



Illinois Power Resources Generating, LLC
1500 Eastport Plaza Drive
Collinsville, IL 62234

December 23, 2023

Illinois Environmental Protection Agency
DWPC – Permits MC#15
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62794

**Re: Duck Creek Power Plant Gypsum Management Facility (GMF) Pond;
IEPA ID # W0578010001-04**

Dear Mr. LeCrone:

In accordance with Title 35 of the Illinois Administrative Code (35 I.A.C.) Section (§) 845.610(b)(3)(D), Illinois Power Resources Generating, LLC (IPRG) is submitting groundwater monitoring data for the Quarter 3, 2023 sampling event at the Duck Creek Power Plant Gypsum Management Facility (GMF) Pond, identified by Illinois Environmental Protection Agency (IEPA) ID No. W0578010001-04. This data is being submitted and placed in the facility's operating record as required by 35 I.A.C. § 845.800(d)(15) within 60 days of receiving final laboratory analytical data. Results were compared with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine statistical exceedances of the GWPS.

The date of this submittal is considered to be the date that exceedances of the GWPS were detected. This notification of exceedances of the GWPSs in 35 I.A.C. § 845.600 will be placed in the facility's operating record within 30 days as required by 35 I.A.C. § 845.800(d)(16). As allowed in 35 I.A.C. § 845.650(e), an alternative source demonstration (ASD) will be evaluated for the detected exceedances of the GWPS and, if successfully completed, the ASD will be submitted to IEPA within 60 days of this transmittal.

Sincerely,

A handwritten signature in blue ink that reads "Dianna Tickner".

Dianna Tickner, PE, PMP
Senior Director, Demolition and Decommission

Enclosures

Groundwater Monitoring Data and Detected Exceedances, Quarter 3, 2023, GMF Pond, Duck Creek Power Plant, Canton, Illinois

35 I.A.C. § 845.610(b)(3)(D)
GROUNDWATER MONITORING DATA AND DETECTED EXCEEDANCES
QUARTER 3, 2023
GYPSUM MANAGEMENT FACILITY (GMF) POND, DUCK CREEK POWER PLANT,
CANTON, ILLINOIS

December 23, 2023

Samples were collected July 18, 20, 25, and 27, 2023 and analyzed for the parameters listed in Title 35 of the Illinois Administrative Code (35 I.A.C.) Section (§) 845.600(a), calcium, and turbidity. Final laboratory analytical data was received on October 24, 2023.

The monitoring well locations are included in **Figure 1. Attachment A** summarizes the groundwater elevation data for the Quarter 3, 2023 sampling event. **Table 1** is a summary of the field parameters and analytical results. **Attachment B** contains the associated laboratory analytical reports and field data sheets for the Quarter 3, 2023 sampling event. A groundwater elevation was not able to be obtained at monitoring location X301 for this sampling event.

Statistical procedures used to evaluate groundwater results are provided in Appendix A of the Groundwater Monitoring Plan¹ provided in the operating permit application. In accordance with 35 I.A.C. § 845.610(b)(3)(B), the Quarter 3, 2023 groundwater monitoring data were evaluated for statistical exceedances over background levels for the constituents listed in 35 I.A.C. § 845.600. **Attachment C** shows the statistically derived values compared to background levels.

In accordance with 35 I.A.C. § 845.610(b)(3)(C), the statistically derived values identified as Statistical Results in **Table 2** were compared with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine statistical exceedances of the GWPS, as shown in **Table 2**. The date of this submittal is considered to be the date that the exceedances were detected.

As allowed in 35 I.A.C. § 845.650(e), an alternative source demonstration (ASD) will be evaluated for the detected exceedances of the GWPS and, if successfully completed, the ASD will be submitted to Illinois Environmental Protection Agency (IEPA) within 60 days of this transmittal.

TABLES

Table 1	Field Parameters and Analytical Results - Quarter 3, 2023
Table 2	Comparison of Statistical Results to GWPS - Quarter 3, 2023

FIGURES

Figure 1	35 I.A.C. § 845 Groundwater Monitoring Well Network
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ATTACHMENTS

Attachment A	Groundwater Elevation Data - Quarter 3, 2023
Attachment B	Laboratory Reports and Field Data Sheets - Quarter 3, 2023
Attachment C	Comparison of Statistical Results to Background - Quarter 3, 2023

¹ Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021. *Groundwater Monitoring Plan. Gypsum Management Facility Pond. Duck Creek Power Plant. Canton, Illinois. October 25, 2021.*

TABLES

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G02S	Background	E002	07/25/2023	Antimony, total	0.00043 U	mg/L
G02S	Background	E002	07/25/2023	Arsenic, total	0.00580	mg/L
G02S	Background	E002	07/25/2023	Barium, total	0.170	mg/L
G02S	Background	E002	07/25/2023	Beryllium, total	0.00059 U	mg/L
G02S	Background	E002	07/25/2023	Boron, total	0.0370 J+	mg/L
G02S	Background	E002	07/25/2023	Cadmium, total	0.00074 U	mg/L
G02S	Background	E002	07/25/2023	Calcium, total	100	mg/L
G02S	Background	E002	07/25/2023	Chloride, total	1.60	mg/L
G02S	Background	E002	07/25/2023	Chromium, total	0.0028 U	mg/L
G02S	Background	E002	07/25/2023	Cobalt, total	0.00048 U	mg/L
G02S	Background	E002	07/25/2023	Dissolved Oxygen	0.0700	mg/L
G02S	Background	E002	07/25/2023	Fluoride, total	0.397 J+	mg/L
G02S	Background	E002	07/25/2023	Lead, total	0.00022 U	mg/L
G02S	Background	E002	07/25/2023	Lithium, total	0.005 U	mg/L
G02S	Background	E002	07/25/2023	Mercury, total	0.00014 U	mg/L
G02S	Background	E002	07/25/2023	Molybdenum, total	0.00074 U	mg/L
G02S	Background	E002	07/25/2023	Oxidation Reduction Potential	-127	mV
G02S	Background	E002	07/25/2023	pH (field)	6.6	SU
G02S	Background	E002	07/25/2023	Radium 226 + Radium 228, total	3.97 J+	pCi/L
G02S	Background	E002	07/25/2023	Selenium, total	0.00074 U	mg/L
G02S	Background	E002	07/25/2023	Specific Conductance @ 25C (field)	571	micromhos/cm
G02S	Background	E002	07/25/2023	Sulfate, total	1 UJ	mg/L
G02S	Background	E002	07/25/2023	Temperature	16.6	degrees C
G02S	Background	E002	07/25/2023	Thallium, total	0.00038 U	mg/L
G02S	Background	E002	07/25/2023	Total Dissolved Solids	440	mg/L
G02S	Background	E002	07/25/2023	Turbidity, field	1.17	NTU
G50S	Background	E002	07/27/2023	Antimony, total	0.00043 U	mg/L
G50S	Background	E002	07/27/2023	Arsenic, total	0.00069 U	mg/L
G50S	Background	E002	07/27/2023	Barium, total	0.0710	mg/L
G50S	Background	E002	07/27/2023	Beryllium, total	0.00059 U	mg/L
G50S	Background	E002	07/27/2023	Boron, total	0.0190 J+	mg/L
G50S	Background	E002	07/27/2023	Cadmium, total	0.00074 U	mg/L
G50S	Background	E002	07/27/2023	Calcium, total	92.0	mg/L
G50S	Background	E002	07/27/2023	Chloride, total	13.0	mg/L
G50S	Background	E002	07/27/2023	Chromium, total	0.0028 U	mg/L
G50S	Background	E002	07/27/2023	Cobalt, total	0.00048 U	mg/L
G50S	Background	E002	07/27/2023	Dissolved Oxygen	130	mg/L
G50S	Background	E002	07/27/2023	Fluoride, total	0.322	mg/L
G50S	Background	E002	07/27/2023	Lead, total	0.00022 U	mg/L
G50S	Background	E002	07/27/2023	Lithium, total	0.005 U	mg/L
G50S	Background	E002	07/27/2023	Mercury, total	0.00014 U	mg/L
G50S	Background	E002	07/27/2023	Molybdenum, total	0.00093 J	mg/L
G50S	Background	E002	07/27/2023	Oxidation Reduction Potential	-65.0	mV
G50S	Background	E002	07/27/2023	pH (field)	6.6	SU
G50S	Background	E002	07/27/2023	Radium 226 + Radium 228, total	0.318 U*	pCi/L
G50S	Background	E002	07/27/2023	Selenium, total	0.00074 U	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G50S	Background	E002	07/27/2023	Specific Conductance @ 25C (field)	685	micromhos/cm
G50S	Background	E002	07/27/2023	Sulfate, total	48.0	mg/L
G50S	Background	E002	07/27/2023	Temperature	20.1	degrees C
G50S	Background	E002	07/27/2023	Thallium, total	0.00038 U	mg/L
G50S	Background	E002	07/27/2023	Total Dissolved Solids	440	mg/L
G50S	Background	E002	07/27/2023	Turbidity, field	18.1	NTU
G51S	Background	E002	07/18/2023	Antimony, total	0.00043 U	mg/L
G51S	Background	E002	07/18/2023	Arsenic, total	0.00210	mg/L
G51S	Background	E002	07/18/2023	Barium, total	0.0950	mg/L
G51S	Background	E002	07/18/2023	Beryllium, total	0.00059 U	mg/L
G51S	Background	E002	07/18/2023	Boron, total	0.0130	mg/L
G51S	Background	E002	07/18/2023	Cadmium, total	0.00074 U	mg/L
G51S	Background	E002	07/18/2023	Calcium, total	98.0	mg/L
G51S	Background	E002	07/18/2023	Chloride, total	15.0	mg/L
G51S	Background	E002	07/18/2023	Chromium, total	0.0028 U	mg/L
G51S	Background	E002	07/18/2023	Cobalt, total	0.00048 U	mg/L
G51S	Background	E002	07/18/2023	Dissolved Oxygen	0.980	mg/L
G51S	Background	E002	07/18/2023	Fluoride, total	0.278	mg/L
G51S	Background	E002	07/18/2023	Lead, total	0.00047 J	mg/L
G51S	Background	E002	07/18/2023	Lithium, total	0.005 U	mg/L
G51S	Background	E002	07/18/2023	Mercury, total	0.00014 U	mg/L
G51S	Background	E002	07/18/2023	Molybdenum, total	0.00120	mg/L
G51S	Background	E002	07/18/2023	Oxidation Reduction Potential	-61.3	mV
G51S	Background	E002	07/18/2023	pH (field)	6.9	SU
G51S	Background	E002	07/18/2023	Radium 226 + Radium 228, total	1.59	pCi/L
G51S	Background	E002	07/18/2023	Selenium, total	0.00074 U	mg/L
G51S	Background	E002	07/18/2023	Specific Conductance @ 25C (field)	730	micromhos/cm
G51S	Background	E002	07/18/2023	Sulfate, total	59.0	mg/L
G51S	Background	E002	07/18/2023	Temperature	14.8	degrees C
G51S	Background	E002	07/18/2023	Thallium, total	0.00038 U	mg/L
G51S	Background	E002	07/18/2023	Total Dissolved Solids	420	mg/L
G51S	Background	E002	07/18/2023	Turbidity, field	121	NTU
G54L	Compliance	E002	07/20/2023	Antimony, total	0.00043 U	mg/L
G54L	Compliance	E002	07/20/2023	Arsenic, total	0.00260 J+	mg/L
G54L	Compliance	E002	07/20/2023	Barium, total	0.210	mg/L
G54L	Compliance	E002	07/20/2023	Beryllium, total	0.00059 U	mg/L
G54L	Compliance	E002	07/20/2023	Boron, total	0.0320 J+	mg/L
G54L	Compliance	E002	07/20/2023	Cadmium, total	0.00074 U	mg/L
G54L	Compliance	E002	07/20/2023	Calcium, total	180	mg/L
G54L	Compliance	E002	07/20/2023	Chloride, total	43.0	mg/L
G54L	Compliance	E002	07/20/2023	Chromium, total	0.0028 U	mg/L
G54L	Compliance	E002	07/20/2023	Cobalt, total	0.0011 J	mg/L
G54L	Compliance	E002	07/20/2023	Dissolved Oxygen	0.600	mg/L
G54L	Compliance	E002	07/20/2023	Fluoride, total	0.306	mg/L
G54L	Compliance	E002	07/20/2023	Lead, total	0.00022 U	mg/L
G54L	Compliance	E002	07/20/2023	Lithium, total	0.005 U	mg/L

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DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G54L	Compliance	E002	07/20/2023	Mercury, total	0.00014 U	mg/L
G54L	Compliance	E002	07/20/2023	Molybdenum, total	0.00074 U	mg/L
G54L	Compliance	E002	07/20/2023	Oxidation Reduction Potential	-39.9	mV
G54L	Compliance	E002	07/20/2023	pH (field)	6.5	SU
G54L	Compliance	E002	07/20/2023	Radium 226 + Radium 228, total	0.847 J+	pCi/L
G54L	Compliance	E002	07/20/2023	Selenium, total	0.00074 U	mg/L
G54L	Compliance	E002	07/20/2023	Specific Conductance @ 25C (field)	1,500	micromhos/cm
G54L	Compliance	E002	07/20/2023	Sulfate, total	120	mg/L
G54L	Compliance	E002	07/20/2023	Temperature	22.8	degrees C
G54L	Compliance	E002	07/20/2023	Thallium, total	0.00038 U	mg/L
G54L	Compliance	E002	07/20/2023	Total Dissolved Solids	1,100 J	mg/L
G54L	Compliance	E002	07/20/2023	Turbidity, field	609	NTU
G54S	Compliance	E002	07/20/2023	Antimony, total	0.00043 U	mg/L
G54S	Compliance	E002	07/20/2023	Arsenic, total	0.00069 U	mg/L
G54S	Compliance	E002	07/20/2023	Barium, total	0.210	mg/L
G54S	Compliance	E002	07/20/2023	Beryllium, total	0.00059 U	mg/L
G54S	Compliance	E002	07/20/2023	Boron, total	0.0380 J+	mg/L
G54S	Compliance	E002	07/20/2023	Cadmium, total	0.00074 U	mg/L
G54S	Compliance	E002	07/20/2023	Calcium, total	110	mg/L
G54S	Compliance	E002	07/20/2023	Chloride, total	6.40	mg/L
G54S	Compliance	E002	07/20/2023	Chromium, total	0.0028 U	mg/L
G54S	Compliance	E002	07/20/2023	Cobalt, total	0.00048 U	mg/L
G54S	Compliance	E002	07/20/2023	Dissolved Oxygen	0.210	mg/L
G54S	Compliance	E002	07/20/2023	Fluoride, total	0.374	mg/L
G54S	Compliance	E002	07/20/2023	Lead, total	0.00022 U	mg/L
G54S	Compliance	E002	07/20/2023	Lithium, total	0.0073 J	mg/L
G54S	Compliance	E002	07/20/2023	Mercury, total	0.000240	mg/L
G54S	Compliance	E002	07/20/2023	Molybdenum, total	0.00150	mg/L
G54S	Compliance	E002	07/20/2023	Oxidation Reduction Potential	-41.8	mV
G54S	Compliance	E002	07/20/2023	pH (field)	6.8	SU
G54S	Compliance	E002	07/20/2023	Radium 226 + Radium 228, total	4.03 J+	pCi/L
G54S	Compliance	E002	07/20/2023	Selenium, total	0.00074 U	mg/L
G54S	Compliance	E002	07/20/2023	Specific Conductance @ 25C (field)	954	micromhos/cm
G54S	Compliance	E002	07/20/2023	Sulfate, total	36.0	mg/L
G54S	Compliance	E002	07/20/2023	Temperature	18.6	degrees C
G54S	Compliance	E002	07/20/2023	Thallium, total	0.00038 U	mg/L
G54S	Compliance	E002	07/20/2023	Total Dissolved Solids	610 J	mg/L
G54S	Compliance	E002	07/20/2023	Turbidity, field	744	NTU
G57S	Compliance	E002	07/20/2023	Antimony, total	0.00043 U	mg/L
G57S	Compliance	E002	07/20/2023	Arsenic, total	0.00069 U	mg/L
G57S	Compliance	E002	07/20/2023	Barium, total	0.180	mg/L
G57S	Compliance	E002	07/20/2023	Beryllium, total	0.00059 U	mg/L
G57S	Compliance	E002	07/20/2023	Boron, total	0.0130 J+	mg/L
G57S	Compliance	E002	07/20/2023	Cadmium, total	0.00074 U	mg/L
G57S	Compliance	E002	07/20/2023	Calcium, total	150	mg/L
G57S	Compliance	E002	07/20/2023	Chloride, total	20.0	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G57S	Compliance	E002	07/20/2023	Chromium, total	0.0028 U	mg/L
G57S	Compliance	E002	07/20/2023	Cobalt, total	0.00048 U	mg/L
G57S	Compliance	E002	07/20/2023	Dissolved Oxygen	1.50	mg/L
G57S	Compliance	E002	07/20/2023	Fluoride, total	0.253	mg/L
G57S	Compliance	E002	07/20/2023	Lead, total	0.00022 U	mg/L
G57S	Compliance	E002	07/20/2023	Lithium, total	0.005 U	mg/L
G57S	Compliance	E002	07/20/2023	Mercury, total	0.00016 J	mg/L
G57S	Compliance	E002	07/20/2023	Molybdenum, total	0.00074 U	mg/L
G57S	Compliance	E002	07/20/2023	Oxidation Reduction Potential	57.9	mV
G57S	Compliance	E002	07/20/2023	pH (field)	6.7	SU
G57S	Compliance	E002	07/20/2023	Radium 226 + Radium 228, total	1.03 J+	pCi/L
G57S	Compliance	E002	07/20/2023	Selenium, total	0.00074 U	mg/L
G57S	Compliance	E002	07/20/2023	Specific Conductance @ 25C (field)	1,192	micromhos/cm
G57S	Compliance	E002	07/20/2023	Sulfate, total	49.0	mg/L
G57S	Compliance	E002	07/20/2023	Temperature	17.8	degrees C
G57S	Compliance	E002	07/20/2023	Thallium, total	0.00038 U	mg/L
G57S	Compliance	E002	07/20/2023	Total Dissolved Solids	930 J	mg/L
G57S	Compliance	E002	07/20/2023	Turbidity, field	10.4	NTU
G60L	Compliance	E002	07/20/2023	Antimony, total	0.00043 U	mg/L
G60L	Compliance	E002	07/20/2023	Arsenic, total	0.00069 U	mg/L
G60L	Compliance	E002	07/20/2023	Barium, total	0.0220 J+	mg/L
G60L	Compliance	E002	07/20/2023	Beryllium, total	0.00059 U	mg/L
G60L	Compliance	E002	07/20/2023	Boron, total	0.0310 J+	mg/L
G60L	Compliance	E002	07/20/2023	Cadmium, total	0.00074 U	mg/L
G60L	Compliance	E002	07/20/2023	Calcium, total	87.0	mg/L
G60L	Compliance	E002	07/20/2023	Chloride, total	12.0	mg/L
G60L	Compliance	E002	07/20/2023	Chromium, total	0.0028 U	mg/L
G60L	Compliance	E002	07/20/2023	Cobalt, total	0.00430	mg/L
G60L	Compliance	E002	07/20/2023	Dissolved Oxygen	3.10	mg/L
G60L	Compliance	E002	07/20/2023	Fluoride, total	0.198 J	mg/L
G60L	Compliance	E002	07/20/2023	Lead, total	0.00022 U	mg/L
G60L	Compliance	E002	07/20/2023	Lithium, total	0.005 U	mg/L
G60L	Compliance	E002	07/20/2023	Mercury, total	0.00014 U	mg/L
G60L	Compliance	E002	07/20/2023	Molybdenum, total	0.00074 U	mg/L
G60L	Compliance	E002	07/20/2023	Oxidation Reduction Potential	86.0	mV
G60L	Compliance	E002	07/20/2023	pH (field)	5.8	SU
G60L	Compliance	E002	07/20/2023	Radium 226 + Radium 228, total	0.968 U*	pCi/L
G60L	Compliance	E002	07/20/2023	Selenium, total	0.00074 U	mg/L
G60L	Compliance	E002	07/20/2023	Specific Conductance @ 25C (field)	887	micromhos/cm
G60L	Compliance	E002	07/20/2023	Sulfate, total	190	mg/L
G60L	Compliance	E002	07/20/2023	Temperature	18.9	degrees C
G60L	Compliance	E002	07/20/2023	Thallium, total	0.00038 U	mg/L
G60L	Compliance	E002	07/20/2023	Total Dissolved Solids	660	mg/L
G60L	Compliance	E002	07/20/2023	Turbidity, field	17.9	NTU
G60S	Compliance	E002	07/20/2023	Antimony, total	0.00043 U	mg/L
G60S	Compliance	E002	07/20/2023	Arsenic, total	0.00290 J+	mg/L

TABLE 1.
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845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G60S	Compliance	E002	07/20/2023	Barium, total	0.160	mg/L
G60S	Compliance	E002	07/20/2023	Beryllium, total	0.00059 U	mg/L
G60S	Compliance	E002	07/20/2023	Boron, total	0.0310 J+	mg/L
G60S	Compliance	E002	07/20/2023	Cadmium, total	0.00074 U	mg/L
G60S	Compliance	E002	07/20/2023	Calcium, total	130	mg/L
G60S	Compliance	E002	07/20/2023	Chloride, total	5.70	mg/L
G60S	Compliance	E002	07/20/2023	Chromium, total	0.00420	mg/L
G60S	Compliance	E002	07/20/2023	Cobalt, total	0.0013 J	mg/L
G60S	Compliance	E002	07/20/2023	Dissolved Oxygen	0.930	mg/L
G60S	Compliance	E002	07/20/2023	Fluoride, total	0.328	mg/L
G60S	Compliance	E002	07/20/2023	Lead, total	0.00380	mg/L
G60S	Compliance	E002	07/20/2023	Lithium, total	0.0055 J	mg/L
G60S	Compliance	E002	07/20/2023	Mercury, total	0.00014 U	mg/L
G60S	Compliance	E002	07/20/2023	Molybdenum, total	0.00120	mg/L
G60S	Compliance	E002	07/20/2023	Oxidation Reduction Potential	-35.6	mV
G60S	Compliance	E002	07/20/2023	pH (field)	6.7	SU
G60S	Compliance	E002	07/20/2023	Radium 226 + Radium 228, total	1.85 J+	pCi/L
G60S	Compliance	E002	07/20/2023	Selenium, total	0.00074 U	mg/L
G60S	Compliance	E002	07/20/2023	Specific Conductance @ 25C (field)	964	micromhos/cm
G60S	Compliance	E002	07/20/2023	Sulfate, total	77.0	mg/L
G60S	Compliance	E002	07/20/2023	Temperature	22.0	degrees C
G60S	Compliance	E002	07/20/2023	Thallium, total	0.00038 U	mg/L
G60S	Compliance	E002	07/20/2023	Total Dissolved Solids	1,200 J	mg/L
G60S	Compliance	E002	07/20/2023	Turbidity, field	1,840	NTU
G64L	Compliance	E002	07/27/2023	Antimony, total	0.00043 U	mg/L
G64L	Compliance	E002	07/27/2023	Arsenic, total	0.00310	mg/L
G64L	Compliance	E002	07/27/2023	Barium, total	0.120	mg/L
G64L	Compliance	E002	07/27/2023	Beryllium, total	0.00059 U	mg/L
G64L	Compliance	E002	07/27/2023	Boron, total	0.0410 J+	mg/L
G64L	Compliance	E002	07/27/2023	Cadmium, total	0.00074 U	mg/L
G64L	Compliance	E002	07/27/2023	Calcium, total	110	mg/L
G64L	Compliance	E002	07/27/2023	Chloride, total	1.80	mg/L
G64L	Compliance	E002	07/27/2023	Chromium, total	0.00860	mg/L
G64L	Compliance	E002	07/27/2023	Cobalt, total	0.0017 J	mg/L
G64L	Compliance	E002	07/27/2023	Dissolved Oxygen	3.70	mg/L
G64L	Compliance	E002	07/27/2023	Fluoride, total	0.444	mg/L
G64L	Compliance	E002	07/27/2023	Lead, total	0.00330	mg/L
G64L	Compliance	E002	07/27/2023	Lithium, total	0.005 U	mg/L
G64L	Compliance	E002	07/27/2023	Mercury, total	0.00014 U	mg/L
G64L	Compliance	E002	07/27/2023	Molybdenum, total	0.00130	mg/L
G64L	Compliance	E002	07/27/2023	Oxidation Reduction Potential	176	mV
G64L	Compliance	E002	07/27/2023	pH (field)	7.0	SU
G64L	Compliance	E002	07/27/2023	Radium 226 + Radium 228, total	0.544 J+	pCi/L
G64L	Compliance	E002	07/27/2023	Selenium, total	0.00074 U	mg/L
G64L	Compliance	E002	07/27/2023	Specific Conductance @ 25C (field)	920	micromhos/cm
G64L	Compliance	E002	07/27/2023	Sulfate, total	43.0	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G64L	Compliance	E002	07/27/2023	Temperature	19.8	degrees C
G64L	Compliance	E002	07/27/2023	Thallium, total	0.00038 U	mg/L
G64L	Compliance	E002	07/27/2023	Total Dissolved Solids	600	mg/L
G64L	Compliance	E002	07/27/2023	Turbidity, field	315	NTU
G64S	Compliance	E002	07/25/2023	Antimony, total	0.00043 U	mg/L
G64S	Compliance	E002	07/25/2023	Arsenic, total	0.00069 U	mg/L
G64S	Compliance	E002	07/25/2023	Barium, total	0.160	mg/L
G64S	Compliance	E002	07/25/2023	Beryllium, total	0.00059 U	mg/L
G64S	Compliance	E002	07/25/2023	Boron, total	0.0150 J+	mg/L
G64S	Compliance	E002	07/25/2023	Cadmium, total	0.00074 U	mg/L
G64S	Compliance	E002	07/25/2023	Calcium, total	100	mg/L
G64S	Compliance	E002	07/25/2023	Chloride, total	3.20	mg/L
G64S	Compliance	E002	07/25/2023	Chromium, total	0.0028 U	mg/L
G64S	Compliance	E002	07/25/2023	Cobalt, total	0.00048 U	mg/L
G64S	Compliance	E002	07/25/2023	Dissolved Oxygen	2.10	mg/L
G64S	Compliance	E002	07/25/2023	Fluoride, total	0.348 J+	mg/L
G64S	Compliance	E002	07/25/2023	Lead, total	0.00022 U	mg/L
G64S	Compliance	E002	07/25/2023	Lithium, total	0.005 U	mg/L
G64S	Compliance	E002	07/25/2023	Mercury, total	0.00014 U	mg/L
G64S	Compliance	E002	07/25/2023	Molybdenum, total	0.00092 J	mg/L
G64S	Compliance	E002	07/25/2023	Oxidation Reduction Potential	-38.4	mV
G64S	Compliance	E002	07/25/2023	pH (field)	6.8	SU
G64S	Compliance	E002	07/25/2023	Radium 226 + Radium 228, total	0.846 J+	pCi/L
G64S	Compliance	E002	07/25/2023	Selenium, total	0.00074 U	mg/L
G64S	Compliance	E002	07/25/2023	Specific Conductance @ 25C (field)	702	micromhos/cm
G64S	Compliance	E002	07/25/2023	Sulfate, total	25.0	mg/L
G64S	Compliance	E002	07/25/2023	Temperature	17.2	degrees C
G64S	Compliance	E002	07/25/2023	Thallium, total	0.00038 U	mg/L
G64S	Compliance	E002	07/25/2023	Total Dissolved Solids	800	mg/L
G64S	Compliance	E002	07/25/2023	Turbidity, field	9.92	NTU

Notes:
C = Celsius
cm = centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
SU = Standard Units
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 high.
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G54L	PMP	E002	Antimony, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G54L	PMP	E002	Arsenic, total	mg/L	04/14/21 - 07/20/23	10	0	CB around linear reg	-0.00662	0.010	Standard	No Exceedance
G54L	PMP	E002	Barium, total	mg/L	04/14/21 - 07/20/23	10	0	CI around mean	0.154	2.0	Standard	No Exceedance
G54L	PMP	E002	Beryllium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G54L	PMP	E002	Boron, total	mg/L	04/14/21 - 07/20/23	11	0	CI around geomean	0.0174	2	Standard	No Exceedance
G54L	PMP	E002	Cadmium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G54L	PMP	E002	Chloride, total	mg/L	04/14/21 - 07/20/23	11	0	CI around mean	15.5	200	Standard	No Exceedance
G54L	PMP	E002	Chromium, total	mg/L	04/14/21 - 07/20/23	10	90	CI around median	0.004	0.1	Standard	No Exceedance
G54L	PMP	E002	Cobalt, total	mg/L	04/14/21 - 07/20/23	10	40	CI around median	0.002	0.006	Standard	No Exceedance
G54L	PMP	E002	Fluoride, total	mg/L	04/14/21 - 07/20/23	11	82	CI around median	0.25	4.0	Standard	No Exceedance
G54L	PMP	E002	Lead, total	mg/L	04/14/21 - 07/20/23	10	83	Most recent sample	0.001	0.0150	Background	No Exceedance
G54L	PMP	E002	Lithium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G54L	PMP	E002	Mercury, total	mg/L	04/14/21 - 07/20/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
G54L	PMP	E002	Molybdenum, total	mg/L	04/14/21 - 07/20/23	10	50	CI around median	0.001	0.1	Standard	No Exceedance
G54L	PMP	E002	pH (field)	SU	04/14/21 - 07/20/23	17	0	CI around median	6.5/6.6	6.5/9.0	Standard/Standard	No Exceedance
G54L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/20/23	10	0	CI around mean	0.355	5	Standard	No Exceedance
G54L	PMP	E002	Selenium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G54L	PMP	E002	Sulfate, total	mg/L	04/14/21 - 07/20/23	11	0	CI around mean	64.7	400	Standard	No Exceedance
G54L	PMP	E002	Thallium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G54L	PMP	E002	Total Dissolved Solids	mg/L	04/14/21 - 07/20/23	17	0	CI around mean	697	1,200	Standard	No Exceedance
G54S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G54S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	26	CI around median	0.001	0.010	Standard	No Exceedance
G54S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.212	2.0	Standard	No Exceedance
G54S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G54S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	24	0	CI around mean	0.032	2	Standard	No Exceedance
G54S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G54S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	22	8	CI around geomean	1.97	200	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G54S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G54S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G54S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	23	75	CI around median	0.25	4.0	Standard	No Exceedance
G54S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.0150	Background	No Exceedance
G54S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	70	CI around median	0.01	0.04	Standard	No Exceedance
G54S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	82	CI around median	0.0002	0.002	Standard	No Exceedance
G54S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.00146	0.1	Standard	No Exceedance
G54S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	31	0	CB around linear reg	6.5/6.9	6.5/9.0	Standard/Standard	No Exceedance
G54S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around geomean	0.555	5	Standard	No Exceedance
G54S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G54S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	22	0	CB around T-S line	32.5	400	Standard	No Exceedance
G54S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G54S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	30	0	CI around mean	517	1,200	Standard	No Exceedance
G57S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.003	0.006	Standard	No Exceedance
G57S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	90	Most recent sample	0.001	0.010	Standard	No Exceedance
G57S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around median	0.13	2.0	Standard	No Exceedance
G57S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.001	0.004	Standard	No Exceedance
G57S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	23	41	CI around median	0.01	2	Standard	No Exceedance
G57S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.005	Standard	No Exceedance
G57S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	23	2	CI around median	18	200	Standard	No Exceedance
G57S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.004	0.1	Standard	No Exceedance
G57S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.002	0.006	Standard	No Exceedance
G57S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	24	32	CI around median	0.25	4.0	Standard	No Exceedance
G57S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	74	CI around median	0.001	0.0150	Background	No Exceedance
G57S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G57S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G57S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.1	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G57S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	30	0	CB around linear reg	6.6/6.9	6.5/9.0	Standard/Standard	No Exceedance
G57S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around mean	0.157	5	Standard	No Exceedance
G57S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.001	0.05	Standard	No Exceedance
G57S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	22	0	CB around linear reg	46.8	400	Standard	No Exceedance
G57S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.001	0.002	Standard	No Exceedance
G57S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	30	0	CB around linear reg	760	1,200	Standard	No Exceedance
G60L	PMP	E002	Antimony, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G60L	PMP	E002	Arsenic, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.010	Standard	No Exceedance
G60L	PMP	E002	Barium, total	mg/L	04/14/21 - 07/20/23	10	0	CI around mean	0.0153	2.0	Standard	No Exceedance
G60L	PMP	E002	Beryllium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G60L	PMP	E002	Boron, total	mg/L	04/14/21 - 07/20/23	11	0	CI around geomean	0.0245	2	Standard	No Exceedance
G60L	PMP	E002	Cadmium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G60L	PMP	E002	Chloride, total	mg/L	04/14/21 - 07/20/23	11	0	CB around linear reg	8.62	200	Standard	No Exceedance
G60L	PMP	E002	Chromium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G60L	PMP	E002	Cobalt, total	mg/L	04/14/21 - 07/20/23	10	20	CI around mean	0.00222	0.006	Standard	No Exceedance
G60L	PMP	E002	Fluoride, total	mg/L	04/14/21 - 07/20/23	11	100	All ND - Last	0.25	4.0	Standard	No Exceedance
G60L	PMP	E002	Lead, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.0150	Background	No Exceedance
G60L	PMP	E002	Lithium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G60L	PMP	E002	Mercury, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G60L	PMP	E002	Molybdenum, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.1	Standard	No Exceedance
G60L	PMP	E002	pH (field)	SU	04/14/21 - 07/20/23	17	0	CI around mean	6.0/6.2	6.5/9.0	Standard/Standard	Exceedance
G60L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/20/23	10	0	CI around mean	0.0744	5	Standard	No Exceedance
G60L	PMP	E002	Selenium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G60L	PMP	E002	Sulfate, total	mg/L	04/14/21 - 07/20/23	11	9	CI around mean	151	400	Standard	No Exceedance
G60L	PMP	E002	Thallium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G60L	PMP	E002	Total Dissolved Solids	mg/L	04/14/21 - 07/20/23	17	0	CI around mean	547	1,200	Standard	No Exceedance
G60S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G60S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	17	CI around geomean	0.00123	0.010	Standard	No Exceedance
G60S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.133	2.0	Standard	No Exceedance
G60S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G60S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	25	9	CB around T-S line	0.0235	2	Standard	No Exceedance
G60S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G60S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	23	2	CI around geomean	7.94	200	Standard	No Exceedance
G60S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	60	CI around median	0.004	0.1	Standard	No Exceedance
G60S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.002	0.006	Standard	No Exceedance
G60S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	24	42	CI around median	0.25	4.0	Standard	No Exceedance
G60S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	33	CI around median	0.001	0.0150	Background	No Exceedance
G60S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.01	0.04	Standard	No Exceedance
G60S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G60S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	60	CI around median	0.001	0.1	Standard	No Exceedance
G60S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	31	0	CI around mean	6.7/6.8	6.5/9.0	Standard/Standard	No Exceedance
G60S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around mean	0.768	5	Standard	No Exceedance
G60S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.05	Standard	No Exceedance
G60S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	24	0	CB around T-S line	69.4	400	Standard	No Exceedance
G60S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G60S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	31	0	CI around median	550	1,200	Standard	No Exceedance
G64L	PMP	E002	Antimony, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G64L	PMP	E002	Arsenic, total	mg/L	05/15/23 - 07/27/23	2	25	Most recent sample	0.0031	0.010	Standard	No Exceedance
G64L	PMP	E002	Barium, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.12	2.0	Standard	No Exceedance
G64L	PMP	E002	Beryllium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G64L	PMP	E002	Boron, total	mg/L	01/11/23 - 07/27/23	3	11	Most recent sample	0.041	2	Standard	No Exceedance
G64L	PMP	E002	Cadmium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G64L	PMP	E002	Chloride, total	mg/L	01/11/23 - 07/27/23	3	11	Most recent sample	1.8	200	Standard	No Exceedance
G64L	PMP	E002	Chromium, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.0086	0.1	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G64L	PMP	E002	Cobalt, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G64L	PMP	E002	Fluoride, total	mg/L	01/11/23 - 07/27/23	3	33	Most recent sample	0.444	4.0	Standard	No Exceedance
G64L	PMP	E002	Lead, total	mg/L	05/15/23 - 07/27/23	2	25	Most recent sample	0.0033	0.0150	Background	No Exceedance
G64L	PMP	E002	Lithium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G64L	PMP	E002	Mercury, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G64L	PMP	E002	Molybdenum, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.0013	0.1	Standard	No Exceedance
G64L	PMP	E002	pH (field)	SU	05/21/21 - 07/27/23	10	0	CI around median	6.8/7.0	6.5/9.0	Standard/Standard	No Exceedance
G64L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.544	5	Standard	No Exceedance
G64L	PMP	E002	Selenium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G64L	PMP	E002	Sulfate, total	mg/L	01/11/23 - 07/27/23	3	0	Most recent sample	43	400	Standard	No Exceedance
G64L	PMP	E002	Thallium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G64L	PMP	E002	Total Dissolved Solids	mg/L	05/21/21 - 07/27/23	10	0	CI around mean	557	1,200	Standard	No Exceedance
G64S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.003	0.006	Standard	No Exceedance
G64S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/25/23	10	5	CI around mean	0.00158	0.010	Standard	No Exceedance
G64S	UA	E002	Barium, total	mg/L	12/04/15 - 07/25/23	10	0	CI around mean	0.162	2.0	Standard	No Exceedance
G64S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G64S	UA	E002	Boron, total	mg/L	12/04/15 - 07/25/23	23	3	CI around geomean	0.0147	2	Standard	No Exceedance
G64S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G64S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/25/23	22	2	CI around median	3.4	200	Standard	No Exceedance
G64S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.004	0.1	Standard	No Exceedance
G64S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G64S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/25/23	24	12	CI around median	0.294	4.0	Standard	No Exceedance
G64S	UA	E002	Lead, total	mg/L	12/04/15 - 07/25/23	10	37	CI around geomean	0.000967	0.0150	Background	No Exceedance
G64S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G64S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G64S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/25/23	10	20	CI around mean	0.00117	0.1	Standard	No Exceedance
G64S	UA	E002	pH (field)	SU	12/04/15 - 07/25/23	31	0	CI around median	6.8/7.0	6.5/9.0	Standard/Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G64S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/25/23	10	0	CI around mean	0.558	5	Standard	No Exceedance
G64S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.001	0.05	Standard	No Exceedance
G64S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/25/23	22	0	CI around mean	23.9	400	Standard	No Exceedance
G64S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G64S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/25/23	29	0	CI around median	420	1,200	Standard	No Exceedance

