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

November 2, 2024

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.) § 845.610(b)(3)(D), Illinois Power Resources Generating, LLC is submitting groundwater monitoring data for the Quarter 3, 2024 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 statistical exceedances of the GWPS.

Sincerely,

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

Enclosures

Groundwater Monitoring Data and Detected Exceedances, Quarter 3, 2024, Bottom Ash Basin, Duck Creek Power Plant, Canton, Illinois

35 I.A.C. § 845.610(b)(3)(D)
GROUNDWATER MONITORING DATA AND DETECTED EXCEEDANCES
QUARTER 3, 2024
BOTTOM ASH BASIN, DUCK CREEK POWER PLANT, CANTON, ILLINOIS

November 2, 2024

Samples were collected between July 23 and 29, 2024 and analyzed for the parameters listed in Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.600(a), calcium, and turbidity. Final laboratory analytical data was received on September 3, 2024.

The monitoring well locations are included in **Figure 1**. **Attachment A** summarizes the groundwater elevation data for the Quarter 3, 2024 sampling event. **Table 1** is a summary of the field parameters and analytical results. **Attachment B** contains the associated laboratory analytical reports and field data sheets for the Quarter 3, 2024 sampling event.

Statistical procedures used to evaluate groundwater results are provided in Appendix A of the Groundwater Monitoring Plan[1] included in the operating permit application. In accordance with 35 I.A.C. § 845.610(b)(3)(B), the Quarter 3, 2024 groundwater monitoring data were evaluated for statistical exceedances over background levels for the constituents listed in 35 I.A.C. § 845.600. **Attachment C** shows the statistically derived values compared to background levels.

In accordance with 35 I.A.C. § 845.610(b)(3)(C), the statistically derived values identified as Statistical Results in **Table 2** were compared with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine statistical exceedances of the GWPS. As shown in **Table 2**, no exceedances were 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 3, 2024
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA05	Background	E006	07/25/2024	Antimony, total	0.00043 U	mg/L
BA05	Background	E006	07/25/2024	Arsenic, total	0.00320	mg/L
BA05	Background	E006	07/25/2024	Barium, total	0.0490	mg/L
BA05	Background	E006	07/25/2024	Beryllium, total	0.00059 U	mg/L
BA05	Background	E006	07/25/2024	Boron, total	0.0830	mg/L
BA05	Background	E006	07/25/2024	Cadmium, total	0.00074 U	mg/L
BA05	Background	E006	07/25/2024	Calcium, total	200	mg/L
BA05	Background	E006	07/25/2024	Chloride, total	9.10	mg/L
BA05	Background	E006	07/25/2024	Chromium, total	0.0028 U	mg/L
BA05	Background	E006	07/25/2024	Cobalt, total	0.0006 J	mg/L
BA05	Background	E006	07/25/2024	Dissolved Oxygen	3.30	mg/L
BA05	Background	E006	07/25/2024	Fluoride, total	0.25 UJ	mg/L
BA05	Background	E006	07/25/2024	Lead, total	0.00022 U	mg/L
BA05	Background	E006	07/25/2024	Lithium, total	0.0061 J	mg/L
BA05	Background	E006	07/25/2024	Mercury, total	0.00014 U	mg/L
BA05	Background	E006	07/25/2024	Molybdenum, total	0.00160	mg/L
BA05	Background	E006	07/25/2024	Oxidation Reduction Potential	-55.0	mV
BA05	Background	E006	07/25/2024	pH (field)	7.0	SU
BA05	Background	E006	07/25/2024	Radium 226 + Radium 228, total	0.608	pCi/L
BA05	Background	E006	07/25/2024	Selenium, total	0.00074 U	mg/L
BA05	Background	E006	07/25/2024	Specific Conductance @ 25C (field)	1,050	micromhos/cm
BA05	Background	E006	07/25/2024	Sulfate, total	480	mg/L
BA05	Background	E006	07/25/2024	Temperature	20.0	degrees C
BA05	Background	E006	07/25/2024	Thallium, total	0.00038 U	mg/L
BA05	Background	E006	07/25/2024	Total Dissolved Solids	1,300	mg/L
BA05	Background	E006	07/25/2024	Turbidity, field	29.0	NTU
BA06	Background	E006	07/25/2024	Antimony, total	0.00043 U	mg/L
BA06	Background	E006	07/25/2024	Arsenic, total	0.00170	mg/L
BA06	Background	E006	07/25/2024	Barium, total	0.0990	mg/L
BA06	Background	E006	07/25/2024	Beryllium, total	0.00059 U	mg/L
BA06	Background	E006	07/25/2024	Boron, total	15.0	mg/L
BA06	Background	E006	07/25/2024	Cadmium, total	0.00074 U	mg/L
BA06	Background	E006	07/25/2024	Calcium, total	310	mg/L
BA06	Background	E006	07/25/2024	Chloride, total	590	mg/L
BA06	Background	E006	07/25/2024	Chromium, total	0.0028 U	mg/L
BA06	Background	E006	07/25/2024	Cobalt, total	0.00380	mg/L
BA06	Background	E006	07/25/2024	Dissolved Oxygen	0	mg/L
BA06	Background	E006	07/25/2024	Fluoride, total	0.274 J+	mg/L
BA06	Background	E006	07/25/2024	Lead, total	0.00034 J	mg/L
BA06	Background	E006	07/25/2024	Lithium, total	0.0054 J	mg/L
BA06	Background	E006	07/25/2024	Mercury, total	0.00014 U	mg/L
BA06	Background	E006	07/25/2024	Molybdenum, total	0.00110	mg/L
BA06	Background	E006	07/25/2024	Oxidation Reduction Potential	-48.0	mV
BA06	Background	E006	07/25/2024	pH (field)	7.7	SU
BA06	Background	E006	07/25/2024	Radium 226 + Radium 228, total	0.653	pCi/L
BA06	Background	E006	07/25/2024	Selenium, total	0.00074 U	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2024
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA06	Background	E006	07/25/2024	Specific Conductance @ 25C (field)	2,061	micromhos/cm
BA06	Background	E006	07/25/2024	Sulfate, total	390	mg/L
BA06	Background	E006	07/25/2024	Temperature	16.2	degrees C
BA06	Background	E006	07/25/2024	Thallium, total	0.00038 U	mg/L
BA06	Background	E006	07/25/2024	Total Dissolved Solids	1,900	mg/L
BA06	Background	E006	07/25/2024	Turbidity, field	91.8	NTU
BA01	Compliance	E006	07/23/2024	Antimony, total	0.00043 U	mg/L
BA01	Compliance	E006	07/23/2024	Arsenic, total	0.00140	mg/L
BA01	Compliance	E006	07/23/2024	Barium, total	0.120	mg/L
BA01	Compliance	E006	07/23/2024	Beryllium, total	0.00059 U	mg/L
BA01	Compliance	E006	07/23/2024	Boron, total	0.0220	mg/L
BA01	Compliance	E006	07/23/2024	Cadmium, total	0.00074 U	mg/L
BA01	Compliance	E006	07/23/2024	Calcium, total	120	mg/L
BA01	Compliance	E006	07/23/2024	Chloride, total	20.0	mg/L
BA01	Compliance	E006	07/23/2024	Chromium, total	0.0028 U	mg/L
BA01	Compliance	E006	07/23/2024	Cobalt, total	0.00078 J	mg/L
BA01	Compliance	E006	07/23/2024	Dissolved Oxygen	0	mg/L
BA01	Compliance	E006	07/23/2024	Fluoride, total	0.25 UJ	mg/L
BA01	Compliance	E006	07/23/2024	Lead, total	0.00022 U	mg/L
BA01	Compliance	E006	07/23/2024	Lithium, total	0.005 U	mg/L
BA01	Compliance	E006	07/23/2024	Mercury, total	0.00014 U	mg/L
BA01	Compliance	E006	07/23/2024	Molybdenum, total	0.00094 J	mg/L
BA01	Compliance	E006	07/23/2024	Oxidation Reduction Potential	-52.0	mV
BA01	Compliance	E006	07/23/2024	pH (field)	7.2	SU
BA01	Compliance	E006	07/23/2024	Radium 226 + Radium 228, total	0.789	pCi/L
BA01	Compliance	E006	07/23/2024	Selenium, total	0.00074 U	mg/L
BA01	Compliance	E006	07/23/2024	Specific Conductance @ 25C (field)	888	micromhos/cm
BA01	Compliance	E006	07/23/2024	Sulfate, total	150	mg/L
BA01	Compliance	E006	07/23/2024	Temperature	19.4	degrees C
BA01	Compliance	E006	07/23/2024	Thallium, total	0.00038 U	mg/L
BA01	Compliance	E006	07/23/2024	Total Dissolved Solids	700	mg/L
BA01	Compliance	E006	07/23/2024	Turbidity, field	0 U	NTU
BA02	Compliance	E006	07/23/2024	Antimony, total	0.00043 U	mg/L
BA02	Compliance	E006	07/23/2024	Arsenic, total	0.00110	mg/L
BA02	Compliance	E006	07/23/2024	Barium, total	0.210	mg/L
BA02	Compliance	E006	07/23/2024	Beryllium, total	0.00059 U	mg/L
BA02	Compliance	E006	07/23/2024	Boron, total	0.0600	mg/L
BA02	Compliance	E006	07/23/2024	Cadmium, total	0.00074 U	mg/L
BA02	Compliance	E006	07/23/2024	Calcium, total	94.0	mg/L
BA02	Compliance	E006	07/23/2024	Chloride, total	11.0	mg/L
BA02	Compliance	E006	07/23/2024	Chromium, total	0.0028 U	mg/L
BA02	Compliance	E006	07/23/2024	Cobalt, total	0.00048 U	mg/L
BA02	Compliance	E006	07/23/2024	Dissolved Oxygen	0	mg/L
BA02	Compliance	E006	07/23/2024	Fluoride, total	0.25 UJ	mg/L
BA02	Compliance	E006	07/23/2024	Lead, total	0.00022 U	mg/L
BA02	Compliance	E006	07/23/2024	Lithium, total	0.005 U	mg/L

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CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA02	Compliance	E006	07/23/2024	Mercury, total	0.00014 U	mg/L
BA02	Compliance	E006	07/23/2024	Molybdenum, total	0.00450	mg/L
BA02	Compliance	E006	07/23/2024	Oxidation Reduction Potential	-28.0	mV
BA02	Compliance	E006	07/23/2024	pH (field)	7.1	SU
BA02	Compliance	E006	07/23/2024	Radium 226 + Radium 228, total	1.22	pCi/L
BA02	Compliance	E006	07/23/2024	Selenium, total	0.00074 U	mg/L
BA02	Compliance	E006	07/23/2024	Specific Conductance @ 25C (field)	832	micromhos/cm
BA02	Compliance	E006	07/23/2024	Sulfate, total	14.0	mg/L
BA02	Compliance	E006	07/23/2024	Temperature	21.2	degrees C
BA02	Compliance	E006	07/23/2024	Thallium, total	0.00038 U	mg/L
BA02	Compliance	E006	07/23/2024	Total Dissolved Solids	520	mg/L
BA02	Compliance	E006	07/23/2024	Turbidity, field	16.9	NTU
BA02L	Compliance	E006	07/29/2024	Antimony, total	0.00043 U	mg/L
BA02L	Compliance	E006	07/29/2024	Arsenic, total	0.0150	mg/L
BA02L	Compliance	E006	07/29/2024	Barium, total	0.0890	mg/L
BA02L	Compliance	E006	07/29/2024	Beryllium, total	0.00059 U	mg/L
BA02L	Compliance	E006	07/29/2024	Boron, total	0.0660	mg/L
BA02L	Compliance	E006	07/29/2024	Cadmium, total	0.00074 U	mg/L
BA02L	Compliance	E006	07/29/2024	Calcium, total	65.0	mg/L
BA02L	Compliance	E006	07/29/2024	Chloride, total	4.00	mg/L
BA02L	Compliance	E006	07/29/2024	Chromium, total	0.0028 U	mg/L
BA02L	Compliance	E006	07/29/2024	Cobalt, total	0.0019 J	mg/L
BA02L	Compliance	E006	07/29/2024	Dissolved Oxygen	0.840	mg/L
BA02L	Compliance	E006	07/29/2024	Fluoride, total	0.495	mg/L
BA02L	Compliance	E006	07/29/2024	Lead, total	0.00180	mg/L
BA02L	Compliance	E006	07/29/2024	Lithium, total	0.005 U	mg/L
BA02L	Compliance	E006	07/29/2024	Mercury, total	0.00014 U	mg/L
BA02L	Compliance	E006	07/29/2024	Molybdenum, total	0.00240	mg/L
BA02L	Compliance	E006	07/29/2024	Oxidation Reduction Potential	-132	mV
BA02L	Compliance	E006	07/29/2024	pH (field)	6.8	SU
BA02L	Compliance	E006	07/29/2024	Radium 226 + Radium 228, total	0.621	pCi/L
BA02L	Compliance	E006	07/29/2024	Selenium, total	0.00074 U	mg/L
BA02L	Compliance	E006	07/29/2024	Specific Conductance @ 25C (field)	523	micromhos/cm
BA02L	Compliance	E006	07/29/2024	Sulfate, total	3.40	mg/L
BA02L	Compliance	E006	07/29/2024	Temperature	24.3	degrees C
BA02L	Compliance	E006	07/29/2024	Thallium, total	0.00038 U	mg/L
BA02L	Compliance	E006	07/29/2024	Total Dissolved Solids	260	mg/L
BA02L	Compliance	E006	07/29/2024	Turbidity, field	464	NTU
BA03	Compliance	E006	07/25/2024	Antimony, total	0.00043 U	mg/L
BA03	Compliance	E006	07/25/2024	Arsenic, total	0.00069 U	mg/L
BA03	Compliance	E006	07/25/2024	Barium, total	0.120	mg/L
BA03	Compliance	E006	07/25/2024	Beryllium, total	0.00059 U	mg/L
BA03	Compliance	E006	07/25/2024	Boron, total	0.0180	mg/L
BA03	Compliance	E006	07/25/2024	Cadmium, total	0.00074 U	mg/L
BA03	Compliance	E006	07/25/2024	Calcium, total	99.0	mg/L
BA03	Compliance	E006	07/25/2024	Chloride, total	4.40	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	E006	07/25/2024	Chromium, total	0.0028 U	mg/L
BA03	Compliance	E006	07/25/2024	Cobalt, total	0.00048 U	mg/L
BA03	Compliance	E006	07/25/2024	Dissolved Oxygen	2.00	mg/L
BA03	Compliance	E006	07/25/2024	Fluoride, total	0.172 J	mg/L
BA03	Compliance	E006	07/25/2024	Lead, total	0.00022 U	mg/L
BA03	Compliance	E006	07/25/2024	Lithium, total	0.005 U	mg/L
BA03	Compliance	E006	07/25/2024	Mercury, total	0.00014 U	mg/L
BA03	Compliance	E006	07/25/2024	Molybdenum, total	0.0009 J	mg/L
BA03	Compliance	E006	07/25/2024	Oxidation Reduction Potential	-4.00	mV
BA03	Compliance	E006	07/25/2024	pH (field)	7.1	SU
BA03	Compliance	E006	07/25/2024	Radium 226 + Radium 228, total	0.883	pCi/L
BA03	Compliance	E006	07/25/2024	Selenium, total	0.00074 U	mg/L
BA03	Compliance	E006	07/25/2024	Specific Conductance @ 25C (field)	748	micromhos/cm
BA03	Compliance	E006	07/25/2024	Sulfate, total	15.0	mg/L
BA03	Compliance	E006	07/25/2024	Temperature	21.9	degrees C
BA03	Compliance	E006	07/25/2024	Thallium, total	0.00038 U	mg/L
BA03	Compliance	E006	07/25/2024	Total Dissolved Solids	440	mg/L
BA03	Compliance	E006	07/25/2024	Turbidity, field	0 U	NTU
BA03L	Compliance	E006	07/24/2024	Antimony, total	0.00043 U	mg/L
BA03L	Compliance	E006	07/24/2024	Arsenic, total	0.00069 U	mg/L
BA03L	Compliance	E006	07/24/2024	Barium, total	0.130	mg/L
BA03L	Compliance	E006	07/24/2024	Beryllium, total	0.00059 U	mg/L
BA03L	Compliance	E006	07/24/2024	Boron, total	0.730	mg/L
BA03L	Compliance	E006	07/24/2024	Cadmium, total	0.00074 U	mg/L
BA03L	Compliance	E006	07/24/2024	Calcium, total	170	mg/L
BA03L	Compliance	E006	07/24/2024	Chloride, total	17.0	mg/L
BA03L	Compliance	E006	07/24/2024	Chromium, total	0.0028 J	mg/L
BA03L	Compliance	E006	07/24/2024	Cobalt, total	0.00048 U	mg/L
BA03L	Compliance	E006	07/24/2024	Dissolved Oxygen	0.280	mg/L
BA03L	Compliance	E006	07/24/2024	Fluoride, total	0.25 UJ	mg/L
BA03L	Compliance	E006	07/24/2024	Lead, total	0.00032 J	mg/L
BA03L	Compliance	E006	07/24/2024	Lithium, total	0.005 U	mg/L
BA03L	Compliance	E006	07/24/2024	Mercury, total	0.00014 U	mg/L
BA03L	Compliance	E006	07/24/2024	Molybdenum, total	0.00270	mg/L
BA03L	Compliance	E006	07/24/2024	Oxidation Reduction Potential	92.0	mV
BA03L	Compliance	E006	07/24/2024	pH (field)	7.1	SU
BA03L	Compliance	E006	07/24/2024	Radium 226 + Radium 228, total	0.876	pCi/L
BA03L	Compliance	E006	07/24/2024	Selenium, total	0.00074 U	mg/L
BA03L	Compliance	E006	07/24/2024	Specific Conductance @ 25C (field)	1,038	micromhos/cm
BA03L	Compliance	E006	07/24/2024	Sulfate, total	350	mg/L
BA03L	Compliance	E006	07/24/2024	Temperature	23.0	degrees C
BA03L	Compliance	E006	07/24/2024	Thallium, total	0.00038 U	mg/L
BA03L	Compliance	E006	08/05/2024	Total Dissolved Solids	1,100	mg/L
BA03L	Compliance	E006	07/24/2024	Turbidity, field	10.7	NTU
BA04	Compliance	E006	07/25/2024	Antimony, total	0.00046 J	mg/L
BA04	Compliance	E006	07/25/2024	Arsenic, total	0.00097 J	mg/L

TABLE 1.
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DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA04	Compliance	E006	07/25/2024	Barium, total	0.120	mg/L
BA04	Compliance	E006	07/25/2024	Beryllium, total	0.00059 U	mg/L
BA04	Compliance	E006	07/25/2024	Boron, total	0.270	mg/L
BA04	Compliance	E006	07/25/2024	Cadmium, total	0.00074 U	mg/L
BA04	Compliance	E006	07/25/2024	Calcium, total	140	mg/L
BA04	Compliance	E006	07/25/2024	Chloride, total	44.0	mg/L
BA04	Compliance	E006	07/25/2024	Chromium, total	0.0028 U	mg/L
BA04	Compliance	E006	07/25/2024	Cobalt, total	0.00500	mg/L
BA04	Compliance	E006	07/25/2024	Dissolved Oxygen	0.890	mg/L
BA04	Compliance	E006	07/25/2024	Fluoride, total	0.23 J	mg/L
BA04	Compliance	E006	07/25/2024	Lead, total	0.00022 U	mg/L
BA04	Compliance	E006	07/25/2024	Lithium, total	0.005 U	mg/L
BA04	Compliance	E006	07/25/2024	Mercury, total	0.00014 U	mg/L
BA04	Compliance	E006	07/25/2024	Molybdenum, total	0.00220	mg/L
BA04	Compliance	E006	07/25/2024	Oxidation Reduction Potential	-22.0	mV
BA04	Compliance	E006	07/25/2024	pH (field)	6.9	SU
BA04	Compliance	E006	07/25/2024	Radium 226 + Radium 228, total	0.379	pCi/L
BA04	Compliance	E006	07/25/2024	Selenium, total	0.00074 U	mg/L
BA04	Compliance	E006	07/25/2024	Specific Conductance @ 25C (field)	1,004	micromhos/cm
BA04	Compliance	E006	07/25/2024	Sulfate, total	180	mg/L
BA04	Compliance	E006	07/25/2024	Temperature	19.9	degrees C
BA04	Compliance	E006	07/25/2024	Thallium, total	0.00038 U	mg/L
BA04	Compliance	E006	07/25/2024	Total Dissolved Solids	740	mg/L
BA04	Compliance	E006	07/25/2024	Turbidity, field	0 U	NTU

Notes:
– = no data available
C = Celsius
cm = centimeter
mg/L = milligrams per liter
Missing Code (if applicable):
NR[1] = Select parameters were not analyzed.
NS[1] = This well has been, or will be, abandoned; therefore, a sample was not collected.
NS[2] = Well either needs or was undergoing maintenance, therefore, a sample was not collected.
NS[3] = A sample was not collected because the location was inaccessible.
NS[4] = The location could not be found, therefore a sample was not collected.
NS[5] = A sample was not collected because of damage to the well.
NS[6] = A sample was not collected because of pump issues.
NS[7] = A sample was not collected because the well was either dry or was purged dry and did not recover.
PM[1] = Select parameters were not analyzed as the well purged dry during sample collection and did not sufficiently recover to sample for all parameters.
mV = millivolts
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
SU = Standard Units
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, but the result may be biased high.
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2024
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	Compliance Result
BA01	UA	E006	Antimony, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA01	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/23/24	14	29	CI around geomean	0.000973	0.0240	Background	No Exceedance
BA01	UA	E006	Barium, total	mg/L	02/05/16 - 07/23/24	14	0	CB around T-S line	0.0645	2.0	Standard	No Exceedance
BA01	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA01	UA	E006	Boron, total	mg/L	02/05/16 - 07/23/24	26	0	CI around median	0.022	7.90	Background	No Exceedance
BA01	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA01	UA	E006	Chloride, total	mg/L	02/05/16 - 07/23/24	26	0	CB around T-S line	11.3	700	Background	No Exceedance
BA01	UA	E006	Chromium, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.004	0.1	Standard	No Exceedance
BA01	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/23/24	14	86	CI around median	0.002	0.0300	Background	No Exceedance
BA01	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/23/24	26	62	CI around median	0.25	4.0	Standard	No Exceedance
BA01	UA	E006	Lead, total	mg/L	02/05/16 - 07/23/24	14	50	CI around median	0.001	0.0420	Background	No Exceedance
BA01	UA	E006	Lithium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA01	UA	E006	Mercury, total	mg/L	02/05/16 - 07/23/24	14	93	Most recent sample	0.0002	0.002	Standard	No Exceedance
BA01	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/23/24	14	7	CB around T-S line	0.000326	0.1	Standard	No Exceedance
BA01	UA	E006	pH (field)	SU	02/05/16 - 07/23/24	30	0	CI around median	6.8/7.0	6.4/9.0	Background/Standard	No Exceedance
BA01	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/23/24	14	0	CI around mean	0.53	7.27	Background	No Exceedance
BA01	UA	E006	Selenium, total	mg/L	02/05/16 - 07/23/24	13	100	All ND - Last	0.001	0.05	Standard	No Exceedance
BA01	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	137	890	Background	No Exceedance
BA01	UA	E006	Thallium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA01	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/23/24	26	0	CB around T-S line	577	2,590	Background	No Exceedance
BA02	UA	E006	Antimony, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA02	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/23/24	14	7	CI around mean	0.00177	0.0240	Background	No Exceedance
BA02	UA	E006	Barium, total	mg/L	02/05/16 - 07/23/24	14	0	CI around mean	0.195	2.0	Standard	No Exceedance
BA02	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.001	0.004	Standard	No Exceedance
BA02	UA	E006	Boron, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	0.0494	7.90	Background	No Exceedance
BA02	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA02	UA	E006	Chloride, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	9.42	700	Background	No Exceedance

TABLE 2.
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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	Compliance Result
BA02	UA	E006	Chromium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.004	0.1	Standard	No Exceedance
BA02	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.002	0.0300	Background	No Exceedance
BA02	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/23/24	26	81	CI around median	0.25	4.0	Standard	No Exceedance
BA02	UA	E006	Lead, total	mg/L	02/05/16 - 07/23/24	14	79	CI around median	0.001	0.0420	Background	No Exceedance
BA02	UA	E006	Lithium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA02	UA	E006	Mercury, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.0002	0.002	Standard	No Exceedance
BA02	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/23/24	14	0	CI around mean	0.00407	0.1	Standard	No Exceedance
BA02	UA	E006	pH (field)	SU	02/05/16 - 07/23/24	27	0	CI around median	6.9/7.2	6.4/9.0	Background/Standard	No Exceedance
BA02	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/23/24	14	0	CI around mean	0.516	7.27	Background	No Exceedance
BA02	UA	E006	Selenium, total	mg/L	02/05/16 - 07/23/24	14	86	CI around median	0.001	0.05	Standard	No Exceedance
BA02	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	11.8	890	Background	No Exceedance
BA02	UA	E006	Thallium, total	mg/L	02/05/16 - 07/23/24	14	93	Most recent sample	0.001	0.002	Standard	No Exceedance
BA02	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	487	2,590	Background	No Exceedance
BA02L	UA/PMP	E006	Antimony, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA02L	UA/PMP	E006	Arsenic, total	mg/L	04/14/21 - 07/29/24	12	0	CI around mean	0.0104	0.0240	Background	No Exceedance
BA02L	UA/PMP	E006	Barium, total	mg/L	04/14/21 - 07/29/24	12	0	CI around mean	0.0482	2.0	Standard	No Exceedance
BA02L	UA/PMP	E006	Beryllium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA02L	UA/PMP	E006	Boron, total	mg/L	04/14/21 - 07/29/24	13	0	CI around mean	0.0739	7.90	Background	No Exceedance
BA02L	UA/PMP	E006	Cadmium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA02L	UA/PMP	E006	Chloride, total	mg/L	04/14/21 - 07/29/24	13	0	CB around linear reg	1.4	700	Background	No Exceedance
BA02L	UA/PMP	E006	Chromium, total	mg/L	04/14/21 - 07/29/24	12	92	CI around median	0.004	0.1	Standard	No Exceedance
BA02L	UA/PMP	E006	Cobalt, total	mg/L	04/14/21 - 07/29/24	12	75	CI around median	0.002	0.0300	Background	No Exceedance
BA02L	UA/PMP	E006	Fluoride, total	mg/L	04/14/21 - 07/29/24	13	0	CI around median	0.495	4.0	Standard	No Exceedance
BA02L	UA/PMP	E006	Lead, total	mg/L	04/14/21 - 07/29/24	12	58	CI around median	0.001	0.0420	Background	No Exceedance
BA02L	UA/PMP	E006	Lithium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA02L	UA/PMP	E006	Mercury, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
BA02L	UA/PMP	E006	Molybdenum, total	mg/L	04/14/21 - 07/29/24	12	0	CB around linear reg	-0.00198	0.1	Standard	No Exceedance

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
BA02L	UA/PMP	E006	pH (field)	SU	04/14/21 - 07/29/24	13	0	CB around linear reg	6.7/7.1	6.4/9.0	Background/Standard	No Exceedance
BA02L	UA/PMP	E006	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/29/24	11	0	CI around mean	0.269	7.27	Background	No Exceedance
BA02L	UA/PMP	E006	Selenium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
BA02L	UA/PMP	E006	Sulfate, total	mg/L	04/14/21 - 07/29/24	13	8	CI around geomean	1.9	890	Background	No Exceedance
BA02L	UA/PMP	E006	Thallium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA02L	UA/PMP	E006	Total Dissolved Solids	mg/L	04/14/21 - 07/29/24	13	0	CI around mean	208	2,590	Background	No Exceedance
BA03	UA	E006	Antimony, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA03	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.001	0.0240	Background	No Exceedance
BA03	UA	E006	Barium, total	mg/L	02/05/16 - 07/25/24	14	0	CB around linear reg	0.109	2.0	Standard	No Exceedance
BA03	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA03	UA	E006	Boron, total	mg/L	02/05/16 - 07/25/24	26	0	CI around mean	0.0251	7.90	Background	No Exceedance
BA03	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA03	UA	E006	Chloride, total	mg/L	02/05/16 - 07/25/24	26	0	CI around geomean	5.7	700	Background	No Exceedance
BA03	UA	E006	Chromium, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.004	0.1	Standard	No Exceedance
BA03	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.002	0.0300	Background	No Exceedance
BA03	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/25/24	26	58	CI around median	0.25	4.0	Standard	No Exceedance
BA03	UA	E006	Lead, total	mg/L	02/05/16 - 07/25/24	14	71	CI around median	0.001	0.0420	Background	No Exceedance
BA03	UA	E006	Lithium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA03	UA	E006	Mercury, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.0002	0.002	Standard	No Exceedance
BA03	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/25/24	14	14	CB around linear reg	-0.000753	0.1	Standard	No Exceedance
BA03	UA	E006	pH (field)	SU	02/05/16 - 07/25/24	28	0	CB around linear reg	6.7/7.1	6.4/9.0	Background/Standard	No Exceedance
BA03	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/25/24	14	0	CI around mean	0.615	7.27	Background	No Exceedance
BA03	UA	E006	Selenium, total	mg/L	02/05/16 - 07/25/24	14	43	CI around median	0.001	0.05	Standard	No Exceedance
BA03	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/25/24	26	0	CB around linear reg	14	890	Background	No Exceedance
BA03	UA	E006	Thallium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA03	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/25/24	26	0	CI around mean	416	2,590	Background	No Exceedance
BA03L	UA/PMP	E006	Antimony, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.003	0.006	Standard	No Exceedance

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CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
BA03L	UA/PMP	E006	Arsenic, total	mg/L	04/14/21 - 07/24/24	14	79	CI around median	0.001	0.0240	Background	No Exceedance
BA03L	UA/PMP	E006	Barium, total	mg/L	04/14/21 - 07/24/24	14	0	CI around median	0.12	2.0	Standard	No Exceedance
BA03L	UA/PMP	E006	Beryllium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.001	0.004	Standard	No Exceedance
BA03L	UA/PMP	E006	Boron, total	mg/L	04/14/21 - 07/24/24	15	0	CB around linear reg	0.349	7.90	Background	No Exceedance
BA03L	UA/PMP	E006	Cadmium, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA03L	UA/PMP	E006	Chloride, total	mg/L	04/14/21 - 07/24/24	15	0	CI around mean	18.5	700	Background	No Exceedance
BA03L	UA/PMP	E006	Chromium, total	mg/L	04/14/21 - 07/24/24	14	50	CI around median	0.004	0.1	Standard	No Exceedance
BA03L	UA/PMP	E006	Cobalt, total	mg/L	04/14/21 - 07/24/24	14	86	CI around median	0.002	0.0300	Background	No Exceedance
BA03L	UA/PMP	E006	Fluoride, total	mg/L	04/14/21 - 07/24/24	15	80	CI around median	0.25	4.0	Standard	No Exceedance
BA03L	UA/PMP	E006	Lead, total	mg/L	04/14/21 - 07/24/24	14	57	CI around median	0.001	0.0420	Background	No Exceedance
BA03L	UA/PMP	E006	Lithium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.02	0.0680	Background	No Exceedance
BA03L	UA/PMP	E006	Mercury, total	mg/L	04/14/21 - 07/24/24	14	86	CI around median	0.0002	0.002	Standard	No Exceedance
BA03L	UA/PMP	E006	Molybdenum, total	mg/L	04/14/21 - 07/24/24	14	36	CI around median	0.001	0.1	Standard	No Exceedance
BA03L	UA/PMP	E006	pH (field)	SU	04/14/21 - 07/24/24	15	0	CI around mean	6.7/6.9	6.4/9.0	Background/Standard	No Exceedance
BA03L	UA/PMP	E006	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/24/24	13	0	CI around geomean	0.347	7.27	Background	No Exceedance
BA03L	UA/PMP	E006	Selenium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.001	0.05	Standard	No Exceedance
BA03L	UA/PMP	E006	Sulfate, total	mg/L	04/14/21 - 07/24/24	15	0	CI around mean	348	890	Background	No Exceedance
BA03L	UA/PMP	E006	Thallium, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA03L	UA/PMP	E006	Total Dissolved Solids	mg/L	04/14/21 - 08/05/24	15	0	CI around median	960	2,590	Background	No Exceedance
BA04	UA	E006	Antimony, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA04	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.001	0.0240	Background	No Exceedance
BA04	UA	E006	Barium, total	mg/L	02/05/16 - 07/25/24	14	0	CI around mean	0.102	2.0	Standard	No Exceedance
BA04	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA04	UA	E006	Boron, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	0.301	7.90	Background	No Exceedance
BA04	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA04	UA	E006	Chloride, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	42.3	700	Background	No Exceedance
BA04	UA	E006	Chromium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.004	0.1	Standard	No Exceedance

