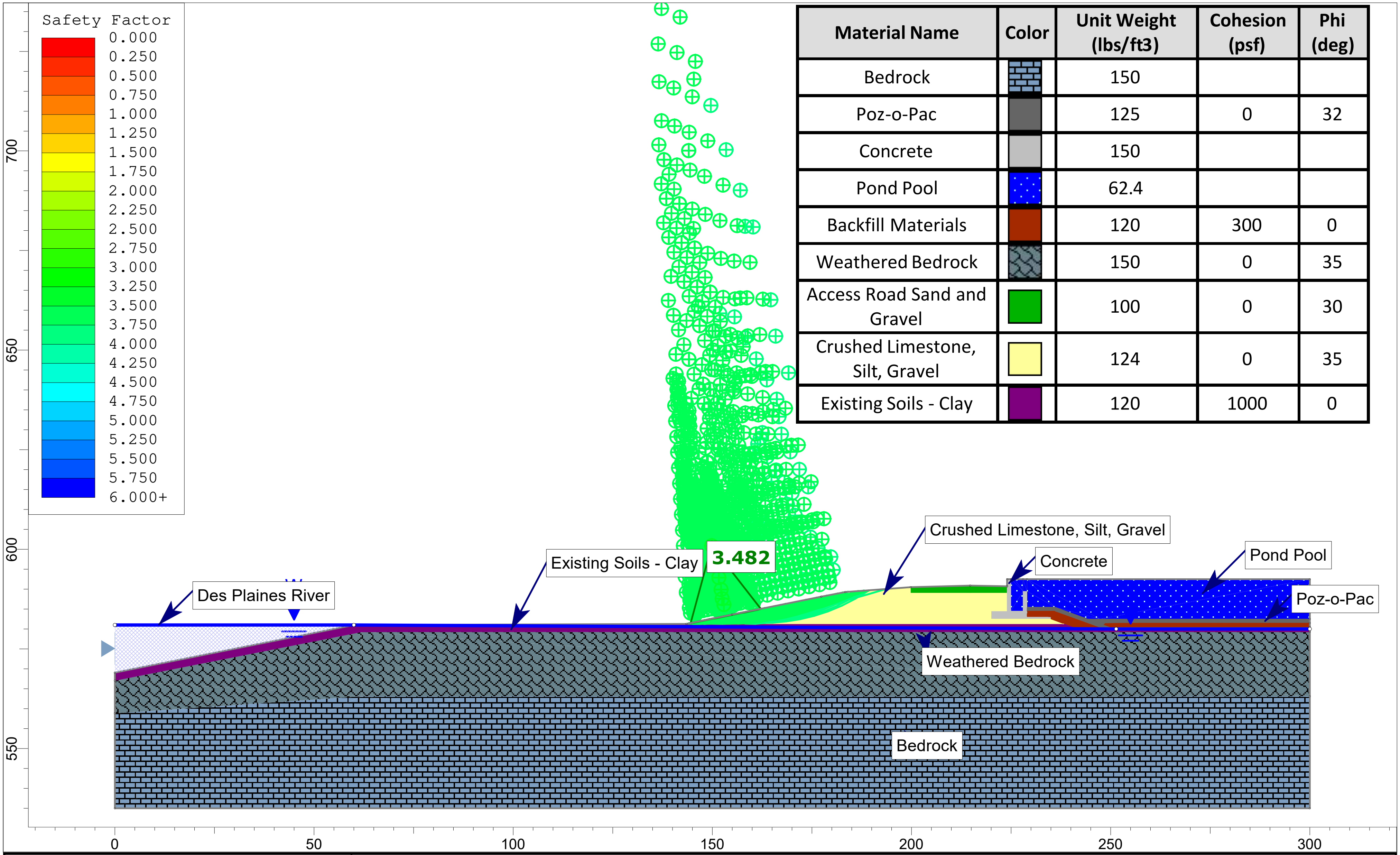
Figure 10: Pond 2S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400			*Scenario*	Pond 2S, Long-Term, Maximum Storage Pool - Seismic
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟫	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30
Crushed Limestone, Silt, Gravel	🟨	124	0	35
Existing Soils - Clay	🟪	120	1000	0

