



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

February 5, 2025

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 4, 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 evaluated for compliance with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine exceedances¹ of the GWPS.

Sincerely,

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

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

Enclosures

Groundwater Monitoring Data and Detected Exceedances, Quarter 4, 2024, Bottom Ash Basin, Duck Creek Power Plant, Canton, Illinois

¹ Throughout this document, "exceedance" or "exceedances" is intended to refer only to potential exceedances of proposed applicable background statistics or Groundwater Protection Standards (GWPSs) as described in the proposed groundwater monitoring program, which was submitted to the IEPA on October 25, 2021 as part of Illinois Power Resources Generating, LLC's operating permit application for Duck Creek Power Plant Bottom Ash Basin. That operating permit application, including the proposed groundwater monitoring program, remains under review by the IEPA and therefore Illinois Power Resources Generating, LLC has not identified any actual exceedances.

35 I.A.C. § 845.610(b)(3)(D)
GROUNDWATER MONITORING DATA AND DETECTED EXCEEDANCES¹
QUARTER 4, 2024
BOTTOM ASH BASIN, DUCK CREEK POWER PLANT, CANTON, ILLINOIS

February 5, 2025

Samples were collected between October 23 and 24, 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 December 7, 2024.

The monitoring well locations are included in **Figure 1. Attachment A** summarizes the groundwater elevation data for the Quarter 4, 2024 sampling event. Compliance monitoring wells BA02L and BA03L were dry at time of sampling; therefore, a groundwater sample was not collected. **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 4, 2024 sampling event.

In accordance with 35 I.A.C. § 845.610(b)(3)(C) and the statistical analysis plan submitted with the operating permit application (Appendix A of the Groundwater Monitoring Plan², constituent concentrations observed at compliance monitoring wells in Quarter 4, 2024 were evaluated for compliance with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine exceedances of the GWPS (**Table 2**). **Attachment C** shows the results of the comparison to background levels.

The date of this submittal is considered to be the date that the exceedances were detected.

TABLES

Table 1	Field Parameters and Analytical Results - Quarter 4, 2024
Table 2	Evaluation of Compliance - Quarter 4, 2024

FIGURES

Figure 1	Monitoring Well Location Map
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ATTACHMENTS

Attachment A	Groundwater Elevation Data - Quarter 4, 2024
Attachment B	Laboratory Reports and Field Data Sheets - Quarter 4, 2024
Attachment C	Comparison to Background - Quarter 4, 2024

¹ Throughout this document, "exceedance" or "exceedances" is intended to refer only to potential exceedances of proposed applicable background statistics or Groundwater Protection Standards (GWPSs) as described in the proposed groundwater monitoring program, which was submitted to the IEPA on October 25, 2021 as part of Illinois Power Resources Generating, LLC's operating permit application for Duck Creek Power Plant Bottom Ash Basin. That operating permit application, including the proposed groundwater monitoring program, remains under review by the IEPA and therefore Illinois Power Resources Generating, LLC has not identified any actual exceedances.

² 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 4, 2024
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA05	Background	E007	10/24/2024	Antimony, total	0.00043 U	mg/L
BA05	Background	E007	10/24/2024	Arsenic, total	0.00260	mg/L
BA05	Background	E007	10/24/2024	Barium, total	0.0440	mg/L
BA05	Background	E007	10/24/2024	Beryllium, total	0.00059 U	mg/L
BA05	Background	E007	10/24/2024	Boron, total	0.0870	mg/L
BA05	Background	E007	10/24/2024	Cadmium, total	0.00074 U	mg/L
BA05	Background	E007	10/24/2024	Calcium, total	200	mg/L
BA05	Background	E007	10/24/2024	Chloride, total	9.80	mg/L
BA05	Background	E007	10/24/2024	Chromium, total	0.0028 U	mg/L
BA05	Background	E007	10/24/2024	Cobalt, total	0.00048 U	mg/L
BA05	Background	E007	10/24/2024	Dissolved Oxygen	0	mg/L
BA05	Background	E007	10/24/2024	Fluoride, total	0.204 J	mg/L
BA05	Background	E007	10/24/2024	Lead, total	0.00022 U	mg/L
BA05	Background	E007	10/24/2024	Lithium, total	0.0067 J	mg/L
BA05	Background	E007	10/24/2024	Mercury, total	0.00014 U	mg/L
BA05	Background	E007	10/24/2024	Molybdenum, total	0.00320	mg/L
BA05	Background	E007	10/24/2024	Oxidation Reduction Potential	-37.0	mV
BA05	Background	E007	10/24/2024	pH (field)	7.5	SU
BA05	Background	E007	10/24/2024	Radium 226 + Radium 228, total	0.776	pCi/L
BA05	Background	E007	10/24/2024	Selenium, total	0.00074 U	mg/L
BA05	Background	E007	10/24/2024	Specific Conductance @ 25C (field)	1,460	micromhos/cm
BA05	Background	E007	10/24/2024	Sulfate, total	460	mg/L
BA05	Background	E007	10/24/2024	Temperature	14.2	degrees C
BA05	Background	E007	10/24/2024	Thallium, total	0.00038 U	mg/L
BA05	Background	E007	10/24/2024	Total Dissolved Solids	1,100 J	mg/L
BA05	Background	E007	10/24/2024	Turbidity, field	28.4	NTU
BA06	Background	E007	10/23/2024	Antimony, total	0.00043 U	mg/L
BA06	Background	E007	10/23/2024	Arsenic, total	0.00150	mg/L
BA06	Background	E007	10/23/2024	Barium, total	0.0890	mg/L
BA06	Background	E007	10/23/2024	Beryllium, total	0.00059 U	mg/L
BA06	Background	E007	10/23/2024	Boron, total	16.0	mg/L
BA06	Background	E007	10/23/2024	Cadmium, total	0.00074 U	mg/L
BA06	Background	E007	10/23/2024	Calcium, total	310	mg/L
BA06	Background	E007	10/23/2024	Chloride, total	600	mg/L
BA06	Background	E007	10/23/2024	Chromium, total	0.0028 U	mg/L
BA06	Background	E007	10/23/2024	Cobalt, total	0.00330	mg/L
BA06	Background	E007	10/23/2024	Dissolved Oxygen	0	mg/L
BA06	Background	E007	10/23/2024	Fluoride, total	0.245 J	mg/L
BA06	Background	E007	10/23/2024	Lead, total	0.00022 U	mg/L
BA06	Background	E007	10/23/2024	Lithium, total	0.005 U	mg/L
BA06	Background	E007	10/23/2024	Mercury, total	0.00014 U	mg/L
BA06	Background	E007	10/23/2024	Molybdenum, total	0.00110	mg/L
BA06	Background	E007	10/23/2024	Oxidation Reduction Potential	10.0	mV
BA06	Background	E007	10/23/2024	pH (field)	7.3	SU
BA06	Background	E007	10/23/2024	Radium 226 + Radium 228, total	0.591	pCi/L
BA06	Background	E007	10/23/2024	Selenium, total	0.00074 U	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2024
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA06	Background	E007	10/23/2024	Specific Conductance @ 25C (field)	2,750	micromhos/cm
BA06	Background	E007	10/23/2024	Sulfate, total	390	mg/L
BA06	Background	E007	10/23/2024	Temperature	15.2	degrees C
BA06	Background	E007	10/23/2024	Thallium, total	0.00038 U	mg/L
BA06	Background	E007	10/23/2024	Total Dissolved Solids	1,900	mg/L
BA06	Background	E007	10/23/2024	Turbidity, field	24.9	NTU
BA01	Compliance	E007	10/23/2024	Antimony, total	0.00043 U	mg/L
BA01	Compliance	E007	10/23/2024	Arsenic, total	0.00170	mg/L
BA01	Compliance	E007	10/23/2024	Barium, total	0.130	mg/L
BA01	Compliance	E007	10/23/2024	Beryllium, total	0.00059 U	mg/L
BA01	Compliance	E007	10/23/2024	Boron, total	0.0260	mg/L
BA01	Compliance	E007	10/23/2024	Cadmium, total	0.00074 U	mg/L
BA01	Compliance	E007	10/23/2024	Calcium, total	120	mg/L
BA01	Compliance	E007	10/23/2024	Chloride, total	18.0	mg/L
BA01	Compliance	E007	10/23/2024	Chromium, total	0.0028 U	mg/L
BA01	Compliance	E007	10/23/2024	Cobalt, total	0.00098 J	mg/L
BA01	Compliance	E007	10/23/2024	Dissolved Oxygen	4.80	mg/L
BA01	Compliance	E007	10/23/2024	Fluoride, total	0.173 J	mg/L
BA01	Compliance	E007	10/23/2024	Lead, total	0.00031 J	mg/L
BA01	Compliance	E007	10/23/2024	Lithium, total	0.005 U	mg/L
BA01	Compliance	E007	10/23/2024	Mercury, total	0.00014 U	mg/L
BA01	Compliance	E007	10/23/2024	Molybdenum, total	0.00110	mg/L
BA01	Compliance	E007	10/23/2024	Oxidation Reduction Potential	19.0	mV
BA01	Compliance	E007	10/23/2024	pH (field)	9.9	SU
BA01	Compliance	E007	10/23/2024	Radium 226 + Radium 228, total	1.21	pCi/L
BA01	Compliance	E007	10/23/2024	Selenium, total	0.00074 U	mg/L
BA01	Compliance	E007	10/23/2024	Specific Conductance @ 25C (field)	882	micromhos/cm
BA01	Compliance	E007	10/23/2024	Sulfate, total	140	mg/L
BA01	Compliance	E007	10/23/2024	Temperature	13.4	degrees C
BA01	Compliance	E007	10/23/2024	Thallium, total	0.00038 U	mg/L
BA01	Compliance	E007	10/23/2024	Total Dissolved Solids	620 J	mg/L
BA01	Compliance	E007	10/23/2024	Turbidity, field	27.5	NTU
BA02	Compliance	E007	10/23/2024	Antimony, total	0.00043 U	mg/L
BA02	Compliance	E007	10/23/2024	Arsenic, total	0.00380	mg/L
BA02	Compliance	E007	10/23/2024	Barium, total	0.190	mg/L
BA02	Compliance	E007	10/23/2024	Beryllium, total	0.00059 U	mg/L
BA02	Compliance	E007	10/23/2024	Boron, total	0.0490	mg/L
BA02	Compliance	E007	10/23/2024	Cadmium, total	0.00074 U	mg/L
BA02	Compliance	E007	10/23/2024	Calcium, total	93.0	mg/L
BA02	Compliance	E007	10/23/2024	Chloride, total	10.0	mg/L
BA02	Compliance	E007	10/23/2024	Chromium, total	0.0028 U	mg/L
BA02	Compliance	E007	10/23/2024	Cobalt, total	0.00048 U	mg/L
BA02	Compliance	E007	10/23/2024	Dissolved Oxygen	2.00	mg/L
BA02	Compliance	E007	10/23/2024	Fluoride, total	0.172 U	mg/L
BA02	Compliance	E007	10/23/2024	Lead, total	0.00022 U	mg/L
BA02	Compliance	E007	10/23/2024	Lithium, total	0.005 U	mg/L

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CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA02	Compliance	E007	10/23/2024	Mercury, total	0.00014 U	mg/L
BA02	Compliance	E007	10/23/2024	Molybdenum, total	0.00420	mg/L
BA02	Compliance	E007	10/23/2024	Oxidation Reduction Potential	100	mV
BA02	Compliance	E007	10/23/2024	pH (field)	7.9	SU
BA02	Compliance	E007	10/23/2024	Radium 226 + Radium 228, total	0.343	pCi/L
BA02	Compliance	E007	10/23/2024	Selenium, total	0.00074 U	mg/L
BA02	Compliance	E007	10/23/2024	Specific Conductance @ 25C (field)	820	micromhos/cm
BA02	Compliance	E007	10/23/2024	Sulfate, total	13.0	mg/L
BA02	Compliance	E007	10/23/2024	Temperature	15.2	degrees C
BA02	Compliance	E007	10/23/2024	Thallium, total	0.00038 U	mg/L
BA02	Compliance	E007	10/23/2024	Total Dissolved Solids	440 J	mg/L
BA02	Compliance	E007	10/23/2024	Turbidity, field	33.0	NTU
BA02L	Compliance	E007	--	Antimony, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Arsenic, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Barium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Beryllium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Boron, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Cadmium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Calcium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Chloride, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Chromium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Cobalt, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Dissolved Oxygen	NS ⁷	mg/L
BA02L	Compliance	E007	--	Fluoride, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Lead, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Lithium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Mercury, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Molybdenum, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Oxidation Reduction Potential	NS ⁷	mV
BA02L	Compliance	E007	--	pH (field)	NS ⁷	SU
BA02L	Compliance	E007	--	Radium 226 + Radium 228, total	NS ⁷	pCi/L
BA02L	Compliance	E007	--	Selenium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Specific Conductance @ 25C (field)	NS ⁷	micromhos/cm
BA02L	Compliance	E007	--	Sulfate, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Temperature	NS ⁷	degrees C
BA02L	Compliance	E007	--	Thallium, total	NS ⁷	mg/L
BA02L	Compliance	E007	--	Total Dissolved Solids	NS ⁷	mg/L
BA02L	Compliance	E007	--	Turbidity, field	NS ⁷	NTU
BA03	Compliance	E007	10/23/2024	Antimony, total	0.00043 U	mg/L
BA03	Compliance	E007	10/23/2024	Arsenic, total	0.00069 U	mg/L
BA03	Compliance	E007	10/23/2024	Barium, total	0.130	mg/L
BA03	Compliance	E007	10/23/2024	Beryllium, total	0.00059 U	mg/L
BA03	Compliance	E007	10/23/2024	Boron, total	0.0150	mg/L
BA03	Compliance	E007	10/23/2024	Cadmium, total	0.00074 U	mg/L
BA03	Compliance	E007	10/23/2024	Calcium, total	100	mg/L
BA03	Compliance	E007	10/23/2024	Chloride, total	3.80	mg/L

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CANTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA03	Compliance	E007	10/23/2024	Chromium, total	0.0028 U	mg/L
BA03	Compliance	E007	10/23/2024	Cobalt, total	0.00048 U	mg/L
BA03	Compliance	E007	10/23/2024	Dissolved Oxygen	7.30	mg/L
BA03	Compliance	E007	10/23/2024	Fluoride, total	0.172 U	mg/L
BA03	Compliance	E007	10/23/2024	Lead, total	0.00022 U	mg/L
BA03	Compliance	E007	10/23/2024	Lithium, total	0.005 U	mg/L
BA03	Compliance	E007	10/23/2024	Mercury, total	0.00014 U	mg/L
BA03	Compliance	E007	10/23/2024	Molybdenum, total	0.00120	mg/L
BA03	Compliance	E007	10/23/2024	Oxidation Reduction Potential	-3.00	mV
BA03	Compliance	E007	10/23/2024	pH (field)	7.7	SU
BA03	Compliance	E007	10/23/2024	Radium 226 + Radium 228, total	0.43	pCi/L
BA03	Compliance	E007	10/23/2024	Selenium, total	0.00079 J	mg/L
BA03	Compliance	E007	10/23/2024	Specific Conductance @ 25C (field)	756	micromhos/cm
BA03	Compliance	E007	10/23/2024	Sulfate, total	13.0	mg/L
BA03	Compliance	E007	10/23/2024	Temperature	15.3	degrees C
BA03	Compliance	E007	10/23/2024	Thallium, total	0.00038 U	mg/L
BA03	Compliance	E007	10/23/2024	Total Dissolved Solids	420	mg/L
BA03	Compliance	E007	10/23/2024	Turbidity, field	42.9	NTU
BA03L	Compliance	E007	--	Antimony, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Arsenic, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Barium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Beryllium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Boron, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Cadmium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Calcium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Chloride, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Chromium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Cobalt, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Dissolved Oxygen	NS ⁷	mg/L
BA03L	Compliance	E007	--	Fluoride, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Lead, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Lithium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Mercury, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Molybdenum, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Oxidation Reduction Potential	NS ⁷	mV
BA03L	Compliance	E007	--	pH (field)	NS ⁷	SU
BA03L	Compliance	E007	--	Radium 226 + Radium 228, total	NS ⁷	pCi/L
BA03L	Compliance	E007	--	Selenium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Specific Conductance @ 25C (field)	NS ⁷	micromhos/cm
BA03L	Compliance	E007	--	Sulfate, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Temperature	NS ⁷	degrees C
BA03L	Compliance	E007	--	Thallium, total	NS ⁷	mg/L
BA03L	Compliance	E007	--	Total Dissolved Solids	NS ⁷	mg/L
BA03L	Compliance	E007	--	Turbidity, field	NS ⁷	NTU
BA04	Compliance	E007	10/24/2024	Antimony, total	0.00043 U	mg/L
BA04	Compliance	E007	10/24/2024	Arsenic, total	0.00150	mg/L

TABLE 1.
FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2024

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

Well ID	Well Type	Event	Date	Parameter	Result	Unit
BA04	Compliance	E007	10/24/2024	Barium, total	0.100	mg/L
BA04	Compliance	E007	10/24/2024	Beryllium, total	0.00059 U	mg/L
BA04	Compliance	E007	10/24/2024	Boron, total	0.280	mg/L
BA04	Compliance	E007	10/24/2024	Cadmium, total	0.00074 U	mg/L
BA04	Compliance	E007	10/24/2024	Calcium, total	140	mg/L
BA04	Compliance	E007	10/24/2024	Chloride, total	39.0	mg/L
BA04	Compliance	E007	10/24/2024	Chromium, total	0.0028 U	mg/L
BA04	Compliance	E007	10/24/2024	Cobalt, total	0.00079 J	mg/L
BA04	Compliance	E007	10/24/2024	Dissolved Oxygen	0	mg/L
BA04	Compliance	E007	10/24/2024	Fluoride, total	0.208 J	mg/L
BA04	Compliance	E007	10/24/2024	Lead, total	0.00022 U	mg/L
BA04	Compliance	E007	10/24/2024	Lithium, total	0.0051 J	mg/L
BA04	Compliance	E007	10/24/2024	Mercury, total	0.00014 U	mg/L
BA04	Compliance	E007	10/24/2024	Molybdenum, total	0.00120	mg/L
BA04	Compliance	E007	10/24/2024	Oxidation Reduction Potential	90.0	mV
BA04	Compliance	E007	10/24/2024	pH (field)	7.5	SU
BA04	Compliance	E007	10/24/2024	Radium 226 + Radium 228, total	1.03	pCi/L
BA04	Compliance	E007	10/24/2024	Selenium, total	0.00074 U	mg/L
BA04	Compliance	E007	10/24/2024	Specific Conductance @ 25C (field)	1,050	micromhos/cm
BA04	Compliance	E007	10/24/2024	Sulfate, total	170	mg/L
BA04	Compliance	E007	10/24/2024	Temperature	16.3	degrees C
BA04	Compliance	E007	10/24/2024	Thallium, total	0.00038 U	mg/L
BA04	Compliance	E007	10/24/2024	Total Dissolved Solids	680 J	mg/L
BA04	Compliance	E007	10/24/2024	Turbidity, field	5.00	NTU

Notes:

C = Celsius
cm = centimeter
Events:

E007 = Quarter 4, 2024 sampling event
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric Turbidity Units
pCi/L = picocuries per liter
Result Code (if applicable):

NR¹ = Parameter not analyzed.
NS¹ = Well has been, or will be, abandoned; therefore, a sample was not collected.
NS² = Well either needs or was undergoing maintenance; therefore, a sample was not collected.
NS³ = The location was not accessible; therefore, a sample was not collected.
NS⁴ = The location could not be found; therefore, a sample was not collected.
NS⁵ = The location was damaged; therefore, a sample was not collected.
NS⁶ = Sampling pump could not yield a sample.
NS⁷ = Well was either dry or purged dry and did not recover sufficiently to yield adequate volume for a sample.
NS⁸ = A sample was not collected.
PM¹ = Parameter not analyzed as the well purged dry during sample collection and did not sufficiently recover to yield adequate sample volume for analysis.