Notes:

Compliance Result:

No Exceedance: the statistical result did not exceed the GWPS.

Exceedance: The statistical result exceeded the GWPS.

HSU = hydrostratigraphic unit:

PMP = Potential Migration Pathway

UA = Uppermost Aquifer

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result

Statistical Calculation = method used to calculate the statistical result:

All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown

CB around T-S line = Confidence band around Thiel-Sen line

CB around linear reg = Confidence band around linear regression

CI around geomean = Confidence interval around the geometric mean

CI around mean = Confidence interval around the mean

CI around median = Confidence interval around the median

Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range

For pH, the values presented are the lower / upper limits

GWPS = Groundwater Protection Standard

GWPS Source:

Standard = standard specified in 35 I.A.C. § 845.600(a)(1)

Background = background concentration (see cover page for additional information)

FIGURES



- BACKGROUND WELL
- COMPLIANCE WELL
- SOURCE SAMPLE LOCATION
- REGULATED UNIT (SUBJECT UNIT) SITE
- FEATURE
- PROPERTY BOUNDARY

0 150 300
Feet

35 I.A.C. § 845 Groundwater
Monitoring Well Network

GYPSUM MANAGEMENT FACILITY (GMF) POND
DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



ATTACHMENTS

**ATTACHMENT A
GROUNDWATER ELEVATION DATA
QUARTER 3, 2023**

ATTACHMENT A.
GROUNDWATER ELEVATION DATA - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	Well Type	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
G02S	Background	07/25/2023	[10.47]	[611.19]
G50S	Background	07/17/2023	13.89	609.75
G51S	Background	07/17/2023	15.14	604.51
G54L	Compliance	07/17/2023	22.52	600.42
G54S	Compliance	07/17/2023	23.75	599.22
G57S	Compliance	07/17/2023	22.24	600.52
G60L	Compliance	07/17/2023	12.01	603.38
G60S	Compliance	07/17/2023	24.60	590.43
G64L	Compliance	07/17/2023	22.64	599.81
G64S	Compliance	07/17/2023	24.02	599.04

Notes:
Only wells with groundwater elevations measured are included.
BMP = below measuring point
Bracketing [] indicates that the measurement was obtained outside of the 24-hour period from initiation of depth to groundwater measurements.
NAVD88 = North American Vertical Datum of 1988

**ATTACHMENT B
LABORATORY REPORTS AND FIELD DATA SHEETS
QUARTER 3, 2023**



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

October 24, 2023

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 General Manager, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

Sincerely,

A handwritten signature in cursive script, appearing to read "Diane Billings".

Diane Billings
Project Manager



SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order GG03019

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
YES	Zero headspace, <6 mm present in VOA vials
YES	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



Work Order GG03704

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



Work Order GG04417

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



Work Order GG04978

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

ANALYTICAL RESULTS

Sample: GG03019-07
Name: G51S
Matrix: Ground Water - Grab

Sampled: 07/18/23 12:02
Received: 07/18/23 17:16

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>Anions - PIA</u>									
Chloride	15	mg/L		07/19/23 00:02	5	5.0	07/19/23 00:02	CRD	EPA 300.0 REV 2.1
Fluoride	0.278	mg/L		07/18/23 23:42	1	0.250	07/18/23 23:42	CRD	EPA 300.0 REV 2.1
Sulfate	59	mg/L		07/19/23 00:21	25	25	07/19/23 00:21	CRD	EPA 300.0 REV 2.1
<u>Field - PIA</u>									
Depth, From Measuring Point	15.33	Feet		07/18/23 12:02	1		07/18/23 12:02	FIELD	Field*
Dissolved oxygen, Field	0.98	mg/L		07/18/23 12:02	1		07/18/23 12:02	FIELD	Field*
Oxidation Reduction Potential	-61.3	mV		07/18/23 12:02	1	-500	07/18/23 12:02	FIELD	Field*
pH, Field Measured	6.91	pH Units		07/18/23 12:02	1		07/18/23 12:02	FIELD	Field*
Specific Conductance, Field Measured	730.0	umhos/cm		07/18/23 12:02	1		07/18/23 12:02	FIELD	Field*
Temperature, Field Measured	14.8	°C		07/18/23 12:02	1		07/18/23 12:02	FIELD	Field*
Turbidity, Field Measured	121	NTU		07/18/23 12:02	1	0.00	07/18/23 12:02	FIELD	Field*
<u>General Chemistry - PIA</u>									
Alkalinity - bicarbonate as CaCO ₃	300	mg/L		07/20/23 09:16	1	10	07/20/23 09:16	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		07/20/23 09:16	1	10	07/20/23 09:16	CPS	SM 2320B 1997*
<u>Soluble General Chemistry - PIA</u>									
Solids - total dissolved solids (TDS)	420	mg/L		07/21/23 09:53	1	26	07/21/23 11:16	MKH	SM 2540C
<u>Total Metals - PIA</u>									
Antimony	< 3.0	ug/L		07/19/23 09:56	5	3.0	07/20/23 14:15	JMW	EPA 6020A
Arsenic	2.1	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Barium	95	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		07/19/23 09:56	5	1.0	07/21/23 11:49	JMW	EPA 6020A
Boron	13	ug/L		07/19/23 09:56	5	10	07/21/23 11:49	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Calcium	98	mg/L		07/19/23 09:56	5	0.20	07/20/23 14:15	JMW	EPA 6020A
Chromium	< 4.0	ug/L		07/19/23 09:56	5	4.0	07/20/23 14:15	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		07/19/23 09:56	5	2.0	07/20/23 14:15	JMW	EPA 6020A
Lead	< 1.0	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Magnesium	42	mg/L		07/19/23 09:56	5	0.10	07/20/23 14:15	JMW	EPA 6020A
Mercury	< 0.20	ug/L		07/19/23 09:56	5	0.20	07/20/23 14:15	JMW	EPA 6020A
Molybdenum	1.2	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Potassium	0.30	mg/L		07/19/23 09:56	5	0.10	07/20/23 14:15	JMW	EPA 6020A

ANALYTICAL RESULTS

Sample: GG03019-07
Name: G51S
Matrix: Ground Water - Grab

Sampled: 07/18/23 12:02

Received: 07/18/23 17:16

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Sodium	7.6	mg/L		07/19/23 09:56	5	0.10	07/20/23 14:15	JMW	EPA 6020A
Thallium	< 1.0	ug/L		07/19/23 09:56	5	1.0	07/20/23 14:15	JMW	EPA 6020A
Lithium	< 0.020	mg/L		07/19/23 09:56	1	0.020	07/26/23 10:32	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG03704-01
Name: G54L
Matrix: Ground Water - Grab

Sampled: 07/20/23 12:18
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	43	mg/L	Q4	07/21/23 17:45	5	5.0	07/21/23 17:45	TMS	EPA 300.0 REV 2.1
Fluoride	0.306	mg/L		07/21/23 17:26	1	0.250	07/21/23 17:26	TMS	EPA 300.0 REV 2.1
Sulfate	120	mg/L	Q4	07/21/23 18:04	25	25	07/21/23 18:04	TMS	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	22.37	Feet		07/20/23 12:18	1		07/20/23 12:18	JD	Field*
Dissolved oxygen, Field	0.60	mg/L		07/20/23 12:18	1		07/20/23 12:18	JD	Field*
Oxidation Reduction Potential	-39.9	mV		07/20/23 12:18	1	-500	07/20/23 12:18	JD	Field*
pH, Field Measured	6.46	pH Units		07/20/23 12:18	1		07/20/23 12:18	JD	Field*
Specific Conductance, Field Measured	1500	umhos/cm		07/20/23 12:18	1		07/20/23 12:18	JD	Field*
Temperature, Field Measured	22.8	°C		07/20/23 12:18	1		07/20/23 12:18	JD	Field*
Turbidity, Field Measured	609	NTU		07/20/23 12:18	1	0.00	07/20/23 12:18	JD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	720	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1100	mg/L		07/27/23 11:41	1	26	07/27/23 13:34	MKH	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/23 09:36	5	3.0	08/01/23 16:27	wjm	EPA 6020A
Arsenic	2.6	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Barium	210	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/23 09:36	5	1.0	07/28/23 11:36	TJJ	EPA 6020A
Boron	32	ug/L		07/24/23 09:36	5	10	07/28/23 11:36	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Calcium	180	mg/L	Q4	07/24/23 09:36	5	0.20	08/01/23 16:27	wjm	EPA 6020A
Chromium	< 4.0	ug/L		07/24/23 09:36	5	4.0	08/01/23 16:27	wjm	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/23 09:36	5	2.0	08/01/23 16:27	wjm	EPA 6020A
Lead	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Magnesium	90	mg/L	Q4	07/24/23 09:36	5	0.10	08/03/23 14:45	wjm	EPA 6020A
Mercury	< 0.20	ug/L		07/24/23 09:36	5	0.20	08/01/23 16:27	wjm	EPA 6020A
Molybdenum	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Potassium	0.39	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:27	wjm	EPA 6020A

ANALYTICAL RESULTS

Sample: GG03704-01
Name: G54L
Matrix: Ground Water - Grab

Sampled: 07/20/23 12:18

Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Sodium	14	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:27	wjm	EPA 6020A
Thallium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:27	wjm	EPA 6020A
Lithium	< 0.020	mg/L		07/24/23 09:36	1	0.020	07/26/23 10:04	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG03704-02
Name: G54S
Matrix: Ground Water - Grab

Sampled: 07/20/23 11:04
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>Anions - PIA</u>									
Chloride	6.4	mg/L		07/21/23 20:01	5	5.0	07/21/23 20:01	TMS	EPA 300.0 REV 2.1
Fluoride	0.374	mg/L		07/21/23 19:41	1	0.250	07/21/23 19:41	TMS	EPA 300.0 REV 2.1
Sulfate	36	mg/L		07/21/23 20:01	5	5.0	07/21/23 20:01	TMS	EPA 300.0 REV 2.1
<u>Field - PIA</u>									
Depth, From Measuring Point	23.56	Feet		07/20/23 11:04	1		07/20/23 11:04	JD	Field*
Dissolved oxygen, Field	0.21	mg/L		07/20/23 11:04	1		07/20/23 11:04	JD	Field*
Oxidation Reduction Potential	-41.8	mV		07/20/23 11:04	1	-500	07/20/23 11:04	JD	Field*
pH, Field Measured	6.76	pH Units		07/20/23 11:04	1		07/20/23 11:04	JD	Field*
Specific Conductance, Field Measured	953.8	umhos/cm		07/20/23 11:04	1		07/20/23 11:04	JD	Field*
Temperature, Field Measured	18.6	°C		07/20/23 11:04	1		07/20/23 11:04	JD	Field*
Turbidity, Field Measured	744	NTU		07/20/23 11:04	1	0.00	07/20/23 11:04	JD	Field*
<u>General Chemistry - PIA</u>									
Alkalinity - bicarbonate as CaCO ₃	480	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
<u>Soluble General Chemistry - PIA</u>									
Solids - total dissolved solids (TDS)	610	mg/L		07/27/23 11:41	1	26	07/27/23 13:34	MKH	SM 2540C
<u>Total Metals - PIA</u>									
Antimony	< 3.0	ug/L		07/24/23 09:36	5	3.0	08/01/23 16:39	wjm	EPA 6020A
Arsenic	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Barium	210	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/23 09:36	5	1.0	07/28/23 11:45	TJJ	EPA 6020A
Boron	38	ug/L		07/24/23 09:36	5	10	07/28/23 11:45	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Calcium	110	mg/L		07/24/23 09:36	5	0.20	08/01/23 16:39	wjm	EPA 6020A
Chromium	< 4.0	ug/L		07/24/23 09:36	5	4.0	08/01/23 16:39	wjm	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/23 09:36	5	2.0	08/01/23 16:39	wjm	EPA 6020A
Lead	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Magnesium	48	mg/L		07/24/23 09:36	5	0.10	08/03/23 14:56	wjm	EPA 6020A
Mercury	0.24	ug/L		07/24/23 09:36	5	0.20	08/01/23 16:39	wjm	EPA 6020A
Molybdenum	1.5	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Potassium	0.75	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:39	wjm	EPA 6020A



ANALYTICAL RESULTS

Sample: GG03704-02
Name: G54S
Matrix: Ground Water - Grab

Sampled: 07/20/23 11:04

Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Sodium	12	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:39	wjm	EPA 6020A
Thallium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:39	wjm	EPA 6020A
Lithium	< 0.020	mg/L		07/24/23 09:36	1	0.020	07/26/23 10:07	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG03704-03
Name: G57S
Matrix: Ground Water - Grab

Sampled: 07/20/23 13:20
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	20	mg/L		07/21/23 20:39	5	5.0	07/21/23 20:39	TMS	EPA 300.0 REV 2.1
Fluoride	0.253	mg/L		07/21/23 20:20	1	0.250	07/21/23 20:20	TMS	EPA 300.0 REV 2.1
Sulfate	49	mg/L		07/26/23 15:05	10	10	07/26/23 22:55	TMS	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	22.12	Feet		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Dissolved oxygen, Field	1.5	mg/L		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Oxidation Reduction Potential	57.9	mV		07/20/23 13:20	1	-500	07/20/23 13:20	JD	Field*
pH, Field Measured	6.72	pH Units		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Specific Conductance, Field Measured	1192	umhos/cm		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Temperature, Field Measured	17.8	°C		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Temperature, Field Measured	64.1	°F		07/20/23 13:20	1		07/20/23 13:20	JD	Field*
Turbidity, Field Measured	10.4	NTU		07/20/23 13:20	1	0.00	07/20/23 13:20	JD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	710	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	930	mg/L		07/27/23 11:41	1	26	07/27/23 13:34	MKH	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/23 09:36	5	3.0	08/01/23 16:42	wjm	EPA 6020A
Arsenic	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Barium	180	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/23 09:36	5	1.0	07/28/23 11:48	TJJ	EPA 6020A
Boron	13	ug/L		07/24/23 09:36	5	10	07/28/23 11:48	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Calcium	150	mg/L		07/24/23 09:36	5	0.20	08/01/23 16:42	wjm	EPA 6020A
Chromium	< 4.0	ug/L		07/24/23 09:36	5	4.0	08/01/23 16:42	wjm	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/23 09:36	5	2.0	08/01/23 16:42	wjm	EPA 6020A
Lead	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Magnesium	93	mg/L		07/24/23 09:36	5	0.10	08/03/23 15:00	wjm	EPA 6020A
Mercury	< 0.20	ug/L		07/24/23 09:36	5	0.20	08/01/23 16:42	wjm	EPA 6020A
Molybdenum	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A

ANALYTICAL RESULTS

Sample: GG03704-03
Name: G57S
Matrix: Ground Water - Grab

Sampled: 07/20/23 13:20

Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Potassium	0.30	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:42	wjm	EPA 6020A
Selenium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Sodium	12	mg/L		07/24/23 09:36	5	0.10	08/01/23 16:42	wjm	EPA 6020A
Thallium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 16:42	wjm	EPA 6020A
Lithium	< 0.020	mg/L		07/24/23 09:36	1	0.020	07/26/23 10:09	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG03704-07
Name: G60S
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:53
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	5.7	mg/L		07/22/23 00:12	1	1.0	07/22/23 00:12	TMS	EPA 300.0 REV 2.1
Fluoride	0.328	mg/L		07/22/23 00:12	1	0.250	07/22/23 00:12	TMS	EPA 300.0 REV 2.1
Sulfate	77	mg/L		07/22/23 00:32	10	10	07/22/23 00:32	TMS	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	24.63	Feet		07/20/23 14:53	1		07/20/23 14:53	JD	Field*
Dissolved oxygen, Field	0.93	mg/L		07/20/23 14:53	1		07/20/23 14:53	JD	Field*
Oxidation Reduction Potential	-35.6	mV		07/20/23 14:53	1	-500	07/20/23 14:53	JD	Field*
pH, Field Measured	6.66	pH Units		07/20/23 14:53	1		07/20/23 14:53	JD	Field*
Specific Conductance, Field Measured	963.6	umhos/cm		07/20/23 14:53	1		07/20/23 14:53	JD	Field*
Temperature, Field Measured	22.0	°C		07/20/23 14:53	1		07/20/23 14:53	JD	Field*
Turbidity, Field Measured	1840	NTU		07/20/23 14:53	1	0.00	07/20/23 14:53	JD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	460	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1200	mg/L	M	07/27/23 11:41	1	26	07/27/23 13:34	MKH	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/23 09:36	5	3.0	08/01/23 17:05	wjm	EPA 6020A
Arsenic	2.9	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Barium	160	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/23 09:36	5	1.0	07/28/23 12:23	TJJ	EPA 6020A
Boron	31	ug/L		07/24/23 09:36	5	10	07/28/23 12:23	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Calcium	130	mg/L		07/24/23 09:36	5	0.20	08/01/23 17:05	wjm	EPA 6020A
Chromium	4.2	ug/L		07/24/23 09:36	5	4.0	08/01/23 17:05	wjm	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/23 09:36	5	2.0	08/01/23 17:05	wjm	EPA 6020A
Lead	3.8	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Magnesium	51	mg/L		07/24/23 09:36	5	0.10	08/03/23 15:38	wjm	EPA 6020A
Mercury	< 0.20	ug/L		07/24/23 09:36	5	0.20	08/01/23 17:05	wjm	EPA 6020A
Molybdenum	1.2	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Potassium	0.99	mg/L		07/24/23 09:36	5	0.10	08/01/23 17:05	wjm	EPA 6020A

ANALYTICAL RESULTS

Sample: GG03704-07
Name: G60S
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:53

Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Sodium	12	mg/L		07/24/23 09:36	5	0.10	08/01/23 17:05	wjm	EPA 6020A
Thallium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:05	wjm	EPA 6020A
Lithium	< 0.020	mg/L		07/24/23 09:36	1	0.020	07/26/23 10:15	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG03704-13
Name: G60L
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:41
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	12	mg/L		07/22/23 01:49	5	5.0	07/22/23 01:49	TMS	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/22/23 01:30	1	0.250	07/22/23 01:30	TMS	EPA 300.0 REV 2.1
Sulfate	190	mg/L		07/22/23 02:08	25	25	07/22/23 02:08	TMS	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	12.2	Feet		07/20/23 14:41	1		07/20/23 14:41	JD	Field*
Dissolved oxygen, Field	3.1	mg/L		07/20/23 14:41	1		07/20/23 14:41	JD	Field*
Oxidation Reduction Potential	86.0	mV		07/20/23 14:41	1	-500	07/20/23 14:41	JD	Field*
pH, Field Measured	5.82	pH Units		07/20/23 14:41	1		07/20/23 14:41	JD	Field*
Specific Conductance, Field Measured	887.0	umhos/cm		07/20/23 14:41	1		07/20/23 14:41	JD	Field*
Temperature, Field Measured	18.9	°C		07/20/23 14:41	1		07/20/23 14:41	JD	Field*
Turbidity, Field Measured	17.9	NTU		07/20/23 14:41	1	0.00	07/20/23 14:41	JD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	290	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/02/23 09:09	1	10	08/02/23 09:09	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	660	mg/L		07/27/23 11:41	1	26	07/27/23 13:34	MKH	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/23 09:36	5	3.0	08/01/23 17:09	wjm	EPA 6020A
Arsenic	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Barium	22	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/23 09:36	5	1.0	07/28/23 12:26	TJJ	EPA 6020A
Boron	31	ug/L		07/24/23 09:36	5	10	07/28/23 12:26	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Calcium	87	mg/L		07/24/23 09:36	5	0.20	08/01/23 17:09	wjm	EPA 6020A
Chromium	< 4.0	ug/L		07/24/23 09:36	5	4.0	08/01/23 17:09	wjm	EPA 6020A
Cobalt	4.3	ug/L		07/24/23 09:36	5	2.0	08/01/23 17:09	wjm	EPA 6020A
Lead	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Magnesium	36	mg/L		07/24/23 09:36	5	0.10	08/03/23 15:42	wjm	EPA 6020A
Mercury	< 0.20	ug/L		07/24/23 09:36	5	0.20	08/01/23 17:09	wjm	EPA 6020A
Molybdenum	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Potassium	0.31	mg/L		07/24/23 09:36	5	0.10	08/01/23 17:09	wjm	EPA 6020A



ANALYTICAL RESULTS

Sample: GG03704-13
Name: G60L
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:41

Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Sodium	34	mg/L		07/24/23 09:36	5	0.10	08/01/23 17:09	wjm	EPA 6020A
Thallium	< 1.0	ug/L		07/24/23 09:36	5	1.0	08/01/23 17:09	wjm	EPA 6020A
Lithium	< 0.020	mg/L		07/24/23 09:36	1	0.020	07/26/23 10:17	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG04417-12
Name: G64S
Matrix: Ground Water - Grab

Sampled: 07/25/23 16:23
Received: 07/25/23 17:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	3.2	mg/L		07/26/23 15:11	1	1.0	07/26/23 15:11	TMS	EPA 300.0 REV 2.1
Fluoride	0.348	mg/L		07/26/23 15:11	1	0.250	07/26/23 15:11	TMS	EPA 300.0 REV 2.1
Sulfate	25	mg/L		07/26/23 15:30	5	5.0	07/26/23 15:30	TMS	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	24.18	Feet		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Dissolved oxygen, Field	2.1	mg/L		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Oxidation Reduction Potential	-38.4	mV		07/25/23 16:23	1	-500	07/25/23 16:23	FIELD	Field*
pH, Field Measured	6.82	pH Units		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Specific Conductance, Field Measured	702.5	umhos/cm		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Temperature, Field Measured	17.2	°C		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Temperature, Field Measured	63.0	°F		07/25/23 16:23	1		07/25/23 16:23	FIELD	Field*
Turbidity, Field Measured	9.92	NTU		07/25/23 16:23	1	0.00	07/25/23 16:23	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	420	mg/L		08/04/23 09:45	1	2.0	08/04/23 09:45	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 2.0	mg/L		08/04/23 09:45	1	2.0	08/04/23 09:45	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	800	mg/L		08/01/23 09:40	1	26	08/01/23 11:00	MKH	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/27/23 09:21	5	3.0	08/07/23 16:59	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:36	TJJ	EPA 6020A
Barium	160	ug/L		07/27/23 09:21	5	1.0	08/07/23 16:59	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:36	TJJ	EPA 6020A
Boron	15	ug/L		07/27/23 09:21	5	10	08/09/23 16:46	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 16:59	TJJ	EPA 6020A
Calcium	100	mg/L		07/27/23 09:21	5	0.20	08/07/23 16:59	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/27/23 09:21	5	4.0	08/07/23 16:59	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/27/23 09:21	5	2.0	08/07/23 16:59	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 16:59	TJJ	EPA 6020A
Magnesium	47	mg/L		07/27/23 09:21	5	0.10	08/07/23 16:59	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/27/23 09:21	5	0.20	08/07/23 16:59	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:36	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: GG04417-12
Name: G64S
Matrix: Ground Water - Grab

Sampled: 07/25/23 16:23

Received: 07/25/23 17:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Potassium	0.65	mg/L		07/27/23 09:21	5	0.10	08/07/23 16:59	TJJ	EPA 6020A
Selenium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 16:59	TJJ	EPA 6020A
Sodium	12	mg/L		07/27/23 09:21	5	0.10	08/08/23 17:36	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 16:59	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/27/23 09:21	1	0.020	08/02/23 10:55	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG04417-13
Name: G02S
Matrix: Ground Water - Grab

Sampled: 07/25/23 14:35
Received: 07/25/23 17:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>Anions - PIA</u>									
Chloride	1.6	mg/L		07/26/23 15:50	1	1.0	07/26/23 15:50	TMS	EPA 300.0 REV 2.1
Fluoride	0.397	mg/L		07/26/23 15:50	1	0.250	07/26/23 15:50	TMS	EPA 300.0 REV 2.1
Sulfate	< 1.0	mg/L		07/26/23 15:50	1	1.0	07/26/23 15:50	TMS	EPA 300.0 REV 2.1
<u>Field - PIA</u>									
Depth, From Measuring Point	10.47	Feet		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Dissolved oxygen, Field	0.070	mg/L		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Oxidation Reduction Potential	-127	mV		07/25/23 14:35	1	-500	07/25/23 14:35	FIELD	Field*
pH, Field Measured	6.57	pH Units		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Specific Conductance, Field Measured	571.4	umhos/cm		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Temperature, Field Measured	16.6	°C		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Temperature, Field Measured	61.8	°F		07/25/23 14:35	1		07/25/23 14:35	FIELD	Field*
Turbidity, Field Measured	1.17	NTU		07/25/23 14:35	1	0.00	07/25/23 14:35	FIELD	Field*
<u>General Chemistry - PIA</u>									
Alkalinity - bicarbonate as CaCO ₃	440	mg/L		08/04/23 09:45	1	2.0	08/04/23 09:45	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 2.0	mg/L		08/04/23 09:45	1	2.0	08/04/23 09:45	CPS	SM 2320B 1997*
<u>Soluble General Chemistry - PIA</u>									
Solids - total dissolved solids (TDS)	440	mg/L		08/01/23 09:40	1	26	08/01/23 11:00	MKH	SM 2540C
<u>Total Metals - PIA</u>									
Antimony	< 3.0	ug/L		07/27/23 09:21	5	3.0	08/07/23 17:03	TJJ	EPA 6020A
Arsenic	5.8	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:40	TJJ	EPA 6020A
Barium	170	ug/L		07/27/23 09:21	5	1.0	08/07/23 17:03	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:40	TJJ	EPA 6020A
Boron	37	ug/L		07/27/23 09:21	5	10	08/09/23 16:50	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 17:03	TJJ	EPA 6020A
Calcium	100	mg/L		07/27/23 09:21	5	0.20	08/07/23 17:03	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/27/23 09:21	5	4.0	08/07/23 17:03	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/27/23 09:21	5	2.0	08/07/23 17:03	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 17:03	TJJ	EPA 6020A
Magnesium	38	mg/L		07/27/23 09:21	5	0.10	08/07/23 17:03	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/27/23 09:21	5	0.20	08/07/23 17:03	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/08/23 17:40	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: GG04417-13
Name: G02S
Matrix: Ground Water - Grab

Sampled: 07/25/23 14:35

Received: 07/25/23 17:45

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Potassium	0.80	mg/L		07/27/23 09:21	5	0.10	08/07/23 17:03	TJJ	EPA 6020A
Selenium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 17:03	TJJ	EPA 6020A
Sodium	14	mg/L		07/27/23 09:21	5	0.10	08/08/23 17:40	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/27/23 09:21	5	1.0	08/07/23 17:03	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/27/23 09:21	1	0.020	08/02/23 10:56	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG04978-04
Name: G50S
Matrix: Ground Water - Grab

Sampled: 07/27/23 14:28
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	13	mg/L		07/28/23 16:45	5	5.0	07/28/23 16:45	CRD	EPA 300.0 REV 2.1
Fluoride	0.322	mg/L		07/28/23 16:26	1	0.250	07/28/23 16:26	CRD	EPA 300.0 REV 2.1
Sulfate	48	mg/L		07/28/23 16:45	5	5.0	07/28/23 16:45	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	15.44	Feet		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Dissolved oxygen, Field	130	mg/L		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Oxidation Reduction Potential	-65.0	mV		07/27/23 14:28	1	-500	07/27/23 14:28	FIELD	Field*
pH, Field Measured	6.61	pH Units		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Specific Conductance, Field Measured	685.0	umhos/cm		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Temperature, Field Measured	20.1	°C		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Temperature, Field Measured	68.2	°F		07/27/23 14:28	1		07/27/23 14:28	FIELD	Field*
Turbidity, Field Measured	18.1	NTU		07/27/23 14:28	1	0.00	07/27/23 14:28	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	310	mg/L		08/09/23 11:11	1	10	08/09/23 11:11	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/09/23 11:11	1	10	08/09/23 11:11	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	440	mg/L		08/02/23 11:04	1	26	08/02/23 14:29	LAL2	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		08/02/23 08:02	5	3.0	08/10/23 13:47	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:47	TJJ	EPA 6020A
Barium	71	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:47	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:47	TJJ	EPA 6020A
Boron	19	ug/L		08/02/23 08:02	5	10	08/10/23 15:05	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:47	TJJ	EPA 6020A
Calcium	92	mg/L		08/02/23 08:02	5	0.20	08/11/23 11:02	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		08/02/23 08:02	5	4.0	08/10/23 13:47	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		08/02/23 08:02	5	2.0	08/10/23 13:47	TJJ	EPA 6020A
Lead	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:02	TJJ	EPA 6020A
Magnesium	37	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:47	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		08/02/23 08:02	5	0.20	08/11/23 11:02	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:47	TJJ	EPA 6020A