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BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
BA04	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.002	0.0300	Background	No Exceedance
BA04	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/25/24	26	27	CB around linear reg	0.224	4.0	Standard	No Exceedance
BA04	UA	E006	Lead, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.0420	Background	No Exceedance
BA04	UA	E006	Lithium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA04	UA	E006	Mercury, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
BA04	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/25/24	14	0	CI around geomean	0.00195	0.1	Standard	No Exceedance
BA04	UA	E006	pH (field)	SU	02/05/16 - 07/25/24	27	0	CB around T-S line	6.6/6.9	6.4/9.0	Background/Standard	No Exceedance
BA04	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/25/24	14	0	CI around mean	0.455	7.27	Background	No Exceedance
BA04	UA	E006	Selenium, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.05	Standard	No Exceedance
BA04	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	149	890	Background	No Exceedance
BA04	UA	E006	Thallium, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.002	Standard	No Exceedance
BA04	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/25/24	26	0	CB around linear reg	687	2,590	Background	No Exceedance

TABLE 2.
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2024
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DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Notes:
Compliance Result:
No Exceedance: the statistical result did not exceed the GWPS.
HSU = hydrostratigraphic unit:
UA = Uppermost Aquifer
UA/PMP = Uppermost Aquifer/Potential Migration Pathway
mg/L = milligrams per liter
Missing Code (if applicable):
NR[1] = Select parameters were not analyzed.
NS[1] = This well has been, or will be, abandoned; therefore, a sample was not collected.
NS[2] = Well either needs or was undergoing maintenance, therefore, a sample was not collected.
NS[3] = A sample was not collected because the location was inaccessible.
NS[4] = The location could not be found, therefore a sample was not collected.
NS[5] = A sample was not collected because of damage to the well.
NS[6] = A sample was not collected because of pump issues.
NS[7] = A sample was not collected because the well was either dry or was purged dry and did not recover.
PM[1] = Select parameters were not analyzed as the well purged dry during sample collection and did not sufficiently recover to sample for all parameters.
ND = non-detect
pCi/L = picocuries per liter
SU = standard units
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown
CB around T-S line = Confidence band around Thiel-Sen line
CB around linear reg = Confidence band around linear regression
CI around geomean = Confidence interval around the geometric mean
CI around mean = Confidence interval around the mean
CI around median = Confidence interval around the median
Most recent sample = Result for the most recently collected sample used due to insufficient data
Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range
For pH, the values presented are the lower / upper limits
GWPS = Groundwater Protection Standard
GWPS Source:
Background = background concentration
Standard = standard specified in 35 I.A.C. § 845.600(a)(1)

FIGURES

Y:\Mapping\Projects\2212285\MXD\845_Operating_Permit\Duck_Creek\BA\GMP\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

MONITORING WELL LOCATION MAP

BOTTOM ASH BASIN

DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

ATTACHMENTS

ATTACHMENT A
GROUNDWATER ELEVATION DATA
QUARTER 3, 2024

ATTACHMENT A.
GROUNDWATER ELEVATION DATA - QUARTER 3, 2024
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	07/22/2024	13.29	573.97
BA02	Compliance	07/22/2024	8.93	571.17
BA02L	Compliance	07/22/2024	8.74	571.34
BA03	Compliance	07/22/2024	8.05	570.46
BA03L	Compliance	07/22/2024	7.47	570.45
BA04	Compliance	07/22/2024	4.71	573.65
BA05	Background	07/22/2024	17.97	577.72
BA06	Background	07/22/2024	20.15	575.35

Notes:
BMP = below measuring point
Missing Code (if applicable):
DM[1] = Depth to water was not measured.
DM[2] = Depth to water was not measured because water was above or below the staff gage markings.
DM[3] = Depth to water was not measured because the location was inaccessible.
DM[4] = Depth to water was not measured because water level was below the top of the pump.
DM[5] = Depth to water was not measured because water level was above the top of casing (artesian well).
DM[6] = Depth to water was not measured because of damage to the well.
DM[7] = Depth to water was was not measured due to malfunctioning pressure transducer.
NAVD88 = North American Vertical Datum of 1988

ATTACHMENT B
LABORATORY REPORTS AND FIELD DATA SHEETS
QUARTER 3, 2024

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

September 03, 2024

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

Dear Daryl Johnson:

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

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

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

Sincerely,

Diane Billings
Project Manager

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

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order HG04314

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

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Work Order HG04591

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

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Work Order HG04890

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

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SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order HG05251

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

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Work Order HH00594

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

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Sample: HG04314-10
Name: BA02
Matrix: Ground Water - Grab

Sampled: 07/23/24 14:28
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	11	mg/L		07/26/24 11:16	5	5.0	07/26/24 11:16	JSM	EPA 300.0 REV 2.1
Sulfate	14	mg/L		07/26/24 11:16	5	5.0	07/26/24 11:16	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.99	Feet		07/23/24 14:28	1		07/23/24 14:28	FIELD	Field*
Dissolved oxygen, Field	0.0	mg/L		07/23/24 14:28	1		07/23/24 14:28	FIELD	Field*
Oxidation Reduction Potential	-28.0	mV		07/23/24 14:28	1	-500	07/23/24 14:28	FIELD	Field*
pH, Field Measured	7.10	pH Units		07/23/24 14:28	1		07/23/24 14:28	FIELD	Field*
Specific Conductance, Field Measured	832.0	umhos/cm		07/23/24 14:28	1		07/23/24 14:28	FIELD	Field*
Temperature, Field Measured	21.2	°C		07/23/24 14:28	1		07/23/24 14:28	FIELD	Field*
Turbidity, Field Measured	16.9	NTU		07/23/24 14:28	1	0.00	07/23/24 14:28	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	480	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		07/30/24 14:21	1	0.250	07/30/24 14:21	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	520	mg/L		07/26/24 13:43	1	26	07/29/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/24 09:22	5	3.0	07/25/24 17:22	TJJ	EPA 6020A
Arsenic	1.1	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Barium	210	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/29/24 10:51	TJJ	EPA 6020A
Boron	60	ug/L		07/24/24 09:22	5	10	07/29/24 10:51	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Calcium	94	mg/L		07/24/24 09:22	5	0.20	07/25/24 17:22	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/24/24 09:22	5	4.0	07/25/24 17:22	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/24 09:22	5	2.0	07/25/24 17:22	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Magnesium	44	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:22	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/24/24 09:22	5	0.20	07/25/24 17:22	TJJ	EPA 6020A
Molybdenum	4.5	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Potassium	1.2	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:22	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04314-10
Name: BA02
Matrix: Ground Water - Grab

Sampled: 07/23/24 14:28
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Sodium	47	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:22	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:22	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/24/24 09:22	1	0.020	07/25/24 15:27	LAM	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04314-11
Name: BA01
Matrix: Ground Water - Grab

Sampled: 07/23/24 12:50
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	20	mg/L	Q4	07/26/24 11:55	5	5.0	07/26/24 11:55	JSM	EPA 300.0 REV 2.1
Sulfate	150	mg/L	Q3	07/26/24 12:14	25	25	07/26/24 12:14	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	13.34	Feet		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Dissolved oxygen, Field	0.0	mg/L		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Oxidation Reduction Potential	-52.0	mV		07/23/24 12:50	1	-500	07/23/24 12:50	FIELD	Field*
pH, Field Measured	7.16	pH Units		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Specific Conductance, Field Measured	888.0	umhos/cm		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Temperature, Field Measured	19.4	°C		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Turbidity, Field Measured	< 0.00	NTU		07/23/24 12:50	1	0.00	07/23/24 12:50	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	390	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		07/30/24 14:22	1	0.250	07/30/24 14:22	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	700	mg/L		07/26/24 13:43	1	26	07/29/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/24 09:22	5	3.0	07/25/24 17:34	TJJ	EPA 6020A
Arsenic	1.4	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Barium	120	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/29/24 10:54	TJJ	EPA 6020A
Boron	22	ug/L		07/24/24 09:22	5	10	07/29/24 10:54	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Calcium	120	mg/L		07/24/24 09:22	5	0.20	07/25/24 17:34	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/24/24 09:22	5	4.0	07/25/24 17:34	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/24 09:22	5	2.0	07/25/24 17:34	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Magnesium	63	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:34	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/24/24 09:22	5	0.20	07/25/24 17:34	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Potassium	0.75	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:34	TJJ	EPA 6020A

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Sample: HG04314-11
Name: BA01
Matrix: Ground Water - Grab

Sampled: 07/23/24 12:50
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Sodium	11	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:34	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:34	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/24/24 09:22	1	0.020	07/25/24 15:28	LAM	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04314-12
Name: BA01 Dup
Matrix: Ground Water - Grab

Sampled: 07/23/24 12:50
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	19	mg/L		07/26/24 12:53	5	5.0	07/26/24 12:53	JSM	EPA 300.0 REV 2.1
Sulfate	150	mg/L		07/26/24 13:51	25	25	07/26/24 13:51	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	13.34	Feet		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Dissolved oxygen, Field	0.0	mg/L		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Oxidation Reduction Potential	-52.0	mV		07/23/24 12:50	1	-500	07/23/24 12:50	FIELD	Field*
pH, Field Measured	7.16	pH Units		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Specific Conductance, Field Measured	888.0	umhos/cm		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Temperature, Field Measured	19.4	°C		07/23/24 12:50	1		07/23/24 12:50	FIELD	Field*
Turbidity, Field Measured	< 0.00	NTU		07/23/24 12:50	1	0.00	07/23/24 12:50	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	390	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/01/24 12:42	1	10	08/01/24 12:42	CFM/TMS	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		07/30/24 14:23	1	0.250	07/30/24 14:23	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	710	mg/L		07/26/24 13:43	1	26	07/29/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/24/24 09:22	5	3.0	07/25/24 17:37	TJJ	EPA 6020A
Arsenic	1.4	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Barium	120	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/29/24 10:57	TJJ	EPA 6020A
Boron	21	ug/L		07/24/24 09:22	5	10	07/29/24 10:57	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Calcium	120	mg/L		07/24/24 09:22	5	0.20	07/25/24 17:37	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/24/24 09:22	5	4.0	07/25/24 17:37	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/24/24 09:22	5	2.0	07/25/24 17:37	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Magnesium	63	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:37	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/24/24 09:22	5	0.20	07/25/24 17:37	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Potassium	0.72	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:37	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04314-12
Name: BA01 Dup
Matrix: Ground Water - Grab

Sampled: 07/23/24 12:50
Received: 07/23/24 16:45
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Sodium	11	mg/L		07/24/24 09:22	5	0.10	07/25/24 17:37	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/24/24 09:22	5	1.0	07/25/24 17:37	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/24/24 09:22	1	0.020	07/25/24 15:29	LAM	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04591-15
Name: BA03L
Matrix: Ground Water - Grab

Sampled: 07/24/24 15:40
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	17	mg/L		07/27/24 00:36	5	5.0	07/27/24 00:36	JSM	EPA 300.0 REV 2.1
Sulfate	350	mg/L		07/27/24 00:55	50	50	07/27/24 00:55	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.23	Feet		07/24/24 15:40	1		07/24/24 15:40	FIELD	Field*
Dissolved oxygen, Field	0.28	mg/L		07/24/24 15:40	1		07/24/24 15:40	FIELD	Field*
Oxidation Reduction Potential	92.0	mV		07/24/24 15:40	1	-500	07/24/24 15:40	FIELD	Field*
pH, Field Measured	7.06	pH Units		07/24/24 15:40	1		07/24/24 15:40	FIELD	Field*
Specific Conductance, Field Measured	1038	umhos/cm		07/24/24 15:40	1		07/24/24 15:40	FIELD	Field*
Temperature, Field Measured	23.0	°C		07/24/24 15:40	1		07/24/24 15:40	FIELD	Field*
Turbidity, Field Measured	10.7	NTU		07/24/24 15:40	1	0.00	07/24/24 15:40	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	480	mg/L		08/02/24 09:08	1	10	08/02/24 09:08	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/02/24 09:08	1	10	08/02/24 09:08	CFM	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		07/30/24 14:50	1	0.250	07/30/24 14:50	QTC	SM 4500-F C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/25/24 09:05	5	3.0	07/26/24 12:39	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Barium	130	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Boron	730	ug/L		07/25/24 09:05	5	10	07/29/24 14:28	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Calcium	170	mg/L		07/25/24 09:05	5	0.20	07/26/24 12:39	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/25/24 09:05	5	4.0	07/26/24 12:39	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/25/24 09:05	5	2.0	07/26/24 12:39	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Magnesium	91	mg/L		07/25/24 09:05	5	0.10	07/26/24 12:39	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/25/24 09:05	5	0.20	07/26/24 12:39	TJJ	EPA 6020A
Molybdenum	2.7	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Potassium	0.46	mg/L		07/25/24 09:05	5	0.10	07/26/24 12:39	TJJ	EPA 6020A
Selenium	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A
Sodium	41	mg/L		07/25/24 09:05	5	0.10	07/26/24 12:39	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/25/24 09:05	5	1.0	07/26/24 12:39	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04591-15
Name: BA03L
Matrix: Ground Water - Grab

Sampled: 07/24/24 15:40
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Lithium	< 0.020	mg/L		07/25/24 09:05	1	0.020	07/25/24 15:52	LAM	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04890-14
Name: BA06
Matrix: Ground Water - Grab

Sampled: 07/25/24 11:00
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	590	mg/L		08/01/24 13:29	100	100	08/01/24 13:29	JSM	EPA 300.0 REV 2.1
Sulfate	390	mg/L		08/01/24 13:29	100	100	08/01/24 13:29	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	20.35	Feet		07/25/24 11:00	1		07/25/24 11:00	FIELD	Field*
Dissolved oxygen, Field	0.0	mg/L		07/25/24 11:00	1		07/25/24 11:00	FIELD	Field*
Oxidation Reduction Potential	-48.0	mV		07/25/24 11:00	1	-500	07/25/24 11:00	FIELD	Field*
pH, Field Measured	7.65	pH Units		07/25/24 11:00	1		07/25/24 11:00	FIELD	Field*
Specific Conductance, Field Measured	2061	umhos/cm		07/25/24 11:00	1		07/25/24 11:00	FIELD	Field*
Temperature, Field Measured	16.2	°C		07/25/24 11:00	1		07/25/24 11:00	FIELD	Field*
Turbidity, Field Measured	91.8	NTU		07/25/24 11:00	1	0.00	07/25/24 11:00	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	410	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Fluoride	0.274	mg/L		08/05/24 10:45	1	0.250	08/05/24 10:45	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1900	mg/L		07/30/24 10:17	1	26	07/31/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/29/24 09:30	5	3.0	07/30/24 17:05	TJJ	EPA 6020A
Arsenic	1.7	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Barium	99	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/29/24 16:44	TJJ	EPA 6020A
Boron	15000	ug/L		07/29/24 09:30	20	40	07/31/24 13:54	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Calcium	310	mg/L		07/29/24 09:30	5	0.20	07/30/24 17:05	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/29/24 09:30	5	4.0	07/30/24 17:05	TJJ	EPA 6020A
Cobalt	3.8	ug/L		07/29/24 09:30	5	2.0	07/30/24 17:05	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Magnesium	200	mg/L		07/29/24 09:30	20	0.40	07/31/24 13:54	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/29/24 09:30	5	0.20	08/01/24 17:31	TJJ	EPA 6020A
Molybdenum	1.1	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Potassium	0.55	mg/L		07/29/24 09:30	5	0.10	07/30/24 17:05	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04890-14
Name: BA06
Matrix: Ground Water - Grab

Sampled: 07/25/24 11:00
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:05	TJJ	EPA 6020A
Sodium	16	mg/L		07/29/24 09:30	20	0.40	07/31/24 13:54	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/29/24 09:30	5	1.0	08/01/24 17:31	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/29/24 09:30	1	0.020	08/02/24 16:01	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04890-15
Name: BA05
Matrix: Ground Water - Grab

Sampled: 07/25/24 12:30
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	9.1	mg/L		07/31/24 21:04	5	5.0	07/31/24 21:04	JSM	EPA 300.0 REV 2.1
Sulfate	480	mg/L		08/01/24 13:47	100	100	08/01/24 13:47	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	18.4	Feet		07/25/24 12:30	1		07/25/24 12:30	FIELD	Field*
Dissolved oxygen, Field	3.3	mg/L		07/25/24 12:30	1		07/25/24 12:30	FIELD	Field*
Oxidation Reduction Potential	-55.0	mV		07/25/24 12:30	1	-500	07/25/24 12:30	FIELD	Field*
pH, Field Measured	6.96	pH Units		07/25/24 12:30	1		07/25/24 12:30	FIELD	Field*
Specific Conductance, Field Measured	1050	umhos/cm		07/25/24 12:30	1		07/25/24 12:30	FIELD	Field*
Temperature, Field Measured	20.0	°C		07/25/24 12:30	1		07/25/24 12:30	FIELD	Field*
Turbidity, Field Measured	29.0	NTU		07/25/24 12:30	1	0.00	07/25/24 12:30	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	490	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		08/05/24 10:48	1	0.250	08/05/24 10:48	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1300	mg/L		07/30/24 10:17	1	26	07/31/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/29/24 09:30	5	3.0	07/30/24 17:09	TJJ	EPA 6020A
Arsenic	3.2	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Barium	49	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/29/24 16:47	TJJ	EPA 6020A
Boron	83	ug/L		07/29/24 09:30	5	10	07/31/24 14:37	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Calcium	200	mg/L		07/29/24 09:30	5	0.20	07/30/24 17:09	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/29/24 09:30	5	4.0	07/30/24 17:09	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/29/24 09:30	5	2.0	07/30/24 17:09	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Magnesium	99	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:37	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/29/24 09:30	5	0.20	07/31/24 14:37	TJJ	EPA 6020A
Molybdenum	1.6	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Potassium	2.2	mg/L		07/29/24 09:30	5	0.10	07/30/24 17:09	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04890-15
Name: BA05
Matrix: Ground Water - Grab

Sampled: 07/25/24 12:30
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:09	TJJ	EPA 6020A
Sodium	44	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:37	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/31/24 14:37	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/29/24 09:30	1	0.020	08/02/24 16:02	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04890-16
Name: BA03
Matrix: Ground Water - Grab

Sampled: 07/25/24 14:29
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	4.4	mg/L		07/31/24 21:40	1	1.0	07/31/24 21:40	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		07/31/24 21:40	1	0.250	07/31/24 21:40	JSM	EPA 300.0 REV 2.1
Sulfate	15	mg/L		07/31/24 21:58	5	5.0	07/31/24 21:58	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.93	Feet		07/25/24 14:29	1		07/25/24 14:29	FIELD	Field*
Dissolved oxygen, Field	2.0	mg/L		07/25/24 14:29	1		07/25/24 14:29	FIELD	Field*
Oxidation Reduction Potential	-4.00	mV		07/25/24 14:29	1	-500	07/25/24 14:29	FIELD	Field*
pH, Field Measured	7.10	pH Units		07/25/24 14:29	1		07/25/24 14:29	FIELD	Field*
Specific Conductance, Field Measured	748.0	umhos/cm		07/25/24 14:29	1		07/25/24 14:29	FIELD	Field*
Temperature, Field Measured	21.9	°C		07/25/24 14:29	1		07/25/24 14:29	FIELD	Field*
Turbidity, Field Measured	< 0.00	NTU		07/25/24 14:29	1	0.00	07/25/24 14:29	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	400	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	440	mg/L		07/30/24 10:17	1	26	07/31/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/29/24 09:30	5	3.0	07/30/24 17:13	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Barium	120	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/29/24 16:58	TJJ	EPA 6020A
Boron	18	ug/L		07/29/24 09:30	5	10	07/31/24 14:41	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Calcium	99	mg/L		07/29/24 09:30	5	0.20	07/30/24 17:13	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/29/24 09:30	5	4.0	07/30/24 17:13	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/29/24 09:30	5	2.0	07/30/24 17:13	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Magnesium	51	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:41	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/29/24 09:30	5	0.20	07/31/24 14:41	TJJ	EPA 6020A
Molybdenum	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Potassium	0.63	mg/L		07/29/24 09:30	5	0.10	07/30/24 17:13	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04890-16
Name: BA03
Matrix: Ground Water - Grab

Sampled: 07/25/24 14:29
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:13	TJJ	EPA 6020A
Sodium	7.1	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:41	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/31/24 14:41	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/29/24 09:30	1	0.020	08/02/24 16:03	TJJ	EPA 6010B

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ANALYTICAL RESULTS

Sample: HG04890-17
Name: BA04
Matrix: Ground Water - Grab

Sampled: 07/25/24 15:55
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	44	mg/L		08/01/24 19:05	10	10	08/01/24 19:05	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		08/02/24 13:46	1	0.250	08/02/24 13:46	JSM	EPA 300.0 REV 2.1
Sulfate	180	mg/L	Q4	08/02/24 14:04	25	25	08/02/24 14:04	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	5.03	Feet		07/25/24 15:55	1		07/25/24 15:55	FIELD	Field*
Dissolved oxygen, Field	0.89	mg/L		07/25/24 15:55	1		07/25/24 15:55	FIELD	Field*
Oxidation Reduction Potential	-22.0	mV		07/25/24 15:55	1	-500	07/25/24 15:55	FIELD	Field*
pH, Field Measured	6.91	pH Units		07/25/24 15:55	1		07/25/24 15:55	FIELD	Field*
Specific Conductance, Field Measured	1004	umhos/cm		07/25/24 15:55	1		07/25/24 15:55	FIELD	Field*
Temperature, Field Measured	19.9	°C		07/25/24 15:55	1		07/25/24 15:55	FIELD	Field*
Turbidity, Field Measured	< 0.00	NTU		07/25/24 15:55	1	0.00	07/25/24 15:55	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	410	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/06/24 09:51	1	10	08/06/24 09:51	CFM	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	740	mg/L		07/30/24 10:17	1	26	07/31/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/29/24 09:30	5	3.0	07/30/24 17:17	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Barium	120	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/29/24 17:02	TJJ	EPA 6020A
Boron	270	ug/L		07/29/24 09:30	5	10	07/31/24 14:45	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Calcium	140	mg/L		07/29/24 09:30	5	0.20	07/30/24 17:17	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/29/24 09:30	5	4.0	07/30/24 17:17	TJJ	EPA 6020A
Cobalt	5.0	ug/L		07/29/24 09:30	5	2.0	07/30/24 17:17	TJJ	EPA 6020A
Lead	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Magnesium	69	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:45	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/29/24 09:30	5	0.20	07/31/24 14:45	TJJ	EPA 6020A
Molybdenum	2.2	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Potassium	0.93	mg/L		07/29/24 09:30	5	0.10	07/30/24 17:17	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG04890-17
Name: BA04
Matrix: Ground Water - Grab

Sampled: 07/25/24 15:55
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/30/24 17:17	TJJ	EPA 6020A
Sodium	13	mg/L		07/29/24 09:30	5	0.10	07/31/24 14:45	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/29/24 09:30	5	1.0	07/31/24 14:45	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/29/24 09:30	1	0.020	08/02/24 16:04	TJJ	EPA 6010B

Sample: HH00594-01
Name: BA03L
Matrix: Ground Water - Grab

Sampled: 08/05/24 13:48
Received: 08/05/24 16:26
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1100	mg/L		08/08/24 00:00	1	26	08/08/24 00:00	LAL2	SM 2540 C-2011

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ANALYTICAL RESULTS

Sample: HG05251-05
Name: BA02L
Matrix: Ground Water - Grab

Sampled: 07/29/24 11:15
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	4.0	mg/L		08/02/24 17:24	1	1.0	08/02/24 17:24	JSM	EPA 300.0 REV 2.1
Sulfate	3.4	mg/L		08/02/24 17:24	1	1.0	08/02/24 17:24	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	9.05	Feet		07/29/24 11:15	1		07/29/24 11:15	FIELD	Field*
Dissolved oxygen, Field	0.84	mg/L		07/29/24 11:15	1		07/29/24 11:15	FIELD	Field*
Oxidation Reduction Potential	-132	mV		07/29/24 11:15	1	-500	07/29/24 11:15	FIELD	Field*
pH, Field Measured	6.81	pH Units		07/29/24 11:15	1		07/29/24 11:15	FIELD	Field*
Specific Conductance, Field Measured	523.0	umhos/cm		07/29/24 11:15	1		07/29/24 11:15	FIELD	Field*
Temperature, Field Measured	24.3	°C		07/29/24 11:15	1		07/29/24 11:15	FIELD	Field*
Turbidity, Field Measured	464	NTU		07/29/24 11:15	1	0.00	07/29/24 11:15	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO3	260	mg/L		08/07/24 07:58	1	10	08/07/24 07:58	CFM	SM 2320 B-2011*
Alkalinity - carbonate as CaCO3	< 10	mg/L		08/07/24 07:58	1	10	08/07/24 07:58	CFM	SM 2320 B-2011*
Fluoride	0.495	mg/L		08/07/24 13:52	1	0.250	08/07/24 13:52	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	260	mg/L		08/01/24 09:40	1	26	08/02/24 00:00	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		07/30/24 09:17	5	3.0	08/02/24 15:59	TJJ	EPA 6020A
Arsenic	15	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Barium	89	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Boron	66	ug/L		07/30/24 09:17	5	10	08/06/24 13:39	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Calcium	65	mg/L		07/30/24 09:17	5	0.20	08/02/24 15:59	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		07/30/24 09:17	5	4.0	08/02/24 15:59	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		07/30/24 09:17	5	2.0	08/02/24 15:59	TJJ	EPA 6020A
Lead	1.8	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Magnesium	25	mg/L		07/30/24 09:17	5	0.10	08/02/24 15:59	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		07/30/24 09:17	5	0.20	08/02/24 15:59	TJJ	EPA 6020A
Molybdenum	2.4	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Potassium	0.66	mg/L		07/30/24 09:17	5	0.10	08/02/24 15:59	TJJ	EPA 6020A

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ANALYTICAL RESULTS

Sample: HG05251-05
Name: BA02L
Matrix: Ground Water - Grab

Sampled: 07/29/24 11:15
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Sodium	3.2	mg/L		07/30/24 09:17	5	0.10	08/02/24 15:59	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		07/30/24 09:17	5	1.0	08/02/24 15:59	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		07/30/24 09:17	1	0.020	08/02/24 15:33	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 B438838 - SW 3015 - EPA 6010B									
Blank (B438838-BLK1)				Prepared: 07/24/24 Analyzed: 07/25/24					
Lithium	< 0.020	mg/L							
LCS (B438838-BS1)				Prepared: 07/24/24 Analyzed: 07/25/24					
Lithium	0.538	mg/L		0.5556		97	80-120		
Matrix Spike (B438838-MS1)	**Sample: HG04314-01**			Prepared: 07/24/24 Analyzed: 07/25/24					
Lithium	0.522	mg/L		0.5556	0.00939	92	75-125		
Matrix Spike Dup (B438838-MSD1)	**Sample: HG04314-01**			Prepared: 07/24/24 Analyzed: 07/25/24					
Lithium	0.512	mg/L		0.5556	0.00939	90	75-125	2	20
Batch B438838 - SW 3015 - EPA 6020A									
Blank (B438838-BLK1)				Prepared: 07/24/24 Analyzed: 07/25/24					
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 (B438838-BS1)				Prepared: 07/24/24 Analyzed: 07/26/24					
Antimony	547	ug/L		555.6		98	80-120		
Arsenic	539	ug/L		555.6		97	80-120		
Barium	562	ug/L		555.6		101	80-120		
Beryllium	557	ug/L		555.6		100	80-120		
Boron	544	ug/L		555.6		98	80-120		
Cadmium	538	ug/L		555.6		97	80-120		
Calcium	5.68	mg/L		5.556		102	80-120		
Chromium	552	ug/L		555.6		99	80-120		
Cobalt	542	ug/L		555.6		98	80-120		
Lead	528	ug/L		555.6		95	80-120		
Magnesium	5.79	mg/L		5.556		104	80-120		
Mercury	53.6	ug/L		55.56		96	80-120		
Molybdenum	526	ug/L		555.6		95	80-120		
Potassium	5.61	mg/L		5.556		101	80-120		
Selenium	555	ug/L		555.6		100	80-120		
Sodium	5.68	mg/L		5.556		102	80-120		

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B438838-BS1)				Prepared: 07/24/24 Analyzed: 07/26/24					
Thallium	520	ug/L		555.6		94	80-120		
Matrix Spike (B438838-MS1)	**Sample: HG04314-01**			Prepared: 07/24/24 Analyzed: 07/25/24					
Antimony	545	ug/L		555.6	ND	98	75-125		
Arsenic	555	ug/L		555.6	3.12	99	75-125		
Barium	560	ug/L		555.6	14.3	98	75-125		
Beryllium	554	ug/L		555.6	ND	100	75-125		
Boron	18600	ug/L	Q1	555.6	18700	NR	75-125		
Cadmium	545	ug/L		555.6	ND	98	75-125		
Calcium	406	mg/L	Q4	5.556	430	NR	75-125		
Chromium	553	ug/L		555.6	ND	99	75-125		
Cobalt	533	ug/L		555.6	ND	96	75-125		
Lead	531	ug/L		555.6	ND	96	75-125		
Magnesium	146	mg/L	Q4	5.556	150	NR	75-125		
Mercury	53.1	ug/L		55.56	ND	96	75-125		
Molybdenum	559	ug/L		555.6	4.85	100	75-125		
Potassium	9.37	mg/L		5.556	4.20	93	75-125		
Selenium	562	ug/L		555.6	ND	101	75-125		
Sodium	108	mg/L	Q4	5.556	110	NR	75-125		
Thallium	513	ug/L		555.6	ND	92	75-125		
Matrix Spike Dup (B438838-MSD1)	**Sample: HG04314-01**			Prepared: 07/24/24 Analyzed: 07/25/24					
Antimony	546	ug/L		555.6	ND	98	75-125	0.09	20
Arsenic	549	ug/L		555.6	3.12	98	75-125	1	20
Barium	554	ug/L		555.6	14.3	97	75-125	0.9	20
Beryllium	551	ug/L		555.6	ND	99	75-125	0.5	20
Boron	18700	ug/L	Q2	555.6	18700	13	75-125	0.5	20
Cadmium	537	ug/L		555.6	ND	97	75-125	2	20
Calcium	409	mg/L	Q4	5.556	430	NR	75-125	0.7	20
Chromium	548	ug/L		555.6	ND	99	75-125	0.8	20
Cobalt	525	ug/L		555.6	ND	94	75-125	2	20
Lead	530	ug/L		555.6	ND	95	75-125	0.08	20
Magnesium	145	mg/L	Q4	5.556	150	NR	75-125	0.6	20
Mercury	53.4	ug/L		55.56	ND	96	75-125	0.6	20
Molybdenum	549	ug/L		555.6	4.85	98	75-125	2	20
Potassium	9.32	mg/L		5.556	4.20	92	75-125	0.5	20
Selenium	559	ug/L		555.6	ND	101	75-125	0.5	20
Sodium	108	mg/L	Q4	5.556	110	NR	75-125	0.2	20
Thallium	513	ug/L		555.6	ND	92	75-125	0.02	20

Batch B438965 - SW 3015 - EPA 6010B

Blank (B438965-BLK1)				Prepared & Analyzed: 07/25/24					
Lithium	< 0.020	mg/L							
LCS (B438965-BS1)				Prepared & Analyzed: 07/25/24					
Lithium	0.510	mg/L		0.5556		92	80-120		
Matrix Spike (B438965-MS1)	**Sample: HG04591-01**			Prepared & Analyzed: 07/25/24					
Lithium	0.509	mg/L		0.5556	ND	92	75-125		
Matrix Spike Dup (B438965-MSD1)	**Sample: HG04591-01**			Prepared & Analyzed: 07/25/24					
Lithium	0.522	mg/L		0.5556	ND	94	75-125	3	20