Result qualifiers as defined in the United States Environmental Protection Agency’s *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA 542-R-20-006. November 2020.:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
SU = Standard Units

TABLE 2.
EVALUATION OF COMPLIANCE - QUARTER 4, 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	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA01	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	27	CI around geomean	0.00101	0.0240	Background	No Exceedance
BA01	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CB around T-S line	0.0898	2.0	Standard	No Exceedance
BA01	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA01	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CI around median	0.022	7.90	Background	No Exceedance
BA01	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA01	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	11.6	700	Background	No Exceedance
BA01	UA	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.004	0.1	Standard	No Exceedance
BA01	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.002	0.0300	Background	No Exceedance
BA01	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	63	CI around median	0.25	4.0	Standard	No Exceedance
BA01	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	53	CI around median	0.001	0.0420	Background	No Exceedance
BA01	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA01	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	93	Most recent sample	0.0002	0.002	Standard	No Exceedance
BA01	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	7	CB around T-S line	0.000284	0.1	Standard	No Exceedance
BA01	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	31	0	CI around median	6.9/7.0	6.4/9.0	Background/Standard	No Exceedance
BA01	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.57	7.27	Background	No Exceedance
BA01	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	14	100	All ND - Last	0.001	0.05	Standard	No Exceedance
BA01	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	137	890	Background	No Exceedance
BA01	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA01	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	571	2,590	Background	No Exceedance
BA02	UA	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA02	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	7	CI around geomean	0.00183	0.0240	Background	No Exceedance
BA02	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CI around mean	0.194	2.0	Standard	No Exceedance
BA02	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.001	0.004	Standard	No Exceedance
BA02	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	0.0488	7.90	Background	No Exceedance
BA02	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA02	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	9.45	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	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.004	0.1	Standard	No Exceedance
BA02	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.002	0.0300	Background	No Exceedance
BA02	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	82	CI around median	0.25	4.0	Standard	No Exceedance
BA02	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	80	CI around median	0.001	0.0420	Background	No Exceedance
BA02	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA02	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.0002	0.002	Standard	No Exceedance
BA02	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	0	CI around mean	0.00408	0.1	Standard	No Exceedance
BA02	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	28	0	CI around mean	6.9/7.2	6.4/9.0	Background/Standard	No Exceedance
BA02	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.496	7.27	Background	No Exceedance
BA02	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.001	0.05	Standard	No Exceedance
BA02	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	11.8	890	Background	No Exceedance
BA02	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	93	Most recent sample	0.001	0.002	Standard	No Exceedance
BA02	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	477	2,590	Background	No Exceedance
BA02L	UA/PMP	E007	Antimony, total	mg/L	--	--	--	--	NS ⁷	0.006	Standard	--
BA02L	UA/PMP	E007	Arsenic, total	mg/L	--	--	--	--	NS ⁷	0.0240	Background	--
BA02L	UA/PMP	E007	Barium, total	mg/L	--	--	--	--	NS ⁷	2.0	Standard	--
BA02L	UA/PMP	E007	Beryllium, total	mg/L	--	--	--	--	NS ⁷	0.004	Standard	--
BA02L	UA/PMP	E007	Boron, total	mg/L	--	--	--	--	NS ⁷	7.90	Background	--
BA02L	UA/PMP	E007	Cadmium, total	mg/L	--	--	--	--	NS ⁷	0.005	Standard	--
BA02L	UA/PMP	E007	Chloride, total	mg/L	--	--	--	--	NS ⁷	700	Background	--
BA02L	UA/PMP	E007	Chromium, total	mg/L	--	--	--	--	NS ⁷	0.1	Standard	--
BA02L	UA/PMP	E007	Cobalt, total	mg/L	--	--	--	--	NS ⁷	0.0300	Background	--
BA02L	UA/PMP	E007	Fluoride, total	mg/L	--	--	--	--	NS ⁷	4.0	Standard	--
BA02L	UA/PMP	E007	Lead, total	mg/L	--	--	--	--	NS ⁷	0.0420	Background	--
BA02L	UA/PMP	E007	Lithium, total	mg/L	--	--	--	--	NS ⁷	0.0680	Background	--
BA02L	UA/PMP	E007	Mercury, total	mg/L	--	--	--	--	NS ⁷	0.002	Standard	--
BA02L	UA/PMP	E007	Molybdenum, total	mg/L	--	--	--	--	NS ⁷	0.1	Standard	--

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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
BA02L	UA/PMP	E007	pH (field)	SU	--	--	--	--	NS ⁷	6.4/9.0	Background/Standard	--
BA02L	UA/PMP	E007	Radium 226 + Radium 228, total	pCi/L	--	--	--	--	NS ⁷	7.27	Background	--
BA02L	UA/PMP	E007	Selenium, total	mg/L	--	--	--	--	NS ⁷	0.05	Standard	--
BA02L	UA/PMP	E007	Sulfate, total	mg/L	--	--	--	--	NS ⁷	890	Background	--
BA02L	UA/PMP	E007	Thallium, total	mg/L	--	--	--	--	NS ⁷	0.002	Standard	--
BA02L	UA/PMP	E007	Total Dissolved Solids	mg/L	--	--	--	--	NS ⁷	2,590	Background	--
BA03	UA	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA03	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.001	0.0240	Background	No Exceedance
BA03	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CB around linear reg	0.109	2.0	Standard	No Exceedance
BA03	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA03	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	0.0132	7.90	Background	No Exceedance
BA03	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA03	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CI around mean	5.6	700	Background	No Exceedance
BA03	UA	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.004	0.1	Standard	No Exceedance
BA03	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.002	0.0300	Background	No Exceedance
BA03	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	59	CI around median	0.25	4.0	Standard	No Exceedance
BA03	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	73	CI around median	0.001	0.0420	Background	No Exceedance
BA03	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA03	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.0002	0.002	Standard	No Exceedance
BA03	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	13	CB around linear reg	-0.0006	0.1	Standard	No Exceedance
BA03	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	29	0	CI around mean	7.0/7.2	6.4/9.0	Background/Standard	No Exceedance
BA03	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.593	7.27	Background	No Exceedance
BA03	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	15	47	CI around median	0.001	0.05	Standard	No Exceedance
BA03	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	13.5	890	Background	No Exceedance
BA03	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.002	Standard	No Exceedance
BA03	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CI around mean	416	2,590	Background	No Exceedance
BA03L	UA/PMP	E007	Antimony, total	mg/L	--	--	--	--	NS ⁷	0.006	Standard	--

TABLE 2.
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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
BA03L	UA/PMP	E007	Arsenic, total	mg/L	--	--	--	--	NS ⁷	0.0240	Background	--
BA03L	UA/PMP	E007	Barium, total	mg/L	--	--	--	--	NS ⁷	2.0	Standard	--
BA03L	UA/PMP	E007	Beryllium, total	mg/L	--	--	--	--	NS ⁷	0.004	Standard	--
BA03L	UA/PMP	E007	Boron, total	mg/L	--	--	--	--	NS ⁷	7.90	Background	--
BA03L	UA/PMP	E007	Cadmium, total	mg/L	--	--	--	--	NS ⁷	0.005	Standard	--
BA03L	UA/PMP	E007	Chloride, total	mg/L	--	--	--	--	NS ⁷	700	Background	--
BA03L	UA/PMP	E007	Chromium, total	mg/L	--	--	--	--	NS ⁷	0.1	Standard	--
BA03L	UA/PMP	E007	Cobalt, total	mg/L	--	--	--	--	NS ⁷	0.0300	Background	--
BA03L	UA/PMP	E007	Fluoride, total	mg/L	--	--	--	--	NS ⁷	4.0	Standard	--
BA03L	UA/PMP	E007	Lead, total	mg/L	--	--	--	--	NS ⁷	0.0420	Background	--
BA03L	UA/PMP	E007	Lithium, total	mg/L	--	--	--	--	NS ⁷	0.0680	Background	--
BA03L	UA/PMP	E007	Mercury, total	mg/L	--	--	--	--	NS ⁷	0.002	Standard	--
BA03L	UA/PMP	E007	Molybdenum, total	mg/L	--	--	--	--	NS ⁷	0.1	Standard	--
BA03L	UA/PMP	E007	pH (field)	SU	--	--	--	--	NS ⁷	6.4/9.0	Background/Standard	--
BA03L	UA/PMP	E007	Radium 226 + Radium 228, total	pCi/L	--	--	--	--	NS ⁷	7.27	Background	--
BA03L	UA/PMP	E007	Selenium, total	mg/L	--	--	--	--	NS ⁷	0.05	Standard	--
BA03L	UA/PMP	E007	Sulfate, total	mg/L	--	--	--	--	NS ⁷	890	Background	--
BA03L	UA/PMP	E007	Thallium, total	mg/L	--	--	--	--	NS ⁷	0.002	Standard	--
BA03L	UA/PMP	E007	Total Dissolved Solids	mg/L	--	--	--	--	NS ⁷	2,590	Background	--
BA04	UA	E007	Antimony, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.003	0.006	Standard	No Exceedance
BA04	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/24/24	15	80	CI around median	0.001	0.0240	Background	No Exceedance
BA04	UA	E007	Barium, total	mg/L	02/05/16 - 10/24/24	15	0	CI around mean	0.102	2.0	Standard	No Exceedance
BA04	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.001	0.004	Standard	No Exceedance
BA04	UA	E007	Boron, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	0.284	7.90	Background	No Exceedance
BA04	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.001	0.005	Standard	No Exceedance
BA04	UA	E007	Chloride, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	39.8	700	Background	No Exceedance
BA04	UA	E007	Chromium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.004	0.1	Standard	No Exceedance

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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
BA04	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.002	0.0300	Background	No Exceedance
BA04	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/24/24	27	30	CB around linear reg	0.223	4.0	Standard	No Exceedance
BA04	UA	E007	Lead, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.0420	Background	No Exceedance
BA04	UA	E007	Lithium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.02	0.0680	Background	No Exceedance
BA04	UA	E007	Mercury, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
BA04	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/24/24	15	0	CI around geomean	0.00184	0.1	Standard	No Exceedance
BA04	UA	E007	pH (field)	SU	02/05/16 - 10/24/24	28	0	CI around mean	7.0/7.2	6.4/9.0	Background/Standard	No Exceedance
BA04	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/24/24	15	0	CI around mean	0.493	7.27	Background	No Exceedance
BA04	UA	E007	Selenium, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.05	Standard	No Exceedance
BA04	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	147	890	Background	No Exceedance
BA04	UA	E007	Thallium, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.002	Standard	No Exceedance
BA04	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/24/24	27	0	CB around linear reg	684	2,590	Background	No Exceedance

TABLE 2.
EVALUATION OF COMPLIANCE - QUARTER 4, 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.
Throughout this document, “exceedance” or “exceedances” is intended to refer only to potential exceedances of proposed applicable background statistics or Groundwater Protection Standards (GWPSs) as described in the proposed groundwater monitoring program which was submitted to the Illinois Environmental Protection Agency (IEPA) on October 25, 2021 as part of Illinois Power Resources Generating, LLC’s (IPRG’s) operating permit application for the Bottom Ash Basin. That operating permit application, including the proposed groundwater monitoring program, remains under review by the IEPA and, therefore, IPRG has not identified any actual exceedances.

Events:

NA

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UA/PMP = Uppermost Aquifer/Potential Migration Pathway

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

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

Statistical Calculation = method used to calculate the statistical result:

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

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

CB around 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

Statistical Result Code (if applicable):

NR¹ = Parameter not analyzed.

NS¹ = Well has been, or will be, abandoned; therefore, a sample was not collected.

NS² = Well either needs or was undergoing maintenance; therefore, a sample was not collected.

NS³ = The location was not accessible; therefore, a sample was not collected.

NS⁴ = The location could not be found; therefore, a sample was not collected.

NS⁵ = The location was damaged; therefore, a sample was not collected.

NS⁶ = Sampling pump could not yield a sample.

NS⁷ = Well was either dry or purged dry and did not recover sufficiently to yield adequate volume for a sample.

NS⁸ = A sample was not collected.

PM¹ = Parameter not analyzed as the well purged dry during sample collection and did not sufficiently recover to yield adequate sample volume for analysis.

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

GWPS Source:

Background = background concentration

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

FIGURES



 BACKGROUND WELL
 COMPLIANCE WELL
 REGULATED UNIT (SUBJECT UNIT)

A horizontal scale bar with tick marks at 0, 50, and 100. The word "Feet" is written at the right end of the bar.

Monitoring Well Location Map

BOTTOM ASH BASIN
DUCK CREEK POWER PLANT
CANTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



ATTACHMENTS

**ATTACHMENT A
GROUNDWATER ELEVATION DATA
QUARTER 4, 2024**

ATTACHMENT A.
GROUNDWATER ELEVATION DATA - QUARTER 4, 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	10/14/2024	17.05	570.16
BA02	Compliance	10/14/2024	12.66	567.23
BA02L	Compliance	10/14/2024	12.42	567.52
BA03	Compliance	10/14/2024	12.50	566.01
BA03L	Compliance	10/14/2024	7.55	570.71
BA04	Compliance	10/14/2024	8.33	569.92
BA05	Background	10/14/2024	22.42	573.38
BA06	Background	10/14/2024	23.95	571.72

Notes:
BMP = below measuring point
Depth to Groundwater/Groundwater Elevation Code (if applicable):
DM¹ = Depth to water was not measured.
DM² = Depth to water was not measured because water was above or below the staff gage markings.
DM³ = Depth to water was not measured because the location was inaccessible.
DM⁴ = Depth to water was not measured because water level was below the top of the pump.
DM⁵ = Depth to water was not measured because water level was above the top of casing (artesian well).
DM⁶ = Depth to water was not measured because of damage to the well.
DM⁷ = Depth to water was not measured due to required pressure transducer maintenance.
DM⁸ = Lab provided groundwater elevation data and not depth to water.
NAVD88 = North American Vertical Datum of 1988

**ATTACHMENT B
LABORATORY REPORTS AND FIELD DATA SHEETS
QUARTER 4, 2024**



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

December 07, 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,

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

Diane Billings
Project Manager

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order	HJ04540
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YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
YES	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

Work Order HJ04816

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

ANALYTICAL RESULTS

Sample: HJ04540-08
Name: BA03
Matrix: Ground Water - Grab

Sampled: 10/23/24 13:45
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	3.8	mg/L		10/30/24 20:02	1	1.0	10/30/24 20:02	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		10/30/24 20:02	1	0.250	10/30/24 20:02	JSM	EPA 300.0 REV 2.1
Sulfate	13	mg/L	Q4	10/30/24 20:19	5	5.0	10/30/24 20:19	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	12.55	Feet		10/23/24 13:45	1		10/23/24 13:45	FIELD	Field*
Dissolved oxygen, Field	7.3	mg/L		10/23/24 13:45	1		10/23/24 13:45	FIELD	Field*
Oxidation Reduction Potential	-3.00	mV		10/23/24 13:45	1	-500	10/23/24 13:45	FIELD	Field*
pH, Field Measured	7.72	pH Units		10/23/24 13:45	1		10/23/24 13:45	FIELD	Field*
Specific Conductance, Field Measured	756.0	umhos/cm		10/23/24 13:45	1		10/23/24 13:45	FIELD	Field*
Temperature, Field Measured	15.3	°C		10/23/24 13:45	1		10/23/24 13:45	FIELD	Field*
Turbidity, Field Measured	42.9	NTU		10/23/24 13:45	1	0.00	10/23/24 13:45	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	450	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	420	mg/L		10/29/24 09:20	1	26	10/29/24 15:03	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		10/30/24 08:55	5	3.0	10/31/24 15:44	TJJ	EPA 6020A
Arsenic	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Barium	130	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Boron	15	ug/L		10/30/24 08:55	5	10	11/01/24 12:34	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Calcium	100	mg/L		10/30/24 08:55	5	0.20	10/31/24 15:44	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		10/30/24 08:55	5	4.0	10/31/24 15:44	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		10/30/24 08:55	5	2.0	10/31/24 15:44	TJJ	EPA 6020A
Lead	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Magnesium	51	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:44	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		10/30/24 08:55	5	0.20	11/01/24 12:34	TJJ	EPA 6020A
Molybdenum	1.2	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Potassium	0.55	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:44	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04540-08
Name: BA03
Matrix: Ground Water - Grab

Sampled: 10/23/24 13:45
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		10/30/24 08:55	5	1.0	11/01/24 12:34	TJJ	EPA 6020A
Sodium	7.4	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:44	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:44	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		10/30/24 08:55	1	0.020	10/30/24 11:48	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04540-09
Name: BA02
Matrix: Ground Water - Grab

Sampled: 10/23/24 12:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	10	mg/L	Q4	10/30/24 22:01	5	5.0	10/30/24 22:01	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		10/30/24 21:10	1	0.250	10/30/24 21:10	JSM	EPA 300.0 REV 2.1
Sulfate	13	mg/L	Q4	10/30/24 22:01	5	5.0	10/30/24 22:01	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	13.03	Feet		10/23/24 12:35	1		10/23/24 12:35	FIELD	Field*
Dissolved oxygen, Field	2.0	mg/L		10/23/24 12:35	1		10/23/24 12:35	FIELD	Field*
Oxidation Reduction Potential	100	mV		10/23/24 12:35	1	-500	10/23/24 12:35	FIELD	Field*
pH, Field Measured	7.89	pH Units		10/23/24 12:35	1		10/23/24 12:35	FIELD	Field*
Specific Conductance, Field Measured	820.0	umhos/cm		10/23/24 12:35	1		10/23/24 12:35	FIELD	Field*
Temperature, Field Measured	15.2	°C		10/23/24 12:35	1		10/23/24 12:35	FIELD	Field*
Turbidity, Field Measured	33.0	NTU		10/23/24 12:35	1	0.00	10/23/24 12:35	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	500	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	440	mg/L	M	10/29/24 09:20	1	26	10/29/24 15:03	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		10/30/24 08:55	5	3.0	10/31/24 15:47	TJJ	EPA 6020A
Arsenic	3.8	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Barium	190	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Boron	49	ug/L		10/30/24 08:55	5	10	11/01/24 12:37	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Calcium	93	mg/L		10/30/24 08:55	5	0.20	10/31/24 15:47	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		10/30/24 08:55	5	4.0	10/31/24 15:47	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		10/30/24 08:55	5	2.0	10/31/24 15:47	TJJ	EPA 6020A
Lead	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Magnesium	44	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:47	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		10/30/24 08:55	5	0.20	11/01/24 12:37	TJJ	EPA 6020A
Molybdenum	4.2	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Potassium	1.8	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:47	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04540-09