ANALYTICAL RESULTS

Sample: GG04978-04
Name: G50S
Matrix: Ground Water - Grab

Sampled: 07/27/23 14:28

Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Potassium	0.41	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:47	TJJ	EPA 6020A
Selenium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:02	TJJ	EPA 6020A
Sodium	9.7	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:47	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:02	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		08/02/23 08:02	1	0.020	08/09/23 09:54	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: GG04978-07
Name: G64L
Matrix: Ground Water - Grab

Sampled: 07/27/23 12:06
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>Anions - PIA</u>									
Chloride	1.8	mg/L		07/28/23 18:22	1	1.0	07/28/23 18:22	CRD	EPA 300.0 REV 2.1
Fluoride	0.444	mg/L		07/28/23 18:22	1	0.250	07/28/23 18:22	CRD	EPA 300.0 REV 2.1
Sulfate	43	mg/L		07/28/23 18:41	5	5.0	07/28/23 18:41	CRD	EPA 300.0 REV 2.1
<u>Field - PIA</u>									
Depth, From Measuring Point	22.8	Feet		07/27/23 12:06	1		07/27/23 12:06	FIELD	Field*
Dissolved oxygen, Field	3.7	mg/L		07/27/23 12:06	1		07/27/23 12:06	FIELD	Field*
Oxidation Reduction Potential	176	mV		07/27/23 12:06	1	-500	07/27/23 12:06	FIELD	Field*
pH, Field Measured	7.05	pH Units		07/27/23 12:06	1		07/27/23 12:06	FIELD	Field*
Specific Conductance, Field Measured	920.1	umhos/cm		07/27/23 12:06	1		07/27/23 12:06	FIELD	Field*
Temperature, Field Measured	19.8	°C		07/27/23 12:06	1		07/27/23 12:06	FIELD	Field*
Turbidity, Field Measured	315	NTU		07/27/23 12:06	1	0.00	07/27/23 12:06	FIELD	Field*
<u>General Chemistry - PIA</u>									
Alkalinity - bicarbonate as CaCO ₃	490	mg/L		08/09/23 11:11	1	10	08/09/23 11:11	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		08/09/23 11:11	1	10	08/09/23 11:11	CPS	SM 2320B 1997*
<u>Soluble General Chemistry - PIA</u>									
Solids - total dissolved solids (TDS)	600	mg/L		08/02/23 11:04	1	26	08/02/23 14:29	LAL2	SM 2540C
<u>Total Metals - PIA</u>									
Antimony	< 3.0	ug/L		08/02/23 08:02	5	3.0	08/10/23 13:58	TJJ	EPA 6020A
Arsenic	3.1	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:58	TJJ	EPA 6020A
Barium	120	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:58	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:58	TJJ	EPA 6020A
Boron	41	ug/L		08/02/23 08:02	5	10	08/10/23 13:58	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:58	TJJ	EPA 6020A
Calcium	110	mg/L		08/02/23 08:02	5	0.20	08/11/23 11:06	TJJ	EPA 6020A
Chromium	8.6	ug/L		08/02/23 08:02	5	4.0	08/10/23 13:58	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		08/02/23 08:02	5	2.0	08/10/23 13:58	TJJ	EPA 6020A
Lead	3.3	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:06	TJJ	EPA 6020A
Magnesium	65	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:58	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		08/02/23 08:02	5	0.20	08/11/23 11:06	TJJ	EPA 6020A
Molybdenum	1.3	ug/L		08/02/23 08:02	5	1.0	08/10/23 13:58	TJJ	EPA 6020A
Potassium	0.87	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:58	TJJ	EPA 6020A



ANALYTICAL RESULTS

Sample: GG04978-07
Name: G64L
Matrix: Ground Water - Grab

Sampled: 07/27/23 12:06

Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:06	TJJ	EPA 6020A
Sodium	8.5	mg/L		08/02/23 08:02	5	0.10	08/10/23 13:58	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		08/02/23 08:02	5	1.0	08/11/23 11:06	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		08/02/23 08:02	1	0.020	08/09/23 09:55	BRS	EPA 6010B



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B338951 - SW 3015 - EPA 6010B</u>									
Blank (B338951-BLK1)				Prepared: 07/19/23 Analyzed: 07/26/23					
Lithium	< 0.020	mg/L							
LCS (B338951-BS1)				Prepared: 07/19/23 Analyzed: 07/26/23					
Lithium	0.517	mg/L		0.5556		93	80-120		
<u>Batch B338951 - SW 3015 - EPA 6020A</u>									
Blank (B338951-BLK1)				Prepared: 07/19/23 Analyzed: 07/20/23					
Antimony	< 3.0	ug/L							
Arsenic	< 1.0	ug/L							
Barium	< 1.0	ug/L							
Beryllium	< 1.0	ug/L							
Boron	< 10	ug/L							
Cadmium	< 1.0	ug/L							
Calcium	< 0.20	mg/L							
Chromium	< 4.0	ug/L							
Cobalt	< 2.0	ug/L							
Lead	< 1.0	ug/L							
Magnesium	< 0.10	mg/L							
Mercury	< 0.20	ug/L							
Molybdenum	< 1.0	ug/L							
Potassium	< 0.10	mg/L							
Selenium	< 1.0	ug/L							
Sodium	< 0.10	mg/L							
Thallium	< 1.0	ug/L							
LCS (B338951-BS1)				Prepared: 07/19/23 Analyzed: 07/20/23					
Antimony	548	ug/L		555.6		99	80-120		
Arsenic	525	ug/L		555.6		94	80-120		
Barium	531	ug/L		555.6		96	80-120		
Beryllium	541	ug/L		555.6		97	80-120		
Boron	547	ug/L		555.6		98	80-120		
Cadmium	534	ug/L		555.6		96	80-120		
Calcium	6.12	mg/L		5.556		110	80-120		
Chromium	570	ug/L		555.6		103	80-120		
Cobalt	539	ug/L		555.6		97	80-120		
Lead	526	ug/L		555.6		95	80-120		
Magnesium	6.29	mg/L		5.556		113	80-120		
Mercury	54.6	ug/L		55.56		98	80-120		
Molybdenum	536	ug/L		555.6		96	80-120		
Potassium	6.08	mg/L		5.556		109	80-120		
Selenium	545	ug/L		555.6		98	80-120		
Sodium	6.39	mg/L		5.556		115	80-120		
Thallium	523	ug/L		555.6		94	80-120		
Matrix Spike (B338951-MS1)				Sample: GG03019-01 Prepared: 07/19/23 Analyzed: 07/20/23					
Antimony	523	ug/L		555.6	ND	94	75-125		
Arsenic	512	ug/L		555.6	ND	92	75-125		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B338951-MS1) Sample: GG03019-01 Prepared: 07/19/23 Analyzed: 07/20/23									
Barium	556	ug/L	Q4	555.6	55.2	90	75-125		
Beryllium	507	ug/L		555.6	ND	91	75-125		
Boron	555	ug/L		555.6	18.3	97	75-125		
Cadmium	520	ug/L		555.6	ND	94	75-125		
Calcium	138	mg/L	Q4	5.556	140	NR	75-125		
Chromium	543	ug/L		555.6	ND	98	75-125		
Cobalt	502	ug/L		555.6	ND	90	75-125		
Lead	506	ug/L		555.6	0.511	91	75-125		
Magnesium	64.0	mg/L	Q4	5.556	61.2	50	75-125		
Mercury	52.4	ug/L		55.56	ND	94	75-125		
Molybdenum	526	ug/L		555.6	0.894	95	75-125		
Potassium	6.41	mg/L		5.556	0.626	104	75-125		
Selenium	536	ug/L		555.6	ND	97	75-125		
Sodium	15.3	mg/L		5.556	9.64	102	75-125		
Thallium	503	ug/L		555.6	ND	91	75-125		
Matrix Spike Dup (B338951-MSD1) Sample: GG03019-01 Prepared: 07/19/23 Analyzed: 07/20/23									
Antimony	607	ug/L		555.6	ND	109	75-125	15	20
Arsenic	527	ug/L		555.6	ND	95	75-125	3	20
Barium	642	ug/L		555.6	55.2	106	75-125	14	20
Beryllium	523	ug/L		555.6	ND	94	75-125	3	20
Boron	559	ug/L		555.6	18.3	97	75-125	0.7	20
Cadmium	533	ug/L		555.6	ND	96	75-125	3	20
Calcium	142	mg/L	Q4	5.556	140	46	75-125	3	20
Chromium	571	ug/L		555.6	ND	103	75-125	5	20
Cobalt	514	ug/L		555.6	ND	93	75-125	2	20
Lead	576	ug/L		555.6	0.511	104	75-125	13	20
Magnesium	66.5	mg/L	Q4	5.556	61.2	96	75-125	4	20
Mercury	60.2	ug/L		55.56	ND	108	75-125	14	20
Molybdenum	541	ug/L		555.6	0.894	97	75-125	3	20
Potassium	6.61	mg/L		5.556	0.626	108	75-125	3	20
Selenium	547	ug/L		555.6	ND	99	75-125	2	20
Sodium	15.9	mg/L		5.556	9.64	114	75-125	4	20
Thallium	575	ug/L		555.6	ND	103	75-125	13	20
Batch B339129 - No Prep - SM 2320B 1997									
Duplicate (B339129-DUP3) Sample: GG03019-01 Prepared & Analyzed: 07/20/23									
Alkalinity - bicarbonate as CaCO ₃	312	mg/L			300			4	10
Alkalinity - carbonate as CaCO ₃	< 10	mg/L			ND				10
Batch B339216 - No Prep - SM 2540C									
Blank (B339216-BLK1) Sample: GG03019-01 Prepared & Analyzed: 07/21/23									
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B339216-BS1) Sample: GG03019-01 Prepared & Analyzed: 07/21/23									
Solids - total dissolved solids (TDS)	977	mg/L			1000	98	84.9-109		
Duplicate (B339216-DUP1) Sample: GG03019-01 Prepared & Analyzed: 07/21/23									
Solids - total dissolved solids (TDS)	760	mg/L			775			2	5
Duplicate (B339216-DUP2) Sample: GG03019-11 Prepared & Analyzed: 07/21/23									

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Duplicate (B339216-DUP2)									
Sample: GG03019-11				Prepared & Analyzed: 07/21/23					
Solids - total dissolved solids (TDS)	610	mg/L			625			2	5
<u>Batch B339333 - SW 3015 - EPA 6010B</u>									
Blank (B339333-BLK1)									
				Prepared: 07/24/23 Analyzed: 07/26/23					
Lithium	< 0.020	mg/L							
LCS (B339333-BS1)									
				Prepared: 07/24/23 Analyzed: 07/26/23					
Lithium	0.520	mg/L		0.5556		94	80-120		
Matrix Spike (B339333-MS1)									
Sample: GG03704-01				Prepared: 07/24/23 Analyzed: 07/26/23					
Lithium	0.531	mg/L		0.5556	ND	95	75-125		
Matrix Spike Dup (B339333-MSD1)									
Sample: GG03704-01				Prepared: 07/24/23 Analyzed: 07/26/23					
Lithium	0.523	mg/L		0.5556	ND	94	75-125	2	20
<u>Batch B339333 - SW 3015 - EPA 6020A</u>									
Blank (B339333-BLK1)									
				Prepared: 07/24/23 Analyzed: 08/01/23					
Antimony	< 3.0	ug/L							
Arsenic	< 1.0	ug/L							
Barium	< 1.0	ug/L							
Beryllium	< 1.0	ug/L							
Boron	< 10	ug/L							
Cadmium	< 1.0	ug/L							
Calcium	< 0.20	mg/L							
Chromium	< 4.0	ug/L							
Cobalt	< 2.0	ug/L							
Lead	< 1.0	ug/L							
Magnesium	< 0.10	mg/L							
Mercury	< 0.20	ug/L							
Molybdenum	< 1.0	ug/L							
Potassium	< 0.10	mg/L							
Selenium	< 1.0	ug/L							
Sodium	< 0.10	mg/L							
Thallium	< 1.0	ug/L							
LCS (B339333-BS1)									
				Prepared: 07/24/23 Analyzed: 08/01/23					
Antimony	535	ug/L		555.6		96	80-120		
Arsenic	551	ug/L		555.6		99	80-120		
Barium	517	ug/L		555.6		93	80-120		
Beryllium	624	ug/L		555.6		112	80-120		
Boron	624	ug/L		555.6		112	80-120		
Cadmium	557	ug/L		555.6		100	80-120		
Calcium	4.80	mg/L		5.556		86	80-120		
Chromium	582	ug/L		555.6		105	80-120		
Cobalt	572	ug/L		555.6		103	80-120		
Lead	548	ug/L		555.6		99	80-120		
Magnesium	5.31	mg/L		5.556		96	80-120		
Mercury	54.6	ug/L		55.56		98	80-120		
Molybdenum	543	ug/L		555.6		98	80-120		
Potassium	5.43	mg/L		5.556		98	80-120		
Selenium	570	ug/L		555.6		103	80-120		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B339333-BS1)				Prepared: 07/24/23 Analyzed: 08/01/23					
Sodium	5.44	mg/L		5.556		98	80-120		
Thallium	546	ug/L		555.6		98	80-120		
Matrix Spike (B339333-MS1)				Sample: GG03704-01		Prepared: 07/24/23 Analyzed: 08/01/23			
Antimony	551	ug/L		555.6	ND	99	75-125		
Arsenic	568	ug/L		555.6	2.63	102	75-125		
Barium	729	ug/L		555.6	210	94	75-125		
Beryllium	582	ug/L		555.6	ND	105	75-125		
Boron	599	ug/L		555.6	31.7	102	75-125		
Cadmium	571	ug/L		555.6	ND	103	75-125		
Calcium	177	mg/L	Q4	5.556	175	28	75-125		
Chromium	592	ug/L		555.6	ND	106	75-125		
Cobalt	566	ug/L		555.6	1.09	102	75-125		
Lead	549	ug/L		555.6	ND	99	75-125		
Magnesium	92.7	mg/L	Q4	5.556	89.8	52	75-125		
Mercury	56.9	ug/L		55.56	ND	102	75-125		
Molybdenum	572	ug/L		555.6	ND	103	75-125		
Potassium	5.89	mg/L		5.556	0.387	99	75-125		
Selenium	583	ug/L		555.6	ND	105	75-125		
Sodium	19.3	mg/L		5.556	14.2	93	75-125		
Thallium	547	ug/L		555.6	ND	98	75-125		
Matrix Spike Dup (B339333-MSD1)				Sample: GG03704-01		Prepared: 07/24/23 Analyzed: 08/01/23			
Antimony	546	ug/L		555.6	ND	98	75-125	0.9	20
Arsenic	564	ug/L		555.6	2.63	101	75-125	0.8	20
Barium	729	ug/L		555.6	210	94	75-125	0.005	20
Beryllium	588	ug/L		555.6	ND	106	75-125	1	20
Boron	612	ug/L		555.6	31.7	105	75-125	2	20
Cadmium	566	ug/L		555.6	ND	102	75-125	0.9	20
Calcium	177	mg/L	Q4	5.556	175	40	75-125	0.4	20
Chromium	586	ug/L		555.6	ND	105	75-125	1	20
Cobalt	564	ug/L		555.6	1.09	101	75-125	0.4	20
Lead	541	ug/L		555.6	ND	97	75-125	1	20
Magnesium	94.2	mg/L		5.556	89.8	80	75-125	2	20
Mercury	56.9	ug/L		55.56	ND	102	75-125	0.05	20
Molybdenum	565	ug/L		555.6	ND	102	75-125	1	20
Potassium	5.83	mg/L		5.556	0.387	98	75-125	1	20
Selenium	575	ug/L		555.6	ND	103	75-125	1	20
Sodium	19.0	mg/L		5.556	14.2	88	75-125	2	20
Thallium	539	ug/L		555.6	ND	97	75-125	1	20
<u>Batch B339340 - IC No Prep - EPA 300.0 REV 2.1</u>									
Matrix Spike (B339340-MS3)				Sample: GG03704-01		Prepared & Analyzed: 07/21/23			
Sulfate	1.00E9	mg/L	Q4	1.500	124	NR	80-120		
Fluoride	1.86	mg/L		1.500	0.306	103	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	43	NR	80-120		
Matrix Spike Dup (B339340-MSD3)				Sample: GG03704-01		Prepared & Analyzed: 07/21/23			
Fluoride	1.85	mg/L		1.500	0.306	103	80-120	0.3	20
Chloride	1.0E9	mg/L	Q4	1.500	43	NR	80-120	0	20

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (B339340-MSD3)				Sample: GG03704-01		Prepared & Analyzed: 07/21/23			
Sulfate	1.00E9	mg/L	Q4	1.500	124	NR	80-120	0	20
<u>Batch B339705 - SW 3015 - EPA 6010B</u>									
Blank (B339705-BLK1)				Prepared: 07/27/23 Analyzed: 08/02/23					
Lithium	< 0.020	mg/L							
LCS (B339705-BS1)				Prepared: 07/27/23 Analyzed: 08/02/23					
Lithium	0.567	mg/L		0.5556		102	80-120		
Matrix Spike (B339705-MS1)				Sample: GG04417-01		Prepared: 07/27/23 Analyzed: 08/02/23			
Lithium	1.00	mg/L	F	0.5556	0.396	109	75-125		
Matrix Spike Dup (B339705-MSD1)				Sample: GG04417-01		Prepared: 07/27/23 Analyzed: 08/02/23			
Lithium	0.992	mg/L	F	0.5556	0.396	107	75-125	0.9	20
<u>Batch B339705 - SW 3015 - EPA 6020A</u>									
Blank (B339705-BLK1)				Prepared: 07/27/23 Analyzed: 08/07/23					
Antimony	< 3.0	ug/L							
Arsenic	< 1.0	ug/L							
Barium	< 1.0	ug/L							
Beryllium	< 1.0	ug/L							
Boron	< 10	ug/L							
Cadmium	< 1.0	ug/L							
Calcium	< 0.20	mg/L							
Chromium	< 4.0	ug/L							
Cobalt	< 2.0	ug/L							
Lead	< 1.0	ug/L							
Magnesium	< 0.10	mg/L							
Mercury	< 0.20	ug/L							
Molybdenum	< 1.0	ug/L							
Potassium	< 0.10	mg/L							
Selenium	< 1.0	ug/L							
Sodium	< 0.10	mg/L							
Thallium	< 1.0	ug/L							
LCS (B339705-BS1)				Prepared: 07/27/23 Analyzed: 08/07/23					
Antimony	565	ug/L		555.6		102	80-120		
Arsenic	541	ug/L		555.6		97	80-120		
Barium	555	ug/L		555.6		100	80-120		
Beryllium	581	ug/L		555.6		105	80-120		
Boron	526	ug/L		555.6		95	80-120		
Cadmium	509	ug/L		555.6		92	80-120		
Calcium	5.59	mg/L		5.556		101	80-120		
Chromium	565	ug/L		555.6		102	80-120		
Cobalt	594	ug/L		555.6		107	80-120		
Lead	600	ug/L		555.6		108	80-120		
Magnesium	5.81	mg/L		5.556		105	80-120		
Mercury	53.2	ug/L		55.56		96	80-120		
Molybdenum	493	ug/L		555.6		89	80-120		
Potassium	6.05	mg/L		5.556		109	80-120		
Selenium	615	ug/L		555.6		111	80-120		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B339705-BS1)				Prepared: 07/27/23 Analyzed: 08/08/23					
Sodium	5.69	mg/L		5.556		102	80-120		
Thallium	614	ug/L		555.6		111	80-120		
Matrix Spike (B339705-MS1)				Sample: GG04417-01	Prepared: 07/27/23 Analyzed: 08/07/23				
Antimony	69.1	ug/L	Q1	555.6	0.817	12	75-125		
Barium	1980	ug/L		555.6	1320	118	75-125		
Beryllium	445	ug/L		555.6	16.0	77	75-125		
Boron	826	ug/L	Q1	555.6	472	64	75-125		
Cadmium	526	ug/L		555.6	9.18	93	75-125		
Calcium	290	mg/L	Q4	5.556	289	18	75-125		
Chromium	993	ug/L		555.6	440	99	75-125		
Cobalt	828	ug/L		555.6	236	107	75-125		
Lead	914	ug/L		555.6	316	108	75-125		
Magnesium	189	mg/L	Q4	5.556	179	173	75-125		
Mercury	53.0	ug/L		55.56	0.828	94	75-125		
Molybdenum	369	ug/L	Q1	555.6	6.34	65	75-125		
Potassium	30.8	mg/L		5.556	24.5	113	75-125		
Selenium	304	ug/L	Q1	555.6	14.2	52	75-125		
Sodium	10.7	mg/L		5.556	5.57	93	75-125		
Thallium	543	ug/L		555.6	3.41	97	75-125		
Matrix Spike Dup (B339705-MSD1)				Sample: GG04417-01	Prepared: 07/27/23 Analyzed: 08/07/23				
Antimony	64.8	ug/L	Q2	555.6	0.817	12	75-125	6	20
Barium	1980	ug/L		555.6	1320	119	75-125	0.3	20
Beryllium	443	ug/L		555.6	16.0	77	75-125	0.4	20
Boron	770	ug/L	Q2	555.6	472	54	75-125	7	20
Cadmium	524	ug/L		555.6	9.18	93	75-125	0.3	20
Calcium	285	mg/L	Q4	5.556	289	NR	75-125	2	20
Chromium	1000	ug/L		555.6	440	101	75-125	0.7	20
Cobalt	843	ug/L		555.6	236	109	75-125	2	20
Lead	915	ug/L		555.6	316	108	75-125	0.1	20
Magnesium	191	mg/L	Q4	5.556	179	205	75-125	0.9	20
Mercury	52.9	ug/L		55.56	0.828	94	75-125	0.04	20
Molybdenum	361	ug/L	Q2	555.6	6.34	64	75-125	2	20
Potassium	31.3	mg/L		5.556	24.5	123	75-125	2	20
Selenium	336	ug/L	Q2	555.6	14.2	58	75-125	10	20
Sodium	10.6	mg/L		5.556	5.57	90	75-125	1	20
Thallium	537	ug/L		555.6	3.41	96	75-125	1	20
<u>Batch B339730 - IC No Prep - EPA 300.0 REV 2.1</u>									
Matrix Spike (B339730-MS1)				Sample: GG04417-01	Prepared & Analyzed: 07/26/23				
Sulfate	1.00E9	mg/L	Q4	1.500	347	NR	80-120		
Chloride	4.5	mg/L		1.500	2.8	115	80-120		
Matrix Spike Dup (B339730-MSD1)				Sample: GG04417-01	Prepared & Analyzed: 07/26/23				
Sulfate	1.00E9	mg/L	Q4	1.500	347	NR	80-120	0	20
Chloride	4.4	mg/L		1.500	2.8	113	80-120	0.9	20
<u>Batch B339734 - No Prep - SM 2540C</u>									
Blank (B339734-BLK1)				Prepared & Analyzed: 07/27/23					

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (B339734-BLK1)				Prepared & Analyzed: 07/27/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B339734-BS1)				Prepared & Analyzed: 07/27/23					
Solids - total dissolved solids (TDS)	1020	mg/L		1000		102	84.9-109		
Duplicate (B339734-DUP1)				Prepared & Analyzed: 07/27/23					
Solids - total dissolved solids (TDS)	1060	mg/L			1100			5	5
Duplicate (B339734-DUP2)				Prepared & Analyzed: 07/27/23					
Solids - total dissolved solids (TDS)	735	mg/L	M		1180			47	5
<u>Batch B339934 - No Prep - SM 2540C</u>									
Blank (B339934-BLK1)				Prepared & Analyzed: 08/01/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B339934-BS1)				Prepared & Analyzed: 08/01/23					
Solids - total dissolved solids (TDS)	993	mg/L		1000		99	84.9-109		
Duplicate (B339934-DUP1)				Prepared & Analyzed: 08/01/23					
Solids - total dissolved solids (TDS)	980	mg/L			960			2	5
Duplicate (B339934-DUP2)				Prepared & Analyzed: 08/01/23					
Solids - total dissolved solids (TDS)	785	mg/L	M		810			3	5
<u>Batch B339939 - IC No Prep - EPA 300.0 REV 2.1</u>									
Matrix Spike (B339939-MS1)				Prepared & Analyzed: 07/28/23					
Sulfate	1.00E9	mg/L	Q4	1.500	463	NR	80-120		
Chloride	4.5	mg/L		1.500	3.3	85	80-120		
Fluoride	1.74	mg/L		1.500	0.257	99	80-120		
Matrix Spike (B339939-MS2)				Prepared: 07/29/23 Analyzed: 07/28/23					
Fluoride	1.66	mg/L		1.500	0.192	98	80-120		
Matrix Spike Dup (B339939-MSD1)				Prepared & Analyzed: 07/28/23					
Sulfate	1.00E9	mg/L	Q4	1.500	463	NR	80-120	0	20
Chloride	4.6	mg/L		1.500	3.3	92	80-120	2	20
Fluoride	1.79	mg/L		1.500	0.257	102	80-120	2	20
Matrix Spike Dup (B339939-MSD2)				Prepared: 07/29/23 Analyzed: 07/28/23					
Fluoride	1.68	mg/L		1.500	0.192	99	80-120	0.8	20
<u>Batch B340157 - SW 3015 - EPA 6010B</u>									
Blank (B340157-BLK1)				Prepared: 08/02/23 Analyzed: 08/09/23					
Lithium	< 0.020	mg/L							
LCS (B340157-BS1)				Prepared: 08/02/23 Analyzed: 08/09/23					
Lithium	0.543	mg/L		0.5556		98	80-120		
Matrix Spike (B340157-MS1)				Prepared: 08/02/23 Analyzed: 08/09/23					
Lithium	0.537	mg/L		0.5556	ND	97	75-125		
Matrix Spike Dup (B340157-MSD1)				Prepared: 08/02/23 Analyzed: 08/09/23					
Lithium	0.538	mg/L		0.5556	ND	97	75-125	0.2	20
<u>Batch B340157 - SW 3015 - EPA 6020A</u>									
Blank (B340157-BLK1)				Prepared: 08/02/23 Analyzed: 08/10/23					
Antimony	< 3.0	ug/L							
Arsenic	< 1.0	ug/L							
Barium	< 1.0	ug/L							

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (B340157-BLK1)				Prepared: 08/02/23 Analyzed: 08/10/23					
Beryllium	< 1.0	ug/L							
Boron	< 10	ug/L							
Cadmium	< 1.0	ug/L							
Calcium	< 0.20	mg/L							
Chromium	< 4.0	ug/L							
Cobalt	< 2.0	ug/L							
Lead	< 1.0	ug/L							
Magnesium	< 0.10	mg/L							
Mercury	< 0.20	ug/L							
Molybdenum	< 1.0	ug/L							
Potassium	< 0.10	mg/L							
Selenium	< 1.0	ug/L							
Sodium	< 0.10	mg/L							
Thallium	< 1.0	ug/L							
LCS (B340157-BS1)				Prepared: 08/02/23 Analyzed: 08/10/23					
Antimony	645	ug/L		555.6		116	80-120		
Arsenic	550	ug/L		555.6		99	80-120		
Barium	656	ug/L		555.6		118	80-120		
Beryllium	648	ug/L		555.6		117	80-120		
Boron	619	ug/L		555.6		111	80-120		
Cadmium	563	ug/L		555.6		101	80-120		
Calcium	5.74	mg/L		5.556		103	80-120		
Chromium	541	ug/L		555.6		97	80-120		
Cobalt	551	ug/L		555.6		99	80-120		
Lead	536	ug/L		555.6		96	80-120		
Magnesium	5.58	mg/L		5.556		100	80-120		
Mercury	54.5	ug/L		55.56		98	80-120		
Molybdenum	545	ug/L		555.6		98	80-120		
Potassium	5.58	mg/L		5.556		101	80-120		
Selenium	583	ug/L		555.6		105	80-120		
Sodium	5.65	mg/L		5.556		102	80-120		
Thallium	546	ug/L		555.6		98	80-120		
Matrix Spike (B340157-MS1)				Sample: GG04978-01		Prepared: 08/02/23 Analyzed: 08/10/23			
Antimony	559	ug/L		555.6	2.14	100	75-125		
Arsenic	560	ug/L		555.6	10.2	99	75-125		
Barium	721	ug/L		555.6	174	99	75-125		
Beryllium	526	ug/L		555.6	ND	95	75-125		
Boron	605	ug/L		555.6	91.6	92	75-125		
Cadmium	560	ug/L		555.6	ND	101	75-125		
Calcium	305	mg/L	Q4	5.556	303	26	75-125		
Chromium	539	ug/L		555.6	ND	97	75-125		
Cobalt	533	ug/L		555.6	0.867	96	75-125		
Lead	524	ug/L		555.6	1.49	94	75-125		
Magnesium	118	mg/L	Q4	5.556	115	52	75-125		
Mercury	56.0	ug/L		55.56	0.183	100	75-125		
Molybdenum	557	ug/L		555.6	1.94	100	75-125		
Potassium	7.42	mg/L		5.556	1.95	98	75-125		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B340157-MS1)				Sample: GG04978-01		Prepared: 08/02/23 Analyzed: 08/11/23			
Selenium	582	ug/L		555.6	ND	105	75-125		
Sodium	18.9	mg/L		5.556	13.7	94	75-125		
Thallium	537	ug/L		555.6	ND	97	75-125		
Matrix Spike Dup (B340157-MSD1)				Sample: GG04978-01		Prepared: 08/02/23 Analyzed: 08/10/23			
Antimony	550	ug/L		555.6	2.14	99	75-125	2	20
Arsenic	557	ug/L		555.6	10.2	98	75-125	0.6	20
Barium	717	ug/L		555.6	174	98	75-125	0.7	20
Beryllium	530	ug/L		555.6	ND	95	75-125	0.9	20
Boron	613	ug/L		555.6	91.6	94	75-125	1	20
Cadmium	556	ug/L		555.6	ND	100	75-125	0.7	20
Calcium	305	mg/L	Q4	5.556	303	32	75-125	0.1	20
Chromium	538	ug/L		555.6	ND	97	75-125	0.2	20
Cobalt	530	ug/L		555.6	0.867	95	75-125	0.5	20
Lead	521	ug/L		555.6	1.49	94	75-125	0.6	20
Magnesium	118	mg/L	Q4	5.556	115	50	75-125	0.1	20
Mercury	55.6	ug/L		55.56	0.183	100	75-125	0.7	20
Molybdenum	558	ug/L		555.6	1.94	100	75-125	0.04	20
Potassium	7.37	mg/L		5.556	1.95	97	75-125	0.7	20
Selenium	577	ug/L		555.6	ND	104	75-125	0.9	20
Sodium	18.8	mg/L		5.556	13.7	93	75-125	0.3	20
Thallium	534	ug/L		555.6	ND	96	75-125	0.6	20
Batch B340192 - No Prep - SM 2540C									
Blank (B340192-BLK1)				Prepared & Analyzed: 08/02/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B340192-BS1)				Prepared & Analyzed: 08/02/23					
Solids - total dissolved solids (TDS)	987	mg/L		1000		99	84.9-109		
Duplicate (B340192-DUP1)				Sample: GG04978-01		Prepared & Analyzed: 08/02/23			
Solids - total dissolved solids (TDS)	1480	mg/L			1420			4	5
Batch B340193 - No Prep - SM 2320B 1997									
Duplicate (B340193-DUP1)				Sample: GG03704-01		Prepared & Analyzed: 08/02/23			
Alkalinity - bicarbonate as CaCO3	675	mg/L			725			7	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Duplicate (B340193-DUP2)				Sample: GG03704-06		Prepared & Analyzed: 08/02/23			
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO3	538	mg/L			500			7	10
Batch B340448 - No Prep - SM 2320B 1997									
Duplicate (B340448-DUP4)				Sample: GG04417-01		Prepared & Analyzed: 08/04/23			
Alkalinity - bicarbonate as CaCO3	400	mg/L			362			10	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Batch B340811 - No Prep - SM 2320B 1997									
Duplicate (B340811-DUP1)				Sample: GG04978-01		Prepared & Analyzed: 08/09/23			
Alkalinity - bicarbonate as CaCO3	825	mg/L			800			3	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10

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

- F Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.
- 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.
- 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.



