Prepared for
Illinois Power Resources Generating, LLC

Date
January 31, 2023

Project No.
1940102203-006

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

LANDFILL

DUCK CREEK POWER PLANT

CANTON, ILLINOIS

CCR UNIT 204

RAMBOLL Bright ideas. Sustainable change.

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT LANDFILL

Project name	**Duck Creek Power Plant Landfill**
Project no.	**1940102203-006**
Recipient	**Illinois Power Resources Generating, LLC**
Document type	**Annual Groundwater Monitoring and Corrective Action Report**
Version	**FINAL**
Date	**January 31, 2023**
Prepared by	**Scott S. Woods**
Checked by	**Lauren D. Cook**
Approved by	**Eric J. Tlachac**
Description	**Annual Report in Support of the CCR Rule Groundwater Monitoring Program**

Ramboll
234 W. Florida Street
Fifth Floor
Milwaukee, WI 53204
USA

T 414-837-3607
F 414-837-3608
https://ramboll.com

Scott S. Woods
Hydrogeologist

Eric J. Tlachac, PE
Senior Managing Engineer

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ACRONYMS AND ABBREVIATIONS

§	Section
40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	coal combustion residuals
DCPP	Duck Creek Power Plant
GWPS	groundwater protection standard
NA	not applicable
NRT/OBG	Natural Resource Technology, an OBG Company
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	statistically significant increase
TBD	to be determined

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.90(e) for the Landfill located at the Duck Creek Power Plant (DCPP) near Canton, Illinois.

Groundwater is being monitored at the Landfill in accordance with the detection monitoring program requirements specified in 40 C.F.R. § 257.94.

No changes were made to the monitoring system in 2022 (no wells were installed or decommissioned).

No Statistically Significant Increases (SSIs) of 40 C.F.R. § 257 Appendix III parameter concentrations greater than background concentrations were determined and the Landfill remains in the Detection Monitoring Program.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of Illinois Power Resources Generating, LLC, to provide the information required by 40 C.F.R. § 257.90(e) for the Landfill located at the DCPP near Canton, Illinois.

In accordance with 40 C.F.R. § 257.90(e), the owner or operator of a coal combustion residuals (CCR) unit must prepare an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year that documents the status of the Groundwater Monitoring and Corrective Action Program for the CCR unit, summarizes key actions completed, describes any problems encountered, discusses actions to resolve the problems, and projects key activities for the upcoming year. At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit.
2. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken.
3. In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs.
4. A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase relative to background levels).
5. Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.
6. A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:
    i. At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
    ii. At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.
    iii. If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III of §257 pursuant to §257.94(e):
        A. Identify those constituents listed in Appendix III of §257 and the names of the monitoring wells associated with such an increase.
        B. Provide the date when the assessment monitoring program was initiated for the CCR unit.

iv. If it was determined that there was a statistically significant level above the groundwater protection standard [GWPS] for one or more constituents listed in Appendix IV of §257 pursuant to §257.95(g) include all of the following:

   A. Identify those constituents listed in Appendix IV of §257 and the names of the monitoring wells associated with such an increase.

   B. Provide the date when the assessment of corrective measures was initiated for the CCR unit.

   C. Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.

   D. Provide the date when the assessment of corrective measures was completed for the CCR unit.

v. Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection.

vi. Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

This report provides the required information for the Landfill for calendar year 2022.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the monitoring program status in calendar year 2022 and the Landfill remains in the detection monitoring program in accordance with 40 C.F.R. § 257.94.

3. KEY ACTIONS COMPLETED IN 2022

The detection monitoring program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2022. In general, one groundwater sample was collected from each background and compliance well during each monitoring event.[1,] All samples were collected and analyzed in accordance with the Sampling and Analysis Plan (SAP) (Natural Resource Technology, an OBG Company [NRT/OBG], 2017a). Potentiometric surface maps for both monitoring events in 2022 are included in **Figures 2 and 3**. All monitoring data and analytical results obtained under 40 C.F.R. § 257.90 through 257.98 (as applicable) in both monitoring events in 2022 are presented in **Tables 1 and 2**. Laboratory reports for both 2022 monitoring events are included in **Appendix A**.

Analytical data were evaluated in accordance with the Statistical Analysis Plan (NRT/OBG, 2017b) to determine any SSIs of Appendix III parameters relative to background concentrations. Statistical background values are provided in **Table 3**. A background update evaluation was completed in 2022. The updated background values for SSI determination are shown on **Table 3** and were used beginning in the third quarter of 2022. The updated background values for SSI determination are also shown on **Table 3**. A flow chart showing the statistical methodology for determination of background values is included as **Appendix B**. Additional information to support the background update evaluation is provided in **Appendix C**.

[1] Sampling was limited to G12S during the November 2022 sampling event to confirm SSIs of select Appendix III parameters initially detected at concentrations greater than statistical background values in the preceding sampling event, as allowed by the Statistical Analysis Plan.

Table A. 2022 Detection Monitoring Program Summary

Sampling Date	Analytical Data Receipt Date	Parameters Collected	SSI(s)	SSI(s) Determination Date	ASD Completion Date
January 31, 2022	February 21, 2022	Appendix III	None	May 22, 2022	NA
July 20 - 21, 2022	October 06, 2022	Appendix III	None	January 4, 2023	NA
November 30, 2022 [1]	November 30, 2022	pH at well G12S [2]	NA	NA	NA

Notes:

ASD: Alternate Source Demonstration

NA: not applicable

SSI: statistically significant increase

TBD: to be determined

[1] Sampling was limited to G12S during the November 2022 sampling event to confirm SSIs of select Appendix III parameters initially detected at concentrations greater than statistical background values in the preceding sampling event, as allowed by the Statistical Analysis Plan.

[2] Groundwater sample analysis was limited to select Appendix III parameters initially detected at concentrations greater than statistical background values in the preceding sampling event to confirm SSIs, as allowed by the Statistical Analysis Plan.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2022. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2023

The following key activities are planned for 2023:

- Continuation of the detection monitoring program with semi-annual sampling scheduled for the first and third quarters of 2023.
- Complete evaluation of analytical data from the compliance wells using updated background data to determine whether an SSI of Appendix III parameters detected at concentrations greater than background concentrations has occurred.
- If an SSI is identified, potential alternate sources (*i.e.,* a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
  - If an alternate source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the 2023 Annual Groundwater Monitoring and Corrective Action Report.
  - If an alternate source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 as may apply in 2023 (*e.g.,* assessment monitoring) will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 257.105 through 257.108.
- The following documents were developed in 2022 and will be implemented beginning in the first quarter of 2023:
  - Multi-Site Quality Assurance Project Plan (Ramboll, 2022a)
  - Multi-Site Data Management Plan (Ramboll, 2022b)
  - Multi-Site Statistical Analysis Plan and Certification (Ramboll, 2022c)

6. REFERENCES

Natural Resource Technology, an OBG Company (NRT/OBG), 2017a. Sampling and Analysis Plan, Coffeen Landfill, Coffeen Power Station, Coffeen, Illinois, Project No. 2285, Revision 0, October 17, 2017.

Natural Resource Technology, an OBG Company (NRT/OBG), 2017b. Statistical Analysis Plan, Coffeen Power Station, Newton Power Station, Illinois Power Generating Company, October 17, 2017.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022a. Multi-Site Quality Assurance Project Plan. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022b. Multi-Site Data Management Plan. December 28, 2022.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2022c. Multi-Site Statistical Analysis Plan, 40 C.F.R. § 257. December 28, 2022.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Well ID	Monitored Unit	Well Screen Interval (feet BGS)	Well Type	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
G02S	UA	23 - 28	Background	40.51288	-89.99111	01/25/2022	8.25	613.41
G02S	UA	23 - 28	Background	40.51288	-89.99111	07/18/2022	9.03	612.63
G03S	Other	28.77 - 33.25	Water Level Only	40.51576	-89.99113	01/25/2022	6.96	615.29
G03S	Other	28.77 - 33.25	Water Level Only	40.51576	-89.99113	07/18/2022	8.02	614.23
G04S	UA	30 - 35	Background	40.51917	-89.99106	01/25/2022	14.03	614.63
G04S	UA	30 - 35	Background	40.51917	-89.99106	07/18/2022	17.12	611.54
G06S	UA	33.64 - 43.34	Compliance	40.52179	-89.98880	01/25/2022	20.79	606.85
G06S	UA	33.64 - 43.34	Compliance	40.52179	-89.98880	07/18/2022	21.82	605.82
G09S	UA	33.76 - 43.42	Compliance	40.52251	-89.98675	01/25/2022	19.85	604.98
G09S	UA	33.76 - 43.42	Compliance	40.52251	-89.98675	07/18/2022	20.34	604.49
G12S	UA	31.62 - 36.1	Compliance	40.52093	-89.98642	01/25/2022	23.24	606.58
G12S	UA	31.62 - 36.1	Compliance	40.52093	-89.98642	07/18/2022	21.57	608.25
G15S	UA	39.08 - 43.86	Compliance	40.51855	-89.98663	01/25/2022	28.76	605.31
G15S	UA	39.08 - 43.86	Compliance	40.51855	-89.98663	07/18/2022	29.35	604.72
P05S	UA	16 - 21	Water Level Only	40.52211	-89.99102	01/25/2022	5.32	607.29
P05S	UA	16 - 21	Water Level Only	40.52211	-89.99102	07/18/2022	6.32	606.29
P36S	Other	23 - 28	Water Level Only	40.52248	-89.98817	01/25/2022	10.36	605.31
P36S	Other	23 - 28	Water Level Only	40.52248	-89.98817	07/18/2022	11.12	604.55
P39S	Other	18 - 23	Water Level Only	40.51608	-89.98649	01/25/2022	4.74	600.67
P39S	Other	18 - 23	Water Level Only	40.51608	-89.98649	07/18/2022	5.31	600.10
P40S	Other	27.5 - 32.5	Water Level Only	40.51305	-89.98659	01/25/2022	9.66	610.65
P40S	Other	27.5 - 32.5	Water Level Only	40.51305	-89.98659	07/18/2022	8.76	611.55

Notes:
BGS = below ground surface
BMP = below measuring point
NAVD88 = North American Vertical Datum of 1988
Monitored Unit Abbreviations:
UA = uppermost aquifer
Other = monitored unit not defined

TABLE 2A
2022 FIRST SEMI-ANNUAL EVENT ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Well ID	Well Type	Date	Event ID	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
		Background Value(s)		*0.147*	*169*	*20.0*	*0.501*	*6.5/7.3*	*330*	*856*
G02S	Background	01/31/2022	D10	0.0490	94.0	1.90	0.342 J-	6.6	1 U	400 J
G04S	Background	01/31/2022	D10	0.0150	140	15.0	0.25 UJ	7.0	230	720
G06S	Compliance	01/31/2022	D10	0.0220	120	11.0	0.25 UJ	6.9	96.0	580
G09S	Compliance	01/31/2022	D10	0.0110	110	15.0	0.25 U	6.8	56.0	420
G12S	Compliance	01/31/2022	D10	0.0110	85.0	15.0	0.25 U	7.3	95.0	400
G15S	Compliance	01/31/2022	D10	0.0140	110	11.0	0.25 U	7.0	40.0	240

Notes:
If an event includes a resample, a statistically significant increase is confirmed if both the sample and the resample exceed the background value.
mg/L = milligrams per liter
SU = Standard Units
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate. Lab reports may or may not report both the limit of detection and the limit of quantitation. Limits are provided in the electronic data deliverable. As such, the U-flagged result value provided in this table may not match the result value provided in the lab report.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, but the result may be biased low.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

TABLE 2B
2022 SECOND SEMI-ANNUAL EVENT ANALYTICAL RESULTS - APPENDIX III PARAMETERS
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Well ID	Well Type	Date	Event ID	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (SU)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
		Background Value(s)		*0.157*	*160*	*20.0*	*0.466*	*6.5/7.2*	*330*	*790*
G02S	Background	07/21/2022	D11	0.190	100	1.60 B	0.25 U	6.6	1 U	410 J
G04S	Background	07/21/2022	D11	0.100	170	15.0	0.25 U	6.9	240	750
G06S	Compliance	07/20/2022	D11	0.0230	140	10.0	0.25 U	6.7	120	620
G09S	Compliance	07/20/2022	D11	0.0190	120	15.0	0.25 U	6.5	54.0	550
G12S	Compliance	07/21/2022	D11	0.0770	98.0	16.0	0.25 U	7.4	95.0	490
G12S	Compliance	11/30/2022	D11R	--	--	--	--	6.6	--	--
G15S	Compliance	07/21/2022	D11	0.0560	97.0	11.0	0.25 U	6.8	41.0	490