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B438965 - SW 3015 - EPA 6020A									
Blank (B438965-BLK1)				Prepared: 07/25/24 Analyzed: 07/26/24					
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 (B438965-BS1)				Prepared: 07/25/24 Analyzed: 07/26/24					
Antimony	559	ug/L		555.6		101	80-120		
Arsenic	548	ug/L		555.6		99	80-120		
Barium	567	ug/L		555.6		102	80-120		
Beryllium	547	ug/L		555.6		98	80-120		
Boron	545	ug/L		555.6		98	80-120		
Cadmium	554	ug/L		555.6		100	80-120		
Calcium	5.71	mg/L		5.556		103	80-120		
Chromium	559	ug/L		555.6		101	80-120		
Cobalt	545	ug/L		555.6		98	80-120		
Lead	536	ug/L		555.6		97	80-120		
Magnesium	5.98	mg/L		5.556		108	80-120		
Mercury	54.8	ug/L		55.56		99	80-120		
Molybdenum	549	ug/L		555.6		99	80-120		
Potassium	5.64	mg/L		5.556		101	80-120		
Selenium	550	ug/L		555.6		99	80-120		
Sodium	5.92	mg/L		5.556		106	80-120		
Thallium	536	ug/L		555.6		96	80-120		
Matrix Spike (B438965-MS1)	**Sample: HG04591-01**			Prepared: 07/25/24 Analyzed: 07/26/24					
Antimony	561	ug/L		555.6	ND	101	75-125		
Arsenic	549	ug/L		555.6	ND	99	75-125		
Barium	603	ug/L		555.6	50.6	99	75-125		
Beryllium	523	ug/L		555.6	ND	94	75-125		
Boron	992	ug/L		555.6	455	97	75-125		
Cadmium	548	ug/L		555.6	ND	99	75-125		
Calcium	140	mg/L		5.556	136	83	75-125		
Chromium	548	ug/L		555.6	ND	99	75-125		
Cobalt	523	ug/L		555.6	1.94	94	75-125		

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B438965-MS1)	**Sample: HG04591-01**			Prepared: 07/25/24 Analyzed: 07/26/24					
Lead	518	ug/L		555.6	ND	93	75-125		
Magnesium	77.5	mg/L	Q4	5.556	73.6	70	75-125		
Mercury	56.5	ug/L		55.56	ND	102	75-125		
Molybdenum	560	ug/L		555.6	1.13	101	75-125		
Potassium	6.67	mg/L		5.556	1.20	98	75-125		
Selenium	553	ug/L		555.6	ND	99	75-125		
Sodium	62.5	mg/L		5.556	58.4	73	75-125		
Thallium	518	ug/L		555.6	ND	93	75-125		
Matrix Spike Dup (B438965-MSD1)	**Sample: HG04591-01**			Prepared: 07/25/24 Analyzed: 07/26/24					
Antimony	574	ug/L		555.6	ND	103	75-125	2	20
Arsenic	559	ug/L		555.6	ND	101	75-125	2	20
Barium	620	ug/L		555.6	50.6	102	75-125	3	20
Beryllium	518	ug/L		555.6	ND	93	75-125	0.9	20
Boron	1030	ug/L		555.6	455	103	75-125	4	20
Cadmium	556	ug/L		555.6	ND	100	75-125	2	20
Calcium	143	mg/L	Q4	5.556	136	129	75-125	2	20
Chromium	558	ug/L		555.6	ND	100	75-125	2	20
Cobalt	532	ug/L		555.6	1.94	95	75-125	2	20
Lead	522	ug/L		555.6	ND	94	75-125	0.7	20
Magnesium	78.0	mg/L		5.556	73.6	79	75-125	0.6	20
Mercury	57.1	ug/L		55.56	ND	103	75-125	1	20
Molybdenum	566	ug/L		555.6	1.13	102	75-125	1	20
Potassium	6.75	mg/L		5.556	1.20	100	75-125	1	20
Selenium	558	ug/L		555.6	ND	100	75-125	0.9	20
Sodium	62.7	mg/L		5.556	58.4	78	75-125	0.4	20
Thallium	519	ug/L		555.6	ND	93	75-125	0.3	20
Batch B439147 - No Prep - SM 2540 C-2011									
Blank (B439147-BLK1)				Prepared: 07/26/24 Analyzed: 07/29/24					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B439147-BS1)				Prepared: 07/26/24 Analyzed: 07/29/24					
Solids - total dissolved solids (TDS)	963	mg/L		1000		96	84.4-107		
Duplicate (B439147-DUP1)	**Sample: HG04314-01**			Prepared: 07/26/24 Analyzed: 07/29/24					
Solids - total dissolved solids (TDS)	2500	mg/L			2400			4	5
Duplicate (B439147-DUP2)	**Sample: HG04314-11**			Prepared: 07/26/24 Analyzed: 07/29/24					
Solids - total dissolved solids (TDS)	725	mg/L			700			4	5
Batch B439234 - SW 3015 - EPA 6010B									
Blank (B439234-BLK1)				Prepared: 07/29/24 Analyzed: 08/02/24					
Lithium	< 0.020	mg/L							
LCS (B439234-BS1)				Prepared: 07/29/24 Analyzed: 08/02/24					
Lithium	0.567	mg/L		0.5556		102	80-120		
Matrix Spike (B439234-MS1)	**Sample: HG04890-11**			Prepared: 07/29/24 Analyzed: 08/02/24					
Lithium	0.516	mg/L		0.5556	ND	93	75-125		
Matrix Spike Dup (B439234-MSD1)	**Sample: HG04890-11**			Prepared: 07/29/24 Analyzed: 08/02/24					
Lithium	0.518	mg/L		0.5556	ND	93	75-125	0.5	20

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B439234 - SW 3015 - EPA 6020A									
Blank (B439234-BLK1)				Prepared: 07/29/24 Analyzed: 07/30/24					
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 (B439234-BS1)				Prepared: 07/29/24 Analyzed: 07/30/24					
Antimony	501	ug/L		555.6		90	80-120		
Arsenic	553	ug/L		555.6		100	80-120		
Barium	529	ug/L		555.6		95	80-120		
Beryllium	541	ug/L		555.6		97	80-120		
Boron	482	ug/L		555.6		87	80-120		
Cadmium	537	ug/L		555.6		97	80-120		
Calcium	5.56	mg/L		5.556		100	80-120		
Chromium	543	ug/L		555.6		98	80-120		
Cobalt	564	ug/L		555.6		102	80-120		
Lead	585	ug/L		555.6		105	80-120		
Magnesium	6.29	mg/L		5.556		113	80-120		
Mercury	54.1	ug/L		55.56		97	80-120		
Molybdenum	519	ug/L		555.6		93	80-120		
Potassium	5.66	mg/L		5.556		102	80-120		
Selenium	553	ug/L		555.6		100	80-120		
Sodium	6.24	mg/L		5.556		112	80-120		
Thallium	587	ug/L		555.6		106	80-120		
Matrix Spike (B439234-MS1)	**Sample: HG04890-11**			Prepared: 07/29/24 Analyzed: 07/31/24					
Antimony	543	ug/L		555.6	ND	98	75-125		
Arsenic	545	ug/L		555.6	ND	98	75-125		
Barium	554	ug/L		555.6	15.4	97	75-125		
Beryllium	548	ug/L		555.6	ND	99	75-125		
Boron	708	ug/L		555.6	213	89	75-125		
Cadmium	526	ug/L		555.6	ND	95	75-125		
Calcium	556	mg/L	Q4	5.556	565	NR	75-125		
Chromium	537	ug/L		555.6	ND	97	75-125		
Cobalt	544	ug/L		555.6	14.6	95	75-125		

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QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B439234-MS1)	**Sample: HG04890-11**			Prepared: 07/29/24 Analyzed: 07/31/24					
Lead	550	ug/L		555.6	ND	99	75-125		
Magnesium	259	mg/L	Q4	5.556	250	156	75-125		
Mercury	53.4	ug/L		55.56	ND	96	75-125		
Molybdenum	531	ug/L		555.6	ND	96	75-125		
Potassium	6.39	mg/L		5.556	1.02	97	75-125		
Selenium	561	ug/L		555.6	ND	101	75-125		
Sodium	35.8	mg/L		5.556	29.7	109	75-125		
Thallium	548	ug/L		555.6	ND	99	75-125		
Matrix Spike Dup (B439234-MSD1)	**Sample: HG04890-11**			Prepared: 07/29/24 Analyzed: 07/30/24					
Antimony	502	ug/L		555.6	ND	90	75-125	8	20
Arsenic	556	ug/L		555.6	ND	100	75-125	2	20
Barium	543	ug/L		555.6	15.4	95	75-125	2	20
Beryllium	543	ug/L		555.6	ND	98	75-125	0.8	20
Boron	704	ug/L		555.6	213	88	75-125	0.6	20
Cadmium	538	ug/L		555.6	ND	97	75-125	2	20
Calcium	558	mg/L	Q4	5.556	565	NR	75-125	0.5	20
Chromium	548	ug/L		555.6	ND	99	75-125	2	20
Cobalt	558	ug/L		555.6	14.6	98	75-125	2	20
Lead	557	ug/L		555.6	0.228	100	75-125	1	20
Magnesium	259	mg/L	Q4	5.556	250	170	75-125	0.3	20
Mercury	54.7	ug/L		55.56	ND	98	75-125	2	20
Molybdenum	536	ug/L		555.6	ND	97	75-125	1	20
Potassium	6.51	mg/L		5.556	1.02	99	75-125	2	20
Selenium	559	ug/L		555.6	ND	101	75-125	0.4	20
Sodium	35.7	mg/L		5.556	29.7	108	75-125	0.2	20
Thallium	562	ug/L		555.6	ND	101	75-125	2	20

Batch B439246 - IC No Prep - EPA 300.0 REV 2.1

Calibration Blank (B439246-CCB1)				Prepared & Analyzed: 07/25/24					
Chloride	0.958	mg/L							
Sulfate	0.00	mg/L							
Calibration Check (B439246-CCV1)				Prepared & Analyzed: 07/25/24					
Sulfate	4.99	mg/L		5.000		100	90-110		
Chloride	4.78	mg/L		5.000		96	90-110		
Matrix Spike (B439246-MS2)	**Sample: HG04314-01**			Prepared & Analyzed: 07/26/24					
Sulfate	1.67	mg/L	Q1	1.500	934	NR	80-120		
Chloride	< 1.0	mg/L	Q4	1.500	400	NR	80-120		
Matrix Spike (B439246-MS3)	**Sample: HG04314-11**			Prepared & Analyzed: 07/26/24					
Sulfate	1.65	mg/L	Q1	1.500	150	NR	80-120		
Chloride	< 1.0	mg/L	Q4	1.500	20	NR	80-120		
Matrix Spike Dup (B439246-MSD2)	**Sample: HG04314-01**			Prepared & Analyzed: 07/26/24					
Chloride	1.0E9	mg/L	Q4	1.500	400	NR	80-120		20
Sulfate	1.68	mg/L	Q2	1.500	934	NR	80-120		20
Matrix Spike Dup (B439246-MSD3)	**Sample: HG04314-11**			Prepared & Analyzed: 07/26/24					
Sulfate	1.65	mg/L	Q2	1.500	150	NR	80-120		20
Chloride	< 1.0	mg/L	Q4	1.500	20	NR	80-120		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
Batch B439262 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B439262-CCB1)				Prepared & Analyzed: 07/26/24					
Sulfate	0.00	mg/L							
Chloride	0.00	mg/L							
Calibration Check (B439262-CCV1)				Prepared & Analyzed: 07/26/24					
Chloride	4.98	mg/L		5.000		100	90-110		
Sulfate	4.81	mg/L		5.000		96	90-110		
Matrix Spike (B439262-MS1)	**Sample: HG04591-01**			Prepared & Analyzed: 07/26/24					
Chloride	1.0E9	mg/L	Q4	1.500	10	NR	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	214	NR	80-120		
Matrix Spike (B439262-MS2)	**Sample: HG04591-11**			Prepared & Analyzed: 07/26/24					
Chloride	1.0E9	mg/L	Q4	1.500	15	NR	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	204	NR	80-120		
Matrix Spike Dup (B439262-MSD1)	**Sample: HG04591-01**			Prepared & Analyzed: 07/26/24					
Chloride	1.0E9	mg/L	Q4	1.500	10	NR	80-120	0	20
Sulfate	1.00E9	mg/L	Q4	1.500	214	NR	80-120	0	20
Matrix Spike Dup (B439262-MSD2)	**Sample: HG04591-11**			Prepared & Analyzed: 07/26/24					
Chloride	1.0E9	mg/L	Q4	1.500	15	NR	80-120	0	20
Sulfate	1.00E9	mg/L	Q4	1.500	204	NR	80-120	0	20
Batch B439360 - No Prep - SM 2540 C-2011									
Blank (B439360-BLK1)				Prepared: 07/30/24 Analyzed: 07/31/24					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B439360-BS1)				Prepared: 07/30/24 Analyzed: 07/31/24					
Solids - total dissolved solids (TDS)	977	mg/L		1000		98	84.4-107		
Duplicate (B439360-DUP1)	**Sample: HG04890-11**			Prepared: 07/30/24 Analyzed: 07/31/24					
Solids - total dissolved solids (TDS)	3340	mg/L			3210			4	5
Batch B439416 - No Prep - SM 4500-F C-2011									
Calibration Blank (B439416-CCB1)				Prepared & Analyzed: 07/30/24					
Fluoride	0.100	mg/L							
Calibration Blank (B439416-CCB2)				Prepared & Analyzed: 07/30/24					
Fluoride	0.0280	mg/L							
Calibration Check (B439416-CCV1)				Prepared & Analyzed: 07/30/24					
Fluoride	0.711	mg/L		0.7000		102	90-110		
Calibration Check (B439416-CCV2)				Prepared & Analyzed: 07/30/24					
Fluoride	0.688	mg/L		0.7000		98	90-110		
Matrix Spike (B439416-MS5)	**Sample: HG04314-07**			Prepared & Analyzed: 07/30/24					
Fluoride	1.14	mg/L		1.000	0.126	101	80-120		
Matrix Spike (B439416-MS6)	**Sample: HG04591-04**			Prepared & Analyzed: 07/30/24					
Fluoride	1.20	mg/L		1.000	0.225	98	80-120		
Matrix Spike Dup (B439416-MSD5)	**Sample: HG04314-07**			Prepared & Analyzed: 07/30/24					
Fluoride	1.12	mg/L		1.000	0.126	100	80-120	2	20
Matrix Spike Dup (B439416-MSD6)	**Sample: HG04591-04**			Prepared & Analyzed: 07/30/24					
Fluoride	1.21	mg/L		1.000	0.225	98	80-120	0.6	20
Batch B439650 - IC No Prep - EPA 300.0 REV 2.1									

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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
Calibration Blank (B439650-CCB1)				Prepared & Analyzed: 07/31/24					
Fluoride	0.00	mg/L							
Chloride	0.00	mg/L							
Sulfate	0.00	mg/L							
Calibration Check (B439650-CCV1)				Prepared & Analyzed: 07/31/24					
Fluoride	5.22	mg/L		5.000		104	90-110		
Sulfate	4.87	mg/L		5.000		97	90-110		
Chloride	5.03	mg/L		5.000		101	90-110		
Matrix Spike (B439650-MS1)	**Sample: HG04890-11**			Prepared & Analyzed: 07/31/24					
Chloride	1.0E9	mg/L	Q4	1.500	35	NR	80-120		
Matrix Spike Dup (B439650-MSD1)	**Sample: HG04890-11**			Prepared & Analyzed: 07/31/24					
Chloride	1.0E9	mg/L	Q4	1.500	35	NR	80-120	0	20
Batch B439736 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B439736-CCB1)				Prepared & Analyzed: 08/01/24					
Chloride	0.00	mg/L							
Sulfate	0.00	mg/L							
Calibration Check (B439736-CCV1)				Prepared & Analyzed: 08/01/24					
Chloride	5.08	mg/L		5.000		102	90-110		
Sulfate	5.00	mg/L		5.000		100	90-110		
Batch B439870 - No Prep - SM 2320 B-2011									
Blank (B439870-BLK1)				Prepared & Analyzed: 08/01/24					
Alkalinity - bicarbonate as CaCO3	2.50	mg/L							
Alkalinity - carbonate as CaCO3	< 2.0	mg/L							
Duplicate (B439870-DUP1)	**Sample: HG04314-01**			Prepared & Analyzed: 08/01/24					
Alkalinity - bicarbonate as CaCO3	438	mg/L			425			3	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Duplicate (B439870-DUP2)	**Sample: HG04314-11**			Prepared & Analyzed: 08/01/24					
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO3	400	mg/L			388			3	10
Batch B439872 - No Prep - SM 2320 B-2011									
Duplicate (B439872-DUP1)	**Sample: HG04591-01**			Prepared & Analyzed: 08/02/24					
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO3	562	mg/L			550			2	10
Duplicate (B439872-DUP2)	**Sample: HG04591-11**			Prepared & Analyzed: 08/02/24					
Alkalinity - bicarbonate as CaCO3	338	mg/L			325			4	10
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Batch B439881 - IC No Prep - EPA 300.0 REV 2.1									
Calibration Blank (B439881-CCB1)				Prepared & Analyzed: 08/02/24					
Fluoride	0.00	mg/L							
Sulfate	0.00	mg/L							
Calibration Check (B439881-CCV1)				Prepared & Analyzed: 08/02/24					
Fluoride	5.28	mg/L		5.000		106	90-110		
Sulfate	4.96	mg/L		5.000		99	90-110		
Matrix Spike (B439881-MS1)	**Sample: HG04890-17**			Prepared & Analyzed: 08/02/24					

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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 (B439881-MS1)	**Sample: HG04890-17**			Prepared & Analyzed: 08/02/24					
Sulfate	1.00E9	mg/L	Q4	1.500	176	NR	80-120		
Fluoride	1.95	mg/L		1.500	0.230	114	80-120		
Matrix Spike Dup (B439881-MSD1)	**Sample: HG04890-17**			Prepared & Analyzed: 08/02/24					
Sulfate	1.00E9	mg/L	Q4	1.500	176	NR	80-120	0	20
Fluoride	1.92	mg/L		1.500	0.230	113	80-120	1	20
Batch B439905 - No Prep - SM 4500-F C-2011									
Calibration Blank (B439905-CCB1)				Prepared & Analyzed: 08/05/24					
Fluoride	0.0140	mg/L							
Calibration Blank (B439905-CCB2)				Prepared & Analyzed: 08/05/24					
Fluoride	0.0290	mg/L							
Calibration Check (B439905-CCV1)				Prepared & Analyzed: 08/05/24					
Fluoride	0.699	mg/L		0.7000		100	90-110		
Calibration Check (B439905-CCV2)				Prepared & Analyzed: 08/05/24					
Fluoride	0.693	mg/L		0.7000		99	90-110		
Batch B440104 - No Prep - SM 2540 C-2011									
Blank (B440104-BLK1)				Prepared & Analyzed: 08/08/24					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B440104-BS1)				Prepared & Analyzed: 08/08/24					
Solids - total dissolved solids (TDS)	973	mg/L		1000		97	84.4-107		
Duplicate (B440104-DUP2)	**Sample: HH00594-01**			Prepared & Analyzed: 08/08/24					
Solids - total dissolved solids (TDS)	1060	mg/L			1060			0	5
Batch B440131 - No Prep - SM 2320 B-2011									
Duplicate (B440131-DUP1)	**Sample: HG04890-01**			Prepared & Analyzed: 08/06/24					
Alkalinity - bicarbonate as CaCO3	312	mg/L			312			0	10
Duplicate (B440131-DUP2)	**Sample: HG04890-11**			Prepared & Analyzed: 08/06/24					
Alkalinity - carbonate as CaCO3	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO3	550	mg/L			562			2	10

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Peoria, IL 61615
(800)752-6651

NOTES

Specifications regarding method revisions and method modifications 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

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.

Certified by: Diane Billings, Project Manager

HG04314

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-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY

NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER

Site Location STATE: IL

Section D Valid Matrix Codes: 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 (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	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	OM24D			7/23/24	1137		5	✓		✓																				
2	OR11				1314		5	✓		✓																				
3	OR11 Dup				1314		5	✓		✓																				
4	OR20				1430		5	✓		✓																				
5	OM17D				1526		5	✓		✓																				
6	OM100D				1403		5	✓		✓																				
7	OM100S				1316		5	✓		✓																				
8	OM101D				1213		5	✓		✓																				
9	OM101S				1113		5	✓		✓																				
10	BA02				1428		4	✓		✓																				
11	BA01				1250		4	✓		✓																				
12	BA01 Dup				1250		4	✓		✓																				
13	G60S				1539		4	✓		✓																				
14	G57S				1153		4	✓		✓																				
15	G58S				1251		3	✓		✓																				
16	G59S				1412		3	✓		✓																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	[signature]	7/23/24	1649							
				[signature]	7/23/24	1649	4.1	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: Jaxon Davis

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/23/24

HG04591

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-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER

Site Location STATE: IL

Section D — Valid Matrix Codes: 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	OM07	WT	G	7/24/24	1400		5	X		X																				
2	OR13D	WT	G	7/24/24	1134		5	X		X																				
3	OR13S	WT	G	7/24/24	1239		5	X		X																				
4	OR14D	WT	G	7/24/24	1513		5	X		X																				
5	OR04D	WT	G	7/24/24	1450		5	X		X																				
6	OM15D	WT	G	7/24/24	1050		5	X		X																				
7	OM22D	WT	G	7/24/24	1150		5	X		X																				
8	OM23D	WT	G	7/24/24	1243		5	X		X																				
9	OM25S	WT	G	7/24/24	1345		5	X		X																				
10	G03L	WT	G	7/24/24	1021		1		X																					
11	G04S	WT	G	7/24/24	1056		3	X		X																				
12	G06S	WT	G	7/24/24	1200		3	X		X																				
13	G12S	WT	G	7/24/24	1400		3	X		X																				
14	G09S	WT	G	7/24/24	1530		3	X		X																				
15	BA0~~4~~3L	WT	G	7/24/24	1540		4	X		X																				
16	EB #1	WT	G	7/24/24	1545		5	X		X																				

Thermometer # 3 Correction Factor (Deg C) 1

Observed Temp (Deg C) 4.6 Corrected Temp (Deg C) 4.1

Delivery Method: FedEx UPS Walk-in USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0		7/24/24	1647				
					7/24/24	1647	Temp in °C: 4.1; Received on Ice (Y/N): ✓; Custody Sealed Cooler (Y/N): ; Samples Intact (Y/N):

7/24/24

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 07/24/24

Courier

HG04890 v8

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-Duck Creek
- Address: 17751 North Cilco Rd, Canton, IL 61520
- 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: Sam Davies: samantha.davies@vistracorp.com; Daryl Johnson: Robert.Johnson@vistracorp.com
- Purchase Order No.:
- Project Name:
- Project Number: 2285

Section C (Invoice Information):
- Attention: Brian Voelker
- Company Name: Vistra Corp
- Address: see Section A
- Quote Reference:
- Project Manager:
- Profile #:

Page: 1 of 10

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER

Site Location STATE: IL

Section D — Valid Matrix Codes: 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 (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	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	BA04	WT	G	7/25/24	15:55	4																						
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
DC-24Q2 Rev 0	Andy Weteska	7/25/24	17:06		7/25/24	1706	3.1	Y	N	Y

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Andy Weteska
- SIGNATURE of SAMPLER: Andy Weteska
- DATE Signed (MM/DD/YY): 7/25/24

HG04890 V8

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-Duck Creek
- Address: 17751 North Cilco Rd, Canton, IL 61520
- 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: Sam Davies: samantha.davies@vistracorp.com; Daryl Johnson: Robert.Johnson@vistracorp.com
- Purchase Order No.:
- Project Name:
- Project Number: 2285

Section C Invoice Information:
- Attention: Brian Voelker
- Company Name: Vistra Corp
- Address: see Section A
- Quote Reference:
- Project Manager:
- Profile #:

Page: 1 of 10

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER

Site Location STATE: IL

Section D — Valid Matrix Codes: 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): 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

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	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	P36L	WT	G	7/25/24	10:20		3																							
2	OM17	WT	G	7/25/24	10:50		4																							
3	OM12	WT	G	7/25/24	11:00		5																							
4	T46L	WT	G	7/25/24	11:16		3																							
5	OM12D	WT	G	7/25/24	12:00		5																							
6	T44L	WT	G	7/25/24	12:20		3																							
7	OM16	WT	G	7/25/24	12:35		4																							
8	OR19	WT	G	7/25/24	13:00		5																							
9	G70L	WT	G	7/25/24	13:40		3																							
10	OM21	WT	G	7/25/24	14:01		5																							
11	OM01	WT	G	7/25/24	14:40		5																							
12	OM01 Dup	WT	G	7/25/24	14:40		5																							
13	G71S	WT	G	7/25/24	14:45		3																							
14	BA06	WT	G	7/25/24	11:00		4																							
15	BA05	WT	G	7/25/24	12:30		4																							
16	BA03	WT	G	7/25/24	14:29		4																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	Andy Weteska	7/25/24	17:06							
					7/25/24	1706	3.1	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: Andy Weteska
- SIGNATURE of SAMPLER: Andy Weteska
- DATE Signed (MM/DD/YY): 7/25/24

HG05251 VB

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:	Page: 1 of 10
Company: Vistra Corp-Duck Creek	Report To: Brian Voelker	Attention: Brian Voelker	
Address: 17751 North Cilco Rd	Copy To: Sam Davies: samantha.davies@vistracorp.com	Company Name: Vistra Corp	REGULATORY AGENCY
Canton, IL 61520	Daryl Johnson: Robert.Johnson@vistracorp.com	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 — Valid Matrix Codes: 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	GSOL	WT	G	7/29/24	1326		3	X		X																				
2	GSOS	WT	G	7/29/24	1450		4	X		X																				
3	GS3S	WT	G	7/29/24	1216		3	X		X																				
4	GS3L	WT	G	7/29/24	1113		3	X		X																				
5	BA02L	WT	G	7/29/24	1115		4	X		X																				
6	OR06A	WT	G	7/29/24	1215		5	X		X																				
7	OM04S	WT	G	7/29/24	1351		5	X		X																				
8	OR02	WT	G	7/29/24	1452		5	X		X																				
9	GS1L	WT	G	7/29/24	1052		3	X		X																				
10	GS1L Dup	WT	G	7/29/24	1052		3	X		X																				
11	GS1S	WT	G	7/29/24	1053		4	X		X																				
12	GS2L	WT	G	7/29/24	1153		3	X		X																				
13	GS2S	WT	G	7/29/24	1240		3	X		X																				
14	GS4L	WT	G	7/29/24	1448		4	X		X																				
15	GS4S	WT	G	7/29/24	1412		3	X		X																				
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	[signature]	7/29/24	1613							
				VB	7/29/24	1613	Temp in °C	Y Received on Ice (Y/N)	Y Custody Sealed Cooler (Y/N)	Y Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Rembertson
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 07/29/24

IR Gun # 13 Correction Factor (Deg C) +0.1
Observed Temp (Deg C) 3.2 Corrected Temp (Deg C) 3.3
Delivery Method: FedEx UPS Walk-in USPS Other

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2024
DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

CHAIN-OF-CUSTODY / Analytical Request Document

HH00594 V3

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:
Page: 1 of 10

Company: Vistra Corp-Duck Creek	Report To: Brian Voelker	Attention: Brian Voelker	
Address: 17751 North Cilco Rd	Copy To: Sam Davies: samantha.davies@vistracorp.com	Company Name: Vistra Corp	REGULATORY AGENCY
Canton, IL 61520	Daryl Johnson: Robert.Johnson@vistracorp.com	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 — Valid Matrix Codes: 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 (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	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	BA03L	WT	G	8/5/24	1348		1	X																						
2	OM26	WT	G	8/5/24	1053		2	X																						
3	OM27	WT	G	8/5/24	1141		2	X																						
4	OM28	WT	G	8/5/24	1250		2	X																						
5	EB3	WT	G	8/5/24	1517		2	X																						
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

IR Gun # 13 Correction Factor (Deg C) +0.1
Observed Temp (Deg C) 1.6 Corrected Temp (Deg C) 1.7
Delivery Method: FedEx UPS Walk-in USPS Other Field Team

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0	[signature]	8/5/24	1626				
				J Bohannon	8/5/24	1626	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Rembetka
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/05/24

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

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numl	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G54C	DC_G54!C	203	GMF	7/22/24	1347	36.24		JB
OM100S	DC_OM100#S	201-202	AP1/2	7/22/24	1132	11.88	TD = 28.03	JD
OM100D	DC_OM100&D	201-202	AP1/2	7/22/24	1130	11.71	TD: 56.31	JD
OM101S	DC_OM101#S	201-202	AP1/2	7/22/24	1534	15.42	TD = 19.97	JD
OM101D	DC_OM101&D	201-202	AP1/2	7/22/24	1536	17.00	TD: 36.33	JD
OM12D	DC_OM12&D	201-202	AP1/2	7/22/24	1234	16.20	TD - 54.83	App
OM15D	DC_OM15&D	201-202	AP1/2	7/22/24	1009	24.54		JD
OM17D	DC_OM17&D	201-202	AP1/2	7/22/24	1058	14.73	TD=43.27	JD
OM26	DC_OM26	201-202	AP1/2	7/22/24	1408	30.15	TD: 62.08	JD
OM27	DC_OM27	201-202	AP1/2	7/22/24	1401	32.34	TD = 62.20	JD
OM28	DC_OM28	201-202	AP1/2	7/22/24	1356	46.97	TD:68.95	JD
XPW01	DC_XPW01	201-202	AP1/2	7/22/24	1632	6.98	Dry	App
BA01C	DC-BA01!C	205	BAB	7/22/24	1200	12.74		App
BA01L	DC-BA01!L	205	BAB	7/22/24	1159	12.71		App
G02L	DC-G02!L	204	LF	07/22/24	1100	8.15	DTB - 1800	KMO
G02D	DC-G02&D	204	LF	07/22/24	1105	21.05	78.51 - DTB	KMO
G03L	DC-G03!L	204	LF	07/22/24	1001	6.42	26.43 - DTB	KMO
G03S	DC-G03#S	204	LF	07/22/24	1008	6.04	Pump -	KMO
G04L	DC-G04!L	204	LF	07/22/24	1111	14.70	17.04 - DTB	KMO
G04S	DC-G04#S	204	LF	07/22/24	1113	14.51	Pump -	KMO
G06L	DC-G06!L	204	LF	07/22/24	1533	19.70	23.46 - DTB	KMO
G06S	DC-G06#S	204	LF	07/22/24	1531	20.00	Pump	KMO
G07L	DC-G07!L	204	LF	07/22/24	1525	19.35	23.09 - DTB	KMO