Certified by: Diane Billings, Project Manager



SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Num	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
BA01C	DC-BA01!C	205	BAB	7/17/23	1428	14.90		KL
BA01L	DC-BA01!L	205	BAB		1425	15.29		KL
G02L	DC-G02!L	204	LF		0941	12.22		JD
G02D	DC-G02&D	204	LF		0944	22.04	TD = 68.48'	JD
G03L	DC-G03!L	204	LF		0934	8.68	TD = 26.80'	JD
G03S	DC-G03#S	204	LF		0929	8.33		JD
G04L	DC-G04!L	204	LF		1327	15.42	dry	NW
G04S	DC-G04#S	204	LF		1329	18.27		NW
G06L	DC-G06!L	204	LF		1232	21.80		JD
G06S	DC-G06#S	204	LF		1230	22.02		JD
G07L	DC-G07!L	204	LF		1222	21.12		JD
G08L	DC-G08!L	204	LF		1216	20.68		JD
G09L	DC-G09!L	204	LF		1207	20.75		JD
G09S	DC-G09#S	204	LF		1210	20.63		JD
G12L	DC-G12!L	204	LF		1139	21.67		JD
G12S	DC-G12#S	204	LF		1141	22.72		JD
G14L	DC-G14!L	204	LF		1106	24.02	TD = 26.8	JD
G15L	DC-G15!L	204	LF		1050	30.85		JD
G15S	DC-G15#S	204	LF		1047	31.19		JD
G16L	DC-G16!L	204	LF		1042	29.41		JD
G50L	DC-G50!L	203	GMF		1036	12.52		KL
G51L	DC-G51!L	203	GMF		1522	15.75		JD
G52L	DC-G52!L	203	GMF		1515	26.38		JD

SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC

Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Numl	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G52S	DC-G52#S	203	GMF	7/17/23	15:16	31.00		JD
G53L	DC-G53!L	203	GMF		11:56	11.98		KL
G53S	DC-G53#S	203	GMF		11:59	13.70		KL
G55L	DC-G55!L	203	GMF		1532	19.38		JD
G55S	DC-G55#S	203	GMF		1531	19.18		JD
G56L	DC-G56!L	203	GMF		9:36	18.15	TD = 25.43	KL
G56S	DC-G56#S	203	GMF		9:33	18.55		KL
G57L	DC-G57!L	203	GMF		9:47	22.35	TD = 29.28	KL
G58L	DC-G58!L	203	GMF		9:51	26.56	TD = 33.81	KL
G58S	DC-G58#S	203	GMF		9:54	26.59		KL
G59L	DC-G59!L	203	GMF		9:57	25.54	TD = 35.32	KL
G59S	DC-G59#S	203	GMF		9:59	33.85		KL
G61S	DC-G61#S	203	GMF		10:14	19.28		KL
G62L	DC-G62!L	203	GMF		10:19	20.79	TD = 33.52	KL
G63L	DC-G63!L	203	GMF		10:22	23.60	TD = 31.02	KL
G63S	DC-G63#S	203	GMF		10:26	24.34		KL
G65L	DC-G65!L	203	GMF		12:35	18.21	TD = 25.16	NW
G65S	DC-G65#S	203	GMF		10:31	18.52		NW
G66L	DC-G66!L	203	GMF		10:45	12.35		NW
G66S	DC-G66#S	203	GMF		10:46	13.01		NW
G67L	DC-G67!L	203	GMF		10:55	11.45		NW
G67S	DC-G67#S	203	GMF		10:58	12.33		NW
G68L	DC-G68!L	203	GMF		11:41	11.97		NW

SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G68S	DC-G68#S	203	GMF	7/17/23	1148	12.85		NW
G69L	DC-G69!L	203	GMF		0941	13.80	TD = 27.86	NW
G69S	DC-G69#S	203	GMF		0933	16.96		NW
G70L	DC-G70!L	203	GMF		0949	16.54		NW
G71L	DC-G71!L	203	GMF		1000	23.71	TD = 32.96	NW
G71S	DC-G71#S	203	GMF		0955	24.48		NW
G72L	DC-G72!L	203	GMF		1005	22.40	TD = 28.02	NW
G73L	DC-G73!L	203	GMF		1025	25.53		NW
L103	DC-L103	204	LF		1515	1.10		AP
OM05S	DC-OM05#S	201-202	AP1/2		1403	18.00	TD = 25.70	AP
OM08	DC-OM08	201-202	AP1/2		1348	14.85	TD = 26.94	AP
OM09	DC-OM09	201-202	AP1/2		1259	4.18		AP
OM10	DC-OM10	201-202	AP1/2		1100	-	not safe to access	AP
OM15	DC-OM15	201-202	AP1/2		1437	21.60	TD = 51.17	AP
OM22S	DC-OM22#S	201-202	AP1/2		1057	41.79 19.31		BG
OM23S	DC-OM23#S	201-202	AP1/2		1235	57.95 41.79	TD = 46.10	AP
OM25D	DC-OM25&D	201-202	AP1/2		1317	45.62 57.95	TD = 77.39	AP
OR03S	DC-OR03#S	201-202	AP1/2		1045	21.65 45.62		BG
OR05D	DC-OR05&D	201-202	AP1/2		1400	16. 21.65	TD = 49.74	AP
OR14S	DC-OR14#S	201-202	AP1/2		1337	35 7.17 6.82	TD = 24.33	AP
OR18	DC-OR18	201-202	AP1/2		0943	17.32	TD = 53.10	AP
P01L	DC-P01!L	204	LF		0951	10.38	TD = 23.35'	JS
P01S	DC-P01#S	204	LF		0954	10.13	TD = 29.71'	JS

SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
P01I	DC-P01\$I	204	LF	7/17/23	1005	10.05	TD = 46.95	JD
P02S	DC-P02#S	204	LF		1523	14.89	TD = 91.94	JD
P04S	DC-P04#S	204	LF		1329	18.27		JD
P05L	DC-P05!L	204	LF		1335	3.11	TD = 14.92'	JD
P05S	DC-P05#S	204	LF		1337	3.28		JD
P05D	DC-P05&D	204	LF		1339	6.30	TD = 46.10'	JD
P36L	DC-P36!L	204	LF		1306 1024	6.96 11.17	TD = 15.09' to 7/17/23	JD
P36S	DC-P36#S	204	LF		1302	11.33	TD = 31.43'	JD
P36D	DC-P36&D	204	LF		1310	11.57	TD = 51.38	JD
P37L	DC-P37!L	204	LF		1203	13.64		JD
P37D	DC-P37&D	204	LF		1306	15.59		KL
P38L	DC-P38!L	204	LF		1059	17.95	TD = 19.75	JD
P38S	DC-P38#S	204	LF		1057	17.30	TD = 31.42'	JD
P39L	DC-P39!L	204	LF		1024	6.96	TD = 15.09'	JD
P39S	DC-P39#S	204	LF		1031	7.14	TD = 26.25'	JD
P39D	DC-P39&D	204	LF		1028	13.75	TD = 43.58'	JD
P40L	DC-P40!L	204	LF		1359	10.28	TD = 20.44'	JD
P40S	DC-P40#S	204	LF		1401	9.54	TD = 35.42'	JD
P41L	DC-P41!L	204	LF		1117	6.90	TD = 12.00'	JD
P41S	DC-P41#S	204	LF		1119	9.51		KL
P41D	DC-P41&D	204	LF		1123	35.40		KL
P42L	DC-P42!L	204	LF		1216	5.88	TD = 24.30 well is knocked over	NW
P42S	DC-P42#S	204	LF		1218	5.73	TD = 31.47	NW

SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
P42I1	DC-P42\$I1	204	LF	7/17/23	1536	6.02	TD = 42.22	KL
P42I2	DC-P42%I2	204	LF		1534	32.42	TD = 57.30	KL
P42D	DC-P42&D	204	LF		1221	37.62	TD = 77.07	NW
P52	DC-P52	203	GMF		1514	14.82	TD = 28.26	KL
P57L	DC-P57!L	203	GMF		1517	22.32	TD = 29.27	KL
P57S	DC-P57#S	203	GMF		1520	22.08		KL
P60	DC-P60	203	GMF		1010	24.54	TD = 37.30	KL
P61	DC-P61	203	GMF		1053	10.00	TD = 21.53	KL
P62	DC-P62	203	GMF		1050	10.55	TD = 19.11	KL
P63	DC-P63	203	GMF		1048	14.17	TD = 20.46	KL
P64	DC-P64	203	GMF		1103	14.71	TD = 18.92	KL
R10L	DC-R10!L	204	LF		1154	21.93	27.45' = TD	JD
R11L	DC-R11!L	204	LF		1145	21.37	26.89' = TD ^{5-ft} bottom	JD
R13L	DC-R13!L	204	LF		1131	21.10	29.88' = TD	JD
R61L	DC-R61!L	203	GMF		1528	19.00	31.45' = TD	KL
R72S	DC-R72#S	203	GMF		1010	22.26	TD = 37.77	NW
T43L	DC-T43!L	204	LF		1238	6.69		JD
T44L	DC-T44!L	204	LF		1243	11.00		JD
T45L	DC-T45!L	204	LF		1246	8.96		JD
T46L	DC-T46!L	204	LF		1258	7.00		JD
X301	DC-X301-leachate	203	GMF		NA	NA	NA	
XTPW02	DC-XTPW02-pore	203	GMF		1530	6.99	Dry	AP

U:6/19/23 GKJ

SAR-3: Episodic Depth to Groundwater Measurements

All DTWs on SAR-3 must be collected within 24 hours.

Plant: DC

Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
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SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads
All DTWs on SAR-4 form may be collected at anytime during the sampling event.

Plant: DC

Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L)		
BA01	DC-BA01	205	BAB	7/24/23	1105	15.79	21615533	yes	174.21	Y	M		KL
BA02	DC-BA02	205	BAB	7/25/23	1111	12.02	21615636	yes	506.	Y	H	batteries replaced	JR
BA02L	DC-BA02IL	205	BAB	7/24	1056	Dry	21615682	yes	173.38	Y	H		KL
BA03	DC-BA03	205	BAB	7/31/23	1340	10.48	21615637	yes	578.34	Y	H		JR
BA03L	DC-BA03IL	205	BAB	7/24	1009	Dry	21615687	yes	173.24	Y	M		KL
BA04	DC-BA04	205	BAB	7/24/23	1249	6.99	21615631	yes	573.67	Y	H		JR
BA05	DC-BA05#	205	BAB	7/31/23	1332	21.36	21615540	yes	572.81	Y	H		JR
BA06	DC-BA06	205	BAB	7/24/23	1534	25.04	21615525	yes	173.93	Y	H		KL
G02S	DC-G02#S	204	LF	7/25/23	1316	10.47	21615554	yes	611.07	Y	M		JR
G50S	DC-G50#S	203	GMF	7/27	1314	15.44	21615535	yes	185.41	Y	H		KL
G51S	DC-G51#S	203	GMF	7/31	1332	15.33	21615691	yes	183.68	Y	H		KL
G54L	DC-G54IL	203	GMF	7/31	1341	22.37	21615690	yes	183.09	Y	H		KL
G54S	DC-G54#S	203	GMF	7/31	1337	23.56	21615684	yes	182.72	Y	H		KL
G57S	DC-G57#S	203	GMF	7/31	1347	22.26	21615683	yes	182.88	Y	H		KL
G60L	DC-G60IL	203	GMF	7/31	1354	12.20	21615678	yes	183.39	Y	H		KL
G60S	DC-G60#S	203	GMF	7/31	1351	24.63	21615677	yes	179.73	Y	H		KL
G64L	DC-G64IL	203	GMF	7/31	1358	22.83	21615688	yes	190.29	Y	H		KL
G64S	DC-G64#S	203	GMF	7/25/23	1504	24.18	21615632	yes	600.32	Y	H		JR

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads
All DTWs on SAR-4 form may be collected at anytime during the sampling event.
Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Match? Serial No. Logger	WL Reading on Transducer (ft)	Data downloaded?	Batt (H/M/L)		
OM01	DC-OM01	201-AP1/ 202 2	AP1/2	7/20/23	10:19	12.06	21615685	yes	583.4573	yes	H	TD-27.83	App
OM04S	DC-OM04#S	201-AP1/ 202 2	AP1/2	7/25/23	10:50	20.00	21615542	yes	587.37	yes	H	TD-35.88	JD
OM07	DC-OM07	201-AP1/ 202 2	AP1/2	7/26/23	10:45	12.41	21615541	yes	584.12	yes	H	TD-29.97	JD
OM12	DC-OM12	201-AP1/ 202 2	AP1/2	7/27/23	15:11	17.34	21615527	yes	176.17	yes	H		KU
OM16	DC-OM16	201-AP1/ 202 2	AP1/2	7/24/23	11:30	24.50	21615539	yes	-580.61	yes	H	TD-43.60	SD
OM17	DC-OM17	201-AP1/ 202 2	AP1/2	7/24/23	13:30	13.66	21615693	yes	—	yes	H	replaced batteries	JD
OM21	DC-OM21	201-AP1/ 202 2	AP1/2	7/19/23	15:27	10.80	21615593	yes	11.3153	yes	H	TD-60.57	App
OM22D	DC-OM22&D	201-AP1/ 202 2	AP1/2	7/19/23	11:05	18.85	21615592	yes	580.0543	yes	H	TD-65.07	App
OM23D	DC-OM23&D	201-AP1/ 202 2	AP1/2	7/21/23	12:22	38.54	21615591	yes	39.76	yes	M		JR
OM24D	DC-OM24&D	201-AP1/ 202 2	AP1/2	7/27/23	12:30	41.90	21615522	yes	broken	NO	—	broken/called informed Graham	JK
OM25S	DC-OM25#S	201-AP1/ 202 2	AP1/2	7/26/23	12:51	57.96	21615681	yes	370.79	yes	H		JD
OR02	DC-OR02	201-AP1/ 202 2	AP1/2	7/20/23	12:42	6.19	21615679	yes	595.0210	yes	H	TD-22.28	App
OR03D	DC-OR03&D	201-AP1/ 202 2	AP1/2	7/20/23	14:10	14.44	21615577	yes	583.1447	yes	H	TD	App
OR04D	DC-OR04&D	201-AP1/ 202 2	AP1/2	7/25/23	10:47	21.21	21615570	yes	586.37	yes	H	TD-68.01	JD
OR06A	DC-OR06A	201-AP1/ 202 2	AP1/2	7/26/23	12:02	14.07	21615692	yes	581.23	yes	H	TD-25.65	JD
OR11	DC-OR11	201-AP1/ 202 2	AP1/2	7/25/23	10:00	31.84	21615686	yes	564.59	yes	H	TD-41.63	JD
OR13S	DC-OR13#S	201-AP1/ 202 2	AP1/2	7/31/23	13:55		21615676	yes	588.75	yes	M		JK
OR13D	DC-OR13&D	201-AP1/ 202 2	AP1/2	7/26/23	17:42		21564135	yes	589.15	yes	H		JR

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads
All DTWs on SAR-4 form may be collected at anytime during the sampling event.

Plant: DC
Event: DC-23Q3 Rev 0

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L)		
OR14D	DC-OR14&D	201-202	AP1/2	7/24/23	1431	10.52	21615611	yes	588.34	x	H		
OR19	DC-OR19	201-202	AP1/2	7/31/23	1210	25.99	21615634	yes	571.76	y	H		JR
OR20	DC-OR20	201-202	AP1/2	07/24/23	0936	21.95	21615610	yes	-565.1	y	H	TD=57.55	JO

U: 6/21/23 GKJ

Duck Creek

WELL/SAMPLE POINT **G02S**

Purge Method: Bladder Pump

Date: 7/25/23 Start Time: 1325 Finish/Sample Time: 1435

Well Depth (Bottom) From MP: plmp ft Min. Purge Volume: 1 Gal (L)

Depth to Water From MP: 1047 ft Total Purge Volume: 1.3 Gal (L)

Water Column Length: ft Max Drawdown: ft

Well Water Volume: Gal / L Total Drawdown: 1.36 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	1337	11.72	100	658	559.81	16.60	-127.8	0.07	326
2	1338	11.72	100	658	563.44	16.60	-129.1	0.06	15.20
3	1339	11.72	100	657	557.41	16.56	-126.9	0.07	7.17
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)
3	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	Rad 2.5L

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC

Final DTW: 11.83 ft

Comments Ferrous Iron - Over range

Sampler's Signature: Joseph R Reed

Duck Creek

WELL/SAMPLE POINT G50S

Purge Method: LOW-flow

Date: 7-20-23 Start Time: 10:05 Finish/Sample Time: 14:28

Well Depth (Bottom) From MP: 37.30 ft Min. Purge Volume: 1.0 Gal / L

Depth to Water From MP: 15.44 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: 21.86 ft Max Drawdown: NA ft

Well Water Volume: 3.49 Gal / L Total Drawdown: 6.44 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	13:37	18.45	100	6.63	679	20.03	-74	1.24	25.0
2	13:38	18.58	100	6.60	689	20.00	-70	1.35	21.4
3	13:39	18.72	100	6.61	685	20.13	-65	1.32	18.1
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)
3	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	Rad 25

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC

Final DTW: 21.88 ft

Comments

NA / Ferrus iron →
0.422

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **G51S**

Purge Method: Bladder

Date: 7/18/23 Start Time: 1035 Finish/Sample Time: 1202

Well Depth (Bottom) From MP: 32.17 ft
Min. Purge Volume: 1.5 Gal (1)
Depth to Water From MP: 15.33 ft
Total Purge Volume: 2.0 Gal (1)
Water Column Length: 16.84 ft
Max Drawdown: ft
Well Water Volume: 10.20 Gal (1)
Total Drawdown: 7.00 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	1056	18.19	100	6.92	733.84	14.89	-64.1	0.95	140.13
2	1057	18.29	100	6.91	733.22	14.86	-62.9	0.91	129.07
3	1058	18.41	100	6.91	730.01	14.84	-61.3	0.98	120.92
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)
<u>3</u>	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
<u>1</u>	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
<u>1</u>	General (P, 250 mL) <u>IL</u>
	<u>P, 2.5L, HNO3</u>

Filtered	
Qty	Bottles
<u>1</u>	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
<u>1</u>	General (P, 250 mL) <u>IL</u>
<u>3</u>	<u>TOC (A,V, 40mL, H2SO4)</u>

Final DTW: 22.33 ft

Comments

21615691 - Transducer #
Ferrous Iron - 0.864 ppm

Sampler's Signature: Brenda Glen

WELL/SAMPLE POINT G54L

Purge Method: Portable Pump

Date: 7/20/23 Start Time: 1110 Finish/Sample Time: 1218

Well Depth (Bottom) From MP: 40.30 ft Min. Purge Volume: 1.0 Gal (L)

Depth to Water From MP: 22.37 ft Total Purge Volume: 1.5 Gal (L)

Water Column Length: 17.93 ft Max Drawdown: — ft

Well Water Volume: 10.86 Gal (L) Total Drawdown: 3.45 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	1126	25.90	100	6.46	1496.0	22.86	-39.7	0.69	539.76
2	1127	26.15	100	6.46	1506.4	22.81	-39.6	0.64	571.73
3	1128	26.35	100	6.46	1499.9	22.79	-39.9	0.60	608.71
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Aquatrill 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)
3	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	P 25L HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC

Final DTW: 25.82 ft

Comments Soluble Iron = 4.238 ppm

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **G54L**

Purge Method: portable pump

Date: 7-25-23 Start Time: 14:45 Finish/Sample Time: 15:23

Well Depth (Bottom) From MP: 40.30 ft
Depth to Water From MP: 22.37 ft
Water Column Length: 17.93 ft
Well Water Volume: 2.86 Gal / L
Min. Purge Volume: 1.0 Gal / L
Total Purge Volume: 1.3 Gal / L
Max Drawdown: NA ft
Total Drawdown: 5.00 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	15:04	25.88	100	5.52	1,520	24.21	4	0.84	8.6
2	15:05	25.90	100	5.50	1,520	24.53	4	0.85	8.1
3	15:06	25.94	100	5.51	1,520	24.61	3	0.87	8.5
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)
	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, 250 mL)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)

Final DTW: 27.37 ft

Comments NA

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT G54S

Purge Method: Dedicated pump

Date: 7/20/23 Start Time: 0956 Finish/Sample Time: 11:04

Well Depth (Bottom) From MP: 51.26 ft
Min. Purge Volume: 1.0 Gal 10
Depth to Water From MP: 23.56 ft
Total Purge Volume: 1.5 Gal 10
Water Column Length: 27.70 ft
Max Drawdown: ft
Well Water Volume: 16.78 Gal 10
Total Drawdown: 7.07 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	10:07	25.44	100	6.76	913.00	18.74	-40.5	0.25	425.36
2	10:08	25.62	100	6.76	952.77	18.78	-41.3	0.23	629.52
3	10:10	25.73	100	6.76	953.81	18.61	-41.8	0.21	744.26
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter:

Aqua-troll 6000

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)
3	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	2.5L P HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC AV 40mL H2SO4

Final DTW: 30.63 ft

Comments Soluble Iron = 1.968 ppm

Sampler's Signature: Mike Welch

Duck Creek

WELL/SAMPLE POINT **G54S**

Purge Method: low-flow

Date: 7-15-23 Start Time: 15:28 Finish/Sample Time: 15:56

Well Depth (Bottom) From MP: 51.26 ft Min. Purge Volume: 1.0 Gal / L

Depth to Water From MP: 23.44 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: 27.82 ft Max Drawdown: NA ft

Well Water Volume: 4.45 Gal / L Total Drawdown: 2.47 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	15:41	25.03	100	5.89	945	23.34	7	2.34	3.7
2	15:42	25.08	100	5.88	952	23.35	3	2.31	3.2
3	15:43	25.15	100	5.88	947	23.41	-1	2.21	3.6
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Hanna

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)
	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, 250 mL)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)

Final DTW: 25.91 ft

Comments: NA

Sampler's Signature: [Signature]

BC

WELL/SAMPLE POINT G57S

Purge Method: dedicated pump

Date: 7/20/23 Start Time: 12:12 Finish/Sample Time: 1320

Well Depth (Bottom) From MP: 37.40 ft Min. Purge Volume: 1.0 Gal ①
Depth to Water From MP: 22.12 ft Total Purge Volume: 1.5 Gal ①
Water Column Length: 15.28 ft Max Drawdown: — ft
Well Water Volume: 9.25 Gal ① Total Drawdown: 0.88 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	1226	22.73	100	6.71	1211.5	17.91	62.2	1.54	10.19
2	1227	22.74	100	6.72	1202.3	17.81	59.2	1.50	11.11
3	1228	22.75	100	6.72	1192.0	17.81	57.9	1.47	10.37
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Aquaflow 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)
3	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	P 25L HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC

Final DTW: 23.00 ft

Comments Soluble Iron = 0.078 ppm

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **G57S**

Purge Method: low-flow

Date: 7-25-23 Start Time: 13:55 Finish/Sample Time: 14:12

Well Depth (Bottom) From MP: 37.40 ft
Min. Purge Volume: 1.0 Gal / L
Depth to Water From MP: 22.26 ft
Total Purge Volume: 1.3 Gal / L
Water Column Length: 15.14 ft
Max Drawdown: N/A ft
Well Water Volume: 2.42 Gal / L
Total Drawdown: 0.68 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	14:09	22.95	100	5.57	1330	18.99	214	2.77	2.4
2	14:10	22.94	100	5.84	1350	19.10	210	2.64	2.8
3	14:11	22.95	100	5.83	1330	19.05	207	2.56	3.3
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)
	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1	General (P, 250 mL)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
	General (P,500mL)

Final DTW: 22.94 ft

Comments: NA

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **G60L**

Purge Method: low flow

Date: 7-20-23 Start Time: 13:27 Finish/Sample Time: 14:41

Well Depth (Bottom) From MP: 27.00 ft Min. Purge Volume: 1.0 Gal / L

Depth to Water From MP: 12.20 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: 14.80 ft Max Drawdown: NA ft

Well Water Volume: 2.36 Gal / L Total Drawdown: 6.95 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	13:42	13:49	100	5.86	899	19.01	80	2.91	24.1
2	13:43	14:18	100	5.84	898	18.97	83	3.01	20.5
3	13:44	14:30	100	5.82	887	18.86	86	3.09	17.9
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Hanna

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)
3	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 mL
1	2.5, HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P, 250 mL) 1000 mL
3	TOC, 40, mL

Final DTW: 19.15 ft

Comments Dis iron ~ 1.260

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT G60S

Purge Method: Portable pump

Date: 7/20/23 Start Time: 1343 Finish/Sample Time: 1453

Well Depth (Bottom) From MP: 39.20 ft Min. Purge Volume: 1.0 Gal/L

Depth to Water From MP: 24.63 ft Total Purge Volume: 1.6 Gal/L

Water Column Length: 14.57 ft Max Drawdown: — ft

Well Water Volume: 8.82 Gal/L Total Drawdown: 0.45 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	1356	25.72	100	6.65	957.70	22.15	-34.6	1.00	1879
2	1358	25.78	100	6.66	961.34	22.08	-34.6	0.97	1763
3	1359	25.75	100	6.66	962.60	22.01	-35.6	0.93	1842
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Aquatrill 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)
3	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	P 2.5L HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	Toc

Final DTW: 25.08 ft

Comments Soluble Iron 2 > 6.0 ppm

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT G64L

Purge Method: bailer

Date: 7/27/23 Start Time: 11:00 Finish/Sample Time: 12:00

Well Depth (Bottom) From MP: 30.46 ft Min. Purge Volume: 1.0 Gal (L)

Depth to Water From MP: 22.80 ft Total Purge Volume: 1.0 Gal (L)

Water Column Length: 7.66 ft Max Drawdown: — ft

Well Water Volume: 4.64 Gal (L) Total Drawdown: 1.42 ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	11:33	23.29	—	7.05	920.00	19.77	176.2	3.71	315.31
2									
3									
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter:

Aquatroll 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)
3	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) <u>1L</u>
1	<u>rad 2.5L</u>

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P, 250 mL) <u>1L</u>
3	<u>TOC 40mL</u>

Final DTW: 24.22 ft

Comments

21015088 soluble iron 0.09 ppm
not enough water for submersible

Sampler's Signature: _____

WELL/SAMPLE POINT **G64S**

Purge Method: Bladder Pump

Date: 7/25/23 Start Time: 1505 Finish/Sample Time: 1623

Well Depth (Bottom) From MP: 39.50 ft Min. Purge Volume: 1.0 Gal/L

Depth to Water From MP: 24.18 ft Total Purge Volume: Gal / L

Water Column Length: 15.32 ft Max Drawdown: ft

Well Water Volume: 9.27 Gal/L Total Drawdown: ft

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	1520	24.87	100	6.80	696.36	17.35	-37.6	2.16	14.29
2	1521	24.86	100	6.81	701.98	17.31	-37.7	2.20	10.80
3	1522	24.86	100	6.82	702.51	17.22	-38.4	2.11	9.92
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)
3	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	Rad 2.5 L

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	TOC

Final DTW: 25.02 ft

Comments Ferrous Iron - 1.590

Sampler's Signature: Joseph R Reel

Duck Creek

WELL/SAMPLE POINT **X301 Pump House**

Purge Method:

Leachate pump

Date:

7-20-23

Start Time:

14:53

Finish/Sample Time:

1512

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	1511			6.77	5330.3	20.69	18.1	1.86	17.35
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter:

Horiba KL

Sample Appearance:

AT 600

Odor: ☒ None ☐ Slight ☐ Mod. ☐ Strong

Color: ☒ None ☐ Slight ☐ Mod. ☐ Strong

Turb: ☒ None ☐ Slight ☐ Mod ☐ Strong

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAs (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
3	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	<u>P 2.5L HNO3</u>

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)
3	<u>Toc</u>

Ferrous Iron -

mg/L

Comments

Soluble Iron = 0.142 ppm

Sampler's Signature:

[Signature]

WELL/SAMPLE POINT **X301 Pump House**

Purge Method: _____

Date: 7-25-23 Start Time: 15:59 Finish/Sample Time: 16:06

Reading (Units)	Time	Depth (ft.)	Flow Rate (mL/min)	pH (s.u.)	Spec Cond (umhos/cm)	Temp (deg C)	ORP (mV)	DO (mg/L)	Turb (NTU)
1	16:02			5.85	5,500	23.36	96	2.76	0.7
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

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)
	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
	General (P, 250 mL)

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2SO4)
1	General (P,500mL)

Comments NA

Sampler's Signature: [Signature]

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD NW			Location:	Vistra Duck Creek				
Weather:	73-79° cloudy wind NNW 5mph			Environment:	Grass				
Multiparameter Water Meter	Make:	Aquatroll	Model:	600	Serial Number:	4810944			
Water Level Meter	Make:	Heron	Model:	dipper _T	Serial Number:	11FF2209305ML			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.00	s.u.	±0.1 s.u.	Pass	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.05	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.05	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	10.80	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1973.3	µS/cm	±5%				Geotech	3GA1071	Jan-24
ORP	223.3	mV	±15 mV				InSitu	261762	Jun-23
DO (Zero pt)	0.08	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	97.95	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:	09:20			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.13	s.u.	±0.15 s.u.	Pass	N/A	Geotech	2GE870	Mar-24	
pH 7.00b	6.97	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24	
pH 10.00b	9.91	s.u.	±0.15 s.u.			Geotech	2GE820	May-24	
SC 1000	980.40	µS/cm	±5%			Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time:	1546			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.10	s.u.	±0.1 s.u.	Pass	N/A	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.08	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	997.20	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.08	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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:	Nicole Welch	Date:	7/18/23
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36A526
Oct 23
7/21

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Brendan Glenon</u>				Location: <u>Duck Creek Power Station</u>					
Weather: <u>70° Cloudy 3 mph W</u>				Environment: <u>Gross field</u>					
Multiparameter Water Meter		Make: <u>ACQ</u>	Model: <u>600</u>	Serial Number: <u>762193</u>					
Water Level Meter		Make: <u>Heron</u>	Model: <u>200F</u>	Serial Number: <u>19FF2111924B</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023067-01	3/14/2025
pH 7.00a	<u>6.96</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023051-02	2/21/2025
pH 10.00a	<u>9.91</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	022361-01	12/27/2024
SC Zero (DI)	<u>5.38</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>1950.5</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	<u>N/A</u>	Geotech	3GA1071	Jan-24
ORP	<u>221.0</u>	mV	±15 mV	<u>P</u>	<u>N</u>	<u>N/A</u>	InSitu	3GD927	Jan-24
DO (Zero pt)	<u>0.07</u>	mg/L	±0.1	<u>P</u>	<u>N</u>	<u>N/A</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>99.77</u>	%	97-100%	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>6:19</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.05</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N/A</u>	Geotech	2GE870	May-24	
pH 7.00b	<u>6.83</u>	s.u.	±0.15 s.u.	<u>F</u>	<u>-7.00</u>	Geotech	2GF113	Jun-24	
pH 10.00b	<u>9.85</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N/A</u>	Geotech	2GE820	May-24	
SC 1000	<u>1012.6</u>	µS/cm	±5%	<u>P</u>	<u>N/A</u>	Ricca	4209A12	Aug-23	

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.
pH 4.00a		s.u.	±0.1 s.u.				MSI	023067-01	3/14/2025
pH 7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
pH 10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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: Only 1 well

Signature: <u>Brendan Glenon</u>	Date: <u>7/18/23</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KYLE LANE				Location: Duck Creek			
Weather: 81° Sunny				Environment: Dry			
Multiparameter Water Meter		Make: Horiba	Model: U-500	Serial Number: PW264023			
Water Level Meter		Make: Heron	Model: Water Tape	Serial Number: 19FF 2111921B			

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.48	s.u.	±0.1 s.u.	P	Yes	3.98	MSI	L344-09	12/14/2023
pH 7.00a	6.72	s.u.	±0.1 s.u.	P	Yes	6.92	MSI	L343-07	12/9/2023
pH 10.00a	9.99	s.u.	±0.1 s.u.	P	No	Na	MSI	M082-04	3/25/2024
SC Zero (DI)	20.10	µS/cm	0<25 µS/cm	P			Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2030	µS/cm	±5%	P			Geotech	3GA1071	Jan-24
ORP	214	mV	±15 mV	P			In Situ	2G1762	Jun-23
DO (Zero pt)	0.05	mg/L	±0.1	P			Macron	#000228049	8/26/2025
DO (Saturated)	97.60	%	97-100%	P			Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time:
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	
pH 4.00b	3.89	s.u.	±0.15 s.u.	P	Na	
pH 7.00b	6.87	s.u.	±0.15 s.u.	P		
pH 10.00b	9.88	s.u.	±0.15 s.u.	P		
SC 1000	1010	µS/cm	±5%	P		

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time:
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading
pH 4.00a		s.u.	±0.1 s.u.			
pH 7.00a		s.u.	±0.1 s.u.			
pH 10.00a		s.u.	±0.1 s.u.			
SC 1000		µS/cm	±5%			
DO (Zero pt)		mg/L	±0.1 mg/L			
Turbidity (DI)		NTU	<2 NTU			

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time:
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading
4.00a	4.09	s.u.	±0.1 s.u.	P	Na	Na
7.00a	6.97	s.u.	±0.1 s.u.	P		
10.00a	10.01	s.u.	±0.1 s.u.	P		
SC 1000	1010	µS/cm	±5%	P		
DO (Zero pt)	0.04	mg/L	±0.1 mg/L	P		
Turbidity (DI)	0	NTU	<2 NTU	P		

Comments: Na

Signature: [Signature]	Date: 7-18-23
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3GA 5218
Det 23
4/21