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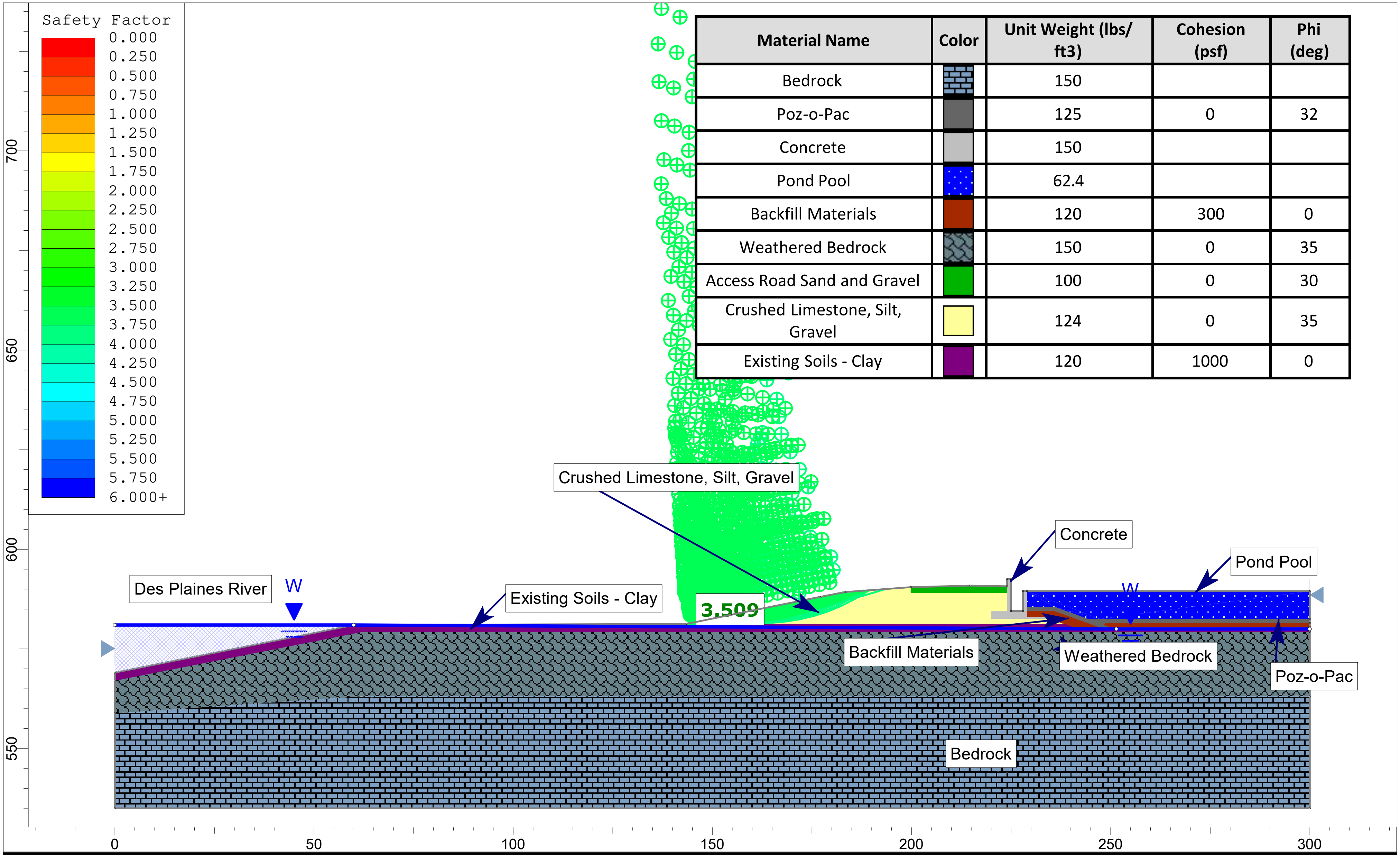
Figure 11: Pond 3S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 3S, Long-Term, Maximum Surcharge Pool		
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟫	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30
Crushed Limestone, Silt, Gravel	🟨	124	0	35
Existing Soils - Clay	🟪	120	1000	0