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G08L	DC-G08!L	204	LF	07/22/24	1425	19.00	22.13-DTB	KWD
G09L	DC-G09!L	204	LF	07/22/24	1422	19.35	23.43-DTB	KWD
G09S	DC-G09#S	204	LF	07/22/24	1421	19.43	Pump	KWD
G12L	DC-G12!L	204	LF	07/22/24	1350	16.69	Pump	KWD
G12S	DC-G12#S	204	LF	07/22/24	1351	18.69	Pump	KWD
G14L	DC-G14!L	204	LF	07/22/24	1321	21.32	26.86-DTB	KWD
G15L	DC-G15!L	204	LF	07/22/24	1240	24.56	34.57-DTB	KWD
G15S	DC-G15#S	204	LF	07/22/24	1239	27.00	Pump	KWD
G16L	DC-G16!L	204	LF	07/22/24	1233	24.84	Pump	KWD
G50L	DC-G50!L	203	GMF	7/22/24	1333	11.56		JB
G51L	DC-G51!L	203	GMF	7/22/24	1049	12.22		JB
G52L	DC-G52!L	203	GMF	7/22/24	1019	24.34		JB
G52S	DC-G52#S	203	GMF	7/22/24	1027	29.64	Lock hard to open + close	JB
G53L	DC-G53!L	203	GMF	7/22/24	1107	10.96		JB
G53S	DC-G53#S	203	GMF	7/22/24	1111	12.84	Lock rusting	JB
G55L	DC-G55!L	203	GMF	7/22/24	1345	18.61		AW
G55S	DC-G55#S	203	GMF	7/22/24	1344	18.59		AW
G56L	DC-G56!L	203	GMF	7/22/24	1132	17.83		AW
G56S	DC-G56#S	203	GMF	7/22/24	1133	17.20		AW
G57L	DC-G57!L	203	GMF	7/22/24	1204	18.81		AW
G58L	DC-G58!L	203	GMF	07/22/24	1623	22.13	33.87-DTB	KWD
G58S	DC-G58#S	203	GMF	07/22/24	1622	22.07	Pump	KWD
G59L	DC-G59!L	203	GMF	~~7/22/24~~ 7/22/24	~~1021~~ 1626	19.19	Needed different key. Right key almost broke 35.36-DTB	JB

JB 7/22

BG

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G59S	DC-G59#S	203	GMF	7/22/24	1220	30.99		JB
G61S	DC-G61#S	203	GMF	7/22/24	1204	17.62		JB
G62L	DC-G62!L	203	GMF	7/22/24	1148	18.72		JB
G63L	DC-G63!L	203	GMF	7/22/24	1705	21.65		AP
G63S	DC-G63#S	203	GMF	7/22/24	1706	22.47		AM
* G65L	DC-G65!L	203	GMF	7/22/24	12:47	16.46	Peristaltic	AW
G65S	DC-G65#S	203	GMF	7/22/24	10:58	16.76	Dedicated Bladder	AW
G66L	DC-G66!L	203	GMF	7/22/24	11:12	14.20	Peristaltic	AW
G66S	DC-G66#S	203	GMF	7/22/24	11:10	14.59	Dedicated Bladder	AW
G67L	DC-G67!L	203	GMF	7/22/24	11:23	11.71	Peristaltic	AW
G67S	DC-G67#S	203	GMF	7/22/24	11:22	12.67	Dedicated Bladder	AW
G68L	DC-G68!L	203	GMF	7/22/24	13:25	12.30	Portable Pump DTB: 17.10	AW
G68S	DC-G68#S	203	GMF	7/22/24	13:27	13.50	Dedicated Bladder	AW
G69L	DC-G69!L	203	GMF	7/22/24	13:08	12.16	Portable Pump DTB: 27.80	AW
G69S	DC-G69#S	203	GMF	7/22/24	13:11	15.93	Dedicated Bladder	AW
G70L	DC-G70!L	203	GMF	7/22/24	10:28	15.99	Dedicated Bladder	AW
G71L	DC-G71!L	203	GMF	7/22/24	10.33	22.72	Peristaltic	AW
* G71S	DC-G71#S	203	GMF	07/22/24	1557	23.55	Pump	RWO
G72L	DC-G72!L	203	GMF	7/22/24	10:43	21.92	Peristaltic	AW
* G73L	DC-G73!L	203	GMF	07/22/24	1559	23.73	Pump	RWO
L103	DC-L103	204	LF	07/22/24	1304	—	ARTISAN	RWO
OM05S	DC-OM05#S	201-202	AP1/2	7/22/24	1331	20.64		AP
OM08	DC-OM08	201-202	AP1/2	7/22/24	1319	13.20	TD - 27.0	JD

BGA

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date *	Time	Measured Depth to Water (ft bmp)	Comments	Initials
OM09	DC-OM09	201-202	AP1/2	7/22/24	1347	3.58	TD = 27.04	JD
OM10	DC-OM10	201-202	AP1/2	7/22/24	1108	9.23	TD = 21.90	
OM15	DC-OM15	201-202	AP1/2	7/22/24	1012	20.94		JD
OM22S	DC-OM22#S	201-202	AP1/2	7/22/24	1302	17.07	TD = 40.21	
OM23S	DC-OM23#S	201-202	AP1/2	7/22/24	1247	40.81	TD = 46.15	
OM25D	DC-OM25&D	201-202	AP1/2	7/22/24	1233	57.73	TD = 77.48	
OR03S	DC-OR03#S	201-202	AP1/2	7/22/24	1444	45.22		APP
OR05D	DC-OR05&D	201-202	AP1/2	7/22/24	1328	21.32		APP
OR14S	DC-OR14#S	201-202	AP1/2	7/22/24	1356	6.58		APP
OR18	DC-OR18	201-202	AP1/2	7/22/24	1141	17.59	53.07 = TD	KWG
P01L	DC-P01!L	204	LF	07/22/24	1018	8.36	82.33 - DTB	KWG
P01S	DC-P01#S	204	LF	07/22/24	1020	8.27	29.66 - DTB	KWG
P01I	DC-P01$I	204	LF	07/22/24	1014	8.53	46.96 - DTB	KWG
P02S	DC-P02#S	204	LF	07/22/24	1057	13.84	91.86 - DTB	KWG
P04S	DC-P04#S	204	LF	07/22/24	1113	14.51	SAME AS GW45	KWG
P05L	DC-P05!L	204	LF	07/22/24	1124	3.04	14.92 - DTB	KWG
P05S	DC-P05#S	204	LF	07/22/24	1641	3.19	PUMP	KWG
P05D	DC-P05&D	204	LF	07/22/24	1644	5.09	45.93 - DTB	KWG
P36L	DC-P36!L	204	LF	07/22/24	1512	9.60	PUMP	KWG
P36S	DC-P36#S	204	LF	07/22/24	1513	9.26	31.44 - DTB	KWG
P36D	DC-P36&D	204	LF	07/22/24	1515	10.30	24.28 - DTB	KWG
P37L	DC-P37!L	204	LF	07/22/24	1401	12.36	PUMP	KWG
P37D	DC-P37&D	204	LF	07/22/24	1403	14.19	45.19 - DTB	KWG

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
P38L	DC-P38!L	204	LF	07/22/24	1313	14.72	DTB-19.72	KMD
P38S	DC-P38#S	204	LF	07/22/24	1316	14.08	DTB-22.32	KMD
P39L	DC-P39!L	204	LF	07/22/24	1207	7.72	DTB-15.08	KMD
P39S	DC-P39#S	204	LF	07/22/24	1202	4.85	DTB - 26.28	KMD
P39D	DC-P39&D	204	LF	07/22/24	1204	12.39	DTB 43.~~35~~ KMD 57	KMD
P40L	DC-P40!L	204	LF	07/22/24	1555 ~~6.51~~	6.51 ~~20.46~~ KMD	DTB-20.46	KMD
P40S	DC-P40#S	204	LF	07/22/24	1557	5.72	DTB-35.33	KMD
P41L	DC-P41!L	204	LF	07/22/24	1639	5.51	DTB-12.14	KMD
P41S	DC-P41#S	204	LF	07/22/24	1638 ~~4.90~~	7.90 ~~31.4~~	DTB-31.48	KMD
P41D	DC-P41&D	204	LF	07/22/24	1637	34.70	69.02	KMD
P42L	DC-P42!L	204	LF	07/22/24	—	—	BROKEN	KMD
P42S	DC-P42#S	204	LF	07/22/24	1633	5.33	31.56-DTB	KMD
P42I1	DC-P42$I1	204	LF	07/22/24	1632	5.64	42.23-DTB	KMD
P42I2	DC-P42%I2	204	LF	07/22/24	1630	31.69	57.31	KMD
P42D	DC-P42&D	204	LF	07/22/24	1629	36.84	DTB-77.52	KMD
P52	DC-P52	203	GMF	07/22/24	1620	12.08	DTB-28.27	JD
P57L	DC-P57!L	203	GMF	07/22/24	1614	14.38	DTB-22.57	JD
P57S	DC-P57#S	203	GMF	07/22/24	1616	13.94	DTB-34.35	JD
P60	DC-P60	203	GMF	07/22/24	1211	18.46		JD
P61	DC-P61	203	GMF	07/22/24	1315	6.78		JD
P62	DC-P62	203	GMF	07/22/24	1250	8.71		JD
P63	DC-P63	203	GMF	07/22/24	1254	12.49		JD
P64	DC-P64	203	GMF	07/22/24	1303	13.32		JD

BG

SAR-3: Episodic Depth to Groundwater Measurements
All DTWs on SAR-3 must be collected within 24 hours.
Plant: DC
Event: DC-24Q3 Rev 0

Well	Unique ID	Unit Numt	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
R10L	DC-R10!L	204	LF	07/22/24	1628	19.89		
R11L	DC-R11!L	204	LF	07/22/24	1354	10.53	DTB-26.72	KMD
R13L	DC-R13!L	204	LF	07/22/24	1345	19.06	DTB-29.97	KMD
R61L	DC-R61!L	203	GMF	07/22/24	1202	17.48		
R72S	DC-R72#S	203	GMF	07/22/24	1040	21.91	PERISTALTIC	
T43L	DC-T43!L	204	LF	07/22/24	1428	5.65	PUMP	KMD
T44L	DC-T44!L	204	LF	07/22/24	1430	9.52	PUMP	KMD
T45L	DC-T45!L	204	LF	07/22/24	1455	7.40	PUMP	KMD
T46L	DC-T46!L	204	LF	07/22/24	1518	5.89	PUMP	KMD
X301	DC-X301-leachate	203	GMF	07/22/24	1626	49.30		

U:6/19/23 GKJ

BG

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.
Transducer data on SAR-4 form may be collected at anytime during the sampling event.

Plant: DC
Event: DC-24Q3 Rev 1

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L/R)		
BA01	DC-BA01	205	BAB	7/22/24	1156	13.29	21615533	Yes	574.1342	Yes	H		App
BA02	DC-BA02	205	BAB	7/22/24	1216	8.93	21615636	Yes	571.2715	Yes	H		App
BA02L	DC-BA02!L	205	BAB	7/22/24	1219	8.74	21615682	Yes	571.3186	Yes	H		App
BA03	DC-BA03	205	BAB	7/22/24	1124	8.05	21615637	Yes	570.478	Yes	H		App
BA03L	DC-BA03!L	205	BAB	7/22/24	1120	7.47	21615687	Yes	568.6324	Yes	H		App
BA04	DC-BA04	205	BAB	7/22/24	1109	4.71	21615631	Yes	573.6833	Yes	H		App
BA05	DC-BA05#	205	BAB	7/22/24	1143	17.97	21615540	Yes	577.8438	Yes	H		App
BA06	DC-BA06	205	BAB	7/22/24	1135	20.15	21615525	Yes	575.7928	Yes	H		App
G02S	DC-G02#S	204	LF	07/22/24	1100	7.86	21615554	Yes	614.01	Yes	H		KD
G50S	DC-G50#S	203	GMF	7/22/24	1328	12.54	21615535	Yes	611.28	Yes	High		JB
G51S	DC-G51#S	203	GMF	7/22/24	1044	11.42	21615691	Yes	606.80	Yes	High		JB
G54L	DC-G54!L	203	GMF	7/22/24	0958	20.43	21615690	Yes	607.96	Yes	High		JB
G54S	DC-G54#S	203	GMF	7/22/24	1005	22.29	21615684	Yes	607.08	Yes	High		JB
G57S	DC-G57#S	203	GMF	7/22/24	1201	18.46	21615683	Yes	604.14	Yes	H		[illegible]
G60L	DC-G60!L	203	GMF	7/22/24	1040	9.89	21615678	Yes	606.01	Yes	High		JB
G60S	DC-G60#S	203	GMF	7/22/24	1238	21.21	21615677	Yes	593.75	Yes	High		JB
G64L	DC-G64!L	203	GMF	7/22/24	1130	20.81	21615688	Yes	607.60	Yes	High		JB
G64S	DC-G64#S	203	GMF	7/22/24	1127	22.21	21615632	Yes	600.96	Yes	High		JB

BG

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.
Transducer data on SAR-4 form may be collected at anytime during the sampling event.

Plant: DC
Event: DC-24Q3 Rev 1

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L/R)		
OM01	DC-OM01	201-202	AP1/2	7/22/24	1449	9.16	21615685	Yes	586.1435	Yes	H		JD
OM04S	DC-OM04#S	201-202	AP1/2	7/22/24	1426	19.64	21615542	Yes	587.5785	Yes	H		App
OM07	DC-OM07	201-202	AP1/2	7/22/24	1300	11.34	21615541	NO	–	NO	–	No Transducer	App
OM12	DC-OM12	201-202	AP1/2	7/22/24	1239	15.12	21615527	NO	–	NO	–	No Transducer	App
OM16	DC-OM16	201-202	AP1/2	7/22/24	1047	26.46	21615539	Yes	582.6077	Yes	H		JD
OM17	DC-OM17	201-202	AP1/2	7/22/24	1055	11.20	21615693	Yes	580.6229	Yes	H		JD
OM21	DC-OM21	201-202	AP1/2	7/22/24	1416	9.47	21615593	Yes	596.9011	Yes	H		App
OM22D	DC-OM22&D	201-202	AP1/2	7/22/24	1300	16.80	21615592	Yes	582.2973	Yes	H		JD
OM23D	DC-OM23&D	201-202	AP1/2	7/22/24	1244	37.64	21615591	Yes	575.6738	Yes	H		JD
OM24D	DC-OM24&D	201-202	AP1/2	7/22/24	1220	3.49	21615522	Yes	573.4653	Yes	H		JD
OM25S	DC-OM25#S	201-202	AP1/2	7/22/24	1229	57.97	21615681	Yes	571.2313	Yes	H		JD
OR02	DC-OR02	201-202	AP1/2	7/22/24	1453	4.91	21615679	Yes	596.3070	Yes	H		App
OR03D	DC-OR03&D	201-202	AP1/2	7/22/24	1445	44.70	21615577	Yes	583.1636	Yes	H		App
OR04D	DC-OR04&D	201-202	AP1/2	7/22/24	1428	21.09	21615570	Yes	586.5686	Yes	H		App
OR06A	DC-OR06!A	201-202	AP1/2	7/22/24	1318	13.45	21615692	Yes	581.9741	Yes	H		App
OR11	DC-OR11	201-202	AP1/2	7/22/24	1433	30.31	21615686	Yes	565.9783	Yes	H		JD
OR13S	DC-OR13#S	201-202	AP1/2	7/22/24	1341	12.41	21615676	Yes	590.1160	Yes	H		App
OR13D	DC-OR13&D	201-202	AP1/2	7/22/24	1344	12.85	21564135	Yes	589.7038	Yes	H		App

BG

SAR-4: Depth to Groundwater Measurements - On-site Transducer Downloads

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.
Transducer data on SAR-4 form may be collected at anytime during the sampling event.

Plant: DC
Event: DC-24Q3 Rev 1

Well	Unique ID	Unit Number	Unit Name	Date	Time	Measured Depth to Water (ft bmp)	On-site Transducer Data					Comments	Initials
							Data Logger Serial No.	Does Data Logger Serial No. Match?	WL Reading on Transducer (ft)	Data down-loaded?	Batt (H/M/L/R)		
OR14D	DC-OR14&D	201-202	AP1/2	7/22/24	1359	9.57	21615611	yes	589.5958	yes	H		App
OR19	DC-OR19	201-202	AP1/2	7/22/24	1245	20.81	21615634	yes	576.9564	yes	H		App
OR20	DC-OR20	201-202	AP1/2	7/22/24	1429	20.85	21615610	yes	566.7091	yes	H		App
RG01	DC-RG01	?	?	7/22/24	1009	—	21628685	—	—	NO	~~R~~ App 7/22/24	Record Serial No. unable to connect to laptop	App

Notes:
Batt = battery
bmp = below measuring point
ft = feet
H = high
L = low
M = medium
R = replaced

 BG

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2024
DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA01 **Purge Method:** bladder

Last Quarter: Bladder

Date: 7-23-24 Start Time: 1054 Finish/Sample Time: 1250

Well Depth (Bottom) From MP: _____ ft Min. Purge Volume: 1000 mL

Depth to Water From MP: 13.34 ft Total Purge Volume: 1800 mL

Water Column Length: _____ ft

Well Water Volume: _____ L Total Drawdown: 0.12 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		ft.	mL/min	s.u.	umhos/cm	deg C	mV	mg/L	NTU
1	1106	13.47	100	7.55	960	21.27	-25	0.33	0.0
2	1109	13.46	100	7.17	914	19.56	-41	0.0	0.0
3	1112	13.46	100	6.97	892	19.73	-47	0.0	0.0
4	1115	13.46	100	7.16	888	19.38	-52	0.0	0.0
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Horiba

Check pH if reading is below 6.9

Secondary pH Meter: _____

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 500mL, H2SO4)
2	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
2	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1+1	Rad (P, 2.5L, HNO3)

8

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
2	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 13.46 ft

Comments Field dupe taken

Sampler's Signature: [signature]

BG

Duck Creek

WELL/SAMPLE POINT BA02

Purge Method: bladder

Last Quarter: Bladder

Date: 7-23-24 Start Time: 1314 Finish/Sample Time: 1428

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 8.99 ft

Total Purge Volume: 1800 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 3.79 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	1326	9.50	100	6.84	846	21.42	-21	0.0	7.8
2	1329	9.72	100	7.18	842	21.36	-24	0.0	18.8
3	1332	9.86	100	7.28	835	21.25	-27	0.0	15.4
4	1335	9.96	100	7.16	832	21.17	-28	0.0	16.9
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Horiba

Check pH if reading is below 6.9

Secondary pH Meter: _____

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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

4

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 12.78 ft

Comments _____

Sampler's Signature: [illegible]

BG

Duck Creek

WELL/SAMPLE POINT BA02L

Purge Method: Peristaltic

Last Quarter: Peristaltic

Date: ~~7-23-24~~ 7/29/24 SD 7/29

Start Time: 1008

Finish/Sample Time: 1115

Well Depth (Bottom) From MP: 14.20 ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 9.05 ft

Total Purge Volume: 1600 mL

Water Column Length: 5.15 ft

Well Water Volume: 3.12 L

Total Drawdown: 1.63 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	1019	10.06	100	6.85	525	24.41	-129	0.87	593
2	1022	10.10	100	6.83	523	24.36	-130	0.84	509
3	1025	10.14	100	6.81	523	24.32	-132	0.84	464
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Horiba U-5000

Check pH if reading is below 6.9 or above 7.7

Secondary pH Meter: Oakton 6.97

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

Sample Appearance:

Odor: ☒ None ☐ Slight ☐ Mod. ☐ Strong

Color ☐ None ☒ Slight ☐ Mod. ☐ Strong

Turb: ☐ None ☒ Slight ☐ Mod ☐ Strong

BOTTLE INFORMATION:

Qty	Unfiltered 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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

Qty	Filtered Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 10.68 ft

Comments Soft bottom

Sampler's Signature: [signature]

[signature]

Duck Creek

WELL/SAMPLE POINT BA03 **Purge Method:** BLADDER

Last Qaurter: Bladder

Date: 07/25/24 Start Time: 1310 Finish/Sample Time: 1429

Well Depth (Bottom) From MP: _____ ft Min. Purge Volume: 1000 mL

Depth to Water From MP: 8.93 ft Total Purge Volume: 1200 mL

Water Column Length: _____ ft

Well Water Volume: _____ L Total Drawdown: 0.41 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	1333	9.05	100	7.18	746	21.95	9	2.12	2.2
2	1336	9.10	100	7.08	744	21.88	-1	2.00	0.00
3	1339	9.17	100	~~7.10~~ KMO	748	21.90	-4	2.00	0.00
4				7.10 7/26/24					
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: HORIBA

Check pH if reading is below 6.9 or above 7.7

Secondary pH Meter: OAKTON

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 500mL, H2SO4)
/	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
/	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
/	Rad (P, 2.5L, HNO3)

4

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
/	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 9.34 ft

Comments

Sampler's Signature:

SG

Duck Creek

WELL/SAMPLE POINT BA03L

Purge Method: BLADDER

Last Quarter: Bladder

Date: 07/24/24 Start Time: 1450 Finish/Sample Time: 1540

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 8.23 ft

Total Purge Volume: 1500 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 0.20 ft

AP 7/24/24

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	1500	8.43	~~100~~ 200	7.20	~~0.37~~ 1043	23.10	92	0.37	14.9
2	1503	8.43	~~100~~ 200	7.04	1040	22.95	92	0.22	0.9
3	1506	8.43	~~100~~ 200	7.06	1038	23.02	92	0.28	10.7
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: HORIBA

Check pH if reading is below 6.9

Secondary pH Meter: OAKTON

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

Sample Appearance:

Odor: ☑ None ☐ Slight ☐ Mod. ☐ Strong

Color ☑ None ☐ Slight ☐ Mod. ☐ Strong

Turb: ☑ None ☐ Slight ☐ Mod ☐ Strong

BOTTLE INFORMATION:

Qty	Unfiltered 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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

KAD

3

4

Qty	Filtered Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 8.43 ft

Comments WELL STABLE, SAMPLED AT 200 mL A MINUTE.

Sampler's Signature:

BG

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2024
DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Duck Creek

WELL/SAMPLE POINT BA03L

Purge Method: bladder

Last Quarter: Bladder

Date: 8/5/24 Start Time: 1325 Finish/Sample Time: 1348

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 7.63 ft

Total Purge Volume: 1600 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 0.17 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		ft.	mL/min	s.u.	umhos/cm	deg C	mV	mg/L	NTU
1	1334	7.80	200	6.88	1680	21.54	83	1.43	384
2	1336	7.80	1	6.85	1640	21.51	87	1.41	321
3	1338	7.80	1	6.80	1600	21.37	93	1.38	281
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: Horiba

Check pH if reading is below 6.9

Secondary pH Meter: Oakton 6.79

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 500mL, H2SO4)
	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
	Rad (P, 2.5L, HNO3)

1

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 7.80 ft

Comments

Sampler's Signature: [signature]

Duck Creek

WELL/SAMPLE POINT BA04

Purge Method: BLADDER

Date: 07/25/24

Start Time: ~~1310~~ 1440 (RMD 07/25/24)

Last Quarter: Bladder
Finish/Sample Time: 1555

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 5.03 ft

Total Purge Volume: 1500 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 0.12 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	1446	5.10	100	6.96	1006	20.00	-28	0.98	0
2	1449	5.23	100	6.93	1005	19.95	-29	0.89	0
3	1502	5.20	100	6.91	1004	19.94	-22	0.89	0
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: HORIBA

Check pH if reading is below 6.9

Secondary pH Meter: OAKTON

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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

4

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 5.15 ft

Comments

Sampler's Signature:

BG

Duck Creek

WELL/SAMPLE POINT BA05 **Purge Method:** BLADDER

Last Quarter: Bladder

Date: 07/25/24 Start Time: 1116 Finish/Sample Time: 1230

Well Depth (Bottom) From MP: _____ ft Min. Purge Volume: 1000 mL

Depth to Water From MP: 18.40 ft Total Purge Volume: 1200 mL

Water Column Length: _____ ft

Well Water Volume: _____ L Total Drawdown: 2.01 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	1131	19.55	100	7.13	1051	19.99	-46	3.57	56.20
2	1134	19.75	100	7.01	1049	20.13	-70	3.30	2.0
3	1137	20.70	100	6.96	1050	20.04	-55	3.30	29
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: HORIBA

Check pH if reading is below 6.9 or above 7.7

Secondary pH Meter: OAKTON

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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

4

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 20.41 ft

Comments

Sampler's Signature:

BG

Duck Creek

WELL/SAMPLE POINT BA06 **Purge Method:** BLADDER

Last Quarter: Bladder

Date: 07/25/24 Start Time: 0948 Finish/Sample Time: 1100

Well Depth (Bottom) From MP: _____ ft Min. Purge Volume: 1000 mL

Depth to Water From MP: 20.35 ft Total Purge Volume: 1800 mL

Water Column Length: _____ ft

Well Water Volume: _____ L Total Drawdown: 4.15 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	1013	22.16	100	7.69	20606	16.13	-44	0	2064
2	1016	22.46	100	7.64	20602	16.05	-41	0	193
3	1019	22.71	100	7.65	20601	16.16	-48	0	91.80
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: HORIBA

Check pH if reading is below 6.9 or above 7.7

Secondary pH Meter: OAKTON

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 500mL, H2SO4)
1	Metals (P,250mL, HNO3)
	Cyanide (P, 250mL, NaOH)
1	General (P,1000mL)
	General (P, 500 mL)
	Ammonia (P, 250mL, H2SO4)
1	Rad (P, 2.5L, HNO3)

4

Filtered	
Qty	Bottles
	Metals (P,250mL, HNO3)
	Ammonia (P,250mL, H2S04)
	General (P,500mL)
1	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 24.50 ft

Comments

Sampler's Signature: [signature]

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Duck Creek
Weather:	77-86°F partsunny wind W 7-10mph	Environment:	woods

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	WUG83C85	
Water Level Meter	Make:	QED	Model:	MP-30	Serial Number:	30065	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.04	s.u.	±0.1 s.u.	P	N	NA	MSI	023219-02	8/9/2025
pH 7.00a	6.72	s.u.	±0.1 s.u.	F	Y	7.01	MSI	023334-01	12/7/2025
pH 10.00a	9.68	s.u.	±0.1 s.u.	F	Y	10.00	MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2090	µS/cm	±5%	P	N	NA	Proactive	3GJ1438	Oct-24
ORP	95	mV	±15 mV	F	Y	226	Reagents	8406644	Apr-25
DO (Zero pt)	0.08	mg/L	±0.1	P	N	NA	Macron	#000228049	8/26/2025
DO (Saturated)	97.89	%	97-100%	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.9	NTU	<2 NTU	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 1003

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.08	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	7.10	s.u.	±0.15 s.u.	P		Proactive	3GE1252	May-25
pH 10.00b	10.04	s.u.	±0.15 s.u.	P		Geotech	3GA1134	Jan-25
SC 1000	975	µS/cm	±5%	P		Spectrum	2NA0024	Dec-25

Approx. every 8 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.	P	No	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.10	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.08	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1010	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.06	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	1.8	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/23/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Austin Moore	Location:	Duck creek
Weather:	86-63 sunny wind 4mph WSW	Environment:	landfill, forest, Grassy

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	AGJTK4XG	
Water Level Meter	Make:	WT	Model:	Heron	Serial Number:	19FE22023ML	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.88	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.96	s.u.	±0.1 s.u.	P	N	—	MSI	023334-01	12/7/2025
pH 10.00a	10.01	s.u.	±0.1 s.u.	P	N	—	MSI	024037-01	2/21/2026
SC Zero (DI)	75	µS/cm	0<25 µS/cm	F	Y	25	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2040	µS/cm	±5%	P	N	—	Proactive	3GJ1438	Oct-24
ORP	202	mV	±15 mV	F	Y	223	Reagents	8406644	Apr-25
DO (Zero pt)	0.0	mg/L	±0.1	P	N	—	Macron	#000228049	8/26/2025
DO (Saturated)	99.9	%	97-100%	P	N	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	N	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0921

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.94	s.u.	±0.15 s.u.	P	N	Proactive	3GE1074	May-25
pH 7.00b	7.14	s.u.	±0.15 s.u.	P	N	Proactive	3GE1252	May-25
pH 10.00b	10.39	s.u.	±0.15 s.u.	F	Y 9.99	Geotech	3GA1134	Jan-25
SC 1000	300	µS/cm	±5%	F	Y 1010	Spectrum	2NA0024	Dec-25

Approx. every 8 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	4.06	s.u.	±0.1 s.u.	P	N	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1020	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	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 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7-23-24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemburton	Location:	Duck creek
Weather:	81°-86°F Sunny Wind SW 6mph	Environment:	Woods, grass

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number:	YLAK5AHA	
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	4.04	s.u.	±0.1 s.u.	P	No	—	MSI	023219-02	8/9/2025
pH 7.00a	7.07	s.u.	±0.1 s.u.	P	No	—	MSI	023334-01	12/7/2025
pH 10.00a	10.08	s.u.	±0.1 s.u.	P	No	—	MSI	024037-01	2/21/2026
SC Zero (DI)	~~34~~ 13	µS/cm	0<25 µS/cm	P	No	—	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2020	µS/cm	±5%	P	No	—	Proactive	3GJ1438	Oct-24
ORP	227	mV	±15 mV	P	No	—	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	P	No	—	Macron	#000228049	8/26/2025
DO (Saturated)	98.9	%	97-100%	P	No	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	No	—	Pace Labs	N/A (DI)	N/A (DI)

AM 7/23/24

Approx. every 8 hrs, unless only one well

223 @ 260C

ICV (Initial Calibration Verification)

Time: 1025

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	P	—	Proactive	3GE1074	May-25
pH 7.00b	7.03	s.u.	±0.15 s.u.	P	—	Proactive	3GE1252	May-25
pH 10.00b	10.10	s.u.	±0.15 s.u.	P	—	Geotech	3GA1134	Jan-25
SC 1000	987	µS/cm	±5%	P	—	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):

Time: 1532

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	—	MSI	023219-02	8/9/2025
pH 7.00a	7.06	s.u.	±0.1 s.u.	P	No	—	MSI	023334-01	12/7/2025
pH 10.00a	10.09	s.u.	±0.1 s.u.	P	No	—	MSI	024037-01	2/21/2026
SC 1000	1000	µS/cm	±5%	P	No	—	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P	No	—	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	No	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/23/2024

BGL

Multiparameter Meter Field Calibration Checklist

Field Personnel:	KALEB DESKE	Location:	DUCKY CREEK
Weather:	75° SUNNY 4 MPH SW	Environment:	GRASSY

Multiparameter Water Meter	Make:	HORIBA	Model:	U-5000	Serial Number:	V7320PKK	
Water Level Meter	Make:	HERON	Model:	WT	Serial Number:	AFF211192HB	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.36	s.u.	±0.1 s.u.	FAIL	YES	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023334-01	12/7/2025
pH 10.00a	9.97	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2016	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	227	mV	±15 mV				Reagents ~~InSitu~~	840G644 ~~3GI1011~~	Apr-25 ~~Jun-24~~ BG 8/2/24
DO (Zero pt)	0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 0948

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.02	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1074	May-25
pH 7.00b	7.01	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	9.99	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	1000	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1531

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.03	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.06	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.01	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1003	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0	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)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	07/23/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Amberson	Location:	Duck creek
Weather:	70°-85°F sunny wind NW 5mph	Environment:	Grass woods

Multiparameter Water Meter	Make:	Horiba	Model:	U 5000	Serial Number:	YL9KJ9HA	
Water Level Meter	Make:	Heron	Model:	Dipper T	Serial Number:	3717-7	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.09	s.u.	±0.1 s.u.	P	NO	–	MSI	023219-02	8/9/2025
pH 7.00a	6.96	s.u.	±0.1 s.u.	P	NO	–	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	P	NO	–	MSI	024037-01	2/21/2026
SC Zero (DI)	14	µS/cm	0<25 µS/cm	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2010	µS/cm	±5%	P	NO	–	Proactive	3GJ1438	Oct-24
ORP	221	mV	±15 mV	P	NO	–	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	P	NO	–	Macron	#000228049	8/26/2025
DO (Saturated)	99.7	%	97-100%	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	Nd	–	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 1011

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	–	Proactive	3GE1074	May-25
pH 7.00b	6.96	s.u.	±0.15 s.u.	P	–	Proactive	3GE1252	May-25
pH 10.00b	10.11	s.u.	±0.15 s.u.	P	–	Geotech	3GA1134	Jan-25
SC 1000	988	µS/cm	±5%	P	–	Spectrum	2NA0024	Dec-25

Approx. every 8 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	3.98	s.u.	±0.1 s.u.	P	NO	–	MSI	023219-02	8/9/2025
pH 7.00a	7.06	s.u.	±0.1 s.u.	P	NO	–	MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.	P	NO	–	MSI	024037-01	2/21/2026
SC 1000	985	µS/cm	±5%	P	NO	–	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P	Nd	–	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	Nd	✓	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/24/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	SD	Location:	Duck Creek
Weather:	75-83° F partly wind WNW 7mph	Environment:	woods, weeds