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Remberon			Location:	Duck Creek				
Weather:	60-80°F mostly cloudy wind NE 3-10 mph			Environment:	grass, dirt, dust				
Multiparameter Water Meter	Make:	A7	Model:	600	Serial Number:	762215			
Water Level Meter	Make:	Heron	Model:	Dipart	Serial Number:	3717-7			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.00	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	6.96	s.u.	±0.1 s.u.	P			MSI	L343-07	12/9/2023
pH 10.00a	9.96	s.u.	±0.1 s.u.	P			MSI	M082-04	3/25/2024
SC Zero (DI)	19.09	µS/cm	0<25 µS/cm	P			Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1002.7	µS/cm	±5%	P			Geotech	3GA1071	Jan-24
ORP	225.7	mV	±15 mV	P			InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1	P			Macron	#000228049	8/26/2025
DO (Saturated)	98.98	%	97-100%	P			Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.23	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:	0925			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	3.07	s.u.	±0.15 s.u.	P	N/A	Geotech	2GE870	Mar-24	
pH 7.00b	6.87	s.u.	±0.15 s.u.	P		Geotech	2GC931	Mar-24	
pH 10.00b	9.95	s.u.	±0.15 s.u.	P		Geotech	2GE820	May-24	
SC 1000	1005.3	µS/cm	±5%	P		Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time:	1500			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.08	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.02	s.u.	±0.1 s.u.	P			MSI	L343-07	12/9/2023
pH 10.00a	10.10	s.u.	±0.1 s.u.	P			MSI	M082-04	3/25/2024
SC 1000	1033.7	µS/cm	±5%	P			Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P			Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	P			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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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:		Date:	7/18/2023
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3GA520
Oct 23
EW 2/21

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberlon			Location:	Duck Creek				
Weather:	71°-86°f sunny windy SE 6 mph			Environment:	woods, farm field				
Multiparameter Water Meter	Make:	AT	Model:	600	Serial Number:	739449			
Water Level Meter	Make:	Heron	Model:	Dipper 7	Serial Number:	3717-7			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.03	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	6.96	s.u.	±0.1 s.u.	P			MSI	L343-07	12/9/2023
pH 10.00a	9.02	s.u.	±0.1 s.u.	P			MSI	M082-04	3/25/2024
SC Zero (DI)	15.16	µS/cm	0<25 µS/cm	P			Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1697.4	µS/cm	±5%	P			Geotech	3GA1071	Jan-24
ORP	225.6	mV	±15 mV	P			InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1	P			Macron	#000228049	8/26/2025
DO (Saturated)	99.33	%	97-100%	P			Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)
Approx. every 4 hrs, unless only one well									
ICV (Initial Calibration Verification)					Time:	0855			
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	2GE870	Mar-24	
pH 7.00b	6.96	s.u.	±0.15 s.u.	P		Geotech	2GC931	Mar-24	
pH 10.00b	9.01	s.u.	±0.15 s.u.	P		Geotech	2GE820	May-24	
SC 1000	986.07	µS/cm	±5%	P		Ricca	4207N97	Jul-24	
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	4.06	s.u.	±0.1 s.u.	P	NO	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.03	s.u.	±0.1 s.u.	P			MSI	L343-07	12/9/2023
pH 10.00a	10.09	s.u.	±0.1 s.u.	P			MSI	M082-04	3/25/2024
SC 1000	1004.8	µS/cm	±5%	P			Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P			Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	P			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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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:					Date:	7/19/2023			

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Multiparameter Meter Field Calibration Checklist

Field Personnel:	NW			Location:	Duck Creek				
Weather:	Sunny wind ESE temp 75-88 OF			Environment:	Grass				
Multiparameter Water Meter	Make:	Aquatro	Model:	600	Serial Number:	480944			
Water Level Meter	Make:	Heron	Model:	dipper T	Serial Number:	11FF2209305ML			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.06	s.u.	±0.1 s.u.	P	N	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.	P	I	I	MSI	L343-07	12/9/2023
pH 10.00a	9.93	s.u.	±0.1 s.u.	P	I	I	MSI	M082-04	3/25/2024
SC Zero (DI)	0.00	µS/cm	0<25 µS/cm	P	I	I	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1833.7	µS/cm	±5%	F	yes	2001.9	Geotech	3GA1071	Jan-24
ORP	220.4	mV	±15 mV	F	N	N/A	InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1	P	I	I	Macron	#000228049	8/26/2025
DO (Saturated)	97.3	%	97-100%	P	I	I	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:	10:00			
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	Geotech	2GE870	Mar-24	
pH 7.00b	6.88	s.u.	±0.15 s.u.	F	calibrate - 7.00	Geotech	2GC931	Mar-24	
pH 10.00b	9.99	s.u.	±0.15 s.u.	P	N	Geotech	2GE820	May-24	
SC 1000	7800	µS/cm	±5%	F	calibrate - 1000.0	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time:	14:50			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.17	s.u.	±0.1 s.u.	F	yes	4.00	MSI	L344-09	12/14/2023
pH 7.00a	7.17	s.u.	±0.1 s.u.	F	yes	6.99	MSI	L343-07	12/9/2023
pH 10.00a	9.97	s.u.	±0.1 s.u.	P	N	N/A	MSI	M082-04	3/25/2024
SC 1000	970	µS/cm	±5%	P	I	I	Ricca	4207N97	Jul-24
DO (Zero pt)	0.03	mg/L	±0.1 mg/L	P	I	I	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	P	I	I	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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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:	Nicole Welch	Date:	7/19/23
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Brendan Glennon</u>				Location: <u>Duck Creek</u>					
Weather: <u>82° Mostly Sunny 7 mph SE</u>				Environment: <u>Grass Field</u>					
Multiparameter Water Meter		Make: <u>AquaTron</u>	Model: <u>600</u>	Serial Number: <u>762193</u>					
Water Level Meter		Make: <u>Heson</u>	Model: <u>200ft. Direct</u>	Serial Number: <u>19FF 211192HB</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.00</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023067-01	3/14/2025
pH 7.00a	<u>6.97</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023051-02	2/21/2025
pH 10.00a	<u>9.99</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	022361-01	12/27/2024
SC Zero (DI)	<u>0.65</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>1768.6</u>	µS/cm	±5%	<u>F</u>	<u>Y</u>	<u>2000.0</u>	Geotech	3GA1071	Jan-24
ORP	<u>205.1</u>	mV	±15 mV	<u>F</u>	<u>Y</u>	<u>229.0</u>	InSitu	3GD927	Jan-24
DO (Zero pt)	<u>0.04</u>	mg/L	±0.1	<u>P</u>	<u>N</u>	<u>N/A</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>97.78</u>	%	97-100%	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>1.78</u>	NTU	<2 NTU	<u>P</u>	<u>N</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>0930</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	<u>4.04</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N/A</u>	Geotech	2GE870	May-24
pH 7.00b	<u>6.89</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N/A</u>	Geotech	2GF113	Jun-24
pH 10.00b	<u>9.96</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N/A</u>	Geotech	2GE820	May-24
SC 1000	<u>1000.06</u>	µS/cm	±5%	<u>P</u>	<u>N/A</u>	Ricca	4209A12	Aug-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>10:19</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.10</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023067-01	3/14/2025
pH 7.00a	<u>6.93</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023051-02	2/21/2025
pH 10.00a	<u>9.91</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	022361-01	12/27/2024
SC 1000	<u>1128.1</u>	µS/cm	±5%	<u>F</u>	<u>Y</u>	<u>1000.0</u>	Ricca	4209A12	Aug-23
DO (Zero pt)	<u>0.09</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>N</u>	<u>N/A</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>12.20</u>	NTU	<2 NTU	<u>F</u>	<u>NO</u>	<u>N/A</u>	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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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: NO turb cal solution available

Signature: <u>Brendan Glennon</u>	Date: <u>7/20/23</u>
<u>Nicole Walsh</u>	

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Kyle Lane</u>				Location: <u>Duck Creek</u>			
Weather: <u>83° Sunny</u>				Environment: <u>wet</u>			
Multiparameter Water Meter		Make: <u>Hanna</u>	Model: <u>V-5000</u>	Serial Number: <u>1044 PW69103</u>			
Water Level Meter		Make: <u>Heron</u>	Model: <u>water tower</u>	Serial Number: <u>19FP2202131ML</u>			

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.06</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L344-09	12/14/2023
pH 7.00a	<u>7.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L343-07	12/9/2023
pH 10.00a	<u>10.05</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	M082-04	3/25/2024
SC Zero (DI)	<u>13.00</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2000</u>	µS/cm	±5%	<u>P</u>	<u>NA</u>	<u>NA</u>	Geotech	3GA1071	Jan-24
ORP	<u>216</u>	mV	±15 mV	<u>P</u>	<u>NA</u>	<u>NA</u>	InSitu	2G1762	Jun-23
DO (Zero pt)	<u>0.04</u>	mg/L	±0.1	<u>P</u>	<u>NA</u>	<u>NA</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>98.00</u>	%	97-100%	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0</u>	NTU	<2 NTU	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>09:34</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.07</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GE870	Mar-24	
pH 7.00b	<u>7.02</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GC931	Mar-24	
pH 10.00b	<u>10.13</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GE820	May-24	
SC 1000	<u>1000</u>	µS/cm	±5%	<u>P</u>	<u>NA</u>	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>NA</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>/</u>	s.u.	±0.1 s.u.	<u>/</u>	<u>/</u>	<u>/</u>	MSI	L344-09	12/14/2023
pH 7.00a	<u>/</u>	s.u.	±0.1 s.u.	<u>/</u>	<u>/</u>	<u>/</u>	MSI	L343-07	12/9/2023
pH 10.00a	<u>/</u>	s.u.	±0.1 s.u.	<u>/</u>	<u>/</u>	<u>/</u>	MSI	M082-04	3/25/2024
SC 1000	<u>/</u>	µS/cm	±5%	<u>/</u>	<u>/</u>	<u>/</u>	Ricca	4207N97	Jul-24
DO (Zero pt)	<u>/</u>	mg/L	±0.1 mg/L	<u>/</u>	<u>/</u>	<u>/</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>/</u>	NTU	<2 NTU	<u>/</u>	<u>/</u>	<u>/</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>15:29</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	<u>4.08</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L344-09	12/14/2023
7.00a	<u>7.06</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L343-07	12/9/2023
10.00a	<u>10.05</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	M082-04	3/25/2024
SC 1000	<u>1010</u>	µS/cm	±5%	<u>P</u>	<u>NA</u>	<u>NA</u>	Ricca	4207N97	Jul-24
DO (Zero pt)	<u>0.04</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>NA</u>	<u>NA</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0</u>	NTU	<2 NTU	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)

Comments:

NA

Signature: <u>[Signature]</u>	Date: <u>7-20-2023</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Aaron Pemberton</u>				Location: <u>Duck Creek</u>					
Weather: <u>80°-88° Sunny</u> <u>Winds NW 7 mph</u>				Environment: <u>grass, silt, fish</u>					
Multiparameter Water Meter		Make: <u>Hera</u>	Model: <u>600</u>	Serial Number: <u>739449</u>					
Water Level Meter		Make: <u>Hera</u>	Model: <u>Dipstick</u>	Serial Number: <u>3717-T</u>					

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.05</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>No</u>	<u>NA</u>	MSI	L344-09	12/14/2023
pH 7.00a	<u>6.96</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>I</u>	<u>I</u>	MSI	L343-07	12/9/2023
pH 10.00a	<u>9.93</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	M082-04	3/25/2024
SC Zero (DI)	<u>12.37</u>	µS/cm	0<25 µS/cm	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>1045.6</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	<u>I</u>	Geotech	3GA1071	Jan-24
ORP	<u>223.4</u>	mV	±15 mV	<u>I</u>	<u>I</u>	<u>I</u>	InSitu	2G1762	Jun-23
DO (Zero pt)	<u>0.06</u>	mg/L	±0.1	<u>I</u>	<u>I</u>	<u>I</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>99.67</u>	%	97-100%	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.00</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>0920</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.02</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GE870	Mar-24	
pH 7.00b	<u>6.85</u>	s.u.	±0.15 s.u.	<u>I</u>	<u>I</u>	Geotech	2GC931	Mar-24	
pH 10.00b	<u>9.87</u>	s.u.	±0.15 s.u.	<u>I</u>	<u>I</u>	Geotech	2GE820	May-24	
SC 1000	<u>1000.00</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>1500</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.07</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>No</u>	<u>NA</u>	MSI	L344-09	12/14/2023
pH 7.00a	<u>7.02</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>I</u>	<u>I</u>	MSI	L343-07	12/9/2023
pH 10.00a	<u>10.00</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	M082-04	3/25/2024
SC 1000	<u>999.86</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	<u>I</u>	Ricca	4207N97	Jul-24
DO (Zero pt)	<u>0.07</u>	mg/L	±0.1 mg/L	<u>I</u>	<u>I</u>	<u>I</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.00</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>	<u>I</u>	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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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: <u>[Signature]</u>	Date: <u>7/20/2023</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD			Location:	V. 37th Duck Creek				
Weather:	78-90°F p. cloudy wind W 8-13 mph			Environment:	HFF HFF 2209305 ML grass				
Multiparameter Water Meter	Make:	Aquatroll	Model:	600	Serial Number:	762215			
Water Level Meter	Make:	Heron	Model:	Dipper-T	Serial Number:	11 FF 2209305 ML			
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	L344-09	12/14/2023
pH 7.00a	7.00	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.02	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	9.67	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	984.2	µS/cm	±5%				Geotech	3GA1071	Jan-24
ORP	216.3	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.55	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time:	0915		
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.02	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24	
pH 7.00b	6.86	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24	
pH 10.00b	9.91	s.u.	±0.15 s.u.			Geotech	2GE820	May-24	
SC 1000	799.24	µS/cm	±5%			Ricca	4207N97	Jul-24	

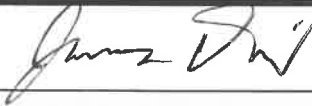
Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time:	1531		
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.10	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.09	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.08	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	781.14	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.08	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.49	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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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:		Date:	7/20/23
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3 GAS 26
Oct 23
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Multiparameter Meter Field Calibration Checklist

Field Personnel: JD		Location: Vista Duck Creek	
Weather: 76-90°F sunny wind NNE 6 mph		Environment: grass, woods	
Multiparameter Water Meter	Make: Aquatroll	Model: 600	Serial Number: 762215
Water Level Meter	Make: Heron	Model: Dipper-T	Serial Number: 11FF2209305 ML

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.99	s.u.	±0.1 s.u.	pass	N.	NA	MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.	pass	N.	NA	MSI	L343-07	12/9/2023
pH 10.00a	10.03	s.u.	±0.1 s.u.	pass	N.	NA	MSI	M082-04	3/25/2024
SC Zero (DI)	10.26	µS/cm	0<25 µS/cm	pass	N.	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2013.6	µS/cm	±5%	pass	N.	NA	Geotech	3GA1071	Jan-24
ORP	217.4	mV	±15 mV	pass	N.	NA	In Situ	261762	Jun-23
DO (Zero pt)	0.08	mg/L	±0.1	pass	N.	NA	Macron	#000228049	8/26/2025
DO (Saturated)	77.32	%	97-100%	pass	N.	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.62	NTU	<2 NTU	pass	N.	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.01	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24	
pH 7.00b	6.85	s.u.	±0.15 s.u.	pass	NA	Geotech	2GC931	Mar-24	
pH 10.00b	9.89	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE820	May-24	
SC 1000	1009.4	µS/cm	±5%	pass	NA	Ricca	4207N97	Jul-24	

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.
pH 4.00a	4.07	s.u.	±0.1 s.u.	pass	N.	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.06	s.u.	±0.1 s.u.	pass	N.	NA	MSI	L343-07	12/9/2023
pH 10.00a	9.78	s.u.	±0.1 s.u.	pass	N.	NA	MSI	M082-04	3/25/2024
SC 1000	936.22	µS/cm	±5%	pass	N.	NA	Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	pass	N.	NA	Macron	#000228049	8/26/2025
Turbidity (DI)	0.52	NTU	<2 NTU	pass	N.	NA	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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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: 	Date: 7/24/23
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Multiparameter Meter Field Calibration Checklist

Field Personnel:	NIN				Location:	Duck Creek			
Weather:	76-89°F Sunny wind 2mph E				Environment:	Grass			
Multiparameter Water Meter	Make:	Aquatrroll	Model:	6000	Serial Number:	739449			
Water Level Meter	Make:	Heron	Model:	1900	Serial Number:	19FF2111192HB			

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	N/A	MSI	023067-01	3/14/2025
pH 7.00a	7.00	s.u.	±0.1 s.u.	P			MSI	023051-02	2/21/2025
pH 10.00a	9.94	s.u.	±0.1 s.u.	P			MSI	022361-01	12/27/2024
SC Zero (DI)	17.05	µS/cm	0<25 µS/cm	P			Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1702.1	µS/cm	±5%	F	yes	2000.0	Geotech	3GA1071	Jan-24
ORP	218.0	mV	±15 mV	P	N	N/A	InSitu	3GD927	Jan-24
DO (Zero pt)	0.03	mg/L	±0.1	P			Macron	#000228049	8/26/2025
DO (Saturated)	97.3	%	97-100%	P			Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:	08:50			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.09	s.u.	±0.15 s.u.	P	N	Geotech	2GE870	May-24	
pH 7.00b	6.91	s.u.	±0.15 s.u.	P		Geotech	2GF113	Jun-24	
pH 10.00b	9.90	s.u.	±0.15 s.u.	P		Geotech	2GE820	May-24	
SC 1000	1129.5	µS/cm	±5%	F	yes - calibrate: 1000	Ricca	4209A12	Aug-23	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time:	14:55			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.10	s.u.	±0.1 s.u.	F	yes	4.00	MSI	023067-01	3/14/2025
pH 7.00a	7.10	s.u.	±0.1 s.u.	F	N		MSI	023051-02	2/21/2025
pH 10.00a	9.80	s.u.	±0.1 s.u.	F	yes	10.0	MSI	022361-01	12/27/2024
SC 1000	1382.3	µS/cm	±5%	F	yes	1000.0	Ricca	4209A12	Aug-23
DO (Zero pt)	0.03	mg/L	±0.1 mg/L	P	N	N/A	Macron	#000228049	8/26/2025
Turbidity (DI)	0.87	NTU	<2 NTU	P	↓	↓	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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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: Nicole Allen	Date: 7/24/23
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Jon Reed</u>				Location: <u>Duck Creek</u>					
Weather: <u>90° Sunny</u>				Environment: <u>grassy / dry</u>					
Multiparameter Water Meter		Make: <u>AquaTroll</u>	Model: <u>600</u>	Serial Number: <u>762193</u>					
Water Level Meter		Make: <u>Heron</u>	Model: <u>1900</u>	Serial Number: <u>19FF211105HB</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>3.99</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	L344-09	12/14/2023
pH 7.00a	<u>6.98</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	L343-07	12/9/2023
pH 10.00a	<u>9.99</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	M082-04	3/25/2024
SC Zero (DI)	<u>9.44</u>	µS/cm	0<25 µS/cm	<u>I</u>	<u>I</u>		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2000.4</u>	µS/cm	±5%	<u>I</u>	<u>I</u>		Geotech	3GA1071	Jan-24
ORP	<u>230.1</u>	mV	±15 mV	<u>I</u>	<u>I</u>		InSitu	284222	Jan-24
DO (Zero pt)	<u>0.04</u>	mg/L	±0.1	<u>I</u>	<u>I</u>		Macron	#000228049	8/26/2025
DO (Saturated)	<u>98.9</u>	%	97-100%	<u>I</u>	<u>I</u>		Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>		Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>950</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.99</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Geotech	2GE870	Mar-24	
pH 7.00b	<u>6.96</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Geotech	2GC931	Mar-24	
pH 10.00b	<u>9.97</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Geotech	2GE820	May-24	
SC 1000	<u>1019.4</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>1612</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.01</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	L344-09	12/14/2023
pH 7.00a	<u>7.02</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	L343-07	12/9/2023
pH 10.00a	<u>10.01</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>		MSI	M082-04	3/25/2024
SC 1000	<u>1032.1</u>	µS/cm	±5%	<u>I</u>	<u>I</u>		Ricca	4207N97	Jul-24
DO (Zero pt)	<u>0.05</u>	mg/L	±0.1 mg/L	<u>I</u>	<u>I</u>		Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>		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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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: <u>Jon R Reed</u>	Date: <u>7/24/23</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KYU Lom				Location: Duck Creek					
Weather: 81° Sunny				Environment: Dry					
Multiparameter Water Meter		Make: HANNA	Model: U-5000	Serial Number: PW269703					
Water Level Meter		Make: Heron	Model: water tape	Serial Number: 19FF2202131ML					
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	NA	NA	MSI	L344-09	12/14/2023
pH 7.00a	6.95	s.u.	±0.1 s.u.	P	NA	NA	MSI	L343-07	12/9/2023
pH 10.00a	9.93	s.u.	±0.1 s.u.	P	NA	NA	MSI	M082-04	3/25/2024
SC Zero (DI)	14.10	µS/cm	0<25 µS/cm	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2020	µS/cm	±5%	P	NA	NA	Geotech	3GA1071	Jan-24
ORP	215	mV	±15 mV	P	NA	NA	InSitu	261762	Jun-23
DO (Zero pt)	0.01	mg/L	±0.1	P	NA	NA	Macron	#000228049	8/26/2025
DO (Saturated)	92.10	%	97-100%	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0	NTU	<2 NTU	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 08:59				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	3.97	s.u.	±0.15 s.u.	P	NA	Geotech	2GE870	Mar-24	
pH 7.00b	6.99	s.u.	±0.15 s.u.	P	NA	Geotech	2GC931	Mar-24	
pH 10.00b	9.88	s.u.	±0.15 s.u.	P	NA	Geotech	2GE820	May-24	
SC 1000	1048	µS/cm	±5%	P	NA	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: NA				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	/	s.u.	±0.1 s.u.	/	/	/	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 1000	/	µS/cm	±5%	/	/	/	Ricca	4207N97	Jul-24
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: 16:06				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.09	s.u.	±0.1 s.u.	P	NA	NA	MSI	L344-09	12/14/2023
7.00a	7.06	s.u.	±0.1 s.u.	P	NA	NA	MSI	L343-07	12/9/2023
10.00a	10.81	s.u.	±0.1 s.u.	P	NA	NA	MSI	M082-04	3/25/2024
SC 1000	1080	µS/cm	±5%	P	NA	NA	Ricca	4207N97	Jul-24
DO (Zero pt)	0.06	mg/L	±0.1 mg/L	P	NA	NA	Macron	#000228049	8/26/2025
Turbidity (DI)	0	NTU	<2 NTU	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)

Comments:

NA

Signature: [Signature]	Date: 7-24-23
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Multiparameter Meter Field Calibration Checklist

Field Personnel: NW			Location: Duck Creek		
Weather: Sunny 80-92°F, wind SSE 10mph			Environment: Grass		
Multiparameter Water Meter		Make: Aquatroll	Model: 600	Serial Number: 739449	
Water Level Meter		Make: Heron	Model: 1900	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	N	N/A	MSI	023067-01	3/14/2025
pH 7.00a	6.95	s.u.	±0.1 s.u.	P	I		MSI	023051-02	2/21/2025
pH 10.00a	9.92	s.u.	±0.1 s.u.	P	I		MSI	022361-01	12/27/2024
SC Zero (DI)	17.99	µS/cm	0<25 µS/cm	P	I		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2203.7	µS/cm	±5%	F	yes	2000.0	Geotech	3GA1071	Jan-24
ORP	213.3	mV	±15 mV	P	N/A	N/A	InSitu	3GD927	Jan-24
DO (Zero pt)	0.08	mg/L	±0.1	P	I		Macron	#000228049	8/26/2025
DO (Saturated)	99.8	%	97-100%	P	I		Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P	I		Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 09:10				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?		Manufacturer	Lot#	Exp.
pH 4.00b	4.21	s.u.	±0.15 s.u.	F	calibrate - 4.00		Geotech	2GE870	May-24
pH 7.00b	6.82	s.u.	±0.15 s.u.	F	calibrate - 7.00		Geotech	2GF113	Jun-24
pH 10.00b	9.85	s.u.	±0.15 s.u.	P	N/A		Geotech	2GE820	May-24
SC 1000	720.85	µS/cm	±5%	F	calibrate - 1000.0		Ricca	4209A12	Aug-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 14:27 NW 16:27				
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	N	N/A	MSI	023067-01	3/14/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.	P	I		MSI	023051-02	2/21/2025
pH 10.00a	9.90	s.u.	±0.1 s.u.	P	I		MSI	022361-01	12/27/2024
SC 1000	1039.1	µS/cm	±5%	F	yes	1000.0	Ricca	4209A12	Aug-23
DO (Zero pt)	0.07	mg/L	±0.1 mg/L	P	N/A	N/A	Macron	#000228049	8/26/2025
Turbidity (DI)	0.70	NTU	<2 NTU	P	I		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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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: Nicore Welton	Date: 7/25/23
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Multiparameter Meter Field Calibration Checklist

Field Personnel: Kyle Lane				Location: Duck Creek					
Weather: 75° to 93° Sunny				Environment: Dry					
Multiparameter Water Meter		Make: HANNA	Model: U5000	Serial Number: PW294503					
Water Level Meter		Make: HANNA	Model: Water tape	Serial Number: 19FF220213ML					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.09	s.u.	±0.1 s.u.	P	NA	NA	MSI	L344-09	12/14/2023
pH 7.00a	6.93	s.u.	±0.1 s.u.	P	NA	NA	MSI	L343-07	12/9/2023
pH 10.00a	10.01	s.u.	±0.1 s.u.	P	NA	NA	MSI	M082-04	3/25/2024
SC Zero (DI)	14.00	µS/cm	0<25 µS/cm	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	20.40	µS/cm	±5%	P	NA	NA	Geotech	3GA1071	Jan-24
ORP	214	mV	±15 mV	P	NA	NA	InSitu	2GA102	Jun-23
DO (Zero pt)	0.01	mg/L	±0.1	P	NA	NA	Macron	#000228049	8/26/2025
DO (Saturated)	98.00	%	97-100%	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: 08:47			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.00	s.u.	±0.15 s.u.	P	NA	Geotech	2GE870	Mar-24	
pH 7.00b	7.02	s.u.	±0.15 s.u.	P	NA	Geotech	2GC931	Mar-24	
pH 10.00b	9.99	s.u.	±0.15 s.u.	P	NA	Geotech	2GE820	May-24	
SC 1000	10.20	µS/cm	±5%	P	NA	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: NA			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a		s.u.	±0.1 s.u.				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 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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: 16:23			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.02	s.u.	±0.1 s.u.	P	NA	NA	MSI	L344-09	12/14/2023
7.00a	7.08	s.u.	±0.1 s.u.	P	NA	NA	MSI	L343-07	12/9/2023
10.00a	10.00	s.u.	±0.1 s.u.	P	NA	NA	MSI	M082-04	3/25/2024
SC 1000	10.13	µS/cm	±5%	P	NA	NA	Ricca	4207N97	Jul-24
DO (Zero pt)	0.21	mg/L	±0.1 mg/L	P	NA	NA	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	P	NA	NA	Pace Labs	N/A (DI)	N/A (DI)

Comments:

NA

Signature: Kyle Lane				Date: 7-25-2023					
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Multiparameter Meter Field Calibration Checklist

Field Personnel: NW				Location: Duck Creek					
Weather: Sunny 74-90°F Wind 4mph SSE				Environment: Grass					
Multiparameter Water Meter		Make: Aquatroll	Model: 1000	Serial Number: 702215					
Water Level Meter		Make: Heron	Model: 1900	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	N	N/A	MSI	023067-01	3/14/2025
pH 7.00a	7.00	s.u.	±0.1 s.u.	P	I		MSI	023051-02	2/21/2025
pH 10.00a	9.99	s.u.	±0.1 s.u.	P	I		MSI	022361-01	12/27/2024
SC Zero (DI)	21.54	µS/cm	0<25 µS/cm	P	I		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1755.9	µS/cm	±5%	F	YES	2000.0	Geotech	3GA1071	Jan-24
ORP	210.0	mV	±15 mV	P	N	N/A	InSitu	3GD927	Jan-24
DO (Zero pt)	0.09	mg/L	±0.1	P	I		Macron	#000228049	8/26/2025
DO (Saturated)	98.71	%	97-100%	P	I		Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.01	NTU	<2 NTU	P	I		Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 09:40				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.05	s.u.	±0.15 s.u.	P	N	Geotech	2GE870	May-24	
pH 7.00b	6.90	s.u.	±0.15 s.u.	P	I	Geotech	2GF113	Jun-24	
pH 10.00b	9.90	s.u.	±0.15 s.u.	P	I	Geotech	2GE820	May-24	
SC 1000	1118.0	µS/cm	±5%	F	Calibrate - 1000.0	Ricca	4209A12	Aug-23	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 11:17				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.09	s.u.	±0.1 s.u.	P	N	N/A	MSI	023067-01	3/14/2025
pH 7.00a	7.24	s.u.	±0.1 s.u.	F	YES	7.00	MSI	023051-02	2/21/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.	P	N	N/A	MSI	022361-01	12/27/2024
SC 1000	1043.0	µS/cm	±5%	F	YES	1000.0	Ricca	4209A12	Aug-23
DO (Zero pt)	0.03	mg/L	±0.1 mg/L	P	N	N/A	Macron	#000228049	8/26/2025
Turbidity (DI)	0.95	NTU	<2 NTU	P	I	I	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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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: Nick Wilson		Date: 7/27/23	
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BC

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Kyle Lorn</u>				Location: <u>Duck Creek</u>			
Weather: <u>96° Sunny</u>				Environment: <u>Dry</u>			
Multiparameter Water Meter		Make: <u>Haniba</u>	Model: <u>V-5000</u>	Serial Number: <u>PW267JD3</u>			
Water Level Meter		Make: <u>Huron</u>	Model: <u>Water tape</u>	Serial Number: <u>19FF-2202131ML</u>			

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.01</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L344-09	12/14/2023
pH 7.00a	<u>7.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	L343-07	12/9/2023
pH 10.00a	<u>10.01</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NA</u>	<u>NA</u>	MSI	M082-04	3/25/2024
SC Zero (DI)	<u>20.10</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2000</u>	µS/cm	±5%	<u>P</u>	<u>NA</u>	<u>NA</u>	Geotech	3GA1071	Jan-24
ORP	<u>216</u>	mV	±15 mV	<u>P</u>	<u>NA</u>	<u>NA</u>	InSitu	2G1762	Jun-23
DO (Zero pt)	<u>0.01</u>	mg/L	±0.1	<u>P</u>	<u>NA</u>	<u>NA</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>97.10</u>	%	97-100%	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0</u>	NTU	<2 NTU	<u>P</u>	<u>NA</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>10:23</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.00</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GE870	Mar-24	
pH 7.00b	<u>6.93</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GC931	Mar-24	
pH 10.00b	<u>10.00</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Geotech	2GE820	May-24	
SC 1000	<u>1020</u>	µS/cm	±5%	<u>P</u>	<u>NA</u>	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>NA</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a		s.u.	±0.1 s.u.				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 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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	L344-09	12/14/2023
7.00a		s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a		s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000		µS/cm	±5%				Ricca	4207N97	Jul-24
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: <u>[Signature]</u>	Date: <u>7-27-23</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KL JR				Location: Duck Creek			
Weather: 75° Sunny				Environment: Dr			
Multiparameter Water Meter		Make: Haniba	Model: V-5000	Serial Number: PW264JD3			
Water Level Meter		Make: Heron	Model: Water tape	Serial Number: 19FF2202131ML			

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.96	s.u.	±0.1 s.u.	P	Na	Na	MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.	P	Na	Na	MSI	L343-07	12/9/2023
pH 10.00a	10.07	s.u.	±0.1 s.u.	P	Na	Na	MSI	M082-04	3/25/2024
SC Zero (DI)	2.0.00	µS/cm	0<25 µS/cm	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2.030	µS/cm	±5%	P	Na	Na	Geotech	3GA1071	Jan-24
ORP	2.13	mV	±15 mV	P	Na	Na	InSitu	2G1762	Jun-23
DO (Zero pt)	0.02	mg/L	±0.1	P	Na	Na	Macron	#000228049	8/26/2025
DO (Saturated)	98.04	%	97-100%	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0	NTU	<2 NTU	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 09:53				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.05	s.u.	±0.15 s.u.	P	Na	Geotech	2GE870	Mar-24	
pH 7.00b	6.99	s.u.	±0.15 s.u.	P	Na	Geotech	2GC931	Mar-24	
pH 10.00b	10.00	s.u.	±0.15 s.u.	P	Na	Geotech	2GE820	May-24	
SC 1000	1010	µS/cm	±5%	P	Na	Ricca	4207N97	Jul-24	

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: NA				
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	Na	Na	MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.	P	Na	Na	MSI	L343-07	12/9/2023
pH 10.00a	10.03	s.u.	±0.1 s.u.	P	Na	Na	MSI	M082-04	3/25/2024
SC 1000	1010	µS/cm	±5%	P	Na	Na	Ricca	4207N97	Jul-24
DO (Zero pt)	0.04	mg/L	±0.1 mg/L	P	Na	Na	Macron	#000228049	8/26/2025
Turbidity (DI)	0	NTU	<2 NTU	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 15:00				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.07	s.u.	±0.1 s.u.	P	Na	Na	MSI	L344-09	12/14/2023
7.00a	6.99	s.u.	±0.1 s.u.	P	Na	Na	MSI	L343-07	12/9/2023
10.00a	10.03	s.u.	±0.1 s.u.	P	Na	Na	MSI	M082-04	3/25/2024
SC 1000	1010	µS/cm	±5%	P	Na	Na	Ricca	4207N97	Jul-24
DO (Zero pt)	0.04	mg/L	±0.1 mg/L	P	Na	Na	Macron	#000228049	8/26/2025
Turbidity (DI)	0	NTU	<2 NTU	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature: Hylae	Date: 7-31-2023
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Multiparameter Meter Field Calibration Checklist