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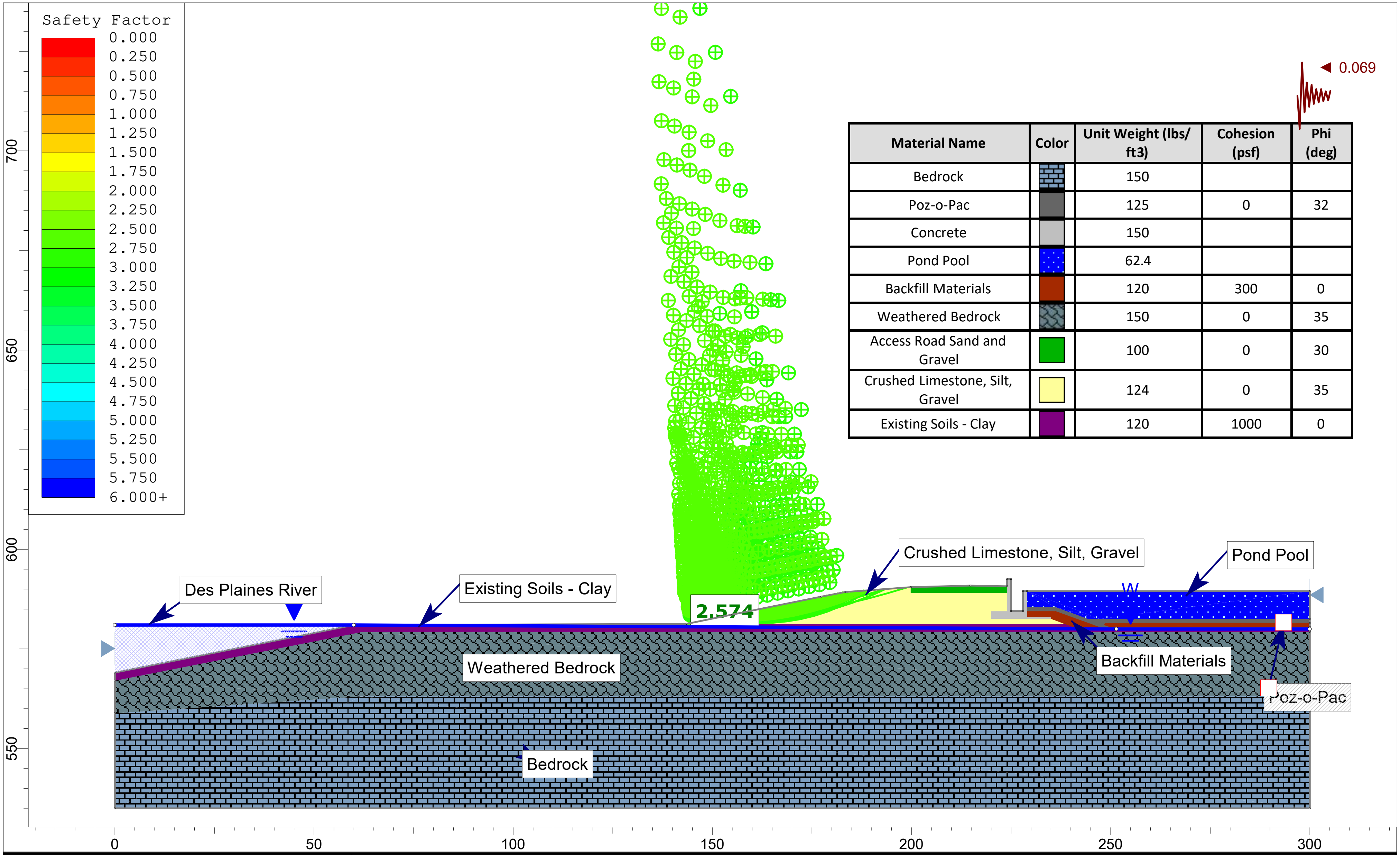
Figure 12: Pond 3S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 3S, Long-Term, Maximum Storage Pool		
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Cohesion (psf)	Phi (deg)
Bedrock	▦	150		
Poz-o-Pac	⬛	125	0	32
Concrete	⬜	150		
Pond Pool	🟦	62.4		
Backfill Materials	🟫	120	300	0
Weathered Bedrock	▨	150	0	35
Access Road Sand and Gravel	🟩	100	0	30
Crushed Limestone, Silt, Gravel	🟨	124	0	35
Existing Soils - Clay	🟪	120	1000	0

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SLIDEINTERPRET 9.009

Project

Figure 13: Pond 3S Slope Stability Analysis

Analysis	Spencer	*Scale:*	1:400	*Scenario*	Pond 3S, Long-Term, Maximum Storage Pool - Seismic		
Drawn By	CAC	*Checked By:*	MDB	*Approved By:*	MDJ	*Company*	Civil & Environmental Consultants, Inc.
Date	08/25/2021	*Date:*	9/23/2021	*Date:*	9/23/2021	*File Name*	312192-WC-Pond 1N.slmd

ATTACHMENT 17
SAFETY FACTOR ASSESSMENT

Attachment 17 – No Attachment

ATTACHMENT 18
INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN

MWG
Midwest Generation, LLC

Will County Generating Station

2022 Inflow Design Flood Control System Plan for Pond 1N & Pond 1S

Revision 0

March 25, 2022

Issue Purpose: Use

Project No.: 12661-124

55 East Monroe Street
Chicago, IL 60603-5780 USA
312-269-2000
www.sargentlundy.com

Sargent & Lundy

TABLE OF CONTENTS

1.0 PURPOSE

Pond 1N and Pond 1S at Midwest Generation, LLC's (MWG) Will County Generating Station ("Will County" or the "Station") are former ash ponds that are regulated as inactive coal combustion residual (CCR) surface impoundments under the Illinois Pollution Control Board's "Standards for the Disposal of Coal Combustion Residuals in CCR Surface Impoundments." These regulations are codified in Part 845 to Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code 845, Ref. 1) and are also referred to herein as the "Illinois CCR Rule." Pursuant to 35 Ill. Adm. Code 845.510(c)(1), MWG must prepare an inflow design flood control system plan that documents how the inflow design flood control systems for Ponds 1N and 1S have been designed and constructed to meet the hydrologic and hydraulic capacity requirements for CCR surface impoundments promulgated by 35 Ill. Adm. Code 845.510.