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	WUG83C85	
Water Level Meter	Make:	QED	Model:	MP-30	Serial Number:	30065	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.66	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.85	s.u.	±0.1 s.u.	F	Y	7.01	MSI	023334-01	12/7/2025
pH 10.00a	10.24	s.u.	±0.1 s.u.	F	Y	10.00	MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2080	µS/cm	±5%	P	N	NA	Proactive	3GJ1438	Oct-24
ORP	348	mV	±15 mV	F	Y	228	Reagents	8406644	Apr-25
DO (Zero pt)	0.07	mg/L	±0.1	P	N	NA	Macron	#000228049	8/26/2025
DO (Saturated)	98.19	%	97-100%	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 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	3.92	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	7.02	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	10.04	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	986	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 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	4.09	s.u.	±0.1 s.u.	P	N	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.10	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	995	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	0.5	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/24/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JB, AW	Location:	Duck Creek
Weather:	76°-83° Sunny 3mph Wind NE	Environment:	

Multiparameter Water Meter	Make: Horiba	Model: Dipper-T	Serial Number: V7320PKR		
Water Level Meter	Make: Heron	Model: U-5000	Serial Number: 19FF211192HB		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	No	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.87	s.u.	±0.1 s.u.	F	Yes	7.00	MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.	P	No	N/A	MSI	024037-01	2/21/2026
SC Zero (DI)	47	µS/cm	0<25 µS/cm	F	Yes	05	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%	P	No	N/A	Proactive	3GJ1438	Oct-24
ORP	220	mV	±15 mV	P	No	N/A	Reagents InSitu	8406644 ~~3GJ1011~~	Apr-25 ~~Jun-24~~
DO (Zero pt)	0.00	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	100	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 9:15

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.98	s.u.	±0.15 s.u.	P	None	Proactive	3GE1074	May-25
pH 7.00b	6.91	s.u.	±0.15 s.u.	P	None	Proactive	3GE1252	May-25
pH 10.00b	10.03	s.u.	±0.15 s.u.	P	None	Geotech	3GA1134	Jan-25
SC 1000	1020	µS/cm	±5%	P	None	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 15:40

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	023219-02	8/9/2025
pH 7.00a	6.95	s.u.	±0.1 s.u.	P	NO		MSI	023334-01	12/7/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.	P	NO		MSI	024037-01	2/21/2026
SC 1000	1020	µS/cm	±5%	P	NO		Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	P	NO		Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO		Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/24/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Austin Moore	Location:	Clinton landfill + Duck creek
Weather:	85°-65° cloudy wind 1mph NW	Environment:	landfill, grassy

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	AGJTK4XG	
Water Level Meter	Make:	WT	Model:	Heron	Serial Number:	19FF220213ML	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.99	s.u.	±0.1 s.u.	P	N	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	22	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2610	µS/cm	±5%	F	Y	2000	Proactive	3GJ1438	Oct-24
ORP	224	mV	±15 mV	P	N	NA	Reagents	8406644	Apr-25
DO (Zero pt)	0.0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.9	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 0952

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.65	s.u.	±0.15 s.u.	F	Y 3.99	Proactive	3GE1074	May-25
pH 7.00b	6.90	s.u.	±0.15 s.u.	P	N	Proactive	3GE1252	May-25
pH 10.00b	10.36	s.u.	±0.15 s.u.	F	Y 10.00	Geotech	3GA1134	Jan-25
SC 1000	1040	µS/cm	±5%	P	N	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1542

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	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.06	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1030	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	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 8 hrs, unless only one well

Comments:

Signature: [illegible] Date: 7-24-24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	KALEB DESKE	Location:	DUCK CREEK
Weather:	72° CLOUDY 7 MPH E	Environment:	GRASSY

Multiparameter Water Meter	Make: HORIBA	Model: U5000	Serial Number: AGJTK4XG		
Water Level Meter	Make: HERON	Model: WT	Serial Number: 19FF220213MC		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.03	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.06	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1093	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	224	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	97	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 0925

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.06	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1074	May-25
pH 7.00b	6.98	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	9.99	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	1014	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1558

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	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1013	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0	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)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	07/25/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberton	Location:	Duck creek
Weather:	73°-83°F cloudy Wind E 7mph	Environment:	grass, woods

Multiparameter Water Meter	Make:	Horiba	Model:	U50CD	Serial Number:	YL9K59HA	
Water Level Meter	Make:	Heron	Model:	Dipper	Serial Number:	3717-T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.09	s.u.	±0.1 s.u.	P	NO	—	MSI	023219-02	8/9/2025
pH 7.00a	6.94	s.u.	±0.1 s.u.	P	NO	—	MSI	023334-01	12/7/2025
pH 10.00a	10.08	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC Zero (DI)	16	µS/cm	0<25 µS/cm	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1970	µS/cm	±5%	P	NO	—	Proactive	3GJ1438	Oct-24
ORP	227	mV	±15 mV	P	NO	—	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	P	NO	—	Macron	#000228049	8/26/2025
DO (Saturated)	99.2	%	97-100%	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

230 @ 24°C

ICV (Initial Calibration Verification) Time: 0934

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.05	s.u.	±0.15 s.u.	P	—	Proactive	3GE1074	May-25
pH 7.00b	6.89	s.u.	±0.15 s.u.	P	—	Proactive	3GE1252	May-25
pH 10.00b	10.09	s.u.	±0.15 s.u.	P	—	Geotech	3GA1134	Jan-25
SC 1000	977	µS/cm	±5%	P	—	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1420

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	P	NO	—	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.	P	NO	—	MSI	023334-01	12/7/2025
pH 10.00a	10.09	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC 1000	994	µS/cm	±5%	P	NO	—	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P	NO	—	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/25/2024

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Multiparameter Meter Field Calibration Checklist

Field Personnel:	AW, JB	Location:	Duck Creek
Weather:	72°-83° Cloudy 7mph Winds	Environment:	Grassy, overgrown

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	V7320PKK
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	4.19	s.u.	±0.1 s.u.	F	yes	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.89	s.u.	±0.1 s.u.	F	yes	7.00	MSI	023334-01	12/7/2025
pH 10.00a	10.00	s.u.	±0.1 s.u.	P	NO	N/A	MSI	024037-01	2/21/2026
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	2010	µS/cm	±5%	P	NO	N/A	Proactive	3GJ1438	Oct-24
ORP	220	mV	±15 mV	P	NO	N/A	Reagents	8406644	Apr-25
DO (Zero pt)	0.0	mg/L	±0.1	P	NO	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	98.3	%	97-100%	P	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 9.04

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.95	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1074	May-25
pH 7.00b	6.87	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1252	May-25
pH 10.00b	9.99	s.u.	±0.15 s.u.	P	NO	Geotech	3GA1134	Jan-25
SC 1000	1040	µS/cm	±5%	P	NO	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 14:58

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	4.01	MSI	023219-02	8/9/2025
pH 7.00a	6.91	s.u.	±0.1 s.u.	P	NO	N/A	MSI	023334-01	12/7/2025
pH 10.00a	10.01	s.u.	±0.1 s.u.	P	NO	↓	MSI	024037-01	2/21/2026
SC 1000	1020	µS/cm	±5%	P	NO	↓	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	P	NO	↓	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	↓	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: [signature] Date: 7/25/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Duck Creek
Weather:	77 - 83°F pc Sunny wind E 7-13 mph	Environment:	woods, grass

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	WUC83C85	
Water Level Meter	Make:	QED	Model:	MP-30	Serial Number:	30065	

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	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2090	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	234	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	97.70	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.3	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0926			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.02	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	6.90	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	9.96	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	992	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1448				
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	023219-02	8/9/2025
pH 7.00a	7.07	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1010	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	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 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/25/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberton	Location:	Duck creek
Weather:	76°- 89°F sunny wind SW 11mph	Environment:	grass

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number:	AGS TKHX6	
Water Level Meter	Make:	Heron	Model:	Dipper 1	Serial Number:	3717-T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.94	s.u.	±0.1 s.u.	P	NO	—	MSI	023219-02	8/9/2025
pH 7.00a	7.08	s.u.	±0.1 s.u.	P	NO	—	MSI	023334-01	12/7/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	No	—	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1940	µS/cm	±5%	P	NO	—	Proactive	3GJ1438	Oct-24
ORP	233	mV	±15 mV	P	NO	—	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	P	NO	—	Macron	#000228049	8/26/2025
DO (Saturated)	98.6	%	97-100%	P	No	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

232 @ 23°C

ICV (Initial Calibration Verification) Time: 1006

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.03	s.u.	±0.15 s.u.	P	—	Proactive	3GE1074	May-25
pH 7.00b	7.03	s.u.	±0.15 s.u.	P	—	Proactive	3GE1252	May-25
pH 10.00b	10.12	s.u.	±0.15 s.u.	P	—	Geotech	3GA1134	Jan-25
SC 1000	956	µS/cm	±5%	P	—	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1507

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.06	s.u.	±0.1 s.u.	P	NO	—	MSI	023219-02	8/9/2025
pH 7.00a	7.09	s.u.	±0.1 s.u.	P	NO	—	MSI	023334-01	12/7/2025
pH 10.00a	10.09	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC 1000	1020	µS/cm	±5%	P	NO	—	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P	NO	—	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: [signature] Date: 7/29/2024

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Jordan Bohannan	Location:	Duck Creek
Weather:	75°F, Cloudy, 10 mph wind	Environment:	Grassy, Muddy

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: V7320 PIKK		
Water Level Meter	Make: Heron	Model: Dipper T	Serial Number: 19FF 211192HB		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.17	s.u.	±0.1 s.u.	F	Yes	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.94	s.u.	±0.1 s.u.	P	No	N/A	MSI	023334-01	12/7/2025
pH 10.00a	10.04	s.u.	±0.1 s.u.	P	No	N/A	MSI	024037-01	2/21/2026
SC Zero (DI)	0009	µS/cm	0<25 µS/cm	P	No	N/A	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2030	µS/cm	±5%	P	No	N/A	Proactive	3GJ1438	Oct-24
ORP	218	mV	±15 mV	P	No	N/A	Reagents	8406644	Apr-25
DO (Zero pt)	0.00	mg/L	±0.1	P	No	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	98.8	%	97-100%	P	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.07	NTU	<2 NTU	P	No	N/A	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0919			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.98	s.u.	±0.15 s.u.	P	None	Proactive	3GE1074	May-25
pH 7.00b	6.96	s.u.	±0.15 s.u.	P	None	Proactive	3GE1252	May-25
pH 10.00b	9.97	s.u.	±0.15 s.u.	P	None	Geotech	3GA1134	Jan-25
SC 1000	1010	µS/cm	±5%	P	None	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1458				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	No	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.07	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1003	µS/cm	±5%				Spectrum	2NA0024	Dec-25
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 8 hrs, unless only one well

Comments:

Signature:	JBohannan	Date:	7/29/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Duck Creek
Weather:	73-88°F p. sunny wind SSW 10-18 mph	Environment:	grass

Multiparameter Water Meter	Make:	Hach	Model:	U-5000	Serial Number:	WUG-83C85	
Water Level Meter	Make:	QED	Model:	MP-30	Serial Number:	30065	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.70	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.80	s.u.	±0.1 s.u.	F	Y	7.00	MSI	023334-01	12/7/2025
pH 10.00a	10.22	s.u.	±0.1 s.u.	F	Y	10.00	MSI	024037-01	2/21/2026
SC Zero (DI)	15	µS/cm	0<25 µS/cm	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1950	µS/cm	±5%	P	N	NA	Proactive	3GJ1438	Oct-24
ORP	251	mV	±15 mV	F	Y	229	Reagents	8406644	Apr-25
DO (Zero pt)	0.08	mg/L	±0.1	P	N	NA	Macron	#000228049	8/26/2025
DO (Saturated)	98.11	%	97-100%	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.2	NTU	<2 NTU	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0947			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	7.12	s.u.	±0.15 s.u.	P	↓	Proactive	3GE1252	May-25
pH 10.00b	10.02	s.u.	±0.15 s.u.	P	↓	Geotech	3GA1134	Jan-25
SC 1000	1010	µS/cm	±5%	P	↓	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1307				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.06	s.u.	±0.1 s.u.	P	No	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.	↓	↓	↓	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	↓	↓	↓	MSI	024037-01	2/21/2026
SC 1000	1020	µS/cm	±5%	↓	↓	↓	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	↓	↓	↓	Macron	#000228049	8/26/2025
Turbidity (DI)	0.5	NTU	<2 NTU	↓	↓	↓	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/29/~~24~~ 24 JD 7/29

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JB, AW	Location:	Duck Creek
Weather:	77°F, light rain, 5mph wind	Environment:	Grass, Mud

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	V7320PKK	
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	4.40	s.u.	±0.1 s.u.	F	Yes	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.99	s.u.	±0.1 s.u.	P	No	N/A	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	P	No	N/A	MSI	024037-01	2/21/2026
SC Zero (DI)	0002	µS/cm	0<25 µS/cm	P	N/A	N/A	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1870	µS/cm	±5%	F	Yes	2000	Proactive	3GJ1438	Oct-24
ORP	218	mV	±15 mV	P	No	N/A	Reagents	8406644	Apr-25
DO (Zero pt)	0.00	mg/L	±0.1	P	No	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	100	%	97-100%	P	No	N/A	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.4	NTU	<2 NTU	P	No	N/A	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0844

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.74	s.u.	±0.15 s.u.	F	Calibrated: 4.00	Proactive	3GE1074	May-25
pH 7.00b	6.91	s.u.	±0.15 s.u.	P	None	Proactive	3GE1252	May-25
pH 10.00b	9.96	s.u.	±0.15 s.u.	P	None	Geotech	3GA1134	Jan-25
SC 1000	999	µS/cm	±5%	P	None	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1407

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	NO	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1007	µS/cm	±5%				Spectrum	2NA0024	Dec-25
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 8 hrs, unless only one well

Comments:

Signature:	JBohannon	Date:	7/30/2024

BGa

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pemberton	Location:	Duck creek
Weather:	81°, 91°C Sunny wind 5 6mph	Environment:	grass, mud

Multiparameter Water Meter	Make:	Horiba	Model:	U50000	Serial Number:	AGJTHHX6	
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	4.01	s.u.	±0.1 s.u.	P	No	—	MSI	023219-02	8/9/2025
pH 7.00a	6.91	s.u.	±0.1 s.u.	P	No	—	MSI	023334-01	12/7/2025
pH 10.00a	10.08	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC Zero (DI)	13	µS/cm	0<25 µS/cm	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%	P	NO	—	Proactive	3GJ1438	Oct-24
ORP	224	mV	±15 mV	P	NO	—	Reagents	8406644	Apr-25
DO (Zero pt)	0.01	mg/L	±0.1	P	NO	—	Macron	#000228049	8/26/2025
DO (Saturated)	18.6	%	97-100%	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.2	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

230 @ 24 °C

ICV (Initial Calibration Verification) Time: 0942

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.93	s.u.	±0.15 s.u.	P	—	Proactive	3GE1074	May-25
pH 7.00b	6.96	s.u.	±0.15 s.u.	P	—	Proactive	3GE1252	May-25
pH 10.00b	10.14	s.u.	±0.15 s.u.	P	—	Geotech	3GA1134	Jan-25
SC 1000	984	µS/cm	±5%	P	—	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1416

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	—	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.	P	NO	—	MSI	023334-01	12/7/2025
pH 10.00a	10.08	s.u.	±0.1 s.u.	P	NO	—	MSI	024037-01	2/21/2026
SC 1000	955	µS/cm	±5%	P	NO	—	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.00	mg/L	±0.1 mg/L	P	NO	—	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	—	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/30/2024

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD, KD	Location:	Duck Creek
Weather:	77-92°F cloudy wind S 7-10mph	Environment:	grass

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	WUG83c85	
Water Level Meter	Make:	QED	Model:	MP-30	Serial Number:	30065	

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	023219-02	8/9/2025
pH 7.00a	6.93	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	9.96	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2020	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	228	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0.07	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98.32	%	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 8 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	3.94	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	6.85	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	9.93	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	1020	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1430

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	No	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1010	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	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 8 hrs, unless only one well

Comments:

Signature:	7/30/24	Date:	[illegible]

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pumberton	Location:	Duck creek
Weather:	84°- 90°F cloudy wind SW 5mph	Environment:	grassy

Multiparameter Water Meter	Make:	Horiba	Model:	U50QD	Serial Number:	3T85NNNF	
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	4.01	s.u.	±0.1 s.u.	P	NO	–	MSI	023219-02	8/9/2025
pH 7.00a	6.93	s.u.	±0.1 s.u.	P	NO	–	MSI	023334-01	12/7/2025
pH 10.00a	9.94	s.u.	±0.1 s.u.	P	No	–	MSI	024037-01	2/21/2026
SC Zero (DI)	13	µS/cm	0<25 µS/cm	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%	P	NO	–	Proactive	3GJ1438	Oct-24
ORP	188	mV	±15 mV	C	yes	235	Reagents	8406644	Apr-25
DO (Zero pt)	0.04	mg/L	±0.1	P	NO	–	Macron	#000228049	8/26/2025
DO (Saturated)	99.6	%	97-100%	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

233 @ 22°C

ICV (Initial Calibration Verification) Time: 1035

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.98	s.u.	±0.15 s.u.	P	–	Proactive	3GE1074	May-25
pH 7.00b	6.92	s.u.	±0.15 s.u.	P	–	Proactive	3GE1252	May-25
pH 10.00b	9.87	s.u.	±0.15 s.u.	P	–	Geotech	3GA1134	Jan-25
SC 1000	1030	µS/cm	±5%	P	–	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1532

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.09	s.u.	±0.1 s.u.	P	No	–	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.	P	NO	–	MSI	023334-01	12/7/2025
pH 10.00a	9.94	s.u.	±0.1 s.u.	P	No	–	MSI	024037-01	2/21/2026
SC 1000	985	µS/cm	±5%	P	No	–	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	mg/L	±0.1 mg/L	P	NO	–	Macron	#000228049	8/26/2025
Turbidity (DI)	1.3	NTU	<2 NTU	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: [signature] Date: 7/31/2024

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JB AW	Location:	Duck Creek
Weather:	80°F, Cloudy,	Environment:	Grassy, Mud

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number:		
Water Level Meter	Make: Heron	Model: Dipper T	Serial Number:	19FF 2111192HB	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.96	s.u.	±0.1 s.u.	P	No	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.88	s.u.	±0.1 s.u.	F	Yes	7.00	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	P	No	N/A	MSI	024037-01	2/21/2026
SC Zero (DI)	0003	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2012	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	227	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0.00	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	100	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 1019

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.90	s.u.	±0.15 s.u.	P	None	Proactive	3GE1074	May-25
pH 7.00b	6.95	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	10.03	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	998	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1535

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	No	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.03	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.02	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1011	µS/cm	±5%				Spectrum	2NA0024	Dec-25
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 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/31/2024

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	JD	Location:	Duck Creek
Weather:	81-92°F cloudy wind SW 7-9mph	Environment:	grass

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	WUG83C85	
Water Level Meter	Make:	QED	Model:	MP30	Serial Number:	30065	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.66	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.92	s.u.	±0.1 s.u.	P	N	NA	MSI	023334-01	12/7/2025
pH 10.00a	10.04	s.u.	±0.1 s.u.	↓	↓	↓	MSI	024037-01	2/21/2026
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%	↓	↓	↓	Proactive	3GJ1438	Oct-24
ORP	244	mV	±15 mV	↓	↓	↓	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	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)	0.0	NTU	<2 NTU	↓	↓	↓	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 1028

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.92	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	6.85	s.u.	±0.15 s.u.	↓	↓	Proactive	3GE1252	May-25
pH 10.00b	10.03	s.u.	±0.15 s.u.	↓	↓	Geotech	3GA1134	Jan-25
SC 1000	961	µS/cm	±5%	↓	↓	Spectrum	2NA0024	Dec-25

Approx. every 8 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	4.08	s.u.	±0.1 s.u.	P	N.	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.07	s.u.	±0.1 s.u.	↓	↓	↓	MSI	023334-01	12/7/2025
pH 10.00a	10.05	s.u.	±0.1 s.u.	↓	↓	↓	MSI	024037-01	2/21/2026
SC 1000	1000	µS/cm	±5%	↓	↓	↓	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	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 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	7/31/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Aaron Pembertson	Location:	Duck Creek
Weather:	77°-87°F cloudy wind SW 6mph	Environment:	grass, mud

Multiparameter Water Meter	Make:	Horiba	Model:	U5000	Serial Number:	3T85NNNF	
Water Level Meter	Make:	Heron	Model:	Dipper 7	Serial Number:	3717-T	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	P	NO	–	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.	P	NO	–	MSI	023334-01	12/7/2025
pH 10.00a	9.99	s.u.	±0.1 s.u.	P	NO	–	MSI	024037-01	2/21/2026
SC Zero (DI)	14	µS/cm	0<25 µS/cm	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2010	µS/cm	±5%	P	NO	–	Proactive	3GJ1438	Oct-24
ORP	279	mV	±15 mV	F	yes	229	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	P	NO	–	Macron	#000228049	8/26/2025
DO (Saturated)	99.3	%	97-100%	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.5	NTU	<2 NTU	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

229@25°C

ICV (Initial Calibration Verification) Time: 0900

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.97	s.u.	±0.15 s.u.	P	–	Proactive	3GE1074	May-25
pH 7.00b	6.89	s.u.	±0.15 s.u.	P	–	Proactive	3GE1252	May-25
pH 10.00b	9.94	s.u.	±0.15 s.u.	P	–	Geotech	3GA1134	Jan-25
SC 1000	1020	µS/cm	±5%	P	✓	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1412

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	✓	MSI	023219-02	8/9/2025
pH 7.00a	7.03	s.u.	±0.1 s.u.	P	NO	✓	MSI	023334-01	12/7/2025
pH 10.00a	10.06	s.u.	±0.1 s.u.	P	NO	✓	MSI	024037-01	2/21/2026
SC 1000	1010	µS/cm	±5%	P	NO	–	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	P	NO	✓	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	NO	–	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: [signature] Date: 8/1/2024

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	SD, KO	Location:	Duck Creek
Weather:	76-86° F cloudy wind WSW 2-9 mph	Environment:	grass

Multiparameter Water Meter	Make: Horiba	Model: U-5000	Serial Number: WUG83C85		
Water Level Meter	Make: QED	Model: MP30	Serial Number: 30065		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.31	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.99	s.u.	±0.1 s.u.	P	N	NA	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	↓	↓	↓	MSI	024037-01	2/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	↓	↓	↓	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2050	µS/cm	±5%	↓	↓	↓	Proactive	3GJ1438	Oct-24
ORP	227	mV	±15 mV	↓	↓	↓	Reagents	8406644	Apr-25
DO (Zero pt)	0.9	mg/L	±0.1	↓	↓	↓	Macron	#000228049	8/26/2025
DO (Saturated)	98.88	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) — Time: 0850

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.96	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25
pH 7.00b	6.85	s.u.	±0.15 s.u.	↓	↓	Proactive	3GE1252	May-25
pH 10.00b	10.02	s.u.	±0.15 s.u.	↓	↓	Geotech	3GA1134	Jan-25
SC 1000	960	µS/cm	±5%	↓	↓	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): — Time: 1410

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.07	s.u.	±0.1 s.u.	P	N.	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.	↓	↓	↓	MSI	023334-01	12/7/2025
pH 10.00a	10.04	s.u.	±0.1 s.u.	↓	↓	↓	MSI	024037-01	2/21/2026
SC 1000	990	µS/cm	±5%	↓	↓	↓	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	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 8 hrs, unless only one well

Comments:

Signature:	[signature]	Date:	8/1/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	AW, JB	Location:	Duck Creek
Weather:	77°F, Cloudy, 6mph wind	Environment:	Grass, Mud

Multiparameter Water Meter	Make: Horiba	Model: U5000	Serial Number: V7320PKK		
Water Level Meter	Make: Heron	Model: Dipper T	Serial Number: 19FF221911 92HB		

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.14	s.u.	±0.1 s.u.	F	Yes	4.00	MSI	023219-02	8/9/2025
pH 7.00a	6.89	s.u.	±0.1 s.u.			7.00	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	P	No	N/A	MSI	024037-01	2/21/2026
SC Zero (DI)	0.00	µS/cm	0<25 µS/cm	P			Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2050	µS/cm	±5%	P			Proactive	3GJ1438	Oct-24
ORP	219	mV	±15 mV	P			Reagents	8406644	Apr-25
DO (Zero pt)	0.00	mg/L	±0.1	P			Macron	#000228049	8/26/2025
DO (Saturated)	100%	%	97-100%	P			Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 0842

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	3.99	s.u.	±0.15 s.u.	P	None	Proactive	3GE1074	May-25
pH 7.00b	6.92	s.u.	±0.15 s.u.		None	Proactive	3GE1252	May-25
pH 10.00b	9.97	s.u.	±0.15 s.u.		None	Geotech	3GA1134	Jan-25
SC 1000	978	µS/cm	±5%		None	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1340

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	P	No	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.02	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	9.89	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	987	µS/cm	±5%				Spectrum	2NA0024	Dec-25
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 8 hrs, unless only one well

Comments:

Signature:	JBohannon	Date:	9/1/24

BG

Multiparameter Meter Field Calibration Checklist

Field Personnel:	Austin Moore	Location:	Duck creek
Weather:	93°-72° sunny wind 6mph WSW	Environment:	Grassy

Multiparameter Water Meter	Make:	Horiba	Model:	U-5000	Serial Number:	3T85NNNF	
Water Level Meter	Make:	NT	Model:	Heron	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	N	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.94	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	9.97	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	178	µS/cm	0<25 µS/cm	F	Y	25	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	3750	µS/cm	±5%	F	Y	2000	Proactive	3GJ1438	Oct-24
ORP	228	mV	±15 mV	P	N	N/A	Reagents	8406644	Apr-25
DO (Zero pt)	0.55	mg/L	±0.1	F	Y	0.0	Macron	#000228049	8/26/2025
DO (Saturated)	104.8	%	97-100%	F	Y	98.9	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.4	NTU	<2 NTU	P	N	N/A	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 0927

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	Proactive	3GE1074	May-25
pH 7.00b	6.85	s.u.	±0.15 s.u.	P		Proactive	3GE1252	May-25
pH 10.00b	9.91	s.u.	±0.15 s.u.	P		Geotech	3GA1134	Jan-25
SC 1000	216	µS/cm	±5%	F	Y 1000	Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1501

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.05	s.u.	±0.1 s.u.	P	N	N/A	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1030	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	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 8 hrs, unless only one well

Comments:

Signature: Austin M Date: 8/5/24

Multiparameter Meter Field Calibration Checklist

Field Personnel:	KALEB DESKE	Location:	DUCK CREEK / INDIAN
Weather:	70°C CLOUDY 4 MPH W	Environment:	GRASS

Multiparameter Water Meter	Make:	HORIBA OAKTON	Model:	U-52	Serial Number:	YSX21HRP	
Water Level Meter	Make:	HERON	Model:	WT	Serial Number:	19FF220213ML	

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.29	s.u.	±0.1 s.u.	FAIL	YES	4.00	MSI	023219-02	8/9/2025
pH 7.00a	7.00	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023334-01	12/7/2025
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	0.01	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1998	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	231	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0.00	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98	%	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 8 hrs, unless only one well

ICV (Initial Calibration Verification) Time: 1006

Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.
pH 4.00b	4.01	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1074	May-25
pH 7.00b	7.03	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25
pH 10.00b	9.97	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25
SC 1000	999	µS/cm	±5%			Spectrum	2NA0024	Dec-25

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification): Time: 1020

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.03	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023219-02	8/9/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	10.00	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	1012	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	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 8 hrs, unless only one well

Comments:

Signature: [signature] Date: 08/13/24

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

August 24, 2024

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

Dear Daryl Johnson:

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

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

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

Sincerely,

Diane Billings
Project Manager

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

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order HG04338

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 HG04594

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 HG04893

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 HG05252

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

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Work Order HG05510

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

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Work Order HG05745

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

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Work Order HH00175

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

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ANALYTICAL RESULTS

Sample: HG04338-01
Name: OM24D
Matrix: Ground Water - Grab
Sampled: 07/23/24 11:37
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.04	pCi/L			1	0.688	08/06/24 16:29	PACE	904.0 903.0

Sample: HG04338-02
Name: OR11
Matrix: Ground Water - Grab
Sampled: 07/23/24 13:14
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.137U	pCi/L			1	0.767	08/06/24 16:29	PACE	904.0 903.0

Sample: HG04338-03
Name: OR11 Dup
Matrix: Ground Water - Grab
Sampled: 07/23/24 13:14
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.506J	pCi/L			1	0.823	08/06/24 16:29	PACE	904.0 903.0

Sample: HG04338-04
Name: OR20
Matrix: Ground Water - Grab
Sampled: 07/23/24 14:30
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.994	pCi/L			1	0.858	08/06/24 16:29	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04338-05
Name: OM17D
Matrix: Ground Water - Grab
Sampled: 07/23/24 15:26
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.93	pCi/L			1	0.787	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-06
Name: OM100D
Matrix: Ground Water - Grab
Sampled: 07/23/24 14:03
Received: 07/23/24 16:49
PO #: 2438773/2438768

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	0.874	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-07
Name: OM100S
Matrix: Ground Water - Grab
Sampled: 07/23/24 13:16
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.16	pCi/L			1	0.724	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-08
Name: OM101D
Matrix: Ground Water - Grab
Sampled: 07/23/24 12:13
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.659	pCi/L			1	0.648	08/06/24 20:46	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04338-09
Name: OM101S
Matrix: Ground Water - Grab
Sampled: 07/23/24 11:13
Received: 07/23/24 16:49
PO #: 2438773/2438768

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	0.784	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-10
Name: BA02
Matrix: Ground Water - Grab
Sampled: 07/23/24 14:28
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.22	pCi/L			1	0.683	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-11
Name: BA01
Matrix: Ground Water - Grab
Sampled: 07/23/24 12:50
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.789	pCi/L			1	0.566	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-12
Name: BA01 Dup
Matrix: Ground Water - Grab
Sampled: 07/23/24 12:50
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.485J	pCi/L			1	0.635	08/06/24 20:46	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04338-13
Name: G60S
Matrix: Ground Water - Grab
Sampled: 07/23/24 15:39
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.48	pCi/L			1	0.625	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04338-14
Name: G57S
Matrix: Ground Water - Grab
Sampled: 07/23/24 11:53
Received: 07/23/24 16:49
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.156U	pCi/L			1	1.5	08/06/24 20:46	PACE	904.0 903.0

Sample: HG04594-01
Name: OM07
Matrix: Ground Water - Grab
Sampled: 07/24/24 14:00
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.41	pCi/L			1	0.628	08/07/24 15:49	PACE	904.0 903.0

Sample: HG04594-02
Name: OR13D
Matrix: Ground Water - Grab
Sampled: 07/24/24 11:34
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.03	pCi/L			1	0.681	08/07/24 20:21	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04594-03
Name: OR13S
Matrix: Ground Water - Grab
Sampled: 07/24/24 12:39
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.38	pCi/L			1	0.729	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-04
Name: OR14D
Matrix: Ground Water - Grab
Sampled: 07/24/24 15:13
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.62	pCi/L			1	0.807	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-05
Name: OR04D
Matrix: Ground Water - Grab
Sampled: 07/24/24 14:50
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.18	pCi/L			1	1.09	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-06
Name: OM15D
Matrix: Ground Water - Grab
Sampled: 07/24/24 10:50
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	2.93	pCi/L			1	1.29	08/07/24 20:21	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04594-07
Name: OM22D
Matrix: Ground Water - Grab
Sampled: 07/24/24 11:50
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.745J	pCi/L			1	1.16	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-08
Name: OM23D
Matrix: Ground Water - Grab
Sampled: 07/24/24 12:43
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.06	pCi/L			1	0.709	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-09
Name: OM25S
Matrix: Ground Water - Grab
Sampled: 07/24/24 13:45
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.858	pCi/L			1	0.798	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04594-10
Name: BA03L
Matrix: Ground Water - Grab
Sampled: 07/24/24 15:40
Received: 07/24/24 16:47
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.876	pCi/L			1	0.538	08/07/24 20:21	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04594-11 **Sampled:** 07/24/24 15:45
Name: EB #1 **Received:** 07/24/24 16:47
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	3.09	pCi/L			1	0.667	08/07/24 20:21	PACE	904.0 903.0