Name: BA02

Matrix: Ground Water - Grab

Sampled: 10/23/24 12:35

Received: 10/23/24 16:18

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		10/30/24 08:55	5	1.0	11/01/24 12:37	TJJ	EPA 6020A
Sodium	49	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:47	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:47	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		10/30/24 08:55	1	0.020	10/30/24 11:50	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04540-10
Name: BA01
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	18	mg/L	Q4	10/30/24 23:09	5	5.0	10/30/24 23:09	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		10/30/24 22:52	1	0.250	10/30/24 22:52	JSM	EPA 300.0 REV 2.1
Sulfate	140	mg/L	Q4	10/30/24 23:26	25	25	10/30/24 23:26	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	17.36	Feet		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Dissolved oxygen, Field	4.8	mg/L		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Oxidation Reduction Potential	19.0	mV		10/23/24 11:35	1	-500	10/23/24 11:35	FIELD	Field*
pH, Field Measured	9.90	pH Units		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Specific Conductance, Field Measured	882.0	umhos/cm		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Temperature, Field Measured	13.4	°C		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Turbidity, Field Measured	27.5	NTU		10/23/24 11:35	1	0.00	10/23/24 11:35	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	400	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	620	mg/L	M	10/29/24 09:20	1	26	10/29/24 15:03	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		10/30/24 08:55	5	3.0	10/31/24 15:51	TJJ	EPA 6020A
Arsenic	1.7	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Barium	130	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Boron	26	ug/L		10/30/24 08:55	5	10	11/01/24 12:56	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Calcium	120	mg/L		10/30/24 08:55	5	0.20	10/31/24 15:51	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		10/30/24 08:55	5	4.0	10/31/24 15:51	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		10/30/24 08:55	5	2.0	10/31/24 15:51	TJJ	EPA 6020A
Lead	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Magnesium	61	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:51	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		10/30/24 08:55	5	0.20	11/01/24 12:56	TJJ	EPA 6020A
Molybdenum	1.1	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Potassium	2.0	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:51	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04540-10

Name: BA01

Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35

Received: 10/23/24 16:18

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		10/30/24 08:55	5	1.0	11/01/24 12:56	TJJ	EPA 6020A
Sodium	11	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:51	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:51	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		10/30/24 08:55	1	0.020	10/30/24 11:51	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04540-11
Name: BA01 Dup
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	18	mg/L		10/31/24 00:35	5	5.0	10/31/24 00:35	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		10/31/24 00:18	1	0.250	10/31/24 00:18	JSM	EPA 300.0 REV 2.1
Sulfate	140	mg/L		10/31/24 01:26	25	25	10/31/24 01:26	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	17.36	Feet		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Dissolved oxygen, Field	4.8	mg/L		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Oxidation Reduction Potential	19.0	mV		10/23/24 11:35	1	-500	10/23/24 11:35	FIELD	Field*
pH, Field Measured	9.90	pH Units		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Specific Conductance, Field Measured	882.0	umhos/cm		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Temperature, Field Measured	13.4	°C		10/23/24 11:35	1		10/23/24 11:35	FIELD	Field*
Turbidity, Field Measured	27.5	NTU		10/23/24 11:35	1	0.00	10/23/24 11:35	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	390	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	560	mg/L		10/29/24 09:20	1	26	10/29/24 15:03	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		10/30/24 08:55	5	3.0	10/31/24 15:55	TJJ	EPA 6020A
Arsenic	1.7	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Barium	140	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Boron	24	ug/L		10/30/24 08:55	5	10	11/01/24 13:00	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Calcium	120	mg/L		10/30/24 08:55	5	0.20	10/31/24 15:55	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		10/30/24 08:55	5	4.0	10/31/24 15:55	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		10/30/24 08:55	5	2.0	10/31/24 15:55	TJJ	EPA 6020A
Lead	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Magnesium	62	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:55	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		10/30/24 08:55	5	0.20	11/01/24 13:00	TJJ	EPA 6020A
Molybdenum	1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Potassium	1.3	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:55	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04540-11

Name: BA01 Dup

Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35

Received: 10/23/24 16:18

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		10/30/24 08:55	5	1.0	11/01/24 13:00	TJJ	EPA 6020A
Sodium	11	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:55	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:55	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		10/30/24 08:55	1	0.020	10/30/24 11:52	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04540-12
Name: BA06
Matrix: Ground Water - Grab

Sampled: 10/23/24 14:59
Received: 10/23/24 16:18
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	600	mg/L		10/31/24 02:00	100	100	10/31/24 02:00	JSM	EPA 300.0 REV 2.1
Sulfate	390	mg/L		10/31/24 02:00	100	100	10/31/24 02:00	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	24.11	Feet		10/23/24 14:59	1		10/23/24 14:59	FIELD	Field*
Dissolved oxygen, Field	0.0	mg/L		10/23/24 14:59	1		10/23/24 14:59	FIELD	Field*
Oxidation Reduction Potential	10.0	mV		10/23/24 14:59	1	-500	10/23/24 14:59	FIELD	Field*
pH, Field Measured	7.26	pH Units		10/23/24 14:59	1		10/23/24 14:59	FIELD	Field*
Specific Conductance, Field Measured	2750	umhos/cm		10/23/24 14:59	1		10/23/24 14:59	FIELD	Field*
Temperature, Field Measured	15.2	°C		10/23/24 14:59	1		10/23/24 14:59	FIELD	Field*
Turbidity, Field Measured	24.9	NTU		10/23/24 14:59	1	0.00	10/23/24 14:59	FIELD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	440	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		11/04/24 16:29	1	0.250	11/04/24 16:29	QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1900	mg/L		10/29/24 09:20	1	26	10/29/24 15:03	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		10/30/24 08:55	5	3.0	10/31/24 15:59	TJJ	EPA 6020A
Arsenic	1.5	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Barium	89	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Boron	16000	ug/L		10/30/24 08:55	50	100	11/01/24 14:05	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Calcium	310	mg/L		10/30/24 08:55	5	0.20	10/31/24 15:59	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		10/30/24 08:55	5	4.0	10/31/24 15:59	TJJ	EPA 6020A
Cobalt	3.3	ug/L		10/30/24 08:55	5	2.0	10/31/24 15:59	TJJ	EPA 6020A
Lead	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Magnesium	200	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:59	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		10/30/24 08:55	5	0.20	11/01/24 18:57	TJJ	EPA 6020A
Molybdenum	1.1	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Potassium	0.35	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:59	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04540-12

Name: BA06

Matrix: Ground Water - Grab

Sampled: 10/23/24 14:59

Received: 10/23/24 16:18

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		10/30/24 08:55	5	1.0	11/01/24 18:57	TJJ	EPA 6020A
Sodium	16	mg/L		10/30/24 08:55	5	0.10	10/31/24 15:59	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		10/30/24 08:55	5	1.0	10/31/24 15:59	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		10/30/24 08:55	1	0.020	10/30/24 11:53	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04816-05
Name: BA04
Matrix: Ground Water - Grab

Sampled: 10/24/24 13:40
Received: 10/24/24 16:29
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	39	mg/L	Q4	10/31/24 17:39	25	25	10/31/24 17:39	JSM	EPA 300.0 REV 2.1
Fluoride	< 0.250	mg/L		10/31/24 17:22	1	0.250	10/31/24 17:22	JSM	EPA 300.0 REV 2.1
Sulfate	170	mg/L	Q4	10/31/24 17:39	25	25	10/31/24 17:39	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	8.61	Feet		10/24/24 13:40	1		10/24/24 13:40	KD	Field*
Dissolved oxygen, Field	0.0	mg/L		10/24/24 13:40	1		10/24/24 13:40	KD	Field*
Oxidation Reduction Potential	90.0	mV		10/24/24 13:40	1	-500	10/24/24 13:40	KD	Field*
pH, Field Measured	7.53	pH Units		10/24/24 13:40	1		10/24/24 13:40	KD	Field*
Specific Conductance, Field Measured	1050	umhos/cm		10/24/24 13:40	1		10/24/24 13:40	KD	Field*
Temperature, Field Measured	16.3	°C		10/24/24 13:40	1		10/24/24 13:40	KD	Field*
Turbidity, Field Measured	5.00	NTU		10/24/24 13:40	1	0.00	10/24/24 13:40	KD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	420	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	680	mg/L		10/31/24 09:22	1	26	10/31/24 14:54	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		11/04/24 09:11	5	3.0	11/04/24 17:18	TJJ	EPA 6020A
Arsenic	1.5	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Barium	100	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/05/24 14:03	TJJ	EPA 6020A
Boron	280	ug/L		11/04/24 09:11	5	10	11/04/24 17:18	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Calcium	140	mg/L		11/04/24 09:11	5	0.20	11/04/24 17:18	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		11/04/24 09:11	5	4.0	11/04/24 17:18	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		11/04/24 09:11	5	2.0	11/04/24 17:18	TJJ	EPA 6020A
Lead	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Magnesium	72	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:18	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		11/04/24 09:11	5	0.20	11/04/24 17:18	TJJ	EPA 6020A
Molybdenum	1.2	ug/L		11/04/24 09:11	5	1.0	11/05/24 14:03	TJJ	EPA 6020A
Potassium	0.85	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:18	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04816-05

Name: BA04

Matrix: Ground Water - Grab

Sampled: 10/24/24 13:40

Received: 10/24/24 16:29

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Sodium	13	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:18	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:18	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		11/04/24 09:11	1	0.020	11/05/24 10:21	BRS	EPA 6010B

ANALYTICAL RESULTS

Sample: HJ04816-06
Name: BA05
Matrix: Ground Water - Grab

Sampled: 10/24/24 12:15
Received: 10/24/24 16:29
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Chloride	9.8	mg/L		10/31/24 18:30	1	1.0	10/31/24 18:30	JSM	EPA 300.0 REV 2.1
Sulfate	460	mg/L		10/31/24 19:38	100	100	10/31/24 19:38	JSM	EPA 300.0 REV 2.1
Field - PIA									
Depth, From Measuring Point	22.57	Feet		10/24/24 12:15	1		10/24/24 12:15	KD	Field*
Dissolved oxygen, Field	0.0	mg/L		10/24/24 12:15	1		10/24/24 12:15	KD	Field*
Oxidation Reduction Potential	-37.0	mV		10/24/24 12:15	1	-500	10/24/24 12:15	KD	Field*
pH, Field Measured	7.54	pH Units		10/24/24 12:15	1		10/24/24 12:15	KD	Field*
Specific Conductance, Field Measured	1460	umhos/cm		10/24/24 12:15	1		10/24/24 12:15	KD	Field*
Temperature, Field Measured	14.2	°C		10/24/24 12:15	1		10/24/24 12:15	KD	Field*
Turbidity, Field Measured	28.4	NTU		10/24/24 12:15	1	0.00	10/24/24 12:15	KD	Field*
General Chemistry - PIA									
Alkalinity - bicarbonate as CaCO ₃	480	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Alkalinity - carbonate as CaCO ₃	< 10	mg/L		11/04/24 16:10	1	10	11/04/24 16:10	TMS	SM 2320 B-2011*
Fluoride	< 0.250	mg/L		11/06/24 14:40	1	0.250	11/06/24 14:40	ANK/QTC	SM 4500-F C-2011
Soluble General Chemistry - PIA									
Solids - total dissolved solids (TDS)	1100	mg/L		10/31/24 09:22	1	26	10/31/24 14:54	CFM	SM 2540 C-2011
Total Metals - PIA									
Antimony	< 3.0	ug/L		11/04/24 09:11	5	3.0	11/04/24 17:21	TJJ	EPA 6020A
Arsenic	2.6	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Barium	44	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Beryllium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/05/24 14:06	TJJ	EPA 6020A
Boron	87	ug/L		11/04/24 09:11	5	10	11/04/24 17:21	TJJ	EPA 6020A
Cadmium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Calcium	200	mg/L		11/04/24 09:11	5	0.20	11/04/24 17:21	TJJ	EPA 6020A
Chromium	< 4.0	ug/L		11/04/24 09:11	5	4.0	11/04/24 17:21	TJJ	EPA 6020A
Cobalt	< 2.0	ug/L		11/04/24 09:11	5	2.0	11/04/24 17:21	TJJ	EPA 6020A
Lead	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Magnesium	100	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:21	TJJ	EPA 6020A
Mercury	< 0.20	ug/L		11/04/24 09:11	5	0.20	11/04/24 17:21	TJJ	EPA 6020A
Molybdenum	3.2	ug/L		11/04/24 09:11	5	1.0	11/05/24 14:06	TJJ	EPA 6020A
Potassium	2.2	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:21	TJJ	EPA 6020A

ANALYTICAL RESULTS

Sample: HJ04816-06

Name: BA05

Matrix: Ground Water - Grab

Sampled: 10/24/24 12:15

Received: 10/24/24 16:29

PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Selenium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Sodium	47	mg/L		11/04/24 09:11	5	0.10	11/04/24 17:21	TJJ	EPA 6020A
Thallium	< 1.0	ug/L		11/04/24 09:11	5	1.0	11/04/24 17:21	TJJ	EPA 6020A
Lithium	< 0.020	mg/L		11/04/24 09:11	1	0.020	11/05/24 10:22	BRS	EPA 6010B

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B447093 - No Prep - SM 2540 C-2011</u>									
Blank (B447093-BLK1)				Prepared & Analyzed: 10/29/24					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B447093-BS1)				Prepared & Analyzed: 10/29/24					
Solids - total dissolved solids (TDS)	913	mg/L		1000		91	84.4-107		
Duplicate (B447093-DUP1)				Sample: HJ04540-09 Prepared & Analyzed: 10/29/24					
Solids - total dissolved solids (TDS)	460	mg/L	M		435			6	5
Duplicate (B447093-DUP2)				Sample: HJ04540-10 Prepared & Analyzed: 10/29/24					
Solids - total dissolved solids (TDS)	575	mg/L	M		615			7	5
<u>Batch B447194 - SW 3015 - EPA 6010B</u>									
Blank (B447194-BLK1)				Prepared & Analyzed: 10/30/24					
Lithium	< 0.020	mg/L							
LCS (B447194-BS1)				Prepared & Analyzed: 10/30/24					
Lithium	0.517	mg/L		0.5556		93	80-120		
<u>Batch B447194 - SW 3015 - EPA 6020A</u>									
Blank (B447194-BLK1)				Prepared: 10/30/24 Analyzed: 10/31/24					
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 (B447194-BS1)				Prepared: 10/30/24 Analyzed: 10/31/24					
Antimony	531	ug/L		555.6		96	80-120		
Arsenic	525	ug/L		555.6		95	80-120		
Barium	550	ug/L		555.6		99	80-120		
Beryllium	512	ug/L		555.6		92	80-120		
Boron	536	ug/L		555.6		96	80-120		
Cadmium	520	ug/L		555.6		94	80-120		
Calcium	5.35	mg/L		5.556		96	80-120		
Chromium	543	ug/L		555.6		98	80-120		
Cobalt	563	ug/L		555.6		101	80-120		
Lead	519	ug/L		555.6		93	80-120		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (B447194-BS1)				Prepared: 10/30/24 Analyzed: 10/31/24					
Magnesium	5.60	mg/L		5.556		101	80-120		
Mercury	50.1	ug/L		55.56		90	80-120		
Molybdenum	505	ug/L		555.6		91	80-120		
Potassium	5.38	mg/L		5.556		97	80-120		
Selenium	531	ug/L		555.6		96	80-120		
Sodium	5.69	mg/L		5.556		102	80-120		
Thallium	532	ug/L		555.6		96	80-120		
<u>Batch B447304 - No Prep - SM 2540 C-2011</u>									
Blank (B447304-BLK1)				Prepared & Analyzed: 10/31/24					
Solids - total dissolved solids (TDS)	< 17	mg/L							
LCS (B447304-BS1)				Prepared & Analyzed: 10/31/24					
Solids - total dissolved solids (TDS)	913	mg/L		1000		91	84.4-107		
Duplicate (B447304-DUP1)				Prepared & Analyzed: 10/31/24					
Solids - total dissolved solids (TDS)	875	mg/L	M		925			6	5
Duplicate (B447304-DUP2)				Prepared & Analyzed: 10/31/24					
Solids - total dissolved solids (TDS)	375	mg/L			365			3	5
<u>Batch B447311 - IC No Prep - EPA 300.0 REV 2.1</u>									
Calibration Blank (B447311-CCB1)				Prepared & Analyzed: 10/30/24					
Sulfate	0.00	mg/L							
Fluoride	0.00	mg/L							
Chloride	0.00	mg/L							
Calibration Check (B447311-CCV1)				Prepared & Analyzed: 10/30/24					
Chloride	5.07	mg/L		5.000		101	90-110		
Fluoride	5.14	mg/L		5.000		103	90-110		
Sulfate	4.89	mg/L		5.000		98	90-110		
Matrix Spike (B447311-MS1)				Prepared & Analyzed: 10/30/24					
Sulfate	1.00E9	mg/L	Q4	1.500	13.3	NR	80-120		
Fluoride	1.76	mg/L		1.500	ND	117	80-120		
Chloride	5.5	mg/L		1.500	3.8	110	80-120		
Matrix Spike (B447311-MS2)				Prepared & Analyzed: 10/30/24					
Chloride	1.0E9	mg/L	Q4	1.500	10	NR	80-120		
Fluoride	1.73	mg/L		1.500	ND	115	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	12.5	NR	80-120		
Matrix Spike (B447311-MS3)				Prepared & Analyzed: 10/30/24					
Fluoride	1.77	mg/L		1.500	0.173	106	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	137	NR	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	18	NR	80-120		
Matrix Spike Dup (B447311-MSD1)				Prepared & Analyzed: 10/30/24					
Sulfate	1.00E9	mg/L	Q4	1.500	13.3	NR	80-120	0	20
Fluoride	1.78	mg/L		1.500	ND	118	80-120	1	20
Chloride	5.5	mg/L		1.500	3.8	110	80-120	0.04	20
Matrix Spike Dup (B447311-MSD2)				Prepared & Analyzed: 10/30/24					
Chloride	1.0E9	mg/L	Q4	1.500	10	NR	80-120	0	20
Fluoride	1.73	mg/L		1.500	ND	115	80-120	0.09	20
Sulfate	1.00E9	mg/L	Q4	1.500	12.5	NR	80-120	0	20