Field Personnel: JR K2		Location: Duck Creek	
Weather: 70°-86° Sunny wind 3-4 mph		Environment: grass	
Multiparameter Water Meter	Make: Horiba	Model: U500	Serial Number: PW26YJD3
Water Level Meter	Make: Hero	Model: 1900	Serial Number: 19 FF 2202131ML

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	N		MSI	023067-01	3/14/2025
pH 7.00a	6.95	s.u.	±0.1 s.u.	P	N		MSI	023051-02	2/21/2025
pH 10.00a	9.98	s.u.	±0.1 s.u.	P	N		MSI	022361-01	12/27/2024
SC Zero (DI)	0.0	µS/cm	0-25 µS/cm	P	N		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%	P	N		Geotech	3GA1071	Jan-24
ORP	238	mV	±15 mV	P	N		InSitu	3GD927	Jan-24
DO (Zero pt)	0.04	mg/L	±0.1	P	N		Macron	#000228049	8/26/2025
DO (Saturated)	98.5	%	97-100%	P	N		Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	N		Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 920			
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	Geotech	2GE870	May-24
pH 7.00b	7.00	s.u.	±0.15 s.u.	P	N	Geotech	2GF113	Jun-24
pH 10.00b	9.99	s.u.	±0.15 s.u.	P	N	Geotech	2GE820	May-24
SC 1000	1010	µS/cm	±5%	P	N	Ricca	4209A12	Aug-23

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1515				
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	023067-01	3/14/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000	1020	µS/cm	±5%				Ricca	4209A12	Aug-23
DO (Zero pt)	0.04	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	023067-01	3/14/2025
7.00a		s.u.	±0.1 s.u.				MSI	023051-02	2/21/2025
10.00a		s.u.	±0.1 s.u.				MSI	022361-01	12/27/2024
SC 1000		µS/cm	±5%				Ricca	4209A12	Aug-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 R. Reed	Date: 8/10/23
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CHAIN-OF-CUSTODY / Analytical Request Document

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

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2023
DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

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Section C

Invoice Information:

Section B Required Client Information:		Section C Invoice Information:	
Company:	Vistra Corp	Attention:	Jason Stuckey
Address:	13498 E. 900th St	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Address:	see Section A
Phone:	(217) 755-8911	Quote Reference:	
Requested Due Date/TAT:	10 day	Project Manager:	
		Profile #	
		Project Number:	2285

Section D

Required Client Information

Valid Matrix Codes		Requested Analysis Filtered (Y/N)	
MATRIX CODE	DRINKING WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIFE AIR OTHER TISSUE	NPDES UST RCRA OTHER	GROUND WATER DRINKING WATER OTHER
SAMPLE ID (A-Z, 0-9 / -)	Sample IDs MUST BE UNIQUE	Site Location	STATE:
		IL	6603019

ITEM #	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G72L	G	7/13/23	1514	huc Dnd	7/13/23	1716	James David	7-18-23	1716	36	845
2	R72S	G		1440								
3	G71L	G		1404								
4	G71S	G		1332								
5	G70L	G		1255								
6	G66S	G		1214								
7	G66L	G		1135								
8	G67L	G		1051								
9	G67S	G		1011								
10	EB1	G		1700								
11	EB2	G		1700								
12												
13												
14												
15												
16												

ADDITIONAL COMMENTS		SAMPLE CONDITIONS	
DC-23Q3 Rev 0		Temp in °C	
		Received on	
		Custody Sealed	
		Cooler (Y/N)	
		Samples Intact (Y/N)	

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

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DC-845-203

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Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	Vistra Corp	Report To:	Brian Voelker	Attention:	Jason Stuckey
Address:	13498 E. 900th St	Copy To:	Jason Stuckey	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Address:	see Section A
Phone:	(217) 753-8911	Project Name:		Quote Reference:	
Requested Due Date/TAT:	10 day	Project Number:	2285	Project Manager:	
				Profile #:	

Section D Required Client Information		Valid Matrix Codes		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Requested Analysis Filtered (Y/N)		Site Location		REGULATORY AGENCY		Project No./ Lab I.D.	
ITEM #		MATRIX CODE	DATE	TIME															
1	G555	GROUND WATER	7-20-23	1124															
2	G555	WASTE WATER	7-20-23	1050															
3	X301 PUMP	PRODUCT	7-20-23	1512															
4	EB4	SOIL/SOLID	7-20-23	1600															
5	EB5	WASTE WATER	7-20-23	1600															
6		WASTE WATER																	
7		WASTE WATER																	
8		WASTE WATER																	
9		WASTE WATER																	
10		WASTE WATER																	
11		WASTE WATER																	
12		WASTE WATER																	
13		WASTE WATER																	
14		WASTE WATER																	
15		WASTE WATER																	
16		WASTE WATER																	
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		Received on		Ice (Y/N)		Custody	
DC-23Q3 Rev 0		Vistra		7/20/23		1722		Vistra		7-20-23		1722		85		Y		N	
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY):													
KYLE LARK		KYLE LARK		KYLE LARK		07/20/23													

Page: 7 of 7

Company: Vistra Corp		Report To: Brian Voelker	Attention: Jason Stuckey			
Address: 13498 E. 900th St		Copy To: Jason Stuckey	Company Name: Vistra Corp	REGULATORY AGENCY		
			Address: see Section A	NPDES	GROUND WATER	DRINKING WATER
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.:	Quote Reference:	UST	RCRA	OTHER
Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location	IL	6604417 <i>ech</i>
Requested Due Date/TAT: 10 day		Project Number: 2285	Profile #:	STATE:		

[illegible]

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Joe Reed					
SIGNATURE of SAMPLER: 	DATE Signed (MM/DD/YY): 7/25/23				

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

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Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

September 11, 2023

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

Dear Daryl Johnson:

Please find enclosed the **revised** 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 General Manager, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

A handwritten signature in black ink that reads "Diane Billings". The signature is written in a cursive, flowing style.

Diane Billings
Project Manager



SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order GG03026

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
YES	Zero headspace, <6 mm present in VOA vials
YES	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



Work Order GG03365

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



Work Order GG03715

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



Work Order GG04161

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



Work Order GG04427

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



Work Order GG04652

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



Work Order GG04996

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



Work Order GG05278

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

ANALYTICAL RESULTS

Sample: GG03026-01
Name: G51S
Matrix: Ground Water - Grab

Sampled: 07/18/23 12:02
Received: 07/18/23 17:16

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.59	pCi/L			1	0.488	08/08/23 21:17		904.0 903.0

Sample: GG03365-01
Name: OM21
Matrix: Ground Water - Grab

Sampled: 07/19/23 15:05
Received: 07/19/23 17:12

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.96	pCi/L			1	0.72	08/10/23 17:49		904.0 903.0

Sample: GG03365-02
Name: OM22D
Matrix: Ground Water - Grab

Sampled: 07/19/23 12:42
Received: 07/19/23 17:12

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	5.51	pCi/L			1	0.798	08/10/23 17:49		904.0 903.0

Sample: GG03365-03
Name: EB 3
Matrix: Ground Water - Equipment Blank

Sampled: 07/19/23 17:10
Received: 07/19/23 17:12

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.143	pCi/L			1	0.586	08/10/23 17:49		904.0 903.0

ANALYTICAL RESULTS

Sample: GG03715-01
Name: G54L
Matrix: Ground Water - Grab

Sampled: 07/20/23 12:18
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.847	pCi/L			1	0.459	08/10/23 17:49		904.0 903.0

Sample: GG03715-02
Name: G54S
Matrix: Ground Water - Grab

Sampled: 07/20/23 11:04
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	4.03	pCi/L			1	0.492	08/08/23 21:17		904.0 903.0

Sample: GG03715-03
Name: G57S
Matrix: Ground Water - Grab

Sampled: 07/20/23 13:20
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.03	pCi/L			1	0.449	08/08/23 21:17		904.0 903.0

Sample: GG03715-04
Name: OM01
Matrix: Ground Water - Grab

Sampled: 07/20/23 12:35
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.714	pCi/L			1	0.684	08/08/23 21:17		904.0 903.0

ANALYTICAL RESULTS

Sample: GG03715-05
Name: OM01 DUP
Matrix: Ground Water - Field Duplicate

Sampled: 07/20/23 12:35
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.26	pCi/L			1	0.62	08/08/23 21:17		904.0 903.0

Sample: GG03715-06
Name: OR02
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:00
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.09	pCi/L			1	1.04	08/10/23 17:49		904.0 903.0

Sample: GG03715-07
Name: G60S
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:53
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.85	pCi/L			1	0.585	08/10/23 17:49		904.0 903.0

Sample: GG03715-08
Name: G60L
Matrix: Ground Water - Grab

Sampled: 07/20/23 14:41
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.968	pCi/L			1	1.13	08/08/23 21:17		904.0 903.0

ANALYTICAL RESULTS

Sample: GG03715-09
Name: X301 PUMP HOUSE
Matrix: Ground Water - Grab

Sampled: 07/20/23 15:12
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.13	pCi/L			1	1.03	08/08/23 21:17		904.0 903.0

Sample: GG03715-10
Name: EB 4
Matrix: Ground Water - Equipment Blank

Sampled: 07/20/23 16:00
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.696	pCi/L			1	0.503	08/08/23 21:17		904.0 903.0

Sample: GG03715-11
Name: EB 5
Matrix: Ground Water - Equipment Blank

Sampled: 07/20/23 16:00
Received: 07/20/23 17:22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.717	pCi/L			1	0.466	08/10/23 17:49		904.0 903.0

Sample: GG04161-01
Name: OR20
Matrix: Ground Water - Grab

Sampled: 07/24/23 11:10
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	4.18	pCi/L			1	0.997	08/09/23 17:01		904.0 903.0

ANALYTICAL RESULTS

Sample: GG04161-02
Name: OM16
Matrix: Ground Water - Grab

Sampled: 07/24/23 12:45
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.642	pCi/L			1	0.574	08/09/23 17:01		904.0 903.0

Sample: GG04161-03
Name: OR14D
Matrix: Ground Water - Grab

Sampled: 07/24/23 15:31
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.58	pCi/L			1	0.624	08/09/23 17:01		904.0 903.0

Sample: GG04161-04
Name: BA06
Matrix: Ground Water - Grab

Sampled: 07/24/23 15:34
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.223	pCi/L			1	0.514	08/09/23 17:01		904.0 903.0

Sample: GG04161-05
Name: BA01
Matrix: Ground Water - Grab

Sampled: 07/24/23 13:25
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.478	pCi/L			1	0.468	08/09/23 17:01		904.0 903.0

ANALYTICAL RESULTS

Sample: GG04161-06
Name: BA01 DUP
Matrix: Ground Water - Field Duplicate

Sampled: 07/24/23 13:25
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.16	pCi/L			1	0.499	08/09/23 17:01		904.0 903.0

Sample: GG04161-07
Name: BA03
Matrix: Ground Water - Grab

Sampled: 07/24/23 12:06
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.89	pCi/L			1	0.555	08/09/23 17:01		904.0 903.0

Sample: GG04161-08
Name: BA04
Matrix: Ground Water - Grab

Sampled: 07/24/23 14:06
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.272	pCi/L			1	0.567	08/09/23 17:01		904.0 903.0

Sample: GG04161-09
Name: BA05
Matrix: Ground Water - Grab

Sampled: 07/24/23 15:52
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.296	pCi/L			1	0.551	08/09/23 17:01		904.0 903.0

ANALYTICAL RESULTS

Sample: GG04161-10
Name: EB 7
Matrix: Ground Water - Equipment Blank

Sampled: 07/24/23 17:00
Received: 07/24/23 17:42

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.198	pCi/L			1	0.594	08/09/23 17:01		904.0 903.0
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Sample: GG04427-01
Name: OM17
Matrix: Ground Water - Grab

Sampled: 07/25/23 15:15
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	17.5	pCi/L			1	0.983	08/10/23 17:49		904.0 903.0
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Sample: GG04427-02
Name: OM04S
Matrix: Ground Water - Grab

Sampled: 07/25/23 14:24
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.599	pCi/L			1	0.574	08/10/23 17:49		904.0 903.0
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Sample: GG04427-03
Name: OR04D
Matrix: Ground Water - Grab

Sampled: 07/25/23 12:01
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	1.24	pCi/L			1	0.549	08/10/23 17:49		904.0 903.0
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ANALYTICAL RESULTS

Sample: GG04427-04
Name: EB 8
Matrix: Ground Water - Equipment Blank

Sampled: 07/25/23 16:01
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.697	pCi/L			1	0.603	08/10/23 17:49		904.0 903.0
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Sample: GG04427-05
Name: G64S
Matrix: Ground Water - Grab

Sampled: 07/25/23 16:23
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.846	pCi/L			1	0.657	08/10/23 17:49		904.0 903.0
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Sample: GG04427-06
Name: G02S
Matrix: Ground Water - Grab

Sampled: 07/25/23 14:35
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	3.97	pCi/L			1	0.464	08/10/23 17:49		904.0 903.0
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Sample: GG04427-07
Name: BA02
Matrix: Ground Water - Grab

Sampled: 07/25/23 12:47
Received: 07/25/23 17:46

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.186 U	pCi/L			1	0.541	08/10/23 17:49		904.0 903.0
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ANALYTICAL RESULTS

Sample: GG04652-01
Name: OR13D
Matrix: Ground Water - Grab

Sampled: 07/26/23 13:15
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	5.58	pCi/L			1	1.13	08/09/23 21:09		904.0 903.0

Sample: GG04652-02
Name: OR13D DUP
Matrix: Ground Water - Grab

Sampled: 07/26/23 13:15
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.96	pCi/L			1	0.85	08/09/23 21:09		904.0 903.0

Sample: GG04652-03
Name: OR13S
Matrix: Ground Water - Grab

Sampled: 07/26/23 11:42
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.883	pCi/L			1	0.645	08/09/23 21:09		904.0 903.0

Sample: GG04652-04
Name: OR11
Matrix: Ground Water - Grab

Sampled: 07/26/23 10:10
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.8	pCi/L			1	1.35	08/09/23 21:09		904.0 903.0

ANALYTICAL RESULTS

Sample: GG04652-05
Name: OM07
Matrix: Ground Water - Grab

Sampled: 07/26/23 11:52
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.945	pCi/L			1	0.626	08/09/23 21:09		904.0 903.0

Sample: GG04652-06
Name: OR06A
Matrix: Ground Water - Grab

Sampled: 07/26/23 12:33
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.837	pCi/L			1	0.684	08/14/23 16:37		904.0 903.0

Sample: GG04652-07
Name: OM25S
Matrix: Ground Water - Grab

Sampled: 07/26/23 13:30
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	17.7	pCi/L			1	1.29	08/14/23 16:37		904.0 903.0

Sample: GG04652-08
Name: EB10
Matrix: Ground Water - Grab

Sampled: 07/26/23 15:00
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.524	pCi/L			1	0.769	08/14/23 16:37		904.0 903.0

ANALYTICAL RESULTS

Sample: GG04652-09
Name: EB11
Matrix: Ground Water - Grab

Sampled: 07/26/23 15:05
Received: 07/26/23 15:29

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.0651	pCi/L			1	0.835	08/14/23 16:37		904.0 903.0
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Sample: GG04996-01
Name: OM12
Matrix: Ground Water - Grab

Sampled: 07/27/23 16:02
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.943	pCi/L			1	0.462	08/09/23 21:09		904.0 903.0
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Sample: GG04996-02
Name: OM23D
Matrix: Ground Water - Grab

Sampled: 07/27/23 14:12
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.389	pCi/L			1	0.48	08/09/23 21:09		904.0 903.0
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Sample: GG04996-03
Name: OM24D
Matrix: Ground Water - Grab

Sampled: 07/27/23 15:40
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	1.55	pCi/L			1	0.564	08/09/23 21:09		904.0 903.0
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ANALYTICAL RESULTS

Sample: GG04996-04
Name: G50S
Matrix: Ground Water - Grab

Sampled: 07/27/23 14:28
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.318	pCi/L			1	0.582	08/09/23 21:09		904.0 903.0

Sample: GG04996-05
Name: G64L
Matrix: Ground Water - Grab

Sampled: 07/27/23 12:06
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.544	pCi/L			1	0.494	08/09/23 21:09		904.0 903.0

Sample: GG04996-06
Name: EB 12
Matrix: Ground Water - Equipment Blank

Sampled: 07/27/23 00:00
Received: 07/27/23 18:38

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.174	pCi/L			1	0.611	08/09/23 21:09		904.0 903.0

Sample: GG05278-01
Name: OR03D
Matrix: Ground Water - Grab

Sampled: 07/31/23 11:30
Received: 07/31/23 16:05

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	16.2	pCi/L			1	0.933	08/11/23 16:39		904.0 903.0

ANALYTICAL RESULTS

Sample: GG05278-02
Name: OR19
Matrix: Ground Water - Grab

Sampled: 07/31/23 13:27
Received: 07/31/23 16:05

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	2.94	pCi/L			1	1.17	08/11/23 16:39		904.0 903.0
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Sample: GG05278-03
Name: EB 13
Matrix: Ground Water - Grab

Sampled: 07/31/23 15:50
Received: 07/31/23 16:05

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
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Miscellaneous - Pace Analytical - Mt Juliet, Tn

Rad 226 and 228-Subcontract	0.367	pCi/L			1	0.532	08/11/23 16:39		904.0 903.0
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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

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



Certified by: Diane Billings, Project Manager



ANALYTICAL REPORT

August 16, 2023

Pace IR - Peoria, IL

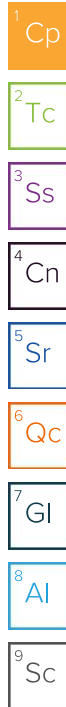
Sample Delivery Group: L1640282
Samples Received: 07/28/2023
Project Number: GG03026
Description: Vistra-Duck Creek
Site: 001
Report To: Gail Schindler
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence

Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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		⁹ Sc

SAMPLE SUMMARY

Collected by

Collected date/time

Received date/time

07/18/23 12:02

07/28/23 10:00

G51S L1640282-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

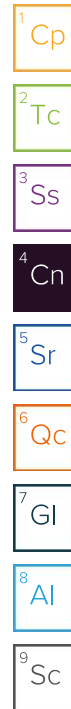
⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Haley Torrence
Project Manager



DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.752		0.268	0.459	08/08/2023 21:17	WG2104670
(T) Barium	104			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	108			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.59		0.419	0.488	08/08/2023 21:17	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.835		0.322	0.166	08/04/2023 17:01	WG2105812
(T) Barium-133	109			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3959520-1 08/08/23 21:17

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228 (T) Barium	-0.0771 101	U	0.211 101	0.381
(T) Yttrium	82.1		82.1	

L1640280-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1640280-05 08/08/23 21:17 • (DUP) R3959520-5 08/08/23 21:17

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228 (T) Barium	0.909 94.2	0.311	0.530	0.000 94.4	0.370 94.4	0.530	1	200	1.88	U	20	3
(T) Yttrium	98.8			105	105							

Laboratory Control Sample (LCS)

(LCS) R3959520-2 08/08/23 21:17

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228 (T) Barium	5.00	5.07	101	80.0-120	
(T) Yttrium			99.0 92.6		

L1639961-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1639961-02 08/08/23 21:17 • (MS) R3959520-3 08/08/23 21:17 • (MSD) R3959520-4 08/08/23 21:17

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228 (T) Barium	16.7	0.461 124	17.5	18.7	102 112	109 98.6	1	70.0-130			6.53		20
(T) Yttrium			98.0		107	97.6							

Method Blank (MB)

(MB) R3960529-1 08/04/23 17:01

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0550	J	0.0681	0.0955
(T) Barium-133	78.7		78.7	

L1640281-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-07 08/04/23 17:01 • (DUP) R3960529-4 08/04/23 17:01

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.186	0.180	0.223	0.494	0.223	1	90.5	0.774		20	3
(T) Barium-133	109		81.1	81.1							

Laboratory Control Sample (LCS)

(LCS) R3960529-5 08/04/23 20:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.58	91.4	80.0-120	
(T) Barium-133		60.1			

L1640284-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640284-04 08/04/23 17:01 • (MS) R3960529-2 08/04/23 17:01 • (MSD) R3960529-3 08/04/23 17:01

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.223	21.4	18.7	106	92.2	1	75.0-125		13.7		20
(T) Barium-133		86.4		77.7	77.7	76.2						

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

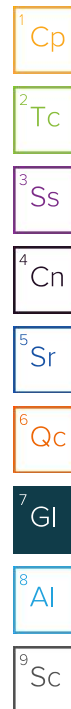
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

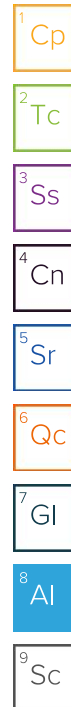
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ANALYTICAL REPORT

August 16, 2023

Pace IR - Peoria, IL

Sample Delivery Group: L1640283
Samples Received: 07/28/2023
Project Number: GG03365
Description: Vistra-Duck Creek
Site: 001
Report To: Gail Schindler
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence

Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

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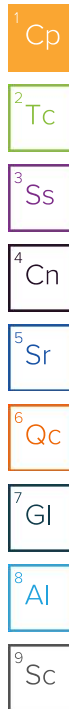


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SAMPLE SUMMARY

OM21 L1640283-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/19/23 15:05

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OM22D L1640283-02 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/19/23 12:42

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

EB 3 L1640283-03 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/19/23 17:10

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Haley Torrence
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.38		0.396	0.677	08/10/2023 17:49	WG2105353
(T) Barium	93.0			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	114			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.96		0.619	0.720	08/10/2023 17:49	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.58		0.476	0.246	08/04/2023 17:01	WG2105812
(T) Barium-133	102			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.37		0.457	0.764	08/10/2023 17:49	WG2105353
(T) Barium	91.6			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	111			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	5.51		0.787	0.798	08/10/2023 17:49	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	3.14		0.641	0.230	08/04/2023 17:01	WG2105812
(T) Barium-133	97.3			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 07/19/23 17:10

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND

DC-845-203

L1640283

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0661	U	0.303	0.544	08/10/2023 17:49	WG2105353
(T) Barium	111			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	110			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.143	U	0.331	0.586	08/10/2023 17:49	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0766	U	0.133	0.217	08/04/2023 17:01	WG2105812
(T) Barium-133	96.0			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3959496-1 08/10/23 17:49

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	-0.175	U	0.177	0.328
(T) Barium	134		134	
(T) Yttrium	114		114	

L1640281-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-02 08/10/23 17:49 • (DUP) R3959496-5 08/10/23 17:49

Analyte	Original Result pCi/l	Original Uncertainty + / -	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.380	0.291	0.521	0.316	0.521	1	200	0.995	U	20	3
(T) Barium	119		114	114							
(T) Yttrium	113		104	104							

Laboratory Control Sample (LCS)

(LCS) R3959496-2 08/10/23 17:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.71	114	80.0-120	
(T) Barium			119		
(T) Yttrium			95.2		

L1640281-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640281-05 08/10/23 17:49 • (MS) R3959496-3 08/10/23 17:49 • (MSD) R3959496-4 08/10/23 17:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.442	16.6	16.0	96.8	93.1	1	70.0-130		3.80		20
(T) Barium		107			113	116						
(T) Yttrium		109			112	111						

Method Blank (MB)

(MB) R3960529-1 08/04/23 17:01

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0550	J	0.0681	0.0955
(T) Barium-133	78.7		78.7	

L1640281-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-07 08/04/23 17:01 • (DUP) R3960529-4 08/04/23 17:01

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.186	0.180	0.223	0.494	0.223	1	90.5	0.774		20	3
(T) Barium-133	109		81.1	81.1							

Laboratory Control Sample (LCS)

(LCS) R3960529-5 08/04/23 20:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.58	91.4	80.0-120	
(T) Barium-133		60.1			

L1640284-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640284-04 08/04/23 17:01 • (MS) R3960529-2 08/04/23 17:01 • (MSD) R3960529-3 08/04/23 17:01

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.223	21.4	18.7	106	92.2	1	75.0-125		13.7		20
(T) Barium-133		86.4		77.7	77.7	76.2						

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

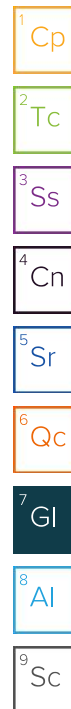
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

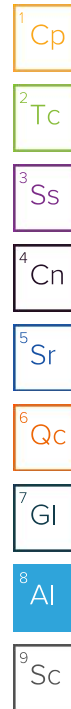
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Alabama	40660	Nebraska	NE-OS-15-05
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Arkansas	88-0469	New Jersey--NELAP	TN002
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Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

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A129

PH-10BDH4321 TRC-2-1441d1
CR6-20221V

Internal Transfer Chain of Custody



State of Origin: IL
Cert. Needed: ☒ YES ☐ NO

Owner Received
Date:

Results Required
By:

Workorder: GG03365

Workorder Name: VISTRA - DUCK CREEK

Subcontract To:

Report To:

Gail Schindler
Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

8/8/2023

7/19/2023

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										Date/Time	Comments
1	OM21	GRAB	7/19/2023 15:05	GG03365-01	GW												
2	OM22D	GRAB	7/19/2023 12:42	GG03365-02	GW												
3	EB 3	GRAB	7/19/2023 17:10	GG03365-03	DI												
Transfers 3/14/2023 14:31																	
1																	
2																	
3																	

LAB USE ONLY
-01
-02
-03

Cooler Temperature on Receipt

Custody Seal Y or N

Received on Ice Y or N

Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist
If Applicable
COC Seal Present/Intact: ☒ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAT Screen <0.5 mR/hr: ☒ Y ☐ N

ANALYTICAL REPORT

September 07, 2023

Revised Report

Pace IR - Peoria, IL

Sample Delivery Group: L1640280
Samples Received: 07/28/2023
Project Number: GG03715
Description: Vistra-Duck Creek
Site: 001
Report To: Gail Schindler
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence

Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

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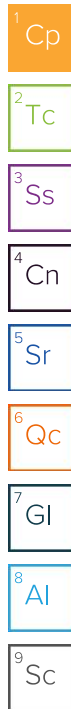
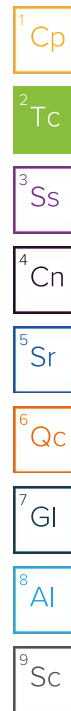


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Al: Accreditations & Locations	22
Sc: Sample Chain of Custody	23



SAMPLE SUMMARY

G54L L1640280-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104631	1	07/31/23 16:00	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104631	1	07/31/23 16:00	08/04/23 12:26	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 12:18

07/28/23 10:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

G54S L1640280-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104631	1	07/31/23 16:00	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104631	1	07/31/23 16:00	08/04/23 12:26	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 11:04

07/28/23 10:00

G57S L1640280-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 13:20

07/28/23 10:00

OM01 L1640280-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 12:35

07/28/23 10:00

OM01 DUP L1640280-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 12:35

07/28/23 10:00

ORO2 L1640280-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/20/23 14:00

07/28/23 10:00

SAMPLE SUMMARY

G60S L1640280-07 Non-Potable Water

Collected by
Collected date/time
07/20/23 14:53
Received date/time
07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

G60L L1640280-08 Non-Potable Water

Collected by
Collected date/time
07/20/23 14:41
Received date/time
07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

X301 PUMP HOUSE L1640280-09 Non-Potable Water

Collected by
Collected date/time
07/20/23 15:12
Received date/time
07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

EB 4 L1640280-10 Non-Potable Water

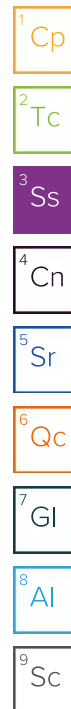
Collected by
Collected date/time
07/20/23 16:00
Received date/time
07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104670	1	07/31/23 09:50	08/08/23 21:17	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/08/23 21:17	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

EB 5 L1640280-11 Non-Potable Water

Collected by
Collected date/time
07/20/23 16:00
Received date/time
07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN



CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

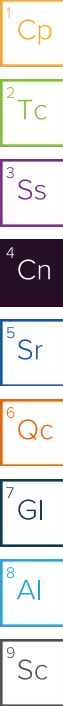


Haley Torrence
Project Manager

Report Revision History

Level II Report - Version 1: 08/16/23 10:34
Level II Report - Version 2: 08/17/23 14:28

Project Narrative



DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.644		0.225	0.389	08/10/2023 17:49	WG2105353
(T) Barium	104			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	106			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.847		0.298	0.459	08/10/2023 17:49	WG2104631

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.203	J	0.196	0.243	08/04/2023 12:26	WG2104631
(T) Barium-133	82.4			30.0-143	08/04/2023 12:26	WG2104631

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.292	J	0.236	0.417	08/08/2023 21:17	WG2104670
(T) Barium	85.1			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	99.3			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	4.03		0.731	0.492	08/08/2023 21:17	WG2104631

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	3.74		0.692	0.261	08/04/2023 12:26	WG2104631
(T) Barium-133	99.2			30.0-143	08/04/2023 12:26	WG2104631

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.680		0.206	0.347	08/08/2023 21:17	WG2104670
(T) Barium	108			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	107			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.03		0.334	0.449	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.355		0.263	0.285	08/03/2023 18:42	WG2104809
(T) Barium-133	106			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.390	J	0.274	0.481	08/08/2023 21:17	WG2104670
(T) Barium	79.2			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	106			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.714		0.453	0.684	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.323	J	0.361	0.487	08/03/2023 18:42	WG2104809
(T) Barium-133	60.5			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.909		0.311	0.530	08/08/2023 21:17	WG2104670
(T) Barium	94.2			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	98.8			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.26		0.618	0.620	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.35		0.534	0.321	08/03/2023 18:42	WG2104809
(T) Barium-133	73.1			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-1.06	U	0.504	0.963	08/10/2023 17:49	WG2105353
(T) Barium	93.7			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	114			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.09		0.819	1.04	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	2.09		0.646	0.403	08/03/2023 18:42	WG2104809
(T) Barium-133	73.5			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.729		0.287	0.500	08/10/2023 17:49	WG2105353
(T) Barium	105			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	93.5			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.85		0.566	0.585	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.12		0.488	0.303	08/03/2023 18:42	WG2104809
(T) Barium-133	71.7			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.648	J	0.588	1.04	08/08/2023 21:17	WG2104670
(T) Barium	41.3			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	89.7			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.968	J	0.674	1.13	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.320	J	0.330	0.432	08/03/2023 18:42	WG2104809
(T) Barium-133	61.2			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.76		0.582	0.992	08/08/2023 21:17	WG2104670
(T) Barium	45.4			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	112			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.13		0.645	1.03	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.374		0.279	0.295	08/03/2023 18:42	WG2104809
(T) Barium-133	67.8			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.396	J	0.231	0.402	08/08/2023 21:17	WG2104670
(T) Barium	100			30.0-143	08/08/2023 21:17	WG2104670
(T) Yttrium	106			30.0-136	08/08/2023 21:17	WG2104670

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.696		0.343	0.503	08/08/2023 21:17	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.300	J	0.254	0.303	08/03/2023 18:42	WG2104809
(T) Barium-133	85.3			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.399		0.196	0.346	08/10/2023 17:49	WG2105353
(T) Barium	113			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	111			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.717		0.326	0.466	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.318		0.261	0.312	08/03/2023 18:42	WG2104809
(T) Barium-133	108			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3959520-1 08/08/23 21:17

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228 (T) Barium	-0.0771 101	U	0.211 101	0.381
(T) Yttrium	82.1		82.1	

L1640280-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1640280-05 08/08/23 21:17 • (DUP) R3959520-5 08/08/23 21:17

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228 (T) Barium	0.909 94.2	0.311	0.530	0.370 94.4	0.530	1	200	1.88	U	20	3
(T) Yttrium	98.8		105	105							

Laboratory Control Sample (LCS)

(LCS) R3959520-2 08/08/23 21:17

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228 (T) Barium	5.00	5.07	101	80.0-120	
(T) Yttrium		99.0 92.6			

L1639961-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1639961-02 08/08/23 21:17 • (MS) R3959520-3 08/08/23 21:17 • (MSD) R3959520-4 08/08/23 21:17

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-228 (T) Barium	16.7	0.461 124	17.5	18.7	102 112	109 98.6	1	70.0-130		6.53		20
(T) Yttrium		98.0			107	97.6						

Method Blank (MB)

(MB) R3959496-1 08/10/23 17:49

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.175	U	0.177	0.328
(T) Barium	134		134	
(T) Yttrium	114		114	

L1640281-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-02 08/10/23 17:49 • (DUP) R3959496-5 08/10/23 17:49

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.380	0.291	0.521	-0.0470	0.316	0.521	1	200	0.995	U	20	3
(T) Barium	119			114	114							
(T) Yttrium	113			104	104							

Laboratory Control Sample (LCS)

(LCS) R3959496-2 08/10/23 17:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.71	114	80.0-120	
(T) Barium			119		
(T) Yttrium			95.2		

