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

September 12, 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 Bottom Ash Basin; IEPA ID # W0578010001-03

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 2 2023 sampling event at the Duck Creek Power Plant Bottom Ash Basin, identified by Illinois Environmental Protection Agency (IEPA) ID No. W0578010001-03. 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 exceedances of the GWPS.

Sincerely,

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

Enclosures

Groundwater Monitoring Data and Detected Exceedances, Quarter 2 2023, Bottom Ash Basin, Duck Creek Power Plant, Canton, Illinois

35 I.A.C. § 845.610(B)(3)(D)
GROUNDWATER MONITORING DATA AND DETECTED EXCEEDANCES
2023 QUARTER 2
BOTTOM ASH BASIN, DUCK CREEK POWER PLANT, CANTON, ILLINOIS

September 12, 2023

Samples were collected on May 10-12, and 15, 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 July 14, 2023.

The monitoring well locations are included in **Figure 1**. **Attachment A** summarizes the groundwater elevation data for the Quarter 2 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 2 2022 sampling event.

Statistical procedures used to evaluate groundwater results are provided in Appendix A of the Groundwater Monitoring Plan[1] provided in the operating permit application. In accordance with 35 I.A.C. § 845.610(b)(3)(B), the Quarter 2 2023 groundwater monitoring data were evaluated for statistically significant levels (SSLs) 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 exceedances of the GWPS. As shown in **Table 2**, exceedances of the GWPS were not identified.

TABLES

FIGURES

ATTACHMENTS

[1] Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021. *Groundwater Monitoring Plan. Bottom Ash Basin. Duck Creek Power Plant. Canton, Illinois. October 25, 2021.*

TABLES

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA05	Background	E001	05/12/2023	Antimony, total	0.00043 U	mg/L
BA05	Background	E001	05/12/2023	Arsenic, total	0.00560	mg/L
BA05	Background	E001	05/12/2023	Barium, total	0.0810	mg/L
BA05	Background	E001	05/12/2023	Beryllium, total	0.00059 U	mg/L
BA05	Background	E001	05/12/2023	Boron, total	0.100 J+	mg/L
BA05	Background	E001	05/12/2023	Cadmium, total	0.00074 U	mg/L
BA05	Background	E001	05/12/2023	Calcium, total	210	mg/L
BA05	Background	E001	05/12/2023	Chloride, total	8.20	mg/L
BA05	Background	E001	05/12/2023	Chromium, total	0.00640	mg/L
BA05	Background	E001	05/12/2023	Cobalt, total	0.00330	mg/L
BA05	Background	E001	05/12/2023	Dissolved Oxygen	3.00	mg/L
BA05	Background	E001	05/12/2023	Fluoride, total	0.228 J	mg/L
BA05	Background	E001	05/12/2023	Lead, total	0.00310	mg/L
BA05	Background	E001	05/12/2023	Lithium, total	0.0083 J	mg/L
BA05	Background	E001	05/12/2023	Mercury, total	0.00014 U	mg/L
BA05	Background	E001	05/12/2023	Molybdenum, total	0.00260	mg/L
BA05	Background	E001	05/12/2023	Oxidation Reduction Potential	1.00	mV
BA05	Background	E001	05/12/2023	pH (field)	7.0	SU
BA05	Background	E001	05/12/2023	Radium 226 + Radium 228, total	2.07 J+	pCi/L
BA05	Background	E001	05/12/2023	Selenium, total	0.00074 U	mg/L
BA05	Background	E001	05/12/2023	Specific Conductance @ 25C (field)	1,560	micromhos/cm
BA05	Background	E001	05/12/2023	Sulfate, total	500	mg/L
BA05	Background	E001	05/12/2023	Temperature	16.3	degrees C
BA05	Background	E001	05/12/2023	Thallium, total	0.00038 U	mg/L
BA05	Background	E001	05/12/2023	Total Dissolved Solids	1,200	mg/L
BA05	Background	E001	05/12/2023	Turbidity, field	768	NTU
BA06	Background	E001	05/12/2023	Antimony, total	0.00043 U	mg/L
BA06	Background	E001	05/12/2023	Arsenic, total	0.00520	mg/L
BA06	Background	E001	05/12/2023	Barium, total	0.110	mg/L
BA06	Background	E001	05/12/2023	Beryllium, total	0.00059 U	mg/L
BA06	Background	E001	05/12/2023	Boron, total	8.70	mg/L
BA06	Background	E001	05/12/2023	Cadmium, total	0.00074 U	mg/L
BA06	Background	E001	05/12/2023	Calcium, total	340	mg/L
BA06	Background	E001	05/12/2023	Chloride, total	510	mg/L
BA06	Background	E001	05/12/2023	Chromium, total	0.0035 J	mg/L
BA06	Background	E001	05/12/2023	Cobalt, total	0.00950	mg/L
BA06	Background	E001	05/12/2023	Dissolved Oxygen	0.820	mg/L
BA06	Background	E001	05/12/2023	Fluoride, total	0.231 J	mg/L
BA06	Background	E001	05/12/2023	Lead, total	0.00036 J	mg/L
BA06	Background	E001	05/12/2023	Lithium, total	0.0052 J	mg/L
BA06	Background	E001	05/12/2023	Mercury, total	0.00014 U	mg/L
BA06	Background	E001	05/12/2023	Molybdenum, total	0.00120	mg/L
BA06	Background	E001	05/12/2023	Oxidation Reduction Potential	-39.0	mV
BA06	Background	E001	05/12/2023	pH (field)	6.4	SU
BA06	Background	E001	05/12/2023	Radium 226 + Radium 228, total	1.11	pCi/L
BA06	Background	E001	05/12/2023	Selenium, total	0.00074 U	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA06	Background	E001	05/12/2023	Specific Conductance @ 25C (field)	2,930	micromhos/cm
BA06	Background	E001	05/12/2023	Sulfate, total	340	mg/L
BA06	Background	E001	05/12/2023	Temperature	15.7	degrees C
BA06	Background	E001	05/12/2023	Thallium, total	0.00038 U	mg/L
BA06	Background	E001	05/12/2023	Total Dissolved Solids	2,200	mg/L
BA06	Background	E001	05/12/2023	Turbidity, field	55.1	NTU
BA01	Compliance	E001	05/11/2023	Antimony, total	0.00043 U	mg/L
BA01	Compliance	E001	05/11/2023	Arsenic, total	0.00160	mg/L
BA01	Compliance	E001	05/11/2023	Barium, total	0.120	mg/L
BA01	Compliance	E001	05/11/2023	Beryllium, total	0.00059 U	mg/L
BA01	Compliance	E001	05/11/2023	Boron, total	0.0230 J+	mg/L
BA01	Compliance	E001	05/11/2023	Cadmium, total	0.00074 U	mg/L
BA01	Compliance	E001	05/11/2023	Calcium, total	120 J+	mg/L
BA01	Compliance	E001	05/11/2023	Chloride, total	16.0	mg/L
BA01	Compliance	E001	05/11/2023	Chromium, total	0.0028 U	mg/L
BA01	Compliance	E001	05/11/2023	Cobalt, total	0.00079 J	mg/L
BA01	Compliance	E001	05/11/2023	Dissolved Oxygen	1.20	mg/L
BA01	Compliance	E001	05/11/2023	Fluoride, total	0.24 J	mg/L
BA01	Compliance	E001	05/11/2023	Lead, total	0.00022 U	mg/L
BA01	Compliance	E001	05/11/2023	Lithium, total	0.005 U	mg/L
BA01	Compliance	E001	05/11/2023	Mercury, total	0.00014 U	mg/L
BA01	Compliance	E001	05/11/2023	Molybdenum, total	0.00150	mg/L
BA01	Compliance	E001	05/11/2023	Oxidation Reduction Potential	58.0	mV
BA01	Compliance	E001	05/11/2023	pH (field)	6.8	SU
BA01	Compliance	E001	05/11/2023	Radium 226 + Radium 228, total	0.829 J	pCi/L
BA01	Compliance	E001	05/11/2023	Selenium, total	0.00074 U	mg/L
BA01	Compliance	E001	05/11/2023	Specific Conductance @ 25C (field)	796	micromhos/cm
BA01	Compliance	E001	05/11/2023	Sulfate, total	130	mg/L
BA01	Compliance	E001	05/11/2023	Temperature	18.0	degrees C
BA01	Compliance	E001	05/11/2023	Thallium, total	0.00038 U	mg/L
BA01	Compliance	E001	05/11/2023	Total Dissolved Solids	620 J+	mg/L
BA01	Compliance	E001	05/11/2023	Turbidity, field	9.90	NTU
BA02	Compliance	E001	05/15/2023	Antimony, total	0.00043 U	mg/L
BA02	Compliance	E001	05/15/2023	Arsenic, total	0.00160	mg/L
BA02	Compliance	E001	05/15/2023	Barium, total	0.210	mg/L
BA02	Compliance	E001	05/15/2023	Beryllium, total	0.00059 U	mg/L
BA02	Compliance	E001	05/15/2023	Boron, total	0.0680 J+	mg/L
BA02	Compliance	E001	05/15/2023	Cadmium, total	0.00074 U	mg/L
BA02	Compliance	E001	05/15/2023	Calcium, total	96.0 J+	mg/L
BA02	Compliance	E001	05/15/2023	Chloride, total	8.00	mg/L
BA02	Compliance	E001	05/15/2023	Chromium, total	0.0028 U	mg/L
BA02	Compliance	E001	05/15/2023	Cobalt, total	0.00048 U	mg/L
BA02	Compliance	E001	05/15/2023	Dissolved Oxygen	0.900	mg/L
BA02	Compliance	E001	05/15/2023	Fluoride, total	0.185 J	mg/L
BA02	Compliance	E001	05/15/2023	Lead, total	0.00065 J	mg/L
BA02	Compliance	E001	05/15/2023	Lithium, total	0.005 U	mg/L

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BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA02	Compliance	E001	05/15/2023	Mercury, total	0.000730	mg/L
BA02	Compliance	E001	05/15/2023	Molybdenum, total	0.00520 J+	mg/L
BA02	Compliance	E001	05/15/2023	Oxidation Reduction Potential	228	mV
BA02	Compliance	E001	05/15/2023	pH (field)	7.3	SU
BA02	Compliance	E001	05/15/2023	Radium 226 + Radium 228, total	0.478 <0	pCi/L
BA02	Compliance	E001	05/15/2023	Selenium, total	0.00074 U	mg/L
BA02	Compliance	E001	05/15/2023	Specific Conductance @ 25C (field)	897	micromhos/cm
BA02	Compliance	E001	05/15/2023	Sulfate, total	12.0	mg/L
BA02	Compliance	E001	05/15/2023	Temperature	14.2	degrees C
BA02	Compliance	E001	05/15/2023	Thallium, total	0.00047 J	mg/L
BA02	Compliance	E001	05/15/2023	Total Dissolved Solids	480 J	mg/L
BA02	Compliance	E001	05/15/2023	Turbidity, field	11.2	NTU
BA02L	Compliance	E001	05/10/2023	Antimony, total	0.00043 U	mg/L
BA02L	Compliance	E001	05/10/2023	Arsenic, total	0.0130	mg/L
BA02L	Compliance	E001	05/10/2023	Barium, total	0.0750	mg/L
BA02L	Compliance	E001	05/10/2023	Beryllium, total	0.001 U	mg/L
BA02L	Compliance	E001	05/10/2023	Boron, total	0.0680 J+	mg/L
BA02L	Compliance	E001	05/10/2023	Cadmium, total	0.00074 U	mg/L
BA02L	Compliance	E001	05/10/2023	Calcium, total	77.0	mg/L
BA02L	Compliance	E001	05/10/2023	Chloride, total	2.60	mg/L
BA02L	Compliance	E001	05/10/2023	Chromium, total	0.0028 U	mg/L
BA02L	Compliance	E001	05/10/2023	Cobalt, total	0.0011 J	mg/L
BA02L	Compliance	E001	05/10/2023	Dissolved Oxygen	0.300	mg/L
BA02L	Compliance	E001	05/10/2023	Fluoride, total	0.403	mg/L
BA02L	Compliance	E001	05/10/2023	Lead, total	0.00032 J	mg/L
BA02L	Compliance	E001	05/10/2023	Lithium, total	0.005 U	mg/L
BA02L	Compliance	E001	05/10/2023	Mercury, total	0.00014 U	mg/L
BA02L	Compliance	E001	05/10/2023	Molybdenum, total	0.00470 J+	mg/L
BA02L	Compliance	E001	05/10/2023	Oxidation Reduction Potential	-122	mV
BA02L	Compliance	E001	05/10/2023	pH (field)	7.1	SU
BA02L	Compliance	E001	05/10/2023	Radium 226 + Radium 228, total	1.57	pCi/L
BA02L	Compliance	E001	05/10/2023	Selenium, total	0.00074 U	mg/L
BA02L	Compliance	E001	05/10/2023	Specific Conductance @ 25C (field)	583	micromhos/cm
BA02L	Compliance	E001	05/10/2023	Sulfate, total	14.0	mg/L
BA02L	Compliance	E001	05/10/2023	Temperature	12.6	degrees C
BA02L	Compliance	E001	05/10/2023	Thallium, total	0.00038 U	mg/L
BA02L	Compliance	E001	05/10/2023	Total Dissolved Solids	370 J	mg/L
BA02L	Compliance	E001	05/10/2023	Turbidity, field	99.1	NTU
BA03	Compliance	E001	05/10/2023	Antimony, total	0.00043 U	mg/L
BA03	Compliance	E001	05/10/2023	Arsenic, total	0.00069 U	mg/L
BA03	Compliance	E001	05/10/2023	Barium, total	0.150	mg/L
BA03	Compliance	E001	05/10/2023	Beryllium, total	0.001 U	mg/L
BA03	Compliance	E001	05/10/2023	Boron, total	0.0240 J+	mg/L
BA03	Compliance	E001	05/10/2023	Cadmium, total	0.00074 U	mg/L
BA03	Compliance	E001	05/10/2023	Calcium, total	100	mg/L
BA03	Compliance	E001	05/10/2023	Chloride, total	6.40	mg/L

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DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA03	Compliance	E001	05/10/2023	Chromium, total	0.0028 U	mg/L
BA03	Compliance	E001	05/10/2023	Cobalt, total	0.00048 U	mg/L
BA03	Compliance	E001	05/10/2023	Dissolved Oxygen	5.00	mg/L
BA03	Compliance	E001	05/10/2023	Fluoride, total	0.191 J	mg/L
BA03	Compliance	E001	05/10/2023	Lead, total	0.00022 U	mg/L
BA03	Compliance	E001	05/10/2023	Lithium, total	0.005 U	mg/L
BA03	Compliance	E001	05/10/2023	Mercury, total	0.00014 U	mg/L
BA03	Compliance	E001	05/10/2023	Molybdenum, total	0.001 UJ	mg/L
BA03	Compliance	E001	05/10/2023	Oxidation Reduction Potential	225	mV
BA03	Compliance	E001	05/10/2023	pH (field)	6.7	SU
BA03	Compliance	E001	05/10/2023	Radium 226 + Radium 228, total	0.788	pCi/L
BA03	Compliance	E001	05/10/2023	Selenium, total	0.00160	mg/L
BA03	Compliance	E001	05/10/2023	Specific Conductance @ 25C (field)	819	micromhos/cm
BA03	Compliance	E001	05/10/2023	Sulfate, total	19.0	mg/L
BA03	Compliance	E001	05/10/2023	Temperature	15.4	degrees C
BA03	Compliance	E001	05/10/2023	Thallium, total	0.00038 U	mg/L
BA03	Compliance	E001	05/10/2023	Total Dissolved Solids	500 J	mg/L
BA03	Compliance	E001	05/10/2023	Turbidity, field	42.0	NTU
BA03L	Compliance	E001	05/10/2023	Antimony, total	0.00043 U	mg/L
BA03L	Compliance	E001	05/10/2023	Arsenic, total	0.00069 U	mg/L
BA03L	Compliance	E001	05/10/2023	Barium, total	0.130	mg/L
BA03L	Compliance	E001	05/10/2023	Beryllium, total	0.001 U	mg/L
BA03L	Compliance	E001	05/10/2023	Boron, total	0.480	mg/L
BA03L	Compliance	E001	05/10/2023	Cadmium, total	0.00074 U	mg/L
BA03L	Compliance	E001	05/10/2023	Calcium, total	190	mg/L
BA03L	Compliance	E001	05/10/2023	Chloride, total	26.0	mg/L
BA03L	Compliance	E001	05/10/2023	Chromium, total	0.00490	mg/L
BA03L	Compliance	E001	05/10/2023	Cobalt, total	0.00048 U	mg/L
BA03L	Compliance	E001	05/10/2023	Dissolved Oxygen	2.70	mg/L
BA03L	Compliance	E001	05/10/2023	Fluoride, total	0.205 J	mg/L
BA03L	Compliance	E001	05/10/2023	Lead, total	0.00023 J	mg/L
BA03L	Compliance	E001	05/10/2023	Lithium, total	0.005 U	mg/L
BA03L	Compliance	E001	05/10/2023	Mercury, total	0.00014 U	mg/L
BA03L	Compliance	E001	05/10/2023	Molybdenum, total	0.00100 J+	mg/L
BA03L	Compliance	E001	05/10/2023	Oxidation Reduction Potential	221	mV
BA03L	Compliance	E001	05/10/2023	pH (field)	6.7	SU
BA03L	Compliance	E001	05/10/2023	Radium 226 + Radium 228, total	0.744	pCi/L
BA03L	Compliance	E001	05/10/2023	Selenium, total	0.00074 U	mg/L
BA03L	Compliance	E001	05/10/2023	Specific Conductance @ 25C (field)	1,380	micromhos/cm
BA03L	Compliance	E001	05/10/2023	Sulfate, total	360	mg/L
BA03L	Compliance	E001	05/10/2023	Temperature	15.0	degrees C
BA03L	Compliance	E001	05/10/2023	Thallium, total	0.00038 U	mg/L
BA03L	Compliance	E001	05/10/2023	Total Dissolved Solids	1,100 J	mg/L
BA03L	Compliance	E001	05/10/2023	Turbidity, field	50.0	NTU
BA04	Compliance	E001	05/11/2023	Antimony, total	0.00043 U	mg/L
BA04	Compliance	E001	05/11/2023	Arsenic, total	0.00069 U	mg/L

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845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA04	Compliance	E001	05/11/2023	Barium, total	0.0870	mg/L
BA04	Compliance	E001	05/11/2023	Beryllium, total	0.00059 U	mg/L
BA04	Compliance	E001	05/11/2023	Boron, total	0.330 J+	mg/L
BA04	Compliance	E001	05/11/2023	Cadmium, total	0.00074 U	mg/L
BA04	Compliance	E001	05/11/2023	Calcium, total	130 J+	mg/L
BA04	Compliance	E001	05/11/2023	Chloride, total	30.0	mg/L
BA04	Compliance	E001	05/11/2023	Chromium, total	0.0028 U	mg/L
BA04	Compliance	E001	05/11/2023	Cobalt, total	0.00048 U	mg/L
BA04	Compliance	E001	05/11/2023	Dissolved Oxygen	1.00	mg/L
BA04	Compliance	E001	05/11/2023	Fluoride, total	0.275	mg/L
BA04	Compliance	E001	05/11/2023	Lead, total	0.00022 U	mg/L
BA04	Compliance	E001	05/11/2023	Lithium, total	0.005 U	mg/L
BA04	Compliance	E001	05/11/2023	Mercury, total	0.00014 U	mg/L
BA04	Compliance	E001	05/11/2023	Molybdenum, total	0.00270	mg/L
BA04	Compliance	E001	05/11/2023	Oxidation Reduction Potential	178	mV
BA04	Compliance	E001	05/11/2023	pH (field)	6.8	SU
BA04	Compliance	E001	05/11/2023	Radium 226 + Radium 228, total	0.152	pCi/L
BA04	Compliance	E001	05/11/2023	Selenium, total	0.00074 U	mg/L
BA04	Compliance	E001	05/11/2023	Specific Conductance @ 25C (field)	942	micromhos/cm
BA04	Compliance	E001	05/11/2023	Sulfate, total	78.0	mg/L
BA04	Compliance	E001	05/11/2023	Temperature	17.6	degrees C
BA04	Compliance	E001	05/11/2023	Thallium, total	0.00110	mg/L
BA04	Compliance	E001	05/11/2023	Total Dissolved Solids	740 J+	mg/L
BA04	Compliance	E001	05/11/2023	Turbidity, field	0 U	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 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
BA01	UA	E001	Antimony, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA01	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/11/23	9	11	CI around mean	0.00103	0.024	Background	No Exceedance
BA01	UA	E001	Barium, total	mg/L	02/05/16 - 05/11/23	9	0	CI around mean	0.136	2	Standard	No Exceedance
BA01	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA01	UA	E001	Boron, total	mg/L	02/05/16 - 05/11/23	21	0	CI around median	0.021	7.9	Background	No Exceedance
BA01	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA01	UA	E001	Chloride, total	mg/L	02/05/16 - 05/11/23	21	0	CI around median	10	700	Background	No Exceedance
BA01	UA	E001	Chromium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.004	0.1	Standard	No Exceedance
BA01	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/11/23	9	78	CI around median	0.002	0.03	Background	No Exceedance
BA01	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/11/23	21	52	CI around median	0.25	4	Standard	No Exceedance
BA01	UA	E001	Lead, total	mg/L	02/05/16 - 05/11/23	9	22	CI around geomean	0.00184	0.042	Background	No Exceedance
BA01	UA	E001	Lithium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.02	0.068	Background	No Exceedance
BA01	UA	E001	Mercury, total	mg/L	02/05/16 - 05/11/23	9	89	Most recent sample	0.0002	0.004	Background	No Exceedance
BA01	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/11/23	9	0	CI around median	0.0019	0.1	Standard	No Exceedance
BA01	UA	E001	pH (field)	SU	02/05/16 - 05/11/23	25	0	CI around median	6.8/7.0	6.4/9	Background/Standard	No Exceedance
BA01	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/11/23	9	0	CI around mean	0.448	7.27	Background	No Exceedance
BA01	UA	E001	Selenium, total	mg/L	02/05/16 - 05/11/23	8	100	All ND - Last	0.001	0.05	Standard	No Exceedance
BA01	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/11/23	21	0	CI around mean	129	890	Background	No Exceedance
BA01	UA	E001	Thallium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA01	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/11/23	21	0	CI around mean	525	2,590	Background	No Exceedance
BA02	UA	E001	Antimony, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA02	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/15/23	9	11	CI around mean	0.000936	0.024	Background	No Exceedance
BA02	UA	E001	Barium, total	mg/L	02/05/16 - 05/15/23	9	0	CI around mean	0.184	2	Standard	No Exceedance
BA02	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/15/23	9	89	CI around median	0.001	0.004	Standard	No Exceedance
BA02	UA	E001	Boron, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	0.0482	7.9	Background	No Exceedance
BA02	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA02	UA	E001	Chloride, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	9	700	Background	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
BA02	UA	E001	Chromium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.004	0.1	Standard	No Exceedance
BA02	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.002	0.03	Background	No Exceedance
BA02	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/15/23	21	81	CI around median	0.25	4	Standard	No Exceedance
BA02	UA	E001	Lead, total	mg/L	02/05/16 - 05/15/23	9	67	CI around median	0.001	0.042	Background	No Exceedance
BA02	UA	E001	Lithium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.02	0.068	Background	No Exceedance
BA02	UA	E001	Mercury, total	mg/L	02/05/16 - 05/15/23	9	89	CI around median	0.0002	0.004	Background	No Exceedance
BA02	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/15/23	9	0	CI around mean	0.00371	0.1	Standard	No Exceedance
BA02	UA	E001	pH (field)	SU	02/05/16 - 05/15/23	22	0	CI around median	6.9/7.3	6.4/9	Background/Standard	No Exceedance
BA02	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/15/23	9	0	CI around mean	0.462	7.27	Background	No Exceedance
BA02	UA	E001	Selenium, total	mg/L	02/05/16 - 05/15/23	9	78	CI around median	0.001	0.05	Standard	No Exceedance
BA02	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	11.4	890	Background	No Exceedance
BA02	UA	E001	Thallium, total	mg/L	02/05/16 - 05/15/23	9	89	Most recent sample	0.001	0.002	Standard	No Exceedance
BA02	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/15/23	21	0	CI around mean	434	2,590	Background	No Exceedance
BA02L	UA/PMP	E001	Antimony, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA02L	UA/PMP	E001	Arsenic, total	mg/L	04/14/21 - 05/10/23	9	0	CI around mean	0.0102	0.024	Background	No Exceedance
BA02L	UA/PMP	E001	Barium, total	mg/L	04/14/21 - 05/10/23	9	0	CI around median	0.046	2	Standard	No Exceedance
BA02L	UA/PMP	E001	Beryllium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA02L	UA/PMP	E001	Boron, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	0.0779	7.9	Background	No Exceedance
BA02L	UA/PMP	E001	Cadmium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA02L	UA/PMP	E001	Chloride, total	mg/L	04/14/21 - 05/10/23	10	0	CB around linear reg	0.0094	700	Background	No Exceedance
BA02L	UA/PMP	E001	Chromium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.004	0.1	Standard	No Exceedance
BA02L	UA/PMP	E001	Cobalt, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.002	0.03	Background	No Exceedance
BA02L	UA/PMP	E001	Fluoride, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	0.506	4	Standard	No Exceedance
BA02L	UA/PMP	E001	Lead, total	mg/L	04/14/21 - 05/10/23	9	78	CI around median	0.001	0.042	Background	No Exceedance
BA02L	UA/PMP	E001	Lithium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.02	0.068	Background	No Exceedance
BA02L	UA/PMP	E001	Mercury, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.0002	0.004	Background	No Exceedance
BA02L	UA/PMP	E001	Molybdenum, total	mg/L	04/14/21 - 05/10/23	9	0	CI around mean	0.00894	0.1	Standard	No Exceedance

TABLE 2.
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845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
BA02L	UA/PMP	E001	pH (field)	SU	04/14/21 - 05/10/23	10	0	CI around mean	7.2/7.6	6.4/9	Background/Standard	No Exceedance
BA02L	UA/PMP	E001	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 05/10/23	8	0	CI around mean	-0.00325	7.27	Background	No Exceedance
BA02L	UA/PMP	E001	Selenium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.05	Standard	No Exceedance
BA02L	UA/PMP	E001	Sulfate, total	mg/L	04/14/21 - 05/10/23	10	0	CI around geomean	2.43	890	Background	No Exceedance
BA02L	UA/PMP	E001	Thallium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA02L	UA/PMP	E001	Total Dissolved Solids	mg/L	04/14/21 - 05/10/23	10	0	CI around geomean	196	2,590	Background	No Exceedance
BA03	UA	E001	Antimony, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA03	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/10/23	9	78	CI around median	0.001	0.024	Background	No Exceedance
BA03	UA	E001	Barium, total	mg/L	02/05/16 - 05/10/23	9	0	CI around mean	0.172	2	Standard	No Exceedance
BA03	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA03	UA	E001	Boron, total	mg/L	02/05/16 - 05/10/23	21	0	CI around mean	0.0252	7.9	Background	No Exceedance
BA03	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA03	UA	E001	Chloride, total	mg/L	02/05/16 - 05/10/23	21	0	CI around median	5.9	700	Background	No Exceedance
BA03	UA	E001	Chromium, total	mg/L	02/05/16 - 05/10/23	9	78	CI around median	0.004	0.1	Standard	No Exceedance
BA03	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.002	0.03	Background	No Exceedance
BA03	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/10/23	21	52	CI around median	0.25	4	Standard	No Exceedance
BA03	UA	E001	Lead, total	mg/L	02/05/16 - 05/10/23	9	67	CI around median	0.001	0.042	Background	No Exceedance
BA03	UA	E001	Lithium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.02	0.068	Background	No Exceedance
BA03	UA	E001	Mercury, total	mg/L	02/05/16 - 05/10/23	9	89	CI around median	0.0002	0.004	Background	No Exceedance
BA03	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/10/23	9	11	CI around mean	0.00158	0.1	Standard	No Exceedance
BA03	UA	E001	pH (field)	SU	02/05/16 - 05/10/23	23	0	CI around mean	7.1/7.3	6.4/9	Background/Standard	No Exceedance
BA03	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/10/23	9	0	CI around mean	0.433	7.27	Background	No Exceedance
BA03	UA	E001	Selenium, total	mg/L	02/05/16 - 05/10/23	9	56	CI around median	0.001	0.05	Standard	No Exceedance
BA03	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/10/23	21	0	CB around linear reg	14.3	890	Background	No Exceedance
BA03	UA	E001	Thallium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA03	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/10/23	21	0	CB around linear reg	435	2,590	Background	No Exceedance
BA03L	UA/PMP	E001	Antimony, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
BA03L	UA/PMP	E001	Arsenic, total	mg/L	04/14/21 - 05/10/23	9	67	CI around median	0.001	0.024	Background	No Exceedance
BA03L	UA/PMP	E001	Barium, total	mg/L	04/14/21 - 05/10/23	9	0	CI around median	0.13	2	Standard	No Exceedance
BA03L	UA/PMP	E001	Beryllium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.001	0.004	Standard	No Exceedance
BA03L	UA/PMP	E001	Boron, total	mg/L	04/14/21 - 05/10/23	10	0	CB around linear reg	0.364	7.9	Background	No Exceedance
BA03L	UA/PMP	E001	Cadmium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA03L	UA/PMP	E001	Chloride, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	21.5	700	Background	No Exceedance
BA03L	UA/PMP	E001	Chromium, total	mg/L	04/14/21 - 05/10/23	9	33	CI around median	0.004	0.1	Standard	No Exceedance
BA03L	UA/PMP	E001	Cobalt, total	mg/L	04/14/21 - 05/10/23	9	78	CI around median	0.002	0.03	Background	No Exceedance
BA03L	UA/PMP	E001	Fluoride, total	mg/L	04/14/21 - 05/10/23	10	70	CI around median	0.25	4	Standard	No Exceedance
BA03L	UA/PMP	E001	Lead, total	mg/L	04/14/21 - 05/10/23	9	44	CI around median	0.001	0.042	Background	No Exceedance
BA03L	UA/PMP	E001	Lithium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.02	0.068	Background	No Exceedance
BA03L	UA/PMP	E001	Mercury, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.0002	0.004	Background	No Exceedance
BA03L	UA/PMP	E001	Molybdenum, total	mg/L	04/14/21 - 05/10/23	9	44	CI around median	0.001	0.1	Standard	No Exceedance
BA03L	UA/PMP	E001	pH (field)	SU	04/14/21 - 05/10/23	10	0	CI around mean	6.8/6.9	6.4/9	Background/Standard	No Exceedance
BA03L	UA/PMP	E001	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 05/10/23	8	0	CI around geomean	0.27	7.27	Background	No Exceedance
BA03L	UA/PMP	E001	Selenium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.001	0.05	Standard	No Exceedance
BA03L	UA/PMP	E001	Sulfate, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	342	890	Background	No Exceedance
BA03L	UA/PMP	E001	Thallium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA03L	UA/PMP	E001	Total Dissolved Solids	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	971	2,590	Background	No Exceedance
BA04	UA	E001	Antimony, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA04	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.024	Background	No Exceedance
BA04	UA	E001	Barium, total	mg/L	02/05/16 - 05/11/23	9	0	CI around mean	0.1	2	Standard	No Exceedance
BA04	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA04	UA	E001	Boron, total	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	0.305	7.9	Background	No Exceedance
BA04	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA04	UA	E001	Chloride, total	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	34	700	Background	No Exceedance
BA04	UA	E001	Chromium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.004	0.1	Standard	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
BA04	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.002	0.03	Background	No Exceedance
BA04	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/11/23	21	14	CI around median	0.268	4	Standard	No Exceedance
BA04	UA	E001	Lead, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.042	Background	No Exceedance
BA04	UA	E001	Lithium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.02	0.068	Background	No Exceedance
BA04	UA	E001	Mercury, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.0002	0.004	Background	No Exceedance
BA04	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/11/23	9	0	CI around geomean	0.0017	0.1	Standard	No Exceedance
BA04	UA	E001	pH (field)	SU	02/05/16 - 05/11/23	22	0	CI around mean	7.0/7.2	6.4/9	Background/Standard	No Exceedance
BA04	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/11/23	9	0	CI around mean	0.316	7.27	Background	No Exceedance
BA04	UA	E001	Selenium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.05	Standard	No Exceedance
BA04	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/11/23	21	0	CB around linear reg	123	890	Background	No Exceedance
BA04	UA	E001	Thallium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.002	Standard	No Exceedance
BA04	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	670	2,590	Background	No Exceedance

Notes:
Exceedance Type:

No Exceedance: No exceedance of the GWPS and no resample was collected.