This report documents the 2022 inflow design flood control system plan prepared in accordance with the Illinois CCR Rule by Sargent & Lundy (S&L) on behalf of MWG for Ponds 1N and 1S at Will County. This report:

- Lists the inputs and assumptions used to determine whether Ponds 1N and 1S can manage the inflow design flood,
- Discusses the methodology used to determine whether Ponds 1N and 1S can manage the inflow design flood, and
- Summarizes the results of the hydrologic and hydraulic calculations performed to support the conclusion of whether Ponds 1N and 1S meet the hydrologic and hydraulic requirements for CCR surface impoundments promulgated by the Illinois CCR Rule.

2.0 INPUTS

Inflow Design Flood Control System

The inflow design flood control systems for Ponds 1N and 1S are documented in the initial inflow design flood control system plan for South Ash Ponds 2 and 3, which was prepared by Geosyntec Consultants in October 2016 (Ref. 3). The 2016 plan analyzed all inputs into Will County's bottom ash sluice water treatment system, which includes stormwater runoff from Ponds 1N and 1S. The 2016 plan is provided in its entirety in Appendix A.

Inflow Design Flood Event

Per the former ash ponds' 2021 hazard potential classification assessment (Ref. 4), Ponds 1N and 1S are classified as Class 2 CCR surface impoundments pursuant to 35 Ill. Adm. Code 845.440(a)(1). Therefore, the inflow design flood event used in this hydrologic and hydraulic assessment of both former ash ponds is based on the 1,000-year storm (Ref. 1, § 845.510(a)(3)). Per the National Oceanic and Atmospheric

Administration's Atlas 14 (Ref. 5), the precipitation depth for the 1,000-year, 24-hour storm event at the Will County site is 13.3 inches.

Site Topography

Topographic data for Ponds 1N and 1S and the surrounding areas was obtained from the U.S. Department of Agriculture's (USDA) Geospatial Data Gateway (Ref. 6). This topography reflects publicly available elevation data collected in 2021.

Former Ash Pond Conditions

The physical conditions for Ponds 1N and 1S were based on discussions with MWG personnel and as-built construction plans.

3.0 ASSUMPTIONS

There are no assumptions in this document that require verification.

4.0 HYDROLOGIC & HYDRAULIC ASSESSMENT

4.1 METHODOLOGY

PondPack (Ref. 8) was used to analyze the abilities of Ponds 1N and 1S to manage direct precipitation and stormwater runoff from the 1000-year, 24-hour storm event. The analysis conservatively assumed that the hydraulic structures downstream of the ponds were full at the time of the storm event and, therefore, the former ash ponds would need to contain the inflow design flood without water overtopping their dikes (EL. 590.00 feet). It is important to note that Ponds 1N and 1S are former ash ponds and, therefore, do not impound water. Finally, the time of concentration for this hydrologic and hydraulic assessment was assumed to be 5 minutes in accordance with the minimum time of concentration recommended in the U.S. Department of Agriculture's Technical Release No. 55, *Urban Hydrology for Small Watersheds* (Ref. 9).

4.2 RESULTS

Table 4-1 summarizes the results from the hydrologic and hydraulic calculations performed for Ponds 1N and 1S (Ref. 10). Based on these results, water entering Ponds 1N and 1S during the inflow design flood event will not overtop either former ash pond. The water level in Ponds 1N and 1S during the design event were estimated to be 0.49 foot and 1.45 feet below the pond dikes, respectively.

Table 4-1 – Summary of Hydrologic & Hydraulic Assessment Results for Ponds 1N & 1S

Inactive CCR Surface Impoundment	Illinois Hazard Potential Classification	Inflow Design Flood	Maximum Surface Water Elevation	Former Pond Crest Elevation
Pond 1N	Class 2	1,000 Year	589.51 feet	590.00 feet
Pond 1S	Class 2	1,000 Year	588.55 feet	590.00 feet

5.0 CONCLUSIONS

Based on the hydrologic and hydraulic calculations performed for Ponds 1N and 1S (Ref. 10), the former ash ponds have adequate hydraulic capacities to retain the 1000-year flood event without water overtopping the former ash ponds. Therefore, Ponds 1N and 1S are able to collect and control the inflow design flood event specified in 35 Ill. Adm. Code 845.510(a)(3).