Sample: HG04893-01 **Sampled:** 07/25/24 10:50
Name: OM17 **Received:** 07/25/24 17:06
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.20J	pCi/L			1	1.78	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-02 **Sampled:** 07/25/24 11:00
Name: OM12 **Received:** 07/25/24 17:06
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.15	pCi/L			1	0.68	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-03 **Sampled:** 07/25/24 12:00
Name: OM12D **Received:** 07/25/24 17:06
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.19	pCi/L			1	0.399	08/12/24 22:42	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04893-04
Name: OM16
Matrix: Ground Water - Grab
Sampled: 07/25/24 12:35
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.706	pCi/L			1	0.49	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-05
Name: OR19
Matrix: Ground Water - Grab
Sampled: 07/25/24 13:00
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.66	pCi/L			1	0.527	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-06
Name: OM21
Matrix: Ground Water - Grab
Sampled: 07/25/24 14:01
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.377U	pCi/L			1	1.21	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-07
Name: OM01
Matrix: Ground Water - Grab
Sampled: 07/25/24 14:40
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.16	pCi/L			1	0.783	08/12/24 22:42	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04893-08
Name: OM01 Dup
Matrix: Ground Water - Grab
Sampled: 07/25/24 14:40
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.556J	pCi/L			1	0.805	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-09
Name: BA06
Matrix: Ground Water - Grab
Sampled: 07/25/24 11:00
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.653	pCi/L			1	0.489	08/12/24 22:42	PACE	904.0 903.0

Sample: HG04893-11
Name: BA05
Matrix: Ground Water - Grab
Sampled: 07/25/24 12:30
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.608	pCi/L			1	0.52	08/14/24 19:49	PACE	904.0 903.0

Sample: HG04893-12
Name: BA03
Matrix: Ground Water - Grab
Sampled: 07/25/24 14:29
Received: 07/25/24 17:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.883	pCi/L			1	0.491	08/14/24 19:49	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG04893-13 **Sampled:** 07/25/24 15:55
Name: BA04 **Received:** 07/25/24 17:06
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.379J	pCi/L			1	0.629	08/14/24 19:49	PACE	904.0 903.0

Sample: HG05252-01 **Sampled:** 07/29/24 14:50
Name: G50S **Received:** 07/29/24 16:13
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.388J	pCi/L			1	0.78	08/14/24 19:49	PACE	904.0 903.0

Sample: HG05252-02 **Sampled:** 07/29/24 11:15
Name: BA02L **Received:** 07/29/24 16:13
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.621J	pCi/L			1	0.651	08/14/24 19:49	PACE	904.0 903.0

Sample: HG05252-03 **Sampled:** 07/29/24 12:15
Name: OR06A **Received:** 07/29/24 16:13
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.366J	pCi/L			1	0.509	08/14/24 19:49	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG05252-04
Name: OM04S
Matrix: Ground Water - Grab
Sampled: 07/29/24 13:51
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.292J	pCi/L			1	0.407	08/14/24 19:49	PACE	904.0 903.0

Sample: HG05252-05
Name: OR02
Matrix: Ground Water - Grab
Sampled: 07/29/24 14:52
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.261J	pCi/L			1	0.514	08/14/24 20:39	PACE	904.0 903.0

Sample: HG05252-06
Name: G51S
Matrix: Ground Water - Grab
Sampled: 07/29/24 10:53
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.350J	pCi/L			1	0.447	08/14/24 20:39	PACE	904.0 903.0

Sample: HG05252-07
Name: G54L
Matrix: Ground Water - Grab
Sampled: 07/29/24 14:48
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.386J	pCi/L			1	0.444	08/14/24 20:39	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG05252-08
Name: G54S
Matrix: Ground Water - Grab
Sampled: 07/29/24 14:12
Received: 07/29/24 16:13
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.49	pCi/L			1	0.695	08/14/24 20:39	PACE	904.0 903.0

Sample: HG05510-01
Name: OR03D
Matrix: Ground Water - Grab
Sampled: 07/30/24 10:04
Received: 07/30/24 15:54
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	3.19	pCi/L			1	1.06	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05510-02
Name: OM26
Matrix: Ground Water - Grab
Sampled: 07/30/24 11:16
Received: 07/30/24 15:54
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	7.34	pCi/L			1	3.24	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05510-03
Name: OM27
Matrix: Ground Water - Grab
Sampled: 07/30/24 12:10
Received: 07/30/24 15:54
PO #: 2438773/2438768

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	1.05	08/18/24 15:09	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG05510-04 **Sampled:** 07/30/24 13:19
Name: OM28 **Received:** 07/30/24 15:54
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.75	pCi/L			1	0.787	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05510-05 **Sampled:** 07/30/24 14:15
Name: EB #2 **Received:** 07/30/24 15:54
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0673U	pCi/L			1	0.538	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05745-01 **Sampled:** 07/31/24 14:05
Name: G60L **Received:** 07/31/24 16:35
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	1.43	pCi/L			1	0.471	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05745-02 **Sampled:** 07/31/24 12:58
Name: R61L **Received:** 07/31/24 16:35
Matrix: Ground Water - Grab **PO #:** 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.119U	pCi/L			1	0.8	08/18/24 15:09	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HG05745-03
Name: G61S
Matrix: Ground Water - Grab
Sampled: 07/31/24 12:47
Received: 07/31/24 16:35
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.545	pCi/L			1	0.535	08/18/24 15:09	PACE	904.0 903.0

Sample: HG05745-04
Name: G64L
Matrix: Ground Water - Grab
Sampled: 07/31/24 11:43
Received: 07/31/24 16:35
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0928U	pCi/L			1	0.627	08/18/24 15:09	PACE	904.0 903.0

Sample: HH00175-01
Name: Field Blank
Matrix: Ground Water - Grab
Sampled: 08/01/24 13:40
Received: 08/01/24 15:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.112U	pCi/L			1	1.08	08/18/24 15:09	PACE	904.0 903.0

Sample: HH00175-02
Name: G64S
Matrix: Ground Water - Grab
Sampled: 08/01/24 13:12
Received: 08/01/24 15:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.470J	pCi/L			1	0.657	08/18/24 15:09	PACE	904.0 903.0

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ANALYTICAL RESULTS

Sample: HH00175-03
Name: G02S
Matrix: Ground Water - Grab

Sampled: 08/01/24 10:30
Received: 08/01/24 15:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.410J	pCi/L			1	0.543	08/18/24 15:09	PACE	904.0 903.0

Sample: HH00175-04
Name: P60
Matrix: Ground Water - Grab

Sampled: 08/01/24 12:19
Received: 08/01/24 15:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.0680U	pCi/L			1	0.72	08/18/24 15:09	PACE	904.0 903.0

Sample: HH00175-05
Name: G62L
Matrix: Ground Water - Grab

Sampled: 08/01/24 13:29
Received: 08/01/24 15:06
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.403J	pCi/L			1	0.583	08/18/24 15:09	PACE	904.0 903.0

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NOTES

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

* Not a TNI accredited analyte

Certifications

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

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

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

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

Certified by: Diane Billings, Project Manager

ANALYTICAL REPORT

August 09, 2024

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:	L1760352
Samples Received:	07/25/2024
Project Number:	HG04338
Description:	
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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

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

TABLE OF CONTENTS

SAMPLE SUMMARY

HG04338-01 L1760352-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 11:37	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-02 L1760352-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 13:14	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-03 L1760352-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 13:14	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-04 L1760352-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 14:30	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 16:29	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-05 L1760352-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 15:26	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-06 L1760352-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 14:03	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

HG04338-07 L1760352-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 13:16	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-08 L1760352-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 12:13	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-09 L1760352-09 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 11:13	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-10 L1760352-10 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 14:28	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-11 L1760352-11 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 12:50	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-12 L1760352-12 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 12:50	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

HG04338-13 L1760352-13 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 15:39	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	Mt. Juliet, TN

HG04338-14 L1760352-14 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/23/24 11:53	07/25/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332190	1	07/31/24 18:09	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2330445	1	07/26/24 10:00	08/06/24 20:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2330445	1	07/26/24 10:00	08/01/24 10:34	ZRG	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	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.157	U	0.290	0.517	0.557	0.291	08/06/2024 16:29	WG2332190
(T) Barium	*95.1*					*30.0-143*	*08/06/2024 16:29*	WG2332190
(T) Yttrium	*81.1*					*30.0-136*	*08/06/2024 16:29*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.04		0.552	0.688	08/06/2024 16:29	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.04		0.470	0.604	0.404	0.269	08/01/2024 10:34	WG2330445
(T) Barium-133	*85.1*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.619	U	0.261	0.492	0.521	0.274	08/06/2024 16:29	WG2332190
(T) Barium	*82.7*					*30.0-143*	*08/06/2024 16:29*	WG2332190
(T) Yttrium	*89.1*					*30.0-136*	*08/06/2024 16:29*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.137	U	0.430	0.767	08/06/2024 16:29	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.137	U	0.342	0.513	0.563	0.376	08/01/2024 10:34	WG2330445
(T) Barium-133	*62.5*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.000	U	0.328	0.551	0.618	0.321	08/06/2024 16:29	WG2332190
(T) Barium	*112*					*30.0-143*	*08/06/2024 16:29*	WG2332190
(T) Yttrium	*80.9*					*30.0-136*	*08/06/2024 16:29*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.506	J	0.548	0.823	08/06/2024 16:29	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.506	J	0.439	0.599	0.543	0.358	08/01/2024 10:34	WG2330445
(T) Barium-133	*66.6*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.469	J	0.329	0.585	0.612	0.322	08/06/2024 16:29	WG2332190
(T) Barium	*90.2*					*30.0-143*	*08/06/2024 16:29*	WG2332190
(T) Yttrium	*68.9*					*30.0-136*	*08/06/2024 16:29*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.994		0.575	0.858	08/06/2024 16:29	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.525	J	0.472	0.623	0.601	0.382	08/01/2024 10:34	WG2330445
(T) Barium-133	*72.8*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.57		0.385	0.699	0.684	0.359	08/06/2024 20:46	WG2332190
(T) Barium	*105*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*80.2*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.93		0.496	0.787	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.353	J	0.313	0.452	0.389	0.259	08/01/2024 10:34	WG2330445
(T) Barium-133	*90.6*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.745	J	0.442	0.758	0.819	0.428	08/06/2024 20:46	WG2332190
(T) Barium	*92.8*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*83.3*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.53		0.584	0.874	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.782		0.381	0.504	0.305	0.216	08/01/2024 10:34	WG2330445
(T) Barium-133	*91.0*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.568	J	0.354	0.596	0.657	0.343	08/06/2024 20:46	WG2332190
(T) Barium	*76.3*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*88.7*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.16		0.501	0.724	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.594		0.354	0.494	0.303	0.225	08/01/2024 10:34	WG2330445
(T) Barium-133	*79.6*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.336	J	0.270	0.483	0.504	0.263	08/06/2024 20:46	WG2332190
(T) Barium	*99.1*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*88.3*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.659		0.419	0.648	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.323	J	0.320	0.463	0.408	0.283	08/01/2024 10:34	WG2330445
(T) Barium-133	*75.6*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.18		0.317	0.545	0.569	0.297	08/06/2024 20:46	WG2332190
(T) Barium	*90.5*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*84.0*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.69		0.545	0.784	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.505	J	0.443	0.622	0.540	0.367	08/01/2024 10:34	WG2330445
(T) Barium-133	*60.4*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.548		0.279	0.494	0.514	0.269	08/06/2024 20:46	WG2332190
(T) Barium	*118*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*85.7*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.22		0.518	0.683	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.667		0.436	0.592	0.450	0.309	08/01/2024 10:34	WG2330445
(T) Barium-133	*68.4*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.211	U	0.276	0.488	0.519	0.271	08/06/2024 20:46	WG2332190
(T) Barium	*109*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*88.3*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.789		0.434	0.566	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.578		0.335	0.483	0.226	0.186	08/01/2024 10:34	WG2330445
(T) Barium-133	*79.4*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.161	U	0.322	0.535	0.605	0.314	08/06/2024 20:46	WG2332190
(T) Barium	*98.0*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*88.2*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.485	J	0.397	0.635	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.324		0.233	0.359	0.192	0.158	08/01/2024 10:34	WG2330445
(T) Barium-133	*90.3*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.795		0.311	0.526	0.567	0.296	08/06/2024 20:46	WG2332190
(T) Barium	*119*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*85.9*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.48		0.469	0.625	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.688		0.351	0.479	0.264	0.196	08/01/2024 10:34	WG2330445
(T) Barium-133	*90.8*					*30.0-143*	*08/01/2024 10:34*	WG2330445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.934	U	0.763	1.30	1.48	0.770	08/06/2024 20:46	WG2332190
(T) Barium	*117*					*30.0-143*	*08/06/2024 20:46*	WG2332190
(T) Yttrium	*75.7*					*30.0-136*	*08/06/2024 20:46*	WG2332190

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.156	U	0.783	1.50	08/06/2024 20:46	WG2330445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.156	J	0.178	0.300	0.228	0.179	08/01/2024 10:34	WG2330445
(T) Barium-133	*90.5*					*30.0-143*	*08/01/2024 10:34*	WG2330445

QUALITY CONTROL SUMMARY

L1760352-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R4104043-1 08/06/24 16:29

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.244	J	0.245	0.458	0.241
(T) Barium	*88.1*		*88.1*		
(T) Yttrium	*67.3*		*67.3*		

L1755618-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1755618-05 08/06/24 16:29 • (DUP) R4104043-5 08/06/24 16:29

Analyte	Original Result Bq/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.0101	0.0181	0.0339	0.0177	1.13	0.469	0.854	0.446	196	2.38		20	3
(T) Barium	*121*				*94.8*	*94.8*							
(T) Yttrium	*81.0*				*81.7*	*81.7*							

Laboratory Control Sample (LCS)

(LCS) R4104043-2 08/06/24 16:29

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.70	114	80.0-120	
(T) Barium			*100*		
(T) Yttrium			*73.4*		

L1760352-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1760352-14 08/06/24 20:46 • (MS) R4104043-3 08/06/24 16:29 • (MSD) R4104043-4 08/06/24 16:29

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	-0.934	19.2	19.8	115	119	1	70.0-130			3.49		20
(T) Barium		*117*			*95.0*	*96.0*							
(T) Yttrium		*75.7*			*73.8*	*75.6*							

QUALITY CONTROL SUMMARY

L1760352-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R4102664-1 08/01/24 10:34

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0417	U	0.0885	0.141	0.0928
(T) Barium-133	*58.3*		*58.3*		

L1760352-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1760352-14 08/01/24 10:34 • (DUP) R4102664-5 08/01/24 10:34

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.156	0.178	0.228	0.179	0.298	0.282	0.352	0.246	62.7	0.426	J	20	3
(T) Barium-133	*90.5*				*82.0*	*82.0*							

Laboratory Control Sample (LCS)

(LCS) R4102664-2 08/01/24 10:34

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.89	97.8	75.0-125	
(T) Barium-133			*77.2*		

L1760352-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1760352-01 08/01/24 10:34 • (MS) R4102664-3 08/01/24 10:34 • (MSD) R4102664-4 08/01/24 10:34

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	1.04	20.4	23.5	97.0	112	1	75.0-125			13.9		20
(T) Barium-133		*85.1*			*65.7*	*62.1*							

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.

SUBCONTRACT ORDER
Transfer Chain of Custody

F193

Pace Analytical Services, LLC

HG04338

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

L1760352

Sample: HG04338-01
Name: OM24D

Sampled: 07/23/24 11:37
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 11:37	

Sample: HG04338-02
Name: OR11

Sampled: 07/23/24 13:14
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 13:14	

Sample: HG04338-03
Name: OR11 Dup

Sampled: 07/23/24 13:14
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 13:14	

Sample: HG04338-04
Name: OR20

Sampled: 07/23/24 14:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 14:30	

Sample: HG04338-05
Name: OM17D

Sampled: 07/23/24 15:26
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 15:26	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04338

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

L1760352

Sample: HG04338-06
Name: OM100D

Sampled: 07/23/24 14:03
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 14:03	

Sample: HG04338-07
Name: OM100S

Sampled: 07/23/24 13:16
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 13:16	

Sample: HG04338-08
Name: OM101D

Sampled: 07/23/24 12:13
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 12:13	

Sample: HG04338-09
Name: OM101S

Sampled: 07/23/24 11:13
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 11:13	

Sample: HG04338-10
Name: BA02

Sampled: 07/23/24 14:28
Matrix: Ground Water
Preservative: HNO3, pH <2

-10

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 14:28	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04338

L1760361

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: HG04338-11
Name: BA01

Sampled: 07/23/24 12:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-11

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 12:50	

Sample: HG04338-12
Name: BA01 Dup

Sampled: 07/23/24 12:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-12

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 12:50	

Sample: HG04338-13
Name: G60S

Sampled: 07/23/24 15:39
Matrix: Ground Water
Preservative: HNO3, pH <2

-13

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 15:39	

Sample: HG04338-14
Name: G57S

Sampled: 07/23/24 11:53
Matrix: Ground Water
Preservative: HNO3, pH <2

-14

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/05/24 16:00	01/19/25 11:53	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04338

L1760352

19.2+3=19.5 7758102359 0

Sample Receipt Checklist

COC Seal Present/Intact:	X 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		
RA Screen <0.5 mR/hr:	X Y__N		

14 TOTAL

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 7/24/24 Total # of Containers: 14 Sample Origin (State): IL PO #: _____

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

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/24/24 0805		
		Christopher M. Gallin	7/25/24 0900

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

L17600352

Tracking Numbers		Temperature
		19.7+.3=20.0
777581023590		19.2+.3=19.5

Name

Date

ANALYTICAL REPORT

August 12, 2024

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:	L1760782
Samples Received:	07/26/2024
Project Number:	HG04594
Description:	
Site:	001
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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

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

TABLE OF CONTENTS

SAMPLE SUMMARY

HG04594-01 L1760782-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 14:00	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 15:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 15:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-02 L1760782-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 11:34	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-03 L1760782-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 12:39	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-04 L1760782-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 15:13	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-05 L1760782-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 14:50	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-06 L1760782-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/24/24 10:50	07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

HG04594-07 L1760782-07 Non-Potable Water

Collected by | Collected date/time 07/24/24 11:50 | Received date/time 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-08 L1760782-08 Non-Potable Water

Collected by | Collected date/time 07/24/24 12:43 | Received date/time 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-09 L1760782-09 Non-Potable Water

Collected by | Collected date/time 07/24/24 13:45 | Received date/time 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-10 L1760782-10 Non-Potable Water

Collected by | Collected date/time 07/24/24 15:40 | Received date/time 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	Mt. Juliet, TN

HG04594-11 L1760782-11 Non-Potable Water

Collected by | Collected date/time 07/24/24 15:45 | Received date/time 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2332193	1	08/04/24 12:29	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2332445	1	07/30/24 12:52	08/07/24 20:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2332445	1	07/30/24 12:52	08/01/24 10:58	ZRG	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	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.885	U	0.301	0.578	0.605	0.317	08/07/2024 15:49	WG2332193
(T) Barium	*128*					*30.0-143*	*08/07/2024 15:49*	WG2332193
(T) Yttrium	*103*					*30.0-136*	*08/07/2024 15:49*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.41		0.658	0.628	08/07/2024 15:49	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	2.41		0.585	0.712	0.169	0.140	08/01/2024 10:58	WG2332445
(T) Barium-133	*93.2*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.766		0.344	0.647	0.649	0.341	08/07/2024 20:21	WG2332193
(T) Barium	*119*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*84.9*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.03		0.403	0.681	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.259		0.209	0.342	0.207	0.163	08/01/2024 10:58	WG2332445
(T) Barium-133	*84.5*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.496	J	0.360	0.646	0.689	0.359	08/07/2024 20:21	WG2332193
(T) Barium	*111*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*94.4*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.38		0.645	0.729	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.88		0.535	0.665	0.238	0.177	08/01/2024 10:58	WG2332445
(T) Barium-133	*87.1*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.24		0.421	0.752	0.785	0.412	08/07/2024 20:21	WG2332193
(T) Barium	*73.7*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*108*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.62		0.482	0.807	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.377		0.235	0.362	0.188	0.147	08/01/2024 10:58	WG2332445
(T) Barium-133	*94.2*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.50		0.576	1.05	1.08	0.564	08/07/2024 20:21	WG2332193
(T) Barium	*117*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*95.3*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.18		0.647	1.09	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.680		0.295	0.405	0.151	0.125	08/01/2024 10:58	WG2332445
(T) Barium-133	*99.7*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.949	J	0.669	1.17	1.28	0.665	08/07/2024 20:21	WG2332193
(T) Barium	*89.4*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*97.5*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.93		0.840	1.29	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.98		0.508	0.625	0.193	0.147	08/01/2024 10:58	WG2332445
(T) Barium-133	*96.8*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.592	J	0.591	1.08	1.14	0.594	08/07/2024 20:21	WG2332193
(T) Barium	*116*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*90.7*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.745	J	0.613	1.16	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.153	J	0.162	0.301	0.186	0.153	08/01/2024 10:58	WG2332445
(T) Barium-133	*80.3*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0146	U	0.349	0.640	0.683	0.356	08/07/2024 20:21	WG2332193
(T) Barium	*112*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*91.4*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.06		0.521	0.709	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.06		0.387	0.506	0.189	0.148	08/01/2024 10:58	WG2332445
(T) Barium-133	*92.3*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.803		0.381	0.658	0.719	0.374	08/07/2024 20:21	WG2332193
(T) Barium	*127*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*100*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.858		0.429	0.798	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0550	U	0.198	0.329	0.346	0.232	08/01/2024 10:58	WG2332445
(T) Barium-133	*83.9*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.615		0.273	0.559	0.516	0.273	08/07/2024 20:21	WG2332193
(T) Barium	*95.5*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*98.9*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.876		0.331	0.538	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.261		0.188	0.302	0.154	0.127	08/01/2024 10:58	WG2332445
(T) Barium-133	*109*					*30.0-143*	*08/01/2024 10:58*	WG2332445

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	2.38		0.356	0.643	0.623	0.326	08/07/2024 20:21	WG2332193
(T) Barium	*138*					*30.0-143*	*08/07/2024 20:21*	WG2332193
(T) Yttrium	*93.6*					*30.0-136*	*08/07/2024 20:21*	WG2332193

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	3.09		0.497	0.667	08/07/2024 20:21	WG2332445

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.714		0.347	0.485	0.238	0.181	08/01/2024 10:58	WG2332445
(T) Barium-133	*83.9*					*30.0-143*	*08/01/2024 10:58*	WG2332445

QUALITY CONTROL SUMMARY

L1760782-01,02,03,04,05,06,07,08,09,10,11

Method Blank (MB)

(MB) R4104612-1 08/07/24 15:49

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0445	U	0.154	0.294	0.154
(T) Barium	*124*		*124*		
(T) Yttrium	*94.3*		*94.3*		

L1760782-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1760782-10 08/07/24 20:21 • (DUP) R4104612-5 08/07/24 15:49

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.615	0.273	0.516	0.273	-0.102	0.370	0.705	0.367	200	1.56	U	20	3
(T) Barium	*95.5*				*105*	*105*							
(T) Yttrium	*98.9*				*95.1*	*95.1*							

Laboratory Control Sample (LCS)

(LCS) R4104612-2 08/07/24 15:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.02	100	80.0-120	
(T) Barium			*127*		
(T) Yttrium			*90.5*		

L1756155-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1756155-17 08/07/24 15:49 • (MS) R4104612-3 08/07/24 15:49 • (MSD) R4104612-4 08/07/24 15:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	2.42	22.0	18.1	117	94.0	1	70.0-130			19.3		20
(T) Barium		*163*			*112*	*157*				C1			
(T) Yttrium		*89.0*			*99.8*	*95.7*							

QUALITY CONTROL SUMMARY

L1760782-01,02,03,04,05,06,07,08,09,10,11

Method Blank (MB)

(MB) R4103049-2 08/01/24 13:54

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.139		0.0849	0.0765	0.0557
(T) Barium-133	*84.3*		*84.3*		

L1761235-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1761235-08 08/01/24 12:16 • (DUP) R4103049-1 08/01/24 10:58

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.173	0.203	0.279	0.192	0.310	0.224	0.214	0.162	57.0	0.455		20	3
(T) Barium-133	*85.1*				*90.5*	*90.5*							

Laboratory Control Sample (LCS)

(LCS) R4103049-3 08/01/24 13:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.03	101	75.0-125	
(T) Barium-133			*59.3*		

L1758818-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1758818-03 08/05/24 23:32 • (MS) R4103049-4 08/05/24 23:32 • (MSD) R4103049-5 08/05/24 23:32

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.439	18.6	17.8	90.6	86.8	1	75.0-125			4.18		20
(T) Barium-133		*52.8*			*97.5*	*74.5*							

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
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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04594

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

L1760782

Sample: HG04594-01
Name: OM07

Sampled: 07/24/24 14:00
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 14:00	MS/MSD

Sample: HG04594-02
Name: OR13D

Sampled: 07/24/24 11:34
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 11:34	

Sample: HG04594-03
Name: OR13S

Sampled: 07/24/24 12:39
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 12:39	

Sample: HG04594-04
Name: OR14D

Sampled: 07/24/24 15:13
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 15:13	

Sample: HG04594-05
Name: OR04D

Sampled: 07/24/24 14:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 14:50	

SUBCONTRACT ORDER

Transfer Chain of Custody

B241

Pace Analytical Services, LLC

HG04594

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

L1760782

Sample: HG04594-06
Name: OM15D

Sampled: 07/24/24 10:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 10:50	

Sample: HG04594-07
Name: OM22D

Sampled: 07/24/24 11:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 11:50	

Sample: HG04594-08
Name: OM23D

Sampled: 07/24/24 12:43
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 12:43	

Sample: HG04594-09
Name: OM25S

Sampled: 07/24/24 13:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 13:45	

Sample: HG04594-10
Name: BA03L

Sampled: 07/24/24 15:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-10

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 15:40	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04594

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

L1760782

Sample: HG04594-11
Name: EB #1

Sampled: 07/24/24 15:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-11

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/06/24 16:00	01/20/25 15:45	MS/MSD

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		
RA Screen <0.5 mR/hr:	Y N		

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 7/25/24 Total # of Containers: 11 Sample Origin (State): IL PO #: _____

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

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/25/24 1410	CRoper	07/26/24 0900

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

L7160782

Tracking Numbers	Temperature
7776 1271 6877	19.0+0.3=19.3 EDA9
7776 1267 8118	22.4+0.3=22.7 EDA9

Name

Date

ANALYTICAL REPORT

August 16, 2024

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

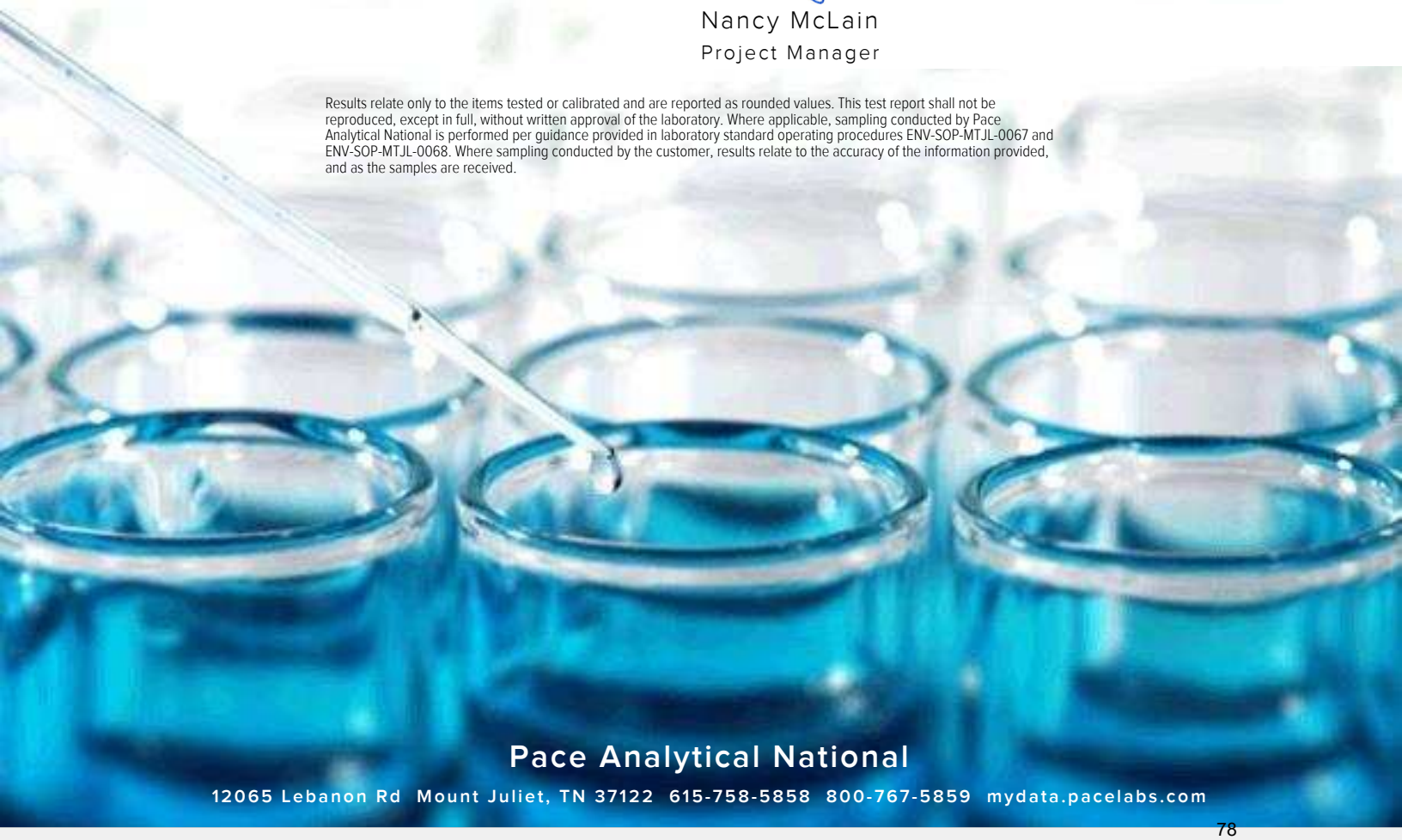
Pace IR - Peoria, IL

Sample Delivery Group:	L1761598
Samples Received:	07/30/2024
Project Number:	HG04893
Description:	
Site:	001
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By: Nancy F. McLain

Nancy McLain
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 mydata.pacelabs.com

TABLE OF CONTENTS

SAMPLE SUMMARY

HG04893-01 L1761598-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 10:50	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 19:17	ZRG	Mt. Juliet, TN

HG04893-02 L1761598-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 11:00	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 19:17	ZRG	Mt. Juliet, TN

HG04893-03 L1761598-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 12:00	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 19:17	ZRG	Mt. Juliet, TN

HG04893-04 L1761598-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 12:35	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-05 L1761598-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 13:00	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-06 L1761598-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/25/24 14:01	07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

HG04893-07 L1761598-07 Non-Potable Water

Collected by | Collected date/time 07/25/24 14:40 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-08 L1761598-08 Non-Potable Water

Collected by | Collected date/time 07/25/24 14:40 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-09 L1761598-09 Non-Potable Water

Collected by | Collected date/time 07/25/24 11:00 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336014	1	08/05/24 22:58	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/12/24 22:42	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-11 L1761598-10 Non-Potable Water

Collected by | Collected date/time 07/25/24 12:30 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-12 L1761598-11 Non-Potable Water

Collected by | Collected date/time 07/25/24 14:29 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	Mt. Juliet, TN

HG04893-13 L1761598-12 Non-Potable Water

Collected by | Collected date/time 07/25/24 15:55 | Received date/time 07/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2333206	1	07/31/24 08:45	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2333206	1	07/31/24 08:45	08/01/24 23:41	ZRG	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.