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UA/PMP = Uppermost Aquifer/Potential Migration Pathway

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

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Statistical Result = calculated in accordance with Statistical Analysis Plan using constituent concentrations observed at 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

Y:\Mapping\Projects\2212285\MXD\845_Operating_Permit\Duck_Creek\BABGMP\Figure 2-1_Proposed 845 GW Monitoring Well Network.mxd

PROJECT: 169000XXXX | DATED: 9/24/2021 | DESIGNER: STOLZSD

BACKGROUND WELL
COMPLIANCE WELL
REGULATED UNIT (SUBJECT UNIT)

0 50 100 Feet

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

BOTTOM ASH BASIN
DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

ATTACHMENTS

ATTACHMENT A
GROUNDWATER ELEVATION DATA
QUARTER 2 2023

ATTACHMENT A.
GROUNDWATER ELEVATION DATA - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
BA01	Compliance	05/08/2023	14.89	572.20
BA02L	Compliance	05/08/2023	11.49	568.41
BA03	Compliance	05/08/2023	5.95	572.39
BA03L	Compliance	05/08/2023	5.03	572.72
BA04	Compliance	05/08/2023	5.49	572.70
BA05	Background	05/08/2023	18.53	577.18
BA06	Background	05/08/2023	21.46	574.17

Notes:
BMP = below measuring point
NAVD88 = North American Vertical Datum of 1988

ATTACHMENT B
LABORATORY REPORTS AND FIELD DATA SHEETS
QUARTER 2 2023

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

June 13, 2023

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

RE: DC 23Q2

Dear Daryl Johnson:

Please find enclosed the analytical results for the **109** sample(s) the laboratory received on **5/10/23 5:20 pm** and logged in under work order **GE02221**. 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.

Gail J Schindler

Gail Schindler
Project Manager
(309) 692-9688 x1716
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Pace Analytical Services, LLC
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SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order GE02221

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

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Work Order GE02226

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

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Work Order GE02632

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

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Work Order GE02767

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

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Work Order GE02997

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

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Case Narrative

G08L water level below top of pump

Sample GE02997-10 nitrate was originally reported at 10x dilution but it was discovered the sample was analyzed at a 5x dilution. The corrected raw data page is numbered 289a. The incorrect page has been removed and the corrected page has been added in its place.

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ANALYTICAL RESULTS

Sample: GE02221-18
Name: BA02L
Matrix: Ground Water - Grab

Sampled: 05/10/23 14:15
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	2.6	mg/L		05/11/23 16:09	1	1.0	05/12/23 03:11	CRD	EPA 300.0 REV 2.1
Sulfate	14	mg/L		05/22/23 18:50	5	5.0	05/22/23 18:50	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	7.91	Feet		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Dissolved oxygen, Field	0.30	mg/L		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Oxidation Reduction Potential	-122	mV		05/10/23 14:15	1	-500	05/10/23 14:15	FIELD	Field*
pH, Field Measured	7.12	pH Units		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Specific Conductance, Field Measured	583.0	umhos/cm		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Temperature, Field Measured	12.6	°C		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Temperature, Field Measured	54.6	°F		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Turbidity, Field Measured	99.1	NTU		05/10/23 14:15	1	0.00	05/10/23 14:15	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	300	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Fluoride	0.403	mg/L		05/24/23 11:04	1	0.250	05/24/23 11:04	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	370	mg/L		05/17/23 11:18	1	26	05/17/23 17:16	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:06	JMW	EPA 6020A
Arsenic	13	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Barium	75	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:06	JMW	EPA 6020A
Boron	68	ug/L		05/15/23 12:00	5	10	05/23/23 10:38	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Calcium	77	mg/L		05/15/23 12:00	5	0.20	05/23/23 10:38	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/15/23 12:00	5	4.0	05/23/23 10:38	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 10:38	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02221-18
Name: BA02L
Matrix: Ground Water - Grab

Sampled: 05/10/23 14:15
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Lead	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:06	JMW	EPA 6020A
Magnesium	31	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:38	JMW	EPA 6020A
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/22/23 16:06	JMW	EPA 6020A
Molybdenum	4.7	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Potassium	0.24	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:38	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Sodium	3.8	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:38	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:38	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:16	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02221-19
Name: BA03
Matrix: Ground Water - Grab

Sampled: 05/10/23 13:00
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	6.4	mg/L		05/25/23 12:00	1	1.0	05/25/23 12:00	CRD	EPA 300.0 REV 2.1
Sulfate	19	mg/L		05/25/23 12:21	5	5.0	05/25/23 12:21	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	6.11	Feet		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Dissolved oxygen, Field	5.0	mg/L		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Oxidation Reduction Potential	225	mV		05/10/23 13:00	1	-500	05/10/23 13:00	FIELD	Field*
pH, Field Measured	6.69	pH Units		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Specific Conductance, Field Measured	819.0	umhos/cm		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Temperature, Field Measured	15.4	°C		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Temperature, Field Measured	59.7	°F		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Turbidity, Field Measured	42.0	NTU		05/10/23 13:00	1	0.00	05/10/23 13:00	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	460	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Fluoride	< 0.250	mg/L		05/24/23 11:17	1	0.250	05/24/23 11:17	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	500	mg/L		05/17/23 11:18	1	26	05/17/23 17:16	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:08	JMW	EPA 6020A
Arsenic	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Barium	150	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:08	JMW	EPA 6020A
Boron	24	ug/L		05/15/23 12:00	5	10	05/23/23 10:42	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Calcium	100	mg/L		05/15/23 12:00	5	0.20	05/23/23 10:42	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/15/23 12:00	5	4.0	05/23/23 10:42	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 10:42	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:08	JMW	EPA 6020A
Magnesium	51	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:42	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02221-19
Name: BA03
Matrix: Ground Water - Grab

Sampled: 05/10/23 13:00
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/22/23 16:08	JMW	EPA 6020A
Molybdenum	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Potassium	0.71	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:42	JMW	EPA 6020A
Selenium	1.6	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Sodium	7.1	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:42	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:42	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:17	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02221-20
Name: BA03 DUP
Matrix: Ground Water - Grab

Sampled: 05/10/23 13:00
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	6.5	mg/L		05/25/23 12:43	1	1.0	05/25/23 12:43	CRD	EPA 300.0 REV 2.1
Sulfate	19	mg/L		05/25/23 13:04	5	5.0	05/25/23 13:04	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	6.11	Feet		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Dissolved oxygen, Field	5.0	mg/L		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Oxidation Reduction Potential	225	mV		05/10/23 13:00	1	-500	05/10/23 13:00	FIELD	Field*
pH, Field Measured	6.69	pH Units		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Specific Conductance, Field Measured	819.0	umhos/cm		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Temperature, Field Measured	59.7	°F		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Temperature, Field Measured	15.4	°C		05/10/23 13:00	1		05/10/23 13:00	FIELD	Field*
Turbidity, Field Measured	42.0	NTU		05/10/23 13:00	1	0.00	05/10/23 13:00	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	440	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Fluoride	< 0.250	mg/L		05/24/23 11:19	1	0.250	05/24/23 11:19	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	500	mg/L		05/17/23 11:18	1	26	05/17/23 17:16	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:11	JMW	EPA 6020A
Arsenic	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Barium	160	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:11	JMW	EPA 6020A
Boron	22	ug/L		05/15/23 12:00	5	10	05/23/23 10:45	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Calcium	110	mg/L		05/15/23 12:00	5	0.20	05/23/23 10:45	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/15/23 12:00	5	4.0	05/23/23 10:45	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 10:45	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:11	JMW	EPA 6020A
Magnesium	52	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:45	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02221-20
Name: BA03 DUP
Matrix: Ground Water - Grab

Sampled: 05/10/23 13:00
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/22/23 16:11	JMW	EPA 6020A
Molybdenum	1.2	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Potassium	0.72	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:45	JMW	EPA 6020A
Selenium	1.5	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Sodium	7.2	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:45	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:45	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:25	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02226-01
Name: BA03L
Matrix: Ground Water - Grab

Sampled: 05/10/23 14:15
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	26	mg/L	Q4	05/12/23 16:25	10	10	05/12/23 16:25	CRD	EPA 300.0 REV 2.1
Sulfate	360	mg/L	Q4	05/12/23 16:47	100	100	05/12/23 16:47	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	5.73	Feet		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Dissolved oxygen, Field	2.7	mg/L		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Oxidation Reduction Potential	221	mV		05/10/23 14:15	1	-500	05/10/23 14:15	FIELD	Field*
pH, Field Measured	6.65	pH Units		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Specific Conductance, Field Measured	1380	umhos/cm		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Temperature, Field Measured	59.1	°F		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Temperature, Field Measured	15.0	°C		05/10/23 14:15	1		05/10/23 14:15	FIELD	Field*
Turbidity, Field Measured	50.0	NTU		05/10/23 14:15	1	0.00	05/10/23 14:15	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	510	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/19/23 09:32	1	10	05/19/23 09:32	CPS	SM 2320B 1997*
Fluoride	< 0.250	mg/L		05/24/23 11:28	1	0.250	05/24/23 11:28	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1100	mg/L		05/17/23 11:18	1	26	05/17/23 17:16	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:14	JMW	EPA 6020A
Arsenic	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Barium	130	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:14	JMW	EPA 6020A
Boron	480	ug/L		05/15/23 12:00	5	10	05/23/23 10:49	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Calcium	190	mg/L		05/15/23 12:00	5	0.20	05/23/23 10:49	JMW	EPA 6020A
Chromium	4.9	ug/L		05/15/23 12:00	5	4.0	05/23/23 10:49	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 10:49	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:14	JMW	EPA 6020A
Magnesium	98	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:49	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02226-01
Name: BA03L
Matrix: Ground Water - Grab

Sampled: 05/10/23 14:15
Received: 05/10/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/22/23 16:14	JMW	EPA 6020A
Molybdenum	1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Potassium	0.32	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:49	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Sodium	28	mg/L		05/15/23 12:00	5	0.10	05/23/23 10:49	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 10:49	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:26	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02632-01
Name: BA01
Matrix: Ground Water - Grab

Sampled: 05/11/23 13:33
Received: 05/11/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	16	mg/L	Q4	05/12/23 19:59	5	5.0	05/12/23 19:59	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		05/12/23 18:55	1	0.250	05/12/23 18:55	CRD	EPA 300.0 REV 2.1
Sulfate	130	mg/L	Q4	05/12/23 20:20	25	25	05/12/23 20:20	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	14.68	Feet		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Dissolved oxygen, Field	1.2	mg/L		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Oxidation Reduction Potential	58.0	mV		05/11/23 13:33	1	-500	05/11/23 13:33	FIELD	Field*
pH, Field Measured	6.79	pH Units		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Specific Conductance, Field Measured	796.0	umhos/cm		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Temperature, Field Measured	18.0	°C		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Temperature, Field Measured	64.4	°F		05/11/23 13:33	1		05/11/23 13:33	FIELD	Field*
Turbidity, Field Measured	9.90	NTU		05/11/23 13:33	1	0.00	05/11/23 13:33	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	420	mg/L		05/22/23 09:02	1	10	05/22/23 09:02	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/22/23 09:02	1	10	05/22/23 09:02	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	620	mg/L	M	05/18/23 15:57	1	26	05/18/23 16:48	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:35	JMW	EPA 6020A
Arsenic	1.6	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:07	JMW	EPA 6020A
Barium	120	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:35	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:35	JMW	EPA 6020A
Boron	23	ug/L		05/15/23 12:00	5	10	05/23/23 14:48	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:07	JMW	EPA 6020A
Calcium	120	mg/L	Q4	05/15/23 12:00	5	0.20	05/23/23 12:07	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/15/23 12:00	5	4.0	05/23/23 12:07	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 12:07	JMW	EPA 6020A
Lead	< 1.0	ug/L	Q1	05/15/23 12:00	5	1.0	05/22/23 16:35	JMW	EPA 6020A
Magnesium	58	mg/L	Q4	05/15/23 12:00	5	0.10	05/23/23 12:07	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02632-01
Name: BA01
Matrix: Ground Water - Grab

Sampled: 05/11/23 13:33
Received: 05/11/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/22/23 16:35	JMW	EPA 6020A
Molybdenum	1.5	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:07	JMW	EPA 6020A
Potassium	0.74	mg/L		05/15/23 12:00	5	0.10	05/23/23 12:07	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:07	JMW	EPA 6020A
Sodium	15	mg/L		05/15/23 12:00	5	0.10	05/23/23 12:07	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:35	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:31	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02632-02
Name: BA04
Matrix: Ground Water - Grab

Sampled: 05/11/23 11:40
Received: 05/11/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	30	mg/L		05/25/23 18:03	10	10	05/25/23 18:03	CRD	EPA 300.0 REV 2.1
Sulfate	78	mg/L		05/12/23 21:03	25	25	05/12/23 21:03	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	5.39	Feet		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Dissolved oxygen, Field	1.0	mg/L		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Oxidation Reduction Potential	178	mV		05/11/23 11:40	1	-500	05/11/23 11:40	FIELD	Field*
pH, Field Measured	6.75	pH Units		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Specific Conductance, Field Measured	942.0	umhos/cm		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Temperature, Field Measured	63.6	°F		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Temperature, Field Measured	17.6	°C		05/11/23 11:40	1		05/11/23 11:40	FIELD	Field*
Turbidity, Field Measured	< 0.00	NTU		05/11/23 11:40	1	0.00	05/11/23 11:40	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	410	mg/L		05/22/23 09:02	1	10	05/22/23 09:02	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/22/23 09:02	1	10	05/22/23 09:02	CPS	SM 2320B 1997*
Fluoride	0.275	mg/L		05/24/23 11:02	1	0.250	05/24/23 11:02	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	740	mg/L		05/18/23 15:57	1	26	05/18/23 16:48	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/15/23 12:00	5	3.0	05/22/23 16:44	JMW	EPA 6020A
Arsenic	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:10	JMW	EPA 6020A
Barium	87	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:44	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:44	JMW	EPA 6020A
Boron	330	ug/L		05/15/23 12:00	5	10	05/23/23 14:51	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:10	JMW	EPA 6020A
Calcium	130	mg/L		05/15/23 12:00	5	0.20	05/23/23 12:10	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/15/23 12:00	5	4.0	05/23/23 12:10	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/15/23 12:00	5	2.0	05/23/23 12:10	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:44	JMW	EPA 6020A
Magnesium	64	mg/L		05/15/23 12:00	5	0.10	05/23/23 12:10	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02632-02
Name: BA04
Matrix: Ground Water - Grab

Sampled: 05/11/23 11:40
Received: 05/11/23 17:20

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/15/23 12:00	5	0.20	05/23/23 12:10	JMW	EPA 6020A
Molybdenum	2.7	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:10	JMW	EPA 6020A
Potassium	0.82	mg/L		05/15/23 12:00	5	0.10	05/23/23 12:10	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/15/23 12:00	5	1.0	05/23/23 12:10	JMW	EPA 6020A
Sodium	13	mg/L	Q3	05/15/23 12:00	5	0.10	05/23/23 12:10	JMW	EPA 6020A
Thallium	1.1	ug/L		05/15/23 12:00	5	1.0	05/22/23 16:44	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/15/23 12:00	1	0.020	05/16/23 10:34	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02767-01
Name: BA05
Matrix: Ground Water - Grab

Sampled: 05/12/23 10:50
Received: 05/12/23 14:31

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	8.2	mg/L		05/13/23 01:28	1	1.0	05/13/23 01:28	CRD	EPA 300.0 REV 2.1
Sulfate	500	mg/L	Q4	05/13/23 02:43	100	100	05/13/23 02:43	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	18.13	Feet		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Dissolved oxygen, Field	3.0	mg/L		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Oxidation Reduction Potential	1.00	mV		05/12/23 10:50	1	-500	05/12/23 10:50	FIELD	Field*
pH, Field Measured	6.96	pH Units		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Specific Conductance, Field Measured	1560	umhos/cm		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Temperature, Field Measured	61.3	°F		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Temperature, Field Measured	16.3	°C		05/12/23 10:50	1		05/12/23 10:50	FIELD	Field*
Turbidity, Field Measured	768	NTU		05/12/23 10:50	1	0.00	05/12/23 10:50	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	490	mg/L		05/23/23 10:23	1	10	05/23/23 10:23	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/23/23 10:23	1	10	05/23/23 10:23	CPS	SM 2320B 1997*
Fluoride	< 0.250	mg/L		05/24/23 12:34	1	0.250	05/24/23 12:34	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1200	mg/L		05/18/23 17:03	1	26	05/18/23 17:42	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/16/23 09:02	5	3.0	05/19/23 11:32	JMW	EPA 6020A
Arsenic	5.6	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Barium	81	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Boron	100	ug/L		05/16/23 09:02	5	10	05/19/23 11:32	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Calcium	210	mg/L	Q4	05/16/23 09:02	5	0.20	05/19/23 11:32	JMW	EPA 6020A
Chromium	6.4	ug/L		05/16/23 09:02	5	4.0	05/19/23 11:32	JMW	EPA 6020A
Cobalt	3.3	ug/L		05/16/23 09:02	5	2.0	05/19/23 11:32	JMW	EPA 6020A
Lead	3.1	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Magnesium	97	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:32	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02767-01
Name: BA05
Matrix: Ground Water - Grab

Sampled: 05/12/23 10:50
Received: 05/12/23 14:31

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/16/23 09:02	5	0.20	05/19/23 11:32	JMW	EPA 6020A
Molybdenum	2.6	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Potassium	3.0	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:32	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Sodium	43	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:32	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:32	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/16/23 09:02	1	0.020	05/16/23 12:31	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02767-02
Name: BA06
Matrix: Ground Water - Grab

Sampled: 05/12/23 12:19
Received: 05/12/23 14:31

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	510	mg/L		05/13/23 04:17	100	100	05/13/23 04:17	CRD	EPA 300.0 REV 2.1
Sulfate	340	mg/L		05/13/23 04:17	100	100	05/13/23 04:17	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	21.7	Feet		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Dissolved oxygen, Field	0.82	mg/L		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Oxidation Reduction Potential	-39.0	mV		05/12/23 12:19	1	-500	05/12/23 12:19	FIELD	Field*
pH, Field Measured	6.44	pH Units		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Specific Conductance, Field Measured	2930	umhos/cm		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Temperature, Field Measured	60.2	°F		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Temperature, Field Measured	15.7	°C		05/12/23 12:19	1		05/12/23 12:19	FIELD	Field*
Turbidity, Field Measured	55.1	NTU		05/12/23 12:19	1	0.00	05/12/23 12:19	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	520	mg/L		05/23/23 10:23	1	10	05/23/23 10:23	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/23/23 10:23	1	10	05/23/23 10:23	CPS	SM 2320B 1997*
Fluoride	< 0.250	mg/L		05/24/23 11:13	1	0.250	05/24/23 11:13	TTH	SM 4500F C 1997
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	2200	mg/L		05/18/23 17:03	1	26	05/18/23 17:42	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/16/23 09:02	5	3.0	05/19/23 11:35	JMW	EPA 6020A
Arsenic	5.2	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Barium	110	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Boron	8700	ug/L		05/16/23 09:02	5	10	05/19/23 11:35	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Calcium	340	mg/L		05/16/23 09:02	5	0.20	05/19/23 11:35	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/16/23 09:02	5	4.0	05/19/23 11:35	JMW	EPA 6020A
Cobalt	9.5	ug/L		05/16/23 09:02	5	2.0	05/19/23 11:35	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Magnesium	210	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:35	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02767-02
Name: BA06
Matrix: Ground Water - Grab

Sampled: 05/12/23 12:19
Received: 05/12/23 14:31

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	< 0.20	ug/L		05/16/23 09:02	5	0.20	05/19/23 11:35	JMW	EPA 6020A
Molybdenum	1.2	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Potassium	0.57	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:35	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Sodium	18	mg/L		05/16/23 09:02	5	0.10	05/19/23 11:35	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/16/23 09:02	5	1.0	05/19/23 11:35	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/16/23 09:02	1	0.020	05/16/23 12:35	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: GE02997-01
Name: BA02
Matrix: Ground Water - Grab

Sampled: 05/15/23 11:23
Received: 05/16/23 06:50

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	8.0	mg/L	Q4	05/16/23 10:51	5	5.0	05/16/23 10:51	CRD	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		05/16/23 09:57	1	0.250	05/16/23 09:57	CRD	EPA 300.0 REV 2.1
Sulfate	12	mg/L	Q4	05/16/23 10:51	5	5.0	05/16/23 10:51	CRD	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.39	Feet		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Dissolved oxygen, Field	0.90	mg/L		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Oxidation Reduction Potential	228	mV		05/15/23 11:23	1	-500	05/15/23 11:23	FIELD	Field*
pH, Field Measured	7.30	pH Units		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Specific Conductance, Field Measured	897.0	umhos/cm		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Temperature, Field Measured	57.6	°F		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Temperature, Field Measured	14.2	°C		05/15/23 11:23	1		05/15/23 11:23	FIELD	Field*
Turbidity, Field Measured	11.2	NTU		05/15/23 11:23	1	0.00	05/15/23 11:23	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	550	mg/L		05/24/23 09:25	1	10	05/24/23 09:25	CPS	SM 2320B 1997*
Alkalinity - carbonate as CaCO3	< 10	mg/L		05/24/23 09:25	1	10	05/24/23 09:25	CPS	SM 2320B 1997*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	480	mg/L	M	05/19/23 12:22	1	26	05/19/23 13:18	HRF	SM 2540C
Total Metals - PIA									
Antimony	< 3.0	ug/L		05/22/23 09:08	5	3.0	05/24/23 13:06	JMW	EPA 6020A
Arsenic	1.6	ug/L		05/22/23 09:08	5	1.0	05/23/23 21:04	JMW	EPA 6020A
Barium	210	ug/L		05/22/23 09:08	5	1.0	05/24/23 13:06	JMW	EPA 6020A
Beryllium	< 1.0	ug/L		05/22/23 09:08	5	1.0	05/23/23 21:04	JMW	EPA 6020A
Boron	68	ug/L		05/22/23 09:08	5	10	05/24/23 13:06	JMW	EPA 6020A
Cadmium	< 1.0	ug/L		05/22/23 09:08	5	1.0	05/23/23 21:04	JMW	EPA 6020A
Calcium	96	mg/L		05/22/23 09:08	5	0.20	05/23/23 21:04	JMW	EPA 6020A
Chromium	< 4.0	ug/L		05/22/23 09:08	5	4.0	05/23/23 21:04	JMW	EPA 6020A
Cobalt	< 2.0	ug/L		05/22/23 09:08	5	2.0	05/23/23 21:04	JMW	EPA 6020A
Lead	< 1.0	ug/L		05/22/23 09:08	5	1.0	05/24/23 13:06	JMW	EPA 6020A
Magnesium	46	mg/L		05/22/23 09:08	5	0.10	05/23/23 21:04	JMW	EPA 6020A

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ANALYTICAL RESULTS

Sample: GE02997-01
Name: BA02
Matrix: Ground Water - Grab

Sampled: 05/15/23 11:23
Received: 05/16/23 06:50

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Mercury	0.73	ug/L		05/22/23 09:08	5	0.20	05/24/23 13:06	JMW	EPA 6020A
Molybdenum	5.2	ug/L		05/22/23 09:08	5	1.0	05/23/23 21:04	JMW	EPA 6020A
Potassium	1.3	mg/L		05/22/23 09:08	5	0.10	05/24/23 13:06	JMW	EPA 6020A
Selenium	< 1.0	ug/L		05/22/23 09:08	5	1.0	05/23/23 21:04	JMW	EPA 6020A
Sodium	46	mg/L		05/22/23 09:08	5	0.10	05/24/23 13:06	JMW	EPA 6020A
Thallium	< 1.0	ug/L		05/22/23 09:08	5	1.0	05/24/23 13:06	JMW	EPA 6020A
Lithium	< 0.020	mg/L		05/22/23 09:08	1	0.020	05/23/23 09:53	TJJ	EPA 6010B

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B333386 - SW 3015 - EPA 6010B									
Blank (B333386-BLK1)				Prepared: 05/15/23 Analyzed: 05/16/23					
Lithium	< 0.020	mg/L							
LCS (B333386-BS1)				Prepared: 05/15/23 Analyzed: 05/16/23					
Lithium	0.539	mg/L		0.5556		97	80-120		
Matrix Spike (B333386-MS1)	**Sample: GE02632-01**			Prepared: 05/15/23 Analyzed: 05/16/23					
Lithium	0.552	mg/L		0.5556	ND	99	75-125		
Matrix Spike Dup (B333386-MSD1)	**Sample: GE02632-01**			Prepared: 05/15/23 Analyzed: 05/16/23					
Lithium	0.562	mg/L		0.5556	ND	101	75-125	2	20
Batch B333386 - SW 3015 - EPA 6020A									
Blank (B333386-BLK1)				Prepared: 05/15/23 Analyzed: 05/22/23					
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 (B333386-BS1)				Prepared: 05/15/23 Analyzed: 05/22/23					
Antimony	502	ug/L		555.6		90	80-120		
Arsenic	494	ug/L		555.6		89	80-120		
Barium	489	ug/L		555.6		88	80-120		
Beryllium	480	ug/L		555.6		86	80-120		
Boron	482	ug/L		555.6		87	80-120		
Cadmium	497	ug/L		555.6		89	80-120		
Calcium	5.14	mg/L		5.556		93	80-120		
Chromium	523	ug/L		555.6		94	80-120		
Cobalt	504	ug/L		555.6		91	80-120		
Lead	465	ug/L		555.6		84	80-120		
Magnesium	5.06	mg/L		5.556		91	80-120		
Mercury	46.0	ug/L		55.56		83	80-120		
Molybdenum	484	ug/L		555.6		87	80-120		
Potassium	5.14	mg/L		5.556		93	80-120		
Selenium	524	ug/L		555.6		94	80-120		

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B333386-BS1)				Prepared: 05/15/23 Analyzed: 05/23/23					
Sodium	5.11	mg/L		5.556		92	80-120		
Thallium	487	ug/L		555.6		88	80-120		
Matrix Spike (B333386-MS1)	**Sample: GE02632-01**			Prepared: 05/15/23 Analyzed: 05/22/23					
Antimony	457	ug/L		555.6	ND	82	75-125		
Arsenic	451	ug/L		555.6	1.64	81	75-125		
Barium	543	ug/L		555.6	120	76	75-125		
Beryllium	436	ug/L		555.6	ND	79	75-125		
Boron	462	ug/L		555.6	23.4	79	75-125		
Cadmium	452	ug/L		555.6	ND	81	75-125		
Calcium	105	mg/L	Q4	5.556	117	NR	75-125		
Chromium	471	ug/L		555.6	ND	85	75-125		
Cobalt	439	ug/L		555.6	0.794	79	75-125		
Lead	412	ug/L	Q1	555.6	ND	74	75-125		
Magnesium	52.1	mg/L	Q4	5.556	57.9	NR	75-125		
Mercury	41.9	ug/L		55.56	ND	75	75-125		
Molybdenum	447	ug/L		555.6	1.46	80	75-125		
Potassium	5.19	mg/L		5.556	0.743	80	75-125		
Selenium	472	ug/L		555.6	ND	85	75-125		
Sodium	16.7	mg/L	Q1	5.556	14.8	34	75-125		
Thallium	440	ug/L		555.6	ND	79	75-125		
Matrix Spike Dup (B333386-MSD1)	**Sample: GE02632-01**			Prepared: 05/15/23 Analyzed: 05/22/23					
Antimony	479	ug/L		555.6	ND	86	75-125	5	20
Arsenic	472	ug/L		555.6	1.64	85	75-125	4	20
Barium	567	ug/L		555.6	120	80	75-125	4	20
Beryllium	463	ug/L		555.6	ND	83	75-125	6	20
Boron	477	ug/L		555.6	23.4	82	75-125	3	20
Cadmium	474	ug/L		555.6	ND	85	75-125	5	20
Calcium	110	mg/L	Q4	5.556	117	NR	75-125	4	20
Chromium	493	ug/L		555.6	ND	89	75-125	5	20
Cobalt	459	ug/L		555.6	0.794	82	75-125	4	20
Lead	433	ug/L		555.6	ND	78	75-125	5	20
Magnesium	54.2	mg/L	Q4	5.556	57.9	NR	75-125	4	20
Mercury	45.4	ug/L		55.56	ND	82	75-125	8	20
Molybdenum	472	ug/L		555.6	1.46	85	75-125	5	20
Potassium	5.46	mg/L		5.556	0.743	85	75-125	5	20
Selenium	494	ug/L		555.6	ND	89	75-125	4	20
Sodium	17.4	mg/L	Q2	5.556	14.8	48	75-125	4	20
Thallium	459	ug/L		555.6	ND	83	75-125	4	20

Batch B333398 - IC No Prep - EPA 300.0 REV 2.1

Matrix Spike (B333398-MS4)	**Sample: GE02767-01**			Prepared & Analyzed: 05/13/23					
Chloride	9.6	mg/L		1.500	8.2	96	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	495	NR	80-120		
Matrix Spike Dup (B333398-MSD4)	**Sample: GE02767-01**			Prepared & Analyzed: 05/13/23					
Sulfate	1.00E9	mg/L	Q4	1.500	495	NR	80-120	0	20