6.0 CERTIFICATION

I certify that:

- This inflow design flood control system plan was prepared by me or under my direct supervision.
- The work was conducted in accordance with the requirements of 35 Ill. Adm. Code 845.510.
- I am a registered professional engineer under the laws of the State of Illinois.

Certified By: Thomas J. Dehlin

Date: March 25, 2022

Seal:

THOMAS J. DEHLIN
062-069314

7.0 REFERENCES

1. Illinois Pollution Control Board. “Standards for Disposal of Coal Combustion Residuals in CCR Surface Impoundments.” 35 Ill. Adm. Code 845. Accessed March 25, 2022.
2. Geosyntec Consultants. “Inflow Design Flood Control System Plan, South Ash Pond 2S and South Ash Pond 3S, Will County Station.” October 2016.
3. Civil & Environmental Consultants, Inc. “Hazard Potential Classification Assessment Report, Ash Ponds 1N and 1S, Will County Station.” CEC Project No. 312-192.0220. September 2021.
4. National Oceanic and Atmospheric Administration. “Point Precipitation Frequency Estimates.” NOAA Atlas 14, Volume 11, Version 3.
5. U.S. Department of Agriculture, Natural Resources Conservation Service, Geospatial Data Gateway (2021 Survey).
6. Google Earth Pro v7.3.0.3832. Accessed March 25, 2022.
7. Bentley PondPack V8i Version 10.02.00.01.
8. U.S. Department of Agriculture. *Urban Hydrology for Small Watersheds*. Technical Release No. 55. 1986.
9. Sargent & Lundy. “Pond 1N & Pond 1S Hydraulic Capacity Calculation.” S&L Calc. No. MG-WC-C002, Rev. 0. S&L Project No. 12661-124. March 2022.

APPENDIX A: 2016 SOUTH ASH POND 2 & SOUTH ASH POND 3 INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN

ATTACHMENT 19
SAFETY AND HEALTH PLAN

1.0 **SAFETY REQUIREMENTS**

1.1 The entire performance of the Work shall comply with the standards authorized by the latest issue of the U.S. Department of Labor Occupational Safety and Health Act (OSHA), as well as state and local jurisdictional requirements.

1.2 CONTRACTORS SAFETY MANUAL

A. The Contractor shall have on file with the Midwest Generation corporate safety office a copy of the most current Safety and Industrial Hygiene Manual. As a minimum, this Manual must address the following items when applicable to their trade: OSHA Compliance, Accident Investigation, Corrective Action, First Aid Treatment, Inspections and Reporting of Deficiencies, Material Handling and Rigging, Performance and Accountability, Personal Safety Equipment, Safety Guidelines, Safety Meetings, Training, Housekeeping, Hearing Protection, Respiratory Protection, Fire Prevention, Grounding Program, Confined Space Entry, Hazard Communication, Fall Protection, Working on or near water and Trenching and Shoring.

B. The Contractor’s superintendent or other responsible person must have a copy of the Contractor’s most current Safety and Industrial Hygiene Manual available at the job site.

1.3 PRE-MOBILIZATION MEETING

A. The Contractor shall meet with the Purchasers Representative(s) for a pre-mobilization meeting. The pre-mobilization meeting will include a review of safety requirements, job hazard identification, a job specific safety plan (to be developed by the Contractor and provided to Midwest Generation), submittal requirements for health & safety records, scope and schedule. Hazard identification and assessment will include all chemical constituents found present in the analyses of the CCR and/or other waste streams within the impoundment(s). Recommendations within the NIOSH Pocket Guide to Chemical Hazards will be reviewed and considered. Applicable safety data sheets will be provided, as necessary.

B. Prior to the start of the work at the job site. Contractor shall contact Purchaser's Representative to arrange to receive Purchasers site safety orientation. This session will last approximately 2 hours. The Contractor will be provided with information on the potential hazardous constituents of the CCR

C. Contractor shall provide his employees with orientation in all Contractor, and job specific safety requirements related to their work area. Contractor shall provide Purchaser with completed training documents showing date of training and each employees craft related training as it relates to OSHA requirements. (i.e. competent person, scaffold builder, fork truck and crane operators)

D. The Contractor Shall provide proof of training for all on site personnel in the following:
  - HAZWOPER 29CFR1910.120/29CFR1926.65
  - OSHA 10 Hour or 30 Hour Voluntary Compliance Training for Construction
  - Hazard Communication 29 CFR 1910.1200
  - Contractor’s Safety Plan

E. A Competent Person shall be identified by name for Excavations, Fall Protection ,etc. if applicable.

1.4 FITNESS FOR DUTY

A. The Contractor/Sub-Contractor/Supplier is required to have a drug and alcohol screening program for all employees assigned to work on Purchaser's property. The program must provide screening for pre-access testing, "for cause" testing and random testing. The Contractor/Sub-Contractor/Supplier shall certify that their employees have passed the appropriate screening test in accordance with their programs.