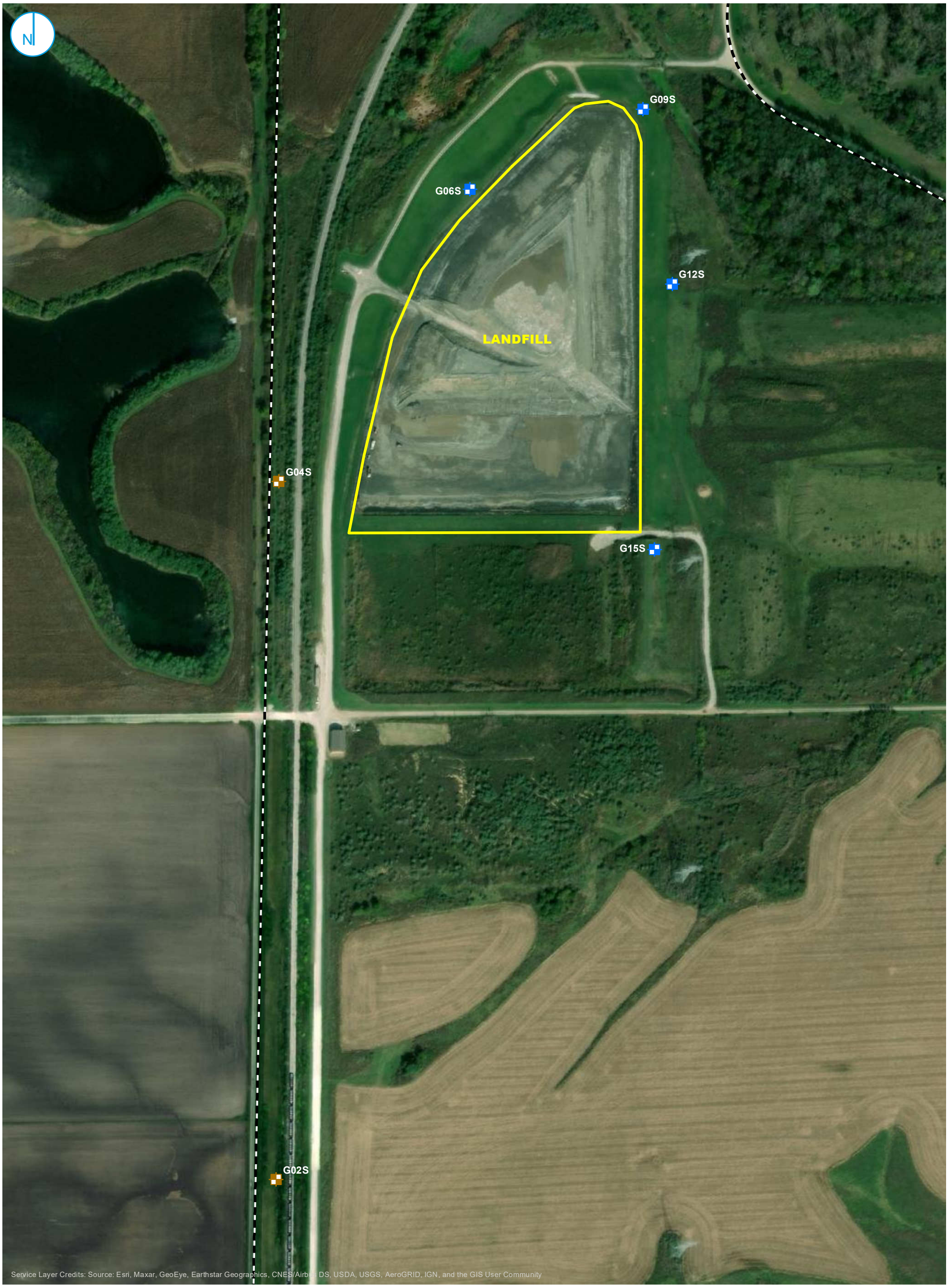
Notes:
If an event includes a resample, a statistically significant increase (SSI) is confirmed if both the sample and the resample exceed the background value.
Exceedance of Background
mg/L = milligrams per liter
SU = Standard Units
– = not analyzed
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate. Lab reports may or may not report both the limit of detection and the limit of quantitation. Limits are provided in the electronic data deliverable. As such, the U-flagged result value provided in this table may not match the result value provided in the lab report.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
B = The analyte was found in sample and in associated method blank.

TABLE 3
STATISTICAL BACKGROUND VALUES
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Parameter	Q1					Q3				
	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Background Value (LPL/UPL)	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Background Value (LPL/UPL)
Boron (mg/L)	12/02/2015 - 06/28/2017	16	12	Parametric UPL (log-transformed)	0.147	12/02/2015 - 01/31/2022	44	5	Parametric UPL (log-transformed)	0.157
Calcium (mg/L)	12/02/2015 - 06/28/2017	16	0	Parametric UPL	169	12/02/2015 - 01/31/2022	43	0	Non-Parametric UPL	160
Chloride (mg/L)	12/02/2015 - 06/28/2017	16	0	Non-parametric UPL	20.0	12/02/2015 - 01/31/2022	48	6	Non-Parametric UPL	20.0
Fluoride (mg/L)	12/02/2015 - 06/28/2017	16	12	Parametric UPL	0.501	12/02/2015 - 01/31/2022	44	16	Parametric UPL (log-transformed)	0.466
pH (field) (SU)	12/02/2015 - 06/28/2017	16	0	Parametric UPL	6.5/7.3	12/02/2015 - 01/31/2022	48	0	Parametric LPL/UPL	6.5/7.2
Sulfate (mg/L)	12/02/2015 - 06/28/2017	16	50	Non-parametric UPL	330	12/02/2015 - 01/31/2022	44	50	Non-Parametric UPL	330
Total Dissolved Solids (mg/L)	12/02/2015 - 06/28/2017	16	0	Parametric UPL	856	12/02/2015 - 01/31/2022	44	0	Non-Parametric UPL	790

Notes:
The calcium result collected from G04S on 02/19/2021 was excluded from the background calculation due to an anomalously elevated (1.5x) concentration that would drive the UPL determination.
LPL = lower prediction limit (applicable for pH only)
mg/L = milligrams per liter
SU = standard units
UPL = upper prediction limit

FIGURES



BACKGROUND WELL
COMPLIANCE WELL
40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

0 150 300 Feet

MONITORING WELL LOCATION MAP

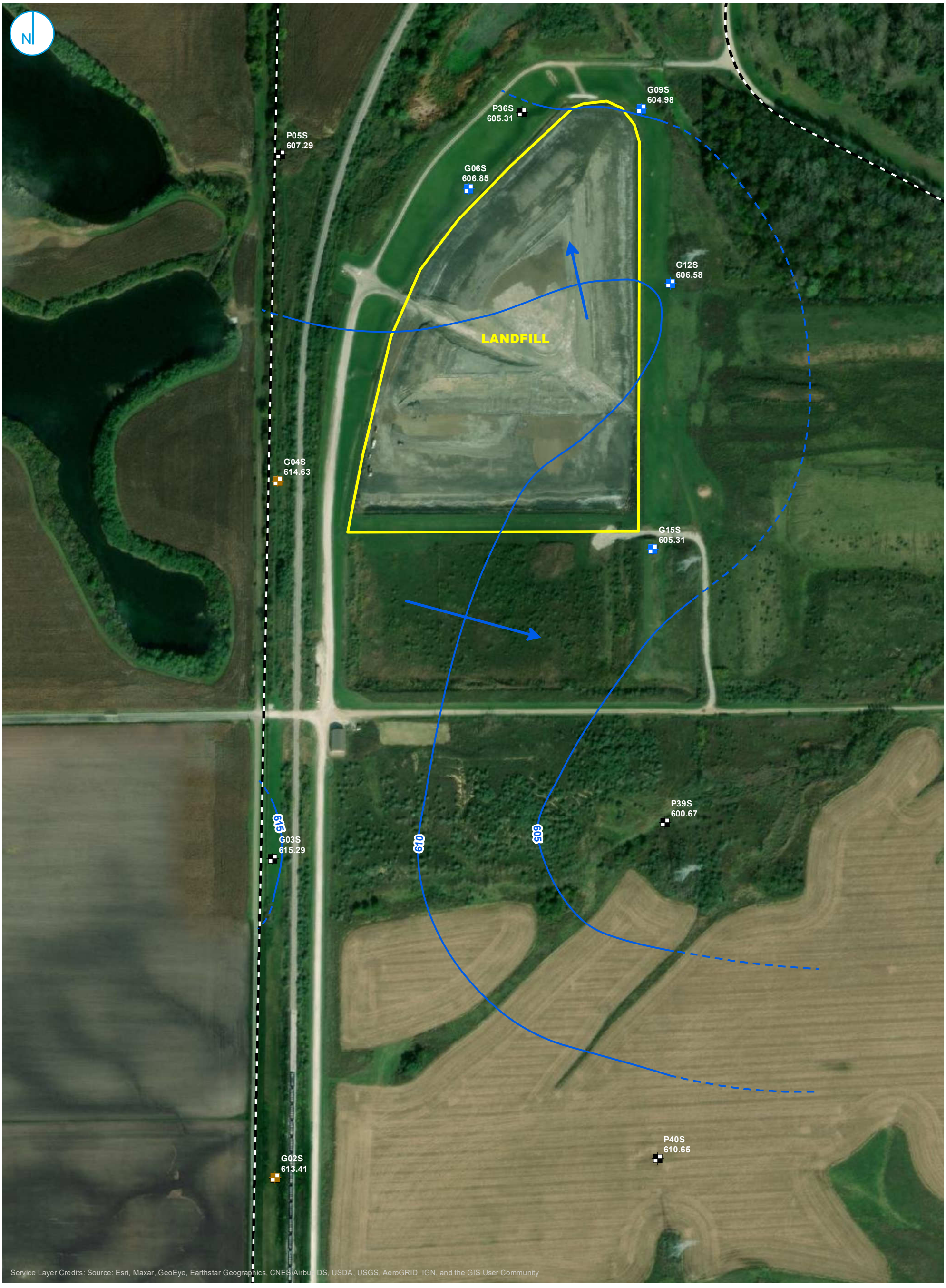
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT LANDFILL

DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL



- BACKGROUND WELL
- COMPLIANCE WELL
- MONITORING WELL
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION

0 150 300 Feet

NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

POTENTIOMETRIC SURFACE MAP JANUARY 25, 2022

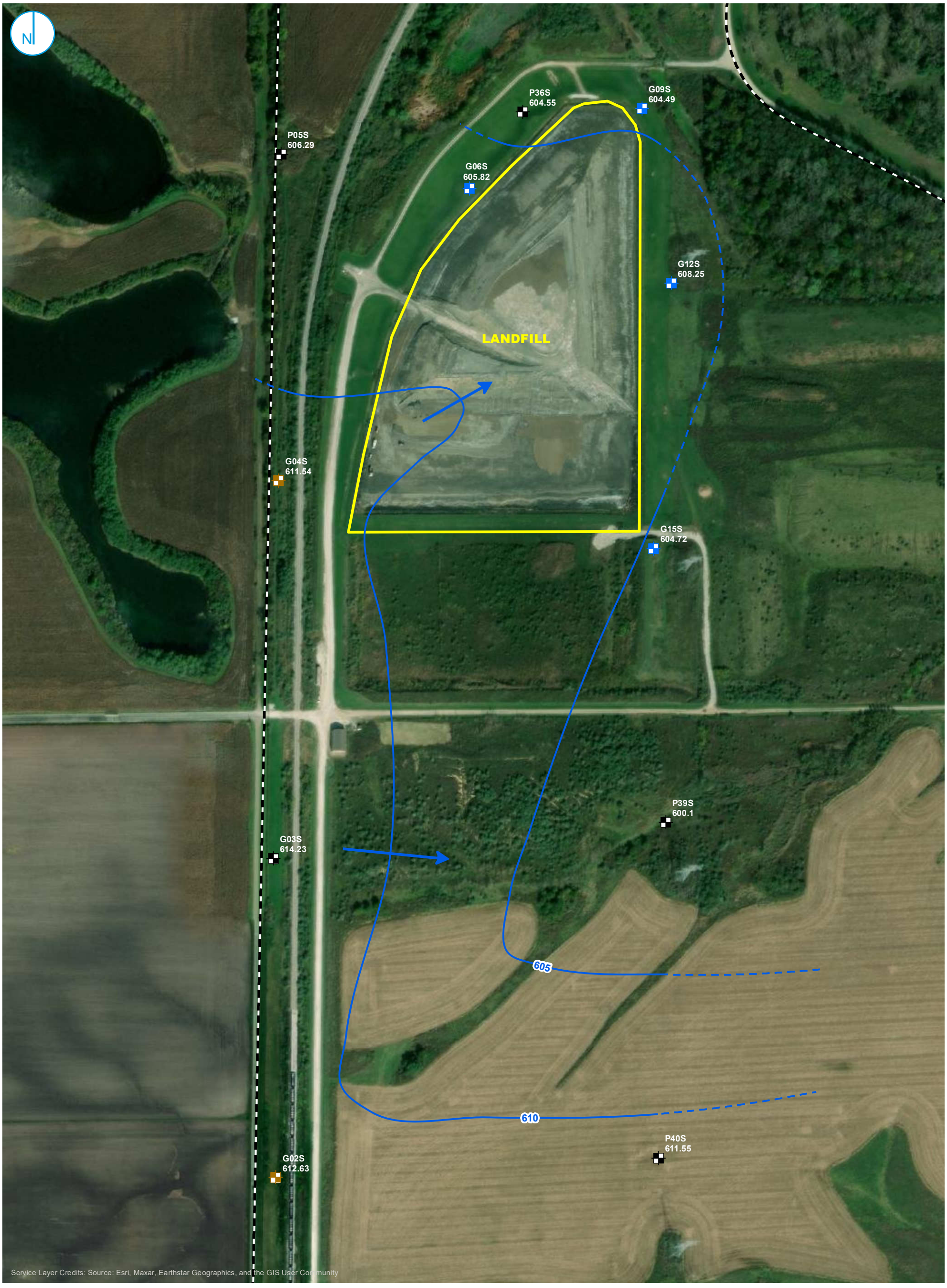
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT LANDFILL

DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 2

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL



- BACKGROUND WELL
- COMPLIANCE WELL
- MONITORING WELL
- 40 C.F.R. § 257 REGULATED UNIT (SUBJECT UNIT)
- PROPERTY BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION

0 150 300 Feet

NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

POTENTIOMETRIC SURFACE MAP JULY 18, 2022

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT LANDFILL

DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 3

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL

APPENDICES

APPENDIX A
LABORATORY REPORTS

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

February 21, 2022

Eric Bauer
Ramboll - Milwaukee
234 W Florida Street, 5th Floor
Milwaukee, WI 53204

Dear Eric Bauer:

Please find enclosed the analytical results for the sample(s) the laboratory received. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lgrant@pdclab.com.

Sincerely,

Gail Schindler
Project Manager
(309) 692-9688 x1716
gschindler@pdclab.com

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order FB00020

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

ANALYTICAL RESULTS

Sample: FB00020-01
Name: G02S
Matrix: Ground Water - Grab

Sampled: 01/31/22 11:20
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	1.9	mg/L		02/03/22 14:59	1	1.0	02/03/22 14:59	CRD	EPA 300.0 REV 2.1
Fluoride	0.342	mg/L	Q3	02/03/22 14:59	1	0.250	02/03/22 14:59	CRD	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		02/03/22 14:59	1	1.0	02/03/22 14:59	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.44	Feet		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Dissolved oxygen, Field	2.2	mg/L		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Oxidation Reduction Potential	-75.0	mV		01/31/22 11:20	1	-500	01/31/22 11:20	FIELD	Field
pH, Field Measured	6.60	pH Units		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Specific Conductance, Field Measured	2030	umhos/cm		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Temperature, Field Measured	12.0	°C		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Turbidity, Field Measured	321	NTU		01/31/22 11:20	1	0.00	01/31/22 11:20	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	410	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	400	mg/L	M	02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	49	ug/L		02/01/22 11:57	5	10	02/07/22 11:46	JMW	EPA 6020A
Calcium	94	mg/L		02/01/22 11:57	5	0.20	02/04/22 11:33	JMW	EPA 6020A
Magnesium	36	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:33	JMW	EPA 6020A
Potassium	1.2	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:33	JMW	EPA 6020A
Sodium	14	mg/L		02/01/22 11:57	5	0.10	02/07/22 11:46	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-02
Name: G02S DUPLICATE
Matrix: Ground Water - Field Duplicate

Sampled: 01/31/22 11:20
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	1.6	mg/L		02/03/22 16:48	1	1.0	02/03/22 16:48	CRD	EPA 300.0 REV 2.1
Fluoride	0.262	mg/L	Q3	02/03/22 16:48	1	0.250	02/03/22 16:48	CRD	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		02/03/22 16:48	1	1.0	02/03/22 16:48	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.44	Feet		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Dissolved oxygen, Field	2.2	mg/L		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Oxidation Reduction Potential	-75.0	mV		01/31/22 11:20	1	-500	01/31/22 11:20	FIELD	Field
pH, Field Measured	6.60	pH Units		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Specific Conductance, Field Measured	2030	umhos/cm		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Temperature, Field Measured	12.0	°C		01/31/22 11:20	1		01/31/22 11:20	FIELD	Field
Turbidity, Field Measured	321	NTU		01/31/22 11:20	1	0.00	01/31/22 11:20	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	390	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	400	mg/L	M	02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	44	ug/L		02/01/22 11:57	5	10	02/07/22 11:58	JMW	EPA 6020A
Calcium	93	mg/L		02/01/22 11:57	5	0.20	02/04/22 11:37	JMW	EPA 6020A
Magnesium	36	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:37	JMW	EPA 6020A
Potassium	1.2	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:37	JMW	EPA 6020A
Sodium	14	mg/L		02/01/22 11:57	5	0.10	02/07/22 11:58	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-03
Name: G04S
Matrix: Ground Water - Grab

Sampled: 01/31/22 10:46
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	15	mg/L		02/03/22 18:18	5	5.0	02/03/22 18:18	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 18:00	1	0.250	02/03/22 18:00	CRD	EPA 300.0 REV 2.1
Sulfate	230	mg/L		02/03/22 18:36	50	50	02/03/22 18:36	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	14.2	Feet		01/31/22 10:46	1		01/31/22 10:46	FIELD	Field
Dissolved oxygen, Field	2.3	mg/L		01/31/22 10:46	1		01/31/22 10:46	FIELD	Field
Oxidation Reduction Potential	-34.1	mV		01/31/22 10:46	1	-500	01/31/22 10:46	FIELD	Field
pH, Field Measured	7.02	pH Units		01/31/22 10:46	1		01/31/22 10:46	FIELD	Field
Specific Conductance, Field Measured	920.2	umhos/cm		01/31/22 10:46	1		01/31/22 10:46	FIELD	Field
Temperature, Field Measured	12.0	°C		01/31/22 10:46	1		01/31/22 10:46	FIELD	Field
Turbidity, Field Measured	24.7	NTU		01/31/22 10:46	1	0.00	01/31/22 10:46	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	290	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	720	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	15	ug/L		02/01/22 11:57	5	10	02/07/22 12:01	JMW	EPA 6020A
Calcium	140	mg/L		02/01/22 11:57	5	0.20	02/04/22 11:41	JMW	EPA 6020A
Magnesium	58	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:41	JMW	EPA 6020A
Potassium	1.2	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:41	JMW	EPA 6020A
Sodium	8.0	mg/L		02/01/22 11:57	5	0.10	02/07/22 12:01	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-04
Name: P05S
Matrix: Ground Water - Grab

Sampled: 01/31/22 11:28
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	10	mg/L		02/03/22 19:48	5	5.0	02/03/22 19:48	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 19:30	1	0.250	02/03/22 19:30	CRD	EPA 300.0 REV 2.1
Sulfate	260	mg/L		02/03/22 20:07	50	50	02/03/22 20:07	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	5.36	Feet		01/31/22 11:28	1		01/31/22 11:28	FIELD	Field
Dissolved oxygen, Field	7.8	mg/L		01/31/22 11:28	1		01/31/22 11:28	FIELD	Field
Oxidation Reduction Potential	-31.7	mV		01/31/22 11:28	1	-500	01/31/22 11:28	FIELD	Field
pH, Field Measured	6.95	pH Units		01/31/22 11:28	1		01/31/22 11:28	FIELD	Field
Specific Conductance, Field Measured	871.3	umhos/cm		01/31/22 11:28	1		01/31/22 11:28	FIELD	Field
Temperature, Field Measured	10.5	°C		01/31/22 11:28	1		01/31/22 11:28	FIELD	Field
Turbidity, Field Measured	1600	NTU		01/31/22 11:28	1	0.00	01/31/22 11:28	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	300	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	510	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	150	ug/L		02/01/22 11:57	5	10	02/07/22 12:05	JMW	EPA 6020A
Calcium	110	mg/L		02/01/22 11:57	5	0.20	02/04/22 11:44	JMW	EPA 6020A
Magnesium	60	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:44	JMW	EPA 6020A
Potassium	10	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:44	JMW	EPA 6020A
Sodium	13	mg/L		02/01/22 11:57	5	0.10	02/07/22 12:05	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-05
Name: G06S
Matrix: Ground Water - Grab

Sampled: 01/31/22 12:12
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	11	mg/L		02/04/22 20:00	5	5.0	02/04/22 20:00	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 20:25	1	0.250	02/03/22 20:25	CRD	EPA 300.0 REV 2.1
Sulfate	96	mg/L		02/03/22 20:43	10	10	02/03/22 20:43	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	20.88	Feet		01/31/22 12:12	1		01/31/22 12:12	FIELD	Field
Dissolved oxygen, Field	2.6	mg/L		01/31/22 12:12	1		01/31/22 12:12	FIELD	Field
Oxidation Reduction Potential	70.0	mV		01/31/22 12:12	1	-500	01/31/22 12:12	FIELD	Field
pH, Field Measured	6.89	pH Units		01/31/22 12:12	1		01/31/22 12:12	FIELD	Field
Specific Conductance, Field Measured	895.0	umhos/cm		01/31/22 12:12	1		01/31/22 12:12	FIELD	Field
Temperature, Field Measured	13.1	°C		01/31/22 12:12	1		01/31/22 12:12	FIELD	Field
Turbidity, Field Measured	361	NTU		01/31/22 12:12	1	0.00	01/31/22 12:12	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	360	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	580	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	22	ug/L		02/01/22 11:57	5	10	02/07/22 12:09	JMW	EPA 6020A
Calcium	120	mg/L		02/01/22 11:57	5	0.20	02/04/22 11:56	JMW	EPA 6020A
Magnesium	54	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:56	JMW	EPA 6020A
Potassium	1.9	mg/L		02/01/22 11:57	5	0.10	02/04/22 11:56	JMW	EPA 6020A
Sodium	6.8	mg/L		02/01/22 11:57	5	0.10	02/07/22 12:09	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-06
Name: G09S
Matrix: Ground Water - Grab

Sampled: 01/31/22 12:55
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	15	mg/L		02/03/22 21:19	10	10	02/03/22 21:19	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 21:01	1	0.250	02/03/22 21:01	CRD	EPA 300.0 REV 2.1
Sulfate	56	mg/L		02/03/22 21:19	10	10	02/03/22 21:19	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	19.86	Feet		01/31/22 12:55	1		01/31/22 12:55	FIELD	Field
Dissolved oxygen, Field	2.4	mg/L		01/31/22 12:55	1		01/31/22 12:55	FIELD	Field
Oxidation Reduction Potential	109	mV		01/31/22 12:55	1	-500	01/31/22 12:55	FIELD	Field
pH, Field Measured	6.75	pH Units		01/31/22 12:55	1		01/31/22 12:55	FIELD	Field
Specific Conductance, Field Measured	777.0	umhos/cm		01/31/22 12:55	1		01/31/22 12:55	FIELD	Field
Temperature, Field Measured	12.5	°C		01/31/22 12:55	1		01/31/22 12:55	FIELD	Field
Turbidity, Field Measured	552	NTU		01/31/22 12:55	1	0.00	01/31/22 12:55	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	320	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	420	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	11	ug/L		02/03/22 08:36	5	10	02/07/22 12:12	JMW	EPA 6020A
Calcium	110	mg/L		02/03/22 08:36	5	0.20	02/07/22 12:12	JMW	EPA 6020A
Magnesium	50	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:12	JMW	EPA 6020A
Potassium	1.4	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:12	JMW	EPA 6020A
Sodium	9.1	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:12	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-07
Name: G12S
Matrix: Ground Water - Grab