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (B333398-MSD4)	**Sample: GE02767-01**			Prepared & Analyzed: 05/13/23					
Chloride	9.5	mg/L		1.500	8.2	89	80-120	1	20
Batch B333402 - IC No Prep - EPA 300.0 REV 2.1									
Matrix Spike (B333402-MS1)	**Sample: GE02226-01**			Prepared & Analyzed: 05/12/23					
Chloride	1.0E9	mg/L	Q4	1.500	26	NR	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	364	NR	80-120		
Matrix Spike (B333402-MS2)	**Sample: GE02632-01**			Prepared: 05/13/23 Analyzed: 05/12/23					
Fluoride	1.56	mg/L		1.500	0.240	88	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	135	NR	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	16	NR	80-120		
Matrix Spike Dup (B333402-MSD1)	**Sample: GE02226-01**			Prepared & Analyzed: 05/12/23					
Sulfate	1.00E9	mg/L	Q4	1.500	364	NR	80-120	0	20
Chloride	1.0E9	mg/L	Q4	1.500	26	NR	80-120	0	20
Matrix Spike Dup (B333402-MSD2)	**Sample: GE02632-01**			Prepared & Analyzed: 05/13/23					
Chloride	1.0E9	mg/L	Q4	1.500	16	NR	80-120	0	20
Sulfate	1.00E9	mg/L	Q4	1.500	135	NR	80-120	0	20
Fluoride	1.66	mg/L		1.500	0.240	95	80-120	6	20
Batch B333464 - SW 3015 - EPA 6010B									
Blank (B333464-BLK1)				Prepared & Analyzed: 05/16/23					
Lithium	< 0.020	mg/L							
LCS (B333464-BS1)				Prepared & Analyzed: 05/16/23					
Lithium	0.515	mg/L		0.5556		93	80-120		
Matrix Spike (B333464-MS1)	**Sample: GE02767-01**			Prepared & Analyzed: 05/16/23					
Lithium	0.548	mg/L		0.5556	0.00833	97	75-125		
Matrix Spike Dup (B333464-MSD1)	**Sample: GE02767-01**			Prepared & Analyzed: 05/16/23					
Lithium	0.538	mg/L		0.5556	0.00833	95	75-125	2	20
Batch B333464 - SW 3015 - EPA 6020A									
Blank (B333464-BLK1)				Prepared: 05/16/23 Analyzed: 05/19/23					
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							

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (B333464-BLK1)				Prepared: 05/16/23 Analyzed: 05/19/23					
Sodium	< 0.10	mg/L							
Thallium	< 1.0	ug/L							
LCS (B333464-BS1)				Prepared: 05/16/23 Analyzed: 05/19/23					
Antimony	1070	ug/L		1111		96	80-120		
Arsenic	544	ug/L		555.6		98	80-120		
Barium	544	ug/L		555.6		98	80-120		
Beryllium	546	ug/L		555.6		98	80-120		
Boron	1080	ug/L		1111		97	80-120		
Cadmium	542	ug/L		555.6		98	80-120		
Calcium	5.58	mg/L		5.556		101	80-120		
Chromium	564	ug/L		555.6		102	80-120		
Cobalt	559	ug/L		555.6		101	80-120		
Lead	499	ug/L		555.6		90	80-120		
Magnesium	5.39	mg/L		5.556		97	80-120		
Mercury	53.4	ug/L		55.56		96	80-120		
Molybdenum	528	ug/L		555.6		95	80-120		
Potassium	5.55	mg/L		5.556		100	80-120		
Selenium	542	ug/L		555.6		97	80-120		
Sodium	5.65	mg/L		5.556		102	80-120		
Thallium	549	ug/L		555.6		99	80-120		
Matrix Spike (B333464-MS1)	**Sample: GE02767-01**			Prepared: 05/16/23 Analyzed: 05/19/23					
Antimony	532	ug/L		555.6	ND	96	75-125		
Arsenic	552	ug/L		555.6	5.64	98	75-125		
Barium	625	ug/L		555.6	80.6	98	75-125		
Beryllium	539	ug/L		555.6	ND	97	75-125		
Boron	648	ug/L		555.6	99.6	99	75-125		
Cadmium	549	ug/L		555.6	ND	99	75-125		
Calcium	212	mg/L	Q4	5.556	210	46	75-125		
Chromium	571	ug/L		555.6	6.42	102	75-125		
Cobalt	545	ug/L		555.6	3.30	98	75-125		
Lead	487	ug/L		555.6	3.11	87	75-125		
Magnesium	101	mg/L		5.556	96.6	79	75-125		
Mercury	54.2	ug/L		55.56	ND	98	75-125		
Molybdenum	547	ug/L		555.6	2.58	98	75-125		
Potassium	8.34	mg/L		5.556	2.96	97	75-125		
Selenium	547	ug/L		555.6	ND	98	75-125		
Sodium	48.2	mg/L		5.556	43.2	90	75-125		
Thallium	548	ug/L		555.6	ND	99	75-125		
Matrix Spike Dup (B333464-MSD1)	**Sample: GE02767-01**			Prepared: 05/16/23 Analyzed: 05/19/23					
Antimony	530	ug/L		555.6	ND	95	75-125	0.4	20
Arsenic	550	ug/L		555.6	5.64	98	75-125	0.5	20
Barium	620	ug/L		555.6	80.6	97	75-125	0.8	20
Beryllium	530	ug/L		555.6	ND	95	75-125	2	20
Boron	637	ug/L		555.6	99.6	97	75-125	2	20
Cadmium	549	ug/L		555.6	ND	99	75-125	0.1	20

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (B333464-MSD1)	**Sample: GE02767-01**			Prepared: 05/16/23 Analyzed: 05/19/23					
Calcium	214	mg/L	Q4	5.556	210	76	75-125	0.8	20
Chromium	570	ug/L		555.6	6.42	101	75-125	0.1	20
Cobalt	545	ug/L		555.6	3.30	97	75-125	0.07	20
Lead	492	ug/L		555.6	3.11	88	75-125	1	20
Magnesium	101	mg/L		5.556	96.6	84	75-125	0.3	20
Mercury	53.9	ug/L		55.56	ND	97	75-125	0.6	20
Molybdenum	550	ug/L		555.6	2.58	98	75-125	0.4	20
Potassium	8.40	mg/L		5.556	2.96	98	75-125	0.7	20
Selenium	548	ug/L		555.6	ND	99	75-125	0.3	20
Sodium	48.3	mg/L		5.556	43.2	90	75-125	0.08	20
Thallium	547	ug/L		555.6	ND	98	75-125	0.3	20
Batch B333629 - No Prep - SM 2540C									
Blank (B333629-BLK1)				Prepared & Analyzed: 05/17/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B333629-BS1)				Prepared & Analyzed: 05/17/23					
Solids - total dissolved solids (TDS)	1030	mg/L		1000		103	84.9-109		
Batch B333648 - IC No Prep - EPA 300.0 REV 2.1									
Matrix Spike (B333648-MS1)	**Sample: GE02997-01**			Prepared & Analyzed: 05/16/23					
Chloride	1.0E9	mg/L	Q4	1.500	8.0	NR	80-120		
Fluoride	1.54	mg/L		1.500	0.185	90	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	12.0	NR	80-120		
Matrix Spike Dup (B333648-MSD1)	**Sample: GE02997-01**			Prepared & Analyzed: 05/16/23					
Fluoride	1.51	mg/L		1.500	0.185	89	80-120	2	20
Sulfate	1.00E9	mg/L	Q4	1.500	12.0	NR	80-120	0	20
Chloride	1.0E9	mg/L	Q4	1.500	8.0	NR	80-120	0	20
Batch B333806 - No Prep - SM 2540C									
Blank (B333806-BLK1)				Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B333806-BS1)				Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	983	mg/L		1000		98	84.9-109		
Duplicate (B333806-DUP1)	**Sample: GE02632-01**			Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	575	mg/L	M		620			8	5
Batch B333818 - No Prep - SM 2540C									
Blank (B333818-BLK1)				Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B333818-BS1)				Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	923	mg/L		1000		92	84.9-109		
Duplicate (B333818-DUP1)	**Sample: GE02767-01**			Prepared & Analyzed: 05/18/23					
Solids - total dissolved solids (TDS)	1220	mg/L			1200			2	5
Batch B333887 - No Prep - SM 2540C									

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (B333887-BLK1)				Prepared & Analyzed: 05/19/23					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B333887-BS1)				Prepared & Analyzed: 05/19/23					
Solids - total dissolved solids (TDS)	940	mg/L		1000		94	84.9-109		
Duplicate (B333887-DUP1)	**Sample: GE02997-01**			Prepared & Analyzed: 05/19/23					
Solids - total dissolved solids (TDS)	530	mg/L	M		485			9	5
Batch B333906 - No Prep - SM 2320B 1997									
Blank (B333906-BLK1)				Prepared & Analyzed: 05/19/23					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
Blank (B333906-BLK2)				Prepared & Analyzed: 05/19/23					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
Batch B333977 - SW 3015 - EPA 6010B									
Blank (B333977-BLK1)				Prepared: 05/22/23 Analyzed: 05/23/23					
Lithium	< 0.020	mg/L							
LCS (B333977-BS1)				Prepared: 05/22/23 Analyzed: 05/23/23					
Lithium	0.551	mg/L		0.5556		99	80-120		
Matrix Spike (B333977-MS1)	**Sample: GE02997-01**			Prepared: 05/22/23 Analyzed: 05/23/23					
Lithium	0.560	mg/L		0.5556	ND	101	75-125		
Matrix Spike Dup (B333977-MSD1)	**Sample: GE02997-01**			Prepared: 05/22/23 Analyzed: 05/23/23					
Lithium	0.580	mg/L		0.5556	ND	104	75-125	4	20
Batch B333977 - SW 3015 - EPA 6020A									
Blank (B333977-BLK1)				Prepared: 05/22/23 Analyzed: 05/24/23					
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	Ba						
Selenium	< 1.0	ug/L							
Sodium	0.126	mg/L	B						
Thallium	< 1.0	ug/L							
LCS (B333977-BS1)				Prepared: 05/22/23 Analyzed: 05/24/23					
Antimony	538	ug/L		555.6		97	80-120		
Arsenic	542	ug/L		555.6		98	80-120		
Barium	531	ug/L		555.6		96	80-120		

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

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B333977-BS1)				Prepared: 05/22/23 Analyzed: 05/23/23					
Beryllium	538	ug/L		555.6		97	80-120		
Boron	548	ug/L		555.6		99	80-120		
Cadmium	536	ug/L		555.6		97	80-120		
Calcium	5.48	mg/L		5.556		99	80-120		
Chromium	545	ug/L		555.6		98	80-120		
Cobalt	531	ug/L		555.6		96	80-120		
Lead	545	ug/L		555.6		98	80-120		
Magnesium	5.66	mg/L		5.556		102	80-120		
Mercury	51.8	ug/L		55.56		93	80-120		
Molybdenum	521	ug/L		555.6		94	80-120		
Potassium	5.59	mg/L		5.556		101	80-120		
Selenium	545	ug/L		555.6		98	80-120		
Sodium	5.59	mg/L		5.556		101	80-120		
Thallium	528	ug/L		555.6		95	80-120		
Matrix Spike (B333977-MS1)	**Sample: GE02997-01**			Prepared: 05/22/23 Analyzed: 05/24/23					
Antimony	547	ug/L		555.6	ND	98	75-125		
Arsenic	555	ug/L		555.6	1.61	100	75-125		
Barium	740	ug/L		555.6	214	95	75-125		
Beryllium	544	ug/L		555.6	ND	98	75-125		
Boron	619	ug/L		555.6	68.0	99	75-125		
Cadmium	544	ug/L		555.6	ND	98	75-125		
Calcium	100	mg/L		5.556	96.0	77	75-125		
Chromium	547	ug/L		555.6	ND	98	75-125		
Cobalt	526	ug/L		555.6	ND	95	75-125		
Lead	545	ug/L		555.6	0.650	98	75-125		
Magnesium	51.0	mg/L		5.556	46.2	87	75-125		
Mercury	53.9	ug/L		55.56	0.728	96	75-125		
Molybdenum	541	ug/L		555.6	5.20	96	75-125		
Potassium	7.00	mg/L		5.556	1.34	102	75-125		
Selenium	554	ug/L		555.6	ND	100	75-125		
Sodium	51.3	mg/L		5.556	46.4	88	75-125		
Thallium	534	ug/L		555.6	0.472	96	75-125		
Matrix Spike Dup (B333977-MSD1)	**Sample: GE02997-01**			Prepared: 05/22/23 Analyzed: 05/24/23					
Antimony	555	ug/L		555.6	ND	100	75-125	1	20
Arsenic	561	ug/L		555.6	1.61	101	75-125	1	20
Barium	752	ug/L		555.6	214	97	75-125	2	20
Beryllium	552	ug/L		555.6	ND	99	75-125	1	20
Boron	633	ug/L		555.6	68.0	102	75-125	2	20
Cadmium	550	ug/L		555.6	ND	99	75-125	1	20
Calcium	101	mg/L		5.556	96.0	91	75-125	0.8	20
Chromium	557	ug/L		555.6	ND	100	75-125	2	20
Cobalt	528	ug/L		555.6	ND	95	75-125	0.4	20
Lead	552	ug/L		555.6	0.650	99	75-125	1	20
Magnesium	51.4	mg/L		5.556	46.2	94	75-125	0.7	20
Mercury	55.5	ug/L		55.56	0.728	99	75-125	3	20

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

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (B333977-MSD1)	**Sample: GE02997-01**			Prepared: 05/22/23 Analyzed: 05/23/23					
Molybdenum	549	ug/L		555.6	5.20	98	75-125	2	20
Potassium	7.30	mg/L		5.556	1.34	107	75-125	4	20
Selenium	563	ug/L		555.6	ND	101	75-125	2	20
Sodium	51.8	mg/L		5.556	46.4	96	75-125	0.9	20
Thallium	545	ug/L		555.6	0.472	98	75-125	2	20
Batch B334050 - No Prep - SM 2320B 1997									
Duplicate (B334050-DUP1)	**Sample: GE02632-01**			Prepared & Analyzed: 05/22/23					
Alkalinity - bicarbonate as CaCO3	438	mg/L			425			3	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Batch B334096 - SW 3015 - EPA 6010B									
Blank (B334096-BLK1)				Prepared & Analyzed: 05/23/23					
Lithium	< 0.020	mg/L							
LCS (B334096-BS1)				Prepared & Analyzed: 05/23/23					
Lithium	0.562	mg/L		0.5556		101	80-120		
Batch B334096 - SW 3015 - EPA 6020A									
Blank (B334096-BLK1)				Prepared: 05/23/23 Analyzed: 05/25/23					
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							
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 (B334096-BS1)				Prepared: 05/23/23 Analyzed: 05/25/23					
Antimony	548	ug/L		555.6		99	80-120		
Arsenic	547	ug/L		555.6		99	80-120		
Barium	516	ug/L		555.6		93	80-120		
Beryllium	558	ug/L		555.6		100	80-120		
Boron	568	ug/L		555.6		102	80-120		
Cadmium	543	ug/L		555.6		98	80-120		
Calcium	5.61	mg/L		5.556		101	80-120		
Chromium	569	ug/L		555.6		102	80-120		
Cobalt	555	ug/L		555.6		100	80-120		

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

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B334096-BS1)				Prepared: 05/23/23 Analyzed: 05/25/23					
Lead	578	ug/L		555.6		104	80-120		
Magnesium	5.87	mg/L		5.556		106	80-120		
Molybdenum	546	ug/L		555.6		98	80-120		
Potassium	5.70	mg/L		5.556		103	80-120		
Selenium	570	ug/L		555.6		103	80-120		
Sodium	5.84	mg/L		5.556		105	80-120		
Thallium	565	ug/L		555.6		102	80-120		
Batch B334098 - SW 3015 - EPA 6010B									
Blank (B334098-BLK1)				Prepared & Analyzed: 05/23/23					
Lithium	< 0.020	mg/L							
LCS (B334098-BS1)				Prepared & Analyzed: 05/23/23					
Lithium	0.579	mg/L		0.5556		104	80-120		
Batch B334098 - SW 3015 - EPA 6020A									
Blank (B334098-BLK1)				Prepared: 05/23/23 Analyzed: 05/30/23					
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							
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 (B334098-BS1)				Prepared: 05/23/23 Analyzed: 05/30/23					
Antimony	581	ug/L		555.6		105	80-120		
Arsenic	564	ug/L		555.6		101	80-120		
Barium	577	ug/L		555.6		104	80-120		
Beryllium	524	ug/L		555.6		94	80-120		
Boron	557	ug/L		555.6		100	80-120		
Cadmium	567	ug/L		555.6		102	80-120		
Calcium	5.84	mg/L		5.556		105	80-120		
Chromium	580	ug/L		555.6		104	80-120		
Cobalt	582	ug/L		555.6		105	80-120		
Lead	596	ug/L		555.6		107	80-120		
Magnesium	5.74	mg/L		5.556		103	80-120		
Molybdenum	550	ug/L		555.6		99	80-120		

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

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B334098-BS1)				Prepared: 05/23/23 Analyzed: 05/26/23					
Potassium	5.71	mg/L		5.556		103	80-120		
Selenium	580	ug/L		555.6		104	80-120		
Sodium	5.62	mg/L		5.556		101	80-120		
Thallium	599	ug/L		555.6		108	80-120		
Batch B334164 - No Prep - SM 2320B 1997									
Duplicate (B334164-DUP2)	**Sample: GE02767-01**			Prepared & Analyzed: 05/23/23					
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO3	500	mg/L			488			3	10
Batch B334208 - No Prep - SM 4500F C 1997									
Matrix Spike (B334208-MS2)	**Sample: GE02226-01**			Prepared & Analyzed: 05/24/23					
Fluoride	1.19	mg/L		1.000	0.205	98	80-120		
Matrix Spike (B334208-MS4)	**Sample: GE02767-01**			Prepared & Analyzed: 05/24/23					
Fluoride	1.22	mg/L		1.000	0.228	100	80-120		
Matrix Spike Dup (B334208-MSD2)	**Sample: GE02226-01**			Prepared & Analyzed: 05/24/23					
Fluoride	1.23	mg/L		1.000	0.205	102	80-120	3	20
Matrix Spike Dup (B334208-MSD4)	**Sample: GE02767-01**			Prepared & Analyzed: 05/24/23					
Fluoride	1.24	mg/L		1.000	0.228	102	80-120	2	20
Batch B334267 - No Prep - SM 2320B 1997									
Duplicate (B334267-DUP1)	**Sample: GE02997-01**			Prepared & Analyzed: 05/24/23					
Alkalinity - bicarbonate as CaCO3	475	mg/L			550			15	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10

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

NOTES

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

* Not a TNI accredited analyte

Certifications

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

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

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

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

Qualifiers

B	Present in the method blank at 126 ug/L.
Ba	Present in the method blank at 232 ug/L.
M	Analyte failed to meet the required acceptance criteria for duplicate analysis.
Q1	Matrix Spike failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q2	Matrix Spike Duplicate failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q3	Matrix Spike/Matrix Spike Duplicate both failed % recovery acceptance limits. The associated blank spike recovery was acceptable.
Q4	The matrix spike recovery result is unusable since the analyte concentration in the sample is greater than four times the spike level. The associated blank spike was acceptable.

Gail J Schindler

Certified by: Gail Schindler, Project Manager

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

GE02221 gg

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_BA01																													
2	DC_BA02																													
3	DC_BA02!L			5/10/23	1415		11																							
4	DC_BA03 +Dup				1300		22																							
5	DC_BA03!L				1415		11																							
6	DC_BA04																													
7	DC_BA05#																													
8	DC_BA06																													
9	DC_G02!L																													
10	DC_G02#S																													
11	DC_G02&D																													
12	DC_G03!L																													
13	DC_G04!L																													
14	DC_G06!L																													
15	DC_G06#S																													
16	DC_G07!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720	Vance Wagner	5-10-23	1720

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

GE0222

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G08!L																													
2	DC_G09!L																													
3	DC_G12!L																													
4	DC_G12#S																													
5	DC_G14!L																													
6	DC_G15!L			5/10/23	1300		5																							
7	DC_G16!L			5/10/23	1159		5																							
8	DC_G50!L																													
9	DC_G50#S																													
10	DC_G51!L																													
11	DC_G51#S																													
12	DC_G52!L																													
13	DC_G52#S																													
14	DC_G53!L																													
15	DC_G53#S																													
16	DC_G54!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720			
				Vaun Vaughn	5-10-23	1720

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

GE02221 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G54#S																													
2	DC_G55!L																													
3	DC_G55#S																													
4	DC_G56!L																													
5	DC_G56#S																													
6	DC_G57!L																													
7	DC_G57#S																													
8	DC_G58!L																													
9	DC_G58#S																													
10	DC_G59!L																													
11	DC_G59#S																													
12	DC_G60!L																													
13	DC_G60#S																													
14	DC_G61#S																													
15	DC_G62!L																													
16	DC_G63!L			5/10/23	1528		4																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720							
				Vanessa Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joseph R Reed

SIGNATURE of SAMPLER: Joe Reed — DATE Signed (MM/DD/YY): 5/10/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Section B Section C

Page: 4 of 9

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

Required Project Information:

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

Invoice Information:

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

Page: 4 of 9

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL

GE02221

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G63#S																													
2	DC_G64!L																													
3	~~DC_G64#S~~ + Dup			~~5/10/23~~	~~1207~~		~~8~~			~~GJS~~						~~5-11-23~~														
4	DC_G65!L																													
5	DC_G65#S + Dup			5/10/23	1207		8																							
6	DC_G66!L																													
7	DC_G66#S																													
8	DC_G67!L																													
9	DC_G67#S																													
10	DC_G70!L			5/10/23	1427		4																							
11	DC_G71!L + Dup			5/10/23	1338		8																							
12	DC_G71#S																													
13	DC_G72!L			5/10/23	1224		4																							
14	DC_G73!L																													
15	DC_L103																													
16	DC_OM01																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	17:20	GJS 6-13-23						
				Vern Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

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:

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

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

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL GEO2221

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM04#S																													
2	DC_OM05#S																													
3	DC_OM07																													
4	DC_OM08																													
5	DC_OM09																													
6	DC_OM10																													
7	DC_OM12																													
8	DC_OM15																													
9	DC_OM16			5/10/23	1350		10																							
10	DC_OM17			5/10/23	1214		10																							
11	DC_OM21																													
12	DC_OM22#S																													
13	DC_OM22&D																													
14	DC_OM23#S																													
15	DC_OM23&D																													
16	DC_OM24&D																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	17:20	Vicen Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed — DATE Signed (MM/DD/YY): 5/10/23

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

Section B Required Project Information: Report To: Brian Voelker

Section C Invoice Information: Attention: Jason Stuckey

ATTACHMENT B.
, 845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

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 STATE: IL GE0222
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM25#S																													
2	DC_OM25&D																													
3	DC_OR02																													
4	DC_OR03#S																													
5	DC_OR03&D																													
6	DC_OR04&D																													
7	DC_OR05&D																													
8	DC_OR06!A																													
9	DC_OR11																													
10	DC_OR13#S																													
11	DC_OR13&D			5/10/23	1520		10																							
12	DC_OR14#S																													
13	DC_OR14&D																													
14	DC_OR18																													
15	DC_OR19																													
16	DC_OR20																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720							
				Vance Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed DATE Signed (MM/DD/YY): 5/10/23

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	Page: 7 of 9
Address: 13498 E. 900th St	Copy To: Jason Stuckey	Company Name: Vistra Corp	REGULATORY AGENCY

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

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 STATE: IL
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

GE0222 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_P39#S																													
2	DC_P39&D																													
3	DC_P40!L																													
4	DC_P40#S																													
5	DC_P41!L																													
6	DC_P41#S																													
7	DC_P41&D																													
8	DC_P42!L																													
9	DC_P42#S																													
10	DC_P42&D																													
11	DC_R10!L																													
12	DC_R11!L																													
13	DC_R13!L																													
14	DC_R61!L																													
15	DC_R72#S			5/10/23	1138		4																							
16	DC_T43!L + Dup			5/10/23	1352		4																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Jay R Reed	5/10/23	1720							
				Vaul Vagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jay Reed

SIGNATURE of SAMPLER: Jay R Reed — DATE Signed (MM/DD/YY): 5/10/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 9 of 9

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
		Address: see Section A
Email To: Brian.Voelker@VistraCorp.com	Purchase Order No.:	Quote Reference:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT: 10 day		Project Number: 2285	Profile #:		

GE0222 gej

Requested Analysis Filtered (Y/N)

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L			5/10/23	1435		2																							
2	DC_T45!L			5/10/23	1510		2																							
3	DC_T46!L																													
4	DC_X301_leachate			5/10/23	1543		11																							
5																														
6	~~5/3 EB 2~~			~~5/10/23~~	~~1545~~		~~10~~																							
7	~~5/3/23 EB 3~~			~~5/10/23~~	~~1545~~		~~4~~																							
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720							
				Vaun Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

Duck Creek

WELL/SAMPLE POINT BA01 JR **Purge Method:** Bladder

Date: ~~5/10/23~~ JR 5/11/23 Start Time: ~~1100~~ 1220 Finish/Sample Time: 1333

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

Depth to Water From MP: 14.68 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: _____ ft Max Drawdown: _____ ft

Well Water Volume: _____ Gal / L Total Drawdown: 0.07 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	1233	14.75	100	6.82	791	18.04	63	1.42	7.0
2	1234	14.75	100	6.80	793	18.00	60	1.34	10.3
3	1235	14.75	100	6.79	796	18.01	58	1.25	9.9
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

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, [redacted] mL) 1000mL
1	2.5L HNO3

Filtered Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P, ~~500~~mL) 1000mL
3	TOC

Final DTW: 14.75 ft

Comments S/N ~~216 15637~~ JR 216 15533

Dis. Iron *2 = 0.841

Sampler's Signature: Joseph R Rad

Duck Creek

WELL/SAMPLE POINT BA02 **Purge Method:** Bladder / Low Flow

Date: 5/15/23 Start Time: 1011 Finish/Sample Time: 1123

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

Depth to Water From MP: JR ~~8.05~~ ft 8.39 Total Purge Volume: 1.3 Gal / L

Water Column Length: NA ft Max Drawdown: < ft

Well Water Volume: 1 Gal / L Total Drawdown: 2.96 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	1032	10.03	100	7.36	909	14.11	229	1.01	14.7
2	1033	10.05	100	7.30	899	14.20	229	0.92	12.8
3	1034	10.07	100	7.30	897	14.20	228	0.90	11.2
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

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) 1000mL
1	2.5 L HNO_3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P ~~250~~ mL) 1000mL
3	TOC 40mL

Final DTW: 11.35 ft

Comments S/m = JR 2615636 Dis Iron = 0.502 ppm

Sampler's Signature: Joseph R Reed

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA02L **Purge Method:** Low Flow

Date: 5/10/23 Start Time: 1255 Finish/Sample Time: 1415

Well Depth (Bottom) From MP: 11.46 ft Min. Purge Volume: 1 Gal / L

Depth to Water From MP: 7.91 ft Total Purge Volume: 1.3 Gal L

Water Column Length: 3.55 ft Max Drawdown: — ft

Well Water Volume: 2.15 Gal L Total Drawdown: 1.55 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	1308	8.96	100	7.11	575.55	12.71	-119.6	0.34	161.23
2	1309	9.05	100	7.12	581.00	12.63	-120.8	0.32	114.89
3	1310	9.06	100	7.12	582.96	12.58	-121.8	0.30	99.10
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 L
1	P, 2.5L, HNO3

Filtered	
Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P, ~~500mL~~) 1 L
3	TOC (A,V 40mL, H2SO4)

Final DTW: 9.46 ft

Comments Transducer: 21615682
Dissolved iron: OVERTING (Sample was deep red)

Sampler's Signature: Brendan [illegible]

Duck Creek

WELL/SAMPLE POINT BA03 **Purge Method:** Bladder / Low Flow

Date: 5/10/23 Start Time: 1100 Finish/Sample Time: 1300

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

Depth to Water From MP: 6.11 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: ft Max Drawdown: ft

Well Water Volume: Gal / L Total Drawdown: 0.69 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	1110	6.20	100	6.71	813	15.48	226	5.24	37.1
2	1111	6.21	100	6.71	820	15.49	226	5.15	44.8
3	1112	6.21	100	6.69	819	15.41	225	4.99	42.0
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

BOTTLE INFORMATION:

Unfiltered	
Qty	Bottles
	VOAs (C,V, 40mL, HCL)
	VOAS (C,V, 40mL)
	Organics (A,G,U 1000mL)
	Organics (A,G,U 500mL)
JR 3+3	TOC (A,V 40mL, H2SO4)
	TOX (A,G 250mL, H2SO4)
1+1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	Phenols (A,G,250mL, H2SO4)
1+1	General (P, ~~250~~ mL) 1000mL
1+1	2.5L HNO3

Filtered	
Qty	Bottles
1+1	Metals (P,250mL, HNO3)
JR ~~1+1~~	Ammonia (P,250mL, H2S04)
1+1	General (P,500mL)
3+3	TOC

Final DTW: 6.80 ft

Comments S/N 21615637 DIS Iron - 0.076 ppm
Dup. Taken Here

Sampler's Signature: [signature]

Duck Creek

WELL/SAMPLE POINT BA03 + FD **Purge Method:** Dedicated pump

Date: 5/16/2023 Start Time: 1351 Finish/Sample Time: 1423

Well Depth (Bottom) From MP: pump ft Min. Purge Volume: 1000 Gal / L (mL)

Depth to Water From MP: 6.84 ft Total Purge Volume: 1000 Gal / L (mL)

Water Column Length: — ft Max Drawdown: — ft

Well Water Volume: — Gal / L Total Drawdown: 0.26 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	1412	7.04	100	7.06	739	22.84	154	2.09	0.0
2	1414	7.05	100	7.02	740	22.79	153	1.40	0.0
3	1416	7.07	100	7.01	741	22.67	152	1.36	0.0
4	1418	7.08	100	6.99	741	22.60	150	1.33	0.0
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 + 1FD	General (P, ~~250 mL~~) 150 mL

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

Final DTW: 7.10 ft

Comments Transducer S/N 21615637 Resample
FD filled here

Sampler's Signature:

Duck Creek

WELL/SAMPLE POINT BA03L **Purge Method:** Bladder / Low Flow

Date: 5/10/23 Start Time: 1315 Finish/Sample Time: 1415

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

Depth to Water From MP: 5.73 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: NA ft Max Drawdown: ft

Well Water Volume: NA Gal / L Total Drawdown: 0.16 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	1325	5.89	100	6.65	1390	15.05	222	2.77	61.1
2	1326	5.89	100	6.64	1380	15.01	226	2.76	57.3
3	1327	5.89	100	6.65	1380	15.03	221	2.71	50.0
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

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) 1000mL
1	HNO_3 2.5L

Filtered Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P, 500mL) 1000mL
3	TOC 40mL

Final DTW: 5.89 ft

Comments S/N 21615687 Dis Iron - 0.068 ppm

Sampler's Signature: Joseph A Reed

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA03L **Purge Method:** Dedicated pump

gst-13-23

Date: 5/16/2023 Start Time: 1423 Finish/Sample Time: 14:46

Well Depth (Bottom) From MP: pump ft Min. Purge Volume: 1000 Gal / L (mL)

Depth to Water From MP: 6.55 ft Total Purge Volume: 1000 Gal / L (mL)

Water Column Length: - ft Max Drawdown: — ft

Well Water Volume: - Gal / L Total Drawdown: 0.20 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	1437	6.75	100	6.83	1500	14.31	175	2.70	12.0
2	1439	6.75	100	6.82	1480	14.35	175	2.66	9.7
3	1441	6.75	100	6.81	1490	14.27	175	2.62	10.2
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~~) 150mL