B. Personnel covered by this program shall be denied access to, or may be required to leave the Purchaser’s location if there are reasonable grounds to believe that the individual is:

1. Under the influence of using, possessing, buying, selling, or otherwise exchanging (whether or not for profit) controlled substances or drug paraphernalia.
2. Under the influence of consuming, possessing, buying, selling, or otherwise exchanging (whether or not for profit) alcoholic beverages.

1.5 PERSONNEL PROTECTIVE EQUIPMENT (PPE)

A. Prior to starting work, the contractor shall perform a Hazard assessment for PPE

1. The Contractor will conduct a walk-through survey of each work area to identify sources of work hazards. Each survey will be documented in which it will identify the work area surveyed, the relevant task, the person conducting the survey, findings of potential hazards, control measures, and date of the survey.

2. The Contractor will conduct, review, and update the hazard assessment for PPE whenever:

   - A job changes
   - New equipment or process is installed
   - There has been an accident
   - Whenever a supervisor or employee requests it
   - Or at least every year
   - Any new PPE requirements that are developed will be added into the Contractors written safety program.

B. Head Protection/ Hard Hats: Hard hats shall be worn in all work areas.
   1. Hard hats must not be more than 5 years old, and the harness shall not be more than 1 year old.
   2. Hard hats must be worn with brim forward
   3. Hard hats must be assigned and used in accordance with ANSI/ISEA Z89.1-2014(R2019)
   4. Hard Hats must be cleaned and maintained in accordance with the manufacturer's instruction.

C. Eye Protection: Eye protection shall be worn in all work areas.
   1. At a minimum, ANSI Z87-1-2020 compliant Safety Glasses shall be worn.
   2. Goggles and face shields shall be used for splash hazards.
   3. Fogging potential shall be considered for humid conditions and appropriate anti-fog materials may be used.
   4. Detachable side protectors (e.g. clip-on or slide on side shields) that meet OSHA Rule 29 CFR Part 1910.133 and ANSI Z87.1 specifications are also acceptable to wear with prescription glasses. Prescription glasses used with detachable side shields must conform to ANSI Z87.1
   5. Employees must keep eyewear in clean condition and fit for use at all times.

D. Protection Foot Wear
   1. All foot wear must be compliant with ASTM F2413-18: Performance Requirements For Protective (Safety) Toe Cap Footwear
   2. For work on or near the CCR impoundments, consideration shall be given to traction and slip issues.
   3. Safety shoes must be maintained and cleaned in accordance with the manufacturer's guidelines.
   4. Boot covers or Rubber boots shall be used in all areas that do or may contain CCR. These covers or boots must be cleaned or disposed of prior to leaving the work area.

E. Hand Protection
   1. Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.
   2. Impervious disposable gloves shall be used when working with CCR. Leather, Cotton or other readily absorbable gloves shall not be used.

F. Personal Flotation Devices
   1. When working with 10 feet of the water in the impoundments the following shall apply:
      a. All personnel shall wear a Coast Guard Approved PFD
         - Type I: Off-Shore Life Jacket; effective for all waters or where rescue may be delayed.

- Type II: Near-Shore Buoyant Vest; intended for calm, inland water or where there is a good chance of quick rescue.
- Type III: Flotation aid; good for calm, inland water, or where there is a good chance of rescue.
- Type IV: PFD's are throwable devices. They are used to aid persons who have fallen into the water.
- Type V: Flotation aids such as boardsailing vests, deck suits, work vests, and inflatable PFD's marked for commercial use.

2. Serviceable condition: A PFD is considered to be in serviceable condition only if the following conditions are met.
   a. No PFD may exhibit deterioration that could diminish the performance of the PFD, including:
      1. Metal or plastic hardware used to secure the PFD on the wearer that is broken, deformed, or weakened by corrosion;
      2. Webbings or straps used to secure the PFD on the wearer that are ripped, torn, or which have become separated from an attachment point on the PFD; or
      3. Any other rotted or deteriorated structural component that fails when tugged;
      4. Rips, tears, or open seams in fabric or coatings, that are large enough to allow the loss of buoyant material;
      5. Buoyant material that has become hardened, non-resilient, permanently compressed, waterlogged, oil-soaked, or which shows evidence of fungus or mildew; or
      6. Loss of buoyant material or buoyant material that is not securely held in position.

1.6 EXISTING PLANT FACILITIES

A. Contractor shall be aware that Work may be performed in and around operating equipment.

B. The Contractor shall give proper notices, make all necessary arrangements, and perform all other services required to avoid damage to all utilities, including gas mains, water pipes, sewer pipes, electric cables, fire hydrants, lamp posts, etc., for which Purchaser could be held liable.