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike Dup (B447311-MSD3)				Sample: HJ04540-10		Prepared & Analyzed: 10/31/24			
Sulfate	1.00E9	mg/L	Q4	1.500	137	NR	80-120	0	20
Fluoride	1.80	mg/L		1.500	0.173	108	80-120	2	20
Chloride	1.0E9	mg/L	Q4	1.500	18	NR	80-120	0	20
<u>Batch B447440 - IC No Prep - EPA 300.0 REV 2.1</u>									
Calibration Blank (B447440-CCB1)				Prepared & Analyzed: 10/31/24					
Sulfate	0.00	mg/L							
Fluoride	0.00	mg/L							
Chloride	0.00	mg/L							
Calibration Check (B447440-CCV1)				Prepared & Analyzed: 10/31/24					
Sulfate	5.08	mg/L		5.000		102	90-110		
Fluoride	5.33	mg/L		5.000		107	90-110		
Chloride	5.20	mg/L		5.000		104	90-110		
Matrix Spike (B447440-MS1)				Sample: HJ04816-01		Prepared & Analyzed: 10/31/24			
Sulfate	< 1.0	mg/L	Q1	1.500	120	NR	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	60	NR	80-120		
Matrix Spike (B447440-MS2)				Sample: HJ04816-05		Prepared & Analyzed: 10/31/24			
Fluoride	1.78	mg/L		1.500	0.208	105	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	39	NR	80-120		
Sulfate	1.00E9	mg/L	Q4	1.500	169	NR	80-120		
Matrix Spike (B447440-MS3)				Sample: HJ04816-07		Prepared & Analyzed: 10/31/24			
Sulfate	1.00E9	mg/L	Q4	1.500	62.8	NR	80-120		
Fluoride	1.76	mg/L		1.500	0.177	105	80-120		
Chloride	1.0E9	mg/L	Q4	1.500	13	NR	80-120		
Matrix Spike Dup (B447440-MSD1)				Sample: HJ04816-01		Prepared & Analyzed: 10/31/24			
Sulfate	< 1.0	mg/L	Q2	1.500	120	NR	80-120		20
Chloride	1.0E9	mg/L	Q4	1.500	60	NR	80-120	0	20
Matrix Spike Dup (B447440-MSD2)				Sample: HJ04816-05		Prepared & Analyzed: 10/31/24			
Sulfate	1.00E9	mg/L	Q4	1.500	169	NR	80-120	0	20
Chloride	1.0E9	mg/L	Q4	1.500	39	NR	80-120	0	20
Fluoride	1.79	mg/L		1.500	0.208	105	80-120	0.6	20
Matrix Spike Dup (B447440-MSD3)				Sample: HJ04816-07		Prepared & Analyzed: 10/31/24			
Chloride	1.0E9	mg/L	Q4	1.500	13	NR	80-120	0	20
Sulfate	1.00E9	mg/L	Q4	1.500	62.8	NR	80-120	0	20
Fluoride	1.75	mg/L		1.500	0.177	105	80-120	0.5	20
<u>Batch B447528 - SW 3015 - EPA 6010B</u>									
Blank (B447528-BLK1)				Prepared: 11/04/24 Analyzed: 11/05/24					
Lithium	< 0.020	mg/L							
LCS (B447528-BS1)				Prepared: 11/04/24 Analyzed: 11/05/24					
Lithium	0.541	mg/L		0.5556		97	80-120		
Matrix Spike (B447528-MS1)				Sample: HJ04816-01		Prepared: 11/04/24 Analyzed: 11/05/24			
Lithium	0.555	mg/L		0.5556	ND	100	75-125		
Matrix Spike Dup (B447528-MSD1)				Sample: HJ04816-01		Prepared: 11/04/24 Analyzed: 11/05/24			
Lithium	0.532	mg/L		0.5556	ND	96	75-125	4	20
<u>Batch B447528 - SW 3015 - EPA 6020A</u>									

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (B447528-BLK1)				Prepared & Analyzed: 11/04/24					
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 (B447528-BS1)				Prepared & Analyzed: 11/04/24					
Antimony	488	ug/L		555.6		88	80-120		
Arsenic	518	ug/L		555.6		93	80-120		
Barium	514	ug/L		555.6		93	80-120		
Beryllium	561	ug/L		555.6		101	80-120		
Boron	558	ug/L		555.6		100	80-120		
Cadmium	545	ug/L		555.6		98	80-120		
Calcium	5.41	mg/L		5.556		97	80-120		
Chromium	559	ug/L		555.6		101	80-120		
Cobalt	562	ug/L		555.6		101	80-120		
Lead	554	ug/L		555.6		100	80-120		
Magnesium	5.82	mg/L		5.556		105	80-120		
Mercury	51.7	ug/L		55.56		93	80-120		
Molybdenum	516	ug/L		555.6		93	80-120		
Potassium	5.43	mg/L		5.556		98	80-120		
Selenium	517	ug/L		555.6		93	80-120		
Sodium	5.88	mg/L		5.556		106	80-120		
Thallium	545	ug/L		555.6		98	80-120		
Matrix Spike (B447528-MS1)				Sample: HJ04816-01		Prepared & Analyzed: 11/04/24			
Antimony	501	ug/L		555.6	ND	90	75-125		
Arsenic	533	ug/L		555.6	2.13	96	75-125		
Barium	739	ug/L		555.6	215	94	75-125		
Beryllium	568	ug/L		555.6	ND	102	75-125		
Boron	580	ug/L		555.6	ND	104	75-125		
Cadmium	552	ug/L		555.6	ND	99	75-125		
Calcium	208	mg/L	Q4	5.556	206	24	75-125		
Chromium	564	ug/L		555.6	ND	101	75-125		
Cobalt	549	ug/L		555.6	1.11	99	75-125		
Lead	548	ug/L		555.6	ND	99	75-125		
Magnesium	112	mg/L	Q4	5.556	110	37	75-125		

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B447528-MS1)									
Sample: HJ04816-01				Prepared & Analyzed: 11/04/24					
Mercury	54.6	ug/L		55.56	0.178	98	75-125		
Molybdenum	539	ug/L		555.6	ND	97	75-125		
Potassium	5.94	mg/L		5.556	0.370	100	75-125		
Selenium	530	ug/L		555.6	ND	95	75-125		
Sodium	20.4	mg/L		5.556	14.7	102	75-125		
Thallium	545	ug/L		555.6	ND	98	75-125		
Matrix Spike Dup (B447528-MSD1)									
Sample: HJ04816-01				Prepared & Analyzed: 11/04/24					
Antimony	498	ug/L		555.6	ND	90	75-125	0.5	20
Arsenic	533	ug/L		555.6	2.13	96	75-125	0.07	20
Barium	738	ug/L		555.6	215	94	75-125	0.1	20
Beryllium	564	ug/L		555.6	ND	102	75-125	0.7	20
Boron	580	ug/L		555.6	ND	104	75-125	0.1	20
Cadmium	554	ug/L		555.6	ND	100	75-125	0.4	20
Calcium	211	mg/L		5.556	206	86	75-125	2	20
Chromium	562	ug/L		555.6	ND	101	75-125	0.4	20
Cobalt	550	ug/L		555.6	1.11	99	75-125	0.2	20
Lead	545	ug/L		555.6	ND	98	75-125	0.4	20
Magnesium	114	mg/L	Q4	5.556	110	61	75-125	1	20
Mercury	55.3	ug/L		55.56	0.178	99	75-125	1	20
Molybdenum	532	ug/L		555.6	ND	96	75-125	1	20
Potassium	5.95	mg/L		5.556	0.370	100	75-125	0.06	20
Selenium	528	ug/L		555.6	ND	95	75-125	0.3	20
Sodium	20.3	mg/L		5.556	14.7	101	75-125	0.4	20
Thallium	543	ug/L		555.6	ND	98	75-125	0.3	20
<u>Batch B447606 - No Prep - SM 2320 B-2011</u>									
Duplicate (B447606-DUP1)									
Sample: HJ04540-01				Prepared & Analyzed: 11/04/24					
Alkalinity - carbonate as CaCO ₃	< 10	mg/L			ND				10
Alkalinity - bicarbonate as CaCO ₃	312	mg/L			325			4	10
Duplicate (B447606-DUP3)									
Sample: HJ04540-10				Prepared & Analyzed: 11/04/24					
Alkalinity - bicarbonate as CaCO ₃	388	mg/L			400			3	10
Alkalinity - carbonate as CaCO ₃	< 10	mg/L			ND				10
Duplicate (B447606-DUP4)									
Sample: HJ04816-01				Prepared & Analyzed: 11/04/24					
Alkalinity - bicarbonate as CaCO ₃	762	mg/L			738			3	10
Alkalinity - carbonate as CaCO ₃	< 10	mg/L			ND				10
Duplicate (B447606-DUP5)									
Sample: HJ04816-07				Prepared & Analyzed: 11/04/24					
Alkalinity - bicarbonate as CaCO ₃	325	mg/L			325			0	10
Alkalinity - carbonate as CaCO ₃	< 10	mg/L			ND				10
<u>Batch B447749 - No Prep - SM 4500-F C-2011</u>									
Calibration Blank (B447749-CCB1)									
				Prepared & Analyzed: 11/04/24					
Fluoride	0.0320	mg/L							
Calibration Blank (B447749-CCB2)									
				Prepared & Analyzed: 11/04/24					
Fluoride	0.0180	mg/L							
Calibration Check (B447749-CCV1)									
				Prepared & Analyzed: 11/04/24					
Fluoride	0.690	mg/L		0.7000		99	90-110		
Calibration Check (B447749-CCV2)									
				Prepared & Analyzed: 11/04/24					

QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Calibration Check (B447749-CCV2)				Prepared & Analyzed: 11/04/24					
Fluoride	0.688	mg/L		0.7000		98	90-110		
Matrix Spike (B447749-MS2)				Prepared & Analyzed: 11/04/24					
Fluoride	1.19	mg/L		1.000	0.203	98	80-120		
Matrix Spike Dup (B447749-MSD2)				Prepared & Analyzed: 11/04/24					
Fluoride	1.22	mg/L		1.000	0.203	102	80-120	3	20
<u>Batch B447870 - No Prep - SM 4500-F C-2011</u>									
Calibration Blank (B447870-CCB1)				Prepared & Analyzed: 11/06/24					
Fluoride	0.0320	mg/L							
Calibration Blank (B447870-CCB2)				Prepared & Analyzed: 11/06/24					
Fluoride	0.0320	mg/L							
Calibration Check (B447870-CCV1)				Prepared & Analyzed: 11/06/24					
Fluoride	0.657	mg/L		0.7000		94	90-110		
Calibration Check (B447870-CCV2)				Prepared & Analyzed: 11/06/24					
Fluoride	0.701	mg/L		0.7000		100	90-110		
Matrix Spike (B447870-MS1)				Prepared & Analyzed: 11/06/24					
Fluoride	1.17	mg/L		1.000	ND	117	80-120		
Matrix Spike Dup (B447870-MSD1)				Prepared & Analyzed: 11/06/24					
Fluoride	1.20	mg/L		1.000	ND	120	80-120	3	20

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

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



Certified by: Diane Billings, Project Manager



HJ04540

CHAIN-OF-CUSTODY / Analytical Request Document

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

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Section A Required Client Information:

Company:	Vistra Corp-Duck Creek	Report To:	Brian Voelker	Attention:	Brian Voelker
Address:	17751 North Cicco Rd	Copy To:	Sam Davies: samantha.davies@vistracorp.com	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Daryl Johnson: Robert.Johnson@vistracorp.com	Address:	see Section A	
Phone:	(217) 753-8911	Purchase Order No.:		Quote Reference:	
	Fax:	Project Name:		Project Manager:	
Requested Due Date/TAT:	10 day	Project Number:		Profile #:	

Section B Required Project Information:

NPDES	GROUND WATER	DRINKING WATER	OTHER
UST	RCRA		
Site Location	STATE:	IL	

Section C Invoice Information:

REGULATORY AGENCY	
Requested Analysis	Filtered (Y/N)

ITEM #	Section D Required Client Information	Valid Matrix Codes										MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Y/N ↑	Requested Analysis Filtered (Y/N)										Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS			
DC-24Q4 Rev 0				10/23/24		10/18				10/23/24		1618		Received on	Temp in °C	Sealed Cooler	Samples Intact
														Y		Y	Y

SAMPLER NAME AND SIGNATURE		DATE Signed (MM/DD/YYYY):	
PRINT Name of SAMPLER: HALEY DESKE		10/23/24	
SIGNATURE of SAMPLER:			

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

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[illegible]

field team

SAR-3: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
BA01C	DC_BA01!C	10/14/24	1250	16.47		ABP
BA01L	DC_BA01!L	10/14/24	1248	17.24		ABP
G02BS	DC_G02*BS	10/14/24	1444	18.21		JD
G02D	DC_G02&D	10/14/24	1445	24.54		JD
G02L	DC_G02!L	10/14/24	1447	16.47		JD
G03L	DC_G03!L	10/14/24	1451	14.06		JD
G03S	DC_G03#S	10/14/24	1452	13.71		JD
G04L	DC_G04!L	10/14/24	1443	16.70		JB
G04S	DC_G04#S	10/14/24	1445	20.80		JB
G06L	DC_G06!L	10/14/24	0936	22.96		JB
G06S	DC_G06#S	10/14/24	0931	23.34	was not locked	JB
G07L	DC_G07!L	10/14/24	0923	22.14		JB
G08L	DC_G08!L	10/14/24	0944	21.63		JB
G09L	DC_G09!L	10/14/24	0955	21.97		JB
G09S	DC_G09#S	10/14/24	0958	21.98		JB
G12L	DC_G12!L	10/14/24	1050	22.51		JB
G12S	DC_G12#S	10/14/24	1056	24.23		JB
G14L	DC_G14!L	10/14/24	1038	25.89		JB
G15L	DC_G15!L	10/14/24	1228	32.80		JB
G15S	DC_G15#S	10/14/24	1229	33.15		JB
G16L	DC_G16!L	10/14/24	1240	31.20		JB
G50L	DC_G50!L	10/14/24	1535	Dry		KMD
G51L	DC_G51!L	10/14/24	1417	19.40		KMD
G52L	DC_G52!L	10/14/24	1430	27.20		KMD
G52S	DC_G52#S	10/14/24	1428	31.58		KMD
G53L	DC_G53!L	10/14/24	1330	16.75		KMD
G53S	DC_G53#S	10/14/24	1329	18.24		KMD
G54C	DC_G54!C	10/14/24	1515	36.78		KMD
G55L	DC_G55!L	10/14/24	1505	22.30		KMD
G55S	DC_G55#S	10/14/24	1504	22.24		KMD
G56L	DC_G56!L	10/14/24	1253	21.82		KMD
G56S	DC_G56#S	10/14/24	1252	22.44		KMD
G57L	DC_G57!L	10/14/24	1246	24.32		KMD
G58L	DC_G58!L	10/14/24	1237	27.65		KMD
G58S	DC_G58#S	10/14/24	1236	27.80		KMD
G59L	DC_G59!L	10/14/24	1218	26.73		KMD
G59S	DC_G59#S	10/14/24	1216	34.20		KMD
G61S	DC_G61#S	10/14/24	1204	23.64		KMD
G62L	DC_G62!L	10/14/24	1136	23.65		KMD

SAR-3: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
G63L	DC_G63!L	10/14/24	1129	24.64		KMD
G63S	DC_G63#S	10/14/24	1132	25.60		KMD
G65L	DC_G65!L	10/14/24	1102	20.92		KMD
G65S	DC_G65#S	10/14/24	1101	21.22		KMD
G66L	DC_G66!L	10/14/24	1046	19.55		KMD
G66S	DC_G66#S	10/14/24	1045	20.12		KMD
G67L	DC_G67!L	10/14/24	1052	16.74		KMD
G67S	DC_G67#S	10/14/24	1053	17.64		KMD
G68L	DC_G68!L	10/14/24	1447	15.58		KMD
G68S	DC_G68#S	10/14/24	1446	16.68		KMD
G69L	DC_G69!L	10/14/24	1437	17.87		KMD
G69S	DC_G69#S	10/14/24	1440	20.66		KMD
G70L	DC_G70!L	10/14/24	1015	21.38		KMD
G71L	DC_G71!L	10/14/24	1020	26.80		KMD
G71S	DC_G71#S	10/14/24	1018	27.44		KMD
G72L	DC_G72!L	10/14/24	1030	26.49		KMD
G73L	DC_G73!L	10/14/24	1514	27.79		JO
L103	DC_L103	10/14/24	1519	2.16		APP
OM05S	DC_OM05#S	10/14/24	1341	21.93		APP
OM08	DC_OM08	10/14/24	1254	13.88		JO
OM09	DC_OM09	10/14/24	1056	4.56		JO
OM10	DC_OM10	10/14/24	1208	14.35		JO
OM100D	DC_OM100&D	10/14/24	1146	14.15		JO
OM100S	DC_OM100#S	10/14/24	1145	14.33		JO
OM101D	DC_OM101&D	10/14/24	1014	19.23		APP
OM101S	DC_OM101#S	10/14/24	1013	18.59		APP
OM12D	DC_OM12&D	10/14/24	1248	18.00		JO
OM15	DC_OM15	10/14/24	1139	22.63		JO
OM15D	DC_OM15&D	10/14/24	1138	25.71		JO
OM17D	DC_OM17&D	10/14/24	1202	17.25		JO
OM22S	DC_OM22#S	10/14/24	1048	20.14		JO
OM23S	DC_OM23#S	10/14/24	1031	42.76		JO
OM25D	DC_OM25&D	10/14/24	1021	58.62		JO
OM26	DC_OM26	10/14/24	1113	32.40		JO
OM27	DC_OM27	10/14/24	1107	33.57		JO
OM28	DC_OM28	10/14/24	1103	47.98		JO
OR03S	DC_OR03#S	10/14/24	1320	45.89		JO
OR05D	DC_OR05&D	10/14/24	1339	23.10		APP
OR14S	DC_OR14#S	10/14/24	1343	8.56		JO

SAR-3: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
OR18	DC_OR18	10/14/24	1130	19.39		JD
P01I	DC_P01\$I	10/14/24	1520	16.41		JB
P01L	DC_P01IL	10/14/24	1524	17.09		JB
P01S	DC_P01#S	10/14/24	1522	16.74		JB
P02S	DC_P02#S	10/14/24	1444	18.21	Same as 602BS	JD
P04S	DC_P04#S	10/14/24	1445	20.80	Same as 604S	JB
P05D	DC_P05&D	10/14/24	1430	7.63		JB
P05L	DC_P05IL	10/14/24	1432	7.45		JB
P05S	DC_P05#S	10/14/24	1428	7.35		JB
P36D	DC_P36&D	10/14/24	1207	12.74		JB
P36L	DC_P36IL	10/14/24	1206	12.45		JB
P36S	DC_P36#S	10/14/24	1204	12.57		JB
P37D	DC_P37&D	10/14/24	1108	16.71		JB
P37L	DC_P37IL	10/14/24	1115	Dry	Top of pump	JB
P38L	DC_P38IL	10/14/24	1215	19.49		JB
P38S	DC_P38#S	10/14/24	1217	19.64		JB
P39D	DC_P39&D	10/14/24	1339	14.85		JB
P39L	DC_P39IL	10/14/24	1341	9.73		JB
P39S	DC_P39#S	10/14/24	1338	9.95		JB
P40L	DC_P40IL	10/14/24	1405	17.14		JB
P40S	DC_P40#S	10/14/24	1403	16.30		JB
P41D	DC_P41&D	10/14/24	1454	35.68		APP
P41I1	DC_P41\$I1	10/14/24	1453	13.58		APP
P41I2	DC_P41\$I2	10/14/24	1451	35.90		APP
P41L	DC_P41IL	10/14/24	1457	11.67		APP
P41S	DC_P41#S	10/14/24	1456	13.29		APP
P42D	DC_P42&D	10/14/24	1457	24.14		APP
P42I1	DC_P42\$I1	10/14/24	1459	11.56		APP
P42I2	DC_P42\$I2	10/14/24	1458	33.42		APP
P42L	DC_P42IL	10/14/24	1501	10.65		APP
P42S	DC_P42#S	10/14/24	1500	11.14		APP
P52	DC_P52	10/14/24	1519	17.81		JD
P57L	DC_P57IL	10/14/24	1420	18.71		JD
P57S	DC_P57#S	10/14/24	1418	18.39		JD
P60	DC_P60	10/14/24	1809	25.00		APP
P61	DC_P61	10/14/24	1347	16.74		APP
P62	DC_P62	10/14/24	1119	14.62		APP
P63	DC_P63	10/14/24	1124	15.85		APP
P64	DC_P64	10/14/24	1355	17.60		APP

SAR-3: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Comments	Initials
R10L	DC_R10!L	10/14/24	1005	23.02	Not marked	JB
R11L	DC_R11!L	10/14/24	1009	22.24		JB
R13L	DC_R13!L	10/14/24	1022	23.17		JB
R61L	DC_R61!L	10/14/24	1202	22.97		KMD
R72S	DC_R72#S	10/14/24	1027	26.66		SD
T43L	DC_T43!L	10/14/24	1127	8.09		JB
T44L	DC_T44!L	10/14/24	1132	12.24		JB
T45L	DC_T45!L	10/14/24	1152	11.23		JB
T46L	DC_T46!L	10/14/24	1158	8.36		JB
X301	DC_X301_leachate	10/14/24	1530	48		App