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

Final DTW: 6.75 ft

Comments Transducer S/N 21615687 Resample

Sampler's Signature:

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA04 **Purge Method:** Bladder/lowflow

Date: 5/11/23 Start Time: 1035 Finish/Sample Time: 1140

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

Depth to Water From MP: 5.39 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: _____ ft Max Drawdown: _____ ft

Well Water Volume: _____ Gal / L Total Drawdown: 0.08 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	1050	5.42	100	6.77	937	17.70	176	1.10	0.0
2	1051	5.42	100	6.75	942	17.60	177	1.13	0.0
3	1052	5.42	100	6.75	942	17.55	178	1.05	
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

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) 1000mL
1	2.5L HNO3

(11)

Filtered Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P, 250mL) 100mL
3	TOC 40mL

Final DTW: 5.47 ft

Comments S/n 21615631 Dis. Iron^{+2} = Under Range

Sampler's Signature: Joseph R Reed

Duck Creek

WELL/SAMPLE POINT BA05 **Purge Method:** Bladder / low flow

Date: 5/12/23 Start Time: 950 Finish/Sample Time: 1050

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

Depth to Water From MP: 18.13 ft Total Purge Volume: 1.3 Gal / L

Water Column Length: ft Max Drawdown: ft

Well Water Volume: Gal / L Total Drawdown: 3.47 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	1002	19.35	100	7.00	1550	16.33	19	3.21	591
2	1003	19.61	100	6.99	1560	16.30	13	3.05	700
3	1004	19.85	100	6.96	1560	16.29	1	2.99	768
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	X	
Casing locked/secure	X	
Well cap fits securely.		X
Good seal/drainage	X	
Well has weep holes	X	

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, [redacted] mL) 1000 mL
1	2.5 L HNO_3

11

Filtered Qty	Bottles
1	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
1	General (P, [redacted]mL) 1000 mL
3	TOC 40 mL

Final DTW: 21.60 ft

Comments S/n - 21615540 Dis. Iron $^{+2}$ = 4.531 ppm

Sampler's Signature: Joseph R Reed

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA06 **Purge Method:** Bladder / Low Flow

Date: 5/12/23 Start Time: 1110 Finish/Sample Time: 1219

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

Depth to Water From MP: 21.70 ft Total Purge Volume: 1.3 Gal (L)

Water Column Length: ft Max Drawdown: ft

Well Water Volume: Gal / L Total Drawdown: 5.85 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	1130	23.90	100	6.45	2940	15.82	-32	0.79	55.6
2	1131	24.30	100	6.45	2930	15.71	-36	0.89	53.2
3	1132	24.55	100	6.44	2930	15.68	-39	0.82	55.1
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	X	
Casing locked/secure	X	
Well cap fits securely.	X	
Good seal/drainage	X	
Well has weep holes	X	

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) 1000mL
1	2.5L HNO_3

Filtered Qty	Bottles
1	Metals (P,250mL, HNO3)
1	Ammonia (P,250mL, H2S04)
1	General (P, ~~500~~mL) 1000mL
3	TOC 40mL

Final DTW: 27.55 ft

Comments S/N - 21615525 Dis. Iron = Over Range

Sampler's Signature: Joseph R Reed

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pinkerton	Location:	Duck creek
Weather:	67°-78°F Sunny Wind 5k 9mph	Environment:	grass, dirt, trees

Multiparameter Water Meter	Make: AT	Model: 600	Serial Number: 762193		
Water Level Meter	Make: Heron	Model: Digipet	Serial Number: 3717-T		

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	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.01	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	19.63	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1995.5	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	224.8	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.87	%	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

234 @ 21°C

ICV (Initial Calibration Verification) Time: 0942

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	6.83	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.67	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1005.2	µS/cm	±5%	✓	✓	Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1539

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	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	10.06	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1001.7	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.00	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:	[signature]	Date:	5/10/2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Brendan Glennon	Location:	Duck Creek
Weather:	64° Mostly Cloudy 8mph NW	Environment:	Grass Field

Multiparameter Water Meter	Make: AT	Model: 600	Serial Number: 762215		
Water Level Meter	Make: Heron	Model: 200 ft.	Serial Number: 19FF2111 92HB		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.93	s.u.	±0.1 s.u.	P	N	N/A	MSI	L344-09	12/14/2023
pH 7.00a	6.96	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.97	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	16.21	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1916.5	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	234.6	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.10	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.81	%	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: 0910			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.89	s.u.	±0.15 s.u.	P	N	Geotech	2GE870	Mar-24
pH 7.00b	6.86	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.85	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	993.41	µS/cm	±5%	—	—	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	3.97	s.u.	±0.1 s.u.	P	N	N/A	MSI	L344-09	12/14/2023
pH 7.00a	6.96	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.91	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1016.21	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.10	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	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:	Brendan Glennon	Date:	5/10/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Vistra Duck Creek
Weather:	70-79°F Sunny wind ESE 9-16mph	Environment:	woods

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: V4U1FVTF
Water Level Meter	Make: Heron	Model: Diaper-T	Serial Number: 19FF220213ML

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	6.91	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	9	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2090	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	232	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.08	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.28	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	18	NTU	<2 NTU	Fail	Yes	0.0	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 1021

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.98	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.92	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	793	µS/cm	±5%	Fail	calibrate	Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1550

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.16	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.03	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1040	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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:	[signature]	Date:	5/10/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Kyle Lane	Location:	Duck Creek
Weather:	55° to 81° Sunny	Environment:	Dry

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number:	YL7K59HA	
Water Level Meter	Make: Heron	Model: Waterfall	Serial Number:	11FF22093 05ML	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	N/A	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	10.60	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2,010	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	218	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.04	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.40	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 10:04

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.00	s.u.	±0.15 s.u.	P	N/a	Geotech	2GE870	Mar-24
pH 7.00b	6.91	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.87	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1,030	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: N/a

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: 15:48

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.02	s.u.	±0.1 s.u.	P	N/a	N/a	MSI	L344-09	12/14/2023
7.00a	6.93	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1,020	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.07	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.58	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	[signature]	Date:	5-10-2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Joe Reed	Location:	Duck Creek
Weather:		Environment:	

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	PW2GYJD3	
Water Level Meter	Make:	Solinst	Model:	101	Serial Number:	P7/LM2	

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	N		MSI	L344-09	12/14/2023
pH 7.00a	6.98	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 Zero (DI)	0.0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2010	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	239	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.05	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.7	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.1	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 1000

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	Mar-24
pH 7.00b	6.99	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.95	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	990	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1509

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	N		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	9.99	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1020	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.05	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	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:	Joseph R Reed	Date:	5/10/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberton	Location:	Duck creek
Weather:	73°-79°F Sunny Wind SE 8mph	Environment:	grass, dirt,

Multiparameter Water Meter	Make:	Horiba	Model:	U 5000	Serial Number:	UHUIFVTF	
Water Level Meter	Make:	Heron	Model:	Dipper T	Serial Number:	19FF2111192HB	

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	7.01	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.00	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	18	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	238	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.87	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

234 @ 21°C

ICV (Initial Calibration Verification)					Time: 0945			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.03	s.u.	±0.15 s.u.	P	N/A	Geotech	2GE870	Mar-24
pH 7.00b	6.89	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	10.04	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	989	µS/cm	±5%			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	4.05	s.u.	±0.1 s.u.	P	No	N/A	MSI	L344-09	12/14/2023
pH 7.00a	7.07	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1010	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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	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:	[signature]	Date:	5/11/2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Vistra Duck Creek
Weather:	70-75°F m. sunny wind SE 10-14 mph	Environment:	grass

Multiparameter Water Meter	Make: Aquatroll	Model: 600	Serial Number: 762215		
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	3.81	s.u.	±0.1 s.u.	Fail	Yes	4.00	MSI	L344-09	12/14/2023
pH 7.00a	6.95	s.u.	±0.1 s.u.	pass	No	NA	MSI	L343-07	12/9/2023
pH 10.00a	9.95	s.u.	±0.1 s.u.	↓	↓	↓	MSI	M082-04	3/25/2024
SC Zero (DI)	15.67	µS/cm	0<25 µS/cm	↓	↓	↓	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1964.5	µS/cm	±5%	↓	↓	↓	Geotech	2GE1442	May-23
ORP	237.7	mV	±15 mV	↓	↓	↓	InSitu	2G1762	Jun-23
DO (Zero pt)	0.07	mg/L	±0.1	↓	↓	↓	Macron	#000228049	8/26/2025
DO (Saturated)	98.17	%	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: 0939

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.03	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.89	s.u.	±0.15 s.u.	↓	↓	Geotech	2GC931	Mar-24
pH 10.00b	9.92	s.u.	±0.15 s.u.	↓	↓	Geotech	2GE820	May-24
SC 1000	992.10	µS/cm	±5%	↓	↓	Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1541

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.08	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.10	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 1000	971.18	µS/cm	±5%	↓	↓	↓	Ricca	4207N97	Jul-24
DO (Zero pt)	0.07	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:	[signature]	Date:	5/11/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Kyle lane	Location:	Duck creek
Weather:	69° sunny	Environment:	Dry

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: PW2GYJD3		
Water Level Meter	Make: Heron	Model: Water tape	Serial Number: 3717-T		

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	NA	NA	MSI	L344-09	12/14/2023
pH 7.00a	6.94	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	10.00	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2020	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	230	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.08	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	97.10	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.20	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 09:41

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.98	s.u.	±0.15 s.u.	P	NA	Geotech	2GE870	Mar-24
pH 7.00b	7.05	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.89	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1,010	µS/cm	±5%			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: 16.04

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.05	s.u.	±0.1 s.u.	P	NA	NA	MSI	L344-09	12/14/2023
7.00a	7.04	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a	10.08	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1040	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.00	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	1.50	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments: NA

Signature:	[signature]	Date:	5-11-23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Joe Reed	Location:	Duck Creek
Weather:	69-80° wind 9-16mph	Environment:	Gravel Road

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: YL9KJ9HA		
Water Level Meter	Make: Solinst	Model: 101	Serial Number: P7/LM2		

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	N		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	9.99	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2010	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	240	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.05	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.1	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 955

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	N	Geotech	2GE870	Mar-24
pH 7.00b	7.00	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.96	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1000	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1615

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	N		MSI	L344-09	12/14/2023
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.00	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	990	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.05	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	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:	Joseph R Reed	Date:	5/11/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Joe Reed	Location:	Duck creek
Weather:	63-81°F cloudy wind 7 mph	Environment:	wet / gravel road / grass

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number: PW2GYJD3
Water Level Meter	Make:	Solinst	Model:	101	Serial Number: 252879

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.98	s.u.	±0.1 s.u.	P	N		MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.00	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	4	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1990	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	338	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.05	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.5	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 912

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	N	Geotech	2GE870	Mar-24
pH 7.00b	6.98	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.98	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	998	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1320

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	N		MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.01	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1010	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.05	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	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:	Joseph R Reed	Date:	5/12/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Kyle Lane	Location:	Duck Creek
Weather:	63° to 81° rainy	Environment:	wet

Multiparameter Water Meter	Make: Horiba	Model: V-5000	Serial Number:	YL9KJ9HA	
Water Level Meter	Make: Heron	Model: Water tape	Serial Number:	3717T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.05	s.u.	±0.1 s.u.	P	Na	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.00	s.u.	±0.1 s.u.	P	Na	Na	MSI	L343-07	12/9/2023
pH 10.00a	9.83	s.u.	±0.1 s.u.	F	yes	9.93	MSI	M082-04	3/25/2024
SC Zero (DI)	21.00	µS/cm	0<25 µS/cm	P	Na	Na	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2994	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	216	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.01	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	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	4.00	s.u.	±0.15 s.u.	P	Na	Geotech	2GE870	Mar-24
pH 7.00b	6.98	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.92	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1,280	µS/cm	±5%	F	yes > 999	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: 13:15

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.06	s.u.	±0.1 s.u.	P	Na	Na	MSI	L344-09	12/14/2023
7.00a	7.00	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a	10.01	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1026	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.04	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments:

Signature:	[signature]	Date:	5-12-23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Amberton	Location:	Duck creek
Weather:	60°-77°F cloudy, 12 mph wind SE	Environment:	grass, mud

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number:	U4U1FTVF	
Water Level Meter	Make:	Heron	Model:	Dipper T	Serial Number:	19FF211192HB	

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	7.01	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)	18	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2080	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	232	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.87	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

234 @ 21°C

ICV (Initial Calibration Verification)					Time: 0905			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.03	s.u.	±0.15 s.u.	P	N/A	Geotech	2GE870	Mar-24
pH 7.00b	6.91	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	10.03	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1016	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1300				
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	7.00	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.06	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	975	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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	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:	[signature]	Date:	5/12/2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Vistra Duck Creek
Weather:	71-79°F cloudy wind SE 10mph	Environment:	grass

Multiparameter Water Meter	Make: Aquatrall	Model: 600	Serial Number: 762215		
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	4.01	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.06	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.04	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	4.80	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1987.4	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	235.0	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.05	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.54	%	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: 0905

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.04	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.94	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.96	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	973.16	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1302

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.06	s.u.	±0.1 s.u.	pass	No	NA	MSI	L344-09	12/14/2023
pH 7.00a	7.10	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 1000	991.07	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)	0.34	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:	[signature]	Date:	5/12/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberton	Location:	Duck creek
Weather:	62.0- 71°F cloudy wind NE 8mph	Environment:	grass, gravel, dirt woods

Multiparameter Water Meter	Make:	Horiba	Model:	U 5000	Serial Number:	UHUI FVTF	
Water Level Meter	Make:	Heron	Model:	Dipper T	Serial Number:	3717-T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.05	s.u.	±0.1 s.u.	P	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	10.05	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	19	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2020	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	240	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.62	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

240 @ 1700

ICV (Initial Calibration Verification)					Time: 0930			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.91	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.90	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1000	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1630				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	No	NA	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	10.08	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1010	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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	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:	[signature]	Date:	5/15/2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Joe Reed	Location:	Duck Creek Power
Weather:	cloudy 62-71°F wind 6 mph	Environment:	grassy

Multiparameter Water Meter	Make:	Horiba	Model:	U 5000	Serial Number:	PW2GKJD3	
Water Level Meter	Make:	Solinst	Model:	101	Serial Number:	252879	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.98	s.u.	±0.1 s.u.	P	N		MSI	L344-09	12/14/2023
pH 7.00a	6.99	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	2	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1990	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	240	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.04	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.4	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	—	—		Pace Labs	N/A (DI)	N/A (DI)

16.8°C

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 929

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P		Geotech	2GE870	Mar-24
pH 7.00b	7.00	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.98	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	990	µS/cm	±5%	—		Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time: ~~14~~ JR 1615

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		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 1000	1020	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.05	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	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:	Joe R Reed	Date:	5/15/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JO	Location:	Vistra Duck Creek
Weather:	61-68°F & cloudy wind ENE 10 mph	Environment:	grass

Multiparameter Water Meter	Make: Aquaprobe	Model: 600	Serial Number: 762215		
Water Level Meter	Make: Heron	Model: Dipper-T	Serial Number: 11FF220930SML		

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	7.05	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.06	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	10.31	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1751.4	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	237.5	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.08	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.28	%	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: 0933			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.07	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.93	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.99	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1032.8	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1610				
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	7.05	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
pH 10.00a	10.09	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	990.18	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.07	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:	[signature]	Date:	5/15/23

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Kyle Lane	Location:	Duck Creek
Weather:	57° to 70° cloudy	Environment:	Dry

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: YL9KJ9HA		
Water Level Meter	Make: Heron	Model: Water tape	Serial Number: 19FF220213ML		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.12	s.u.	±0.1 s.u.	F	yes	4.00	MSI	L344-09	12/14/2023
pH 7.00a	7.10	s.u.	±0.1 s.u.	F	yes	7.00	MSI	L343-07	12/9/2023
pH 10.00a	10.08	s.u.	±0.1 s.u.	P	NA	NA	MSI	M082-04	3/25/2024
SC Zero (DI)	20.18	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1970	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	215	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.04	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	97.20	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

ICV (Initial Calibration Verification)

Time: 09:36

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.98	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	10.09	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1,030	µS/cm	±5%			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: 16:21

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
4.00a	4.03	s.u.	±0.1 s.u.	P	NA	NA	MSI	L344-09	12/14/2023
7.00a	6.94	s.u.	±0.1 s.u.				MSI	L343-07	12/9/2023
10.00a	9.97	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	~~997~~ 997 KL	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.05	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.58	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Comments: NA

Signature:	Jscene	Date:	5-15-2023

Multiparameter Meter Field Calibration Checklist

5/16/23 AAR

Field Personnel:	Aaron Rimbeller	Location:	Duck creek
Weather:	61°-75°F ~~mc~~ 50 cloudy wind NW 5mph	Environment:	grass, dirt, gravel, woods

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number:	UHU1FVTF	
Water Level Meter	Make:	Heron	Model:	Dipper-T	Serial Number:	3717-T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.11	s.u.	±0.1 s.u.	P	Yes	4.00	MSI	L344-09	12/14/2023
pH 7.00a	6.84	s.u.	±0.1 s.u.	P	Yes	7.00	MSI	L343-07	12/9/2023
pH 10.00a	10.15	s.u.	±0.1 s.u.	P	Yes	10.00	MSI	M082-04	3/25/2024
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	No	N/A	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%				Geotech	2GE1442	May-23
ORP	236	mV	±15 mV				InSitu	2G1762	Jun-23
DO (Zero pt)	0.02	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.78	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 4 hrs, unless only one well

237 @ 19°C

ICV (Initial Calibration Verification) Time: 0912

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.03	s.u.	±0.15 s.u.	P	N/A	Geotech	2GE870	Mar-24
pH 7.00b	7.03	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	10.05	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	967	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1545

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	7.06	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	1010	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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	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:	[signature]	Date:	5/16/2023

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Vistra Duck Creek
Weather:	64-76°F p.cloudy wind NW 10mph	Environment:	grass

Multiparameter Water Meter	Make: Aquatroll	Model: 600	Serial Number: 762215		
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	4.04	s.u.	±0.1 s.u.	pass	No	NA	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	10.08	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC Zero (DI)	4.64	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1998.7	µS/cm	±5%		Yes	1996.9	Geotech	2GE1442	May-23
ORP	237.1	mV	±15 mV		No	NA	InSitu	2G1762	Jun-23
DO (Zero pt)	0.07	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99.52	%	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: 0908

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.07	s.u.	±0.15 s.u.	pass	NA	Geotech	2GE870	Mar-24
pH 7.00b	6.94	s.u.	±0.15 s.u.			Geotech	2GC931	Mar-24
pH 10.00b	9.99	s.u.	±0.15 s.u.			Geotech	2GE820	May-24
SC 1000	1000.6	µS/cm	±5%			Ricca	4207N97	Jul-24

Approx. every 4 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1540

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	10.10	s.u.	±0.1 s.u.				MSI	M082-04	3/25/2024
SC 1000	1004.9	µS/cm	±5%				Ricca	4207N97	Jul-24
DO (Zero pt)	0.09	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:	[signature]	Date:	5/16/23

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

July 14, 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.

Gail J Schindler

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

Pace Analytical Services, LLC
2231 W. Altorfer Drive
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SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order GE02234

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

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

Work Order GE02539

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

Pace Analytical Services, LLC
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Work Order GE02656

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

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

Work Order GE02775

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

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

Work Order GE03000

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

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

Work Order GE03280

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

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

Work Order GE03619

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

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

ANALYTICAL RESULTS

Sample: GE02234-01 **Sampled:** 05/10/23 14:15
Name: BA02L **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.57	pCi/L			1	0.389	06/13/23 21:10		904.0 903.0

Sample: GE02234-02 **Sampled:** 05/10/23 13:00
Name: BA03 **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.788	pCi/L			1	0.535	06/13/23 21:10		904.0 903.0

Sample: GE02234-03 **Sampled:** 05/10/23 13:00
Name: BA03 DUP **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.807	pCi/L			1	0.598	06/15/23 18:26		904.0 903.0

Sample: GE02234-04 **Sampled:** 05/10/23 14:15
Name: BA03L **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.744	pCi/L			1	0.606	06/15/23 18:26		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE02234-05 **Sampled:** 05/10/23 13:50
Name: OM16 **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.34	pCi/L			1	0.769	06/15/23 18:26		904.0 903.0

Sample: GE02234-06 **Sampled:** 05/10/23 12:14
Name: OM17 **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.561 J	pCi/L			1	0.686	06/15/23 18:26		904.0 903.0

Sample: GE02234-07 **Sampled:** 05/10/23 15:20
Name: OR13D **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.853	pCi/L			1	0.611	06/16/23 00:06		904.0 903.0

Sample: GE02234-09 **Sampled:** 05/10/23 15:45
Name: EB - 2 **Received:** 05/10/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.410 J	pCi/L			1	0.827	06/16/23 00:06		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE02539-01 **Sampled:** 05/10/23 15:43
Name: X301 **Received:** 05/11/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	U 0.0299	pCi/L				0.542	06/14/23 16:23		904.0 903.0

Sample: GE02656-01 **Sampled:** 05/11/23 13:33
Name: BA01 **Received:** 05/11/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.829	pCi/L			1	0.508	06/14/23 16:23		904.0 903.0

Sample: GE02656-02 **Sampled:** 05/11/23 11:40
Name: BA04 **Received:** 05/11/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.152 U	pCi/L			1	0.559	06/14/23 16:23		904.0 903.0

Sample: GE02656-03 **Sampled:** 05/11/23 15:22
Name: G57S **Received:** 05/11/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.432 J	pCi/L			1	0.467	06/14/23 16:23		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE02656-04 **Sampled:** 05/11/23 15:11
Name: G64S **Received:** 05/11/23 17:20
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.232 J	pCi/L			1	0.484	06/14/23 16:23		904.0 903.0

Sample: GE02656-05 **Sampled:** 05/11/23 16:00
Name: EB-4 **Received:** 05/11/23 17:20
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.000 U	pCi/L			1	0.59	06/14/23 16:23		904.0 903.0

Sample: GE02775-01 **Sampled:** 05/12/23 10:50
Name: BA05 **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.07	pCi/L			1	0.628	06/14/23 16:23		904.0 903.0

Sample: GE02775-02 **Sampled:** 05/12/23 12:19
Name: BA06 **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.11	pCi/L			1	0.577	06/14/23 16:23		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE02775-03 **Sampled:** 05/12/23 12:20
Name: G54L **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.495 J	pCi/L			1	0.517	06/14/23 16:23		904.0 903.0

Sample: GE02775-04 **Sampled:** 05/12/23 13:04
Name: G54S **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.881	pCi/L			1	0.551	06/14/23 16:23		904.0 903.0

Sample: GE02775-05 **Sampled:** 05/12/23 13:04
Name: G54S DUP **Received:** 05/12/23 14:31
Matrix: Ground Water - Field Duplicate

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.229 U	pCi/L			1	0.7	06/14/23 16:23		904.0 903.0

Sample: GE02775-06 **Sampled:** 05/12/23 10:48
Name: G60L **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.209 J	pCi/L			1	0.498	06/14/23 16:23		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE02775-07 **Sampled:** 05/12/23 11:00
Name: G60S **Received:** 05/12/23 14:31
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.911	pCi/L			1	0.689	06/14/23 16:23		904.0 903.0

Sample: GE02775-08 **Sampled:** 05/12/23 12:45
Name: EB - 7 **Received:** 05/12/23 14:31
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0799 U	pCi/L			1	0.512	06/14/23 16:23		904.0 903.0

Sample: GE03000-01 **Sampled:** 05/15/23 11:23
Name: BA02 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.478 J	pCi/L			1	0.563	06/16/23 00:06		904.0 903.0

Sample: GE03000-02 **Sampled:** 05/15/23 15:18
Name: G02S **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.42	pCi/L			1	0.472	06/16/23 00:06		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03000-03 **Sampled:** 05/15/23 12:56
Name: G50S **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.146 U	pCi/L			1	0.823	06/16/23 00:06		904.0 903.0

Sample: GE03000-04 **Sampled:** 05/15/23 11:26
Name: G51S **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.07	pCi/L			1	0.531	06/16/23 00:06		904.0 903.0

Sample: GE03000-05 **Sampled:** 05/15/23 17:50
Name: EB #8 **Received:** 05/16/23 06:50
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.234 U	pCi/L			1	0.575	06/16/23 00:06		904.0 903.0

Sample: GE03000-06 **Sampled:** 05/15/23 17:50
Name: EB #9 **Received:** 05/16/23 06:50
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0946 U	pCi/L			1	0.606	06/16/23 00:06		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03000-07 **Sampled:** 05/15/23 15:00
Name: G64L **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.938	pCi/L			1	0.561	06/16/23 00:06		904.0 903.0

Sample: GE03000-08 **Sampled:** 05/15/23 13:14
Name: OM25S **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	27.8	pCi/L			1	10.6	06/16/23 00:06		904.0 903.0

Sample: GE03000-09 **Sampled:** 05/15/23 14:05
Name: OM12 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.69	pCi/L			1	0.568	06/16/23 00:06		904.0 903.0

Sample: GE03000-10 **Sampled:** 05/15/23 13:24
Name: OM21 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.53	pCi/L			1	0.59	06/16/23 00:06		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03000-11 **Sampled:** 05/15/23 16:00
Name: OM23D **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.174 U	pCi/L			1	0.566	06/16/23 00:06		904.0 903.0

Sample: GE03000-12 **Sampled:** 05/15/23 12:33
Name: OR11 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.494	pCi/L			1	0.492	06/16/23 00:06		904.0 903.0

Sample: GE03000-13 **Sampled:** 05/15/23 11:35
Name: OR14D **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.199 U	pCi/L			1	0.626	06/16/23 00:06		904.0 903.0

Sample: GE03000-14 **Sampled:** 05/15/23 15:28
Name: OR19 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.849	pCi/L			1	0.56	06/16/23 00:06		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03000-15 **Sampled:** 05/15/23 11:10
Name: OR20 **Received:** 05/16/23 06:50
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.127 U	pCi/L			1	0.538	06/14/23 16:23		904.0 903.0

Sample: GE03280-01 **Sampled:** 05/16/23 10:48
Name: OM01 **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.799	pCi/L				0.63	06/16/23 17:46		904.0 903.0

Sample: GE03280-02 **Sampled:** 05/16/23 12:15
Name: OM04S **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.28	pCi/L				0.708	06/16/23 17:46		904.0 903.0

Sample: GE03280-03 **Sampled:** 05/16/23 14:58
Name: OM24D **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.290 U	pCi/L				0.67	06/16/23 17:47		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03280-04 **Sampled:** 05/16/23 14:58
Name: OM24D DUP **Received:** 05/16/23 17:47
Matrix: Ground Water - Field Duplicate

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0414 U	pCi/L				0.601	06/16/23 17:47		904.0 903.0

Sample: GE03280-05 **Sampled:** 05/16/23 12:14
Name: OR02 **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.68	pCi/L				0.703	06/16/23 17:47		904.0 903.0

Sample: GE03280-06 **Sampled:** 05/16/23 13:36
Name: OR03D **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.21	pCi/L				0.709	06/16/23 17:47		904.0 903.0

Sample: GE03280-07 **Sampled:** 05/16/23 10:55
Name: OR04D **Received:** 05/16/23 17:47
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.39	pCi/L				0.593	06/16/23 17:47		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03280-08 **Sampled:** 05/16/23 17:41
Name: EQUIPMENT BLANK 10 **Received:** 05/16/23 17:47
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.329 J	pCi/L				0.577	06/16/23 17:47		904.0 903.0

Sample: GE03280-09 **Sampled:** 05/16/23 17:26
Name: EQUIPMENT BLANK 11 **Received:** 05/16/23 17:47
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.213 U	pCi/L				0.695	06/16/23 17:47		904.0 903.0

Sample: GE03619-01 **Sampled:** 05/17/23 12:13
Name: OM07 **Received:** 05/17/23 18:14
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.643 J	pCi/L			1	0.681	06/14/23 17:51		904.0 903.0

Sample: GE03619-02 **Sampled:** 05/17/23 16:55
Name: OM22D **Received:** 05/17/23 18:14
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.54	pCi/L			1	0.497	06/16/23 17:46		904.0 903.0

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ANALYTICAL RESULTS

Sample: GE03619-03 **Sampled:** 05/17/23 13:45
Name: OR06A **Received:** 05/17/23 18:14
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.34	pCi/L			1	0.884	06/16/23 17:46		904.0 903.0

Sample: GE03619-04 **Sampled:** 05/17/23 15:20
Name: OR13S **Received:** 05/17/23 18:14
Matrix: Ground Water - Grab

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.320 J	pCi/L			1	0.606	06/16/23 17:46		904.0 903.0

Sample: GE03619-05 **Sampled:** 05/17/23 17:08
Name: EQUIPMENT BLANK 12 **Received:** 05/17/23 18:14
Matrix: Ground Water - Equipment Blank

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.114 U	pCi/L			1	0.58	06/16/23 17:46		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

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NOTES

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

Revised Report - made corrections and added missing samples.