C. The Contractor shall barricade or cover any opening created during the course of work for excavations, or grating removal. Barricades shall be a "hard" barrier such as cable or pipe and clamp, safety barrier tape is unacceptable. In addition, any openings creating a fall hazard of 4 feet or more must have a permit authorized before the barrier can be removed. See section 11.4 below for permit requirements.

D. Housekeeping, walkways and tripping hazards

All equipment and material must be kept in an orderly manner. Aisles exits stairways and emergency equipment must never be obstructed. Hoses and welding cables must be tied above walkways so as to not pose as a trip hazard. Barricades, signs and notifications provided by the contractor when required. The owner and contractor will conduct periodic housekeeping audits to assure compliance.

E. Contractor's personnel shall observe all safety, warning, equipment identification instructional signs and tags. Do not remove any tag without prior consent of Purchaser's Representative.

F. When work has been completed, and Contractor decides equipment is ready to be returned to service, Contractor employees shall have all of their employees (working party members) sign off the permit. Contractor shall notify Purchaser's Representative in whose name the outage is being held.

1.7 WELDING, CUTTING and BURNING PERMITS

A. Contractor shall not start welding or cutting operations without a "Welding and Cutting Permit". Permits shall be obtained from Purchaser and posted in accordance with Station site-specific Safety Training requirements.

B. Contractor shall use non-asbestos, fire retardant blankets as required to protect Purchaser's equipment, cable trays, coal transport and storage areas, etc. and to cover gratings (for personnel safety) when welding, grinding and flame cutting processes are used overhead or in such close proximity as to pose a hazard.

C. Contractor shall supply appropriate portable fire extinguishers in welding and cutting areas.

D. Contractor shall furnish a designated “Fire-watch” employee to monitor the area above to the sides and below the cutting and burning area. The fire-watch is to extinguish fires started by sparks from the acts of cutting or welding. The fire-watch employee is to continue monitoring on the job 30 minutes after cutting or burning has been completed.

1.8 SAFETY DATA SHEETS

A. The Purchaser shall make Safety Data Sheets (SDS's) readily available to the Contractor for those substances to which the Contractor’s employees may be exposed during normal working conditions and which are under the Purchaser’s control.

B. The Contractor shall make Safety Data Sheets (SDS's) readily available to the Purchaser for those substances which are furnished by and under the control of the Contractor. These are to be available at the time of delivery of the substance to the Purchaser’s Premises.

C. It is the responsibility of the Contractor to train their employees on SDS's.

1.9 CHEMICALS, SOLVENTS AND GASES

A. Contractor shall comply with all federal, state and local regulations and codes pertaining to handling and storage of flammable liquids and gases.

B. Cleaning agents, solvents, or other substances brought by Contractor onto any of Purchaser's properties by Contractor shall be stored, handled and used in accordance with applicable standards.

C. Contractor shall ensure that liquids or solids will not be poured (disposed of) into Purchaser's drain, sewer systems, lake (where applicable), or onto ground. Contractor shall be liable for any damage and cleanup of improperly disposed liquids or solids.

D. The Contractor is to provide the Purchaser with the name and quantity of usage of any listed Section 313 Toxic Chemical of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
E. Signage must be posted detailing the presence of and hazards of CCR.

1.10 DISTURBANCE OF DUST

Contractor's work practices shall minimize dust generated while working with CCR. A fugitive dust mitigation plan shall be submitted to the facility prior to activities beginning.

1.11 FALL PROTECTION

Mandatory fall protection is required when working near and area where a fall hazard of **4** feet or more exits.

1.12 BARRIERS AND WARNING SYSTEMS

A. Warning and barricade systems shall be used to divert personnel from a work area. All warning barriers shall be tagged with yellow “Caution Cards”. The caution card shall state the hazard, the date erected and a contact name, company and phone number. There are 2 levels of barricade systems. The barricade systems shall be taken down immediately when the hazard has been removed or at the end of the work shift.

B. A <u>conditional warning</u> is designated with ‘Yellow” safety warning tape. This is used to warn workers of a hazard such as wet floors, welding and cutting in an area, or other hazards that with an awareness and proper PPE can be approached.

C. An <u>Unconditional warning</u> is designated with “Red” safety warning tape. This is used to worn workers of a hazard such as a crane lift or overhead work. Red safety tape barriers cannot be access or removed until permission is granted from the person responsible for installing it.

D. Fire and Evacuation warning sirens. Each plant has a siren for fire notification and evacuation notification. The response location and procedure will be addressed in the pre-mobilization meeting and plant site-specific orientation.

1.13 For Contractor's and subcontractor's employees, visitors and any other individuals: Smoking is prohibited on the work site.