Sampled: 01/31/22 13:39
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	15	mg/L		02/03/22 21:55	10	10	02/03/22 21:55	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 21:37	1	0.250	02/03/22 21:37	CRD	EPA 300.0 REV 2.1
Sulfate	95	mg/L		02/03/22 21:55	10	10	02/03/22 21:55	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	23.11	Feet		01/31/22 13:39	1		01/31/22 13:39	FIELD	Field
Dissolved oxygen, Field	3.3	mg/L		01/31/22 13:39	1		01/31/22 13:39	FIELD	Field
Oxidation Reduction Potential	-93.0	mV		01/31/22 13:39	1	-500	01/31/22 13:39	FIELD	Field
pH, Field Measured	7.30	pH Units		01/31/22 13:39	1		01/31/22 13:39	FIELD	Field
Specific Conductance, Field Measured	652.0	umhos/cm		01/31/22 13:39	1		01/31/22 13:39	FIELD	Field
Temperature, Field Measured	10.8	°C		01/31/22 13:39	1		01/31/22 13:39	FIELD	Field
Turbidity, Field Measured	112	NTU		01/31/22 13:39	1	0.00	01/31/22 13:39	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	220	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	400	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	11	ug/L		02/03/22 08:36	5	10	02/07/22 12:27	JMW	EPA 6020A
Calcium	85	mg/L		02/03/22 08:36	5	0.20	02/07/22 12:27	JMW	EPA 6020A
Magnesium	40	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:27	JMW	EPA 6020A
Potassium	0.67	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:27	JMW	EPA 6020A
Sodium	5.4	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:27	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-08
Name: G15S
Matrix: Ground Water - Grab

Sampled: 01/31/22 11:56
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	11	mg/L		02/03/22 23:07	10	10	02/03/22 23:07	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 22:13	1	0.250	02/03/22 22:13	CRD	EPA 300.0 REV 2.1
Sulfate	40	mg/L		02/03/22 23:07	10	10	02/03/22 23:07	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	28.96	Feet		01/31/22 11:56	1		01/31/22 11:56	FIELD	Field
Dissolved oxygen, Field	2.1	mg/L		01/31/22 11:56	1		01/31/22 11:56	FIELD	Field
Oxidation Reduction Potential	-46.3	mV		01/31/22 11:56	1	-500	01/31/22 11:56	FIELD	Field
pH, Field Measured	7.04	pH Units		01/31/22 11:56	1		01/31/22 11:56	FIELD	Field
Specific Conductance, Field Measured	733.1	umhos/cm		01/31/22 11:56	1		01/31/22 11:56	FIELD	Field
Temperature, Field Measured	11.3	°C		01/31/22 11:56	1		01/31/22 11:56	FIELD	Field
Turbidity, Field Measured	687	NTU		01/31/22 11:56	1	0.00	01/31/22 11:56	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	320	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		02/08/22 07:40	1	10	02/08/22 07:40	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	240	mg/L		02/03/22 11:41	1	26	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	14	ug/L		02/03/22 08:36	5	10	02/07/22 12:31	JMW	EPA 6020A
Calcium	110	mg/L		02/03/22 08:36	5	0.20	02/07/22 12:31	JMW	EPA 6020A
Magnesium	52	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:31	JMW	EPA 6020A
Potassium	2.0	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:31	JMW	EPA 6020A
Sodium	10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:31	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-09
Name: FIELD BLANK
Matrix: DI Water - Field Blank

Sampled: 01/31/22 12:08
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	< 1.0	mg/L		02/03/22 23:25	1	1.0	02/03/22 23:25	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 23:25	1	0.250	02/03/22 23:25	CRD	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		02/03/22 23:25	1	1.0	02/03/22 23:25	CRD	EPA 300.0 REV 2.1
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	< 2.0	mg/L		02/08/22 14:00	1	2.0	02/08/22 14:00	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 2.0	mg/L		02/08/22 14:00	1	2.0	02/08/22 14:00	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	< 17	mg/L		02/03/22 11:41	1	17	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	190	ug/L		02/03/22 08:36	5	10	02/07/22 12:46	JMW	EPA 6020A
Calcium	< 0.20	mg/L		02/03/22 08:36	5	0.20	02/07/22 12:46	JMW	EPA 6020A
Magnesium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:46	JMW	EPA 6020A
Potassium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:46	JMW	EPA 6020A
Sodium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:46	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FB00020-10
Name: EQUIPMENT BLANK
Matrix: DI Water - Equipment Blank

Sampled: 01/31/22 12:08
Received: 01/31/22 18:10

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	< 1.0	mg/L		02/03/22 23:44	1	1.0	02/03/22 23:44	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		02/03/22 23:44	1	0.250	02/03/22 23:44	CRD	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		02/03/22 23:44	1	1.0	02/03/22 23:44	CRD	EPA 300.0 REV 2.1
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	< 2.0	mg/L		02/08/22 14:00	1	2.0	02/08/22 14:00	JAA	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 2.0	mg/L		02/08/22 14:00	1	2.0	02/08/22 14:00	JAA	SM 2320B 1997
Solids - total dissolved solids (TDS)	< 17	mg/L		02/03/22 11:41	1	17	02/03/22 14:41	ADM	SM 2540C
Total Metals - PIA									
Boron	190	ug/L		02/03/22 08:36	5	10	02/07/22 12:50	JMW	EPA 6020A
Calcium	< 0.20	mg/L		02/03/22 08:36	5	0.20	02/07/22 12:50	JMW	EPA 6020A
Magnesium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:50	JMW	EPA 6020A
Potassium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:50	JMW	EPA 6020A
Sodium	< 0.10	mg/L		02/03/22 08:36	5	0.10	02/07/22 12:50	JMW	EPA 6020A

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Peoria, IL 61615
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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B223321 - SW 3015 - EPA 6020A									
Blank (B223321-BLK1)				Prepared: 02/01/22 Analyzed: 02/04/22					
Boron	< 10	ug/L							
Calcium	< 0.20	mg/L							
Magnesium	< 0.10	mg/L							
Potassium	< 0.10	mg/L							
Sodium	< 0.10	mg/L							
LCS (B223321-BS1)				Prepared: 02/01/22 Analyzed: 02/04/22					
Boron	512	ug/L		555.6		92	80-120		
Calcium	5.67	mg/L		5.556		102	80-120		
Magnesium	5.91	mg/L		5.556		106	80-120		
Potassium	6.00	mg/L		5.556		108	80-120		
Sodium	5.39	mg/L		5.556		97	80-120		
Batch B223437 - SW 3015 - EPA 6020A									
Blank (B223437-BLK1)				Prepared: 02/03/22 Analyzed: 02/07/22					
Boron	< 10	ug/L							
Calcium	< 0.20	mg/L							
Magnesium	< 0.10	mg/L							
Potassium	< 0.10	mg/L							
Sodium	< 0.10	mg/L							
LCS (B223437-BS1)				Prepared: 02/03/22 Analyzed: 02/07/22					
Boron	506	ug/L		555.6		91	80-120		
Calcium	5.98	mg/L		5.556		108	80-120		
Magnesium	6.15	mg/L		5.556		111	80-120		
Potassium	5.85	mg/L		5.556		105	80-120		
Sodium	5.72	mg/L		5.556		103	80-120		
Matrix Spike (B223437-MS1)	**Sample: FB00020-06**			Prepared: 02/03/22 Analyzed: 02/07/22					
Boron	492	ug/L		555.6	11.4	86	75-125		
Calcium	111	mg/L	Q4	5.556	106	99	75-125		
Magnesium	54.5	mg/L	Q4	5.556	49.6	89	75-125		
Potassium	7.30	mg/L		5.556	1.39	107	75-125		
Sodium	14.6	mg/L		5.556	9.06	100	75-125		
Matrix Spike Dup (B223437-MSD1)	**Sample: FB00020-06**			Prepared: 02/03/22 Analyzed: 02/07/22					
Boron	490	ug/L		555.6	11.4	86	75-125	0.3	20
Calcium	109	mg/L	Q4	5.556	106	50	75-125	2	20
Magnesium	53.7	mg/L	Q4	5.556	49.6	74	75-125	2	20
Potassium	7.15	mg/L		5.556	1.39	104	75-125	2	20
Sodium	14.4	mg/L		5.556	9.06	96	75-125	2	20
Batch B223461 - No Prep - SM 2540C									
Blank (B223461-BLK1)				Prepared & Analyzed: 02/03/22					
Solids - total dissolved solids (TDS)	< 17	mg/L							

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B223461 - No Prep - SM 2540C									
LCS (B223461-BS1)				Prepared & Analyzed: 02/03/22					
Solids - total dissolved solids (TDS)	967	mg/L		1000		97	84.9-109		
Duplicate (B223461-DUP1)	**Sample: FB00020-01**			Prepared & Analyzed: 02/03/22					
Solids - total dissolved solids (TDS)	440	mg/L	M		400			10	5
Duplicate (B223461-DUP2)	**Sample: FB00020-02**			Prepared & Analyzed: 02/03/22					
Solids - total dissolved solids (TDS)	260	mg/L	M		400			42	5
Batch B223565 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B223565-CCB1)				Prepared & Analyzed: 02/03/22					
Fluoride	0.00	mg/L							
Sulfate	0.00	mg/L							
Chloride	0.0514	mg/L							
Calibration Check (B223565-CCV1)				Prepared & Analyzed: 02/03/22					
Fluoride	4.84	mg/L		5.000		97	90-110		
Sulfate	4.92	mg/L		5.000		98	90-110		
Chloride	4.70	mg/L		5.000		94	90-110		
Matrix Spike (B223565-MS1)	**Sample: FB00020-01**			Prepared & Analyzed: 02/03/22					
Chloride	3.2	mg/L		1.500	1.9	89	80-120		
Fluoride	1.47	mg/L	Q1	1.500	0.342	75	80-120		
Sulfate	1.78	mg/L		1.500	0.198	106	80-120		
Matrix Spike (B223565-MS2)	**Sample: FB00020-02**			Prepared & Analyzed: 02/03/22					
Fluoride	1.39	mg/L	Q1	1.500	0.262	75	80-120		
Chloride	3.1	mg/L		1.500	1.6	94	80-120		
Sulfate	1.79	mg/L		1.500	ND	119	80-120		
Matrix Spike Dup (B223565-MSD1)	**Sample: FB00020-01**			Prepared & Analyzed: 02/03/22					
Fluoride	1.39	mg/L	Q2	1.500	0.342	70	80-120	5	20
Sulfate	1.65	mg/L		1.500	0.198	96	80-120	8	20
Chloride	3.1	mg/L		1.500	1.9	81	80-120	4	20
Matrix Spike Dup (B223565-MSD2)	**Sample: FB00020-02**			Prepared & Analyzed: 02/03/22					
Fluoride	1.34	mg/L	Q2	1.500	0.262	72	80-120	4	20
Sulfate	1.69	mg/L		1.500	ND	112	80-120	6	20
Chloride	3.1	mg/L		1.500	1.6	97	80-120	1	20
Batch B223674 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B223674-CCB1)				Prepared & Analyzed: 02/04/22					
Chloride	0.991	mg/L							
Calibration Check (B223674-CCV1)				Prepared & Analyzed: 02/04/22					
Chloride	4.53	mg/L		5.000		91	90-110		
Batch B224030 - No Prep - SM 2320B 1997									
Blank (B224030-BLK1)				Prepared & Analyzed: 02/08/22					
Alkalinity - carbonate as CaCO3	< 2.0	mg/L							
Batch B224032 - No Prep - SM 2320B 1997									
Blank (B224032-BLK1)				Prepared & Analyzed: 02/08/22					

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B224032 - No Prep - SM 2320B 1997									
Blank (B224032-BLK1)				Prepared & Analyzed: 02/08/22					
Alkalinity - bicarbonate as CaCO3	5.00	mg/L							
Blank (B224032-BLK2)				Prepared & Analyzed: 02/08/22					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
Batch B224054 - No Prep - SM 2320B 1997									
Blank (B224054-BLK1)				Prepared & Analyzed: 02/08/22					
Alkalinity - carbonate as CaCO3	< 2.0	mg/L							
Batch B224055 - No Prep - SM 2320B 1997									
Blank (B224055-BLK1)				Prepared & Analyzed: 02/08/22					
Alkalinity - bicarbonate as CaCO3	< 2.0	mg/L							

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NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

M	Analyte failed to meet the required acceptance criteria for duplicate analysis.
Q1	Matrix Spike failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q2	Matrix Spike Duplicate failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q3	Matrix Spike/Matrix Spike Duplicate both failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q4	The matrix spike recovery result is unusable since the analyte concentration in the sample is greater than four times the spike level. The associated blank spike was acceptable.