* Not a TNI accredited analyte

Certifications

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

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

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

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

Gail J Schindler

Certified by: Gail Schindler, Project Manager

ANALYTICAL REPORT

June 23, 2023

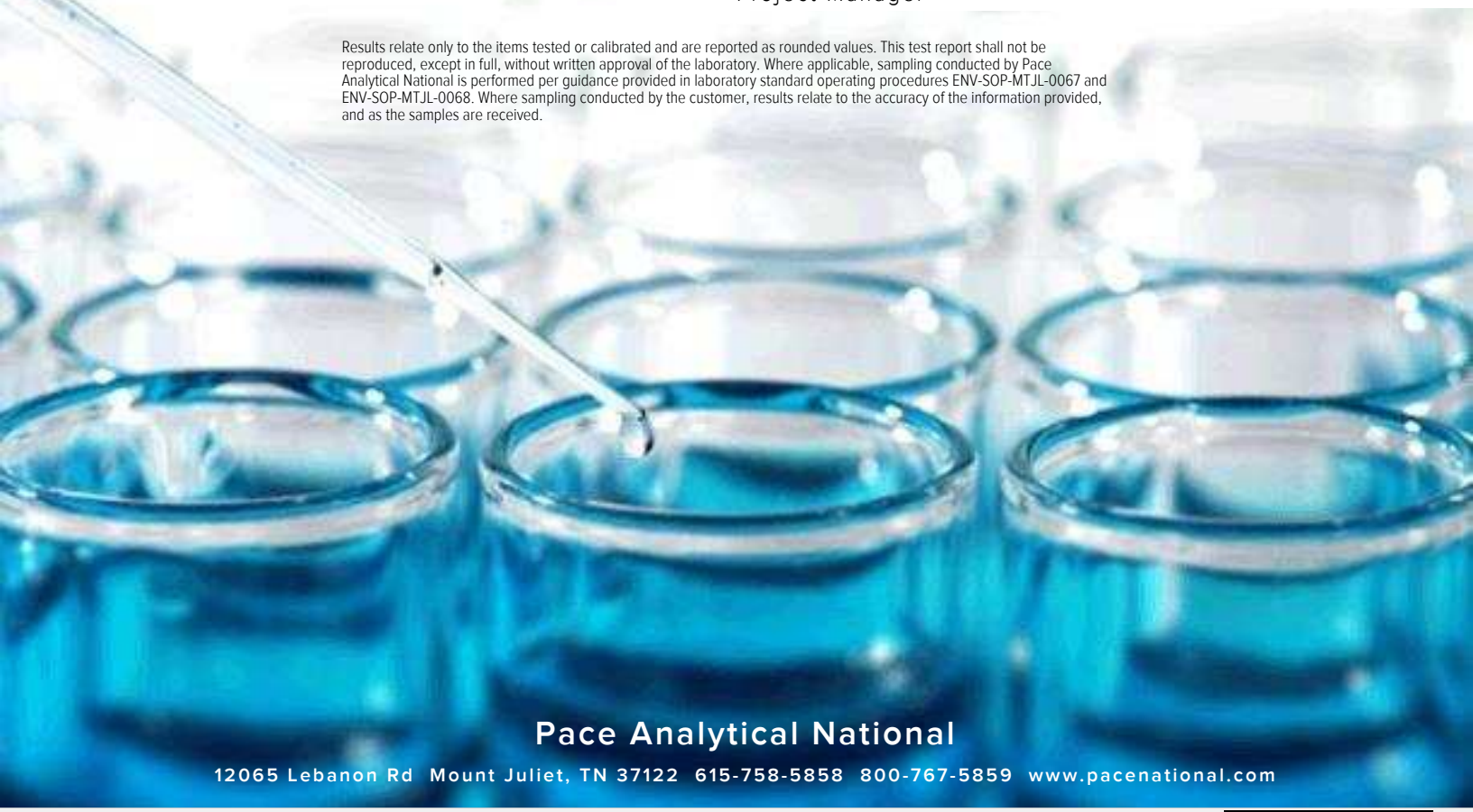
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pace IR - Peoria, IL

Sample Delivery Group:	L1617720
Samples Received:	05/18/2023
Project Number:	GE02234
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



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

TABLE OF CONTENTS

SAMPLE SUMMARY

BA02L L1617720-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 14:15	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071725	1	06/05/23 15:23	06/08/23 20:25	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072625	1	06/12/23 10:09	06/13/23 21:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072625	1	06/12/23 10:09	06/13/23 21:10	RGT	Mt. Juliet, TN

BA03 L1617720-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 13:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071725	1	06/05/23 15:23	06/08/23 20:25	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072625	1	06/12/23 10:09	06/13/23 21:10	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072625	1	06/12/23 10:09	06/13/23 21:10	RGT	Mt. Juliet, TN

BA03 DUP L1617720-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 13:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN

BA03L L1617720-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 14:15	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN

OM16 L1617720-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 13:50	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN

OM17 L1617720-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 12:14	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/15/23 18:26	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

OR13D L1617720-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 15:20	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

EB-2 L1617720-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/10/23 15:45	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.44		0.214	0.342	06/08/2023 20:25	WG2071725
(T) Barium	*98.4*			*30.0-143*	*06/08/2023 20:25*	WG2071725
(T) Yttrium	*119*			*30.0-136*	*06/08/2023 20:25*	WG2071725

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.57		0.256	0.389	06/13/2023 21:10	WG2072625

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.125	J	0.140	0.185	06/13/2023 21:10	WG2072625
(T) Barium-133	*97.4*			*30.0-143*	*06/13/2023 21:10*	WG2072625

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.686		0.279	0.497	06/08/2023 20:25	WG2071725
(T) Barium	*101*			*30.0-143*	*06/08/2023 20:25*	WG2071725
(T) Yttrium	*108*			*30.0-136*	*06/08/2023 20:25*	WG2071725

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.788		0.311	0.535	06/13/2023 21:10	WG2072625

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.102	J	0.137	0.198	06/13/2023 21:10	WG2072625
(T) Barium-133	*100*			*30.0-143*	*06/13/2023 21:10*	WG2072625

BA03 DUP SAMPLE RESULTS - 03

Collected date/time: 05/10/23 13:00 L1617720

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.690		0.260	0.456	06/09/2023 20:54	WG2071924
(T) Barium	*95.8*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*105*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.807		0.354	0.598	06/15/2023 18:26	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.117	U	0.240	0.387	06/15/2023 18:26	WG2072626
(T) Barium-133	*85.5*			*30.0-143*	*06/15/2023 18:26*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0980	U	0.295	0.535	06/09/2023 20:54	WG2071924
(T) Barium	*94.9*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*115*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.744		0.456	0.606	06/15/2023 18:26	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.646		0.348	0.285	06/15/2023 18:26	WG2072626
(T) Barium-133	*88.0*			*30.0-143*	*06/15/2023 18:26*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.594	J	0.391	0.697	06/09/2023 20:54	WG2071924
(T) Barium	*71.6*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*104*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.34		0.554	0.769	06/15/2023 18:26	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.742		0.392	0.326	06/15/2023 18:26	WG2072626
(T) Barium-133	*80.3*			*30.0-143*	*06/15/2023 18:26*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0713	U	0.311	0.568	06/09/2023 20:54	WG2071924
(T) Barium	*94.5*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*110*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.561	J	0.491	0.686	06/15/2023 18:26	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.561		0.380	0.385	06/15/2023 18:26	WG2072626
(T) Barium-133	*72.7*			*30.0-143*	*06/15/2023 18:26*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.353	J	0.286	0.513	06/09/2023 20:54	WG2071924
(T) Barium	*87.5*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*123*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.853		0.435	0.611	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.500		0.328	0.331	06/16/2023 00:06	WG2072626
(T) Barium-133	*78.3*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.410	J	0.394	0.709	06/09/2023 20:54	WG2071924
(T) Barium	*89.6*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*101*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.410	J	0.457	0.827	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.000	U	0.231	0.425	06/16/2023 00:06	WG2072626
(T) Barium-133	*79.2*			*30.0-143*	*06/16/2023 00:06*	WG2072626

QUALITY CONTROL SUMMARY

L1617720-01,02

Method Blank (MB)

(MB) R3934754-1 06/08/23 20:25

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.102	U	0.142	0.261
(T) Barium	*112*		*112*	
(T) Yttrium	*124*		*124*	

L1612483-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1612483-01 06/08/23 20:25 • (DUP) R3934754-5 06/08/23 20:25

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	14.7	0.437	0.512	15.5	0.531	0.512	1	5.22	1.15		20	3
(T) Barium	*239*			*213*	*213*					C1		
(T) Yttrium	*109*			*123*	*123*							

Laboratory Control Sample (LCS)

(LCS) R3934754-2 06/08/23 20:25

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.20	84.0	80.0-120	
(T) Barium			*112*		
(T) Yttrium			*101*		

L1613236-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1613236-25 06/08/23 20:25 • (MS) R3934754-3 06/08/23 20:25 • (MSD) R3934754-4 06/08/23 20:25

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	1.21	14.2	16.9	77.6	94.0	1	70.0-130			17.6		20
(T) Barium		*94.6*			*106*	*104*							
(T) Yttrium		*110*			*108*	*128*							

QUALITY CONTROL SUMMARY

L1617720-03,04,05,06,07,08

Method Blank (MB)

(MB) R3937268-1 06/09/23 20:54

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.324		0.147	0.260
(T) Barium	*106*		*106*	
(T) Yttrium	*107*		*107*	

L1617724-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1617724-03 06/09/23 20:54 • (DUP) R3937268-5 06/09/23 20:54

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	-0.256	0.399	0.734	0.705	0.376	0.734	1	200	1.75		20	3
(T) Barium	*106*			*94.2*	*94.2*							
(T) Yttrium	*96.8*			*115*	*115*							

Laboratory Control Sample (LCS)

(LCS) R3937268-2 06/09/23 20:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.07	81.4	80.0-120	
(T) Barium			*97.6*		
(T) Yttrium			*120*		

L1617720-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617720-08 06/09/23 20:54 • (MS) R3937268-3 06/09/23 20:54 • (MSD) R3937268-4 06/09/23 20:54

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	0.410	8.66	9.60	82.5	91.9	1	70.0-130			10.2		20
(T) Barium		*89.6*			*105*	*98.0*							
(T) Yttrium		*101*			*118*	*106*							

QUALITY CONTROL SUMMARY

Radiochemistry by Method SM7500Ra-B,M

L1617720-01,02

Method Blank (MB)

(MB) R3936878-1 06/13/23 18:47

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0168	U	0.0520	0.0901
(T) Barium-133	*91.2*		*91.2*	

L1617720-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617720-01 06/13/23 21:10 • (DUP) R3936878-5 06/13/23 18:47

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	0.125	0.140	0.185	0.177	0.231	0.185	1	34.6	0.193	J	20	3
(T) Barium-133	*97.4*			*101*	*101*							

Laboratory Control Sample (LCS)

(LCS) R3936878-2 06/13/23 18:47

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.28	105	80.0-120	
(T) Barium-133			*101*		

L1613236-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1613236-17 06/13/23 21:10 • (MS) R3936878-3 06/13/23 18:47 • (MSD) R3936878-4 06/13/23 18:47

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	0.00663	19.9	19.0	99.7	95.1	1	75.0-125			4.72		20
(T) Barium-133		*97.0*			*92.2*	*99.8*							

QUALITY CONTROL SUMMARY

L1617720-03,04,05,06,07,08

Method Blank (MB)

(MB) R3940721-1 06/15/23 18:26

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	-0.0163	U	0.0422	0.100
(T) Barium-133	*82.0*		*82.0*	

L1617724-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617724-01 06/16/23 00:06 • (DUP) R3940721-5 06/15/23 18:26

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	0.110	0.233	0.371	0.121	0.248	0.371	1	9.44	0.0320	U	20	3
(T) Barium-133	*83.7*			*82.7*	*82.7*							

Laboratory Control Sample (LCS)

(LCS) R3940721-2 06/15/23 18:26

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.69	114	80.0-120	
(T) Barium-133			*80.8*		

L1617720-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617720-03 06/15/23 18:26 • (MS) R3940721-3 06/15/23 18:26 • (MSD) R3940721-4 06/15/23 18:26

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	0.117	21.7	23.9	108	119	1	75.0-125			9.58		20
(T) Barium-133		*85.5*			*80.8*	*86.0*							

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	LAO000356
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.

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE02234 **Workorder Name:** VISTRA - DUCK CREEK

Owner Received Date: 5/10/2023

Results Requi By: 5/28/2023

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

Subcontract To:
Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Radium 226	Radium 228	LAB USE ONLY (L1617720)
1	BA02L	GRAB	5/10/2023 14:15	GE02234-01	GW	X	X	X	-01
2	BA03	GRAB	5/10/2023 13:00	GE02234-02	GW	X	X	X	-02
3	BA03 DUP	GRAB	5/10/2023 13:00	GE02234-03	GW	X	X	X	-03
4	BA03L	GRAB	5/10/2023 14:15	GE02234-04	GW	X	X	X	-04
5	OM16	GRAB	5/10/2023 13:50	GE02234-05	GW	X	X	X	-05
6	OM17	GRAB	5/10/2023 12:14	GE02234-06	GW	X	X	X	-06
7	OR13D	GRAB	5/10/2023 15:20	GE02234-07	GW	X	X	X	-07
8	~~X301~~ MP 6/26/23	GRAB	5/10/2023 15:43	GE02234-08	GW	X	X	X	~~-08~~ HR 5/18
9	EB-2	GRAB	5/10/2023 15:45	GE02234-09	DI	X	X	X	-08

Transfers		Date/Time	Received By	Date/Time	Comments
1	5/11/2023 14:31	5/17/23 1530			Needs 226, 228 and combined
2					Include QC summary and edd
3			Hailey Ratcliff	5/18/23 09:15	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.

Sample Receipt Checklist
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
RAD Screen <0.5 mR hr: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

4617720

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE02234
(To be complete by sending lab)

Sending Project No:	GE02234
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	IR72-IL/MO	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED						
Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		9		9	$121.05	$1,089.45
Radium 228		9		9	$121.05	$1,089.45
		1		1		$0.00
					TOTAL	$2,178.90

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$2,178.90	$1,743.12	$435.78
* Custom Revenue Allocation		TOTAL	$1,743.12	$435.78

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

SUBCONTRACT ORDER
Transfer Chain of Custody

L1617720

Pace Analytical Services, LLC

GE02234

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02234-06
Name: OM17

Sampled: 05/10/23 12:14
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 12:14	

Sample: GE02234-07
Name: OR13D

Sampled: 05/10/23 15:20
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 15:20	

Sample: GE02234-09
Name: EB - 2

Sampled: 05/10/23 15:45
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 15:45	

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/17/23 Total # of Containers: 8 Sample Origin (State): IL PO #: ——

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/17/23 1530		
Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

SUBCONTRACT ORDER
Transfer Chain of Custody

L1617720

Pace Analytical Services, LLC

GE02234

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02234-01
Name: BA02L
Sampled: 05/10/23 14:15
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 14:15	

Sample: GE02234-02
Name: BA03
Sampled: 05/10/23 13:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 13:00	

Sample: GE02234-03
Name: BA03 DUP
Sampled: 05/10/23 13:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 13:00	

Sample: GE02234-04
Name: BA03L
Sampled: 05/10/23 14:15
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 14:15	

Sample: GE02234-05
Name: OM16
Sampled: 05/10/23 13:50
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/25/23 16:00	11/06/23 13:50	

L16177720

Tracking Numbers	NS A7 Temperature
6319 5998 8690	19.3±0=19.3
6319 5998 8715	17.3±0=17.3
6319 5998 8726	19.4±0=19.4
6319 5998 8704	13.1±0=13.1
6319 5998 8689	17.6±0=17.6

5/18-NCF-L1617720 PACEPIL

R5

Time estimate: oh **Time spent:** oh

Members

Hailey Melson (responsible) HT Haley Torrence

Due on *22 May 2023 8:00 AM* for target *Done*

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Hailey Melson *18 May 2023 2:52 PM*

Missing ID: X301

Haley Torrence *19 May 2023 8:49 AM*

PACEPIL notified 5/18

Haley Torrence *19 May 2023 1:23 PM*

They said to disregard the missing sample. Thanks!

Hailey Melson *19 May 2023 1:35 PM*

Done

ANALYTICAL REPORT

June 19, 2023

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

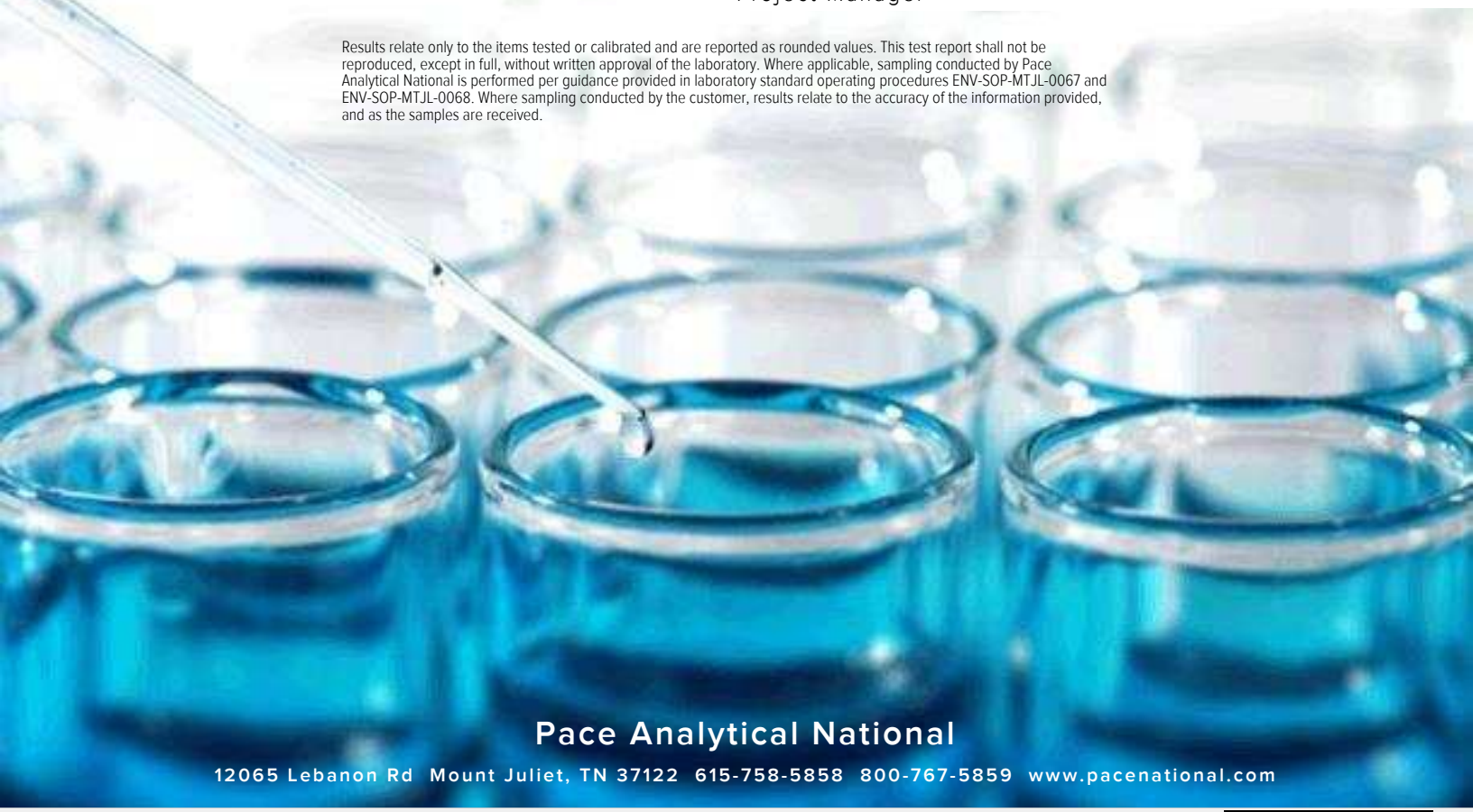
Pace IR - Peoria, IL

Sample Delivery Group:	L1617726
Samples Received:	05/18/2023
Project Number:	GE02539
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

TABLE OF CONTENTS

SAMPLE SUMMARY

	Collected by	Collected date/time	Received date/time
X301 L1617726-01 Non-Potable Water		05/10/23 15:43	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0209	U	0.230	0.413	06/10/2023 08:55	WG2072260
(T) Barium	*114*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*105*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0299	U	0.287	0.542	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.00897	U	0.171	0.351	06/14/2023 16:23	WG2072628
(T) Barium-133	*70.7*			*30.0-143*	*06/14/2023 16:23*	WG2072628

QUALITY CONTROL SUMMARY

L1617726-01

Method Blank (MB)

(MB) R3935700-1 06/10/23 08:55

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	-0.0977	U	0.152	0.279
(T) Barium	*114*		*114*	
(T) Yttrium	*93.4*		*93.4*	

L1617729-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617729-01 06/10/23 08:55 • (DUP) R3935700-5 06/10/23 08:55

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	1.74	0.333	0.547	0.290	0.402	0.547	1	143	2.78	U	20	3
(T) Barium	*81.8*			*86.3*	*86.3*							
(T) Yttrium	*139*			*132*	*132*							

Laboratory Control Sample (LCS)

(LCS) R3935700-2 06/10/23 08:55

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.5	80.0-120	
(T) Barium			*110*		
(T) Yttrium			*95.4*		

L1617726-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617726-01 06/10/23 08:55 • (MS) R3935700-3 06/10/23 08:55 • (MSD) R3935700-4 06/10/23 08:55

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	0.0209	15.4	14.2	91.8	84.9	1	70.0-130			7.78		20
(T) Barium		*114*			*120*	*116*							
(T) Yttrium		*105*			*101*	*109*							

QUALITY CONTROL SUMMARY

L1617726-01

Method Blank (MB)

(MB) R3937863-1 06/14/23 16:23

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0613	J	0.0908	0.136
(T) Barium-133	*47.6*		*47.6*	

L1617727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617727-01 06/14/23 16:23 • (DUP) R3937863-5 06/14/23 16:23

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	0.742	0.400	0.359	0.496	0.326	0.359	1	39.8	0.477		20	3
(T) Barium-133	*76.2*			*83.9*	*83.9*							

Laboratory Control Sample (LCS)

(LCS) R3937863-2 06/14/23 16:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.91	118	80.0-120	
(T) Barium-133			*61.3*		

L1617729-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617729-03 06/14/23 16:23 • (MS) R3937863-3 06/14/23 16:23 • (MSD) R3937863-4 06/14/23 16:23

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	0.0663	22.3	22.1	111	110	1	75.0-125			0.946		20
(T) Barium-133		*90.1*			*79.0*	*69.9*							

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.
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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	LAO000356
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.

A112

Internal Transfer Chain of Custody

Pace Analytical
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE02539 Workorder Name: VISTRA - DUCK CREEK Owner Received Date: 5/10/2023 Results Requ By: 5/28/2023

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 ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226	Radium 228										LAB USE ONLY
1	X301	GRAB	5/10/2023 15:43	GE02539-01	LCHT	X					X	X										L1617726 -01
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1		5/17/23 1415			Needs 226, 228 and combined
2					Include QC summary and edd
3			Hanby Robertson	5/18/23 0915	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.

FMT-ALL-C-002rev.00 24March2009 Page 1 of 1

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		

L16177226

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE02539
(To be complete by sending lab)

Sending Project No:	GE02539
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	IR72-IL/MO	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED						
Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		1		1	$121.05	$121.05
Radium 228		1		1	$121.05	$121.05
		1		1		$0.00
					TOTAL	$242.10

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$242.10	$193.68	$48.42
		TOTAL	$193.68	$48.42

* Custom Revenue Allocation

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.
When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE02539

L1617726

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02539-01
Name: X301

Sampled: 05/10/23 15:43
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/06/23 15:43	

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/17/23 Total # of Containers: 1 Sample Origin (State): IL PO #: —

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/17/23 1415		

Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

L1617726

Tracking Numbers	NS A7 Temperature
6319 5998 8690	19.3±0=19.3
6319 5998 8715	17.3±0=17.3
6319 5998 8726	19.4±0=19.4
6319 5998 8704	13.1±0=13.1
6319 5998 8689	17.6±0=17.6

Pace Analytical®

ANALYTICAL REPORT

June 19, 2023

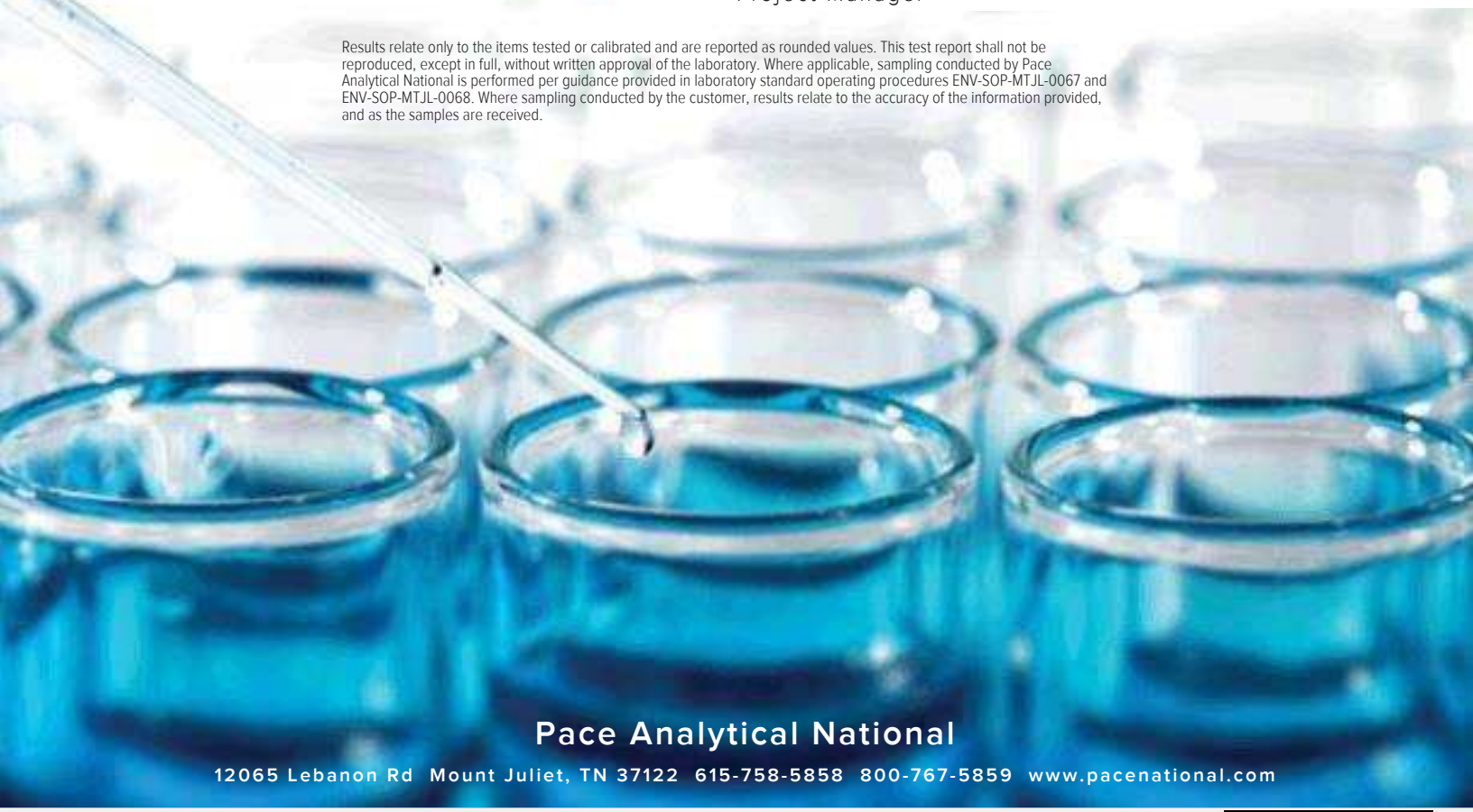
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pace IR - Peoria, IL

Sample Delivery Group:	L1617727
Samples Received:	05/18/2023
Project Number:	GE02656
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



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

TABLE OF CONTENTS

SAMPLE SUMMARY

BA01 L1617727-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/11/23 13:33	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

BA04 L1617727-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/11/23 11:40	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G57S L1617727-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/11/23 15:22	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G64S L1617727-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/11/23 15:11	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

EB-4 L1617727-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/11/23 16:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0869	U	0.200	0.359	06/10/2023 08:55	WG2072260
(T) Barium	*113*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*135*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.829		0.447	0.508	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.742		0.400	0.359	06/14/2023 16:23	WG2072628
(T) Barium-133	*76.2*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0966	U	0.286	0.513	06/10/2023 08:55	WG2072260
(T) Barium	*99.1*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*119*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.152	U	0.335	0.559	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.152	J	0.174	0.223	06/14/2023 16:23	WG2072628
(T) Barium-133	*73.5*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.290	J	0.220	0.387	06/10/2023 08:55	WG2072260
(T) Barium	*104*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*118*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.432	J	0.287	0.467	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.143	J	0.184	0.261	06/14/2023 16:23	WG2072628
(T) Barium-133	*93.3*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.231	U	0.242	0.441	06/10/2023 08:55	WG2072260
(T) Barium	*120*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*107*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.232	J	0.306	0.484	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.232		0.187	0.200	06/14/2023 16:23	WG2072628
(T) Barium-133	*88.7*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.399	U	0.263	0.485	06/10/2023 08:55	WG2072260
(T) Barium	*115*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*102*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.000	U	0.298	0.590	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0343	U	0.141	0.336	06/14/2023 16:23	WG2072628
(T) Barium-133	*75.0*			*30.0-143*	*06/14/2023 16:23*	WG2072628

QUALITY CONTROL SUMMARY

L1617727-01,02,03,04,05

Method Blank (MB)

(MB) R3935700-1 06/10/23 08:55

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	-0.0977	U	0.152	0.279
(T) Barium	*114*		*114*	
(T) Yttrium	*93.4*		*93.4*	

L1617729-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617729-01 06/10/23 08:55 • (DUP) R3935700-5 06/10/23 08:55

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	1.74	0.333	0.547	0.290	0.402	0.547	1	143	2.78	U	20	3
(T) Barium	*81.8*			*86.3*	*86.3*							
(T) Yttrium	*139*			*132*	*132*							

Laboratory Control Sample (LCS)

(LCS) R3935700-2 06/10/23 08:55

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.5	80.0-120	
(T) Barium			*110*		
(T) Yttrium			*95.4*		

L1617726-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617726-01 06/10/23 08:55 • (MS) R3935700-3 06/10/23 08:55 • (MSD) R3935700-4 06/10/23 08:55

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	0.0209	15.4	14.2	91.8	84.9	1	70.0-130			7.78		20
(T) Barium		*114*			*120*	*116*							
(T) Yttrium		*105*			*101*	*109*							

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

QUALITY CONTROL SUMMARY

L1617727-01,02,03,04,05

Method Blank (MB)

(MB) R3937863-1 06/14/23 16:23

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0613	J	0.0908	0.136
(T) Barium-133	*47.6*		*47.6*	

L1617727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617727-01 06/14/23 16:23 • (DUP) R3937863-5 06/14/23 16:23

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	0.742	0.400	0.359	0.496	0.326	0.359	1	39.8	0.477		20	3
(T) Barium-133	*76.2*			*83.9*	*83.9*							

Laboratory Control Sample (LCS)

(LCS) R3937863-2 06/14/23 16:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.91	118	80.0-120	
(T) Barium-133			*61.3*		

L1617729-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617729-03 06/14/23 16:23 • (MS) R3937863-3 06/14/23 16:23 • (MSD) R3937863-4 06/14/23 16:23

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	0.0663	22.3	22.1	111	110	1	75.0-125			0.946		20
(T) Barium-133		*90.1*			*79.0*	*69.9*							

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	LAO000356
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.

A111

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE02656 Workorder Name: VISTRA - DUCK CREEK Owner Received Date: 5/11/2023 Results Requ By: 5/28/2023

Report To:	Subcontract To:
Gail Schindler	
Pace Analytical - IL/MO	Pace Analytical - Mt Juliet
2231 W. Altorfer Drive	12065 Lebanon Rd
Peoria, IL 61615	Mt Juliet TN 37122
800-752-6651	

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Radium 226	Radium 228									LAB USE ONLY
1	BA01	GRAB	5/11/2023 13:33	GE02656-01	GW	X					X	X									-01
2	BA04	GRAB	5/11/2023 11:40	GE02656-02	GW	X					X	X									-02
3	G57S	GRAB	5/11/2023 15:22	GE02656-03	GW	X					X	X									-03
4	G64S	GRAB	5/11/2023 15:11	GE02656-04	GW	X					X	X									-04
5	EB-4	GRAB	5/11/2023 16:00	GE02656-05	DI	X					X	X									-05

L1617727

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1		5/17/23 1415			Needs 226, 228 and combined
2					Include QC summary and edd
3			Hailey Rolston	5/18/23 0915	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.