1.14 The Contractor is expected to pre-arrange medical emergency services for on-site and off-site treatment. This includes, but is not limited to, first aid and confined space rescue.

1.15 WORKING ON OR NEAR WATER:

A. Life jackets and work vests shall be inspected before and after each use.

B. Ring buoys or Class IV rescue device with at least 90 feet of line shall be provided and readily available for employee rescue operations.

C. The distance from ring buoys to each worker shall not exceed 200 feet.

D. At least one lifesaving skiff shall be immediately available at locations where employees are working over water and/or the local coast guard shall be notified when working in navigable waterways.

E. Under no circumstances will team members enter water bodies without protective clothing (e.g.; waders, wet suit)

F. At least one person should remain on shore as a lookout if other methods of rescue are not available.

1.16 EXCAVATIONS

A. A Competent person shall determine the proper slope or identify engineering controls for all excavations in the CCR area.

B. An inspection of the banks shall be made and documented at least daily to determine any impact of the excavation.

2.0 **CONTRACTOR'S FACILITIES**

2.1 Temporary chemical toilet accommodations shall be furnished and maintained by Contractor for the use of his employees. Location shall be as directed by Purchaser's Representative. Use of Purchaser's toilet facilities by Contractor's employees is not permitted.

2.2 Contractor shall provide his own storage vessels, coolers, ice, water containers, etc., as required for his own drinking water use. Contractor shall supply a trash can with each drinking water container to receive used paper cups. Contractor shall maintain drinking water container, supply suitable water cups and dispose of trash as required. Open drinking cups and containers in the plant areas are not permitted.

2.3 Each Contractor is expected to pre-arrange medical emergency services for on-site and off site treatment. This includes, but is not limited to, first aid and confined space rescue.

2.4 FIRE PROTECTION FACILITIES

A. Contractor shall provide his own temporary fire protection facilities for the equipment and materials furnished by him or by Purchaser and for his temporary construction buildings and structures. This equipment shall be maintained and inspected in accordance with applicable NFPA codes.

B. Furnish a suitable quantity and type of portable fire extinguishers and equipment, to meet OSHA and applicable codes.

2.5 Purchaser will not furnish any additional illumination of aisles, passages in the buildings, floodlighting of outdoor areas or lighting inside equipment other than that which is existing. Any additional lighting required by the Contractor shall be provided by the Contractor.

2.6 Contractor shall provide and maintain suitably located distribution centers with fused switching equipment and Ground Fault Interruption protection. The equipment supplied shall comply with OSHA regulations and standards.

2.7 Contractor shall supply all adapters and equipment required to connect to station air, water, and electrical systems. All air hoses shall be safety clipped together.

2.8 Any heating facilities required for the performance of the Work shall be furnished, maintained, and removed by Contractor. Open fires WILL NOT BE PERMITTED at any time. Heating equipment shall be as approved by Purchaser's Representative.

3.0 **<u>CONTRACTOR’S TOOLS AND EQUIPMENT</u>**

3.1 TOOLS AND EQUIPMENT

A. Contractor shall maintain, inspect and store tools and equipment for safe and proper use. This includes guards, shields, safety switches and electrical cords.

B. Contractor shall provide hoisting equipment as required to perform the Work. Provide all the necessary guards, signals, and safety devices required for its safe operation. Construction and operation of hoisting equipment shall comply with all applicable requirements of ANSI A10.5, the AGC Manual of Accident Prevention in Construction, and to all applicable federal, state, and local codes. Hoisting equipment shall not be used to transport personnel.

3.2 RIGGING

A. Contractor shall design, furnish, and maintain rigging required for the Work. All rigging plans must be designed by an Illinois licensed structural engineer.

B. Purchaser reserves the right to examine Contractor's design calculations, engineering data, plans, and procedures. Contractor shall submit any documentation requested by the Purchaser for the purpose of this review, including, but not limited to, calculations, diagrams and documents associated with computer-aided analyses and programs. If requested information is considered proprietary by Contractor, Contractor shall allow the Purchaser to review the information at Contractor's offices with the understanding that no copies of proprietary information will be given to the Purchaser. Purchaser's review and approval of submitted information is for general detail only and will not relieve the Contractor of responsibility for meeting all requirements and for accuracy.

C. Lifting and rigging areas shall have the target area and corresponding personnel access landings barricaded with “red” safety tape or hard barriers. No one is allowed under the load or in the target area during lifts.

D. All cranes, hoists, or derricks shall be operated in compliance with existing State and Federal regulations or orders. Cranes and hoists shall be inspected in accordance with OSHA and ANSI requirements. Cranes and hoists shall not be operated near high voltage lines or equipment until a safe operating clearance plan has been established.

ATTACHMENT 20
CLOSURE PRIORITY CATEGORIZATION

Attachment 20 – No Attachment