Gail J Schindler

Certified by: Gail Schindler, Project Manager

FB00020

RAMBOLL
234 W. FLORIDA STREET, 5th FLOOR
MILWAUKEE, WI 53204
TEL: 414.837.3607

RAMBOLL - MILWAUKEE
NRT DUCK CREEK CCR LF

CHAIN OF CUSTODY # 1
DATE: 1/31/22
PAGE: 1 OF 1

LABORATORY SAMPLES SUBMITTED TO:
PDC Laboratories, Inc.
ADDRESS:
2231 W Altorfer Drive
CITY:
Peoria, IL 61615
TEL: **309-683-1716**
FAX: **309-692-9689**
E-MAIL: gschindler@pdclab.com

CLIENT PROJECT NAME: **Duck Creek Landfill**
PROJECT NUMBER / TASK NUMBER: **2285 / Unit 204**
PROJECT CONTACT: **Gail Schindler**
QUOTE NO.:
SAMPLER(S): (SIGNATURE)

TURNAROUND TIME
☐ STANDARD ☐ 24 HR ☐ 48 HR ☐ 2 HR ☒ 5 DAYS

Data Package: **Level 2** Level 4

Preservatives: A = none, B= HCL, C = H_2SO_4, D = HNO_3, E = methanol, F = Sodium Bisulfate, G = zinc acetate, H = other

Preservation Code (pick letter)
Filtered (Yor N)

REQUESTED ANALYSIS
Method Number and Analytes

	A	A	D	A
	N	N	N	N
	Cl,F,SO4	TDS	B, Ca, K, Mg, Na	Alk CO3, Alk HCO3
LAB USE ONLY / SAMPLE ID / QC SAMPLE / FIELD COMMENTS / SAMPLE DATE / SAMPLE TIME / MATRIX / SAMPLE TYPE / SAMPLE INTERVAL (ft) TOP / BOTTOM / #Cont				
GO2S	X	X	X	X
GO2S Duplicate	X	X	X	X
GO4S	X	X	X	X
PO5S	X	X	X	X
GO6S	X	X	X	X
GO9S	X	X	X	X
G12S	X	X	X	X
G15S	X	X	X	X
Field Blank	X	X	X	X
Equipment Blank	X	X	X	X

SPECIAL REQUIREMENTS

SAMPLE ID	QC SAMPLE	FIELD COMMENTS	SAMPLE DATE	SAMPLE TIME	MATRIX	SAMPLE TYPE	SAMPLE INTERVAL (ft) TOP	SAMPLE INTERVAL (ft) BOTTOM	#Cont
GO2S			1/31/22	1120	GW	Grab			2
GO2S Duplicate			1/31/22	1120	GW	Grab			2
GO4S			1/31/22	1046	GW	Grab			2
PO5S			1/31/22	1128	GW	Grab			2
GO6S			1/31/22	1212	GW	Grab			2
GO9S			1/31/22	1255	GW	Grab			2
G12S			1/31/22	1339	GW	Grab			2
G15S			1/31/22	1156	GW	Grab			2
Field Blank			1/31/22	1208	DI	Grab			2
Equipment Blank			1/31/22	1208	DI	Grab			2

Relinquished by: (Signature)	Received by: (Signature)	Date: 1/31/22	Time: 1810
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 1/31/22	Time: 1810

2.1°

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

October 06, 2022

Daryl Johnson
Vistra - Duck Creek
17751 North Cilco Road
Canton, IL 61520-8761

Dear Daryl Johnson:

Please find enclosed the analytical results for the sample(s) the laboratory received. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

Sincerely,

Gail Schindler
Project Manager
(309) 692-9688 x1716
gail.schindler@pacelabs.com

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order FG03866

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

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Work Order FG04189

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

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ANALYTICAL RESULTS

Sample: FG03866-04
Name: DC G06S
Matrix: Ground Water - Grab

Sampled: 07/20/22 14:18
Received: 07/21/22 08:00
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	10	mg/L		07/26/22 21:21	5	5.0	07/26/22 21:21	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/25/22 17:46	1	0.250	07/25/22 17:46	CJP	EPA 300.0 REV 2.1
Sulfate	120	mg/L		07/26/22 21:41	25	25	07/26/22 21:41	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	20.92	Feet		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Dissolved oxygen, Field	1.0	mg/L		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Oxidation Reduction Potential	114	mV		07/20/22 14:18	1	-500	07/20/22 14:18	FIELD	Field
pH, Field Measured	6.68	pH Units		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Specific Conductance, Field Measured	931.0	umhos/cm		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Temperature, Field Measured	64.2	°F		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Temperature, Field Measured	17.9	°C		07/20/22 14:18	1		07/20/22 14:18	FIELD	Field
Turbidity, Field Measured	175	NTU		07/20/22 14:18	1	0.00	07/20/22 14:18	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	410	mg/L		07/25/22 08:12	1	10	07/25/22 08:12	CWW	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/25/22 08:12	1	10	07/25/22 08:12	CWW	SM 2320B 1997
Solids - total dissolved solids (TDS)	620	mg/L		07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	23	ug/L		07/26/22 11:50	5	10	07/27/22 08:26	JMW	EPA 6020A
Calcium	140	mg/L	Q4	07/26/22 11:50	5	0.20	07/27/22 08:26	JMW	EPA 6020A
Magnesium	66	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:26	JMW	EPA 6020A
Potassium	0.73	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:26	JMW	EPA 6020A
Sodium	7.1	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:26	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FG03866-07
Name: DC G09S
Matrix: Ground Water - Grab

Sampled: 07/20/22 11:51
Received: 07/21/22 08:00
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	15	mg/L		07/25/22 19:35	10	10	07/25/22 19:35	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/25/22 19:17	1	0.250	07/25/22 19:17	CJP	EPA 300.0 REV 2.1
Sulfate	54	mg/L		07/25/22 19:35	10	10	07/25/22 19:35	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	20.45	Feet		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Dissolved oxygen, Field	0.82	mg/L		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Oxidation Reduction Potential	86.0	mV		07/20/22 11:51	1	-500	07/20/22 11:51	FIELD	Field
pH, Field Measured	6.54	pH Units		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Specific Conductance, Field Measured	773.7	umhos/cm		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Temperature, Field Measured	16.9	°C		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Temperature, Field Measured	62.4	°F		07/20/22 11:51	1		07/20/22 11:51	FIELD	Field
Turbidity, Field Measured	808	NTU		07/20/22 11:51	1	0.00	07/20/22 11:51	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	350	mg/L		07/25/22 08:12	1	10	07/25/22 08:12	CWW	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/25/22 08:12	1	10	07/25/22 08:12	CWW	SM 2320B 1997
Solids - total dissolved solids (TDS)	550	mg/L		07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	19	ug/L		07/26/22 11:50	5	10	07/27/22 08:33	JMW	EPA 6020A
Calcium	120	mg/L		07/26/22 11:50	5	0.20	07/27/22 08:33	JMW	EPA 6020A
Magnesium	55	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:33	JMW	EPA 6020A
Potassium	0.98	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:33	JMW	EPA 6020A
Sodium	10	mg/L		07/26/22 11:50	5	0.10	07/27/22 08:33	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FG04189-02
Name: DC G02S
Matrix: Ground Water - Grab

Sampled: 07/21/22 12:18
Received: 07/21/22 13:44
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	1.6	mg/L		07/25/22 22:36	1	1.0	07/25/22 22:36	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/25/22 22:36	1	0.250	07/25/22 22:36	CJP	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		07/25/22 22:36	1	1.0	07/25/22 22:36	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	9.65	Feet		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Dissolved oxygen, Field	2.5	mg/L		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Oxidation Reduction Potential	-115	mV		07/21/22 12:18	1	-500	07/21/22 12:18	FIELD	Field
pH, Field Measured	6.63	pH Units		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Specific Conductance, Field Measured	675.0	umhos/cm		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Temperature, Field Measured	64.3	°F		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Temperature, Field Measured	17.9	°C		07/21/22 12:18	1		07/21/22 12:18	FIELD	Field
Turbidity, Field Measured	37.8	NTU		07/21/22 12:18	1	0.00	07/21/22 12:18	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	440	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Solids - total dissolved solids (TDS)	410	mg/L	M	07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	190	ug/L		07/26/22 11:50	20	40	07/27/22 09:42	JMW	EPA 6020A
Calcium	100	mg/L		07/26/22 11:50	20	0.80	07/27/22 09:42	JMW	EPA 6020A
Magnesium	39	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:42	JMW	EPA 6020A
Potassium	0.71	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:42	JMW	EPA 6020A
Sodium	13	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:42	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FG04189-04
Name: DC G04S
Matrix: Ground Water - Grab

Sampled: 07/21/22 10:15
Received: 07/21/22 13:44
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	15	mg/L		07/25/22 18:41	5	5.0	07/25/22 18:41	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/25/22 18:23	1	0.250	07/25/22 18:23	CJP	EPA 300.0 REV 2.1
Sulfate	240	mg/L		07/25/22 18:59	50	50	07/25/22 18:59	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	17.37	Feet		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Dissolved oxygen, Field	2.8	mg/L		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Oxidation Reduction Potential	91.8	mV		07/21/22 10:15	1	-500	07/21/22 10:15	FIELD	Field
pH, Field Measured	6.89	pH Units		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Specific Conductance, Field Measured	1030	umhos/cm		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Temperature, Field Measured	17.0	°C		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Temperature, Field Measured	62.5	°F		07/21/22 10:15	1		07/21/22 10:15	FIELD	Field
Turbidity, Field Measured	50.8	NTU		07/21/22 10:15	1	0.00	07/21/22 10:15	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	300	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Solids - total dissolved solids (TDS)	750	mg/L		07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	100	ug/L		07/26/22 11:50	20	40	07/27/22 09:46	JMW	EPA 6020A
Calcium	170	mg/L		07/26/22 11:50	20	0.80	07/27/22 09:46	JMW	EPA 6020A
Magnesium	71	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:46	JMW	EPA 6020A
Potassium	0.86	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:46	JMW	EPA 6020A
Sodium	9.4	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:46	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: FG04189-05
Name: DC G12S
Matrix: Ground Water - Grab

Sampled: 07/21/22 11:25
Received: 07/21/22 13:44
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	16	mg/L		07/25/22 23:12	10	10	07/25/22 23:12	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/25/22 22:54	1	0.250	07/25/22 22:54	CJP	EPA 300.0 REV 2.1
Sulfate	95	mg/L		07/26/22 22:01	25	25	07/26/22 22:01	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	21.8	Feet		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Dissolved oxygen, Field	0.84	mg/L		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Oxidation Reduction Potential	-59.1	mV		07/21/22 11:25	1	-500	07/21/22 11:25	FIELD	Field
pH, Field Measured	7.45	pH Units		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Specific Conductance, Field Measured	663.8	umhos/cm		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Temperature, Field Measured	14.8	°C		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Temperature, Field Measured	58.6	°F		07/21/22 11:25	1		07/21/22 11:25	FIELD	Field
Turbidity, Field Measured	1.06	NTU		07/21/22 11:25	1	0.00	07/21/22 11:25	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	250	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Solids - total dissolved solids (TDS)	490	mg/L		07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	77	ug/L		07/26/22 11:50	20	40	07/27/22 09:49	JMW	EPA 6020A
Calcium	98	mg/L		07/26/22 11:50	20	0.80	07/27/22 09:49	JMW	EPA 6020A
Magnesium	46	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:49	JMW	EPA 6020A
Potassium	0.54	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:49	JMW	EPA 6020A
Sodium	6.1	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:49	JMW	EPA 6020A

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2231 W. Altorfer Drive
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ANALYTICAL RESULTS

Sample: FG04189-06
Name: DC G15S
Matrix: Ground Water - Grab

Sampled: 07/21/22 10:56
Received: 07/21/22 13:44
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	11	mg/L		07/26/22 00:25	10	10	07/26/22 00:25	CJP	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/26/22 00:06	1	0.250	07/26/22 00:06	CJP	EPA 300.0 REV 2.1
Sulfate	41	mg/L		07/26/22 00:25	10	10	07/26/22 00:25	CJP	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	29.65	Feet		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Dissolved oxygen, Field	3.6	mg/L		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Oxidation Reduction Potential	119	mV		07/21/22 10:56	1	-500	07/21/22 10:56	FIELD	Field
pH, Field Measured	6.80	pH Units		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Specific Conductance, Field Measured	735.6	umhos/cm		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Temperature, Field Measured	16.3	°C		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Temperature, Field Measured	61.3	°F		07/21/22 10:56	1		07/21/22 10:56	FIELD	Field
Turbidity, Field Measured	32.0	NTU		07/21/22 10:56	1	0.00	07/21/22 10:56	FIELD	Field
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	320	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Alkalinity - carbonate as CaCO3	< 10	mg/L		07/29/22 08:08	1	10	07/29/22 08:08	KAM	SM 2320B 1997
Solids - total dissolved solids (TDS)	490	mg/L		07/26/22 10:50	1	26	07/26/22 14:56	CGL	SM 2540C
Total Metals - PIA									
Boron	56	ug/L		07/26/22 11:50	20	40	07/27/22 09:53	JMW	EPA 6020A
Calcium	97	mg/L		07/26/22 11:50	20	0.80	07/27/22 09:53	JMW	EPA 6020A
Magnesium	47	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:53	JMW	EPA 6020A
Potassium	< 0.40	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:53	JMW	EPA 6020A
Sodium	11	mg/L		07/26/22 11:50	20	0.40	07/27/22 09:53	JMW	EPA 6020A