FMT-ALL-C-002rev.00 24March2009

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		

4617727

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE02656
(To be complete by sending lab)

Sending Project No:	GE02656
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	IR72-IL/MO	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED

Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		5		5	$121.05	$605.25
Radium 228		5		5	$121.05	$605.25
		1		1		$0.00
					TOTAL	$1,210.50

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$1,210.50	$968.40	$242.10
		TOTAL	$968.40	$242.10

* Custom Revenue Allocation

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

FMT-ALL-C-001 rev.00 24March2009 Page 1 of 1

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE02656

4617727

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02656-01
Name: BA01

Sampled: 05/11/23 13:33
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/07/23 13:33	

Sample: GE02656-02
Name: BA04

Sampled: 05/11/23 11:40
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/07/23 11:40	

Sample: GE02656-03
Name: G57S

Sampled: 05/11/23 15:22
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/07/23 15:22	

Sample: GE02656-04
Name: G64S

Sampled: 05/11/23 15:11
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/07/23 15:11	

Sample: GE02656-05
Name: EB-4

Sampled: 05/11/23 16:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/26/23 16:00	11/07/23 16:00	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE02656

L1617727

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/17/23 Total # of Containers: 5 Sample Origin (State): IL PO #: —

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/17/23 1415		
Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

L16617227

Tracking Numbers	NS A7 Temperature
6319 5998 8690	19.3±0=19.3
6319 5998 8715	17.3±0=17.3
6319 5998 8726	19.4±0=19.4
6319 5998 8704	13.1±0=13.1
6319 5998 8689	17.6±0=17.6

Pace Analytical®

ANALYTICAL REPORT

June 19, 2023

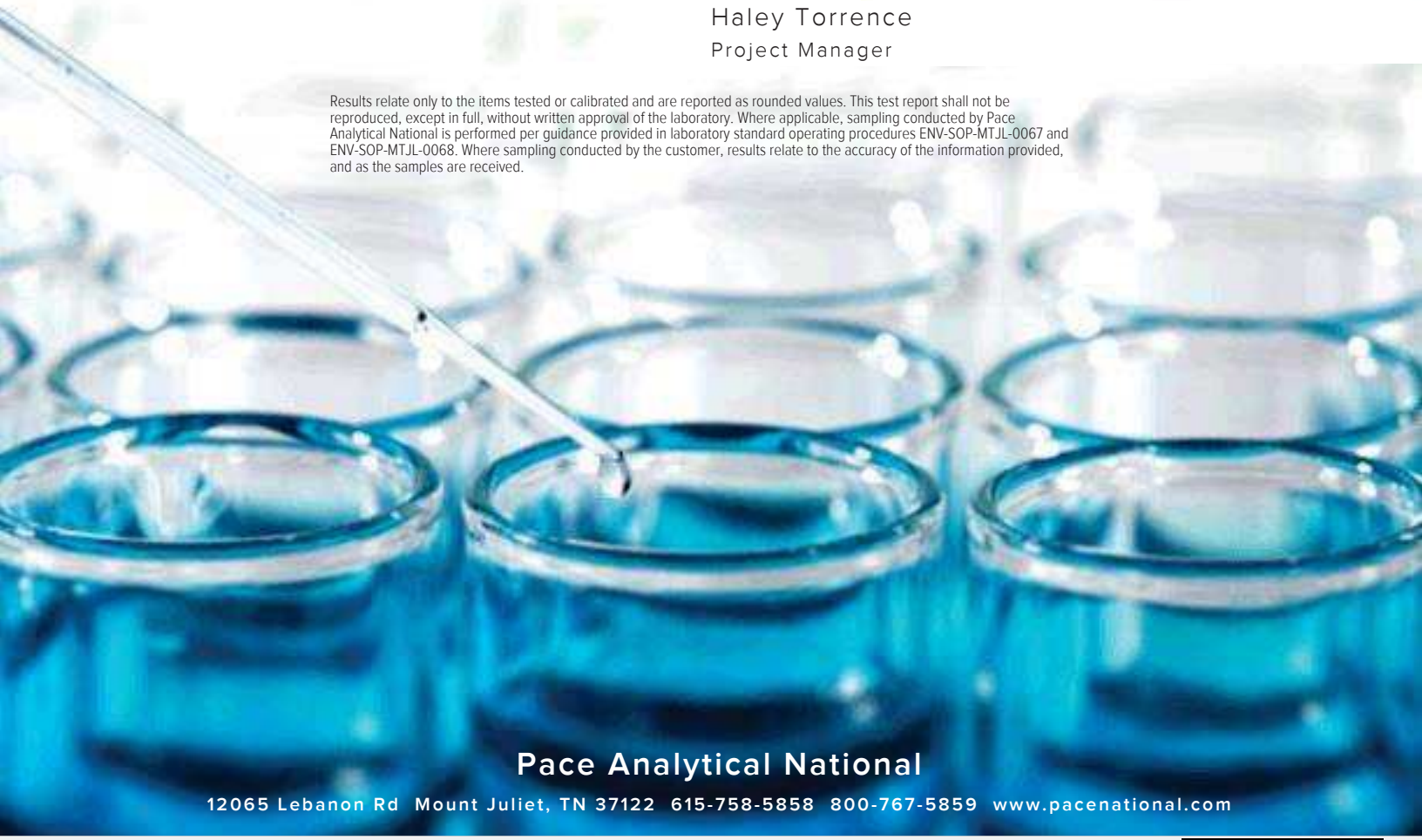
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pace IR - Peoria, IL

Sample Delivery Group:	L1617729
Samples Received:	05/18/2023
Project Number:	GE02775
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



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

TABLE OF CONTENTS

SAMPLE SUMMARY

BA05 L1617729-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 10:50	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

BA06 L1617729-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 12:19	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G54L L1617729-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 12:20	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G54S L1617729-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 13:04	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G54S DUP L1617729-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 13:04	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

G60L L1617729-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 10:48	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

G60S L1617729-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 11:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

EB-7 L1617729-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/12/23 12:45	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.74		0.333	0.547	06/10/2023 08:55	WG2072260
(T) Barium	*81.8*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*139*	C1		*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.07		0.425	0.628	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.326		0.264	0.309	06/14/2023 16:23	WG2072628
(T) Barium-133	*90.3*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.683		0.233	0.398	06/10/2023 08:55	WG2072260
(T) Barium	*101*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*134*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.11		0.420	0.577	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.426		0.349	0.418	06/14/2023 16:23	WG2072628
(T) Barium-133	*81.8*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.429		0.241	0.420	06/10/2023 08:55	WG2072260
(T) Barium	*121*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*115*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.495	J	0.295	0.517	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0663	U	0.170	0.301	06/14/2023 16:23	WG2072628
(T) Barium-133	*90.1*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.749		0.274	0.469	06/10/2023 08:55	WG2072260
(T) Barium	*114*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*138*	C1		*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.881		0.335	0.551	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.131	J	0.192	0.289	06/14/2023 16:23	WG2072628
(T) Barium-133	*86.3*			*30.0-143*	*06/14/2023 16:23*	WG2072628

G54S DUP SAMPLE RESULTS - 05

Collected date/time: 05/12/23 13:04 L1617729

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.396	U	0.285	0.529	06/10/2023 08:55	WG2072260
(T) Barium	*114*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*94.8*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.229	U	0.426	0.700	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.229	J	0.317	0.459	06/14/2023 16:23	WG2072628
(T) Barium-133	*65.7*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.394	U	0.220	0.414	06/10/2023 08:55	WG2072260
(T) Barium	*113*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*119*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.209	J	0.309	0.498	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.209	J	0.217	0.276	06/14/2023 16:23	WG2072628
(T) Barium-133	*88.5*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.528		0.297	0.517	06/10/2023 08:55	WG2072260
(T) Barium	*108*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*150*	C1		*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.911		0.467	0.689	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.383	J	0.360	0.456	06/14/2023 16:23	WG2072628
(T) Barium-133	*62.1*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0250	U	0.235	0.425	06/10/2023 08:55	WG2072260
(T) Barium	*108*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*127*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0799	U	0.279	0.512	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0550	U	0.150	0.285	06/14/2023 16:23	WG2072628
(T) Barium-133	*63.2*			*30.0-143*	*06/14/2023 16:23*	WG2072628

QUALITY CONTROL SUMMARY

L1617729-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3935700-1 06/10/23 08:55

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	-0.0977	U	0.152	0.279
(T) Barium	*114*		*114*	
(T) Yttrium	*93.4*		*93.4*	

L1617729-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617729-01 06/10/23 08:55 • (DUP) R3935700-5 06/10/23 08:55

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	1.74	0.333	0.547	0.290	0.402	0.547	1	143	2.78	U	20	3
(T) Barium	*81.8*			*86.3*	*86.3*							
(T) Yttrium	*139*			*132*	*132*							

Laboratory Control Sample (LCS)

(LCS) R3935700-2 06/10/23 08:55

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.5	80.0-120	
(T) Barium			*110*		
(T) Yttrium			*95.4*		

L1617726-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617726-01 06/10/23 08:55 • (MS) R3935700-3 06/10/23 08:55 • (MSD) R3935700-4 06/10/23 08:55

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	0.0209	15.4	14.2	91.8	84.9	1	70.0-130			7.78		20
(T) Barium		*114*			*120*	*116*							
(T) Yttrium		*105*			*101*	*109*							

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

QUALITY CONTROL SUMMARY

L1617729-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3937863-1 06/14/23 16:23

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0613	J	0.0908	0.136
(T) Barium-133	*47.6*		*47.6*	

L1617727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617727-01 06/14/23 16:23 • (DUP) R3937863-5 06/14/23 16:23

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	0.742	0.400	0.359	0.496	0.326	0.359	1	39.8	0.477		20	3
(T) Barium-133	*76.2*			*83.9*	*83.9*							

Laboratory Control Sample (LCS)

(LCS) R3937863-2 06/14/23 16:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.91	118	80.0-120	
(T) Barium-133			*61.3*		

L1617729-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617729-03 06/14/23 16:23 • (MS) R3937863-3 06/14/23 16:23 • (MSD) R3937863-4 06/14/23 16:23

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	0.0663	22.3	22.1	111	110	1	75.0-125			0.946		20
(T) Barium-133		*90.1*			*79.0*	*69.9*							

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	LAO000356
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.

A110

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE02775 Workorder Name: VISTRA - DUCK CREEK Owner Received Date: 5/12/2023 Results Requ By: 5/28/2023

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

Subcontract To:
Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Radium 226	Radium 228	LAB USE ONLY (L617729)
1	BA05	GRAB	5/12/2023 10:50	GE02775-01	GW	X	X	X	-01
2	BA06	GRAB	5/12/2023 12:19	GE02775-02	GW	X	X	X	-02
3	G54L	GRAB	5/12/2023 12:20	GE02775-03	GW	X	X	X	-03
4	G54S	GRAB	5/12/2023 13:04	GE02775-04	GW	X	X	X	-04
5	G54S DUP	GRAB	5/12/2023 13:04	GE02775-05	GW	X	X	X	-05
6	G60L	GRAB	5/12/2023 10:48	GE02775-06	GW	X	X	X	-06
7	G60S	GRAB	5/12/2023 11:00	GE02775-07	GW	X	X	X	-07
8	EB-7	GRAB	5/12/2023 12:45	GE02775-08	DI	X	X	X	-08

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1		5/17/23 1440			Needs 226, 228 and combined
2					Include QC summary and edd
3		Hailey HR 5/18	Hailey Robertson	5/18/23 0915	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.

FMT-ALL-C-002rev.00 24March2009

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		

4607729

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE02775
(To be complete by sending lab)

Sending Project No:	GE02775
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	IR72-IL/MO	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED

Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		8		8	$121.05	$968.40
Radium 228		8		8	$121.05	$968.40
		1		1		$0.00
					TOTAL	$1,936.80

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$1,936.80	$1,549.44	$387.36
* Custom Revenue Allocation		TOTAL	$1,549.44	$387.36

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

FMT-ALL-C-001 rev.00 24March2009 Page 1 of 1

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE02775

L617729

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02775-06
Name: G60L

Sampled: 05/12/23 10:48
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 10:48	

Sample: GE02775-07
Name: G60S

Sampled: 05/12/23 11:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 11:00	

Sample: GE02775-08
Name: EB - 7

Sampled: 05/12/23 12:45
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 12:45	

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/17/23 Total # of Containers: 8 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/17/23 1440		

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE02775

L1617729

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE02775-01
Name: BA05

Sampled: 05/12/23 10:50
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 10:50	

Sample: GE02775-02
Name: BA06

Sampled: 05/12/23 12:19
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 12:19	

Sample: GE02775-03
Name: G54L

Sampled: 05/12/23 12:20
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 12:20	

Sample: GE02775-04
Name: G54S

Sampled: 05/12/23 13:04
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 13:04	

Sample: GE02775-05
Name: G54S DUP

Sampled: 05/12/23 13:04
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/29/23 16:00	11/08/23 13:04	

L167729

Tracking Numbers	NS A7 Temperature
6319 5998 8690	19.3±0=19.3
6319 5998 8715	17.3±0=17.3
6319 5998 8726	19.4±0=19.4
6319 5998 8704	13.1±0=13.1
6319 5998 8689	17.6±0=17.6

ANALYTICAL REPORT

June 23, 2023

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

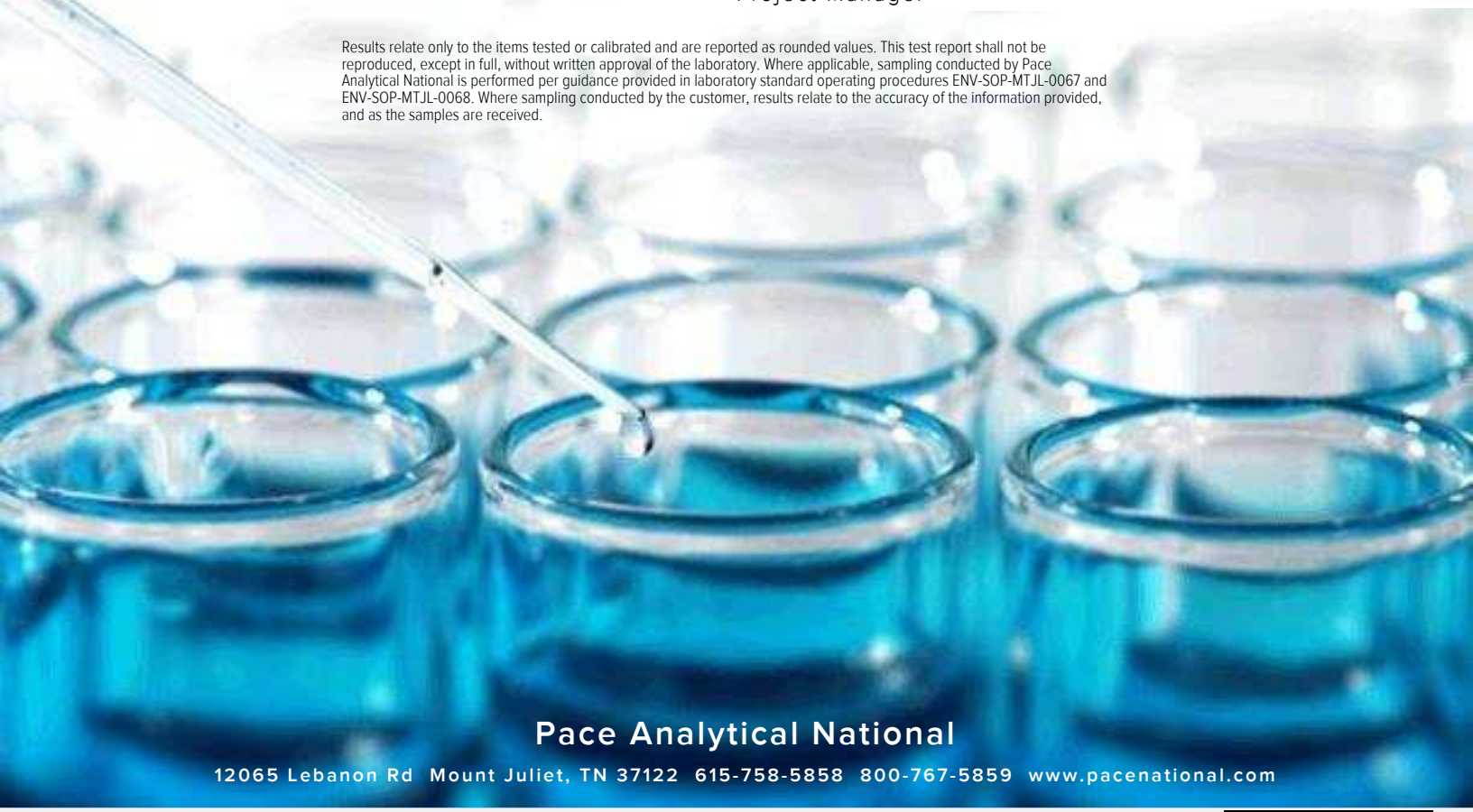
Pace IR - Peoria, IL

Sample Delivery Group:	L1617724
Samples Received:	05/18/2023
Project Number:	GE03000
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

TABLE OF CONTENTS

SAMPLE SUMMARY

BA02 L1617724-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 11:23	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

G02S L1617724-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 15:18	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

G50S L1617724-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 12:56	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

G51S L1617724-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 11:26	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

EB #8 L1617724-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 17:50	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

EB #9 L1617724-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 17:50	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

BA02G64L L1617724-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 15:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

BA02OM25S L1617724-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 13:14	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM12 L1617724-09 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 14:05	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM21 L1617724-10 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 13:24	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM23D L1617724-11 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 16:00	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM11 L1617724-12 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 12:33	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

OM14D L1617724-13 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 11:35	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM19 L1617724-14 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 15:28	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2071924	1	06/05/23 19:10	06/09/23 20:54	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072626	1	06/14/23 08:51	06/16/23 00:06	RGT	Mt. Juliet, TN

OM20 L1617724-15 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/15/23 11:10	05/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2072260	1	06/06/23 11:11	06/10/23 08:55	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.368	J	0.237	0.423	06/09/2023 20:54	WG2071924
(T) Barium	*97.4*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*106*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.478	J	0.332	0.563	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.110	U	0.233	0.371	06/16/2023 00:06	WG2072626
(T) Barium-133	*83.7*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.824		0.222	0.381	06/09/2023 20:54	WG2071924
(T) Barium	*94.2*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*109*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.42		0.394	0.472	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.592		0.325	0.278	06/16/2023 00:06	WG2072626
(T) Barium-133	*91.1*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.256	U	0.399	0.734	06/09/2023 20:54	WG2071924
(T) Barium	*106*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*96.8*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.146	U	0.469	0.823	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.146	J	0.247	0.372	06/16/2023 00:06	WG2072626
(T) Barium-133	*81.6*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.687		0.223	0.387	06/09/2023 20:54	WG2071924
(T) Barium	*117*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*120*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.07		0.380	0.531	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.387		0.308	0.363	06/16/2023 00:06	WG2072626
(T) Barium-133	*80.7*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.156	U	0.246	0.447	06/09/2023 20:54	WG2071924
(T) Barium	*107*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*98.7*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.234	U	0.325	0.575	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0781	U	0.212	0.362	06/16/2023 00:06	WG2072626
(T) Barium-133	*77.9*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0948	U	0.263	0.484	06/09/2023 20:54	WG2071924
(T) Barium	*102*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*104*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0946	U	0.337	0.606	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0946	U	0.211	0.365	06/16/2023 00:06	WG2072626
(T) Barium-133	*73.9*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.627		0.257	0.451	06/09/2023 20:54	WG2071924
(T) Barium	*102*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*112*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.938		0.373	0.561	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.311	J	0.270	0.334	06/16/2023 00:06	WG2072626
(T) Barium-133	*94.4*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	27.8		6.30	10.6	06/09/2023 20:54	WG2071924
(T) Barium	*8.76*	C2		*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*115*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	27.8		6.30	10.6	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0337	U	0.104	0.444	06/16/2023 00:06	WG2072626
(T) Barium-133	*41.6*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.05		0.297	0.511	06/09/2023 20:54	WG2071924
(T) Barium	*82.2*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*109*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.69		0.424	0.568	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.640		0.303	0.248	06/16/2023 00:06	WG2072626
(T) Barium-133	*138*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.42		0.310	0.523	06/09/2023 20:54	WG2071924
(T) Barium	*92.6*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*97.7*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.53		0.358	0.590	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.112	J	0.179	0.274	06/16/2023 00:06	WG2072626
(T) Barium-133	*132*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.103	U	0.293	0.542	06/09/2023 20:54	WG2071924
(T) Barium	*92.1*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*120*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.174	U	0.331	0.566	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.174		0.154	0.164	06/16/2023 00:06	WG2072626
(T) Barium-133	*123*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.290	J	0.237	0.427	06/09/2023 20:54	WG2071924
(T) Barium	*96.8*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*110*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.494		0.308	0.492	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.204	J	0.197	0.244	06/16/2023 00:06	WG2072626
(T) Barium-133	*121*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0375	U	0.314	0.573	06/09/2023 20:54	WG2071924
(T) Barium	*91.1*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*108*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.199	U	0.371	0.626	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.199	J	0.197	0.252	06/16/2023 00:06	WG2072626
(T) Barium-133	*114*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.588		0.275	0.486	06/09/2023 20:54	WG2071924
(T) Barium	*87.6*			*30.0-143*	*06/09/2023 20:54*	WG2071924
(T) Yttrium	*113*			*30.0-136*	*06/09/2023 20:54*	WG2071924

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.849		0.358	0.560	06/16/2023 00:06	WG2072626

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.261	J	0.229	0.279	06/16/2023 00:06	WG2072626
(T) Barium-133	*114*			*30.0-143*	*06/16/2023 00:06*	WG2072626

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0114	U	0.270	0.484	06/10/2023 08:55	WG2072260
(T) Barium	*93.6*			*30.0-143*	*06/10/2023 08:55*	WG2072260
(T) Yttrium	*132*			*30.0-136*	*06/10/2023 08:55*	WG2072260

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.127	U	0.314	0.538	06/14/2023 16:23	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.115	J	0.160	0.234	06/14/2023 16:23	WG2072628
(T) Barium-133	*79.1*			*30.0-143*	*06/14/2023 16:23*	WG2072628

QUALITY CONTROL SUMMARY

L1617724-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R3937268-1 06/09/23 20:54

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.324		0.147	0.260
(T) Barium	*106*		*106*	
(T) Yttrium	*107*		*107*	

L1617724-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1617724-03 06/09/23 20:54 • (DUP) R3937268-5 06/09/23 20:54

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	-0.256	0.399	0.734	0.705	0.376	0.734	1	200	1.75		20	3
(T) Barium	*106*			*94.2*	*94.2*							
(T) Yttrium	*96.8*			*115*	*115*							

Laboratory Control Sample (LCS)

(LCS) R3937268-2 06/09/23 20:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.07	81.4	80.0-120	
(T) Barium			*97.6*		
(T) Yttrium			*120*		

L1617720-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617720-08 06/09/23 20:54 • (MS) R3937268-3 06/09/23 20:54 • (MSD) R3937268-4 06/09/23 20:54

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	0.410	8.66	9.60	82.5	91.9	1	70.0-130			10.2		20
(T) Barium		*89.6*			*105*	*98.0*							
(T) Yttrium		*101*			*118*	*106*							

QUALITY CONTROL SUMMARY

L1617724-15

Method Blank (MB)

(MB) R3935700-1 06/10/23 08:55

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	-0.0977	U	0.152	0.279
(T) Barium	*114*		*114*	
(T) Yttrium	*93.4*		*93.4*	

L1617729-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617729-01 06/10/23 08:55 • (DUP) R3935700-5 06/10/23 08:55

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	1.74	0.333	0.547	0.290	0.402	0.547	1	143	2.78	U	20	3
(T) Barium	*81.8*			*86.3*	*86.3*							
(T) Yttrium	*139*			*132*	*132*							

Laboratory Control Sample (LCS)

(LCS) R3935700-2 06/10/23 08:55

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.57	91.5	80.0-120	
(T) Barium			*110*		
(T) Yttrium			*95.4*		

L1617726-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617726-01 06/10/23 08:55 • (MS) R3935700-3 06/10/23 08:55 • (MSD) R3935700-4 06/10/23 08:55

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	0.0209	15.4	14.2	91.8	84.9	1	70.0-130			7.78		20
(T) Barium		*114*			*120*	*116*							
(T) Yttrium		*105*			*101*	*109*							

QUALITY CONTROL SUMMARY

L1617724-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R3940721-1 06/15/23 18:26

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	-0.0163	U	0.0422	0.100
(T) Barium-133	*82.0*		*82.0*	

L1617724-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617724-01 06/16/23 00:06 • (DUP) R3940721-5 06/15/23 18:26

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	0.110	0.233	0.371	0.121	0.248	0.371	1	9.44	0.0320	U	20	3
(T) Barium-133	*83.7*			*82.7*	*82.7*							

Laboratory Control Sample (LCS)

(LCS) R3940721-2 06/15/23 18:26

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.69	114	80.0-120	
(T) Barium-133			*80.8*		

L1617720-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617720-03 06/15/23 18:26 • (MS) R3940721-3 06/15/23 18:26 • (MSD) R3940721-4 06/15/23 18:26

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	0.117	21.7	23.9	108	119	1	75.0-125			9.58		20
(T) Barium-133		*85.5*			*80.8*	*86.0*							

QUALITY CONTROL SUMMARY

L1617724-15

Method Blank (MB)

(MB) R3937863-1 06/14/23 16:23

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0613	J	0.0908	0.136
(T) Barium-133	*47.6*		*47.6*	

L1617727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617727-01 06/14/23 16:23 • (DUP) R3937863-5 06/14/23 16:23

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	0.742	0.400	0.359	0.496	0.326	0.359	1	39.8	0.477		20	3
(T) Barium-133	*76.2*			*83.9*	*83.9*							

Laboratory Control Sample (LCS)

(LCS) R3937863-2 06/14/23 16:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.91	118	80.0-120	
(T) Barium-133			*61.3*		

L1617729-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617729-03 06/14/23 16:23 • (MS) R3937863-3 06/14/23 16:23 • (MSD) R3937863-4 06/14/23 16:23

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	0.0663	22.3	22.1	111	110	1	75.0-125			0.946		20
(T) Barium-133		*90.1*			*79.0*	*69.9*							

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
C2	Tracer recovery limits have been exceeded; values are outside lower 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	LAO000356
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.

A113

Internal Transfer Chain of Custody

Pace Analytical
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE3000
~~GE02775~~

Workorder Name: VISTRA - DUCK CREEK

Owner Received Date: 5/16/2023

Results Requ By: 5/28/2023

Report To:	Subcontract To:
Gail Schindler	
Pace Analytical - IL/MO	Pace Analytical - Mt Juliet
2231 W. Altorfer Drive	12065 Lebanon Rd
Peoria, IL 61615	Mt Juliet TN 37122
800-752-6651	

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Radium 226	Radium 228										LAB USE ONLY
1	BA02	GRAB	5/15/2023 11:23	GE03000-01	GW	X					X	X										-01
2	G02S	GRAB	5/15/2023 15:18	GE03000-02	GW	X					X	X										-02
3	G50S	GRAB	5/15/2023 12:56	GE03000-03	GW	X					X	X										-03
4	G51S	GRAB	5/15/2023 11:26	GE03000-04	GW	X					X	X										-04
5	EB #8	GRAB	5/15/2023 17:50	GE03000-05	DI	X					X	X										-05
6	EB #9	GRAB	5/15/2023 17:50	GE03000-06	DI	X					X	X										-06
7	G64L	GRAB	5/15/2023 15:00	GE03000-07	GW	X					X	X										-07
8	OM25S	GRAB	5/15/2023 13:14	GE03000-08	GW	X					X	X										-08
9	OM12	GRAB	5/15/2023 14:05	GE03000-09	GW	X					X	X										-09
10	OM21	GRAB	5/15/2023 13:24	GE03000-10	GW	X					X	X										-10

L161724

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1		3/17/23 1500			Needs 226, 228 and combined
2					Include QC summary and edd
3			Hailey Robertson	5/18/23 0915	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.