Nancy F. McLain

Nancy McLain
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.371	U	0.945	1.51	1.77	0.924	08/12/2024 22:42	WG2336014
(T) Barium	*37.6*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*95.3*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.20	J	1.00	1.78	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.834		0.338	0.457	0.162	0.133	08/01/2024 19:17	WG2333206
(T) Barium-133	*95.4*					*30.0-143*	*08/01/2024 19:17*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.662		0.347	0.634	0.633	0.332	08/12/2024 22:42	WG2336014
(T) Barium	*106*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*93.4*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.15		0.457	0.680	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.487		0.297	0.439	0.248	0.188	08/01/2024 19:17	WG2333206
(T) Barium-133	*80.5*					*30.0-143*	*08/01/2024 19:17*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.735		0.199	0.397	0.349	0.185	08/12/2024 22:42	WG2336014
(T) Barium	*108*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*108*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.19		0.339	0.399	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.453		0.275	0.406	0.193	0.160	08/01/2024 19:17	WG2333206
(T) Barium-133	*83.1*					*30.0-143*	*08/01/2024 19:17*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.163	U	0.223	0.430	0.429	0.226	08/12/2024 22:42	WG2336014
(T) Barium	*117*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*92.1*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.706		0.439	0.490	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.706		0.378	0.526	0.236	0.195	08/01/2024 23:41	WG2333206
(T) Barium-133	*73.4*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.327	J	0.188	0.386	0.344	0.183	08/12/2024 22:42	WG2336014
(T) Barium	*104*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*109*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.660		0.378	0.527	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.333	J	0.328	0.505	0.399	0.296	08/01/2024 23:41	WG2333206
(T) Barium-133	*60.1*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.372	U	0.623	1.10	1.18	0.617	08/12/2024 22:42	WG2336014
(T) Barium	*95.3*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*114*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.377	U	0.684	1.21	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.377		0.282	0.419	0.262	0.206	08/01/2024 23:41	WG2333206
(T) Barium-133	*78.8*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.925		0.377	0.662	0.681	0.360	08/12/2024 22:42	WG2336014
(T) Barium	*58.6*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*90.4*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.16		0.470	0.783	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.239	J	0.281	0.435	0.387	0.266	08/01/2024 23:41	WG2333206
(T) Barium-133	*71.1*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.556	J	0.383	0.647	0.703	0.369	08/12/2024 22:42	WG2336014
(T) Barium	*62.9*					*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*98.0*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.556	J	0.417	0.805	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.000	U	0.165	0.325	0.393	0.286	08/01/2024 23:41	WG2333206
(T) Barium-133	*65.7*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0848	U	0.237	0.435	0.444	0.232	08/12/2024 22:42	WG2336014
(T) Barium	*180*	C1				*30.0-143*	*08/12/2024 22:42*	WG2336014
(T) Yttrium	*100*					*30.0-136*	*08/12/2024 22:42*	WG2336014

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.653		0.395	0.489	08/12/2024 22:42	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.568		0.316	0.451	0.205	0.169	08/01/2024 23:41	WG2333206
(T) Barium-133	*85.4*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.255	J	0.265	0.463	0.482	0.251	08/14/2024 19:49	WG2336016
(T) Barium	*105*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*109*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.608		0.353	0.520	08/14/2024 19:49	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.353		0.233	0.366	0.194	0.153	08/01/2024 23:41	WG2333206
(T) Barium-133	*92.5*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.636		0.234	0.445	0.414	0.218	08/14/2024 19:49	WG2336016
(T) Barium	*123*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*88.5*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.883		0.328	0.491	08/14/2024 19:49	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.247	J	0.230	0.376	0.264	0.201	08/01/2024 23:41	WG2333206
(T) Barium-133	*73.2*					*30.0-143*	*08/01/2024 23:41*	WG2333206

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.279	U	0.317	0.595	0.597	0.313	08/14/2024 19:49	WG2336016
(T) Barium	*126*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*108*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.379	J	0.407	0.629	08/14/2024 19:49	WG2333206

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.379		0.256	0.395	0.198	0.164	08/01/2024 23:41	WG2333206
(T) Barium-133	*79.2*					*30.0-143*	*08/01/2024 23:41*	WG2333206

QUALITY CONTROL SUMMARY

L1761598-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R4106367-1 08/12/24 22:42

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.480		0.173	0.311	0.164
(T) Barium	*124*		*124*		
(T) Yttrium	*82.7*		*82.7*		

L1757026-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1757026-16 08/12/24 22:42 • (DUP) R4106367-5 08/12/24 22:42

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.0389	0.844	1.59	0.833	1.17	0.374	0.670	0.350	187	1.23		20	3
(T) Barium	*50.1*				*112*	*112*							
(T) Yttrium	*79.8*				*90.4*	*90.4*							

Laboratory Control Sample (LCS)

(LCS) R4106367-2 08/12/24 22:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.36	87.1	80.0-120	
(T) Barium			*108*		
(T) Yttrium			*97.9*		

L1761598-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1761598-06 08/12/24 22:42 • (MS) R4106367-3 08/12/24 22:42 • (MSD) R4106367-4 08/12/24 22:42

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.372	15.5	13.5	93.1	81.0	1	70.0-130			13.9		20
(T) Barium		*95.3*			*103*	*114*							
(T) Yttrium		*114*			*95.9*	*119*							

QUALITY CONTROL SUMMARY

L1761598-10,11,12

Method Blank (MB)

(MB) R4107576-1 08/14/24 19:49

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0890	U	0.157	0.292	0.153
(T) Barium	*108*		*108*		
(T) Yttrium	*95.7*		*95.7*		

L1761175-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1761175-09 08/14/24 19:49 • (DUP) R4107576-5 08/14/24 19:49

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.0577	0.274	0.513	0.270	-0.0742	0.371	0.695	0.362	0.000	0.0358	U	20	3
(T) Barium	*127*				*140*	*140*							
(T) Yttrium	*118*				*94.7*	*94.7*							

Laboratory Control Sample (LCS)

(LCS) R4107576-2 08/14/24 19:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.44	88.7	80.0-120	
(T) Barium			*128*		
(T) Yttrium			*112*		

L1765581-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1765581-01 08/14/24 19:49 • (MS) R4107576-3 08/14/24 19:49 • (MSD) R4107576-4 08/14/24 19:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.0529	15.4	14.6	91.9	87.6	1	70.0-130			4.80		20
(T) Barium		*142*			*120*	*120*							
(T) Yttrium		*97.6*			*111*	*91.5*							

QUALITY CONTROL SUMMARY

L1761598-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R4102715-1 08/01/24 19:17

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0295	J	0.0471	0.0733	0.0525
(T) Barium-133	*74.6*		*74.6*		

L1761598-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1761598-12 08/01/24 23:41 • (DUP) R4102715-5 08/01/24 19:17

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.379	0.256	0.198	0.164	0.237	0.221	0.228	0.188	45.9	0.418		20	3
(T) Barium-133	*79.2*				*69.2*	*69.2*							

Laboratory Control Sample (LCS)

(LCS) R4102715-2 08/01/24 19:17

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.98	99.5	75.0-125	
(T) Barium-133			*77.2*		

L1761598-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1761598-02 08/01/24 19:17 • (MS) R4102715-3 08/01/24 19:17 • (MSD) R4102715-4 08/01/24 19:17

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.487	19.9	19.8	96.9	96.4	1	75.0-125			0.505		20
(T) Barium-133		*80.5*			*69.5*	*73.4*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04893

L-138

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

L1761598

Sample: HG04893-01
Name: OM17

Sampled: 07/25/24 10:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 10:50	

Sample: HG04893-02
Name: OM12

Sampled: 07/25/24 11:00
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 11:00	

Sample: HG04893-03
Name: OM12D

Sampled: 07/25/24 12:00
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 12:00	

Sample: HG04893-04
Name: OM16

Sampled: 07/25/24 12:35
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 12:35	

Sample: HG04893-05
Name: OR19

Sampled: 07/25/24 13:00
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 13:00	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04893

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

L1761598

Sample: HG04893-06
Name: OM21

Sampled: 07/25/24 14:01
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 14:01	

Sample: HG04893-07
Name: OM01

Sampled: 07/25/24 14:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 14:40	

Sample: HG04893-08
Name: OM01 Dup

Sampled: 07/25/24 14:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 14:40	

Sample: HG04893-09
Name: BA06

Sampled: 07/25/24 11:00
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 11:00	

Sample: HG04893-11
Name: BA05

Sampled: 07/25/24 12:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-10

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 12:30	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG04893

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

L1761598

Sample: HG04893-12
Name: BA03

Sampled: 07/25/24 14:29
Matrix: Ground Water
Preservative: HNO3, pH <2

-11

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 14:29	

Sample: HG04893-13
Name: BA04

Sampled: 07/25/24 15:55
Matrix: Ground Water
Preservative: HNO3, pH <2

-12

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/07/24 16:00	01/21/25 15:55	

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		
RA Screen <0.5 mR/hr:	✓ Y __N		

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 7/29/24 Total # of Containers: 12 Sample Origin (State): IL PO #: _____

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

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/29/24 0745	CROBERTS	07.30.24 0900

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

L17615918

Tracking Numbers	Temperature
7776 5936 1800	22.6+0.3=22.9 EDA9
7776 5921 8296	20.3+0.3=20.6 EDA9

Name

Date

ANALYTICAL REPORT

August 16, 2024

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

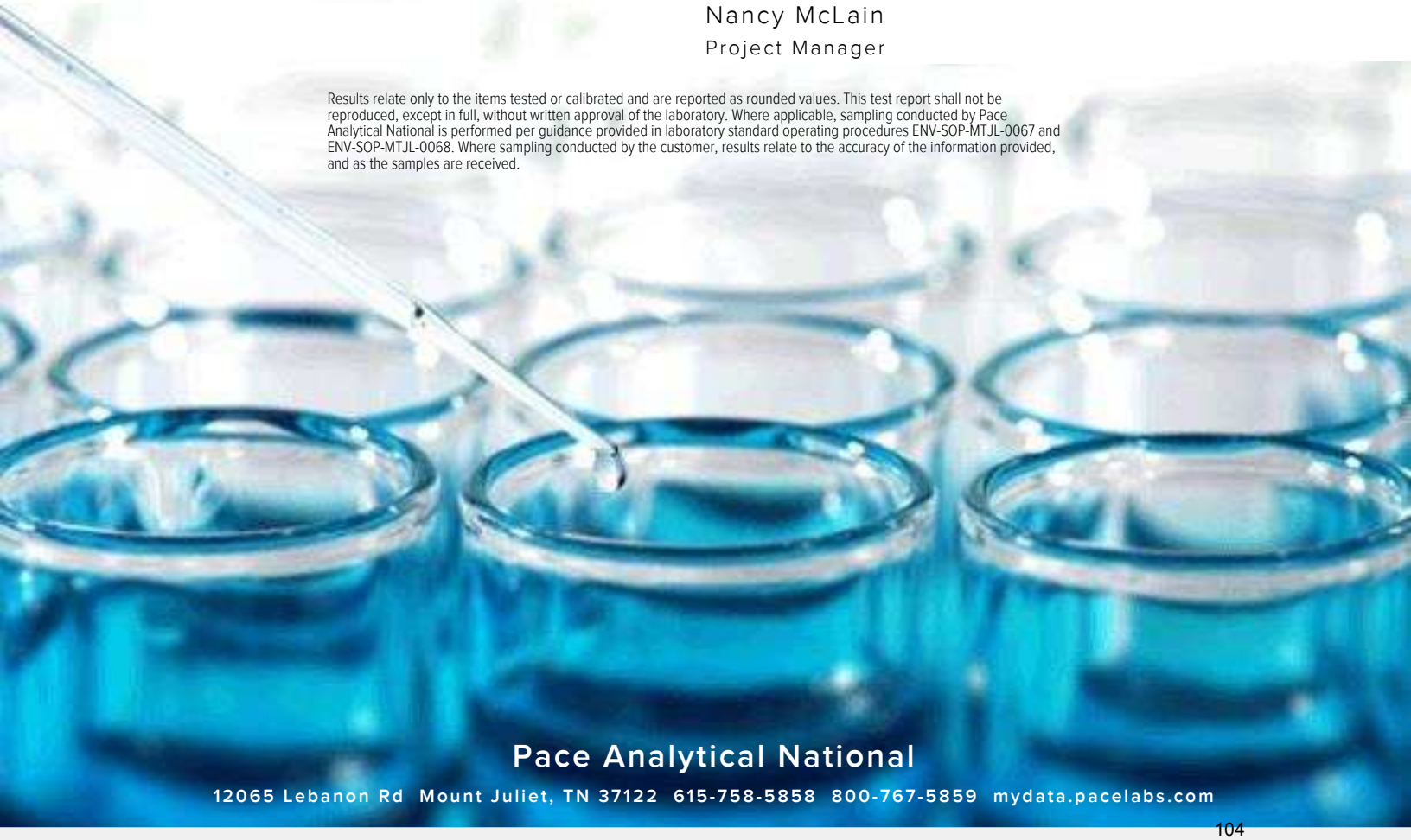
Pace IR - Peoria, IL

Sample Delivery Group:	L1762185
Samples Received:	07/31/2024
Project Number:	HG05252
Description:	HG05252
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By: Nancy F. McLain

Nancy McLain
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 mydata.pacelabs.com

TABLE OF CONTENTS

SAMPLE SUMMARY

HG05252-01 L1762185-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 14:50	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/06/24 10:40	ZRG	Mt. Juliet, TN

HG05252-02 L1762185-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 11:15	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 10:06	ZRG	Mt. Juliet, TN

HG05252-03 L1762185-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 12:15	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 10:06	ZRG	Mt. Juliet, TN

HG05252-04 L1762185-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 13:51	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 19:49	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 10:06	ZRG	Mt. Juliet, TN

HG05252-05 L1762185-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 14:52	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 10:06	ZRG	Mt. Juliet, TN

HG05252-06 L1762185-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 10:53	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 10:06	ZRG	Mt. Juliet, TN

SAMPLE SUMMARY

HG05252-07 L1762185-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 14:48	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 14:19	ZRG	Mt. Juliet, TN

HG05252-08 L1762185-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/29/24 14:12	07/31/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2336016	1	08/09/24 23:15	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2334260	1	08/01/24 11:57	08/14/24 20:39	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2334260	1	08/01/24 11:57	08/03/24 14:19	ZRG	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.

Nancy F. McLain

Nancy McLain
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.170	U	0.339	0.616	0.631	0.330	08/14/2024 19:49	WG2336016
(T) Barium	*127*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*101*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.388	J	0.494	0.780	08/14/2024 19:49	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.388	J	0.359	0.503	0.458	0.296	08/06/2024 10:40	WG2334260
(T) Barium-133	*76.9*					*30.0-143*	*08/06/2024 10:40*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.000	U	0.331	0.608	0.611	0.320	08/14/2024 19:49	WG2336016
(T) Barium	*123*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*108*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.621	J	0.465	0.651	08/14/2024 19:49	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.621		0.327	0.465	0.225	0.176	08/03/2024 10:06	WG2334260
(T) Barium-133	*77.7*					*30.0-143*	*08/03/2024 10:06*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0446	U	0.206	0.404	0.381	0.201	08/14/2024 19:49	WG2336016
(T) Barium	*111*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*108*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.366	J	0.344	0.509	08/14/2024 19:49	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.321	J	0.276	0.405	0.337	0.226	08/03/2024 10:06	WG2334260
(T) Barium-133	*86.2*					*30.0-143*	*08/03/2024 10:06*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.143	U	0.199	0.397	0.365	0.193	08/14/2024 19:49	WG2336016
(T) Barium	*106*					*30.0-143*	*08/14/2024 19:49*	WG2336016
(T) Yttrium	*104*					*30.0-136*	*08/14/2024 19:49*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.292	J	0.253	0.407	08/14/2024 19:49	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.149	J	0.157	0.287	0.181	0.149	08/03/2024 10:06	WG2334260
(T) Barium-133	*85.3*					*30.0-143*	*08/03/2024 10:06*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.240	U	0.222	0.420	0.456	0.238	08/14/2024 20:39	WG2336016
(T) Barium	*114*					*30.0-143*	*08/14/2024 20:39*	WG2336016
(T) Yttrium	*101*					*30.0-136*	*08/14/2024 20:39*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.261	J	0.313	0.514	08/14/2024 20:39	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.261		0.221	0.358	0.237	0.180	08/03/2024 10:06	WG2334260
(T) Barium-133	*84.3*					*30.0-143*	*08/03/2024 10:06*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.193	U	0.197	0.395	0.408	0.215	08/14/2024 20:39	WG2336016
(T) Barium	*122*					*30.0-143*	*08/14/2024 20:39*	WG2336016
(T) Yttrium	*108*					*30.0-136*	*08/14/2024 20:39*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.350	J	0.308	0.447	08/14/2024 20:39	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.350		0.237	0.363	0.183	0.152	08/03/2024 10:06	WG2334260
(T) Barium-133	*87.5*					*30.0-143*	*08/03/2024 10:06*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.0810	U	0.193	0.391	0.390	0.206	08/14/2024 20:39	WG2336016
(T) Barium	*121*					*30.0-143*	*08/14/2024 20:39*	WG2336016
(T) Yttrium	*107*					*30.0-136*	*08/14/2024 20:39*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.386	J	0.299	0.444	08/14/2024 20:39	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.305		0.228	0.376	0.212	0.166	08/03/2024 14:19	WG2334260
(T) Barium-133	*81.5*					*30.0-143*	*08/03/2024 14:19*	WG2334260

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.669		0.311	0.589	0.607	0.318	08/14/2024 20:39	WG2336016
(T) Barium	*137*					*30.0-143*	*08/14/2024 20:39*	WG2336016
(T) Yttrium	*110*					*30.0-136*	*08/14/2024 20:39*	WG2336016

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.49		0.513	0.695	08/14/2024 20:39	WG2334260

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.824		0.408	0.539	0.339	0.237	08/03/2024 14:19	WG2334260
(T) Barium-133	*85.1*					*30.0-143*	*08/03/2024 14:19*	WG2334260

QUALITY CONTROL SUMMARY

L1762185-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R4107576-1 08/14/24 19:49

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0890	U	0.157	0.292	0.153
(T) Barium	*108*		*108*		
(T) Yttrium	*95.7*		*95.7*		

L1761175-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1761175-09 08/14/24 19:49 • (DUP) R4107576-5 08/14/24 19:49

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	-0.0577	0.274	0.513	0.270	-0.0742	0.371	0.695	0.362	0.000	0.0358	U	20	3
(T) Barium	*127*				*140*	*140*							
(T) Yttrium	*118*				*94.7*	*94.7*							

Laboratory Control Sample (LCS)

(LCS) R4107576-2 08/14/24 19:49

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.44	88.7	80.0-120	
(T) Barium			*128*		
(T) Yttrium			*112*		

L1765581-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1765581-01 08/14/24 19:49 • (MS) R4107576-3 08/14/24 19:49 • (MSD) R4107576-4 08/14/24 19:49

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.0529	15.4	14.6	91.9	87.6	1	70.0-130			4.80		20
(T) Barium		*142*			*120*	*120*							
(T) Yttrium		*97.6*			*111*	*91.5*							

QUALITY CONTROL SUMMARY

L1762185-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R4103268-1 08/03/24 10:05

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0112	J	0.0164	0.0262	0.0198
(T) Barium-133	*83.9*		*83.9*		

L1762185-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1762185-08 08/03/24 14:19 • (DUP) R4103268-3 08/03/24 10:05

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.824	0.408	0.339	0.237	0.566	0.292	0.176	0.146	37.1	0.514		20	3
(T) Barium-133	*85.1*				*89.4*	*89.4*							

Laboratory Control Sample (LCS)

(LCS) R4103268-2 08/03/24 10:05

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.31	106	75.0-125	
(T) Barium-133			*88.7*		

L1762185-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1762185-01 08/06/24 10:40 • (MS) R4103268-4 08/06/24 10:40 • (MSD) R4103268-5 08/06/24 10:40

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	0.388	16.4	17.9	80.0	87.7	1	75.0-125			8.92		20
(T) Barium-133		*76.9*			*76.9*	*72.2*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05252

D223

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

L1[illegible]248

Sample: HG05252-01
Name: G50S

Sampled: 07/29/24 14:50
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 14:50	

Sample: HG05252-02
Name: BA02L

Sampled: 07/29/24 11:15
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 11:15	

Sample: HG05252-03
Name: OR06A

Sampled: 07/29/24 12:15
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 12:15	

Sample: HG05252-04
Name: OM04S

Sampled: 07/29/24 13:51
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 13:51	

Sample: HG05252-05
Name: OR02

Sampled: 07/29/24 14:52
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 14:52	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05252

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

LD62185

Sample: HG05252-06
Name: G51S

Sampled: 07/29/24 10:53
Matrix: Ground Water
Preservative: HNO3, pH <2

-6

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 10:53	

Sample: HG05252-07
Name: G54L

Sampled: 07/29/24 14:48
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 14:48	

Sample: HG05252-08
Name: G54S

Sampled: 07/29/24 14:12
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/09/24 16:00	01/25/25 14:12	

AMB to 3 - AMB 8049

(8)

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		
RA Screen <0.5 mR/hr:	Y N		

PH-10BDH4321

TRC-3223A228

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 7/30/24 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]	7/30/24 0725	[signature]	7.31.24 1030

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

ANALYTICAL REPORT

August 23, 2024

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:	L1764370
Samples Received:	08/06/2024
Project Number:	
Description:	
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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

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

TABLE OF CONTENTS

SAMPLE SUMMARY

HG05510-01 L1764370-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/30/24 10:04	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05510-02 L1764370-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/30/24 11:16	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05510-03 L1764370-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/30/24 12:10	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05510-04 L1764370-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/30/24 13:19	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05510-05 L1764370-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	07/30/24 14:15	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

CASE NARRATIVE

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

Haley Torrence
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	2.80		0.603	1.08	1.04	0.547	08/18/2024 15:09	WG2340011
(T) Barium	*112*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*95.0*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	3.19		0.649	1.06	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.381		0.239	0.466	0.225	0.161	08/13/2024 00:20	WG2339657
(T) Barium-133	*97.4*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	5.14		1.81	2.93	3.24	1.70	08/18/2024 15:09	WG2340011
(T) Barium	*30.5*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*111*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	7.34		1.89	3.24	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	2.20		0.540	1.53	0.180	0.141	08/13/2024 00:20	WG2339657
(T) Barium-133	*104*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.254	U	0.553	1.02	1.03	0.540	08/18/2024 15:09	WG2340011
(T) Barium	*122*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*103*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.57		0.693	1.05	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.32		0.417	1.00	0.193	0.147	08/13/2024 00:20	WG2339657
(T) Barium-133	*108*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.42		0.437	0.900	0.771	0.410	08/18/2024 15:09	WG2340011
(T) Barium	*154*	C1				*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*99.7*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.75		0.486	0.787	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.334		0.213	0.413	0.157	0.130	08/13/2024 00:20	WG2339657
(T) Barium-133	*114*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.728	U	0.252	0.530	0.509	0.269	08/18/2024 15:09	WG2340011
(T) Barium	*119*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*103*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0673	U	0.275	0.538	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0673	J	0.109	0.193	0.173	0.142	08/13/2024 00:20	WG2339657
(T) Barium-133	*91.4*					*30.0-143*	*08/13/2024 00:20*	WG2339657

QUALITY CONTROL SUMMARY

L1764370-01,02,03,04,05

Method Blank (MB)

(MB) R4108927-1 08/18/24 15:09

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.191	J	0.140	0.258	0.136
(T) Barium	*106*		*106*		
(T) Yttrium	*106*		*106*		

L1765840-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1765840-01 08/18/24 15:09 • (DUP) R4108927-5 08/18/24 15:09

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.612	0.326	0.591	0.310	1.31	0.337	0.591	0.309	72.4	1.48		20	3
(T) Barium	*119*				*115*	*115*							
(T) Yttrium	*104*				*101*	*101*							

Laboratory Control Sample (LCS)

(LCS) R4108927-2 08/18/24 15:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.86	97.2	80.0-120	
(T) Barium			*115*		
(T) Yttrium			*97.3*		

L1764366-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764366-01 08/18/24 15:09 • (MS) R4108927-3 08/18/24 15:09 • (MSD) R4108927-4 08/18/24 15:09

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	-0.793	16.6	16.0	99.3	96.0	1	70.0-130			3.43		20
(T) Barium		*119*			*108*	*113*							
(T) Yttrium		*99.1*			*95.5*	*95.7*							

QUALITY CONTROL SUMMARY

L1764370-01,02,03,04,05

Method Blank (MB)

(MB) R4106591-1 08/13/24 00:19

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0239	U	0.0595	0.0982	0.0655
(T) Barium-133	*89.7*		*89.7*		

L1764366-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1764366-01 08/13/24 00:20 • (DUP) R4106591-5 08/13/24 00:20

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.112	0.141	0.185	0.153	0.0366	0.204	0.381	0.260	102	0.305	U	20	3
(T) Barium-133	*93.6*				*85.5*	*85.5*							

Laboratory Control Sample (LCS)

(LCS) R4106591-2 08/13/24 00:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.57	91.4	75.0-125	
(T) Barium-133			*95.2*		

L1764370-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764370-05 08/13/24 00:20 • (MS) R4106591-3 08/13/24 00:20 • (MSD) R4106591-4 08/13/24 00:20

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	0.0673	18.7	18.9	93.4	94.3	1	75.0-125			0.956		20
(T) Barium-133		*91.4*			*103*	*102*							

GLOSSARY OF TERMS

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

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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05510

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

L1764370

Sample: HG05510-01
Name: OR03D

Sampled: 07/30/24 10:04
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/12/24 16:00	01/26/25 10:04	

Sample: HG05510-02
Name: OM26

Sampled: 07/30/24 11:16
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/12/24 16:00	01/26/25 11:16	

Sample: HG05510-03
Name: OM27

Sampled: 07/30/24 12:10
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/12/24 16:00	01/26/25 12:10	

Sample: HG05510-04
Name: OM28

Sampled: 07/30/24 13:19
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/12/24 16:00	01/26/25 13:19	

Sample: HG05510-05
Name: EB #2

Sampled: 07/30/24 14:15
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/12/24 16:00	01/26/25 14:15	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05510

L-020

L1764370

Sample Receipt Checklist 7778 0015 9625

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		
RA Screen <0.5 mR/hr:	Y N		

21.1+0.3=21.4 MSA9

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 8/5/24 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]	8/5/24 1450	CRODERO	08.06.24 0900

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

ANALYTICAL REPORT

August 23, 2024

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:	L1764371
Samples Received:	08/06/2024
Project Number:	
Description:	
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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

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

TABLE OF CONTENTS

SAMPLE SUMMARY

HG05745-01 L1764371-01 Non-Potable Water

Collected by | Collected date/time 07/31/24 14:05 | Received date/time 08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05745-02 L1764371-02 Non-Potable Water

Collected by | Collected date/time 07/31/24 12:58 | Received date/time 08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05745-03 L1764371-03 Non-Potable Water

Collected by | Collected date/time 07/31/24 12:47 | Received date/time 08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HG05745-04 L1764371-04 Non-Potable Water

Collected by | Collected date/time 07/31/24 11:43 | Received date/time 08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	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	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.01		0.253	0.531	0.437	0.233	08/18/2024 15:09	WG2340011
(T) Barium	*105*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*99.4*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.43		0.347	0.471	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.418		0.238	0.472	0.175	0.137	08/13/2024 00:20	WG2339657
(T) Barium-133	*103*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.658	U	0.401	0.687	0.766	0.399	08/18/2024 15:09	WG2340011
(T) Barium	*118*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*94.1*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.119	U	0.432	0.800	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.119	J	0.160	0.268	0.232	0.172	08/13/2024 00:20	WG2339657
(T) Barium-133	*89.5*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.424	J	0.276	0.553	0.505	0.267	08/18/2024 15:09	WG2340011
(T) Barium	*106*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*106*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.545		0.309	0.535	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.121	J	0.138	0.252	0.177	0.139	08/13/2024 00:20	WG2339657
(T) Barium-133	*101*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.0152	U	0.324	0.601	0.608	0.319	08/18/2024 15:09	WG2340011
(T) Barium	*117*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*108*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0928	U	0.344	0.627	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0928	J	0.116	0.193	0.153	0.126	08/13/2024 00:20	WG2339657
(T) Barium-133	*98.3*					*30.0-143*	*08/13/2024 00:20*	WG2339657

QUALITY CONTROL SUMMARY

L1764371-01,02,03,04

Method Blank (MB)

(MB) R4108927-1 08/18/24 15:09

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.191	J	0.140	0.258	0.136
(T) Barium	*106*		*106*		
(T) Yttrium	*106*		*106*		

L1765840-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1765840-01 08/18/24 15:09 • (DUP) R4108927-5 08/18/24 15:09

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.612	0.326	0.591	0.310	1.31	0.337	0.591	0.309	72.4	1.48		20	3
(T) Barium	*119*				*115*	*115*							
(T) Yttrium	*104*				*101*	*101*							

Laboratory Control Sample (LCS)

(LCS) R4108927-2 08/18/24 15:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.86	97.2	80.0-120	
(T) Barium			*115*		
(T) Yttrium			*97.3*		

L1764366-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764366-01 08/18/24 15:09 • (MS) R4108927-3 08/18/24 15:09 • (MSD) R4108927-4 08/18/24 15:09

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	-0.793	16.6	16.0	99.3	96.0	1	70.0-130			3.43		20
(T) Barium		*119*			*108*	*113*							
(T) Yttrium		*99.1*			*95.5*	*95.7*							

QUALITY CONTROL SUMMARY

L1764371-01,02,03,04

Method Blank (MB)

(MB) R4106591-1 08/13/24 00:19

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0239	U	0.0595	0.0982	0.0655
(T) Barium-133	*89.7*		*89.7*		

L1764366-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1764366-01 08/13/24 00:20 • (DUP) R4106591-5 08/13/24 00:20

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.112	0.141	0.185	0.153	0.0366	0.204	0.381	0.260	102	0.305	U	20	3
(T) Barium-133	*93.6*				*85.5*	*85.5*							

Laboratory Control Sample (LCS)

(LCS) R4106591-2 08/13/24 00:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.57	91.4	75.0-125	
(T) Barium-133			*95.2*		

L1764370-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764370-05 08/13/24 00:20 • (MS) R4106591-3 08/13/24 00:20 • (MSD) R4106591-4 08/13/24 00:20

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	0.0673	18.7	18.9	93.4	94.3	1	75.0-125			0.956		20
(T) Barium-133		*91.4*			*103*	*102*							

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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05745

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

L1764371

Sample: HG05745-01
Name: G60L

Sampled: 07/31/24 14:05
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/13/24 16:00	01/27/25 14:05	

Sample: HG05745-02
Name: R61L

Sampled: 07/31/24 12:58
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/13/24 16:00	01/27/25 12:58	

Sample: HG05745-03
Name: G61S

Sampled: 07/31/24 12:47
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/13/24 16:00	01/27/25 12:47	

Sample: HG05745-04
Name: G64L

Sampled: 07/31/24 11:43
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/13/24 16:00	01/27/25 11:43	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HG05745

L-021

L764371

Sample Receipt Checklist 7778 0015 9625

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		
RA Screen <0.5 mR/hr:	✓ Y N		

21.1+0.3=21.4 MSA9

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 8/5/24 Total # of Containers: 4 Sample Origin (State): IL PO #: _____

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

Relinquished By	Date/Time	Received By	Date/Time
[signature]	8/5/24 1455	CAOberD	08.06.24 0900

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

ANALYTICAL REPORT

August 23, 2024

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:	L1764366
Samples Received:	08/06/2024
Project Number:	
Description:	
Report To:	Diane Billings 2231 W. Altorfer Drive Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence
Project Manager

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

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

TABLE OF CONTENTS

SAMPLE SUMMARY

HH00175-01 L1764366-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/01/24 13:40	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HH00175-02 L1764366-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/01/24 13:12	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HH00175-03 L1764366-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/01/24 10:30	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HH00175-04 L1764366-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/01/24 12:19	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	Mt. Juliet, TN

HH00175-05 L1764366-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/01/24 13:29	08/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2340011	1	08/13/24 16:25	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2339657	1	08/09/24 12:21	08/18/24 15:09	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2339657	1	08/09/24 12:21	08/13/24 00:20	ZRG	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	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.793	U	0.553	1.02	1.06	0.553	08/18/2024 15:09	WG2340011
(T) Barium	*119*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*99.1*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.112	U	0.571	1.08	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.112	J	0.141	0.243	0.185	0.153	08/13/2024 00:20	WG2339657
(T) Barium-133	*93.6*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.350	U	0.320	0.600	0.612	0.320	08/18/2024 15:09	WG2340011
(T) Barium	*120*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*98.5*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.470	J	0.426	0.657	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.470		0.281	0.547	0.240	0.178	08/13/2024 00:20	WG2339657
(T) Barium-133	*103*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.230	U	0.270	0.550	0.502	0.265	08/18/2024 15:09	WG2340011
(T) Barium	*119*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*97.9*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.410	J	0.323	0.543	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.180	J	0.178	0.302	0.207	0.162	08/13/2024 00:20	WG2339657
(T) Barium-133	*100*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.252	U	0.353	0.630	0.665	0.346	08/18/2024 15:09	WG2340011
(T) Barium	*116*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*107*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.0680	U	0.389	0.720	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0680	U	0.163	0.244	0.275	0.189	08/13/2024 00:20	WG2339657
(T) Barium-133	*104*					*30.0-143*	*08/13/2024 00:20*	WG2339657

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.253	U	0.298	0.581	0.554	0.291	08/18/2024 15:09	WG2340011
(T) Barium	*113*					*30.0-143*	*08/18/2024 15:09*	WG2340011
(T) Yttrium	*96.7*					*30.0-136*	*08/18/2024 15:09*	WG2340011

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.403	J	0.337	0.583	08/18/2024 15:09	WG2339657

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.150	J	0.158	0.288	0.182	0.150	08/13/2024 00:20	WG2339657
(T) Barium-133	*96.0*					*30.0-143*	*08/13/2024 00:20*	WG2339657

QUALITY CONTROL SUMMARY

L1764366-01,02,03,04,05

Radiochemistry by Method 904/9320

Method Blank (MB)

(MB) R4108927-1 08/18/24 15:09

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.191	J	0.140	0.258	0.136
(T) Barium	*106*		*106*		
(T) Yttrium	*106*		*106*		

L1765840-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1765840-01 08/18/24 15:09 • (DUP) R4108927-5 08/18/24 15:09

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.612	0.326	0.591	0.310	1.31	0.337	0.591	0.309	72.4	1.48		20	3
(T) Barium	*119*				*115*	*115*							
(T) Yttrium	*104*				*101*	*101*							

Laboratory Control Sample (LCS)

(LCS) R4108927-2 08/18/24 15:09

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.86	97.2	80.0-120	
(T) Barium			*115*		
(T) Yttrium			*97.3*		

L1764366-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764366-01 08/18/24 15:09 • (MS) R4108927-3 08/18/24 15:09 • (MSD) R4108927-4 08/18/24 15:09

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	-0.793	16.6	16.0	99.3	96.0	1	70.0-130			3.43		20
(T) Barium		*119*			*108*	*113*							
(T) Yttrium		*99.1*			*95.5*	*95.7*							

QUALITY CONTROL SUMMARY

L1764366-01,02,03,04,05

Method Blank (MB)

(MB) R4106591-1 08/13/24 00:19

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0239	U	0.0595	0.0982	0.0655
(T) Barium-133	*89.7*		*89.7*		

L1764366-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1764366-01 08/13/24 00:20 • (DUP) R4106591-5 08/13/24 00:20

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.112	0.141	0.185	0.153	0.0366	0.204	0.381	0.260	102	0.305	U	20	3
(T) Barium-133	*93.6*				*85.5*	*85.5*							

Laboratory Control Sample (LCS)

(LCS) R4106591-2 08/13/24 00:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.57	91.4	75.0-125	
(T) Barium-133			*95.2*		

L1764370-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1764370-05 08/13/24 00:20 • (MS) R4106591-3 08/13/24 00:20 • (MSD) R4106591-4 08/13/24 00:20

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	0.0673	18.7	18.9	93.4	94.3	1	75.0-125			0.956		20
(T) Barium-133		*91.4*			*103*	*102*							

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.