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B238936 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B238936-CCB1)				Prepared & Analyzed: 07/25/22					
Sulfate	0.00	mg/L							
Chloride	0.212	mg/L							
Fluoride	0.00	mg/L							
Calibration Check (B238936-CCV1)				Prepared & Analyzed: 07/25/22					
Chloride	5.03	mg/L		5.000		101	90-110		
Fluoride	5.22	mg/L		5.000		104	90-110		
Sulfate	5.12	mg/L		5.000		102	90-110		
Batch B238946 - No Prep - SM 2540C									
Blank (B238946-BLK1)				Prepared & Analyzed: 07/26/22					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B238946-BS1)				Prepared & Analyzed: 07/26/22					
Solids - total dissolved solids (TDS)	1000	mg/L		1000		100	84.9-109		
Duplicate (B238946-DUP1)	**Sample: FG04189-02**			Prepared & Analyzed: 07/26/22					
Solids - total dissolved solids (TDS)	480	mg/L	M		410			16	5
Duplicate (B238946-DUP2)	**Sample: FG04189-04**			Prepared & Analyzed: 07/26/22					
Solids - total dissolved solids (TDS)	780	mg/L			750			4	5
Batch B238958 - SW 3015 - EPA 6020A									
Blank (B238958-BLK1)				Prepared: 07/26/22 Analyzed: 07/27/22					
Boron	< 10	ug/L							
Calcium	< 0.20	mg/L							
Magnesium	< 0.10	mg/L							
Potassium	< 0.10	mg/L							
Sodium	< 0.10	mg/L							
LCS (B238958-BS1)				Prepared: 07/26/22 Analyzed: 07/27/22					
Boron	553	ug/L		555.6		99	80-120		
Calcium	5.77	mg/L		5.556		104	80-120		
Magnesium	5.71	mg/L		5.556		103	80-120		
Potassium	5.39	mg/L		5.556		97	80-120		
Sodium	5.77	mg/L		5.556		104	80-120		
Matrix Spike (B238958-MS1)	**Sample: FG03866-04**			Prepared: 07/26/22 Analyzed: 07/27/22					
Boron	575	ug/L		555.6	22.6	99	75-125		
Calcium	147	mg/L	Q4	5.556	143	68	75-125		
Magnesium	70.7	mg/L		5.556	66.4	78	75-125		
Potassium	6.20	mg/L		5.556	0.733	98	75-125		
Sodium	13.6	mg/L		5.556	7.07	118	75-125		
Matrix Spike Dup (B238958-MSD1)	**Sample: FG03866-04**			Prepared: 07/26/22 Analyzed: 07/27/22					
Boron	560	ug/L		555.6	22.6	97	75-125	3	20
Calcium	150	mg/L	Q4	5.556	143	111	75-125	2	20
Magnesium	71.5	mg/L		5.556	66.4	93	75-125	1	20

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B238958 - SW 3015 - EPA 6020A									
Matrix Spike Dup (B238958-MSD1)	**Sample: FG03866-04**			Prepared: 07/26/22 Analyzed: 07/27/22					
Potassium	6.19	mg/L		5.556	0.733	98	75-125	0.2	20
Sodium	12.2	mg/L		5.556	7.07	92	75-125	11	20
Batch B239013 - IC No Prep - EPA 300.0 REV 2.1									
Blank (B239013-BLK1)				Prepared & Analyzed: 07/26/22					
Sulfate	< 1.0	mg/L							
Chloride	< 1.0	mg/L							
Blank (B239013-BLK2)				Prepared & Analyzed: 07/26/22					
Sulfate	< 1.0	mg/L							
Chloride	< 1.0	mg/L							
Calibration Blank (B239013-CCB1)				Prepared & Analyzed: 07/26/22					
Sulfate	0.00	mg/L							
Chloride	0.177	mg/L							
Calibration Check (B239013-CCV1)				Prepared & Analyzed: 07/26/22					
Chloride	4.94	mg/L		5.000		99	90-110		
Sulfate	5.00	mg/L		5.000		100	90-110		
MRL Check (B239013-MRL1)				Prepared & Analyzed: 07/26/22					
Chloride	< 1.0	mg/L		0.2500			0-200		
Sulfate	0.295	mg/L		0.2500		118	0-200		
MRL Check (B239013-MRL2)				Prepared & Analyzed: 07/26/22					
Chloride	< 1.0	mg/L		0.2500			0-200		
Sulfate	0.292	mg/L		0.2500		117	0-200		
Batch B239098 - No Prep - SM 2320B 1997									
Blank (B239098-BLK1)				Prepared & Analyzed: 07/25/22					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
LCS (B239098-BS1)				Prepared & Analyzed: 07/25/22					
Alkalinity - bicarbonate as CaCO3	60.0	mg/L					90-110		
Batch B239115 - No Prep - SM 2320B 1997									
Blank (B239115-BLK1)				Prepared & Analyzed: 07/25/22					
Alkalinity - carbonate as CaCO3	< 2.0	mg/L							
Batch B239349 - No Prep - SM 2320B 1997									
Blank (B239349-BLK1)				Prepared & Analyzed: 07/29/22					
Alkalinity - carbonate as CaCO3	2.50	mg/L							
Duplicate (B239349-DUP1)	**Sample: FG04189-02**			Prepared & Analyzed: 07/29/22					
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Batch B239351 - No Prep - SM 2320B 1997									
Blank (B239351-BLK1)				Prepared & Analyzed: 07/29/22					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
LCS (B239351-BS1)				Prepared & Analyzed: 07/29/22					
Alkalinity - bicarbonate as CaCO3	65.0	mg/L					90-110		

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B239351 - No Prep - SM 2320B 1997									
Duplicate (B239351-DUP1)	**Sample: FG04189-02**			Prepared & Analyzed: 07/29/22					
Alkalinity - bicarbonate as CaCO3	438	mg/L			438			0	10

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NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

M	Analyte failed to meet the required acceptance criteria for duplicate analysis.
Q4	The matrix spike recovery result is unusable since the analyte concentration in the sample is greater than four times the spike level. The associated blank spike was acceptable.

Gail J Schindler

Certified by: Gail Schindler, Project Manager

FG03866

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	DC_257_203	DC_257_204	DC_257_205	DC_811_204	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	BA01																					
2	BA02	WT	G	7/20/22	1248		2	X		X												
3	BA03	WT	G	7/20/22	1158		2	X		X												
4	BA04																					
5	BA05																					
6	BA06																					
7	G02L																					
8	G02S																					
9	G03L																					
10	G04L																					
11	G04S																					
12	G06L	WT	G	7/20/22	1340		3	X		X												
13	G06S	WT	G	7/20/22	1418		2	X		X												
14	G07L	WT	G	7/20/22	1514		3	X		X												
15	G08L	WT	G	7/20/22	1239		3	X		X												
16	G09L																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-Q3-2022		7/20/22	1635		7/21/22	800

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 7/20/22

FG038866

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	DC_257_203	DC_257_204	DC_257_205	DC_811_204	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G09S	WT	G	7/20/22	1151		2	X		X												
2	G12S																					
3	G14L	WT	G	7/20/22	1445		1			X												
4	G15S																					
5	G50S																					
6	G51S	WT	G	7/20/22	1433		2	X		X												
7	G54S	WT	G	7/20/22	1523		2	X		X												
8	G57S																					
9	G60S	WT	G	7/20/22	1242		2	X		X												
10	G64S																					
11	P36L																					
12	P37L	WT	G	7/20/22	1105		3	X		X												
13	R10L	WT	G	7/20/22	1544		3	X		X												
14	R13L	WT	G	7/20/22	1416		1	X														
15	T43L																					
16	T44L																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-Q3-2022		7/20/22	1635		7/21/22	800

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Richardson

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 7/20/22

FG03866

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 3

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	DC_257_203	DC_257_204	DC_257_205	DC_811_204	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	T45L																					
2	T46L																					
3	X301	WT	G	7/20/22	1038		2	X		X												
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-Q3-2022		7/20/22	1635		7/21/22	800

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 7/20/22

FG04189

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	Sample ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N: Analysis Test → DC_257_203	DC_257_204	DC_257_205	DC_811_204	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	BA01																				
2	BA02																				
3	BA03																				
4	BA04																				
5	BA05																				
6	BA06																				
7	G02L	WT	G	7/21/22	1130		2	X		X											
8	G02S	WT	G	7/21/22	1218		2	X		X											
9	G03L	WT	G	7/21/22	1026		1		X												
10	G04L	WT	G	7/21/22	1022		0														
11	G04S	WT	G	7/21/22	1015		2	X		X											
12	G06L																				
13	G06S																				
14	G07L																				
15	G08L																				
16	G09L																				

DW ✓

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
DC-Q3-2022		7/21/22	1344							
					7/21/22	1344	5.8	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Kimberlin

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 7/21/2022

17

FG04189

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES | **GROUND WATER** | DRINKING WATER

UST | RCRA | OTHER

Site Location **STATE:** IL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: DC_257_203	DC_257_204	DC_257_205	DC_811_204	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G09S																					
2	G12S	WT	G	7/21/22	1125		2	X		X												
3	G14L																					
4	G15S	WT	G	7/21/22	1056		2	X		X												
5	G50S																					
6	G51S																					
7	G54S																					
8	G57S																					
9	G60S																					
10	G64S	WT	G	7/21/22	1030		2	X		X												
11	P36L																					
12	P37L																					
13	R10L																					
14	R13L																					
15	T43L																					
16	T44L																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-Q3-2022		7/21/22	1344		7/21/22	1344	5.8 / Y / N / Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 7/21/2022

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Duck Creek

WELL/SAMPLE POINT ~~G04S~~ G025 **Purge Method:** bladder

Date: 7/21/2022 Start Time: 1131 Finish/Sample Time: 1218

Well Depth (Bottom) From MP: _____ ft Min. Purge Volume: — Gal / L

Depth to Water From MP: 9.65 ft Total Purge Volume: 1000 Gal / L mL

Water Column Length: _____ ft Max Drawdown: — ft

Well Water Volume: _____ Gal / L Total Drawdown: 0.84 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	1148	10.40	100	6.63	681	17.79	-116	2.47	46.6
2	1150	10.45	100	6.63	677	17.86	-115	2.45	40.0
3	1152	10.47	100	6.63	675	17.92	-115	2.46	37.8
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Horiba

Sample Appearance:

Odor: ☐ None ☒ Slight ☐ Mod. ☐ Strong

Color ☐ None ☒ Slight ☐ Mod. ☐ Strong

Turb: ☐ None ☒ Slight ☐ Mod ☐ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250 mL~~) 1000mL

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 10.49 ft

Comments

Sampler's Signature:

Duck Creek

WELL/SAMPLE POINT G04S **Purge Method:** BLADDER

Date: 4/21/22 Start Time: 0941 Finish/Sample Time: 1015

Well Depth (Bottom) From MP: ~~17.37~~ ft KMD 35.30 Min. Purge Volume: ~~ ~~ Gal / L

Depth to Water From MP: 17.37 ft Total Purge Volume: 10000 ~~Gal / L~~ mL

Water Column Length: 17.93 ft Max Drawdown: ~~ ~~ ft

Well Water Volume: 10.85 Gal / L Total Drawdown: 0.23 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	0958	17.60	100	6.88	1045.50	17.47	89.60	2.43	70.60
2	0959	17.60	100	6.89	1039.00	17.29	91.00	2.45	59.86
3	1000	17.62	100	6.89	1030.00	16.95	91.90	2.75	50.84
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: AT 600

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☐ None ☑ Slight ☐ Mod. ☐ Strong

Turb: ☐ None ☑ Slight ☐ Mod ☐ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250~~mL) 1000

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 17.60 ft

Comments FADED ID SIGN.