FMT-ALL-C-002rev.00 24March2009

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		

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE 3000
~~GE02775~~

Workorder Name: VISTRA - DUCK CREEK

Owner Received Date: 5/16/2023

Results Requ By: 5/28/2023

Report To:	Subcontract To:
Gail Schindler	
Pace Analytical - IL/MO	Pace Analytical - Mt Juliet
2231 W. Altorfer Drive	12065 Lebanon Rd
Peoria, IL 61615	Mt Juliet TN 37122
800-752-6651	

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Radium 226	Radium 228										LAB USE ONLY
11	OM23D	GRAB	5/15/2023 16:00	GE03000-11	GW	X					X	X										-11
12	OR11	GRAB	5/15/2023 12:33	GE03000-12	GW	X					X	X										-12
13	OR14D	GRAB	5/15/2023 11:35	GE03000-13	GW	X					X	X										-13
14	OR19	GRAB	5/15/2023 15:28	GE03000-14	GW	X					X	X										-14
15	OR20	GRAB	5/15/2023 11:10	GE03000-15	GW	X					X	X										-15

L1147724

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1			Hoally Rotuhar	5/18/23 0915	Needs 226, 228 and combined
2					Include QC summary and edd
3					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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03000

4617724

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03000-01
Name: BA02
Sampled: 05/15/23 11:23
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 11:23	

Sample: GE03000-02
Name: G02S
Sampled: 05/15/23 15:18
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 15:18	

Sample: GE03000-03
Name: G50S
Sampled: 05/15/23 12:56
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 12:56	

Sample: GE03000-04
Name: G51S
Sampled: 05/15/23 11:26
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 11:26	

Sample: GE03000-05
Name: EB #8
Sampled: 05/15/23 17:50
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 17:50	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03000

U6/7724

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03000-06
Name: EB #9

Sampled: 05/15/23 17:50
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 17:50	

Sample: GE03000-07
Name: G64L

Sampled: 05/15/23 15:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 15:00	

Sample: GE03000-08
Name: OM25S

Sampled: 05/15/23 13:14
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 13:14	

Sample: GE03000-09
Name: OM12

Sampled: 05/15/23 14:05
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 14:05	

Sample: GE03000-10
Name: OM21

Sampled: 05/15/23 13:24
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 13:24	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03000

L1617724

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03000-11
Name: OM23D
Sampled: 05/15/23 16:00
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 16:00	

Sample: GE03000-12
Name: OR11
Sampled: 05/15/23 12:33
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 12:33	

Sample: GE03000-13
Name: OR14D
Sampled: 05/15/23 11:35
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 11:35	

Sample: GE03000-14
Name: OR19
Sampled: 05/15/23 15:28
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 15:28	

Sample: GE03000-15
Name: OR20
Sampled: 05/15/23 11:10
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/30/23 16:00	11/11/23 11:10	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03000

L1617724

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/17/23 Total # of Containers: 15 Sample Origin (State): IL PO #: —

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/17/23 1500		

Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

4617724

Tracking Numbers	NS A7 Temperature
6319 5998 8690	19.3±0=19.3
6319 5998 8715	17.3±0=17.3
6319 5998 8726	19.4±0=19.4
6319 5998 8704	13.1±0=13.1
6319 5998 8689	17.6±0=17.6

4617724

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # ~~GE02775~~ GE3000

(To be complete by sending lab)

Sending Project No:	~~GE02775~~ GE3000
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	**IR72-IL/MO**	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED

Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		8		8	$121.05	$968.40
Radium 228		8		8	$121.05	$968.40
		1		1		$0.00
					TOTAL	$1,936.80

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Reqion Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$1,936.80	$1,549.44	$387.36
* Custom Revenue Allocation		TOTAL	$1,549.44	$387.36

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

ANALYTICAL REPORT

June 21, 2023

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

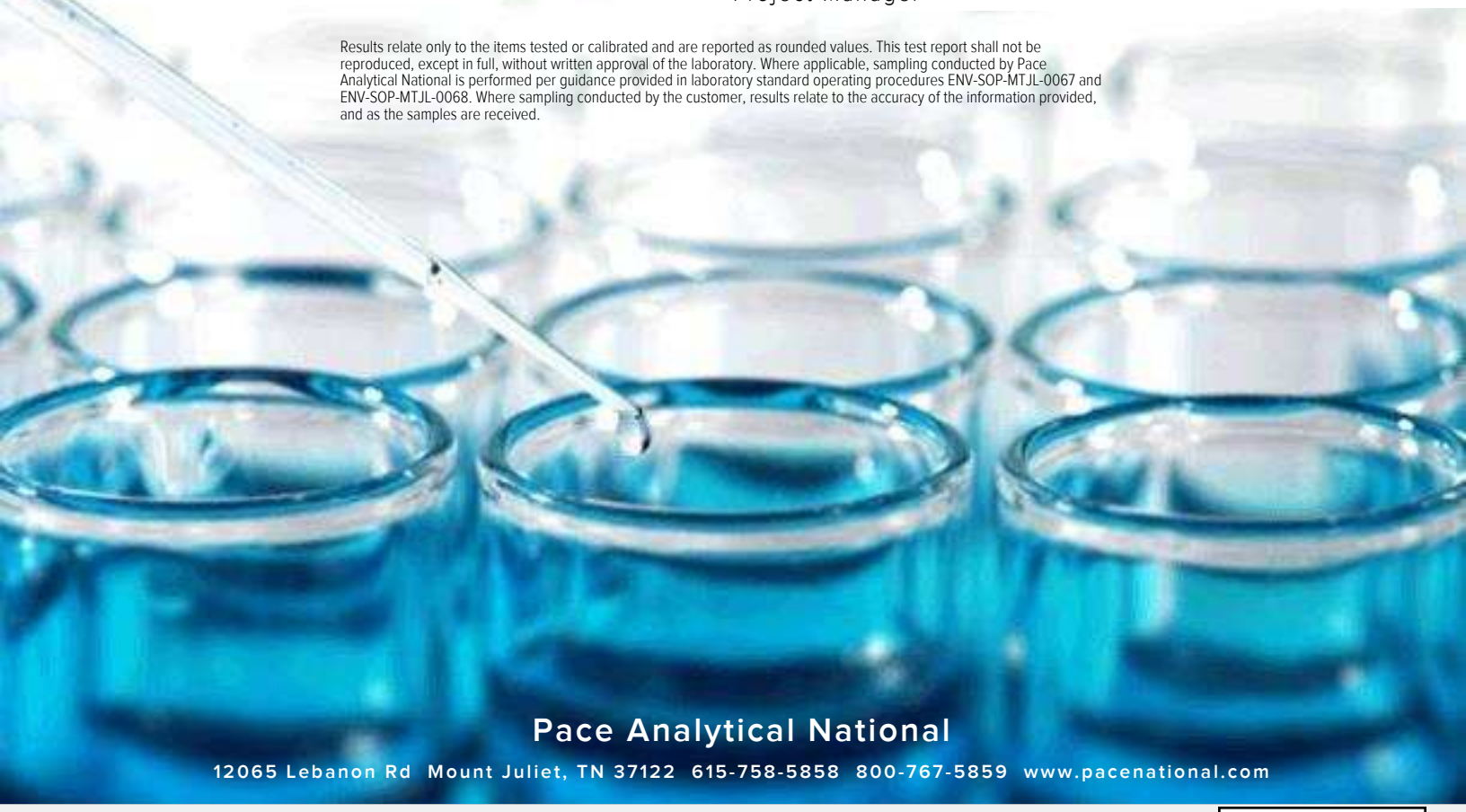
Pace IR - Peoria, IL

Sample Delivery Group:	L1619139
Samples Received:	05/23/2023
Project Number:	GEO3280
Description:	Vistra-Duck Creek
Site:	01
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

TABLE OF CONTENTS

SAMPLE SUMMARY

OM01 L1619139-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 10:48	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN

OM04S L1619139-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 12:15	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

OM24D L1619139-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 14:58	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

OM24D DUP L1619139-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 14:58	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

OR02 L1619139-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 12:14	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

OR03D L1619139-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 13:36	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

OR04D L1619139-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 10:55	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

EQUIPMENT BLANK 10 L1619139-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 17:41	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN

EQUIPMENT BLANK 11 L1619139-09 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/16/23 17:26	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:47	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:47	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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.799		0.312	0.549	06/14/2023 17:51	WG2073396
(T) Barium	*87.3*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*104*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.799		0.346	0.630	06/16/2023 17:46	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.00744	U	0.149	0.310	06/16/2023 17:46	WG2074499
(T) Barium-133	*90.0*			*30.0-143*	*06/16/2023 17:46*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.23		0.345	0.596	06/14/2023 17:51	WG2073396
(T) Barium	*74.9*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*97.8*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.28		0.407	0.708	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0507	U	0.216	0.382	06/16/2023 17:47	WG2074499
(T) Barium-133	*89.6*			*30.0-143*	*06/16/2023 17:47*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.224	U	0.330	0.601	06/14/2023 17:51	WG2073396
(T) Barium	*72.0*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*103*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.290	U	0.370	0.670	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0651	U	0.167	0.296	06/16/2023 17:47	WG2074499
(T) Barium-133	*91.8*			*30.0-143*	*06/16/2023 17:47*	WG2074499

OM24D DUP SAMPLE RESULTS - 04

Collected date/time: 05/16/23 14:58 L1619139

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0449	U	0.288	0.535	06/14/2023 17:51	WG2073396
(T) Barium	*73.6*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*106*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0414	U	0.320	0.601	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0414	U	0.140	0.273	06/16/2023 17:47	WG2074499
(T) Barium-133	*91.3*			*30.0-143*	*06/16/2023 17:47*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.715		0.344	0.611	06/14/2023 17:51	WG2073396
(T) Barium	*86.9*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*113*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.68		0.544	0.703	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.964		0.421	0.348	06/16/2023 17:47	WG2074499
(T) Barium-133	*86.7*			*30.0-143*	*06/16/2023 17:47*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.05		0.376	0.658	06/14/2023 17:51	WG2073396
(T) Barium	*75.6*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*92.4*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.21		0.422	0.709	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.160	J	0.192	0.264	06/16/2023 17:47	WG2074499
(T) Barium-133	*92.3*			*30.0-143*	*06/16/2023 17:47*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.89		0.313	0.508	06/14/2023 17:51	WG2073396
(T) Barium	*72.8*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*106*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.39		0.434	0.593	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.500		0.301	0.306	06/16/2023 17:47	WG2074499
(T) Barium-133	*92.6*			*30.0-143*	*06/16/2023 17:47*	WG2074499

EQUIPMENT BLANK 10 SAMPLE RESULTS - 08

Collected date/time: 05/16/23 17:41 L1619139

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.329	J	0.303	0.546	06/14/2023 17:51	WG2073396
(T) Barium	*89.7*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*96.2*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.329	J	0.308	0.577	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0242	U	0.0531	0.188	06/16/2023 17:47	WG2074499
(T) Barium-133	*95.5*			*30.0-143*	*06/16/2023 17:47*	WG2074499

EQUIPMENT BLANK 11 SAMPLE RESULTS - 09

Collected date/time: 05/16/23 17:26 L1619139

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.206	U	0.361	0.661	06/14/2023 17:51	WG2073396
(T) Barium	*91.1*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*103*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.213	U	0.372	0.695	06/16/2023 17:47	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.00692	U	0.0910	0.215	06/16/2023 17:47	WG2074499
(T) Barium-133	*92.1*			*30.0-143*	*06/16/2023 17:47*	WG2074499

QUALITY CONTROL SUMMARY

L1619139-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R3938842-1 06/14/23 17:51

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.488		0.154	0.268
(T) Barium	*88.7*		*88.7*	
(T) Yttrium	*104*		*104*	

L1619139-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1619139-09 06/14/23 17:51 • (DUP) R3938842-5 06/14/23 17:51

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	0.206	0.361	0.661	0.734	0.414	0.661	1	112	0.960	J	20	3
(T) Barium	*91.1*			*80.7*	*80.7*							
(T) Yttrium	*103*			*97.4*	*97.4*							

Laboratory Control Sample (LCS)

(LCS) R3938842-2 06/14/23 17:51

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.68	93.5	80.0-120	
(T) Barium			*99.0*		
(T) Yttrium			*90.4*		

L1619136-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1619136-03 06/14/23 17:51 • (MS) R3938842-3 06/14/23 17:51 • (MSD) R3938842-4 06/14/23 17:51

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	0.939	15.8	18.5	89.1	105	1	70.0-130			15.3		20
(T) Barium		*79.0*			*81.7*	*85.2*							
(T) Yttrium		*105*			*108*	*95.2*							

QUALITY CONTROL SUMMARY

L1619139-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R3938909-1 06/16/23 17:46

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.00379	U	0.0352	0.0716
(T) Barium-133	*90.6*		*90.6*	

L1619139-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1619139-04 06/16/23 17:47 • (DUP) R3938909-5 06/16/23 17:46

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	0.0414	0.140	0.273	0.175	0.247	0.273	1	124	0.471	J	20	3
(T) Barium-133	*91.3*			*84.9*	*84.9*							

Laboratory Control Sample (LCS)

(LCS) R3938909-2 06/16/23 17:46

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.35	107	80.0-120	
(T) Barium-133			*87.7*		

L1614550-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1614550-02 06/16/23 17:46 • (MS) R3938909-3 06/16/23 17:46 • (MSD) R3938909-4 06/16/23 17:46

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	0.475	21.6	22.2	105	109	1	75.0-125			3.11		20
(T) Barium-133		*91.2*			*88.6*	*87.5*							

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	LAO000356
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

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE03280 **Workorder Name:** VISTRA - DUCK CREEK **Owner Received Date:** 5/16/2023 **Results Requ By:** 6/1/2023

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

Subcontract To:
Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Radium 226	Radium 228											LAB USE ONLY
1	OM01	GRAB	5/16/2023 10:48	GE03280-01	GW	X					X	X											01
2	OM04S	GRAB	5/16/2023 12:15	GE03280-02	GW	X					X	X											02
3	OM24D	GRAB	5/16/2023 14:58	GE03280-03	GW	X					X	X											03
4	OM24D DUP	GRAB	5/16/2023 14:58	GE03280-04	GW	X					X	X											04
5	OR02	GRAB	5/16/2023 12:14	GE03280-05	GW	X					X	X											05
6	OR03D	GRAB	5/16/2023 13:36	GE03280-06	GW	X					X	X											06
7	OR04D	GRAB	5/16/2023 10:55	GE03280-07	GW	X					X	X											07
8	EQUIPMENT BLANK 10	GRAB	5/16/2023 17:41	GE03280-08	DI	X					X	X											08
9	EQUIPMENT BLANK 11	GRAB	5/16/2023 17:26	GE03280-09	DI																		09

L1619139

Transfers	3/14/2023 14:31	Date/Time	Reveived By	Date/Time
1		5/20/23 0550		
2				5/23/23 0860
3				

Comments
Needs 226, 228 and combined
Include QC summary and edd
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.

6319 5999 0575 - 20.2 to = 20.2 NSAT

0564 - 18.9 to = 18.9 NSAT

Lowa
9 other

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE03280
(To be complete by sending lab)

Sending Project No:	GE03280
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/17/2023
REQUESTED COMPLETION DATE:	5/28/2023

Sending Region	**IR72-IL/MO**	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED						
Method Description	**Container Type**	**Quantity of**	**Preservative**	**Quantity of**	**Unit Price**	**Amount**
Radium 226		9		9	$121.05	$1,089.45
Radium 228		9		9	$121.05	$1,089.45
		1		1		$0.00
					TOTAL	$2,178.90

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Reqion Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$2,178.90	$1,743.12	$435.78
* Custom Revenue Allocation		TOTAL	$1,743.12	$435.78

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.
When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03280

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03280-01
Name: OM01

Sampled: 05/16/23 10:48
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 10:48	

Sample: GE03280-02
Name: OM04S

Sampled: 05/16/23 12:15
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 12:15	

Sample: GE03280-03
Name: OM24D

Sampled: 05/16/23 14:58
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 14:58	

Sample: GE03280-04
Name: OM24D DUP

Sampled: 05/16/23 14:58
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 14:58	

Sample: GE03280-05
Name: OR02

Sampled: 05/16/23 12:14
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 12:14	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03280

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03280-06
Name: OR03D

Sampled: 05/16/23 13:36
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 13:36	

Sample: GE03280-07
Name: OR04D

Sampled: 05/16/23 10:55
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 10:55	

Sample: GE03280-08
Name: EB-10

Sampled: 05/16/23 17:41
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 17:41	

Sample: GE03280-09
Name: EB-11

Sampled: 05/16/23 17:26
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	05/31/23 16:00	11/12/23 17:26	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03280

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/22/23 Total # of Containers: 9 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/22/23 0550		
Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	_____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

Pace Analytical®

ANALYTICAL REPORT

June 23, 2023

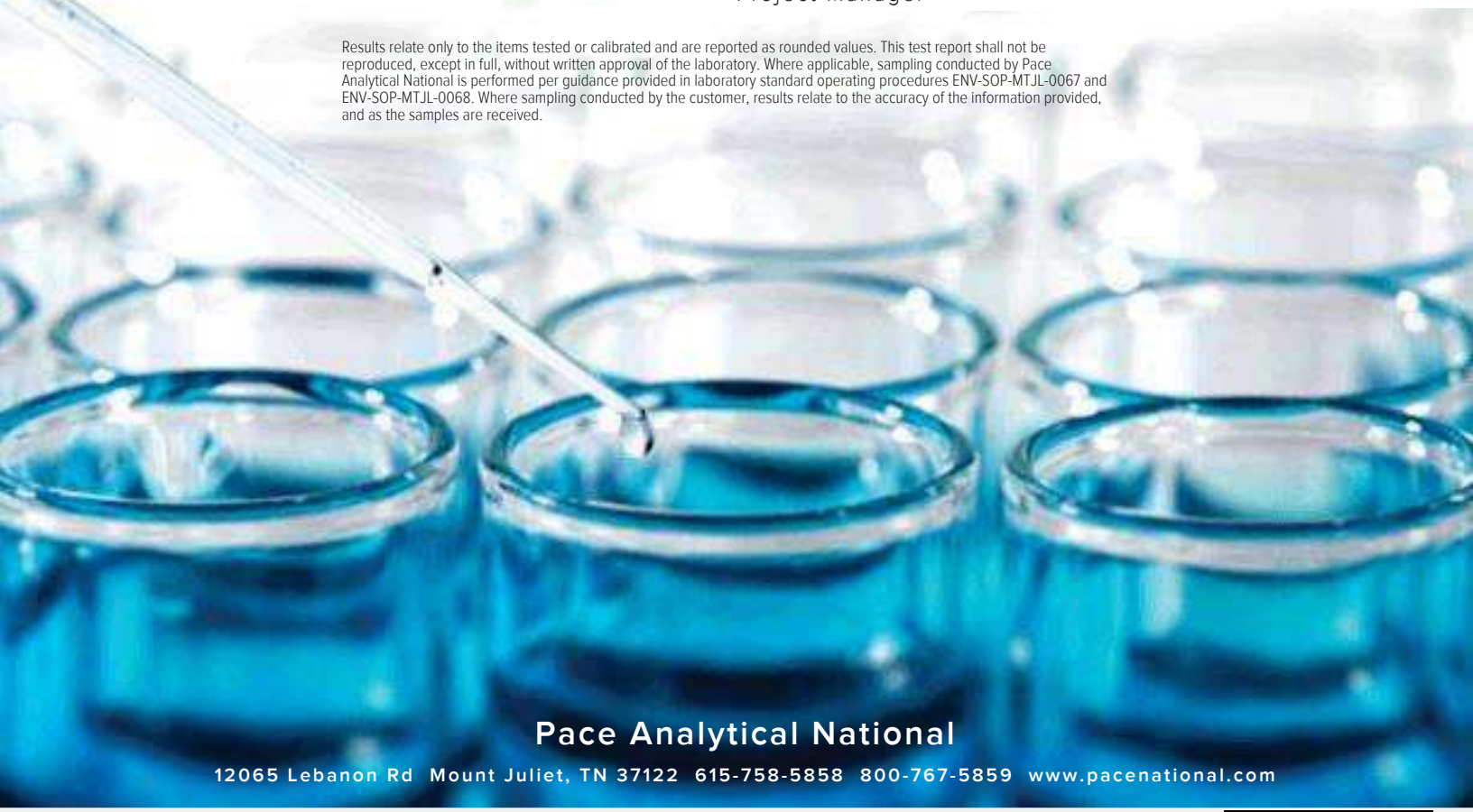
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pace IR - Peoria, IL

Sample Delivery Group:	L1619136
Samples Received:	05/23/2023
Project Number:	GEO3619
Description:	Vistra-Duck Creek
Site:	01
Report To:	Gail Schindler 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By: Haley Torrence

Haley Torrence
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

OM07 L1619136-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/17/23 12:13	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2072628	1	06/12/23 13:37	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2072628	1	06/12/23 13:37	06/14/23 16:23	RGT	Mt. Juliet, TN

OM22D L1619136-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/17/23 16:55	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN

OR06A L1619136-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/17/23 13:45	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN

OR13S L1619136-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/17/23 15:20	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN

EQUIPMENT BLANK 12 L1619136-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/17/23 17:08	05/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2073396	1	06/08/23 08:06	06/14/23 17:51	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2074499	1	06/14/23 16:02	06/16/23 17:46	RGT	Mt. Juliet, TN

CASE NARRATIVE

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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 pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.270	U	0.357	0.649	06/14/2023 17:51	WG2073396
(T) Barium	*64.3*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*104*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.643	J	0.426	0.681	06/14/2023 17:51	WG2072628

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.373		0.233	0.207	06/14/2023 16:23	WG2072628
(T) Barium-133	*95.9*			*30.0-143*	*06/14/2023 16:23*	WG2072628

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.984		0.265	0.455	06/14/2023 17:51	WG2073396
(T) Barium	*81.9*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*102*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.54		0.394	0.497	06/16/2023 17:46	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.554		0.292	0.200	06/16/2023 17:46	WG2074499
(T) Barium-133	*81.9*			*30.0-143*	*06/16/2023 17:46*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.939		0.476	0.846	06/14/2023 17:51	WG2073396
(T) Barium	*79.0*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*105*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.34		0.545	0.884	06/16/2023 17:46	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.402		0.265	0.258	06/16/2023 17:46	WG2074499
(T) Barium-133	*94.4*			*30.0-143*	*06/16/2023 17:46*	WG2074499

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.282	J	0.315	0.572	06/14/2023 17:51	WG2073396
(T) Barium	*69.5*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*110*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.320	J	0.332	0.606	06/16/2023 17:46	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0388	U	0.106	0.201	06/16/2023 17:46	WG2074499
(T) Barium-133	*88.4*			*30.0-143*	*06/16/2023 17:46*	WG2074499

EQUIPMENT BLANK 12 SAMPLE RESULTS - 05

Collected date/time: 05/17/23 17:08 L1619136

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.367	U	0.271	0.509	06/14/2023 17:51	WG2073396
(T) Barium	*86.6*			*30.0-143*	*06/14/2023 17:51*	WG2073396
(T) Yttrium	*104*			*30.0-136*	*06/14/2023 17:51*	WG2073396

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.114	U	0.326	0.580	06/16/2023 17:46	WG2074499

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.114	J	0.182	0.278	06/16/2023 17:46	WG2074499
(T) Barium-133	*90.5*			*30.0-143*	*06/16/2023 17:46*	WG2074499

QUALITY CONTROL SUMMARY

L1619136-01,02,03,04,05

Method Blank (MB)

(MB) R3938842-1 06/14/23 17:51

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.488		0.154	0.268
(T) Barium	*88.7*		*88.7*	
(T) Yttrium	*104*		*104*	

L1619139-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1619139-09 06/14/23 17:51 • (DUP) R3938842-5 06/14/23 17:51

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	0.206	0.361	0.661	0.734	0.414	0.661	1	112	0.960	J	20	3
(T) Barium	*91.1*			*80.7*	*80.7*							
(T) Yttrium	*103*			*97.4*	*97.4*							

Laboratory Control Sample (LCS)

(LCS) R3938842-2 06/14/23 17:51

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.68	93.5	80.0-120	
(T) Barium			*99.0*		
(T) Yttrium			*90.4*		

L1619136-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1619136-03 06/14/23 17:51 • (MS) R3938842-3 06/14/23 17:51 • (MSD) R3938842-4 06/14/23 17:51

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	0.939	15.8	18.5	89.1	105	1	70.0-130			15.3		20
(T) Barium		*79.0*			*81.7*	*85.2*							
(T) Yttrium		*105*			*108*	*95.2*							

QUALITY CONTROL SUMMARY

L1619136-01

Method Blank (MB)

(MB) R3937863-1 06/14/23 16:23

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0613	J	0.0908	0.136
(T) Barium-133	*47.6*		*47.6*	

L1617727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1617727-01 06/14/23 16:23 • (DUP) R3937863-5 06/14/23 16:23

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	0.742	0.400	0.359	0.496	0.326	0.359	1	39.8	0.477		20	3
(T) Barium-133	*76.2*			*83.9*	*83.9*							

Laboratory Control Sample (LCS)

(LCS) R3937863-2 06/14/23 16:23

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.91	118	80.0-120	
(T) Barium-133			*61.3*		

L1617729-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1617729-03 06/14/23 16:23 • (MS) R3937863-3 06/14/23 16:23 • (MSD) R3937863-4 06/14/23 16:23

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	0.0663	22.3	22.1	111	110	1	75.0-125			0.946		20
(T) Barium-133		*90.1*			*79.0*	*69.9*							

QUALITY CONTROL SUMMARY

L1619136-02,03,04,05

Method Blank (MB)

(MB) R3938909-1 06/16/23 17:46

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.00379	U	0.0352	0.0716
(T) Barium-133	*90.6*		*90.6*	

L1619139-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1619139-04 06/16/23 17:47 • (DUP) R3938909-5 06/16/23 17:46

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	0.0414	0.140	0.273	0.175	0.247	0.273	1	124	0.471	J	20	3
(T) Barium-133	*91.3*			*84.9*	*84.9*							

Laboratory Control Sample (LCS)

(LCS) R3938909-2 06/16/23 17:46

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.35	107	80.0-120	
(T) Barium-133			*87.7*		

L1614550-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1614550-02 06/16/23 17:46 • (MS) R3938909-3 06/16/23 17:46 • (MSD) R3938909-4 06/16/23 17:46

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	0.475	21.6	22.2	105	109	1	75.0-125			3.11		20
(T) Barium-133		*91.2*			*88.6*	*87.5*							

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	LAO000356
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.

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

State of Origin: IL
Cert. Needed: [X] YES [ ] NO

GE03619 Workorder Name: VISTRA - DUCK CREEK

Owner Received Date: 5/17/2023

Results Requ By: 6/1/2023

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

Subcontract To:
Pace Analytical - Mt Juliet
12065 Lebanon Rd
Mt Juliet TN 37122

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Radium 226	Radium 228	LAB USE ONLY
1	OM07	GRAB	5/17/2023 12:13	GE03619-01	GW	X	X	X	01
2	OM22D	GRAB	5/17/2023 16:55	GE03619-02	GW	X	X	X	02
3	OR06A	GRAB	5/17/2023 13:45	GE03619-03	GW	X	X	X	03
4	OR13S	GRAB	5/17/2023 15:20	GE03619-04	GW	X	X	X	04
5	EQUIPMENT BLANK 12	GRAB	5/17/2023 17:08	GE03619-05	DI	X	X	X	05
6									
7									
8									
9									

L161 9136

Transfers	5/14/2023 14:31	Date/Time	Reveived By	Date/Time	Comments
1		5/22/23 0550			Needs 226, 228 and combined
2					Include QC summary and edd
3				5/23/23 0900	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.

FMT-ALL-C-002rev

Sample Receipt Checklist
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
RAD Screen <0.5 mR/hr: __Y__N
If Applicable
VOA Zero Headspace: __Y__N
Pres.Correct/Check: __Y__N

6319 5999 0575 - 20.2 to = 20.2 NSA7

0524 - 18.9 to = 18.9 NSA7

Cont
5-other

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Pace Analytical®
www.pacelabs.com

Ship to :
Pace Analytical Services, LLC
12065 Lebanon Rd
Mt Juliet TN 37122

(615)758-5858

INTER_LABORATORY WORK ORDER # GE03619
(To be complete by sending lab)

Sending Project No:	GE03619
Receiving Project No:	
Check Box for Consolidated Invoice:	
Date Prepared:	5/19/2023
REQUESTED COMPLETION DATE:	6/1/2023

###

Sending Region	IR72-IL/MO	Sending Project Mgr.	Gail Schindler
Receiving Region	MT JULIET	External Client	VISTRA - DUCK CREEK
State of Sample Origin	IL	QC Deliverable	**STD Report**

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? _____ Cert Needed: IL

WORK REQUESTED						
Method Description	Container Type	Quantity of	Preservative	Quantity of	Unit Price	Amount
Radium 226		5		5	$121.05	$605.25
Radium 228		5		5	$121.05	$605.25
		1		1		$0.00
					TOTAL	$1,210.50

Special Requirements: Report as 226, 228 & combined 226/228. Include QC summary & edd

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept.
radiological	38	$1,210.50	$968.40	$242.10
* Custom Revenue Allocation		TOTAL	$968.40	$242.10

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: [ ] Yes [X] No

CONFIRMATION OF WORK COMPLETED

Date Completed: _____ Receiving Project Manager: _____

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03619

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

Pace Analytical - Mt Juliet, Tn
12065 Lebanon Rd
Mt Juliet, TN 37122
(615) 758-5858

Sample: GE03619-01
Name: OM07

Sampled: 05/17/23 12:13
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	06/01/23 16:00	11/13/23 12:13	

Sample: GE03619-02
Name: OM22D

Sampled: 05/17/23 16:55
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	06/01/23 16:00	11/13/23 16:55	

Sample: GE03619-03
Name: OR06A

Sampled: 05/17/23 13:45
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	06/01/23 16:00	11/13/23 13:45	

Sample: GE03619-04
Name: OR13S

Sampled: 05/17/23 15:20
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	06/01/23 16:00	11/13/23 15:20	

Sample: GE03619-05
Name: EB 12

Sampled: 05/17/23 17:08
Matrix: Ground Water
Preservative: HNO3, pH <2

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	06/01/23 16:00	11/13/23 17:08	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

GE03619

Please email results to Gail Schindler at gail.schindler@pacelabs.com

Date Shipped: 5/22/23 Total # of Containers: 5 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☐ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
[signature]	5/22/23 0550		
Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt	____ °C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 9

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
UST RCRA OTHER

Site Location STATE: IL

GE02234 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_BA01																													
2	DC_BA02																													
3	DC_BA02!L			5/10/23	1415		11																							
4	DC_BA03 +Dup				1300		22																							
5	DC_BA03!L				1415		11																							
6	DC_BA04																													
7	DC_BA05#																													
8	DC_BA06																													
9	DC_G02!L																													
10	DC_G02#S																													
11	DC_G02&D																													
12	DC_G03!L																													
13	DC_G04!L																													
14	DC_G06!L																													
15	DC_G06#S																													
16	DC_G07!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	1720	5/10/23							
				Vance Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: IL GE02234 gcf

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM04#S																												
2	DC_OM05#S																												
3	DC_OM07																												
4	DC_OM08																												
5	DC_OM09																												
6	DC_OM10																												
7	DC_OM12																												
8	DC_OM15																												
9	DC_OM16			5/10/23	1350		10																						
10	DC_OM17			5/10/23	1214		10																						
11	DC_OM21																												
12	DC_OM22#S																												
13	DC_OM22&D																												
14	DC_OM23#S																												
15	DC_OM23&D																												
16	DC_OM24&D																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed									
				Vaughn Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joseph R Reed
SIGNATURE of SAMPLER: Joseph R Reed DATE Signed (MM/DD/YY): 5/10/23

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

Section B Required Project Information: Report To: Brian Voelker

Section C Invoice Information: 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 STATE: IL GE02234
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM25#S																													
2	DC_OM25&D																													
3	DC_OR02																													
4	DC_OR03#S																													
5	DC_OR03&D																													
6	DC_OR04&D																													
7	DC_OR05&D																													
8	DC_OR06!A																													
9	DC_OR11																													
10	DC_OR13#S																													
11	DC_OR13&D			5/10/23	1520		10																							
12	DC_OR14#S																													
13	DC_OR14&D																													
14	DC_OR18																													
15	DC_OR19																													
16	DC_OR20																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720							
				Vance Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joe Reed
SIGNATURE of SAMPLER: Joseph R Reed
DATE Signed (MM/DD/YY): 5/10/23

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

REGULATORY AGENCY

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT:	10 day	Project Number: 2285	Profile #:		

GE02234

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

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Analysis Test ↓ Y/N	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L			5/10/23	1435		2																							
2	DC_T45!L			5/10/23	1510		2																							
3	DC_T46!L																													
4	DC_X301_leachate			5/10/23	1543		11																							
5																														
6	EB-2			5/10/23	1545		10																							
7	EB 3			5/10/23	1545		4																							
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720	Vaun Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/10/23

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT:	10 day	Project Number: 2285	Profile #:		

GEO2539-01
gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L			5/10/23	1435		2																					
2	DC_T45!L			5/10/23	1510		2																					
3	DC_T46!L																											
4	DC_X301_leachate			5/10/23	1543		11																					
5																												
6	EB 2			5/10/23	1545		4																					
7	EB 3			5/10/23	1545		4																					
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/10/23	1720							
				Vaun Wagner	5-10-23	1720	3.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joe Reed
SIGNATURE of SAMPLER: Joseph R Reed
DATE Signed (MM/DD/YY): 5/10/23

PACE ANALYTICAL SERVICES
WWW.PACELABS.COM

REGULATORY PROGRAM (CIRCLE):	NPDES
MORBCA	RCRA
CCDD	TACO: RES OR IND/COMM

CHAIN OF CUSTODY RECORD

SAMPLE COLLECTED IN THE STATE OF IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: City of Rockford
ADDRESS: 1111 Cedar Street
CITY STATE ZIP: Rockford, IL 61102
CONTACT PERSON: Josh Baylor

PROJECT NUMBER:
PROJECT LOCATION:
PURCHASE ORDER #:
PHONE NUMBER: 779-348-7151
E-MAIL: Josh.Baylor@rockfordil.gov
DATE SHIPPED: 5/17/2023
SAMPLER (PLEASE PRINT): David Setiawan
SAMPLER'S SIGNATURE:

MATRIX TYPES:
WW- WASTEWATER
DW- DRINKING WATER
GW- GROUND WATER
WWSL- SLUDGE
NAS- NON AQUEOUS SOLID
LCHT-LEACHATE
OIL-OIL
SO-SOIL
SOL-SOLID