SAR-4: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Serial Number	Does Data Logger Serial No Match?	WL Reading on Transducer (ft)	Data downloaded?	Batt (H/M/L/R)	Comments	Initials
BA01	DC_BA01	10/14/24	12:45	17.05	21615533	yes	570.4207	yes	M		App
BA02	DC_BA02	10/14/24	13:01	12.66	21615636	yes	567.5209	yes	H		App
BA02L	DC_BA02IL	10/14/24	12:57	12.47	21615682	yes	567.6332	yes	M		App
BA03	DC_BA03	10/14/24	10:56	12.50	21615637	yes	566.1495	yes	M		App
BA03L	DC_BA03IL	10/14/24	12:11	7.55	21615687	yes	0.0017	No	R	replaced batteries no data	App
BA04	DC_BA04	10/14/24	10:40	8.33	21615631	yes	570.0896	yes	M		App
BA05	DC_BA05#	10/14/24	12:37	22.47	21615540	yes	573.5125	yes	M		App
BA06	DC_BA06	10/14/24	12:29	23.45	21615525	yes	572.0574	yes	M		App
G02S	DC_G02#S	10/14/24	14:42	14.06	21615554	yes	607.8053	yes	H		SD
G50S	DC_G50#S	10/14/24	15:33	18.89	21615535	yes	604.8652	yes	H		KMD
G51S	DC_G51#S	10/14/24	14:19	18.83	21615691	yes	598.6650	yes	H		KMD
G54L	DC_G54IL	10/14/24	10:03	25.54	21615690	yes	598.1588	yes	H		KMD
G54S	DC_G54#S	10/14/24	10:02	24.72	21615684	yes	597.5105	yes	H		KMD
G57S	DC_G57#S	10/14/24	12:45	24.02	21615683	yes	598.5564	yes	H		KMD
G60L	DC_G60IL	10/14/24	13:08	17.72	21615678	yes	596.5620	yes	H		KMD
G60S	DC_G60#S	10/14/24	13:06	25.54	21615677	yes	584.3862	yes	H		KMD
G64L	DC_G64IL	10/14/24	13:20	23.86	21615688	yes	598.4718	yes	H		KMD
G64S	DC_G64#S	10/14/24	13:22	25.06	21615632	yes	598.0279	yes	M		KMD
OM01	DC_OM01	10/14/24	13:07	12.38	21615685	yes	582.8097	yes	H		SD
OM04S	DC_OM04#S	10/14/24	13:29	20.70	21615542	yes	586.5418	yes	M		SD
OM07	DC_OM07	10/14/24	13:09	12.43	21921676	yes	584.3670	yes	H		App
OM12	DC_OM12	10/14/24	13:59	17.07	21926670	yes	578.6861	yes	H		SD
OM16	DC_OM16	10/14/24	11:55	27.62	21615539	yes	581.4107	yes	H		SD
OM17	DC_OM17	10/14/24	12:01	14.89	21615693	yes	576.0035	yes	L		SD
OM21	DC_OM21	10/14/24	13:35	12.13	21615593	yes	594.2720	yes	H		SD
OM22D	DC_OM22&D	10/14/24	10:46	19.88	21615592	yes	579.2247	yes	H		SD
OM23D	DC_OM23&D	10/14/24	10:29	38.79	21615591	yes	574.5273	yes	H		SD
OM24D	DC_OM24&D	10/14/24	10:11	5.83	21615522	yes	571.1287	yes	H		SD
OM25S	DC_OM25#S	10/14/24	10:18	58.63	21615681	yes	570.5934	yes	H		SD

SAR-4: Plant Sampling and Analysis Request

Event: DC-24Q4

Date Generated: 09/16/2024

All episodic water levels on SAR-3 and SAR-4 must be collected within a 24 hour period.

Well	Unique ID	Date	Time	Measured Depth to Water (ft bmp)	Serial Number	Does Data Logger Serial No Match?	WL Reading on Transducer (ft)	Data downloaded?	Batt (H/M/L/R)	Comments	Initials
OR02	DC_OR02	10/14/24	1313	8.24	21615679	yes	583.0969	yes	H		SD
OR03D	DC_OR03&D	10/14/24	1318	45.37	21615577	yes	582.5450	yes	H		SD
OR04D	DC_OR04&D	10/14/24	1328	21.84	21615570	yes	585.8407	yes	H		SD
OR06A	DC_OR06IA	10/14/24	1314	15.09	21615692	yes	580.3470	yes	M		AP
OR11	DC_OR11	10/14/24	1232	32.20	21615686	yes	564.1113	yes	M		SD
OR13D	DC_OR13&D	10/14/24	1414	14.60	21564135	yes	587.9433	yes	M		AP
OR13S	DC_OR13#S	10/14/24	1412	14.72	21615676	yes	587.8021	yes	H		AP
OR14D	DC_OR14&D	10/14/24	1340	11.98	21615611	yes	587.1492	yes	H		SD
OR19	DC_OR19	10/14/24	1244	23.98	21615634	yes	574.8393	yes	H		SD
OR20	DC_OR20	10/14/24	1226	22.36	21615610	yes	565.2091	yes	H		SD
RG01	DC_RG01	10/14/24	0930		21628685	yes		yes	-		AP

Duck Creek

WELL/SAMPLE POINT **BA01**

Purge Method: **BLADDER**

Date: **10/23/24** Start Time: **0951**

Last Quarter: Dedicated Bladder

Finish/Sample Time: **1135**

Well Depth (Bottom) From MP: **30.3** ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: **17.36** ft

Total Purge Volume: **1600** mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: **0.02** 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	1010	17.38	100	9.98	894	13.50	28	4.91	39.0
2	1013	17.38	100	9.97	886	13.48	27	4.88	34.5
3	1016	17.38	100	9.90	882	13.44	19	4.84	27.5
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: _____

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)
2	Rad (P, 2.5L, HNO3)

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

Final DTW: **17.38** ft

Comments **FIELD DOPE TAKEN HERE**

Sampler's Signature: _____

Duck Creek

WELL/SAMPLE POINT BA02

Purge Method: BLADDER

Date: 10/23/24 Start Time: 1123

Last Quarter: Dedicated Bladder
Finish/Sample Time: 1235

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 13.03 ft

Total Purge Volume: 1400 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 2.81 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	1140	14.93	100	7.98	817	15.41	94	2.01	45.3
2	1143	15.17	100	7.88	822	15.17	106	2.00	38.3
3	1146	15.26	100	7.89	820	15.20	100	2.01	33.0
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: _____

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)

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

Final DTW: 15.84 ft

Comments

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **BA02L**

Purge Method: Dedicated Peristaltic Tubing

Date: 10/23/24 Start Time: 9:49

Last Quarter: Dedicated Peristaltic Tubing

Finish/Sample Time: 10:03

Well Depth (Bottom) From MP: 14.35 ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 12.80 ft

Total Purge Volume: — mL

Water Column Length: 1.65 ft

Well Water Volume: 0.94 L

Total Drawdown: — ft AP

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									
2									
3									
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: —

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)

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

Final DTW: 12.80 ft

Comments Too dry to sample

Sampler's Signature: [Signature]

Per Hakab Deshe

AP

Duck Creek

WELL/SAMPLE POINT **BA02L**

Purge Method: peristaltic

Date: 28-Oct-24 Start Time: 10:00 Last Quarter: Dedicated Peristaltic Tubing
Finish/Sample Time: 10:00

Well Depth (Bottom) From MP: 14.35 ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 12.93 ft

Total Purge Volume: mL

Water Column Length: 1.42 ft

Well Water Volume: 0.86 L

Total Drawdown: 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									
2									
3									
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter:

Check pH if reading is below 6.9 or above 7.7

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

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

Final DTW: 12.93 ft

Comments: not enough water to sample

App

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **BA03**

Purge Method: **BLADDER**

Date: **10/23/24**

Start Time: **1230**

Last Quarter: Dedicated Bladder

Finish/Sample Time: **1345**

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: **1000** mL

Depth to Water From MP: **12.55** ft

Total Purge Volume: **1600** mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: **0.55** 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	1253	13.10	100	7.76	756	15.27	-8	7.35	416.4
2	1256	13.10	100	7.74	756	15.22	-8	7.32	46.6
3	1259	13.10	100	7.72	756	15.33	-3	7.34	42.9
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**

AP

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, H2SO4)
1	General (P,500mL)
	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: **13.10** ft

Comments **7.65 pH ON OAKTON**

Sampler's Signature: _____



Duck Creek

WELL/SAMPLE POINT **BA03L**

Purge Method: **BLADDER**

Last Quarter: Dedicated Bladder

Date: **10/23/24**

Start Time: **1330**

Finish/Sample Time: **1343**

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: **1000** mL

Depth to Water From MP: _____ ft

Total Purge Volume: _____ mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: _____ ft

Reading (Units)	Time	Depth ft.	Flow Rate mL/min	pH s.u.	Spec Cond umhos/cm	Temp deg C	ORP mV	DO mg/L	Turb NTU
1									
2									
3									
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: _____

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)

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

Final DTW: _____ ft

Comments

DTW UNDER PUMP AT 9.74 FT. CANT GET WATER FROM WELL

Sampler's Signature: _____

Duck Creek

WELL/SAMPLE POINT **BA03L**

Purge Method: Bladder

Date: 28-Oct-24 Start Time: 18:09

Last Quarter: Dedicated Bladder
Finish/Sample Time: 18:09

Well Depth (Bottom) From MP: _____ ft

Min. Purge Volume: 1000 mL

Depth to Water From MP: 9.99 ft

Total Purge Volume: — mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 0.00 ft

Reading	Time	Depth	Flow Rate	pH	Spec Cond	Temp	ORP	DO	Turb
(Units)		ft.	mL/min	s.u.	umhos/cm	deg C	mV	mg/L	NTU
1									
2									
3									
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: _____

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

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

Final DTW: 9.99 ft

Comments: Could not reach water with measurement. Hit top of the pump at 9.99 ft

Sampler's Signature: _____

AP

Duck Creek

WELL/SAMPLE POINT **BA04**

Purge Method: **BLADDER**

Date: **10/24/24** Start Time: **1200** Last Quarter: Dedicated Bladder Finish/Sample Time: **1340**

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

Depth to Water From MP: **8.661** ft Total Purge Volume: **1500** mL

Water Column Length: _____ ft

Well Water Volume: _____ L Total Drawdown: **0.04** ft

Reading (Units)	Time	Depth ft.	Flow Rate mL/min	pH s.u.	Spec Cond umhos/cm	Temp deg C	ORP mV	DO mg/L	Turb NTU
1	1233	8.65	100	7.53	1040	16.40	99	0.0	3.6
2	1236	8.65	100	7.53	1040	16.34	93	0.0	4.5
3	1239	8.65	100	7.53	1050	16.33	90	0.0	5.0
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: _____

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)

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

Final DTW: **8.65**
0.04 ft
RMD

Comments

Sampler's Signature: 

Duck Creek

WELL/SAMPLE POINT **BA05**

Purge Method: Bladder

Date: 10/24/24 Start Time: 1100 Last Quarter: Dedicated Bladder Finish/Sample Time: 1215

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

Depth to Water From MP: 22.57 ft Total Purge Volume: 1600 mL

Water Column Length: _____ ft

Well Water Volume: _____ L

Total Drawdown: 2.39 ft AP

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	1124	24.00	100	7.64	1440	14.24	-30	0.0	66.3
2	1127	24.27	100	7.58	1450	14.19	-36	0.0	46.8
3	1130	24.50	100	7.54	1460	14.20	-37	0.0	28.4
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: _____

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)

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

Final DTW: 24.96 ft

Comments

Sampler's Signature: [Signature]

Duck Creek

WELL/SAMPLE POINT **BA06**

Purge Method: BLADDER

Date: 10/23/24 Start Time: 1351 Last Quarter: Dedicated Bladder Finish/Sample Time: 1459

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

Depth to Water From MP: 24.11 ft Total Purge Volume: 1600 mL

Water Column Length: ft

Well Water Volume: L Total Drawdown: 4.81 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	1413	26.55	100	7.34	2760	15.29	17	0.0	28.5
2	1416	26.87	100	7.24	2750	15.19	13	0.0	27.6
3	1419	27.24	100	7.26	2750	15.20	10	0.0	24.9
4									
5									
Stabilization	NA	NA	NA	± 0.2	± 3%	± 0.2	± 20	± 10% or 0.2	NA

Field Meter: 1602-BA

Check pH if reading is below 6.9 or above 7.7

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, H2SO4)
1	General (P,500mL)
	General (P,1000mL)
	TOC (A,V, 40mL, H2SO4)

Final DTW: 28.92 ft

Comments

Sampler's Signature: [Signature]

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Austin Moore</u>				Location: <u>Duck creek</u>					
Weather: <u>57°-37° mostly sunny wind 13mph N</u>				Environment: <u>Grass</u>					
Multiparameter Water Meter		Make: <u>Horiba</u>	Model: <u>U-5000</u>	Serial Number: <u>3T85NNNF</u>					
Water Level Meter		Make: <u>WT</u>	Model: <u>Hecron</u>	Serial Number: <u>19FF2202131ML</u>					

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>3.81</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>Y</u>	<u>4.00</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>6.82</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>Y</u>	<u>7.00</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.18</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>Y</u>	<u>10.00</u>	MSI	024037-01	2/21/2026
SC Zero (DI)	<u>353</u>	µS/cm	0<25 µS/cm	<u>F</u>	<u>Y</u>	<u>21</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2000</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	<u>—</u>	Proactive	3GJ1438	Oct-24
ORP	<u>240</u>	mV	±15 mV	<u>P</u>	<u>N</u>	<u>—</u>	Reagents	8406644	Apr-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>P</u>	<u>N</u>	<u>—</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>98.3</u>	%	97-100%	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>1.3</u>	NTU	<2 NTU	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>0917</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.88</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.94</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>9.94</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>960</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>1541</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>3.97</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>6.99</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	024037-01	2/21/2026
SC 1000	<u>970</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	<u>—</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>N</u>	<u>—</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:	
Signature: <u>Clayton M</u>	Date: <u>15-Oct-24</u>

Multiparameter Meter Field Calibration Checklist

Field Personnel: JD				Location: Duck Creek					
Weather: 40-56°F Partly cloudy NW-25mph				Environment: Grass, woods					
Multiparameter Water Meter		Make: Aquafall	Model: 600	Serial Number: 762215					
Water Level Meter		Make: Hero 1	Model: Dipper-T	Serial Number: 11FF2209305ML					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.04	s.u.	±0.1 s.u.	P	N	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.	I	I	I	MSI	023334-01	12/7/2025
pH 10.00a	10.01	s.u.	±0.1 s.u.	I	I	I	MSI	024037-01	2/21/2026
SC Zero (DI)	6.19	µS/cm	0<25 µS/cm	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2011.0	µS/cm	±5%	I	I	I	Proactive	3GJ1438	Oct-24
ORP	250.2	mV	±15 mV	I	I	I	Reagents	8406644	Apr-25
DO (Zero pt)	0.08	mg/L	±0.1	I	I	I	Macron	#000228049	8/26/2025
DO (Saturated)	97.21	%	97-100%	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.06	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0924				
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	6.90	s.u.	±0.15 s.u.	I	I	Proactive	3GE1252	May-25	
pH 10.00b	10.08	s.u.	±0.15 s.u.	I	I	Geotech	3GA1134	Jan-25	
SC 1000	1037.8	µS/cm	±5%	I	I	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1553				
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	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.08	s.u.	±0.1 s.u.	I	I	I	MSI	023334-01	12/7/2025
pH 10.00a	10.03	s.u.	±0.1 s.u.	I	I	I	MSI	024037-01	2/21/2026
SC 1000	1042.8	µS/cm	±5%	I	I	I	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.07	mg/L	±0.1 mg/L	I	I	I	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/15/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KALEB DESKE		Location: DUCK CREEK							
Weather: 42°Sunny 12mi N		Environment: GRASSY							
Multiparameter Water Meter	Make: HORIBA	Model: U-5000	Serial Number: AGJTK4XG						
Water Level Meter	Make: SOLINST	Model: WT	Serial Number: 33459						
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	5.78	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	NA	MSI	023334-01	12/7/2025
pH 10.00a	9.98	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	12	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	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)	99	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	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: 0947				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	8.98	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1074	May-25	
pH 7.00b	6.99	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25	
pH 10.00b	10.00	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: 1517				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.01	s.u.	±0.1 s.u.	PASS	NO	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.00	s.u.	±0.1 s.u.				MSI	023334-01	12/7/2025
pH 10.00a	9.98	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)	0.0	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	1.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/15/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Aaron Remberton</u>		Location: <u>Duck Creek</u>							
Weather: <u>44° - 60° Sun + Wind Smpk NW</u>		Environment: <u>grass, dust</u>							
Multiparameter Water Meter	Make: <u>Hanna</u>	Model: <u>US500</u>	Serial Number: <u>3785NNNF</u>						
Water Level Meter	Make: <u>Heron</u>	Model: <u>Dipart</u>	Serial Number: <u>19FF2202 131 ML</u>						
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.02</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>YES</u>	<u>0.0</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>6.92</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>-</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>9.99</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>-</u>	MSI	024037-01	2/21/2026
SC Zero (DI)	<u>20</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>NO</u>	<u>-</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2080</u>	µS/cm	±5%	<u>P</u>	<u>NO</u>	<u>-</u>	Proactive	3GJ1438	Oct-24
ORP	<u>230</u>	mV	±15 mV	<u>P</u>	<u>NO</u>	<u>-</u>	Reagents	8406644	Apr-25
DO (Zero pt)	<u>0.08</u>	mg/L	±0.1	<u>P</u>	<u>NO</u>	<u>-</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>73.2</u>	%	97-100%	<u>P</u>	<u>yes</u>	<u>100.0</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>41.0</u>	NTU	<2 NTU	<u>P</u>	<u>YES</u>	<u>0.0</u>	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
ICV (Initial Calibration Verification)						Time: <u>0954</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.06</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>-</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.84</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>-</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>10.04</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>-</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>958</u>	µS/cm	±5%	<u>P</u>	<u>-</u>	Spectrum	2NA0024	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):						Time: <u>1524</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.04</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>-</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.04</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>-</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.09</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>-</u>	MSI	024037-01	2/21/2026
SC 1000	<u>964</u>	µS/cm	±5%	<u>P</u>	<u>NO</u>	<u>-</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.09</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>NO</u>	<u>-</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>NO</u>	<u>-</u>	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature: <u>[Signature]</u>						Date: <u>10/16/24</u>			