Sampler's Signature:

Duck Creek

WELL/SAMPLE POINT G06S ~~G09S~~ GAM Purge Method: Bladder pump

Date: 7/20/22 Start Time: 1349 Finish/Sample Time: 14:18

Well Depth (Bottom) From MP: ~~20.47~~ ft 44.69 AK Min. Purge Volume: 1 Gal / (L)

Depth to Water From MP: 20.92 ft Total Purge Volume: 1.5 Gal / (L)

Water Column Length: 23.77 ft Max Drawdown: — ft

Well Water Volume: 14.40 Gal / (L) Total Drawdown: 1.05 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	14:02	22.02	100	6.66	911.16	18.15	112.3	0.89	234.89
2	14:03	22.08	100	6.67	931.84	18.00	113.6	1.05	287.87
3	14:04	22.12	100	6.68	931.00	17.91	114.2	1.05	175.21
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: AT 600

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☐ None ☑ Slight ☐ Mod. ☐ Strong

Turb: ☐ None ☑ Slight ☐ Mod ☐ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250 mL~~) 1 L

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 21.97 ft

Comments

Sampler's Signature: Aidan Jones

G09S 9AM

Duck Creek

WELL/SAMPLE POINT G09S **Purge Method:** bladder pump

Date: 7/20/22 Start Time: 11:12 Finish/Sample Time: 11:51

Well Depth (Bottom) From MP: 34.34 ft
Depth to Water From MP: 20.45 ft
Water Column Length: 13.89 ft
Well Water Volume: 8.41 Gal / (L)

Min. Purge Volume: 1 Gal / (L)
Total Purge Volume: 1.3 Gal / (L)
Max Drawdown: ~~~ ft
Total Drawdown: 1.24 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	11:28	21.73	100	6.56	790.58	17.53	83.3	0.72	973.16
2	11:29	21.80	100	6.55	765.54	17.27	84.7	0.80	871.07
3	11:30	21.83	100	6.54	773.69	16.91	86.0	0.82	807.44
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: AT 600

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☐ None ☐ Slight ☑ Mod. ☐ Strong

Turb: ☐ None ☐ Slight ☐ Mod ☑ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250 mL~~ 1 L)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 21.69 ft

Comments

Sampler's Signature: Aidan Jones

Duck Creek

WELL/SAMPLE POINT G12S **Purge Method:** bladder pump

Date: 7/20/22 Start Time: 10:05 Finish/Sample Time: 1125

Well Depth (Bottom) From MP: ~~25.55~~ ft 36.77 AK Min. Purge Volume: ~~1000~~ Gal / L (mL) 1.5 L AK

Depth to Water From MP: ~~20.06~~ ft 21.80 AK Total Purge Volume: 2 Gal / (L)

Water Column Length: 14.97 ~~ft~~ AK ~~5.49~~ ft ~~15.97 ft AK~~ Max Drawdown: ____ ft

Well Water Volume: 9.07 L AK ~~3.32~~ Gal (L) ~~9.19 L AK~~ Total Drawdown: 1.25 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	11:07	22.93	100	7.47	684.61	14.98	-42.0	1.12	1.06
2	11:08	22.93	100	7.47	642.58	14.87	-47.9	1.07	1.11
3	11:09	22.93	100	7.46	676.20	14.73	-51.2	0.92	1.30
4	11:10	23.05	100	7.45	663.76	14.78	-59.1	0.84	1.06
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: AT 600

Sample Appearance:

Odor: ☐ None ☐ Slight ☑ Mod. ☐ Strong

Color ☑ None ☐ Slight ☐ Mod. ☐ Strong

Turb: ☑ None ☐ Slight ☐ Mod ☐ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250 mL~~) 1 L

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 23.04 ft

Comments

Sampler's Signature: Aidan Jones

Duck Creek

WELL/SAMPLE POINT G15S **Purge Method:** BLADDER

Date: 7/21/22 Start Time: 1040 Finish/Sample Time: 1050

Well Depth (Bottom) From MP: 44.32 ft Min. Purge Volume: — Gal / L

Depth to Water From MP: 29.65 ft Total Purge Volume: 1000 Gal / L

Water Column Length: 14.67 ft Max Drawdown: — ft

Well Water Volume: 8.88 Gal (L) Total Drawdown: 1.00 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		(ft.)	(mL/min)	(s.u.)	(umhos/cm)	(deg C)	(mV)	(mg/L)	(NTU)
1	1047	30.66	100	6.80	637.23	15.63	118.0	3.55	50.55
2	1048	30.66	100	6.80	735.83	16.37	118.20	3.52	41.59
3	1049	30.72	100	6.80	735.63	16.28	119.30	3.59	31.96
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: ATC8000

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☐ None ☑ Slight ☐ Mod. ☐ Strong

Turb: ☑ None ☐ Slight ☐ Mod ☐ Strong

Well Integrity	Yes	No
Well has ID sign	✓	
Casing locked/secure	✓	
Well cap fits securely.	✓	
Good seal/drainage	✓	
Well has weep holes	✓	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, ~~250~~ mL) 1000

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)

Final DTW: 4 30.65 ft

Comments

Sampler's Signature:

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aidan Jones	Location:	Duck Creek
Weather:	81°F, clear Wind: WNW 9mph	Environment:	clear, open grassy plains

Multiparameter Water Meter	Make: AT	Model: 600	Serial Number:	762098	
Water Level Meter	Make:	Model:	Serial Number:		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	P	N/A	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.09	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	18.91	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000 (@27°C)	1,995.8	µS/cm	±5%				Geotech	1GK328	Nov-22
ORP	213.0	mV	±15 mV				InSitu	1GL481	Sep-22
DO (Zero pt)	0.06	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.69	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.05	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 9:18

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	P	N/A	Geotech	1GF009	Jun-23
pH 7.00b	6.88	s.u.	±0.15 s.u.			Geotech	0GJ268	Oct-22
pH 10.00b	9.85	s.u.	±0.15 s.u.			Geotech	1GF458	Jun-23
SC 1000	1,030.8	µS/cm	±5%			Ricca	1111A87	Nov-22

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 15:13

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	N/A	N/A	MSI	L315-04	11/22/2023
pH 7.00a	7.03	s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
pH 10.00a	10.08	s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000	1,025.6	µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)	10.05	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	1.61	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	Aidan Jones	Date:	7/28/22

Multiparameter Meter Field Calibration Checklist

Field Personnel:	AP, KL	Location:	Duck creek
Weather:	84°-88°F, sunny w 11mph	Environment:	grass, dirt, dust

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number:	8W2GYJD3	
Water Level Meter	Make: Heron	Model: Dipper-Z	Serial Number:	19FF211192HB	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	P	NO	—	MSI	L344-09	12/14/2023
pH 7.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L343-07	12/9/2023
pH 10.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	M082-04	3/25/2024
SC Zero (DI)	—	µS/cm	0<25 µS/cm	—	—	—	Pace Labs	N/A (DI)	N/A (DI)
SC ~~2000~~	4500	µS/cm	±5%	P	NO	—	Geotech	1GK328	Nov-22
ORP	—	mV	±15 mV	—	—	—	InSitu	1GL481	Sep-22
DO (Zero pt)	8.20	mg/L	±0.1	P	NO	—	Macron	#000228049	8/26/2025
DO (Saturated)	—	%	97-100%	—	—	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0952

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b		s.u.	±0.15 s.u.			Geotech	1GF009	Jun-23
pH 7.00b		s.u.	±0.15 s.u.			Geotech	0GJ268	Oct-22
pH 10.00b		s.u.	±0.15 s.u.			Geotech	1GF458	Jun-23
SC 1000		µS/cm	±5%			Ricca	1111A87	Nov-22

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1523

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	NO	—	MSI	L315-04	11/22/2023
pH 7.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L172-33	6/23/2023
pH 10.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L354-22	1/5/2024
SC ~~1000~~	4650	µS/cm	±5%	P	NO	—	Ricca	2108D48	Jul-23
DO (Zero pt)	9.17	mg/L	±0.1 mg/L	P	NO	—	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments: Horiba calibration calibration solution

Signature:	[signature]	Date:	7/20/2022

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Joe Reed	Location:	Duck Creek Power Station
Weather:	80s-90s	Environment:	grassy

Multiparameter Water Meter	Make:	aquatroll	Model:	600	Serial Number:
Water Level Meter	Make:		Model:		Serial Number:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	Pass	NA	NA	MSI	L315-04	11/22/2023
pH 7.00a	7.00	s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC Zero (DI)	2.11	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2022.4	µS/cm	±5%				Geotech	1GK328	Nov-22
ORP 27.8°C	226.8	mV	±15 mV				InSitu	1GL481	Sep-22
DO (Zero pt)	0.04	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.7	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 1040

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.98	s.u.	±0.15 s.u.	Pass	NA	Geotech	1GF009	Jun-23
pH 7.00b	6.99	s.u.	±0.15 s.u.			Geotech	0GJ268	Oct-22
pH 10.00b	9.95	s.u.	±0.15 s.u.			Geotech	1GF458	Jun-23
SC 1000	1020.5	µS/cm	±5%			Ricca	2108D48	Jul-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1530

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.95	s.u.	±0.1 s.u.	Pass			MSI	L315-04	11/22/2023
pH 7.00a	6.94	s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000	1025.4	µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)	0.04	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.41	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	Joseph E Reed	Date:	7/20/22

Multiparameter Meter Field Calibration Checklist

Field Personnel:	AP, KL	Location:	Duck creek
Weather:	88° - 91° F sunny wind SW 5mph	Environment:	grass, dust, dirt

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number:		
Water Level Meter	Make: Heron	Model: Dipper T-2	Serial Number:		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L343-07	12/9/2023
pH 10.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	M082-04	3/25/2024
SC Zero (DI)	—	µS/cm	0<25 µS/cm	—	—	—	Pace Labs	N/A (DI)	N/A (DI)
SC ~~2000~~	4.47	µS/cm	±5%	P	NO	N/A	Geotech	1GK328	Nov-22
ORP	—	mV	±15 mV	—	—	—	InSitu	1GL481	Sep-22
DO (Zero pt)	—	mg/L	±0.1	—	—	—	Macron	#000228049	8/26/2025
DO (Saturated)	8.64	%	97-100%	P	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)				Time: 0930				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b		s.u.	±0.15 s.u.			Geotech	1GF009	Jun-23
pH 7.00b		s.u.	±0.15 s.u.			Geotech	0GJ268	Oct-22
pH 10.00b		s.u.	±0.15 s.u.			Geotech	1GF458	Jun-23
SC 1000		µS/cm	±5%			Ricca	1111A87	Nov-22

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):				Time: 1211					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.04	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L315-04	11/22/2023
pH 7.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L172-33	6/23/2023
pH 10.00a	—	s.u.	±0.1 s.u.	—	—	—	MSI	L354-22	1/5/2024
SC ~~1000~~	4.46	µS/cm	±5%	P	NO	N/A	Ricca	2108D48	Jul-23
DO (Zero pt)	5.72	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time:				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	[signature]	Date:	7/21/2022

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aidan Jones	Location:	Duck Creek
Weather:	78°F, Clear Wind: W 5mph	Environment:	Open grassy plains

Multiparameter Water Meter	Make: AT	Model: 600	Serial Number:	846000	
Water Level Meter	Make: Solinst	Model: 101	Serial Number:	336216	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.78	s.u.	±0.1 s.u.	P	Y	4.05	MSI	L344-09	12/14/2023
pH 7.00a	7.77	s.u.	±0.1 s.u.	〃	〃	7.00	MSI	L343-07	12/9/2023
pH 10.00a	10.78	s.u.	±0.1 s.u.	〃	〃	9.95	MSI	M082-04	3/25/2024
SC Zero (DI)	14.63	µS/cm	0<25 µS/cm	P	N/A	N/A	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2,058.5	µS/cm	±5%	〃	〃	〃	Geotech	1GK328	Nov-22
ORP	173.2	mV	±15 mV	P	Y	225.0	InSitu	1GL481	Sep-22
DO (Zero pt)	0.05	mg/L	±0.1	P	N/A	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	99.09	%	97-100%	〃	〃	〃	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.66	NTU	<2 NTU	〃	〃	〃	Pace Labs	N/A (DI)	N/A (DI)

@ 28°C

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 9:26

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.06	s.u.	±0.15 s.u.	P	N/A	Geotech	1GF009	Jun-23
pH 7.00b	6.92	s.u.	±0.15 s.u.	〃	〃	Geotech	0GJ268	Oct-22
pH 10.00b	9.81	s.u.	±0.15 s.u.	P	Calibrated 9.96pH	Geotech	1GF458	Jun-23
SC 1000	1,042.6	µS/cm	±5%	P	N/A	Ricca	1111A87	Nov-22