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HH00175

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

L1764366

Sample: HH00175-01
Name: Field Blank

Sampled: 08/01/24 13:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:40	

Sample: HH00175-02
Name: G64S

Sampled: 08/01/24 13:12
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:12	

Sample: HH00175-03
Name: G02S

Sampled: 08/01/24 10:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 10:30	

Sample: HH00175-04
Name: P60

Sampled: 08/01/24 12:19
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 12:19	

Sample: HH00175-05
Name: G62L

Sampled: 08/01/24 13:29
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:29	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HH00175

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

L1764316

Sample: HH00175-01
Name: Field Blank

Sampled: 08/01/24 13:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:40	

Sample: HH00175-02
Name: G64S

Sampled: 08/01/24 13:12
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:12	

Sample: HH00175-03
Name: G02S

Sampled: 08/01/24 10:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 10:30	

Sample: HH00175-04
Name: P60

Sampled: 08/01/24 12:19
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 12:19	

Sample: HH00175-05
Name: G62L

Sampled: 08/01/24 13:29
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	08/14/24 16:00	01/28/25 13:29	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HH00175

L-019

L1764366

Sample Receipt Checklist 7778 0045 9141

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		
RA Screen <0.5 mR/hr:	Y N		

20.1+0.3.20.4 MSA9

Please email results to Diane Billings at diane.billings@pacelabs.com

Date Shipped: 8/5/24 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]	8/5/24 1500	CRONERUD	08.06.24 0900

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

Rad H604338

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	Page 1 of 10
Company: Vistra Corp-Duck Creek	Report To: Brian Voelker	Attention: Brian Voelker	
Address: 17751 North Cilco Rd	Copy To: Sam Davies: samantha.davies@vistracorp.com	Company Name: Vistra Corp	REGULATORY AGENCY
Canton, IL 61520	Daryl Johnson: Robert.Johnson@vistracorp.com	Address: see Section A	NPDES GROUND WATER DRINKING WATER
Email To: Brian.Voelker@VistraCorp.com	Purchase Order No.:	Quote Reference:	UST RCRA OTHER
Phone: (217) 753-8911 Fax:	Project Name:	Project Manager:	Site Location: IL
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	STATE:

Requested Analysis Filtered (Y/N)

ITEM #	Section D Valid Matrix Codes: DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WIPE WP, AIR AR, OTHER OT, TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED 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.
	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE																												
1	OM24D			7/23/24	1137		5	✓		✓																			
2	CR11				1319		5	✓		✓																			
3	CR11 Dup				1319		5	✓		✓																			
4	CR20				1430		5	✓		✓																			
5	CM17D				1526		5	✓		✓																			
6	CM10D				1403		5	✓		✓																			
7	CM10S				1316		5	✓		✓																			
8	BM01D				1213		5	✓		✓																			
9	CM01S				1113		5	✓		✓																			
10	B402				1428		4	✓		✓																			
11	B401				1250		4	✓		✓																			
12	B401 Dup				1250		4	✓		✓																			
13	G605				1532		4	✓		✓																			
14	G575				1153		4	✓		✓																			
15	G585				1251		3	✓		✓																			
16	G595			—	1412		3	✓		✓																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	[signature]	7/23/24	1649							
				[signature]	7/23/24	1649	4.1	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: [illegible]

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/23/24

CHAIN-OF-CUSTODY / Analytical Request Document

H604594

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

Section A Required Client Information:

Company:	Vistra Corp-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER

Site Location STATE: IL

Section D — Valid Matrix Codes: 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 (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	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	OM07	WT	G	7/24/24	1400		5	X		X																		
2	OR13D	WT	G	7/24/24	1134		5	X		X																		
3	OR13S	WT	G	7/24/24	1239		5	X		X																		
4	OR14D	WT	G	7/24/24	1513		5	X		X																		
5	OR04D	WT	G	7/24/24	1450		5	X		X																		
6	OM15D	WT	G	7/24/24	1050		5	X		X																		
7	OM22D	WT	G	7/24/24	1150		5	X		X																		
8	OM23D	WT	G	7/24/24	1243		5	X		X																		
9	OM25S	WT	G	7/24/24	1345		5	X		X																		
10	G03L	WT	G	7/24/24	1021		1		X																			
11	G04S	WT	G	7/24/24	1056		3	X		X																		
12	G06S	WT	G	7/24/24	1200		3	X		X																		
13	G12S	WT	G	7/24/24	1400		3	X		X																		
14	G09S	WT	G	7/24/24	1530		3	X		X																		
15	RAO#3L	WT	G	7/24/24	1540		4	X		X																		
16	EB #1	WT	G	7/24/24	1545		5	X		X																		

IR Gun # B Correction Factor (Deg C) +1

Observed Temp (Deg C) 40 Corrected Temp (Deg C) 41

Delivery Method: FedEx UPS Walk-in USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0		7/24/24	1647				
					7.24.24	1647	41.1

7/24/24 7/24/24

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Pemberton

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 07/24/24

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

Courier

HG04893 VS

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-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY

NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER

Site Location STATE: IL

Section D — Valid Matrix Codes: 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	F36L	WT	G	7/25/24	10:20		3																							
2	OM17	WT	G	7/25/24	10:50		4																							
3	OM12	WT	G	7/25/24	11:00		5																							
4	T46L	WT	G	7/25/24	11:16		3																							
5	OM12D	WT	G	7/25/24	12:00		5																							
6	T44L	WT	G	7/25/24	12:20		3																							
7	OM16	WT	G	7/25/24	12:35		4																							
8	OR19	WT	G	7/25/24	13:00		5																							
9	G70L	WT	G	7/25/24	13:40		3																							
10	OM21	WT	G	7/25/24	14:01		5																							
11	OM01	WT	G	7/25/24	14:40		5																							
12	OM01 Dup	WT	G	7/25/24	14:40		5																							
13	G71S	WT	G	7/25/24	14:45		3																							
14	BA06	WT	G	7/25/24	11:00		4																							
15	BA05	WT	G	7/25/24	12:30		4																							
16	BA03	WT	G	7/25/24	14:29		4																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	Andy Weteska	7/25/24	17:06							
					7/25/24	1706	3.1	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: Andy Weteska

SIGNATURE of SAMPLER: Andy Weteska

DATE Signed (MM/DD/YY): 7/25/24

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 3, 2024
DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

HG04893 VB

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-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY

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

Site Location STATE: IL

Section D — Valid Matrix Codes: 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	BA04	WT	G	7/25/24	15:55	4																								
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0	Andy Weteska	7/25/24	17:06							
					7/25/24	1706	3.1	X	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: Andy Weteska
SIGNATURE of SAMPLER: Andy Weteska
DATE Signed (MM/DD/YY): 7/25/24

HG05252 V8

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:	Page: 1 of 10
Company: Vistra Corp-Duck Creek	Report To: Brian Voelker	Attention: Brian Voelker	
Address: 17751 North Cilco Rd	Copy To: Sam Davies: samantha.davies@vistracorp.com	Company Name: Vistra Corp	REGULATORY AGENCY
Canton, IL 61520	Daryl Johnson: Robert.Johnson@vistracorp.com	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
Requested Due Date/TAT: 10 day	Project Number: 2285	Profile #:	STATE: IL

Requested Analysis Filtered (Y/N)

ITEM #	Section D SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Valid Matrix Codes (DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WIPE WP, AIR AR, OTHER OT, TISSUE TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED 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	GSOL		WT	G	7/29/24	1326		3	X		X																		
2	GSOS		WT	G	7/29/24	1450		4	X		X																		
3	GS3S		WT	G	7/29/24	1216		3	X		X																		
4	GS3L		WT	G	7/29/24	1113		3	X		X																		
5	BA02L		WT	G	7/29/24	1115		4	X		X																		
6	OR06A		WT	G	7/29/24	1215		5	X		X																		
7	OM04S		WT	G	7/29/24	1351		5	X		X																		
8	OR02		WT	G	7/29/24	1452		5	X		X																		
9	GS1L		WT	G	7/29/24	1052		3	X		X																		
10	GS1L Dup		WT	G	7/29/24	1052		3	X		X																		
11	GS1S		WT	G	7/29/24	1053		4	X		X																		
12	GS2L		WT	G	7/29/24	1153		3	X		X																		
13	GS2S		WT	G	7/29/24	1240		3	X		X																		
14	GS4L		WT	G	7/29/24	1448		4	X		X																		
15	GS4S		WT	G	7/29/24	1412		3	X		X																		
16																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
DC-24Q2 Rev 0		7/29/24	1613							
				V8	7/29/24	1613		Y	Y	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 Rembertson
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 07/29/24

IR Gun # 13 Correction Factor (Deg C) +0.1
Observed Temp (Deg C) 3.2 Corrected Temp (Deg C) 3.3
Delivery Method: FedEx UPS Walk-in USPS Other

H605510
7b

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-Duck Creek
Address: 17751 North Cilco Rd
Canton, IL 61520
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: Sam Davies: samantha.davies@vistracorp.com
Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:
Project Name:
Project Number: 2285

Section C Invoice Information:
Attention: Brian Voelker
Company Name: Vistra Corp
Address: see Section A
Quote Reference:
Project Manager:
Profile #:

Page: 1 of 10

REGULATORY AGENCY
NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER
Site Location STATE: IL

Section D — Valid Matrix Codes: 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	G55L	WT	G	7/30/24	1352		3	X		X																		
2	L103	WT	G	7/30/24	1236		3	X		X																		
3	P37L	WT	G	7/30/24	1217		3	X		X																		
4	P37L DUP	WT	G	7/30/24	1217		3	X		X																		
5	T45L	WT	G	7/30/24	1112		3	X		X																		
6	T43L	WT	G	7/30/24	1036		3	X		X																		
7	T43L DUP	WT	G	7/30/24	1036		3	X		X																		
8	OR03D				1004		5	X		X																		
9	OM26				1116		11	X	X	X																		
10	OM27				1210		11	X	X	X																		
11	OM28				1319		11	X	X	X																		
12	G56S				1111		3	X		X																		
13	G63L				1023		3	X		X																		
14	G63S				1002		3	X		X																		
15	G66L				1226		3	X		X																		
16	G66S				1248		3	X		X																		

IR Gun # 13 Correction Factor (Deg C) -1
Observed Temp (Deg C) 32 Corrected Temp (Deg C) 33
Delivery Method: FedEx UPS Walk-in USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0	[signature]	7/30/24	1554				
				[signature]	7-30-24	1554	33

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: James David
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/30/24

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

Courier

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-Duck Creek
Address:	17751 North Cilco Rd
	Canton, IL 61520
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:	Sam Davies: samantha.davies@vistracorp.com
	Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:	
Project Name:	
Project Number:	2285

Section C Invoice Information:

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

Page: 1 of 10

REGULATORY AGENCY

NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER

Site Location STATE: IL

Section D Valid Matrix Codes: 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	G665 Dup			7/30/24	1248		3	X		X																		
2	G73L			↓	1358		3	X		X																		
3	EB2				1415		11	X	X	X																		Filled after OM 28
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												

IR Gun # 13 Correction Factor (Deg C) = 1

Observed Temp (Deg C) 3.2 Corrected Temp (Deg C) 3.3

Delivery Method: FedEx UPS Walk-in USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0	[signature]	7/30/24	1554				
				[signature]	7.30.24	1554	3.3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: James David

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/30/24

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

COURIER

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-Duck Creek
Address: 17751 North Cilco Rd
Canton, IL 61520
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: Sam Davies: samantha.davies@vistracorp.com
Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:
Project Name:
Project Number: 2285

Section C Invoice Information:
Attention: Brian Voelker
Company Name: Vistra Corp
Address: see Section A
Quote Reference:
Project Manager:
Profile #:

Page: 1 of 10

REGULATORY AGENCY
NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER
Site Location STATE: IL

Section D — Valid Matrix Codes: 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	G15S	GW	G	7/31/24	1232		3	2		1																		H605745
2	G55S	GW	G	7/31/24	1525		3	2		1																		VD
3	G60L	GW	G	7/31/24	1405		4	2		2																		
4	R61L	GW	G	7/31/24	1258		4	2		2																		
5	G61S	GW	G	7/31/24	1247		4	2		2																		
6	G64L	GW	G	7/31/24	1143		4	2		2																		
7	G67L	GW	G	7/31/24	1405		3	2		1																		
8	G67S	GW	G	7/31/24	1410		3	2		1																		
9	G06L	GW	G	7/31/24	1238		3	2		1																		
10	G07L 7/31/24 dob	GW	G	7/31/24	1325		3	2		1																		
11	G08L	GW	G	7/31/24	1419		3	2		1																		
12	G09L	GW	G	7/31/24	1527		3	2		1																		
13	G09L Dup	GW	G	7/31/24	1527		3	2		1																		
14																												
15																												
16																												

IR Corr# 13 Correction Factor (Deg C) 1
Observed Temp (Deg C) 36 Corrected Temp (Deg C) 36
Delivery Method: FedEx UPS Walk-In USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0	JBohannan	7/31/24	1635				
					7/31/24	1635	36

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jordan Bohannan
SIGNATURE of SAMPLER: JBohannan DATE Signed (MM/DD/YY): 7/31/2024

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

Courier

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 Duck Creek
Address: 17751 North Cilco Rd
Canton, IL 61520
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: Sam Davies: samantha.davies@vistracorp.com
Daryl Johnson: Robert.Johnson@vistracorp.com
Purchase Order No.:
Project Name:
Project Number: 2285

Section C Invoice Information:
Attention: Brian Voelker
Company Name: Vistra Corp
Address: see Section A
Quote Reference:
Project Manager:
Profile #:

Page: 1 of 10

REGULATORY AGENCY
NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER
Site Location STATE: IL
HH00175 VS

Section D — Valid Matrix Codes: 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	Field Blank	WT	G	8/1/24	1340		12	X	X	X																				
2	X301	WT	G	8/1/24	1359		3	X		X																				
3	G64S	WT	G	8/1/24	1312		4	X		X																				
4	G65S	WT	G	8/1/24	1128		3	X		X																				
5	G02S	WT	G	8/1/24	1030		4	X		X																				
6	G56L	GW	G	8/1/24	1312		3	X		X																				
7	P60	GW	G	8/1/24	1219		4	X		X																				
8	G65L	GW	G	8/1/24	1354		3	X		X																				
9	G71L	GW	G	8/1/24	0950		3	X		X																				
10	G72L	GW	G	8/1/24	1130		3	X		X																				
11	R72S	GW	G	8/1/24	1036		3	X		X																				
12	R13L	GW	G	8/1/24	0926		1			X																				
13	G57L	GW	G	8/1/24	1214		3	X		X																				
14	G58L	GW	G	8/1/24	1188		3	X		X																				
15	G59L + DUP gw 8/1/24	GW	G	8/1/24	1041		6	X		X																				
16	G62L	GW	G	8/1/24	1329		3	X		X																				

IR Gun # 141 Correction Factor (Deg C) +0.0
Observed Temp (Deg C) 4.3 Corrected Temp (Deg C) 4.3
Delivery Method: FedEx UPS Walk-in USPS Other

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
DC-24Q2 Rev 0		8/1/24	1506				
					8/1/24	1506	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Pendleton
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 08/01/24

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

ATTACHMENT C
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND
QUARTER 3, 2024

ATTACHMENT C.
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2024
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	E006	Antimony, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.003	0.003
BA01	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/23/24	14	29	CI around geomean	0.000973	0.0240
BA01	UA	E006	Barium, total	mg/L	02/05/16 - 07/23/24	14	0	CB around T-S line	0.0645	0.480
BA01	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.00210
BA01	UA	E006	Boron, total	mg/L	02/05/16 - 07/23/24	26	0	CI around median	0.022	7.90
BA01	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.001
BA01	UA	E006	Chloride, total	mg/L	02/05/16 - 07/23/24	26	0	CB around T-S line	11.3	700
BA01	UA	E006	Chromium, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.004	0.0730
BA01	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/23/24	14	86	CI around median	0.002	0.0300
BA01	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/23/24	26	62	CI around median	0.25	0.461
BA01	UA	E006	Lead, total	mg/L	02/05/16 - 07/23/24	14	50	CI around median	0.001	0.0420
BA01	UA	E006	Lithium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.02	0.0680
BA01	UA	E006	Mercury, total	mg/L	02/05/16 - 07/23/24	14	93	Most recent sample	0.0002	0.004
BA01	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/23/24	14	7	CB around T-S line	0.000326	0.00550
BA01	UA	E006	pH (field)	SU	02/05/16 - 07/23/24	30	0	CI around median	6.8/7.0	6.4/7.5
BA01	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/23/24	14	0	CI around mean	0.53	7.27
BA01	UA	E006	Selenium, total	mg/L	02/05/16 - 07/23/24	13	100	All ND - Last	0.001	0.00230
BA01	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	137	890
BA01	UA	E006	Thallium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.001
BA01	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/23/24	26	0	CB around T-S line	577	2,590
BA02	UA	E006	Antimony, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.003	0.003
BA02	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/23/24	14	7	CI around mean	0.00177	0.0240
BA02	UA	E006	Barium, total	mg/L	02/05/16 - 07/23/24	14	0	CI around mean	0.195	0.480
BA02	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.001	0.00210
BA02	UA	E006	Boron, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	0.0494	7.90
BA02	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.001	0.001
BA02	UA	E006	Chloride, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	9.42	700

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BOTTOM ASH BASIN
CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA02	UA	E006	Chromium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.004	0.0730
BA02	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.002	0.0300
BA02	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/23/24	26	81	CI around median	0.25	0.461
BA02	UA	E006	Lead, total	mg/L	02/05/16 - 07/23/24	14	79	CI around median	0.001	0.0420
BA02	UA	E006	Lithium, total	mg/L	02/05/16 - 07/23/24	14	100	All ND - Last	0.02	0.0680
BA02	UA	E006	Mercury, total	mg/L	02/05/16 - 07/23/24	14	93	CI around median	0.0002	0.004
BA02	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/23/24	14	0	CI around mean	0.00407	0.00550
BA02	UA	E006	pH (field)	SU	02/05/16 - 07/23/24	27	0	CI around median	6.9/7.2	6.4/7.5
BA02	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/23/24	14	0	CI around mean	0.516	7.27
BA02	UA	E006	Selenium, total	mg/L	02/05/16 - 07/23/24	14	86	CI around median	0.001	0.00230
BA02	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	11.8	890
BA02	UA	E006	Thallium, total	mg/L	02/05/16 - 07/23/24	14	93	Most recent sample	0.001	0.001
BA02	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/23/24	26	0	CB around linear reg	487	2,590
BA02L	UA/PMP	E006	Antimony, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.003	0.003
BA02L	UA/PMP	E006	Arsenic, total	mg/L	04/14/21 - 07/29/24	12	0	CI around mean	0.0104	0.0240
BA02L	UA/PMP	E006	Barium, total	mg/L	04/14/21 - 07/29/24	12	0	CI around mean	0.0482	0.480
BA02L	UA/PMP	E006	Beryllium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.00210
BA02L	UA/PMP	E006	Boron, total	mg/L	04/14/21 - 07/29/24	13	0	CI around mean	0.0739	7.90
BA02L	UA/PMP	E006	Cadmium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.001
BA02L	UA/PMP	E006	Chloride, total	mg/L	04/14/21 - 07/29/24	13	0	CB around linear reg	1.4	700
BA02L	UA/PMP	E006	Chromium, total	mg/L	04/14/21 - 07/29/24	12	92	CI around median	0.004	0.0730
BA02L	UA/PMP	E006	Cobalt, total	mg/L	04/14/21 - 07/29/24	12	75	CI around median	0.002	0.0300
BA02L	UA/PMP	E006	Fluoride, total	mg/L	04/14/21 - 07/29/24	13	0	CI around median	0.495	0.461
BA02L	UA/PMP	E006	Lead, total	mg/L	04/14/21 - 07/29/24	12	58	CI around median	0.001	0.0420
BA02L	UA/PMP	E006	Lithium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.02	0.0680
BA02L	UA/PMP	E006	Mercury, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.0002	0.004
BA02L	UA/PMP	E006	Molybdenum, total	mg/L	04/14/21 - 07/29/24	12	0	CB around linear reg	-0.00198	0.00550

ATTACHMENT C.
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CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA02L	UA/PMP	E006	pH (field)	SU	04/14/21 - 07/29/24	13	0	CB around linear reg	6.7/7.1	6.4/7.5
BA02L	UA/PMP	E006	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/29/24	11	0	CI around mean	0.269	7.27
BA02L	UA/PMP	E006	Selenium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.00230
BA02L	UA/PMP	E006	Sulfate, total	mg/L	04/14/21 - 07/29/24	13	8	CI around geomean	1.9	890
BA02L	UA/PMP	E006	Thallium, total	mg/L	04/14/21 - 07/29/24	12	100	All ND - Last	0.001	0.001
BA02L	UA/PMP	E006	Total Dissolved Solids	mg/L	04/14/21 - 07/29/24	13	0	CI around mean	208	2,590
BA03	UA	E006	Antimony, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.003	0.003
BA03	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.001	0.0240
BA03	UA	E006	Barium, total	mg/L	02/05/16 - 07/25/24	14	0	CB around linear reg	0.109	0.480
BA03	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.00210
BA03	UA	E006	Boron, total	mg/L	02/05/16 - 07/25/24	26	0	CI around mean	0.0251	7.90
BA03	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.001
BA03	UA	E006	Chloride, total	mg/L	02/05/16 - 07/25/24	26	0	CI around geomean	5.7	700
BA03	UA	E006	Chromium, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.004	0.0730
BA03	UA	E006	Cobalt, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.002	0.0300
BA03	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/25/24	26	58	CI around median	0.25	0.461
BA03	UA	E006	Lead, total	mg/L	02/05/16 - 07/25/24	14	71	CI around median	0.001	0.0420
BA03	UA	E006	Lithium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.02	0.0680
BA03	UA	E006	Mercury, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.0002	0.004
BA03	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/25/24	14	14	CB around linear reg	-0.000753	0.00550
BA03	UA	E006	pH (field)	SU	02/05/16 - 07/25/24	28	0	CB around linear reg	6.7/7.1	6.4/7.5
BA03	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/25/24	14	0	CI around mean	0.615	7.27
BA03	UA	E006	Selenium, total	mg/L	02/05/16 - 07/25/24	14	43	CI around median	0.001	0.00230
BA03	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/25/24	26	0	CB around linear reg	14	890
BA03	UA	E006	Thallium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.001
BA03	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/25/24	26	0	CI around mean	416	2,590
BA03L	UA/PMP	E006	Antimony, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.003	0.003

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CANTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
BA03L	UA/PMP	E006	Arsenic, total	mg/L	04/14/21 - 07/24/24	14	79	CI around median	0.001	0.0240
BA03L	UA/PMP	E006	Barium, total	mg/L	04/14/21 - 07/24/24	14	0	CI around median	0.12	0.480
BA03L	UA/PMP	E006	Beryllium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.001	0.00210
BA03L	UA/PMP	E006	Boron, total	mg/L	04/14/21 - 07/24/24	15	0	CB around linear reg	0.349	7.90
BA03L	UA/PMP	E006	Cadmium, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.001	0.001
BA03L	UA/PMP	E006	Chloride, total	mg/L	04/14/21 - 07/24/24	15	0	CI around mean	18.5	700
BA03L	UA/PMP	E006	Chromium, total	mg/L	04/14/21 - 07/24/24	14	50	CI around median	0.004	0.0730
BA03L	UA/PMP	E006	Cobalt, total	mg/L	04/14/21 - 07/24/24	14	86	CI around median	0.002	0.0300
BA03L	UA/PMP	E006	Fluoride, total	mg/L	04/14/21 - 07/24/24	15	80	CI around median	0.25	0.461
BA03L	UA/PMP	E006	Lead, total	mg/L	04/14/21 - 07/24/24	14	57	CI around median	0.001	0.0420
BA03L	UA/PMP	E006	Lithium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.02	0.0680
BA03L	UA/PMP	E006	Mercury, total	mg/L	04/14/21 - 07/24/24	14	86	CI around median	0.0002	0.004
BA03L	UA/PMP	E006	Molybdenum, total	mg/L	04/14/21 - 07/24/24	14	36	CI around median	0.001	0.00550
BA03L	UA/PMP	E006	pH (field)	SU	04/14/21 - 07/24/24	15	0	CI around mean	6.7/6.9	6.4/7.5
BA03L	UA/PMP	E006	Radium 226 + Radium 228, total	pCi/L	04/14/21 - 07/24/24	13	0	CI around geomean	0.347	7.27
BA03L	UA/PMP	E006	Selenium, total	mg/L	04/14/21 - 07/24/24	14	93	CI around median	0.001	0.00230
BA03L	UA/PMP	E006	Sulfate, total	mg/L	04/14/21 - 07/24/24	15	0	CI around mean	348	890
BA03L	UA/PMP	E006	Thallium, total	mg/L	04/14/21 - 07/24/24	14	100	All ND - Last	0.001	0.001
BA03L	UA/PMP	E006	Total Dissolved Solids	mg/L	04/14/21 - 08/05/24	15	0	CI around median	960	2,590
BA04	UA	E006	Antimony, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.003	0.003
BA04	UA	E006	Arsenic, total	mg/L	02/05/16 - 07/25/24	14	86	CI around median	0.001	0.0240
BA04	UA	E006	Barium, total	mg/L	02/05/16 - 07/25/24	14	0	CI around mean	0.102	0.480
BA04	UA	E006	Beryllium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.00210
BA04	UA	E006	Boron, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	0.301	7.90
BA04	UA	E006	Cadmium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.001	0.001
BA04	UA	E006	Chloride, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	42.3	700
BA04	UA	E006	Chromium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.004	0.0730

ATTACHMENT C.
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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	E006	Cobalt, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.002	0.0300
BA04	UA	E006	Fluoride, total	mg/L	02/05/16 - 07/25/24	26	27	CB around linear reg	0.224	0.461
BA04	UA	E006	Lead, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.0420
BA04	UA	E006	Lithium, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.02	0.0680
BA04	UA	E006	Mercury, total	mg/L	02/05/16 - 07/25/24	14	100	All ND - Last	0.0002	0.004
BA04	UA	E006	Molybdenum, total	mg/L	02/05/16 - 07/25/24	14	0	CI around geomean	0.00195	0.00550
BA04	UA	E006	pH (field)	SU	02/05/16 - 07/25/24	27	0	CB around T-S line	6.6/6.9	6.4/7.5
BA04	UA	E006	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 07/25/24	14	0	CI around mean	0.455	7.27
BA04	UA	E006	Selenium, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.00230
BA04	UA	E006	Sulfate, total	mg/L	02/05/16 - 07/25/24	26	0	CB around T-S line	149	890
BA04	UA	E006	Thallium, total	mg/L	02/05/16 - 07/25/24	14	93	CI around median	0.001	0.001
BA04	UA	E006	Total Dissolved Solids	mg/L	02/05/16 - 07/25/24	26	0	CB around linear reg	687	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
Missing Code (if applicable):
NR[1] = Select parameters were not analyzed.
NS[1] = This well has been, or will be, abandoned; therefore, a sample was not collected.
NS[2] = Well either needs or was undergoing maintenance, therefore, a sample was not collected.
NS[3] = A sample was not collected because the location was inaccessible.
NS[4] = The location could not be found, therefore a sample was not collected.
NS[5] = A sample was not collected because of damage to the well.
NS[6] = A sample was not collected because of pump issues.
NS[7] = A sample was not collected because the well was either dry or was purged dry and did not recover.
PM[1] = Select parameters were not analyzed as the well purged dry during sample collection and did not sufficiently recover to sample for all parameters.
ND = non-detect
pCi/L = picocuries per liter
SU = standard units
Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result
Statistical Calculation = method used to calculate the statistical result:
All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown
CB around T-S line = Confidence band around Thiel-Sen line
CB around linear reg = Confidence band around linear regression
CI around geomean = Confidence interval around the geometric mean
CI around mean = Confidence interval around the mean
CI around median = Confidence interval around the median
Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range
For pH, the values presented are the lower / upper limits of the background determination