Multiparameter Meter Field Calibration Checklist

Field Personnel: SD				Location: Duck Creek					
Weather: 48-63°F m, sunny wind NW 7-12 mph				Environment: grass, woods					
Multiparameter Water Meter		Make: Aquafall	Model: 600	Serial Number: 762215					
Water Level Meter		Make: Hein	Model: Dipper-5	Serial Number: 11FF22093054L					
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	Y	4.08	MSI	023219-02	8/9/2025
pH 7.00a	6.95	s.u.	±0.1 s.u.	P	N	NA	MSI	023334-01	12/7/2025
pH 10.00a	9.93	s.u.	±0.1 s.u.	I	I	I	MSI	024037-01	2/21/2026
SC Zero (DI)	6.17	µS/cm	0<25 µS/cm	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2060.7	µS/cm	±5%	I	I	I	Proactive	3GJ1438	Oct-24
ORP	242.2	mV	±15 mV	I	I	I	Reagents	8406644	Apr-25
DO (Zero pt)	0.09	mg/L	±0.1	I	I	I	Macron	#000228049	8/26/2025
DO (Saturated)	98.21	%	97-100%	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0938				
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.	I	I	Proactive	3GE1252	May-25	
pH 10.00b	9.99	s.u.	±0.15 s.u.	I	I	Geotech	3GA1134	Jan-25	
SC 1000	1038.2	µS/cm	±5%	I	I	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1538				
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	N	NA	MSI	023219-02	8/9/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.	I	I	I	MSI	023334-01	12/7/2025
pH 10.00a	9.99	s.u.	±0.1 s.u.	I	I	I	MSI	024037-01	2/21/2026
SC 1000	1044.4	µS/cm	±5%	I	I	I	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	mg/L	±0.1 mg/L	I	I	I	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/16/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>KALEB DESKE</u>			Location: <u>DUCK CREEK</u>						
Weather: <u>40° Sunny, Overcast</u>			Environment: <u>Grassy</u>						
Multiparameter Water Meter		Make: <u>HANNA</u>	Model:	Serial Number: <u>AGJTK4XG</u>					
Water Level Meter		Make: <u>SOLINST</u>	Model: <u>WT</u>	Serial Number: <u>53459</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>6.58</u>	s.u.	±0.1 s.u.	<u>FAIL</u>	<u>YES</u>	<u>4.00</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.55</u>	s.u.	±0.1 s.u.	<u>FAIL</u>	<u>YES</u>	<u>7.00</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>8.20</u>	s.u.	±0.1 s.u.	<u>FAIL</u>	<u>YES</u>	<u>10.00</u>	MSI	024037-01	2/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm	<u>PASS</u>	<u>NO</u>	<u>NA</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2020</u>	µS/cm	±5%	<u>FAIL</u>	<u>YES</u>	<u>2000</u>	Proactive	3GJ1438	Oct-24
ORP	<u>253</u>	mV	±15 mV	<u>FAIL</u>	<u>YES</u>	<u>250</u>	Reagents	8406644	Apr-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>FAIL</u>	<u>YES</u>	<u>0.0</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>9.8</u>	%	97-100%	<u>FAIL</u>	<u>YES</u>	<u>100</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>FAIL</u>	<u>YES</u>	<u>0.0</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>0924</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.01</u>	s.u.	±0.15 s.u.	<u>PASS</u>	<u>NO</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>7.03</u>	s.u.	±0.15 s.u.	<u>FAIL</u>	<u>YES</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>9.99</u>	s.u.	±0.15 s.u.	<u>FAIL</u>	<u>YES</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>11000</u>	µS/cm	±5%	<u>FAIL</u>	<u>1000</u>	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>1528</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.01</u>	s.u.	±0.1 s.u.	<u>PASS</u>	<u>NO</u>	<u>NA</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.02</u>	s.u.	±0.1 s.u.	<u>FAIL</u>	<u>YES</u>	<u>7.00</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.00</u>	s.u.	±0.1 s.u.	<u>FAIL</u>	<u>YES</u>	<u>10.00</u>	MSI	024037-01	2/21/2026
SC 1000	<u>1000</u>	µS/cm	±5%	<u>FAIL</u>	<u>YES</u>	<u>1000</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>FAIL</u>	<u>YES</u>	<u>0.0</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>1.00</u>	NTU	<2 NTU	<u>FAIL</u>	<u>YES</u>	<u>0.0</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <u>[Signature]</u>	Date: <u>10/16/24</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <i>Aaron Pemberton</i>				Location: <i>Duck Creek</i>					
Weather: <i>47°-66° Windy S 7mph</i>				Environment: <i>Grass, Just woods</i>					
Multiparameter Water Meter		Make: <i>Horiba</i>	Model: <i>US000</i>	Serial Number: <i>378SNNWF</i>					
Water Level Meter		Make: <i>Horiba</i>	Model: <i>Dipper-7</i>	Serial Number: <i>19FF2202131ML</i>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<i>3.98</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	023310-01	11/10/2025
pH 7.00a	<i>7.02</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	024145-01	5/29/2026
pH 10.00a	<i>10.01</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	024072-02	3/21/2026
SC Zero (DI)	<i>10</i>	µS/cm	0<25 µS/cm	<i>P</i>	<i>NO</i>	<i>-</i>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<i>1950</i>	µS/cm	±5%	<i>P</i>	<i>NO</i>	<i>-</i>	Proactive	3GJ1438	Oct-24
ORP	<i>236</i>	mV	±15 mV	<i>P</i>	<i>NO</i>	<i>-</i>	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	<i>0.09</i>	mg/L	±0.1	<i>P</i>	<i>NO</i>	<i>-</i>	Macron	#000228049	8/26/2025
DO (Saturated)	<i>98.2</i>	%	97-100%	<i>P</i>	<i>NO</i>	<i>-</i>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<i>0.0</i>	NTU	<2 NTU	<i>P</i>	<i>NO</i>	<i>-</i>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <i>0951</i>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<i>3.99</i>	s.u.	±0.15 s.u.	<i>P</i>	<i>-</i>	Proactive	3GE1074	May-25	
pH 7.00b	<i>6.85</i>	s.u.	±0.15 s.u.	<i>P</i>	<i>-</i>	Proactive	3GE1252	May-25	
pH 10.00b	<i>10.00</i>	s.u.	±0.15 s.u.	<i>P</i>	<i>-</i>	Geotech	3GA1134	Jan-25	
SC 1000	<i>975</i>	µS/cm	±5%			Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <i>1354</i>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<i>4.03</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	023310-01	11/10/2025
pH 7.00a	<i>7.01</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	024145-01	5/29/2026
pH 10.00a	<i>10.07</i>	s.u.	±0.1 s.u.	<i>P</i>	<i>NO</i>	<i>-</i>	MSI	024072-02	3/21/2026
SC 1000	<i>963</i>	µS/cm	±5%	<i>P</i>	<i>NO</i>	<i>-</i>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<i>0.04</i>	mg/L	±0.1 mg/L	<i>P</i>	<i>NO</i>	<i>-</i>	Macron	#000228049	8/26/2025
Turbidity (DI)	<i>0.0</i>	NTU	<2 NTU	<i>P</i>	<i>NO</i>	<i>-</i>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <i>[Signature]</i>	Date: <i>10/17/2024</i>
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Multiparameter Meter Field Calibration Checklist									
Field Personnel: AW				Location: Duck Creek					
Weather: Sunny 43°-66° 6 mph Wind S				Environment: Grassy, muddy					
Multiparameter Water Meter		Make: Hori	Model: V-5000	Serial Number: V7320PKK					
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	4.37	s.u.	±0.1 s.u.	F	yes	4.00	MSI	023310-01	11/10/2025
pH 7.00a	6.60	s.u.	±0.1 s.u.	F	yes	7.00	MSI	024145-01	5/29/2026
pH 10.00a	10.02	s.u.	±0.1 s.u.	P	NO	N/A	MSI	024072-02	3/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	NO		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	1930	µS/cm	±5%	P	NO		Proactive	3GJ1438	Oct-24
ORP	248	mV	±15 mV	P	NO		In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1	P	NO		Macron	#000228049	8/26/2025
DO (Saturated)	98.3	%	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									
ICV (Initial Calibration Verification)					Time: 9:20				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	3.89	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1074	May-25	
pH 7.00b	7.13	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1252	May-25	
pH 10.00b	10.10	s.u.	±0.15 s.u.	P	NO	Geotech	3GA1134	Jan-25	
SC 1000	1030	µS/cm	±5%	P	NO	Spectrum	2NA0056	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):					Time: 14:30				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.93	s.u.	±0.1 s.u.	P	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	7.05	s.u.	±0.1 s.u.	P			MSI	024145-01	5/29/2026
pH 10.00a	10.02	s.u.	±0.1 s.u.	P			MSI	024072-02	3/21/2026
SC 1000	1020	µS/cm	±5%	P			Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	P			Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P			Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature: [Signature]					Date: 10/17/24				

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>SD</u>				Location: <u>Duck Creek</u>					
Weather: <u>48-66 F rising and 55-47-20 mph</u>				Environment: <u>grass, woods</u>					
Multiparameter Water Meter		Make: <u>Aquasoll</u>	Model: <u>600</u>	Serial Number: <u>762215</u>					
Water Level Meter		Make: <u>Heron</u>	Model: <u>Dipper-T</u>	Serial Number: <u>11FF2209305ML</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.00</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>No</u>	<u>NA</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.95</u>	s.u.	±0.1 s.u.	<u>L</u>	<u>L</u>	<u>L</u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>9.94</u>	s.u.	±0.1 s.u.	<u>L</u>	<u>L</u>	<u>L</u>	MSI	024072-02	3/21/2026
SC Zero (DI)	<u>6.05</u>	µS/cm	0<25 µS/cm	<u>L</u>	<u>L</u>	<u>L</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>1993.3</u>	µS/cm	±5%	<u>L</u>	<u>L</u>	<u>L</u>	Proactive	3GJ1438	Oct-24
ORP	<u>248.0</u>	mV	±15 mV	<u>L</u>	<u>L</u>	<u>L</u>	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	<u>0.09</u>	mg/L	±0.1	<u>L</u>	<u>L</u>	<u>L</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>98.71</u>	%	97-100%	<u>L</u>	<u>L</u>	<u>L</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.00</u>	NTU	<2 NTU	<u>L</u>	<u>L</u>	<u>L</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)				Time: <u>0930</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.95</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NA</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.85</u>	s.u.	±0.15 s.u.	<u>L</u>	<u>L</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>10.01</u>	s.u.	±0.15 s.u.	<u>L</u>	<u>L</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>1008.2</u>	µS/cm	±5%	<u>L</u>	<u>L</u>	Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

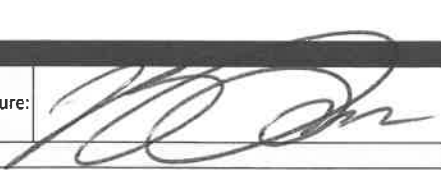
CCV (Continued Calibration Verification):				Time: <u>1413</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.02</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>No</u>	<u>NA</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.98</u>	s.u.	±0.1 s.u.	<u>L</u>	<u>L</u>	<u>L</u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>10.05</u>	s.u.	±0.1 s.u.	<u>L</u>	<u>L</u>	<u>L</u>	MSI	024072-02	3/21/2026
SC 1000	<u>1009.5</u>	µS/cm	±5%	<u>L</u>	<u>L</u>	<u>L</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.09</u>	mg/L	±0.1 mg/L	<u>L</u>	<u>L</u>	<u>L</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.00</u>	NTU	<2 NTU	<u>L</u>	<u>L</u>	<u>L</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <u>[Signature]</u>	Date: <u>10/17/24</u>
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AP

Multiparameter Meter Field Calibration Checklist									
Field Personnel: KALEB DESKE				Location: DUCK CREEK					
Weather: 43° Sunny 6 mph S				Environment: GRASS					
Multiparameter Water Meter		Make: HORIBA	Model: U5000	Serial Number: AGJTK4XG					
Water Level Meter		Make: SOLINST	Model: WT	Serial Number: 33459					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.81	s.u.	±0.1 s.u.	FAIL	YES	4.00	MSI	023219-02	8/9/2025
pH 7.00a	7.04	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023334-01	12/7/2025
pH 10.00a	10.01	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC Zero (DI)	13	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%				Proactive	3GI1438	Oct-24
ORP	232	mV	±15 mV				Reagents	8406644	Apr-25
DO (Zero pt)	0.0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.0	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
ICV (Initial Calibration Verification)					Time: 0735				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.00	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1074	May-25	
pH 7.00b	7.02	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25	
pH 10.00b	9.65	s.u.	±0.15 s.u.	FAIL	YES 10.00	Geotech	3GA1134	Jan-25	
SC 1000	999	µS/cm	±5%	PASS	NO	Spectrum	2NA0024	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):					Time: 1413				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	PASS	NO	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	9.99	s.u.	±0.1 s.u.				MSI	024037-01	2/21/2026
SC 1000	997	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)	0.80	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature:  Date: 10/16/24									

17 APR 10/17/24

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>AW</u>				Location: <u>Duck Creek</u>					
Weather: <u>Sunny 57°-79° 5 mph Wind S</u>				Environment: <u>Grassy, gravel</u>					
Multiparameter Water Meter		Make: <u>Hanna</u>	Model: <u>U5000</u>	Serial Number: <u>V7320PKR</u>					
Water Level Meter		Make: <u>Hecan</u>	Model: <u>Dipper-T</u>	Serial Number: <u>3717-T</u>					

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.29</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>3.99</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.59</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>7.01</u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>10.18</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>10.02</u>	MSI	024072-02	3/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>NO</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2020</u>	µS/cm	±5%	<u>P</u>	<u>NO</u>	<u>N/A</u>	Proactive	3GJ1438	Oct-24
ORP	<u>252</u>	mV	±15 mV	<u>P</u>	<u>NO</u>	<u>N/A</u>	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>P</u>	<u>NO</u>	<u>N/A</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>99.4</u>	%	97-100%	<u>P</u>	<u>NO</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>NO</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>9:30</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.94</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NO</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.97</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>↓</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>10.03</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>↓</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>1020</u>	µS/cm	±5%	<u>P</u>	<u>↓</u>	Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>15:20</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.05</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>N/A</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>7.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>↓</u>	<u>↓</u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>10.07</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>↓</u>	<u>↓</u>	MSI	024072-02	3/21/2026
SC 1000	<u>1010</u>	µS/cm	±5%	<u>P</u>	<u>↓</u>	<u>↓</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>↓</u>	<u>↓</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>↓</u>	<u>↓</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <u>[Signature]</u>	Date: <u>10/21/24</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>KALEB DESKE</u>				Location: <u>DUCK CREEK</u>					
Weather: <u>56° Sunny? 5 mph S</u>				Environment: <u>GRASS</u>					
Multiparameter Water Meter		Make: <u>HORIBA</u>	Model: <u>U-5000</u>	Serial Number: <u>A3JTK4XG</u>					
Water Level Meter		Make: <u>SOLING</u>	Model: <u>WT</u>	Serial Number: <u>33459</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.01</u>	s.u.	±0.1 s.u.	<u>PASS</u>	<u>NO</u>	<u>N/A</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.98</u>	s.u.	±0.1 s.u.				MSI	024145-01	5/29/2026
pH 10.00a	<u>10.00</u>	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2000</u>	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	<u>231</u>	mV	±15 mV				In-Situ	4GJ0045	Jul-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	<u>99</u>	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>1.03</u>	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>0929</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>4.08</u>	s.u.	±0.15 s.u.	<u>PASS</u>	<u>NO</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.99</u>	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25	
pH 10.00b	<u>9.97</u>	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25	
SC 1000	<u>1000</u>	µS/cm	±5%			Spectrum	2NA0056	Dec-25	

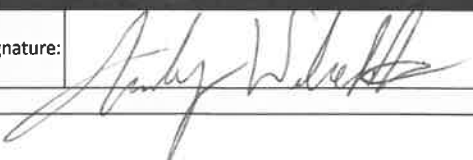
Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>1528</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.05</u>	s.u.	±0.1 s.u.	<u>PASS</u>	<u>NO</u>	<u>N/A</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>7.02</u>	s.u.	±0.1 s.u.				MSI	024145-01	5/29/2026
pH 10.00a	<u>10.00</u>	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
SC 1000	<u>1000</u>	µS/cm	±5%				Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L				Macron	#000228049	8/26/2025
Turbidity (DI)	<u>1.00</u>	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: <u>10/21/24</u>
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Multiparameter Meter Field Calibration Checklist									
Field Personnel: AW				Location: Duck Creek					
Weather: Mostly Cloudy 57°-75° 10 mph Wind South				Environment: Grassy, gravel					
Multiparameter Water Meter		Make: Horiba	Model: U-5000	Serial Number: V7320PKK					
Water Level Meter		Make: Aeron	Model: Digester	Serial Number: 3717-T					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	7.58	s.u.	±0.1 s.u.	F	yes	4.00	MSI	023310-01	11/10/2025
pH 7.00a	6.08	s.u.	±0.1 s.u.	F	yes	7.00	MSI	024145-01	5/29/2026
pH 10.00a	9.97	s.u.	±0.1 s.u.	P	NO	N/A	MSI	024072-02	3/21/2026
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	2050	µS/cm	±5%	P	NO	N/A	Proactive	3GJ1438	Oct-24
ORP	248	mV	±15 mV	P	NO		In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1	P	NO	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	97.7	%	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: 9:08				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.95	s.u.	±0.15 s.u.	F	yes / 3.99	Proactive	3GE1074	May-25	
pH 7.00b	6.90	s.u.	±0.15 s.u.	F	NO	Proactive	3GE1252	May-25	
pH 10.00b	9.96	s.u.	±0.15 s.u.	P	NO	Geotech	3GA1134	Jan-25	
SC 1000	1020	µS/cm	±5%	P	NO	Spectrum	2NA0056	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):					Time: 1:09				
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	N/A	MSI	023310-01	11/10/2025
pH 7.00a	6.05	s.u.	±0.1 s.u.	P	↓	↓	MSI	024145-01	5/29/2026
pH 10.00a	9.96	s.u.	±0.1 s.u.	P	↓	↓	MSI	024072-02	3/21/2026
SC 1000	1030	µS/cm	±5%	P	↓	↓	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	P	↓	↓	Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	↓	↓	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature: 				Date: 10/22/24					

Multiparameter Meter Field Calibration Checklist									
Field Personnel: KALEB DESKE				Location: DUCK CREEK					
Weather: 56° Cloudy 10 MAY 5				Environment: GRASS					
Multiparameter Water Meter		Make: HORIBA	Model: U5000	Serial Number: AGJTK4XG					
Water Level Meter		Make: SOLINST	Model: WT	Serial Number: 33459					
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	023310-01	11/10/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	024145-01	5/29/2026
pH 10.00a	10.00	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	024072-02	3/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	PASS	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%	PASS	NO	N/A	Proactive	3GJ1438	Oct-24
ORP	232	mV	±15 mV	PASS	NO	N/A	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1	PASS	NO	N/A	Macron	#000228049	8/26/2025
DO (Saturated)	99	%	97-100%	PASS	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.20	NTU	<2 NTU	PASS	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
ICV (Initial Calibration Verification)					Time: 0959				
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	7.02	s.u.	±0.15 s.u.	PASS	NO	Proactive	3GE1252	May-25	
pH 10.00b	9.97	s.u.	±0.15 s.u.	PASS	NO	Geotech	3GA1134	Jan-25	
SC 1000	1000	µS/cm	±5%	PASS	NO	Spectrum	2NA0056	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):					Time: 1509				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.99	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	024145-01	5/29/2026
pH 10.00a	10.02	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	024072-02	3/21/2026
SC 1000	1000	µS/cm	±5%	PASS	NO	N/A	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	PASS	NO	N/A	Macron	#000228049	8/26/2025
Turbidity (DI)	0.83	NTU	<2 NTU	PASS	NO	N/A	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature: 				Date: 10/23/24					