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 12:02

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.05	s.u.	±0.1 s.u.	P	N/A	N/A	MSI	L315-04	11/22/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.	〃	〃	〃	MSI	L172-33	6/23/2023
pH 10.00a	9.91	s.u.	±0.1 s.u.	〃	〃	〃	MSI	L354-22	1/5/2024
SC 1000	1046.8	µS/cm	±5%	〃	〃	〃	Ricca	2108D48	Jul-23
DO (Zero pt)	0.05	mg/L	±0.1 mg/L	〃	〃	〃	Macron	#000228049	8/26/2025
Turbidity (DI)	0.12	NTU	<2 NTU	〃	〃	〃	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	Aidan Jones	Date:	7/21/22

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Austin Moore	Location:	Duck Creek
Weather:	93°–66° Smax wind 4mph NW	Environment:	Grassy, dust
Multiparameter Water Meter	Make: AT	Model: 600	Serial Number: 762098
Water Level Meter	Make: WT	Model: Heron	Serial Number: 19FF22013WL

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.99	s.u.	±0.1 s.u.	P			MSI	L315-04	11/22/2023
pH 7.00a	7.04	s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
pH 10.00a	10.07	s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC Zero (DI)	0.18	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1962.4	µS/cm	±5%				Geotech	1GK328	Nov-22
ORP	217.7	mV	±15 mV				InSitu	1GL481	Sep-22
DO (Zero pt)	0.08	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.75	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.00	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0918

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	P		Geotech	1GF009	Jun-23
pH 7.00b	6.95	s.u.	±0.15 s.u.			Geotech	0GJ268	Oct-22
pH 10.00b	9.88	s.u.	±0.15 s.u.			Geotech	1GF458	Jun-23
SC 1000	1032.4	µS/cm	±5%			Ricca	2108D48	Jul-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1126

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000	1030.4	µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)	0.07	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	1.32	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	Austin Moore	Date:	21-Jul-22

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

January 23, 2023

Daryl Johnson
Vistra - Duck Creek
17751 North Cilco Road
Canton, IL 61520-8761

RE: DUCK CREEK 4Q22

Dear Daryl Johnson:

Please find enclosed the **revised** analytical results for the **1** sample(s) the laboratory received on **11/30/22 4:04 pm** and logged in under work order **FK05034**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise . We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

Gail J Schindler

Gail Schindler
Project Manager
(309) 692-9688 x1716
gail.schindler@pacelabs.com

Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order FK05034

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
YES	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

Pace Analytical Services, LLC
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Peoria, IL 61615
(800)752-6651

ANALYTICAL RESULTS

Sample: FK05034-01
Name: G12S
Matrix: Ground Water - Grab

Sampled: 11/30/22 10:50
Received: 11/30/22 16:04
PO #: 1168808

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Field - PIA									
pH, Field Measured	6.60	pH Units		11/30/22 10:50	1		11/30/22 10:50	FIELD	Field*

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(800)752-6651

NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050
TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615
TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807
USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389
TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080
Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050
Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Gail J Schindler

Certified by: Gail Schindler, Project Manager

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Vistra Corp
Address:	13498 E. 900th St
Email To:	Brian.Voelker@VistraCorp.com
Phone: (217) 753-8911	Fax:
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Brian Voelker
Copy To:	Jason Stuckey
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

Attention:	Jason Stuckey
Company Name:	Vistra Corp
Address:	see Section A
Quote Reference:	
Project Manager:	
Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: IL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	Sample ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N ⬇	Analysis Test ⬇ DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_Closure_201-202	DC_WPCP_203-206	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G12S			11/30/22	1050		1																	
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-Q4-2022	For K.D. 11/30	11/30/22	1604		11/30/22	1604	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kaleb Deeke

SIGNATURE of SAMPLER: For K.D. 11/30/22

DATE Signed (MM/DD/YY):

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ELL/SAMPLE POINT **G12S**

ate: 11/30/22 Start Time: 1004 Finish/Sample Time: 1050

Well Depth (Bottom) From MP: 36.72 ft

Depth to Water From MP: 26.21 ft

Water Column Length: 10.51 ft

Well Water Volume: 6.36 (L)/GAL

Total Purge Volume: 1.5 (L)/GAL

Reading	Time	pH	Spec Con	Temp	Turb	DO	ORP
(Units)		(s.u.)	(umhos/cm)	(deg C)	(NTU)	(mg/L)	(mV)
1	1039	7.41	—	7.90	—	—	—
2	1040	7.44	—	7.30	—	—	—
3	1041	7.43	—	6.60	—	—	—
4							
5							

Sampled with: OAKTON

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☑ None ☐ Slight ☐ Mod. ☐ Strong

Turb ☑ None ☐ Slight ☐ Mod ☐ Strong

Weather/Environment 26° SUNNY

Remarks:

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	Phenols (A,G,250mL, H2SO4)
	O&G (A,G,1000mL, HCL)
	Metals (P, 250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	GEN 500mL

(1)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
	In-Line Filters Used

Comments

Sampler's Signature:

Multiparameter Meter Field Calibration Checklist

Field Personnel:	KALEB DESKE	Location:	DUCK CREEK
Weather:	26° SUNNY WIND 20mph E	Environment:	GRASSY, COLD
Multiparameter Water Meter — Make:	PH TESTER	Model:	OAKTON
Serial Number:	BD76F27MQR		
Water Level Meter — Make:	WT	Model:	HERON
Serial Number:	19FF220213ML		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	PASS	NO	NA	MSI	L315-04	11/22/2023
pH 7.00a	7.03	s.u.	±0.1 s.u.	"	"	"	MSI	L172-33	6/23/2023
pH 10.00a	10.03	s.u.	±0.1 s.u.	"	"	"	MSI	L354-22	1/5/2024
SC Zero (DI)		µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000		µS/cm	±5%				Geotech	1GK328	Nov-22
ORP		mV	±15 mV				InSitu	1GL481	Sep-22
DO (Zero pt)		mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)		%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0952

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	PASS	NO	Geotech	1GF009	Jun-23
pH 7.00b	7.06	s.u.	±0.15 s.u.	"	"	Geotech	0GJ268	Oct-22
pH 10.00b	10.04	s.u.	±0.15 s.u.	"	"	Geotech	1GF458	Jun-23
SC 1000		µS/cm	±5%			Ricca	2108D48	Jul-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1052

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.06	s.u.	±0.1 s.u.	PASS	NO	NA	MSI	L315-04	11/22/2023
pH 7.00a	7.04	s.u.	±0.1 s.u.	"	"	"	MSI	L172-33	6/23/2023
pH 10.00a	10.05	s.u.	±0.1 s.u.	"	"	"	MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

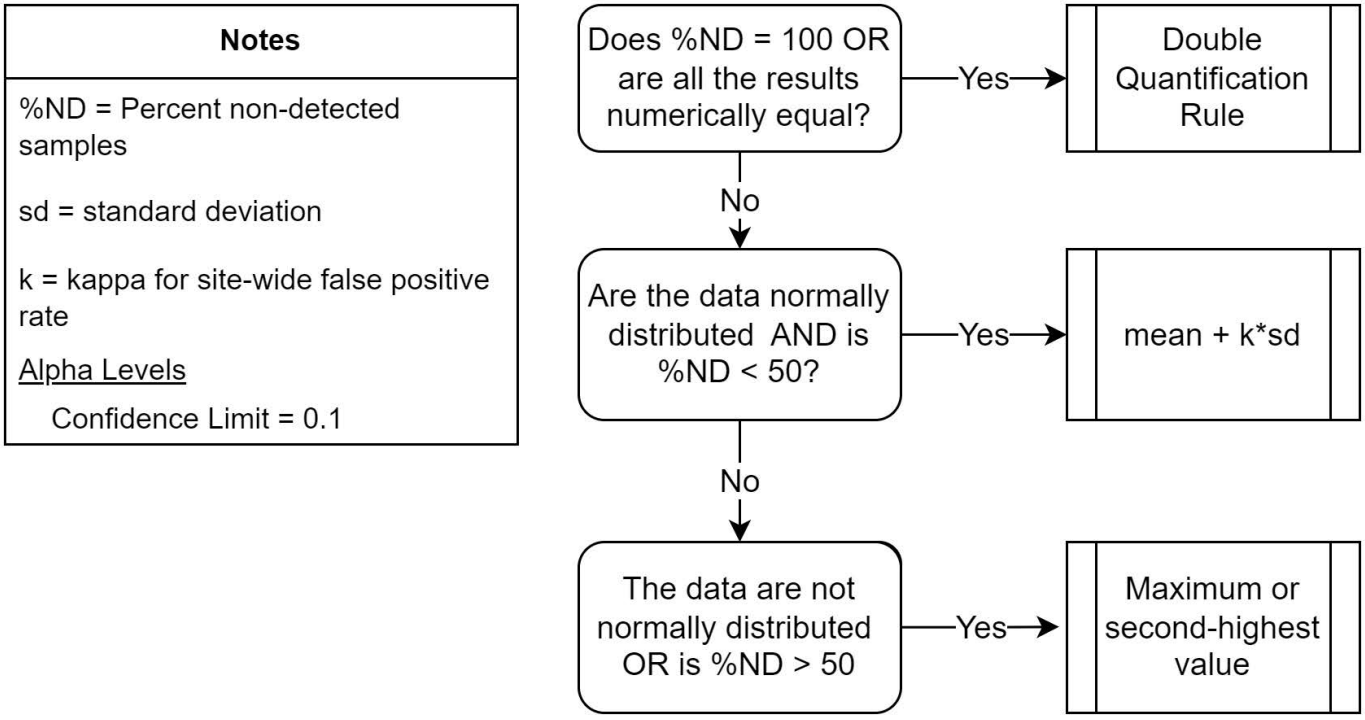
CCV (Continued Calibration Verification): — Time:

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a		s.u.	±0.1 s.u.				MSI	L315-04	11/22/2023
7.00a		s.u.	±0.1 s.u.				MSI	L172-33	6/23/2023
10.00a		s.u.	±0.1 s.u.				MSI	L354-22	1/5/2024
SC 1000		µS/cm	±5%				Ricca	2108D48	Jul-23
DO (Zero pt)		mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)		NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature: [signature] Date: 11/30/22

APPENDIX B
STATISTICAL METHODOLGY FOR DETERMINATION OF BACKGROUND VALUES



When data are not normally distributed or %ND > 50, the maximum value is used if the background sample size is < 60. Where the background sample size is > 60, the achievable per-constituent false positive rates for the maximum and second-highest background values will be compared, and the background value with the achievable per-constituent false positive rate that is closest to, but does not exceed, the target per-constituent false positive rate of 0.015% is used.

APPENDIX C
BACKGROUND UPDATE SUPPORTING INFORMATION

APPENDIX C
BACKGROUND UPDATE SUPPORTING INFORMATION
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Parameter	Statistic	Previous	New
Boron, total	Sample Count	16	28
	Percent Non-Detect	12	0
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Log Normal	Log Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	
	Population Statistics	Pooled Variance T-Test (Log-Transformed)	
	Population Conclusion	Same Populations	
Calcium, total	Sample Count	16	27
	Percent Non-Detect	0	0
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Normal	Non-Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	Equal Variance
	Population Statistics	Wilcoxon Rank-Sum Test	Wilcoxon Rank-Sum Test
	Population Conclusion	Same Populations	Same Populations
Chloride, total	Sample Count	16	32
	Percent Non-Detect	0	9
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Non-Normal	Non-Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	Equal Variance
	Population Statistics	Wilcoxon Rank-Sum Test	Wilcoxon Rank-Sum Test
	Population Conclusion	Same Populations	Same Populations
Fluoride, total	Sample Count	16	28
	Percent Non-Detect	12	18
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Normal	Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	
	Population Statistics	Pooled Variance T-Test	
	Population Conclusion	Same Populations	
pH (field)	Sample Count	16	32
	Percent Non-Detect	0	0
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Normal	Normal
	Trend	Upward	No Trend
	Variance	Equal Variance	
	Population Statistics	Pooled Variance T-Test	
	Population Conclusion	Same Populations	

APPENDIX C
BACKGROUND UPDATE SUPPORTING INFORMATION
2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
DUCK CREEK POWER PLANT
204 - LANDFILL
CANTON, IL

Parameter	Statistic	Previous	New
Sulfate, total	Sample Count	16	28
	Percent Non-Detect	50	50
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Non-Normal	Non-Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	
	Population Statistics	Wilcoxon Rank-Sum Test	
	Population Conclusion	Same Populations	
Total Dissolved Solids	Sample Count	16	28
	Percent Non-Detect	0	0
	Date Range	12/02/2015 - 06/28/2017	11/10/2017 - 01/31/2022
	Data Normality	Normal	Log Normal
	Trend	No Trend	No Trend
	Variance	Equal Variance	
	Population Statistics	Pooled Variance T-Test (Log-Transformed)	
	Population Conclusion	Same Populations	

Conclusion:
All data were used to calculated updated background values.