L1640281-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640281-05 08/10/23 17:49 • (MS) R3959496-3 08/10/23 17:49 • (MSD) R3959496-4 08/10/23 17:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.442	16.6	16.0	96.8	93.1	1	70.0-130			3.80		20
(T) Barium		107			113	116							
(T) Yttrium		109			112	111							

Method Blank (MB)

(MB) R3960559-1 08/04/23 09:33

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0383	U	0.0696	0.108
(T) Barium-133	72.2		72.2	

L1638449-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1638449-06 08/04/23 09:34 • (DUP) R3960559-5 08/04/23 09:33

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.857	0.490	0.431	0.619	0.391	0.431	1	32.2	0.379		20	3
(T) Barium-133	51.7			70.0	70.0							

Laboratory Control Sample (LCS)

(LCS) R3960559-2 08/04/23 09:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.00	99.8	80.0-120	
(T) Barium-133		47.1			

L1640280-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640280-01 08/04/23 12:26 • (MS) R3960559-3 08/04/23 09:33 • (MSD) R3960559-4 08/04/23 09:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.203	16.0	17.9	79.2	88.4	1	75.0-125			10.9		20
(T) Barium-133		82.4		94.1	94.1	89.3							

Method Blank (MB)

(MB) R3960500-1 08/03/23 18:42

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	-0.00925	U	0.0497	0.104
(T) Barium-133	71.9		71.9	

L1636055-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1636055-06 08/03/23 18:42 • (DUP) R3960500-5 08/03/23 18:42

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	16.0	2.06	0.474	15.0	2.08	0.474	1	6.41	0.338		20	3
(T) Barium-133	47.0			47.9	47.9							

Laboratory Control Sample (LCS)

(LCS) R3960500-2 08/03/23 18:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.43	88.3	80.0-120	
(T) Barium-133			92.5		

L1638449-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638449-14 08/03/23 18:42 • (MS) R3960500-3 08/03/23 18:42 • (MSD) R3960500-4 08/03/23 18:42

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	65.5	81.1	83.0	78.1	87.5	1	75.0-125		2.29		20
(T) Barium-133		112			94.6	82.4						

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

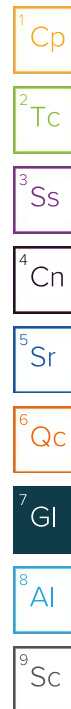
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

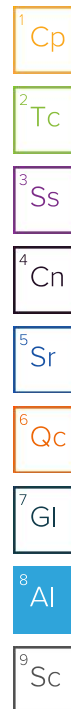
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



PH-10BDH4321 TRC-2144141
CR6-20221V

A131

Internal Transfer Chain of Custody

State of Origin: IL
Cert. Needed: ☒ YES ☐ NO

Owner Received
Date: 7/20/2023 By: 8/8/2023

Workorder: GG03715

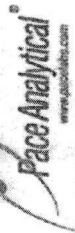
Report To: Subcontract To:

Gail Schindler

Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Workorder Name: VISTRA - DUCK CREEK

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122



Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Radium 226	Radium 228	LAB USE ONLY
1	G54L	GRAB	7/20/2023 12:18	GG03715-01	GW		X	X	-01
2	G54S	GRAB	7/20/2023 11:04	GG03715-02	GW		X	X	-02
3	G57S	GRAB	7/20/2023 13:20	GG03715-03	GW		X	X	-03
4	OM01	GRAB	7/20/2023 12:35	GG03715-04	GW		X	X	-04
5	OM01 DUP	GRAB	7/20/2023 12:35	GG03715-05	GW		X	X	-05
6	OR02	GRAB	7/20/2023 14:00	GG03715-06	GW		X	X	-06
7	G60S	GRAB	7/20/2023 14:53	GG03715-07	GW		X	X	-07
8	G60L	GRAB	7/20/2023 14:41	GG03715-08	GW		X	X	-08
9	X301 PUMP HOUSE	GRAB	7/20/2023 15:12	GG03715-09	GW		X	X	-09
10	EB 4	GRAB	7/20/2023 16:00	GG03715-10	DI		X	X	-10
Transfers 3/11/2023 14:31									
1			7/27/23 0600 D. Kennedy						
2									
3									
Comments							Needs reported as 226, 228 and also combined 226/228, include QC 10 day TAT		

Cooler Temperature on Receipt ☐ °C Custody Seal ☒ Y or N Received on Ice ☒ Y or N Sample Intact ☒ Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

ANALYTICAL REPORT

August 16, 2023

Pace IR - Peoria, IL

Sample Delivery Group: L1640284
Samples Received: 07/28/2023
Project Number: GG04161
Description: Vistra-Duck Creek
Site: 001
Report To: Gail Schindler
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

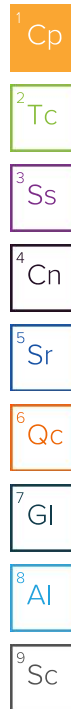
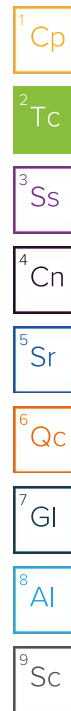


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SAMPLE SUMMARY

OR20 L1640284-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 11:10

07/28/23 10:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OM16 L1640284-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 12:45

07/28/23 10:00

OR14D L1640284-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 15:31

07/28/23 10:00

BA06 L1640284-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 15:34

07/28/23 10:00

BA01 L1640284-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 13:25

07/28/23 10:00

BA01 DUP L1640284-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/24/23 13:25

07/28/23 10:00

SAMPLE SUMMARY

BA03 L1640284-07 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/24/23 12:06

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

BA04 L1640284-08 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/24/23 14:06

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

BA05 L1640284-09 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/24/23 15:52

07/28/23 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

EB 7 L1640284-10 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/24/23 17:00

07/28/23 10:00

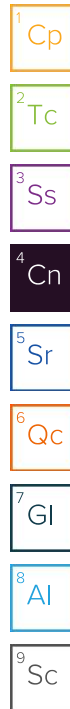
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2104999	1	07/31/23 17:24	08/09/23 17:01	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/09/23 17:01	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Haley Torrence
Project Manager



DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.39		0.567	0.955	08/09/2023 17:01	WG2104999
(T) Barium	90.3			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	101			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	4.18		0.773	0.997	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.79		0.526	0.285	08/04/2023 17:01	WG2105812
(T) Barium-133	102			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.479	J	0.274	0.486	08/09/2023 17:01	WG2104999
(T) Barium	94.3			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	105			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.642		0.347	0.574	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.163	J	0.213	0.305	08/04/2023 17:01	WG2105812
(T) Barium-133	96.6			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.773		0.320	0.560	08/09/2023 17:01	WG2104999
(T) Barium	85.1			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	98.7			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.58		0.502	0.624	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.808		0.387	0.276	08/04/2023 17:01	WG2105812
(T) Barium-133	85.1			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0567	U	0.207	0.384	08/09/2023 17:01	WG2104999
(T) Barium	110			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	110			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.223	J	0.326	0.514	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.223	J	0.252	0.342	08/04/2023 17:01	WG2105812
(T) Barium-133	86.4			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0338	U	0.207	0.379	08/09/2023 17:01	WG2104999
(T) Barium	119			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	108			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.478		0.366	0.468	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.445		0.302	0.274	08/04/2023 17:01	WG2105812
(T) Barium-133	79.4			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.390	J	0.230	0.409	08/09/2023 17:01	WG2104999
(T) Barium	92.7			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	114			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.16		0.420	0.499	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.775		0.352	0.285	08/04/2023 17:01	WG2105812
(T) Barium-133	92.6			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.01		0.302	0.518	08/09/2023 17:01	WG2104999
(T) Barium	107			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	112			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.89		0.444	0.555	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.887		0.325	0.200	08/04/2023 17:01	WG2105812
(T) Barium-133	106			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.146	U	0.270	0.495	08/09/2023 17:01	WG2104999
(T) Barium	98.4			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	113			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.272	J	0.355	0.567	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.272	J	0.231	0.276	08/04/2023 17:01	WG2105812
(T) Barium-133	93.8			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 07/24/23 15:52

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND

DC-845-203

L1640284

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.151	U	0.251	0.454	08/09/2023 17:01	WG2104999
(T) Barium	92.9			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	103			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.296	J	0.329	0.551	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.145	J	0.212	0.312	08/04/2023 17:01	WG2105812
(T) Barium-133	102			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.151	U	0.286	0.515	08/09/2023 17:01	WG2104999
(T) Barium	104			30.0-143	08/09/2023 17:01	WG2104999
(T) Yttrium	91.1			30.0-136	08/09/2023 17:01	WG2104999

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.198	U	0.332	0.594	08/09/2023 17:01	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0470	U	0.169	0.296	08/04/2023 17:01	WG2105812
(T) Barium-133	131			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3959504-1 08/09/23 17:01

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.438	U	0.193	0.365
(T) Barium	111			
(T) Yttrium	89.3		89.3	

L1640421-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1640421-09 08/09/23 17:01 • (DUP) R3959504-5 08/09/23 17:01

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.145	0.455	0.825	0.701	0.342	0.825	1	200	1.48		20	3
(T) Barium	95.7			98.0	98.0							
(T) Yttrium	114			97.6	97.6							

Laboratory Control Sample (LCS)

(LCS) R3959504-2 08/09/23 17:01

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.18	83.7	80.0-120	
(T) Barium			127		
(T) Yttrium			98.3		

L1640284-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640284-05 08/09/23 17:01 • (MS) R3959504-3 08/09/23 17:01 • (MSD) R3959504-4 08/09/23 17:01

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.0338	8.98	8.23	89.5	82.0	1	70.0-130			8.68		20
(T) Barium		119			109	102							
(T) Yttrium		108			105	106							

Method Blank (MB)

(MB) R3960529-1 08/04/23 17:01

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0550	J	0.0681	0.0955
(T) Barium-133	78.7		78.7	

L1640281-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-07 08/04/23 17:01 • (DUP) R3960529-4 08/04/23 17:01

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.186	0.180	0.223	0.494	0.223	1	90.5	0.774		20	3
(T) Barium-133	109		81.1	81.1							

Laboratory Control Sample (LCS)

(LCS) R3960529-5 08/04/23 20:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.58	91.4	80.0-120	
(T) Barium-133		60.1			

L1640284-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640284-04 08/04/23 17:01 • (MS) R3960529-2 08/04/23 17:01 • (MSD) R3960529-3 08/04/23 17:01

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.223	21.4	18.7	106	92.2	1	75.0-125		13.7		20
(T) Barium-133		86.4		77.7	77.7	76.2						

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

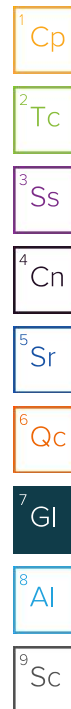
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

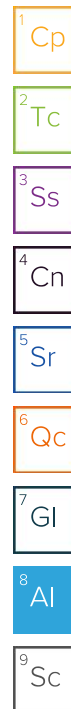
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



A128

PH-10BDH4321 TRC-2144141
CRG-20221V

Internal Transfer Chain of Custody

State of Origin: IL
Cert. Needed: ☒ YES ☐ NO

Owner Received
Date: 7/24/2023 By: 8/8/2023

Workorder: GG04161

Workorder Name: VISTRA - DUCK CREEK

Subcontract To:

Gail Schindler
Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Date/Time	Received By	Date/Time	Comments
1	OR20	GRAB	7/24/2023 11:10	GG04161-01	GW			7/24/2023 11:10		7/24/2023 11:10	
2	OM16	GRAB	7/24/2023 12:45	GG04161-02	GW			7/24/2023 12:45		7/24/2023 12:45	
3	OR14D	GRAB	7/24/2023 15:31	GG04161-03	GW			7/24/2023 15:31		7/24/2023 15:31	
4	BA06	GRAB	7/24/2023 15:34	GG04161-04	GW			7/24/2023 15:34		7/24/2023 15:34	
5	BA01	GRAB	7/24/2023 13:25	GG04161-05	GW			7/24/2023 13:25		7/24/2023 13:25	
6	BA01 DUP	GRAB	7/24/2023 13:25	GG04161-06	GW			7/24/2023 13:25		7/24/2023 13:25	
7	BA03	GRAB	7/24/2023 12:06	GG04161-07	GW			7/24/2023 12:06		7/24/2023 12:06	
8	BA04	GRAB	7/24/2023 14:06	GG04161-08	GW			7/24/2023 14:06		7/24/2023 14:06	
9	BA05	GRAB	7/24/2023 15:52	GG04161-09	GW			7/24/2023 15:52		7/24/2023 15:52	
10	EB7	GRAB	7/24/2023 17:00	GG04161-10	DI			7/24/2023 17:00		7/24/2023 17:00	
Transfers 3/14/2023 14:31											
1			7/27/23 0600	D. L. Amey				7/27/23 0600		7/27/23 0600	
2											
3											

LAB USE ONLY
4640284

Cooler Temperature on Receipt _____ °C Custody Seal Y or N Received on Ice Y or N Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

ANALYTICAL REPORT

August 16, 2023

Pace IR - Peoria, IL

Sample Delivery Group: L1640281
Samples Received: 07/28/2023
Project Number: GG04427
Description: Vistra-Duck Creek
Site: 001
Report To: Gail Schindler
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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Pace Analytical National

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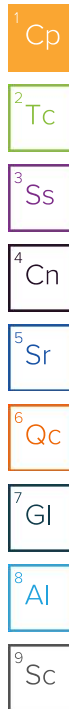
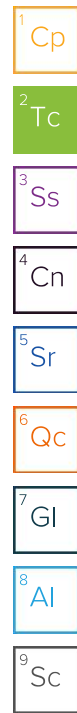


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SAMPLE SUMMARY

OM17 L1640281-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 15:15

07/28/23 10:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OM04S L1640281-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 14:24

07/28/23 10:00

OR04D L1640281-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 12:01

07/28/23 10:00

EB 8 L1640281-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 18:42	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 16:01

07/28/23 10:00

G64S L1640281-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2104809	1	08/01/23 14:50	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2104809	1	08/01/23 14:50	08/03/23 16:06	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 16:23

07/28/23 10:00

G02S L1640281-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/25/23 14:35

07/28/23 10:00

SAMPLE SUMMARY

Collected by

Collected date/time

Received date/time

07/25/23 12:47

07/28/23 10:00

BA02 L1640281-07 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2105353	1	08/01/23 10:27	08/10/23 17:49	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2105812	1	08/01/23 17:49	08/10/23 17:49	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2105812	1	08/01/23 17:49	08/04/23 17:01	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

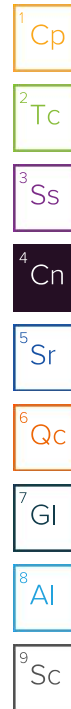
⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Haley Torrence
Project Manager



DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	7.39		0.617	0.880	08/10/2023 17:49	WG2105353
(T) Barium	151	C1		30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	111			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	17.5		1.34	0.983	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	10.1		1.19	0.439	08/03/2023 18:42	WG2104809
(T) Barium-133	97.0			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.380	J	0.291	0.521	08/10/2023 17:49	WG2105353
(T) Barium	119			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	113			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.599		0.353	0.574	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.218	J	0.199	0.240	08/03/2023 18:42	WG2104809
(T) Barium-133	103			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.840		0.233	0.396	08/10/2023 17:49	WG2105353
(T) Barium	104			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	96.6			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.24		0.393	0.549	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.401		0.317	0.380	08/03/2023 18:42	WG2104809
(T) Barium-133	96.6			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 07/25/23 16:01

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND

DC-845-203

L1640281

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.166	U	0.268	0.481	08/10/2023 17:49	WG2105353
(T) Barium	131			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	106			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.697		0.430	0.603	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.531		0.336	0.363	08/03/2023 18:42	WG2104809
(T) Barium-133	81.5			30.0-143	08/03/2023 18:42	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.442	J	0.308	0.548	08/10/2023 17:49	WG2105353
(T) Barium	107			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	109			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.846		0.442	0.657	08/10/2023 17:49	WG2104809

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.404		0.317	0.363	08/03/2023 16:06	WG2104809
(T) Barium-133	85.5			30.0-143	08/03/2023 16:06	WG2104809

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.688		0.246	0.425	08/10/2023 17:49	WG2105353
(T) Barium	116			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	109			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.97		0.712	0.464	08/10/2023 17:49	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	3.28		0.668	0.185	08/04/2023 17:01	WG2105812
(T) Barium-133	100			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.295	U	0.268	0.493	08/10/2023 17:49	WG2105353
(T) Barium	119			30.0-143	08/10/2023 17:49	WG2105353
(T) Yttrium	118			30.0-136	08/10/2023 17:49	WG2105353

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.186	U	0.323	0.541	08/10/2023 17:49	WG2105812

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.186	J	0.180	0.223	08/04/2023 17:01	WG2105812
(T) Barium-133	109			30.0-143	08/04/2023 17:01	WG2105812

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3959496-1 08/10/23 17:49

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.175	U	0.177	0.328
(T) Barium	134		134	
(T) Yttrium	114		114	

L1640281-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-02 08/10/23 17:49 • (DUP) R3959496-5 08/10/23 17:49

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.380	0.291	0.521	-0.0470	0.316	0.521	1	200	0.995	U	20	3
(T) Barium	119			114	114							
(T) Yttrium	113			104	104							

Laboratory Control Sample (LCS)

(LCS) R3959496-2 08/10/23 17:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.71	114	80.0-120	
(T) Barium			119		
(T) Yttrium			95.2		

L1640281-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640281-05 08/10/23 17:49 • (MS) R3959496-3 08/10/23 17:49 • (MSD) R3959496-4 08/10/23 17:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.442	16.6	16.0	96.8	93.1	1	70.0-130			3.80		20
(T) Barium		107			113	116							
(T) Yttrium		109			112	111							

Method Blank (MB)

(MB) R3960500-1 08/03/23 18:42

Analyte	MB Result pCi/l	MB Qualifier +/-	MB Uncertainty pCi/l	MB MDA pCi/l
Radium-226	-0.00925	U	0.0497	0.104
(T) Barium-133	71.9	71.9		

L1636055-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1636055-06 08/03/23 18:42 • (DUP) R3960500-5 08/03/23 18:42

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	16.0	2.06	0.474	15.0	2.08	0.474	1	6.41	0.338		20	3
(T) Barium-133	47.0			47.9	47.9							

Laboratory Control Sample (LCS)

(LCS) R3960500-2 08/03/23 18:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.43	88.3	80.0-120	
(T) Barium-133			92.5		

L1638449-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638449-14 08/03/23 18:42 • (MS) R3960500-3 08/03/23 18:42 • (MSD) R3960500-4 08/03/23 18:42

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	65.5	81.1	83.0	78.1	87.5	1	75.0-125		2.29		20
(T) Barium-133		112			94.6	82.4						

Method Blank (MB)

(MB) R3960529-1 08/04/23 17:01

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0550	J	0.0681	0.0955
(T) Barium-133	78.7		78.7	

L1640281-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1640281-07 08/04/23 17:01 • (DUP) R3960529-4 08/04/23 17:01

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.186	0.180	0.223	0.494	0.223	1	90.5	0.774		20	3
(T) Barium-133	109		81.1	81.1							

Laboratory Control Sample (LCS)

(LCS) R3960529-5 08/04/23 20:57

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.58	91.4	80.0-120	
(T) Barium-133		60.1			

L1640284-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1640284-04 08/04/23 17:01 • (MS) R3960529-2 08/04/23 17:01 • (MSD) R3960529-3 08/04/23 17:01

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.223	21.4	18.7	106	92.2	1	75.0-125		13.7		20
(T) Barium-133		86.4		77.7	77.7	76.2						

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

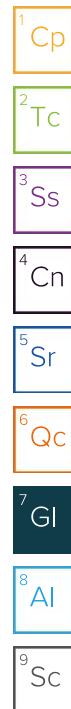
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

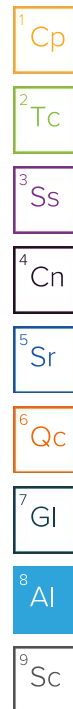
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



PH-10BDH4321 TRC-2144141
CR6-20221V

A130

Internal Transfer Chain of Custody



State of Origin: IL
Cert. Needed: ☒ YES ☐ NO

Owner Received
Date: 7/25/2023 By: 8/8/2023

Workorder Name: VISTRA - DUCK CREEK

Workorder: GG04427

Report To: Subcontract To:

Gail Schindler
Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Item		Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Date/Time		Received By		Date/Time		Comments	
1	OM17	GRAB	7/25/2023 15:15	GG04427-01	GW										
2	OM04S	GRAB	7/25/2023 14:24	GG04427-02	GW										
3	OR04D	GRAB	7/25/2023 12:01	GG04427-03	GW										
4	EB 8	GRAB	7/25/2023 16:01	GG04427-04	DI										
5	G64S	GRAB	7/25/2023 16:23	GG04427-05	GW										
6	G02S	GRAB	7/25/2023 14:35	GG04427-06	GW										
7	BA02	GRAB	7/25/2023 12:47	GG04427-07	GW										
Transfers 3/14/2023 14:31															
1												7/28/23	1000	Needs reported as 226, 228 and also combined 226/228, include QC	
2															
3															

4640281
LAB USE ONLY

-01
-02
-03
-04
-05
-06
-07

Cooler Temperature on Receipt _____ °C Custody Seal ☒ Y ☐ N Received on Ice ☒ Y ☐ N Sample Intact ☒ Y ☐ N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

ANALYTICAL REPORT

August 24, 2023

Revised Report

Pace IR - Peoria, IL

Sample Delivery Group: L1641654
Samples Received: 08/02/2023
Project Number: GG04652
Description: Vistra-Duck Creek

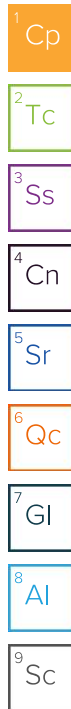
Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



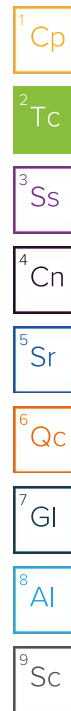
Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

OR13D L1641654-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 13:15

08/02/23 08:45

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OR13D DUP L1641654-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 13:15

08/02/23 08:45

OR13S L1641654-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 11:42

08/02/23 08:45

OR11 L1641654-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 10:10

08/02/23 08:45

OM07 L1641654-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 11:52

08/02/23 08:45

OR06A L1641654-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107055	1	08/03/23 13:35	08/14/23 16:37	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/14/23 16:37	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/26/23 12:33

08/02/23 08:45

SAMPLE SUMMARY

OM25S L1641654-07 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/26/23 13:30

08/02/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107055	1	08/03/23 13:35	08/14/23 16:37	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/14/23 16:37	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 21:10	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

EB10 L1641654-08 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/26/23 15:00

08/02/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107055	1	08/03/23 13:35	08/14/23 16:37	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/14/23 16:37	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 18:00	RGT	Mt. Juliet, TN

EB11 L1641654-09 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/26/23 15:05

08/02/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107055	1	08/03/23 13:35	08/14/23 16:37	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/14/23 16:37	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 18:00	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



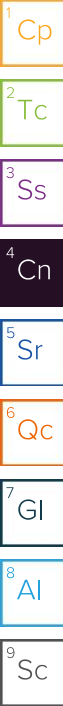
Donna Eidson
Project Manager

Report Revision History

Level II Report - Version 1: 08/22/23 08:28

Project Narrative

Corrected -06 ID



DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.03		0.643	1.10	08/09/2023 21:09	WG2107434
(T) Barium	99.5			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	99.3			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	5.58		1.01	1.13	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	3.55		0.785	0.276	08/09/2023 17:59	WG2108939
(T) Barium-133	75.5			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.22		0.448	0.770	08/09/2023 21:09	WG2107434
(T) Barium	80.9			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	105			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.96		0.603	0.850	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.736		0.404	0.361	08/09/2023 17:59	WG2108939
(T) Barium-133	79.0			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.564		0.290	0.504	08/09/2023 21:09	WG2107434
(T) Barium	110			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	103			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.883		0.429	0.645	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.319	J	0.316	0.403	08/09/2023 17:59	WG2108939
(T) Barium-133	73.0			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Collected date/time: 08/24/23 10:29

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND

DC-845-203

L1641654

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.10	J	0.756	1.32	08/09/2023 21:09	WG2107434
(T) Barium	116			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	98.3			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.80		0.837	1.35	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.705		0.360	0.271	08/09/2023 17:59	WG2108939
(T) Barium-133	86.7			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.110	U	0.285	0.508	08/09/2023 21:09	WG2107434
(T) Barium	103			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	104			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.945		0.501	0.626	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.835		0.412	0.366	08/09/2023 17:59	WG2108939
(T) Barium-133	80.9			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.412	J	0.356	0.632	08/14/2023 16:37	WG2107055
(T) Barium	112			30.0-143	08/14/2023 16:37	WG2107055
(T) Yttrium	106			30.0-136	08/14/2023 16:37	WG2107055

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.837		0.458	0.684	08/14/2023 16:37	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.425		0.288	0.262	08/09/2023 17:59	WG2108939
(T) Barium-133	83.1			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	8.06		0.719	1.08	08/14/2023 16:37	WG2107055
(T) Barium	185	C1		30.0-143	08/14/2023 16:37	WG2107055
(T) Yttrium	109			30.0-136	08/14/2023 16:37	WG2107055

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	17.7		1.55	1.29	08/14/2023 16:37	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	9.68		1.37	0.702	08/09/2023 21:10	WG2108939
(T) Barium-133	80.5			30.0-143	08/09/2023 21:10	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.334	J	0.397	0.705	08/14/2023 16:37	WG2107055
(T) Barium	109			30.0-143	08/14/2023 16:37	WG2107055
(T) Yttrium	107			30.0-136	08/14/2023 16:37	WG2107055

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.524	J	0.455	0.769	08/14/2023 16:37	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.190	J	0.223	0.308	08/09/2023 18:00	WG2108939
(T) Barium-133	85.9			30.0-143	08/09/2023 18:00	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.457	U	0.437	0.796	08/14/2023 16:37	WG2107055
(T) Barium	125			30.0-143	08/14/2023 16:37	WG2107055
(T) Yttrium	97.4			30.0-136	08/14/2023 16:37	WG2107055

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0651	U	0.460	0.835	08/14/2023 16:37	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0651	U	0.145	0.251	08/09/2023 18:00	WG2108939
(T) Barium-133	79.6			30.0-143	08/09/2023 18:00	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3961392-1 08/14/23 16:37

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	0.163		0.171	0.148
(T) Barium	105		105	
(T) Yttrium	96.4		96.4	

L1641654-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1641654-09 08/14/23 16:37 • (DUP) R3961392-5 08/14/23 16:37

Analyte	Original Result pCi/l	Original Uncertainty +/-	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.457	0.437	0.796	0.388	0.249	1	200	1.21	U	20	3
(T) Barium	125		94.7	94.7							
(T) Yttrium	97.4		95.3	95.3							

Laboratory Control Sample (LCS)

(LCS) R3961392-2 08/14/23 16:37

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.14	82.9	80.0-120	
(T) Barium			104		
(T) Yttrium			106		

L1641654-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1641654-08 08/14/23 16:37 • (MS) R3961392-3 08/14/23 16:37 • (MSD) R3961392-4 08/14/23 16:37

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.334	14.9	14.1	87.2	82.3	1	70.0-130		5.66		20
(T) Barium		109			105	121						
(T) Yttrium		107			97.0	106						

Method Blank (MB)

(MB) R3963380-1 08/09/23 21:09

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.262	U	0.178	0.328
(T) Barium	112		112	
(T) Yttrium	101		101	

L1636055-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1636055-01 08/18/23 20:32 • (DUP) R3963380-5 08/18/23 20:32

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	7.19	0.416	0.00531	6.76	0.428	0.00531	1	6.11	0.714		20	3
(T) Barium	115			103	103							
(T) Yttrium	98.2			107	107							

Laboratory Control Sample (LCS)

(LCS) R3963380-2 08/09/23 21:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.88	97.7	80.0-120	
(T) Barium			100		
(T) Yttrium			103		

L1638819-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638819-01 08/09/23 21:09 • (MS) R3963380-3 08/18/23 20:32 • (MSD) R3963380-4 08/18/23 20:32

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.171	10.1	10.7	98.9	105	1	70.0-130			5.79		20
(T) Barium		103			100	116							
(T) Yttrium		93.5			104	102							

Method Blank (MB)

(MB) R3961715-5 08/09/23 21:10

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0292	J	0.0337	0.0498
(T) Barium-133	72.8		72.8	

L1641635-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1641635-06 08/09/23 17:59 • (DUP) R3961715-4 08/09/23 17:59

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.174	0.223	0.318	0.432	0.453	0.318	1	85.2	0.511	J	20	3
(T) Barium-133	70.5			56.8	56.8							

Laboratory Control Sample (LCS)

(LCS) R3961715-1 08/09/23 17:59

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.57	91.3	80.0-120	
(T) Barium-133			81.7		

L1641635-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1641635-04 08/09/23 17:59 • (MS) R3961715-2 08/09/23 17:59 • (MSD) R3961715-3 08/09/23 17:59

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.318	19.2	19.3	94.5	94.8	1	75.0-125			0.364		20
(T) Barium-133		75.6			80.8	77.2							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

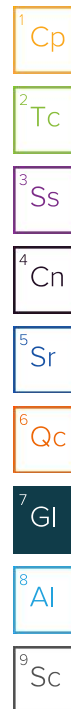
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

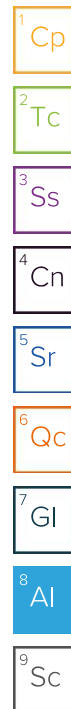
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



F210

Internal Transfer Chain of Custody

State of Origin: IL
Cert. Needed: ☒ YES ☐ NO



Owner Received
Date: 7/26/2023 By: 8/14/2023

Workorder: GG04652
Report To: Diane Billings
Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Workorder Name: Vistra - Duck Creek
Subcontract To:

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Date/Time	Received By	Comments
1	OR13D	GRAB	7/26/2023 13:15	GG04652-01	GW				
2	OR13D DUP	GRAB	7/26/2023 13:15	GG04652-02	GW				
3	OR13S	GRAB	7/26/2023 11:42	GG04652-03	GW				
4	OR11	GRAB	7/26/2023 10:10	GG04652-04	GW				
5	OM07	GRAB	7/26/2023 11:52	GG04652-05	GW				
6	OR06A	GRAB	7/26/2023 12:33	GG04652-06	GW				
7	OM25S	GRAB	7/26/2023 13:30	GG04652-07	GW				
8	EB10	GRAB	7/26/2023 15:00	GG04652-08	GW				
9	EB11	GRAB	7/26/2023 15:05	GG04652-09	GW				
10									
Transfers Released By: <i>[Signature]</i>									
1			8/12/23 0530						
2									
3									

Radium 226/228

LAB USE ONLY

01
02
03
04
05
06
07
08
09

Needs reported as 226, 228 and also combined 226/228
Include QC summary and add

Cooler Temperature on Receipt _____ °C Custody Seal Y or N Received on Ice Y or N Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

GRAB 21.7+0
63196003 9017
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

ANALYTICAL REPORT

August 22, 2023

Pace IR - Peoria, IL

Sample Delivery Group: L1641635
Samples Received: 08/02/2023
Project Number: GG04996
Description: VISTRA-DUCK CREEK

Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

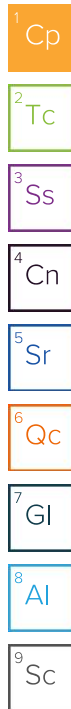


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OM23D L1641635-02	6	⁴ Cn
OM24D L1641635-03	7	⁵ Sr
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SAMPLE SUMMARY

OM12 L1641635-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 16:02

08/02/23 08:45

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OM23D L1641635-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 14:12

08/02/23 08:45

OM24D L1641635-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 15:40

08/02/23 08:45

G50S L1641635-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 14:28

08/02/23 08:45

G64L L1641635-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 12:06

08/02/23 08:45

EB 12 L1641635-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2107434	1	08/03/23 18:24	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/09/23 21:09	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 17:59	RGT	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

07/27/23 00:00

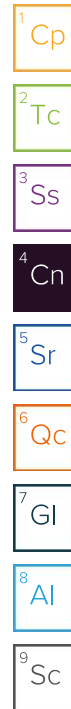
08/02/23 08:45

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Donna Eidson
Project Manager



DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.567		0.219	0.378	08/09/2023 21:09	WG2107434
(T) Barium	106			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	102			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.943		0.341	0.462	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.376		0.262	0.266	08/09/2023 17:59	WG2108939
(T) Barium-133	83.7			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.154	U	0.237	0.426	08/09/2023 21:09	WG2107434
(T) Barium	105			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	87.7			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.389	J	0.315	0.480	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.235		0.208	0.222	08/09/2023 17:59	WG2108939
(T) Barium-133	83.6			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.926		0.309	0.527	08/09/2023 21:09	WG2107434
(T) Barium	98.9			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	98.3			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.55		0.438	0.564	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.629		0.310	0.200	08/09/2023 17:59	WG2108939
(T) Barium-133	82.9			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.410	U	0.262	0.483	08/09/2023 21:09	WG2107434
(T) Barium	105			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	102			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.318	J	0.382	0.582	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.318	J	0.278	0.325	08/09/2023 17:59	WG2108939
(T) Barium-133	75.6			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.273	J	0.238	0.422	08/09/2023 21:09	WG2107434
(T) Barium	109			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	103			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.544		0.330	0.494	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.272		0.228	0.256	08/09/2023 17:59	WG2108939
(T) Barium-133	74.1			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0714	U	0.290	0.522	08/09/2023 21:09	WG2107434
(T) Barium	103			30.0-143	08/09/2023 21:09	WG2107434
(T) Yttrium	89.7			30.0-136	08/09/2023 21:09	WG2107434