APP 10/23/24

Multiparameter Meter Field Calibration Checklist									
Field Personnel: AW				Location: Duck Creek					
Weather: Cloudy 55°-65° 13mph Wind NW				Environment: Grassy, Gravel					
Multiparameter Water Meter		Make: Horiba	Model: U-5000	Serial Number: V7320PKK					
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	4.09	s.u.	±0.1 s.u.	P	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	6.92	s.u.	±0.1 s.u.	P	NO	↓	MSI	024145-01	5/29/2026
pH 10.00a	9.97	s.u.	±0.1 s.u.	P	NO		MSI	024072-02	3/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm	P	NO		Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2030	µS/cm	±5%	P	NO		Proactive	3GJ1438	Oct-24
ORP	245	mV	±15 mV	P	NO		In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1	P	NO		Macron	#000228049	8/26/2025
DO (Saturated)	97.8	%	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									
ICV (Initial Calibration Verification)				Time: 9:03					
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	3.98	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1074	May-25	
pH 7.00b	6.90	s.u.	±0.15 s.u.	P	NO	Proactive	3GE1252	May-25	
pH 10.00b	9.94	s.u.	±0.15 s.u.	P	NO	Geotech	3GA1134	Jan-25	
SC 1000	1040	µS/cm	±5%	P	NO	Spectrum	2NA0056	Dec-25	
Approx. every 8 hrs, unless only one well									
CCV (Continued Calibration Verification):				Time: 15:05					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.05	s.u.	±0.1 s.u.	P	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	6.98	s.u.	±0.1 s.u.	P	↓	↓	MSI	024145-01	5/29/2026
pH 10.00a	10.01	s.u.	±0.1 s.u.	P			MSI	024072-02	3/21/2026
SC 1000	1010	µS/cm	±5%	P			Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.0	mg/L	±0.1 mg/L	P			Macron	#000228049	8/26/2025
Turbidity (DI)	0.0	NTU	<2 NTU	P	↓	↓	Pace Labs	N/A (DI)	N/A (DI)
Approx. every 8 hrs, unless only one well									
Comments:									
Signature: 				Date: 10/23/24					

Multiparameter Meter Field Calibration Checklist

Field Personnel: JD				Location: Duck Creek					
Weather: 56-67°F p. sunny wind NW 14-25 mph				Environment: grass, woods					
Multiparameter Water Meter		Make: Aquatro	Model: 600	Serial Number: 762215					
Water Level Meter		Make: Heron	Model: Dipper-T	Serial Number: 11FF2209305ML					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	3.96	s.u.	±0.1 s.u.	P	N	NA	MSI	023310-01	11/10/2025
pH 7.00a	6.96	s.u.	±0.1 s.u.	P	N	NA	MSI	024145-01	5/29/2026
pH 10.00a	9.88	s.u.	±0.1 s.u.	F	Y	10.04	MSI	024072-02	3/21/2026
SC Zero (DI)	5.09	µS/cm	0<25 µS/cm	P	N	NA	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2043.0	µS/cm	±5%	I	I	I	Proactive	3GJ1438	Oct-24
ORP	238.1	mV	±15 mV	I	I	I	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.09	mg/L	±0.1	I	I	I	Macron	#000228049	8/26/2025
DO (Saturated)	98.01	%	97-100%	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 5:10				
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	6.85	s.u.	±0.15 s.u.	I	I	Proactive	3GE1252	May-25	
pH 10.00b	9.97	s.u.	±0.15 s.u.	I	I	Geotech	3GA1134	Jan-25	
SC 1000	1014.4	µS/cm	±5%	I	I	Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1:50				
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.	NA	MSI	023310-01	11/10/2025
pH 7.00a	6.99	s.u.	±0.1 s.u.	I	I	I	MSI	024145-01	5/29/2026
pH 10.00a	10.06	s.u.	±0.1 s.u.	I	I	I	MSI	024072-02	3/21/2026
SC 1000	1036.1	µS/cm	±5%	I	I	I	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.08	mg/L	±0.1 mg/L	I	I	I	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/23/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KALEB DESKE				Location: DUCK CREEK					
Weather: 55° CLOUDY 13ma NNW				Environment: Grass					
Multiparameter Water Meter		Make: HORIBA	Model: 05000	Serial Number: AGJTK4XG					
Water Level Meter		Make: SOLINST	Model: WT	Serial Number: 33459					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	5.50	s.u.	±0.1 s.u.	FAIL	YES	4.00	MSI	023310-01	11/10/2025
pH 7.00a	7.03	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	024145-01	5/29/2026
pH 10.00a	10.04	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
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	232	mV	±15 mV				In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	99	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.00	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0918				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.00	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	1010	µS/cm	±5%			Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1505				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.00	s.u.	±0.1 s.u.	PASS	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.				MSI	024145-01	5/29/2026
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
SC 1000	1000	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)	0.13	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:									
Signature: 				Date: 10/23/24					

Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>AW</u>				Location: <u>Duck Creek</u>					
Weather: <u>Sunny 46°-68° 4mph wind SE</u>				Environment: <u>Grassy, gravel</u>					
Multiparameter Water Meter		Make: <u>Horiwa</u>	Model: <u>U-5000</u>	Serial Number: <u>V7320PRK</u>					
Water Level Meter		Make: <u>Heron</u>	Model: <u>Dipper-T</u>	Serial Number: <u>3717-T</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>5.09</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>4.00</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.00</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>7.00</u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>10.12</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>yes</u>	<u>10.00</u>	MSI	024072-02	3/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>NO</u>	<u>N/A</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2010</u>	µS/cm	±5%	<u>P</u>	<u>NO</u>	<u> </u>	Proactive	3GJ1438	Oct-24
ORP	<u>245</u>	mV	±15 mV	<u>P</u>	<u>NO</u>	<u> </u>	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>P</u>	<u>NO</u>	<u> </u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>100%</u>	%	97-100%	<u>P</u>	<u>NO</u>	<u> </u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>NO</u>	<u>↓</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>9:17</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.77</u>	s.u.	±0.15 s.u.	<u>F</u>	<u>yes / 4.00</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>6.98</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NO</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>9.97</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>NO</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>1010</u>	µS/cm	±5%	<u>P</u>	<u>NO</u>	Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>15:10</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.08</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>NO</u>	<u>N/A</u>	MSI	023310-01	11/10/2025
pH 7.00a	<u>6.95</u>	s.u.	±0.1 s.u.	<u>P</u>	<u> </u>	<u> </u>	MSI	024145-01	5/29/2026
pH 10.00a	<u>10.05</u>	s.u.	±0.1 s.u.	<u>P</u>	<u> </u>	<u> </u>	MSI	024072-02	3/21/2026
SC 1000	<u>1020</u>	µS/cm	±5%	<u>P</u>	<u> </u>	<u> </u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>P</u>	<u>↓</u>	<u>↓</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>↓</u>	<u>↓</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:									
Signature: <u>[Signature]</u>					Date: <u>10/24/24</u>				

Multiparameter Meter Field Calibration Checklist

Field Personnel: JD				Location: Duck Creek					
Weather: 36 - 70 °F m. sunny wind SSE 7-15 mph				Environment: grass, woods					
Multiparameter Water Meter		Make: Aquatrail	Model: 600	Serial Number: 762215					
Water Level Meter		Make: Heron	Model: D-919-T	Serial Number: 11FF 2209305ML					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.18	s.u.	±0.1 s.u.	F	Y	4.00	MSI	023310-01	11/10/2025
pH 7.00a	6.97	s.u.	±0.1 s.u.	P	N	NA	MSI	024145-01	5/29/2026
pH 10.00a	10.06	s.u.	±0.1 s.u.	I	I	I	MSI	024072-02	3/21/2026
SC Zero (DI)	5.89	µS/cm	0<25 µS/cm	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2027.1	µS/cm	±5%	I	I	I	Proactive	3GJ1438	Oct-24
ORP	241.6	mV	±15 mV	I	I	I	In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.07	mg/L	±0.1	I	I	I	Macron	#000228049	8/26/2025
DO (Saturated)	99.25	%	97-100%	I	I	I	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time:	0730			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.05	s.u.	±0.15 s.u.	P	NA	Proactive	3GE1074	May-25	
pH 7.00b	6.86	s.u.	±0.15 s.u.	I	I	Proactive	3GE1252	May-25	
pH 10.00b	9.96	s.u.	±0.15 s.u.	I	I	Geotech	3GA1134	Jan-25	
SC 1000	1019.2	µS/cm	±5%	I	I	Spectrum	2NA0056	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	4.03	s.u.	±0.1 s.u.	P	N	NA	MSI	023310-01	11/10/2025
pH 7.00a	7.01	s.u.	±0.1 s.u.	I	I	I	MSI	024145-01	5/29/2026
pH 10.00a	10.06	s.u.	±0.1 s.u.	I	I	I	MSI	024072-02	3/21/2026
SC 1000	1030.6	µS/cm	±5%	I	I	I	Spectrum	2NA0024	Dec-25
DO (Zero pt)	0.09	mg/L	±0.1 mg/L	I	I	I	Macron	#000228049	8/26/2025
Turbidity (DI)	0.00	NTU	<2 NTU	I	I	I	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/24/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: KALEB DESIKE				Location: DUCK CREEK					
Weather: 44° Sunny 4 mph ESE				Environment: GRASSY					
Multiparameter Water Meter		Make: HORIBA	Model: U5000	Serial Number: AGJTK4XB					
Water Level Meter		Make: Solinst	Model: WT	Serial Number: 33459					
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	023310-01	11/10/2025
pH 7.00a	7.00	s.u.	±0.1 s.u.				MSI	024145-01	5/29/2026
pH 10.00a	9.99	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
SC Zero (DI)	0.0	µS/cm	0<25 µS/cm				Pace Labs	N/A (DI)	N/A (DI)
SC 2000	2000	µS/cm	±5%				Proactive	3GJ1438	Oct-24
ORP	232	mV	±15 mV				In-Situ	4GJ0045	Jul-25
DO (Zero pt)	0.0	mg/L	±0.1				Macron	#000228049	8/26/2025
DO (Saturated)	98	%	97-100%				Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	1.13	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: 0908				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	4.00	s.u.	±0.15 s.u.	Pass	NO	Proactive	3GE1074	May-25	
pH 7.00b	7.02	s.u.	±0.15 s.u.			Proactive	3GE1252	May-25	
pH 10.00b	10.01	s.u.	±0.15 s.u.			Geotech	3GA1134	Jan-25	
SC 1000	998	µS/cm	±5%			Spectrum	2NA0056	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: 1504				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	4.02	s.u.	±0.1 s.u.	Pass	NO	N/A	MSI	023310-01	11/10/2025
pH 7.00a	6.99	s.u.	±0.1 s.u.				MSI	024145-01	5/29/2026
pH 10.00a	10.00	s.u.	±0.1 s.u.				MSI	024072-02	3/21/2026
SC 1000	1000	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)	0.52	NTU	<2 NTU				Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: 	Date: 10/24/24
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Austin Maple</u>				Location: <u>Duck Creek</u>					
Weather: <u>64°-49° mostly sunny wind 3 mph SW</u>				Environment: <u>landfill grassy</u>					
Multiparameter Water Meter		Make: <u>Horioba</u>	Model: <u>V-5000</u>	Serial Number: <u>AGJTKTXG</u>					
Water Level Meter		Make: <u>WT</u>	Model: <u>Heron</u>	Serial Number: <u>19FF2202131ML</u>					
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.06</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.03</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.08</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	024037-01	2/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2050</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	<u>I</u>	Proactive	3GJ1438	Oct-24
ORP	<u>245</u>	mV	±15 mV	<u>I</u>	<u>I</u>	<u>I</u>	Reagents	8406644	Apr-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>I</u>	<u>I</u>	<u>I</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>98.6</u>	%	97-100%	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)					Time: <u>0941</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.98</u>	s.u.	±0.15 s.u.	<u>P</u>	<u>N</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>7.02</u>	s.u.	±0.15 s.u.	<u>I</u>	<u>I</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>10.04</u>	s.u.	±0.15 s.u.	<u>I</u>	<u>I</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>1020</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):					Time: <u>1435</u>				
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.08</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>N/A</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.06</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.01</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>I</u>	MSI	024037-01	2/21/2026
SC 1000	<u>1010</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	<u>I</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>I</u>	<u>I</u>	<u>I</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>	<u>I</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <u><i>Austin Maple</i></u>	Date: <u>28-Oct-24</u>
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Multiparameter Meter Field Calibration Checklist

Field Personnel: <u>Austin Moore</u>				Location: <u>Duck Creek, Edwards Power Station</u>					
Weather: <u>82°-65° mostly sunny wind 16 mph</u>				Environment: <u>Grassy</u>					
Multiparameter Water Meter		Make: <u>Hanna</u>	Model: <u>U-5000</u>	Serial Number: <u>AG-JTKTXG</u>					
Water Level Meter		Make: <u>WT</u>	Model: <u>Heron</u>	Serial Number: <u>19FF2202131ML</u>					

Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>3.58</u>	s.u.	±0.1 s.u.	<u>F</u>	<u>Y</u>	<u>3.95</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.04</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	024037-01	2/21/2026
SC Zero (DI)	<u>0.0</u>	µS/cm	0<25 µS/cm	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)
SC 2000	<u>2010</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	<u>—</u>	Proactive	3GJ1438	Oct-24
ORP	<u>238</u>	mV	±15 mV	<u>P</u>	<u>N</u>	<u>—</u>	Reagents	8406644	Apr-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1	<u>P</u>	<u>N</u>	<u>—</u>	Macron	#000228049	8/26/2025
DO (Saturated)	<u>99.2</u>	%	97-100%	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>P</u>	<u>N</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

ICV (Initial Calibration Verification)						Time: <u>0918</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Action Taken?	Manufacturer	Lot#	Exp.	
pH 4.00b	<u>3.72</u>	s.u.	±0.15 s.u.	<u>F</u>	<u>Y 4.00</u>	Proactive	3GE1074	May-25	
pH 7.00b	<u>7.23</u>	s.u.	±0.15 s.u.	<u>F</u>	<u>Y 7.00</u>	Proactive	3GE1252	May-25	
pH 10.00b	<u>10.46</u>	s.u.	±0.15 s.u.	<u>F</u>	<u>Y 10.00</u>	Geotech	3GA1134	Jan-25	
SC 1000	<u>975</u>	µS/cm	±5%	<u>P</u>	<u>N</u>	Spectrum	2NA0024	Dec-25	

Approx. every 8 hrs, unless only one well

CCV (Continued Calibration Verification):						Time: <u>1600</u>			
Buffer	Check Value	Units	Range	Pass/Fail	Calibrate?	Adjusted Reading	Manufacturer	Lot#	Exp.
pH 4.00a	<u>4.03</u>	s.u.	±0.1 s.u.	<u>P</u>	<u>N</u>	<u>—</u>	MSI	023219-02	8/9/2025
pH 7.00a	<u>7.02</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>—</u>	MSI	023334-01	12/7/2025
pH 10.00a	<u>10.02</u>	s.u.	±0.1 s.u.	<u>I</u>	<u>I</u>	<u>—</u>	MSI	024037-01	2/21/2026
SC 1000	<u>1010</u>	µS/cm	±5%	<u>I</u>	<u>I</u>	<u>—</u>	Spectrum	2NA0024	Dec-25
DO (Zero pt)	<u>0.0</u>	mg/L	±0.1 mg/L	<u>I</u>	<u>I</u>	<u>—</u>	Macron	#000228049	8/26/2025
Turbidity (DI)	<u>0.0</u>	NTU	<2 NTU	<u>I</u>	<u>I</u>	<u>—</u>	Pace Labs	N/A (DI)	N/A (DI)

Approx. every 8 hrs, unless only one well

Comments:

Signature: <u>Austin M</u>	Date: <u>29-Oct-24</u>
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Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

December 15, 2024

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

Dear Daryl Johnson:

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

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

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

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

Diane Billings
Project Manager

SAMPLE RECEIPT CHECK LIST

Items not applicable will be marked as in compliance

Work Order	HJ03213
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YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided

Work Order HJ03510

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

Work Order HJ03767

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

Work Order HJ04301

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

Work Order HJ04568

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

Work Order HJ04994

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
YES	Case narrative provided

Case Narrative

The original report dated 12/3/24 was revised to update the sample collection time for R61L.

ANALYTICAL RESULTS

Sample: HJ03213-01
Name: OM101S
Matrix: Ground Water - Grab

Sampled: 10/15/24 11:04
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.406 J	pCi/L			1	0.623	11/08/24 20:15	PACE	904.0 903.0
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Sample: HJ03213-02
Name: OM101D
Matrix: Ground Water - Grab

Sampled: 10/15/24 12:06
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.54	pCi/L			1	0.598	11/08/24 20:15	PACE	904.0 903.0
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Sample: HJ03213-03
Name: OM100S
Matrix: Ground Water - Grab

Sampled: 10/15/24 13:55
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.24	pCi/L			1	0.528	11/09/24 00:31	PACE	904.0 903.0
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Sample: HJ03213-04
Name: OM100D
Matrix: Ground Water - Grab

Sampled: 10/15/24 14:43
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.649	pCi/L			1	0.569	11/09/24 00:31	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ03213-05
Name: OM04S
Matrix: Ground Water - Grab

Sampled: 10/15/24 15:45
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.512 U	pCi/L			1	0.461	11/09/24 00:31	PACE	904.0 903.0
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Sample: HJ03213-06
Name: G50S
Matrix: Ground Water - Grab

Sampled: 10/15/24 11:19
Received: 10/15/24 16:57
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.594 J	pCi/L			1	1.35	11/13/24 17:54	PACE	904.0 903.0
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Sample: HJ03510-01
Name: OM16
Matrix: Ground Water - Grab

Sampled: 10/16/24 10:54
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.2	pCi/L			1	0.567	11/13/24 17:55	PACE	904.0 903.0
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Sample: HJ03510-02
Name: OM17D
Matrix: Ground Water - Grab

Sampled: 10/16/24 11:44
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.57	pCi/L			1	0.486	11/13/24 17:55	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ03510-03
Name: OM21
Matrix: Ground Water - Grab

Sampled: 10/16/24 13:15
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.55	pCi/L			1	0.587	11/13/24 17:55	PACE	904.0 903.0
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Sample: HJ03510-04
Name: OM24D
Matrix: Ground Water - Grab

Sampled: 10/16/24 14:20
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.16	pCi/L			1	0.659	11/13/24 17:55	PACE	904.0 903.0
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Sample: HJ03510-05
Name: OR02
Matrix: Ground Water - Grab

Sampled: 10/16/24 15:13
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.31	pCi/L			1	0.715	11/13/24 17:55	PACE	904.0 903.0
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Sample: HJ03510-06
Name: G57S
Matrix: Ground Water - Grab

Sampled: 10/16/24 13:50
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.01	pCi/L			1	0.616	11/13/24 17:55	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ03510-07
Name: G54S
Matrix: Ground Water - Grab

Sampled: 10/16/24 12:51
Received: 10/16/24 16:40
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	2.11	pCi/L			1	1.04	11/13/24 17:55	PACE	904.0 903.0
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Sample: HJ03767-01
Name: G61S
Matrix: Ground Water - Grab

Sampled: 10/17/24 13:10
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.753	pCi/L			1	0.655	11/15/24 14:02	PACE	904.0 903.0
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Sample: HJ03767-02
Name: G60S
Matrix: Ground Water - Grab

Sampled: 10/17/24 11:56
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.73	pCi/L			1	0.611	11/15/24 14:02	PACE	904.0 903.0
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Sample: HJ03767-03
Name: G60L
Matrix: Ground Water - Grab

Sampled: 10/17/24 11:02
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.480 J	pCi/L			1	0.853	11/15/24 14:02	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ03767-04
Name: OR03D
Matrix: Ground Water - Grab