3 ANALYSIS REQUESTED

4 (FOR LAB USE ONLY)
LOGIN # GE03611
LOGGED BY:
CLIENT:
PROJECT:
PROJ. MGR.:
CUSTODY SEAL #:

2 SAMPLE DESCRIPTION (UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	PRES CODE CLIENT PROVIDED	Nitrate							REMARKS
Travlur Motel - IL3046532	5/16/23	11:56 AM	X		DW	1		X							XC:IDPH
Forest Hills Country Club - IL3140038	5/16/23	7:00 AM	X		DW	1		X							XC:IDPH
Forest Hills Diamonds - IL3142349	5/16/23	11:00 AM	X		DW	1		X							XC:IDPH

CHEMICAL PRESERVATION CODES: 1 – HCL | 2 – H2SO4 | 3 – HNO3 | 4 – NAOH | 5 – NA2S2O3 | 6 – UNPRESERVED | 7 – OTHER

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (NORMAL) RUSH
(RUSH TAT IS SUBJECT TO PACE LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) EMAIL PHONE
EMAIL IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:
DATE RESULTS NEEDED

6 *I understand that by initialing this box I give the lab permission to proceed with analysis, even though it may not meet all sample conformance requirements as defined in the receiving facility's Sample Acceptance Policy and the data will be qualified. Qualified data may NOT be acceptable to report to all regulatory authorities.*
PROCEED WITH ANALYSIS AND QUALIFY RESULTS: (INITIALS)

7 RELINQUISHED BY: (SIGNATURE)	DATE 5/17/23 TIME 10:00 AM	RECEIVED BY: (SIGNATURE)	DATE TIME
RELINQUISHED BY: (SIGNATURE)	DATE TIME	RECEIVED BY: (SIGNATURE)	DATE TIME
RELINQUISHED BY: (SIGNATURE)	DATE TIME	RECEIVED BY: (SIGNATURE)	DATE 5/17/23 TIME 1515

8 COMMENTS: (FOR LAB USE ONLY)
SAMPLE TEMPERATURE UPON RECEIPT 5.8 °C
TEMPERATURE GUN ID
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
SAMPLE ACCEPTANCE NONCONFORMANT REPORT IS NEEDED Y OR N
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

~~GE02632~~
Vmw 5-12-23
GE02656

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 9

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, UST, RCRA, OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_BA01	WT	G	5/11/23	1333		11	X	X	X																				
2	DC_BA02																													
3	DC_BA02!L																													
4	DC_BA03																													
5	DC_BA03!L																													
6	DC_BA04	WT	G	5/11/23	1146		11	X	X	X																				
7	DC_BA05#																													
8	DC_BA06																													
9	DC_G02!L																													
10	DC_G02#S																													
11	DC_G02&D																													
12	DC_G03!L																													
13	DC_G04!L																													
14	DC_G06!L																													
15	DC_G06#S																													
16	DC_G07!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	[signature]	5/11/23	1720				5	/	/	
				Grace Jackson	5/11/23	17:20	5	/		/
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Harold Pemberton

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 05/11/23

CHAIN-OF-CUSTODY / Analytical Request Document

GE02656 ~~GE02637~~ Vmw 5-12-23

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
UST RCRA OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G54#S																													
2	DC_G55!L																													
3	DC_G55#S																													
4	DC_G56!L FD	WT	G	5/11/23	1109		8	X	X	X																				
5	DC_G56#S																													
6	DC_G57!L	WT	G	5/11/23	1158		4	X	X	X																				
7	DC_G57#S	WT	G	5/11/23	1522		4	X	X	X																				
8	DC_G58!L	WT	G	5/11/23	1258		4	X	X	X																				
9	DC_G58#S																													
10	DC_G59!L																													
11	DC_G59#S																													
12	DC_G60!L																													
13	DC_G60#S																													
14	DC_G61#S																													
15	DC_G62!L	WT	G	5/11/23	1358		4	X	X	X																				
16	DC_G63!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	[signature]	5/11/23	1720				5		2	
							5.5	T		T
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brian Pembelton

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5/11/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Section B Section C

GE02656 ~~GE02652~~
VMW 5-12-23

Required Client Information:		Required Project Information:		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
				Address:	see Section A
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Quote Reference:	
Phone:	(217) 753-8911 Fax:	Project Name:		Project Manager:	
Requested Due Date/TAT:	10 day	Project Number:	2285	Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G63#S																													
2	DC_G64!L																													
3	DC_G64#S	WT	G	5/11/23	1511		12	X	X	X																				
4	DC_G65!L	WT	G	5/11/23	1251		4	X	X	X																				
5	DC_G65#S																													
6	DC_G66!L																													
7	DC_G66#S																													
8	DC_G67!L																													
9	DC_G67#S																													
10	DC_G70!L																													
11	DC_G71!L																													
12	DC_G71#S																													
13	DC_G72!L																													
14	DC_G73!L	WT	G	5/11/23	1205		10	X	X	X																				
15	DC_L103																													
16	DC_OM01																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	[signature]	5/11/23	1720				5		N	
				Grace [signature]	5/11/23	17:20	5	Y		Y

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:	Aaron Rinehart					
SIGNATURE of SAMPLER:	[signature]	DATE Signed (MM/DD/YY): 05/11/23				

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:

GE02656
Vmw 5-12-23

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT: 10 day		Project Number: 2285	Profile #:		

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L																													
2	DC_T45!L																													
3	DC_T46!L	WT	G	5/11/23	1525		2	X		X																				
4	DC_X301_leachate																													
5	EB-4			5/11/23	1600		12	X	X	X																				
6	EB-5			5/11/23	1605		10	X	X	X																				
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-23Q2-Rev 0	[signature]	5/11/23	1720				

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Haran Ambeston
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 05/11/23

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

GE02775 gdj

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_BA01																													
2	DC_BA02																													
3	DC_BA02!L																													
4	DC_BA03																													
5	DC_BA03!L																													
6	DC_BA04																													
7	DC_BA05#			5/12/23	1050		11																							
8	DC_BA06			5/12/23	1219		12																							
9	DC_G02!L																													
10	DC_G02#S																													
11	DC_G02&D																													
12	DC_G03!L																													
13	DC_G04!L																													
14	OJS 5-31-23 DC_G06!L + FD Dup			5/12/23	1205		8																							
15	DC_G06#S																													
16	DC_G07!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-23Q2-Rev 0	Joseph R Reed	5/12/23	1431	Grace	14:31	5/12/23

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
8	8	N	8

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/12/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

GE02775 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G08!L																													
2	DC_G09!L																													
3	DC_G12!L																													
4	DC_G12#S																													
5	DC_G14!L																													
6	DC_G15!L																													
7	DC_G16!L																													
8	DC_G50!L																													
9	DC_G50#S																													
10	DC_G51!L																													
11	DC_G51#S																													
12	DC_G52!L																													
13	DC_G52#S																													
14	DC_G53!L																													
15	DC_G53#S																													
16	DC_G54!L			5/12/23	1220		12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-23Q2-Rev 0	Joseph R Reed	5/12/23	1431	grace Jones	5/12/23	14:31

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.8	Y	2	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/12/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 9

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
UST RCRA OTHER

Site Location STATE: IL GE02775 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G & S 5-3-23 DC_G54#S + FD Dup			5/12/23	1304		24																							
2	DC_G55!L																													
3	DC_G55#S																													
4	DC_G56!L																													
5	DC_G56#S																													
6	DC_G57!L																													
7	DC_G57#S																													
8	DC_G58!L																													
9	DC_G58#S																													
10	DC_G59!L																													
11	DC_G59#S																													
12	DC_G60!L			5/12/23	1048		18																							
13	DC_G60#S			5/12/23	1100		12																							
14	DC_G61#S																													
15	DC_G62!L																													
16	DC_G63!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DC-23Q2-Rev 0	Joseph R Reed	5/12/23	1431	grace	5/12/23	14:31

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joel Reed

SIGNATURE of SAMPLER: Joseph R Reed DATE Signed (MM/DD/YY): 5/12/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Section B Section C

Page: 4 of 9

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 2, 2023
DUCK CREEK POWER PLANT, BOTTOM ASH BASIN
DC-845-205

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT: 10 day		Project Number: 2285	Profile #:		

GE02775 gej

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L																													
2	DC_T45!L																													
3	DC_T46!L																													
4	DC_X301_leachate																													
5	EB-6			5/12/23	1036		5																							
6	EB-7			5/12/23	1245		12																							
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/12/23					2.8		2	
					5/12/23	14:31	2	Y		Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	J R Reed		
SIGNATURE of SAMPLER:	Joseph R Reed	DATE Signed (MM/DD/YY):	5/12/23

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

GE03000
Vmw 5-16-23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 9

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
UST RCRA OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_BA01																													
2	DC_BA02			5/15/23	1123		11																							
3	DC_BA02!L																													
4	DC_BA03																													
5	DC_BA03!L																													
6	DC_BA04																													
7	DC_BA05#																													
8	DC_BA06																													
9	DC_G02!L																													
10	DC_G02#S			5/15 23	1518		11																							
11	DC_G02&D																													
12	DC_G03!L																													
13	DC_G04!L																													
14	DC_G06!L																													
15	DC_G06#S																													
16	DC_G07!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/15/23	1800							
				Vmw	5-16-23	1650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/15/23

CHAIN-OF-CUSTODY / Analytical Request Document

GEO3000
VMW 5-16-23

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

Page: 2 of 9

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, UST, RCRA, OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G08!L																													
2	DC_G09!L																													
3	DC_G12!L																													
4	DC_G12#S																													
5	DC_G14!L																													
6	DC_G15!L																													
7	DC_G16!L																													
8	DC_G50!L																													
9	DC_G50#S			5/15/23	1256		12																							
10	DC_G51!L																													
11	DC_G51#S			5/15/23	1126		12																							
12	DC_G52!L																													
13	DC_G52#S																													
14	DC_G53!L																													
15	DC_G53#S																													
16	DC_G54!L																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/15/23	1800							
				Vanessa Wagner	5-16-23	650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/15/23

CHAIN-OF-CUSTODY / Analytical Request Document

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GE03000
VMW 5-16-23

Page: 3 of 9

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
UST | RCRA | OTHER

Site Location STATE: IL

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G54#S																													
2	DC_G55!L																													
3	DC_G55#S																													
4	DC_G56!L																													
5	DC_G56#S																													
6	DC_G57!L																													
7	DC_G57#S																													
8	DC_G58!L																													
9	DC_G58#S																													
10	DC_G59!L			5/15/23	1552		18																							
11	DC_G59#S																													
12	DC_G60!L																													
13	DC_G60#S																													
14	DC_G61#S																													
15	~~DC_G62!L~~ FB #8			5/15/23	1750		10																							
16	~~DC_G63!L~~ FB #9			5/15/23	1750		12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/15/23	1800							
				Vanessa Wagner	5-16-23	650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Reed

SIGNATURE of SAMPLER: Joseph R Reed

DATE Signed (MM/DD/YY): 5/15/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Section B Section C

GE03000
VMW 5-16-23

DC-845-205

Required Client Information:		Required Project Information:		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
				Address:	see Section A
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Quote Reference:	
Phone:	(217) 753-8911	Project Name:		Project Manager:	
Fax:		Project Number:	2285	Profile #:	
Requested Due Date/TAT:	10 day				

REGULATORY AGENCY		
NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER
Site Location STATE:	IL	

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G63#S																													
2	DC_G64!L			5/15/23	1500		12																							
3	DC_G64#S																													
4	DC_G65!L																													
5	DC_G65#S																													
6	DC_G66!L																													
7	DC_G66#S																													
8	DC_G67!L																													
9	DC_G67#S																													
10	DC_G70!L																													
11	DC_G71!L																													
12	DC_G71#S																													
13	DC_G72!L																													
14	DC_G73!L																													
15	DC_L103																													
16	DC_OM01																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/15/23	1500							
				Vanessa Wagner	5-16-23	650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joe Reed
SIGNATURE of SAMPLER: Joseph R Reed
DATE Signed (MM/DD/YY): 5/15/23

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:

GE03000
VMW 5-16-23

Company: DC-845-205 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 STATE: IL
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM04#S																													
2	DC_OM05#S																													
3	DC_OM07																													
4	DC_OM08																													
5	DC_OM09																													
6	DC_OM10			5/15/23	1314		10																							
7	DC_OM12			5/15/23	1405		11																							
8	DC_OM15																													
9	DC_OM16																													
10	DC_OM17																													
11	DC_OM21			5/15/23	1324		10																							
12	DC_OM22#S																													
13	DC_OM22&D																													
14	DC_OM23#S																													
15	DC_OM23&D			5/15/23	1600		10																							
16	DC_OM24&D																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joseph R Reed	5/15/23	1900							
				Vanessa Wagner	5-16-23	650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joe Reed
SIGNATURE of SAMPLER: Joseph R Reed
DATE Signed (MM/DD/YY): 5/15/23

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

Section B Required Project Information: Report To: Brian Voelker

Section C Invoice Information: Attention: Jason Stuckey

Page: 6 of 9

GEO3000
Vmw 5-16-23

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 STATE: IL
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM25#S																													
2	DC_OM25&D																													
3	DC_OR02																													
4	DC_OR03#S																													
5	DC_OR03&D																													
6	DC_OR04&D																													
7	DC_OR05&D																													
8	DC_OR06!A																													
9	DC_OR11			5/15/23	1233		11																							
10	DC_OR13#S																													
11	DC_OR13&D																													
12	DC_OR14#S																													
13	DC_OR14&D			5/15/23	1135		11																							
14	DC_OR18																													
15	DC_OR19			5/15/23	1528		11																							
16	DC_OR20			5/15/23	1110		11																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	Joe Joseph R Reed	5/15/23	1800							
				Vam Wagner	5-16-23	650	0.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Joe Reed
SIGNATURE of SAMPLER: Joseph R Reed
DATE Signed (MM/DD/YY): 5/15/23

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

Page: 7 of 9

REGULATORY AGENCY

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

Required Project Information:

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

Invoice Information:

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

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL

6E03280 gef

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_G63#S																													
2	DC_G64!L																													
3	DC_G64#S																													
4	DC_G65!L																													
5	DC_G65#S																													
6	DC_G66!L																													
7	DC_G66#S																													
8	DC_G67!L																													
9	DC_G67#S																													
10	DC_G70!L																													
11	DC_G71!L																													
12	DC_G71#S																													
13	DC_G72!L RS	WT	G	5/16/23	1525		1	X																						
14	DC_G73!L																													
15	DC_L103																													
16	DC_OM01	WT	G	5/16/23	1048		12	X	X	X																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/16/23	1747							
					5/16/23	17:47	5.5	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Kimberlin

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 05/16/23

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:

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 #:	

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL

GE03280 gef

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM04#S	WT	G	5/16/23	1215		10	X	X	X																	
2	DC_OM05#S																										
3	DC_OM07																										
4	DC_OM08																										
5	DC_OM09																										
6	DC_OM10																										
7	DC_OM12																										
8	DC_OM15																										
9	DC_OM16																										
10	DC_OM17																										
11	DC_OM21																										
12	DC_OM22#S																										
13	DC_OM22&D																										
14	DC_OM23#S																										
15	DC_OM23&D																										
16	DC_OM24&D	WT	G	5/16/23	1458		10	X	X	X																	

MS 5-31-23
DUP

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/16/23	1747							
					5/16/23	17:45	5.5	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Pemberton
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 05/16/23

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 #:	

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL

GE03282 gef

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM25#S																													
2	DC_OM25&D																													
3	DC_OR02	WT	G	5/16/23	1214		10	X	X	X																				
4	DC_OR03#S						~~10~~																							
5	DC_OR03&D	WT	G	5/16/23	1336		10	X	X	X																				
6	DC_OR04&D	WT	G	5/16/23	1055		10	X	X	X																				
7	DC_OR05&D																													
8	DC_OR06!A																													
9	DC_OR11																													
10	DC_OR13#S																													
11	DC_OR13&D																													
12	DC_OR14#S																													
13	DC_OR14&D																													
14	DC_OR18																													
15	DC_OR19																													
16	DC_OR20																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0	[signature]	05/16/23	1747							
				Grace [signature]	5/16/23	17:47	5.5	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Henderson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 05/16/23

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 #:	

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: IL

GE03280 gef

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44IL																													
2	DC_T45IL																													
3	DC_T46IL																													
4	DC_X301_leachate RS	WT	G	5/16/23	1539		1	X																						
5	Equipment Blank 7 RS	WT	G	5/16/23	1545		1	X																						
6	Equipment Blank 10	WT	G	5/16/23	1741		10	X	X	X																				
7	Equipment Blank 11	WT	G	5/16/23	1726		12	X	X	X																				
8	BA03 + EQ DUP RS 5/31/23	WT	G	5/16/23	1423		2	X																						
9	BA03L RS	WT	G	5/16/23	1446		1	X																						
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/16/23	1747							
					5/16/23	17:47	5.5	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 05/16/23

Company: Vistra Corp	Report To: Brian Voelker	Attention: Jason Stuckey	REGULATORY AGENCY
Address: 13498 E. 900th St	Copy To: Jason Stuckey	Company Name: Vistra Corp	NPDES / GROUND WATER / DRINKING WATER
		Address: see Section A	UST / RCRA / OTHER
Email To: Brian.Voelker@VistraCorp.com	Purchase Order No.:	Quote Reference:	Site Location STATE: IL
Phone: (217) 753-8911 Fax:	Project Name:	Project Manager:	GE03G19
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM04#S																											
2	DC_OM05#S																											
3	DC_OM07	WT	G	5/17/23	1213		10	X	XX																			
4	DC_OM08																											
5	DC_OM09																											
6	DC_OM10																											
7	DC_OM12																											
8	DC_OM15																											
9	DC_OM16																											
10	DC_OM17																											
11	DC_OM21																											
12	DC_OM22#S																											
13	DC_OM22&D	WT	G	5/17/23	1655		10	X	XX																			
14	DC_OM23#S																											
15	DC_OM23&D																											
16	DC_OM24&D																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/17/23	1814		5-17-23	1814	14.4	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Pemberton
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 05/17/23

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

Section B
Required Project Information:
Report To: Brian Voelker

Section C
Invoice Information:
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 STATE: IL
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	GE036619

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_OM25#S																											
2	DC_OM25&D																											
3	DC_OR02																											
4	DC_OR03#S																											
5	DC_OR03&D																											
6	DC_OR04&D																											
7	DC_OR05&D																											
8	DC_OR06!A	WT	G	5/17/23	1345		10	x	x	x																		
9	DC_OR11																											
10	DC_OR13#S	WT	G	5/17/23	1520		10	x	x	x																		
11	DC_OR13&D																											
12	DC_OR14#S																											
13	DC_OR14&D																											
14	DC_OR18																											
15	DC_OR19																											
16	DC_OR20																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/17/23	1814		5-17-23	1814	14.4	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Pemberton
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 05/17/23

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 7 of 9

Section A
Required Client Information:
Company: Vistra Corp
Address: 13498 E. 900th St

Section B
Required Project Information:
Report To: Brian Voelker
Copy To: Jason Stuckey

Section C
Invoice Information:
Attention: Jason Stuckey
Company Name: Vistra Corp

REGULATORY AGENCY

Phone: (217) 753-8911	Fax:	Project Name:	Project Manager:	Site Location STATE:	IL
Requested Due Date/TAT: 10 day		Project Number: 2285	Profile #:		

GE03619

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DC_257_203	DC_257_204	DC_257_205	DC_811_204	DC_845_201-202	DC_845_203	DC_845_205	DC_CLOSURE_201-202	DC_SUP_000	DC_WPCP_203-206			Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	DC_T44!L																													
2	DC_T45!L																													
3	DC_T46!L																													
4	DC_X301_leachate																													
5	G605 Resample	WT	G	5/17/23	1027		1	X																						
6	Equipment Blank 12	WT	G	5/17/23	1708		10	X	X	X																				
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-23Q2-Rev 0		5/17/23	1814							
					5-17-23	1814	14.4	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Pimbetter
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 05/17/23

ATTACHMENT C
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND
QUARTER 2 2023

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA01	UA	E001	Antimony, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.003	0.003
BA01	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/11/23	9	11	CI around mean	0.00103	0.024
BA01	UA	E001	Barium, total	mg/L	02/05/16 - 05/11/23	9	0	CI around mean	0.136	0.48
BA01	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.0021
BA01	UA	E001	Boron, total	mg/L	02/05/16 - 05/11/23	21	0	CI around median	0.021	7.9
BA01	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.001
BA01	UA	E001	Chloride, total	mg/L	02/05/16 - 05/11/23	21	0	CI around median	10	700
BA01	UA	E001	Chromium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.004	0.073
BA01	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/11/23	9	78	CI around median	0.002	0.03
BA01	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/11/23	21	52	CI around median	0.25	0.461
BA01	UA	E001	Lead, total	mg/L	02/05/16 - 05/11/23	9	22	CI around geomean	0.00184	0.042
BA01	UA	E001	Lithium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.02	0.068
BA01	UA	E001	Mercury, total	mg/L	02/05/16 - 05/11/23	9	89	Most recent sample	0.0002	0.004
BA01	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/11/23	9	0	CI around median	0.0019	0.0055
BA01	UA	E001	pH (field)	SU	02/05/16 - 05/11/23	25	0	CI around median	6.8/7.0	6.4/7.5
BA01	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/11/23	9	0	CI around mean	0.448	7.27
BA01	UA	E001	Selenium, total	mg/L	02/05/16 - 05/11/23	8	100	All ND - Last	0.001	0.0023
BA01	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/11/23	21	0	CI around mean	129	890
BA01	UA	E001	Thallium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.001
BA01	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/11/23	21	0	CI around mean	525	2,590
BA02	UA	E001	Antimony, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.003	0.003
BA02	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/15/23	9	11	CI around mean	0.000936	0.024
BA02	UA	E001	Barium, total	mg/L	02/05/16 - 05/15/23	9	0	CI around mean	0.184	0.48
BA02	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/15/23	9	89	CI around median	0.001	0.0021
BA02	UA	E001	Boron, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	0.0482	7.9
BA02	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.001	0.001
BA02	UA	E001	Chloride, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	9	700

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA02	UA	E001	Chromium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.004	0.073
BA02	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.002	0.03
BA02	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/15/23	21	81	CI around median	0.25	0.461
BA02	UA	E001	Lead, total	mg/L	02/05/16 - 05/15/23	9	67	CI around median	0.001	0.042
BA02	UA	E001	Lithium, total	mg/L	02/05/16 - 05/15/23	9	100	All ND - Last	0.02	0.068
BA02	UA	E001	Mercury, total	mg/L	02/05/16 - 05/15/23	9	89	CI around median	0.0002	0.004
BA02	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/15/23	9	0	CI around mean	0.00371	0.0055
BA02	UA	E001	pH (field)	SU	02/05/16 - 05/15/23	22	0	CI around median	6.9/7.3	6.4/7.5
BA02	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/15/23	9	0	CI around mean	0.462	7.27
BA02	UA	E001	Selenium, total	mg/L	02/05/16 - 05/15/23	9	78	CI around median	0.001	0.0023
BA02	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/15/23	21	0	CB around linear reg	11.4	890
BA02	UA	E001	Thallium, total	mg/L	02/05/16 - 05/15/23	9	89	Most recent sample	0.001	0.001
BA02	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/15/23	21	0	CI around mean	434	2,590
BA02L	UA/PMP	E001	Antimony, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.003	0.003
BA02L	UA/PMP	E001	Arsenic, total	mg/L	04/14/21 - 05/10/23	9	0	CI around mean	0.0102	0.024
BA02L	UA/PMP	E001	Barium, total	mg/L	04/14/21 - 05/10/23	9	0	CI around median	0.046	0.48
BA02L	UA/PMP	E001	Beryllium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.0021
BA02L	UA/PMP	E001	Boron, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	0.0779	7.9
BA02L	UA/PMP	E001	Cadmium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA02L	UA/PMP	E001	Chloride, total	mg/L	04/14/21 - 05/10/23	10	0	CB around linear reg	0.0094	700
BA02L	UA/PMP	E001	Chromium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.004	0.073
BA02L	UA/PMP	E001	Cobalt, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.002	0.03
BA02L	UA/PMP	E001	Fluoride, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	0.506	0.461
BA02L	UA/PMP	E001	Lead, total	mg/L	04/14/21 - 05/10/23	9	78	CI around median	0.001	0.042
BA02L	UA/PMP	E001	Lithium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.02	0.068
BA02L	UA/PMP	E001	Mercury, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.0002	0.004
BA02L	UA/PMP	E001	Molybdenum, total	mg/L	04/14/21 - 05/10/23	9	0	CI around mean	0.00894	0.0055

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA02L	UA/PMP	E001	pH (field)	SU	04/14/21 - 05/10/23	10	0	CI around mean	7.2/7.6	6.4/7.5
BA02L	UA/PMP	E001	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 05/10/23	8	0	CI around mean	-0.00325	7.27
BA02L	UA/PMP	E001	Selenium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.0023
BA02L	UA/PMP	E001	Sulfate, total	mg/L	04/14/21 - 05/10/23	10	0	CI around geomean	2.43	890
BA02L	UA/PMP	E001	Thallium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA02L	UA/PMP	E001	Total Dissolved Solids	mg/L	04/14/21 - 05/10/23	10	0	CI around geomean	196	2,590
BA03	UA	E001	Antimony, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.003	0.003
BA03	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/10/23	9	78	CI around median	0.001	0.024
BA03	UA	E001	Barium, total	mg/L	02/05/16 - 05/10/23	9	0	CI around mean	0.172	0.48
BA03	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.0021
BA03	UA	E001	Boron, total	mg/L	02/05/16 - 05/10/23	21	0	CI around mean	0.0252	7.9
BA03	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA03	UA	E001	Chloride, total	mg/L	02/05/16 - 05/10/23	21	0	CI around median	5.9	700
BA03	UA	E001	Chromium, total	mg/L	02/05/16 - 05/10/23	9	78	CI around median	0.004	0.073
BA03	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.002	0.03
BA03	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/10/23	21	52	CI around median	0.25	0.461
BA03	UA	E001	Lead, total	mg/L	02/05/16 - 05/10/23	9	67	CI around median	0.001	0.042
BA03	UA	E001	Lithium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.02	0.068
BA03	UA	E001	Mercury, total	mg/L	02/05/16 - 05/10/23	9	89	CI around median	0.0002	0.004
BA03	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/10/23	9	11	CI around mean	0.00158	0.0055
BA03	UA	E001	pH (field)	SU	02/05/16 - 05/10/23	23	0	CI around mean	7.1/7.3	6.4/7.5
BA03	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/10/23	9	0	CI around mean	0.433	7.27
BA03	UA	E001	Selenium, total	mg/L	02/05/16 - 05/10/23	9	56	CI around median	0.001	0.0023
BA03	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/10/23	21	0	CB around linear reg	14.3	890
BA03	UA	E001	Thallium, total	mg/L	02/05/16 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA03	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/10/23	21	0	CB around linear reg	435	2,590
BA03L	UA/PMP	E001	Antimony, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.003	0.003

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA03L	UA/PMP	E001	Arsenic, total	mg/L	04/14/21 - 05/10/23	9	67	CI around median	0.001	0.024
BA03L	UA/PMP	E001	Barium, total	mg/L	04/14/21 - 05/10/23	9	0	CI around median	0.13	0.48
BA03L	UA/PMP	E001	Beryllium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.001	0.0021
BA03L	UA/PMP	E001	Boron, total	mg/L	04/14/21 - 05/10/23	10	0	CB around linear reg	0.364	7.9
BA03L	UA/PMP	E001	Cadmium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA03L	UA/PMP	E001	Chloride, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	21.5	700
BA03L	UA/PMP	E001	Chromium, total	mg/L	04/14/21 - 05/10/23	9	33	CI around median	0.004	0.073
BA03L	UA/PMP	E001	Cobalt, total	mg/L	04/14/21 - 05/10/23	9	78	CI around median	0.002	0.03
BA03L	UA/PMP	E001	Fluoride, total	mg/L	04/14/21 - 05/10/23	10	70	CI around median	0.25	0.461
BA03L	UA/PMP	E001	Lead, total	mg/L	04/14/21 - 05/10/23	9	44	CI around median	0.001	0.042
BA03L	UA/PMP	E001	Lithium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.02	0.068
BA03L	UA/PMP	E001	Mercury, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.0002	0.004
BA03L	UA/PMP	E001	Molybdenum, total	mg/L	04/14/21 - 05/10/23	9	44	CI around median	0.001	0.0055
BA03L	UA/PMP	E001	pH (field)	SU	04/14/21 - 05/10/23	10	0	CI around mean	6.8/6.9	6.4/7.5
BA03L	UA/PMP	E001	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 05/10/23	8	0	CI around geomean	0.27	7.27
BA03L	UA/PMP	E001	Selenium, total	mg/L	04/14/21 - 05/10/23	9	89	CI around median	0.001	0.0023
BA03L	UA/PMP	E001	Sulfate, total	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	342	890
BA03L	UA/PMP	E001	Thallium, total	mg/L	04/14/21 - 05/10/23	9	100	All ND - Last	0.001	0.001
BA03L	UA/PMP	E001	Total Dissolved Solids	mg/L	04/14/21 - 05/10/23	10	0	CI around mean	971	2,590
BA04	UA	E001	Antimony, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.003	0.003
BA04	UA	E001	Arsenic, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.024
BA04	UA	E001	Barium, total	mg/L	02/05/16 - 05/11/23	9	0	CI around mean	0.1	0.48
BA04	UA	E001	Beryllium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.0021
BA04	UA	E001	Boron, total	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	0.305	7.9
BA04	UA	E001	Cadmium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.001	0.001
BA04	UA	E001	Chloride, total	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	34	700
BA04	UA	E001	Chromium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.004	0.073

ATTACHMENT C.
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845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA04	UA	E001	Cobalt, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.002	0.03
BA04	UA	E001	Fluoride, total	mg/L	02/05/16 - 05/11/23	21	14	CI around median	0.268	0.461
BA04	UA	E001	Lead, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.042
BA04	UA	E001	Lithium, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.02	0.068
BA04	UA	E001	Mercury, total	mg/L	02/05/16 - 05/11/23	9	100	All ND - Last	0.0002	0.004
BA04	UA	E001	Molybdenum, total	mg/L	02/05/16 - 05/11/23	9	0	CI around geomean	0.0017	0.0055
BA04	UA	E001	pH (field)	SU	02/05/16 - 05/11/23	22	0	CI around mean	7.0/7.2	6.4/7.5
BA04	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 05/11/23	9	0	CI around mean	0.316	7.27
BA04	UA	E001	Selenium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.0023
BA04	UA	E001	Sulfate, total	mg/L	02/05/16 - 05/11/23	21	0	CB around linear reg	123	890
BA04	UA	E001	Thallium, total	mg/L	02/05/16 - 05/11/23	9	89	CI around median	0.001	0.001
BA04	UA	E001	Total Dissolved Solids	mg/L	02/05/16 - 05/11/23	21	0	CB around T-S line	670	2,590

Notes:
Lower Confidence Limit (LCL) or Upper Confidence Limit (UCL) exceeded the statistical background value
HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UA/PMP = Uppermost Aquifer/Potential Migration Pathway

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 Statistical Analysis Plan using constituent concentrations observed at 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