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.174	U	0.366	0.611	08/09/2023 21:09	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.174	J	0.223	0.318	08/09/2023 17:59	WG2108939
(T) Barium-133	70.5			30.0-143	08/09/2023 17:59	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3963380-1 08/09/23 21:09

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.262	U	0.178	0.328
(T) Barium	112		112	
(T) Yttrium	101		101	

L1636055-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1636055-01 08/18/23 20:32 • (DUP) R3963380-5 08/18/23 20:32

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	7.19	0.416	0.00531	6.76	0.428	0.00531	1	6.11	0.714		20	3
(T) Barium	115			103	103							
(T) Yttrium	98.2			107	107							

Laboratory Control Sample (LCS)

(LCS) R3963380-2 08/09/23 21:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.88	97.7	80.0-120	
(T) Barium			100		
(T) Yttrium			103		

L1638819-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1638819-01 08/09/23 21:09 • (MS) R3963380-3 08/18/23 20:32 • (MSD) R3963380-4 08/18/23 20:32

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.171	10.1	10.7	98.9	105	1	70.0-130			5.79		20
(T) Barium		103			100	116							
(T) Yttrium		93.5			104	102							

Method Blank (MB)

(MB) R3961715-5 08/09/23 21:10

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0292	J	0.0337	0.0498
(T) Barium-133	72.8		72.8	

L1641635-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1641635-06 08/09/23 17:59 • (DUP) R3961715-4 08/09/23 17:59

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.174	0.223	0.318	0.432	0.453	0.318	1	85.2	0.511	J	20	3
(T) Barium-133	70.5			56.8	56.8							

Laboratory Control Sample (LCS)

(LCS) R3961715-1 08/09/23 17:59

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.57	91.3	80.0-120	
(T) Barium-133		81.7			

L1641635-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1641635-04 08/09/23 17:59 • (MS) R3961715-2 08/09/23 17:59 • (MSD) R3961715-3 08/09/23 17:59

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.318	19.2	19.3	94.5	94.8	1	75.0-125			0.364		20
(T) Barium-133		75.6			80.8	77.2							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

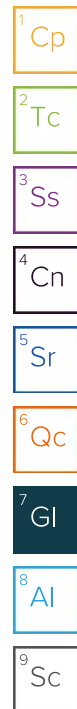
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

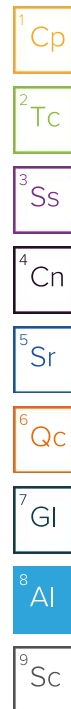
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2023
DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

State of Origin: IL
Cert. Needed: ☒ YES ☐ NO

Owner Received
Date: 7/26/2023 By: 8/9/2023

Workorder Name: VISTRA - DUCK CREEK
Subcontract To:

Workorder: GG04996

Report To: Diane Billings
Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Radium 226	Radium 228	LAB USE ONLY
1	OM12	GRAB	7/27/2023 16:02	GG04996-01	GW		X	X	-01
2	OM23D	GRAB	7/27/2023 14:12	GG04996-02	GW		X	X	-02
3	OM24D	GRAB	7/27/2023 15:40	GG04996-03	GW		X	X	-03
4	G50S	GRAB	7/27/2023 14:28	GG04996-04	GW		X	X	-04
5	G64L	GRAB	7/27/2023 12:06	GG04996-05	GW		X	X	-05
6	EB 12	GRAB	7/27/2023 0:00	GG04996-06	GW		X	X	-06
7									
8									
9									
10									
Transfers 3/14/2023 14:31									
1	8/1/23 0530				Received By		Date/Time		Comments
2									Needs reported as 226, 228 and also combined 226/228, include QC
3					Photograph of bottles (9)		8/2/23 1845		10 day TAT

Cooler Temperature on Receipt _____ °C Custody Seal Y or N

Received on Ice Y or N

Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

PH-10BCH4321 TRC-2144141
CR6-20221V

FMT-ALL-C-002rev.00 24March2009

Page 1 of 2

GRAB 22-6+D
Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

ANALYTICAL REPORT

August 17, 2023

Pace IR - Peoria, IL

Sample Delivery Group: L1642036
Samples Received: 08/03/2023
Project Number: GG05278
Description: Vistra-Duck Creek
Site: 001
Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

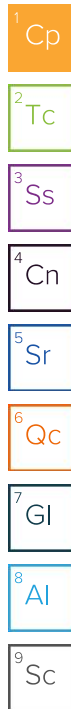


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Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
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OR19 L1642036-02	6	⁴ Cn
EB 13 L1642036-03	7	⁵ Sr
Qc: Quality Control Summary	8	
Radiochemistry by Method 904/9320	8	⁶ Qc
Radiochemistry by Method SM7500Ra B M	9	
Gl: Glossary of Terms	10	⁷ Gl
Al: Accreditations & Locations	11	⁸ Al
Sc: Sample Chain of Custody	12	⁹ Sc

SAMPLE SUMMARY

OR03D L1642036-01 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/31/23 11:30

08/03/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2109108	1	08/07/23 13:43	08/11/23 16:39	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/11/23 16:39	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 21:10	RGT	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

OR19 L1642036-02 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/31/23 13:27

08/03/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2109108	1	08/07/23 13:43	08/11/23 16:39	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/11/23 16:39	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 18:00	RGT	Mt. Juliet, TN

EB 13 L1642036-03 Non-Potable Water

Collected by

Collected date/time

Received date/time

07/31/23 15:50

08/03/23 09:00

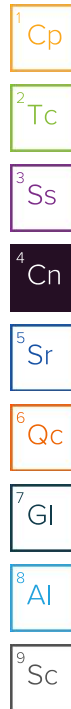
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2109108	1	08/07/23 13:43	08/11/23 16:39	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2108939	1	08/07/23 12:53	08/11/23 16:39	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2108939	1	08/07/23 12:53	08/09/23 18:00	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Donna Eidson
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	5.58		0.562	0.822	08/11/2023 16:39	WG2109108
(T) Barium	132			30.0-143	08/11/2023 16:39	WG2109108
(T) Yttrium	101			30.0-136	08/11/2023 16:39	WG2109108

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	16.2		1.56	0.933	08/11/2023 16:39	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	10.6		1.45	0.442	08/09/2023 21:10	WG2108939
(T) Barium-133	76.0			30.0-143	08/09/2023 21:10	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.24		0.641	1.12	08/11/2023 16:39	WG2109108
(T) Barium	76.8			30.0-143	08/11/2023 16:39	WG2109108
(T) Yttrium	111			30.0-136	08/11/2023 16:39	WG2109108

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.94		0.846	1.17	08/11/2023 16:39	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.70		0.552	0.344	08/09/2023 18:00	WG2108939
(T) Barium-133	75.3			30.0-143	08/09/2023 18:00	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.878	U	0.221	0.432	08/11/2023 16:39	WG2109108
(T) Barium	97.8			30.0-143	08/11/2023 16:39	WG2109108
(T) Yttrium	124			30.0-136	08/11/2023 16:39	WG2109108

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.367	J	0.351	0.532	08/11/2023 16:39	WG2108939

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.367		0.273	0.311	08/09/2023 18:00	WG2108939
(T) Barium-133	95.2			30.0-143	08/09/2023 18:00	WG2108939

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3961414-1 08/11/23 16:39

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	0.277	J	0.198	0.348
(T) Barium	96.7		96.7	
(T) Yttrium	91.2		91.2	

L1642013-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1642013-04 08/11/23 16:39 • (DUP) R3961414-5 08/11/23 16:39

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.110	0.271	0.499	-0.0165	0.343	0.499	1	0.000	0.213	U	20	3
(T) Barium	105			95.5	95.5							
(T) Yttrium	110			102	102							

Laboratory Control Sample (LCS)

(LCS) R3961414-2 08/11/23 16:39

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.47	109	80.0-120	
(T) Barium			85.5		
(T) Yttrium			104		

L1642013-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1642013-01 08/11/23 16:39 • (MS) R3961414-3 08/11/23 16:39 • (MSD) R3961414-4 08/11/23 16:39

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.263	16.8	18.4	98.8	108	1	70.0-130			9.00		20
(T) Barium		81.2			112	99.2							
(T) Yttrium		107			107	105							

Method Blank (MB)

(MB) R3961715-5 08/09/23 21:10

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-226	0.0292	J	0.0337	0.0498
(T) Barium-133	72.8		72.8	

L1641635-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1641635-06 08/09/23 17:59 • (DUP) R3961715-4 08/09/23 17:59

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.174	0.223	0.318	0.432	0.453	0.318	1	85.2	0.511	J	20	3
(T) Barium-133	70.5			56.8	56.8							

Laboratory Control Sample (LCS)

(LCS) R3961715-1 08/09/23 17:59

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.57	91.3	80.0-120	
(T) Barium-133			81.7		

L1641635-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1641635-04 08/09/23 17:59 • (MS) R3961715-2 08/09/23 17:59 • (MSD) R3961715-3 08/09/23 17:59

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.318	19.2	19.3	94.5	94.8	1	75.0-125			0.364		20
(T) Barium-133		75.6			80.8	77.2							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

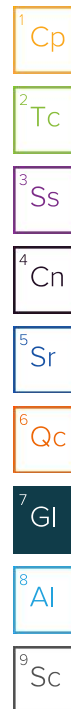
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

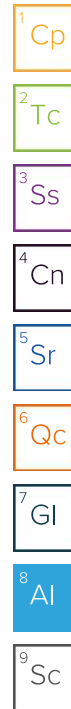
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Internal Transfer Chain of Custody

State of Origin: IL ☒ YES ☐ NO
Cert. Needed: ☒ YES ☐ NO

Owner Received Date: 7/31/2023 By: 8/12/2023
Requested Analysis

Workorder: GG05278

Report To: Diane Billings

Pace Analytical - IL/MO
2231 W. Altorfer Drive
Peoria, IL 61615
800-752-6651

Workorder Name: VISTRA - DUCK CREEK

Subcontract To:

Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Date/Time	Received By	Date/Time	Comments
1	OR03D	GRAB	7/31/2023 11:30	GG05278-01	GW					
2	OR19	GRAB	7/31/2023 13:27	GG05278-02	GW					
3	EB 13	GRAB	7/31/2023 15:50	GG05278-03	GW					
4										
5										
6										
7										
8										
9										
10										
Transfers 3/14/2023 14:31										
1										
2										
3										

LAB USE ONLY
11/17/2023
-01
-02
-03

Needs reported as 226, 228 and also combined 226/228, include QC 10 day TAT

Cooler Temperature on Receipt: °C Custody Seal Y or N Received on Ice Y or N Sample Intact Y or N
***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this form. PH-108DH4321 TRC-2144141 CR6-20221V

FMT-ALL-C-002rev.00 24March2009 Page 1 of 2

Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

63196003 9808 QB
22.5 ± 0.2 = 22.5 AB

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:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Vistra Corp	Report To:	Brian Voelker	Attention:	Jason Stuckey
Address:	13498 E. 900th St	Copy To:	Jason Stuckey	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Address:	see Section A
Phone:	(217) 753-8911	Project Name:		Quote Reference:	
Requested Due Date/TAT:	10 day	Project Number:	2285	Project Manager:	
				Profile #:	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OIL WASTE WP AIR OT OTHER TS TISSUE TS	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Requested Analysis Filtered (Y/N)										Project No. / Lab I.D.	
									Analysis Test	DC-257-205	DC-SUP-000	DC-845-205	DC-845-201-202	DC-257-203	DC-845-203	DC-257-204	DC-811-204	DC-WPCP-203-206		DC-CLOSURE-201-202
1		G045		7/18/23	1338															
2		G045 Dup		7/18/23	1338															
3		P05L		7/18/23	1054															
4		G06L		7/18/23	1440															
5		G06S		7/18/23	1521															
6		G06L		7/18/23	1150															
7		G51S		7/18/23	1202															
8		G56S		7/18/23	1014															
9		G56L		7/18/23	1059															
10		G57L		7/18/23	1149															
11		G58S		7/18/23	1235															
12		G59S		7/18/23	1342															
13		G61S		7/18/23	1420															
14		G63S		7/18/23	1457															
15		G65S		7/18/23	1532															
16		G73L		7/18/23	1547															

SAMPLER NAME AND SIGNATURE		DATE SIGNED (MM/DD/YY):	7/18/23
PRINT Name of SAMPLER:	JAMES DAVIS		
SIGNATURE of SAMPLER:	<i>James Davis</i>		

Temp in °C	3.6	Received on	7-18-23	Cooler (Y/N)	N	Sealed	N	Samples Intact (Y/N)	Y
------------	-----	-------------	---------	--------------	---	--------	---	----------------------	---

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2023
DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Page: 5 of 7

Section C
Invoice Information:

[illegible]

1

SIGNATURE of SAMPLER:

DATE Signed
(MM/DD/YY): 07/20/23

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

DC-845-203

GG04161-10
Vmw 7-25-23

160

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: 10 day		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 #: NPDES GROUND WATER DRINKING WATER UST RCRA OTHER Site Location IL STATE: 6604427 ggg		Page: 7 of 7	
Section D Required Client Information: Valid Matrix Codes: MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT WATER PW SOLID WASTE SW WASTE OIL WO WASTE AIR WA TISSUE TS SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		MATRIX CODE SAMPLE TYPE (G=GRAB C=COMP) COLLECTED DATE TIME		SAMPLE TEMP AT COLLECTION # OF CONTAINERS Preservatives HCl HNO ₃ H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃ Methanol Other Analysis Test Y/N		Project No./ Lab I.D. Residual Chlorine (Y/N) DC-257-205 DC-SUP-000 DC-845-205 DC-845-201-202 DC-257-203 DC-845-203 DC-257-204 DC-811-204 DC-WP-203-206 DC-CLOSURE-201-202	
ADDITIONAL COMMENTS DC-23Q3 Rev 0		RELINQUISHED BY / AFFILIATION Joseph R. Reed		DATE 7/25/23		TIME 1746	
ACCEPTED BY / AFFILIATION Joe Reed		DATE 7-25-23		TIME 1746		SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed (Y/N) Cooler (Y/N) Samples Intact (Y/N) Y N Y	
SIGNATURE OF SAMPLER: Joseph R. Reed		PRINT Name of SAMPLER: Joe Reed		DATE Signed (MM/DD/YYYY): 7/25/23		Temp in °C 5.3	

GG04652
Vmw 7-26-23
Page: 1 of 7

CHAIN-OF-CUSTODY / Analytical Request Document

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2023
DUCK CREEK POWER PLANT GYPSUM MANAGEMENT FACILITY POND

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: **10 day**

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** **OTHER**
UST **RCRA**
Site Location **IL**
STATE: **IL**

DC-845-203

Section D
Required Client Information
SAMPLE ID
(A-Z, 0-9, /, -)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes
MATRIX CODE
DRINKING WATER DW
WASTE WATER WW
PRODUCT P
SOLID S
WASTE WASTE
AIR AIR
OTHER OT
TISSUE TS

MATRIX CODE
(see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED
DATE
TIME

ITEM #

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

Requested Analysis Filtered (Y/N)

Y N

Analysis Test

DC-257-205

DC-SUP-000

DC-845-205

DC-845-201-202

DC-257-203

DC-845-203

DC-257-204

DC-811-204

DC-WPCP-203-206

DC-CLOSURE-201-202

Residual Chlorine (Y/N)

Project No./ Lab I.D.

Preservatives
Unpreserved
H₂SO₄
HNO₃
HCl
NaOH
Na₂S₂O₃
Methanol
Other

OF CONTAINERS

SAMPLE TEMP AT COLLECTION

DATE
TIME

ACCEPTED BY / AFFILIATION

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

DATE
TIME

SAMPLE CONDITIONS

Received on

Custody

Cooler (Y/N)

Samples Intact (Y/N)

DC-23Q3 Rev 0

7/26/23 1529

7/26/23 1529 04

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

7/26/23

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **Jason Stuckey**

SIGNATURE of SAMPLER: **Jason Stuckey**

DATE Signed (MM/DD/YYYY): **7/26/23**

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 7

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2023
DUCK CREEK POWER PLANT, GYPSUM MANAGEMENT FACILITY POND
DC-845-203

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Vistra Corp	Report To:	Brian Voelker	Attention:	Jason Stuckey
Address:	13498 E. 900th St	Copy To:	Jason Stuckey	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Address:	see Section A
Phone:	(217) 753-8911	Project Name:		Quote Reference:	
Requested Due Date/TAT:	10 day	Project Number:	2285	Project Manager:	
				Profile #:	

Section D Required Client Information		Valid Matrix Codes		Matrix Code (see valid codes to left)		Sample Type (G=GRAB C=COMP)		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Requested Analysis Filtered (Y/N)		Project No./ Lab I.D.	
ITEM #	Sample ID (A-Z, 0-9 / -)	Matrix	Code	Matrix Code	Sample Type	Date	Time	Matrix Code	Sample Type	Date	Time	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Project No./ Lab I.D.	Residual Chlorine (Y/N)	Project No./ Lab I.D.	Project No./ Lab I.D.	Project No./ Lab I.D.
1	OM 12	GROUND WATER	DW	OM 12	G	7/27/23	1602	OM 12	G	7/27/23	1602	11	Unpreserved	DC-257-205	DC-845-203				
2	OM 237D	WASTE WATER	WW	OM 237D	G	7/27/23	1542	OM 237D	G	7/27/23	1542	11	Unpreserved	DC-257-203	DC-845-203				
3	OM 240	WASTE WATER	WW	OM 240	G	7/27/23	1540	OM 240	G	7/27/23	1540	11	Unpreserved	DC-257-204	DC-845-203				
4	G503	WASTE WATER	WW	G503	G	7/27/23	1428	G503	G	7/27/23	1428	11	Unpreserved	DC-257-204	DC-845-203				
5	G59L	WASTE WATER	WW	G59L	G	7/27/23	1400	G59L	G	7/27/23	1400	11	Unpreserved	DC-257-204	DC-845-203				
6	G64L	WASTE WATER	WW	G64L	G	7/27/23	1400	G64L	G	7/27/23	1400	11	Unpreserved	DC-257-204	DC-845-203				
7	G65L	WASTE WATER	WW	G65L	G	7/27/23	1206	G65L	G	7/27/23	1206	11	Unpreserved	DC-257-204	DC-845-203				
8	QR13D	WASTE WATER	WW	QR13D	G	7/27/23	1258	QR13D	G	7/27/23	1258	2	Unpreserved	DC-257-204	DC-845-203				
9	QR13S	WASTE WATER	WW	QR13S	G	7/27/23	1634	QR13S	G	7/27/23	1634	2	Unpreserved	DC-257-204	DC-845-203				
10	QR13S	WASTE WATER	WW	QR13S	G	7/27/23	1101	QR13S	G	7/27/23	1101	2	Unpreserved	DC-257-204	DC-845-203				
11	QR06A	WASTE WATER	WW	QR06A	G	7/27/23	1135	QR06A	G	7/27/23	1135	2	Unpreserved	DC-257-204	DC-845-203				
12	QR06A	WASTE WATER	WW	QR06A	G	7/27/23	1159	QR06A	G	7/27/23	1159	2	Unpreserved	DC-257-204	DC-845-203				
13	QR06A	WASTE WATER	WW	QR06A	G	7/27/23	1219	QR06A	G	7/27/23	1219	2	Unpreserved	DC-257-204	DC-845-203				
14	QR06A	WASTE WATER	WW	QR06A	G	7/27/23	1241	QR06A	G	7/27/23	1241	2	Unpreserved	DC-257-204	DC-845-203				
15	EB12	WASTE WATER	WW	EB12	G	7/27/23	0000	EB12	G	7/27/23	0000	1	Unpreserved	DC-257-204	DC-845-203				
16																			

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
DC-23Q3 Rev 0		Jason R. Reed		7/27/23		1838		Jason R. Reed		7/27/23		1838		Received on (Y/N) ✓ Custody Sealed (Y/N) ✓ Intact (Y/N) ✓	
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		DATE Signed (MM/DD/YYYY):				SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		DATE Signed (MM/DD/YYYY):			
Jason R. Reed		Jason R. Reed		7/27/23				Jason R. Reed		Jason R. Reed		7/27/23			

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section C

Section B

Section A

Company: Vistra Corp		Report To: Brian Voelker		Attention: Jason Stuckey	
Address: 13498 E. 900th St		Copy To: Jason Stuckey		Company Name: Vistra Corp	
Email To: Brian.Voelker@VistraCorp.com		Purchase Order No.:		Address: see Section A	
Phone: (217) 753-8911		Project Name:		Quote Reference:	
Requested Due Date/TAT: 10 day		Project Number: 2285		Project Manager:	
				Profile #:	
				Site Location: IL	
				STATE:	
				NPDES: GROUND WATER	
				RCRA: DRINKING WATER	
				UST: OTHER	

ITEM #	Section D Required Client Information	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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N ↑	Requested Analysis Filtered (Y/N)												Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
					DATE	TIME					DC-257-205 DC-SUP-000 DC-845-205 DC-845-201-202 DC-257-203 DC-845-203 DC-257-204 DC-811-204 DC-WPCP-203-206 DC-CLOSURE-201-202 Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-23Q3 Rev 0		Joseph A. Rand	7/31/23	1605		7/31/23	1605	Received on Ice (Y/N) X
								Custody Sealed (Y/N) N
								Temp in °C 26
								Samples Intact (Y/N) Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	DATE Signed (MM/DD/YY):
SIGNATURE of SAMPLER:	

**ATTACHMENT C
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND
QUARTER 3, 2023**

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G54L	PMP	E002	Antimony, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.003	0.003
G54L	PMP	E002	Arsenic, total	mg/L	04/14/21 - 07/20/23	10	0	CB around linear reg	-0.00662	0.00920
G54L	PMP	E002	Barium, total	mg/L	04/14/21 - 07/20/23	10	0	CI around mean	0.154	0.280
G54L	PMP	E002	Beryllium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54L	PMP	E002	Boron, total	mg/L	04/14/21 - 07/20/23	11	0	CI around geomean	0.0174	0.210
G54L	PMP	E002	Cadmium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54L	PMP	E002	Chloride, total	mg/L	04/14/21 - 07/20/23	11	0	CI around mean	15.5	17.0
G54L	PMP	E002	Chromium, total	mg/L	04/14/21 - 07/20/23	10	90	CI around median	0.004	0.00590
G54L	PMP	E002	Cobalt, total	mg/L	04/14/21 - 07/20/23	10	40	CI around median	0.002	0.002
G54L	PMP	E002	Fluoride, total	mg/L	04/14/21 - 07/20/23	11	82	CI around median	0.25	0.498
G54L	PMP	E002	Lead, total	mg/L	04/14/21 - 07/20/23	10	83	Most recent sample	0.001	0.0150
G54L	PMP	E002	Lithium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.02	0.02
G54L	PMP	E002	Mercury, total	mg/L	04/14/21 - 07/20/23	10	90	CI around median	0.0002	0.000980
G54L	PMP	E002	Molybdenum, total	mg/L	04/14/21 - 07/20/23	10	50	CI around median	0.001	0.00230
G54L	PMP	E002	pH (field)	SU	04/14/21 - 07/20/23	17	0	CI around median	6.5/6.6	6.6/7.4
G54L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/20/23	10	0	CI around mean	0.355	2.00
G54L	PMP	E002	Selenium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.00120
G54L	PMP	E002	Sulfate, total	mg/L	04/14/21 - 07/20/23	11	0	CI around mean	64.7	55.0
G54L	PMP	E002	Thallium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54L	PMP	E002	Total Dissolved Solids	mg/L	04/14/21 - 07/20/23	17	0	CI around mean	697	483
G54S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.003	0.003
G54S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	26	CI around median	0.001	0.00920
G54S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.212	0.280
G54S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	24	0	CI around mean	0.032	0.210
G54S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	22	8	CI around geomean	1.97	17.0

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G54S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.004	0.00590
G54S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.002	0.002
G54S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	23	75	CI around median	0.25	0.498
G54S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.0150
G54S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	70	CI around median	0.01	0.02
G54S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	82	CI around median	0.0002	0.000980
G54S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.00146	0.00230
G54S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	31	0	CB around linear reg	6.5/6.9	6.6/7.4
G54S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around geomean	0.555	2.00
G54S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.00120
G54S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	22	0	CB around T-S line	32.5	55.0
G54S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G54S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	30	0	CI around mean	517	483
G57S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.003	0.003
G57S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	90	Most recent sample	0.001	0.00920
G57S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around median	0.13	0.280
G57S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.001	0.001
G57S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	23	41	CI around median	0.01	0.210
G57S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.001
G57S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	23	2	CI around median	18	17.0
G57S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.004	0.00590
G57S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.002	0.002
G57S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	24	32	CI around median	0.25	0.498
G57S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	74	CI around median	0.001	0.0150
G57S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.02	0.02
G57S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.0002	0.000980
G57S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.00230

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G57S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	30	0	CB around linear reg	6.6/6.9	6.6/7.4
G57S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around mean	0.157	2.00
G57S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	91	Most recent sample	0.001	0.00120
G57S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	22	0	CB around linear reg	46.8	55.0
G57S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	91	CI around median	0.001	0.001
G57S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	30	0	CB around linear reg	760	483
G60L	PMP	E002	Antimony, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.003	0.003
G60L	PMP	E002	Arsenic, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.00920
G60L	PMP	E002	Barium, total	mg/L	04/14/21 - 07/20/23	10	0	CI around mean	0.0153	0.280
G60L	PMP	E002	Beryllium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60L	PMP	E002	Boron, total	mg/L	04/14/21 - 07/20/23	11	0	CI around geomean	0.0245	0.210
G60L	PMP	E002	Cadmium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60L	PMP	E002	Chloride, total	mg/L	04/14/21 - 07/20/23	11	0	CB around linear reg	8.62	17.0
G60L	PMP	E002	Chromium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.004	0.00590
G60L	PMP	E002	Cobalt, total	mg/L	04/14/21 - 07/20/23	10	20	CI around mean	0.00222	0.002
G60L	PMP	E002	Fluoride, total	mg/L	04/14/21 - 07/20/23	11	100	All ND - Last	0.25	0.498
G60L	PMP	E002	Lead, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.0150
G60L	PMP	E002	Lithium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.02	0.02
G60L	PMP	E002	Mercury, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.0002	0.000980
G60L	PMP	E002	Molybdenum, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.00230
G60L	PMP	E002	pH (field)	SU	04/14/21 - 07/20/23	17	0	CI around mean	6.0/6.2	6.6/7.4
G60L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/20/23	10	0	CI around mean	0.0744	2.00
G60L	PMP	E002	Selenium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.00120
G60L	PMP	E002	Sulfate, total	mg/L	04/14/21 - 07/20/23	11	9	CI around mean	151	55.0
G60L	PMP	E002	Thallium, total	mg/L	04/14/21 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60L	PMP	E002	Total Dissolved Solids	mg/L	04/14/21 - 07/20/23	17	0	CI around mean	547	483
G60S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.003	0.003

ATTACHMENT C.
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845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G60S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/20/23	10	17	CI around geomean	0.00123	0.00920
G60S	UA	E002	Barium, total	mg/L	12/04/15 - 07/20/23	10	0	CI around mean	0.133	0.280
G60S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60S	UA	E002	Boron, total	mg/L	12/04/15 - 07/20/23	25	9	CB around T-S line	0.0235	0.210
G60S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/20/23	23	2	CI around geomean	7.94	17.0
G60S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/20/23	10	60	CI around median	0.004	0.00590
G60S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.002	0.002
G60S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/20/23	24	42	CI around median	0.25	0.498
G60S	UA	E002	Lead, total	mg/L	12/04/15 - 07/20/23	10	33	CI around median	0.001	0.0150
G60S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.01	0.02
G60S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.0002	0.000980
G60S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/20/23	10	60	CI around median	0.001	0.00230
G60S	UA	E002	pH (field)	SU	12/04/15 - 07/20/23	31	0	CI around mean	6.7/6.8	6.6/7.4
G60S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/20/23	10	0	CI around mean	0.768	2.00
G60S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/20/23	10	90	CI around median	0.001	0.00120
G60S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/20/23	24	0	CB around T-S line	69.4	55.0
G60S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/20/23	10	100	All ND - Last	0.001	0.001
G60S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/20/23	31	0	CI around median	550	483
G64L	PMP	E002	Antimony, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.003	0.003
G64L	PMP	E002	Arsenic, total	mg/L	05/15/23 - 07/27/23	2	25	Most recent sample	0.0031	0.00920
G64L	PMP	E002	Barium, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.12	0.280
G64L	PMP	E002	Beryllium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.001
G64L	PMP	E002	Boron, total	mg/L	01/11/23 - 07/27/23	3	11	Most recent sample	0.041	0.210
G64L	PMP	E002	Cadmium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.001
G64L	PMP	E002	Chloride, total	mg/L	01/11/23 - 07/27/23	3	11	Most recent sample	1.8	17.0
G64L	PMP	E002	Chromium, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.0086	0.00590

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CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G64L	PMP	E002	Cobalt, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.002	0.002
G64L	PMP	E002	Fluoride, total	mg/L	01/11/23 - 07/27/23	3	33	Most recent sample	0.444	0.498
G64L	PMP	E002	Lead, total	mg/L	05/15/23 - 07/27/23	2	25	Most recent sample	0.0033	0.0150
G64L	PMP	E002	Lithium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.02	0.02
G64L	PMP	E002	Mercury, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.0002	0.000980
G64L	PMP	E002	Molybdenum, total	mg/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.0013	0.00230
G64L	PMP	E002	pH (field)	SU	05/21/21 - 07/27/23	10	0	CI around median	6.8/7.0	6.6/7.4
G64L	PMP	E002	Radium 226 + Radium 228, total	pCi/L	05/15/23 - 07/27/23	2	0	Most recent sample	0.544	2.00
G64L	PMP	E002	Selenium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.00120
G64L	PMP	E002	Sulfate, total	mg/L	01/11/23 - 07/27/23	3	0	Most recent sample	43	55.0
G64L	PMP	E002	Thallium, total	mg/L	05/15/23 - 07/27/23	2	100	All ND - Last	0.001	0.001
G64L	PMP	E002	Total Dissolved Solids	mg/L	05/21/21 - 07/27/23	10	0	CI around mean	557	483
G64S	UA	E002	Antimony, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.003	0.003
G64S	UA	E002	Arsenic, total	mg/L	12/04/15 - 07/25/23	10	5	CI around mean	0.00158	0.00920
G64S	UA	E002	Barium, total	mg/L	12/04/15 - 07/25/23	10	0	CI around mean	0.162	0.280
G64S	UA	E002	Beryllium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.001
G64S	UA	E002	Boron, total	mg/L	12/04/15 - 07/25/23	23	3	CI around geomean	0.0147	0.210
G64S	UA	E002	Cadmium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.001
G64S	UA	E002	Chloride, total	mg/L	12/04/15 - 07/25/23	22	2	CI around median	3.4	17.0
G64S	UA	E002	Chromium, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.004	0.00590
G64S	UA	E002	Cobalt, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.002	0.002
G64S	UA	E002	Fluoride, total	mg/L	12/04/15 - 07/25/23	24	12	CI around median	0.294	0.498
G64S	UA	E002	Lead, total	mg/L	12/04/15 - 07/25/23	10	37	CI around geomean	0.000967	0.0150
G64S	UA	E002	Lithium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.02	0.02
G64S	UA	E002	Mercury, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.0002	0.000980
G64S	UA	E002	Molybdenum, total	mg/L	12/04/15 - 07/25/23	10	20	CI around mean	0.00117	0.00230
G64S	UA	E002	pH (field)	SU	12/04/15 - 07/25/23	31	0	CI around median	6.8/7.0	6.6/7.4

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
GMF POND
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G64S	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/04/15 - 07/25/23	10	0	CI around mean	0.558	2.00
G64S	UA	E002	Selenium, total	mg/L	12/04/15 - 07/25/23	10	91	CI around median	0.001	0.00120
G64S	UA	E002	Sulfate, total	mg/L	12/04/15 - 07/25/23	22	0	CI around mean	23.9	55.0
G64S	UA	E002	Thallium, total	mg/L	12/04/15 - 07/25/23	10	100	All ND - Last	0.001	0.001
G64S	UA	E002	Total Dissolved Solids	mg/L	12/04/15 - 07/25/23	29	0	CI around median	420	483

Notes:
Lower Confidence Limit (LCL) or Upper Confidence Limit (UCL) exceeded the statistical background value
HSU = hydrostratigraphic unit:
PMP = Potential Migration Pathway
UA = Uppermost Aquifer
mg/L = milligrams per liter
ND = non-detect
pCi/L = picocuries per liter
SU = standard units
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown
CB around T-S line = Confidence band around Thiel-Sen line
CB around linear reg = Confidence band around linear regression
CI around geomean = Confidence interval around the geometric mean
CI around mean = Confidence interval around the mean
CI around median = Confidence interval around the median
Most recent sample = Result for the most recently collected sample used due to insufficient data
Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range
For pH, the values presented are the lower / upper limits of the background determination