Sampled: 10/17/24 12:28
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	3.95	pCi/L			1	0.746	11/21/24 17:05	PACE	904.0 903.0
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Sample: HJ03767-05
Name: OR04D
Matrix: Ground Water - Grab

Sampled: 10/17/24 11:16
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.21	pCi/L			1	0.965	11/15/24 14:02	PACE	904.0 903.0
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Sample: HJ03767-06
Name: OM23D
Matrix: Ground Water - Grab

Sampled: 10/17/24 13:25
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.418 J	pCi/L			1	0.701	11/15/24 14:02	PACE	904.0 903.0
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Sample: HJ03767-07
Name: OM12
Matrix: Ground Water - Grab

Sampled: 10/17/24 13:07
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.43	pCi/L			1	0.6	11/15/24 14:02	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ03767-08
Name: OM12D
Matrix: Ground Water - Grab

Sampled: 10/17/24 12:04
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.71	pCi/L			1	0.532	11/21/24 14:02	PACE	904.0 903.0
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Sample: HJ03767-09
Name: OM25S
Matrix: Ground Water - Grab

Sampled: 10/17/24 14:20
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.41	pCi/L			1	0.634	11/16/24 10:58	PACE	904.0 903.0
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Sample: HJ03767-10
Name: EB #1
Matrix: Ground Water - Grab

Sampled: 10/17/24 14:30
Received: 10/17/24 16:08
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.000 U	pCi/L			1	0.671	11/16/24 10:58	PACE	904.0 903.0
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Sample: HJ04301-01
Name: OR14D
Matrix: Ground Water - Grab

Sampled: 10/22/24 14:40
Received: 10/22/24 16:39
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.12	pCi/L			1	0.543	11/19/24 17:47	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04301-02
Name: P60
Matrix: Ground Water - Grab

Sampled: 10/22/24 13:41
Received: 10/22/24 16:39
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.49	pCi/L			1	0.795	11/19/24 17:47	PACE	904.0 903.0
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Sample: HJ04301-03
Name: G64L
Matrix: Ground Water - Grab

Sampled: 10/22/24 13:05
Received: 10/22/24 16:39
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.114 U	pCi/L			1	0.591	11/19/24 17:47	PACE	904.0 903.0
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Sample: HJ04301-04
Name: G64S
Matrix: Ground Water - Grab

Sampled: 10/22/24 14:40
Received: 10/22/24 16:39
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.13	pCi/L			1	0.503	11/19/24 17:47	PACE	904.0 903.0
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Sample: HJ04301-05
Name: G62L
Matrix: Ground Water - Grab

Sampled: 10/22/24 15:40
Received: 10/22/24 16:39
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.454	pCi/L			1	0.449	11/19/24 17:47	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04568-01
Name: G02S
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:20
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.276 U	pCi/L			1	0.819	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-02
Name: OR11
Matrix: Ground Water - Grab

Sampled: 10/23/24 13:48
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.558 J	pCi/L			1	0.91	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-03
Name: OR20
Matrix: Ground Water - Grab

Sampled: 10/23/24 15:08
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.452 J	pCi/L			1	0.685	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-04
Name: OR20 DUP
Matrix: Ground Water - Grab

Sampled: 10/23/24 15:08
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.627	pCi/L			1	0.612	11/20/24 16:35	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04568-05
Name: BA03
Matrix: Ground Water - Grab

Sampled: 10/23/24 13:45
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.430 J	pCi/L			1	0.433	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-06
Name: BA02
Matrix: Ground Water - Grab

Sampled: 10/23/24 12:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.343 J	pCi/L			1	0.53	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-07
Name: BA01
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.21	pCi/L			1	0.511	11/20/24 16:35	PACE	904.0 903.0
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Sample: HJ04568-08
Name: BA01 Dup
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:35
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.05	pCi/L			1	0.41	11/20/24 16:35	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04568-09
Name: BA06
Matrix: Ground Water - Grab

Sampled: 10/23/24 14:59
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.591	pCi/L			1	0.523	11/22/24 11:55	PACE	904.0 903.0
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Sample: HJ04568-10
Name: R61L
Matrix: Ground Water - Grab

Sampled: 10/23/24 11:52
Received: 10/23/24 16:18
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.381 J	pCi/L			1	0.571	11/22/24 11:55	PACE	904.0 903.0
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Sample: HJ04994-01
Name: G54L
Matrix: Ground Water - Grab

Sampled: 10/24/24 10:38
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.350 J	pCi/L			1	0.725	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-02
Name: BA04
Matrix: Ground Water - Grab

Sampled: 10/24/24 13:40
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.03	pCi/L			1	0.608	11/21/24 17:06	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04994-03
Name: BA05
Matrix: Ground Water - Grab

Sampled: 10/24/24 12:15
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.776	pCi/L			1	0.682	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-04
Name: G51S
Matrix: Ground Water - Grab

Sampled: 10/24/24 10:41
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.04	pCi/L			1	0.638	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-05
Name: Field Blank
Matrix: Ground Water - Grab

Sampled: 10/24/24 15:30
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.141 U	pCi/L			1	0.586	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-06
Name: OR13D
Matrix: Ground Water - Grab

Sampled: 10/24/24 12:59
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.834	pCi/L			1	0.728	11/21/24 17:06	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04994-07
Name: OR13S
Matrix: Ground Water - Grab

Sampled: 10/24/24 12:30
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.265 U	pCi/L			1	0.755	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-08
Name: OR19
Matrix: Ground Water - Grab

Sampled: 10/24/24 11:22
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.66	pCi/L			1	1.47	11/21/24 17:06	PACE	904.0 903.0
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Sample: HJ04994-09
Name: EB #2
Matrix: Ground Water - Grab

Sampled: 10/24/24 15:40
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.166 U	pCi/L			1	0.66	11/23/24 00:40	PACE	904.0 903.0
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Sample: HJ04994-10
Name: OM07
Matrix: Ground Water - Grab

Sampled: 10/24/24 08:49
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.896	pCi/L			1	0.707	11/23/24 00:40	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04994-11
Name: OR06A
Matrix: Ground Water - Grab

Sampled: 10/24/24 09:38
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.845	pCi/L			1	0.818	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-12
Name: OM22D
Matrix: Ground Water - Grab

Sampled: 10/24/24 11:35
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.87	pCi/L			1	0.985	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-13
Name: OM15D
Matrix: Ground Water - Grab

Sampled: 10/24/24 10:42
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1	pCi/L			1	0.933	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-14
Name: OM28
Matrix: Ground Water - Grab

Sampled: 10/24/24 12:45
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	1.94	pCi/L			1	1.22	11/23/24 13:13	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04994-15
Name: OM27
Matrix: Ground Water - Grab

Sampled: 10/24/24 13:45
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	2.63	pCi/L			1	1.56	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-16
Name: OM26
Matrix: Ground Water - Grab

Sampled: 10/24/24 14:23
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	4.18	pCi/L			1	1.91	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-17
Name: XPW01
Matrix: Ground Water - Grab

Sampled: 10/24/24 15:28
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	2.17	pCi/L			1	0.883	11/23/24 13:13	PACE	904.0 903.0
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Sample: HJ04994-18
Name: OM01
Matrix: Ground Water - Grab

Sampled: 10/24/24 14:10
Received: 10/24/24 16:29
PO #: 2438773/2438768

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

Rad 226 and 228-Subcontract	0.430 J	pCi/L			1	0.483	11/23/24 18:50	PACE	904.0 903.0
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ANALYTICAL RESULTS

Sample: HJ04994-19
Name: OM01 Dup
Matrix: Ground Water - Grab

Sampled: 10/24/24 14:10
Received: 10/24/24 16:29
PO #: 2438773/2438768

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Miscellaneous - Pace Analytical - Mt Juliet, Tn									
Rad 226 and 228-Subcontract	0.334 J	pCi/L			1	0.491	11/23/24 00:41	PACE	904.0 903.0

NOTES

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

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050

TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615

TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553

Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050



Certified by: Diane Billings, Project Manager



ANALYTICAL REPORT

November 22, 2024

Revised Report

Pace IR - Peoria, IL

Sample Delivery Group: L1790745
Samples Received: 10/18/2024
Project Number: HJ03213
Description:
Site: 01
Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:

Haley Torrence

Haley Torrence
Project Manager

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

Pace Analytical National

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

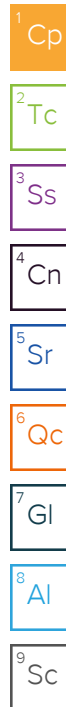
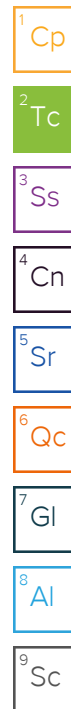


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SAMPLE SUMMARY

HJ03213-01 L1790745-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 11:04 10/18/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ03213-02 L1790745-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/08/24 20:15	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 12:06 10/18/24 09:00

HJ03213-03 L1790745-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 13:55 10/18/24 09:00

HJ03213-04 L1790745-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 14:43 10/18/24 09:00

HJ03213-05 L1790745-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2397322	1	11/07/24 12:51	11/09/24 00:31	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 15:45 10/18/24 09:00

HJ03213-06 L1790745-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2391148	1	10/29/24 19:31	11/06/24 17:23	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:54	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:54	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/15/24 11:19 10/18/24 09:00

CASE NARRATIVE

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

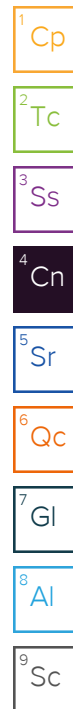


Haley Torrence
Project Manager

Report Revision History

Level II Report - Version 1: 11/14/24 17:34

Project Narrative



DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.329	J	0.279	0.500	0.514	0.270	11/06/2024 17:23	WG2391148
(T) Barium	85.2					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	94.7					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.406	J	0.352	0.623	11/08/2024 20:15	WG2397322

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0773	U	0.215	0.296	0.352	0.229	11/08/2024 20:15	WG2397322
(T) Barium-133	97.5					30.0-143	11/08/2024 20:15	WG2397322

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.43		0.333	0.656	0.572	0.305	11/06/2024 17:23	WG2391148
(T) Barium	76.9					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	99.2					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.54		0.359	0.598	11/08/2024 20:15	WG2397322

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.107	J	0.133	0.247	0.176	0.145	11/08/2024 20:15	WG2397322
(T) Barium-133	91.4					30.0-143	11/08/2024 20:15	WG2397322

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.957		0.234	0.444	0.407	0.215	11/06/2024 17:23	WG2391148
(T) Barium	90.1					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	101					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.24		0.354	0.528	11/09/2024 00:31	WG2397322

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.283	J	0.266	0.455	0.337	0.226	11/09/2024 00:31	WG2397322
(T) Barium-133	97.6					30.0-143	11/09/2024 00:31	WG2397322

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.194	U	0.259	0.484	0.483	0.255	11/06/2024 17:23	WG2391148
(T) Barium	84.4					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	92.6					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.649		0.396	0.569	11/09/2024 00:31	WG2397322

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.455		0.299	0.623	0.301	0.211	11/09/2024 00:31	WG2397322
(T) Barium-133	103					30.0-143	11/09/2024 00:31	WG2397322

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.0110	U	0.279	0.482	0.253	0.131	11/06/2024 17:23	WG2391148
(T) Barium	94.9					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	103					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0512	U	0.354	0.461	11/09/2024 00:31	WG2397322

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0512	U	0.218	0.312	0.385	0.257	11/09/2024 00:31	WG2397322
(T) Barium-133	90.9					30.0-143	11/09/2024 00:31	WG2397322

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.233	J	1.38	1.95	1.24	0.640	11/06/2024 17:23	WG2391148
(T) Barium	37.7					30.0-143	11/06/2024 17:23	WG2391148
(T) Yttrium	84.0					30.0-136	11/06/2024 17:23	WG2391148

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.594	J	1.44	1.35	11/13/2024 17:54	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.361	J	0.404	0.694	0.544	0.377	11/13/2024 17:54	WG2398293
(T) Barium-133	55.2					30.0-143	11/13/2024 17:54	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4143953-5 11/08/24 13:52

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.471	<u>U</u>	0.166	0.181	0.0939
(T) Barium	95.7		95.7		
(T) Yttrium	94.2		94.2		

L1790745-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1790745-06 11/06/24 17:23 • (DUP) R4143953-4 11/06/24 17:23

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	0.233	1.38	1.24	0.640	-0.0938	0.385	0.721	0.376	200	0.228	<u>U</u>	20	3
(T) Barium	37.7				94.8	94.8							
(T) Yttrium	84.0				101	101							

Laboratory Control Sample (LCS)

(LCS) R4143953-1 11/06/24 17:23

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			112		
(T) Yttrium			99.9		

L1789938-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789938-01 11/06/24 17:23 • (MS) R4143953-2 11/06/24 17:23 • (MSD) R4143953-3 11/06/24 17:23

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	3.74	20.3	20.1	99.1	97.7	1	70.0-130			1.19		20
(T) Barium		84.6			104	88.7							
(T) Yttrium		102			88.0	91.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4146049-1 11/08/24 20:15

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0136	<u>U</u>	0.0487	0.0853	0.0572
(T) Barium-133	96.5		96.5		

L1790745-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1790745-05 11/09/24 00:31 • (DUP) R4146049-5 11/08/24 20:15

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	0.0512	0.218	0.385	0.257	0.151	0.187	0.257	0.196	98.7	0.348	<u>J</u>	20	3
(T) Barium-133	90.9				85.6	85.6							

Laboratory Control Sample (LCS)

(LCS) R4146049-2 11/08/24 20:15

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.11	102	80.0-120	
(T) Barium-133			90.9		

L1790479-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790479-01 11/14/24 00:00 • (MS) R4146049-6 11/14/24 00:00 • (MSD) R4146049-7 11/14/24 00:00

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	0.0651	16.3	16.4	81.1	81.7	1	75.0-125			0.673		20
(T) Barium-133		88.5			95.2	98.4							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R4146022-1 11/13/24 17:54

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00265	<u>U</u>	0.0506	0.104	0.0718
(T) Barium-133	78.3		78.3		

L1790876-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1790876-06 11/13/24 17:55 • (DUP) R4146022-5 11/13/24 17:54

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	0.153	0.162	0.185	0.153	0.0187	0.252	0.460	0.300	156	0.448	<u>U</u>	20	3
(T) Barium-133	80.6				84.4	84.4							

Laboratory Control Sample (LCS)

(LCS) R4146022-2 11/13/24 17:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.90	98.1	80.0-120	
(T) Barium-133			85.9		

L1790751-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790751-01 11/13/24 17:54 • (MS) R4146022-3 11/13/24 17:54 • (MSD) R4146022-4 11/13/24 17:54

Analyte	Spike Amount Bq/l	Original Result Bq/l	MS Result Bq/l	MSD Result Bq/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	0.740	0.000	0.726	0.742	98.1	100	1	75.0-125			2.17		20
(T) Barium-133		92.4			98.2	101							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

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.

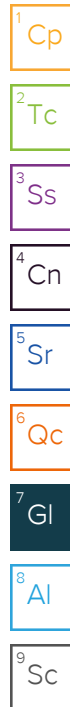
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

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



ACCREDITATIONS & LOCATIONS

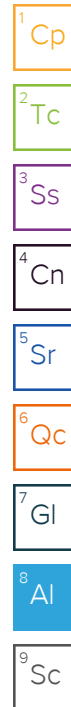
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER
Transfer Chain of Custody

C057

Pace Analytical Services, LLC

HJ03213

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

U790745

Sample: HJ03213-01
Name: OM101S

Sampled: 10/15/24 11:04
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 11:04	

Sample: HJ03213-02
Name: OM101D

Sampled: 10/15/24 12:06
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 12:06	

Sample: HJ03213-03
Name: OM100S

Sampled: 10/15/24 13:55
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 13:55	

Sample: HJ03213-04
Name: OM100D

Sampled: 10/15/24 14:43
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 14:43	

Sample: HJ03213-05
Name: OM04S

Sampled: 10/15/24 15:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 15:45	

SUBCONTRACT ORDER

Transfer Chain of Custody

Pace Analytical Services, LLC

HJ03213

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

L1790745

Sample: HJ03213-06
Name: G50S

Sampled: 10/15/24 11:19
Matrix: Ground Water
Preservative: HNO3, pH <2

-CL

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/28/24 16:00	04/13/25 11:19	

TLA9 12.0+0.3=12.3 7793 2152 4526

Sample Receipt Checklist

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

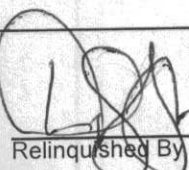
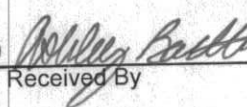
Containers: 6

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

Date Shipped: 10/17/24 Total # of Containers: 6 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☐ NORMAL ☐ RUSH

Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	_____ °C
	10/17/24 0630		10/18/2024 0900	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

November 20, 2024

Pace IR - Peoria, IL

Sample Delivery Group: L1790876

Samples Received: 10/18/2024

Project Number: HJ03510

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

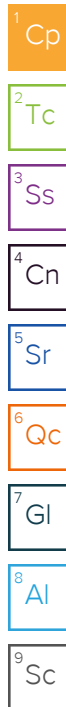
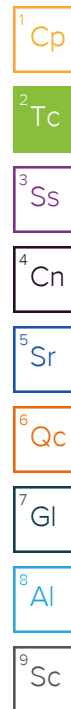


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SAMPLE SUMMARY

HJ03510-01 L1790876-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 10:54

10/18/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ03510-02 L1790876-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 11:44

10/18/24 09:00

HJ03510-03 L1790876-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 13:15

10/18/24 09:00

HJ03510-04 L1790876-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 14:20

10/18/24 09:00

HJ03510-05 L1790876-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 15:13

10/18/24 09:00

HJ03510-06 L1790876-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/16/24 13:50

10/18/24 09:00

SAMPLE SUMMARY

Collected by
Collected date/time
Received date/time

HJ03510-07 L1790876-07 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2392562	1	11/06/24 21:14	11/13/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2398293	1	11/11/24 09:21	11/13/24 17:55	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2398293	1	11/11/24 09:21	11/13/24 17:55	ZRG	Mt. Juliet, TN

1

Cp

2

Tc

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Ss

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Cn

5

Sr

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Qc

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Gl

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Al

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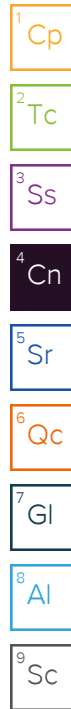
Sc

CASE NARRATIVE

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



Haley Torrence
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.17		0.492	0.700	0.502	0.262	11/13/2024 17:42	WG2392562
(T) Barium	115					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	91.2					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.20		0.505	0.567	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0299	U	0.116	0.172	0.263	0.207	11/13/2024 17:55	WG2398293
(T) Barium-133	67.2					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.47		0.454	0.657	0.456	0.238	11/13/2024 17:42	WG2392562
(T) Barium	95.0					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	106					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.57		0.472	0.486	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.102	J	0.128	0.226	0.169	0.139	11/13/2024 17:55	WG2398293
(T) Barium-133	91.8					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.49		0.541	0.763	0.548	0.286	11/13/2024 17:42	WG2392562
(T) Barium	109					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	81.3					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.55		0.554	0.587	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0634	U	0.120	0.203	0.209	0.164	11/13/2024 17:55	WG2398293
(T) Barium-133	84.4					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.13		0.620	0.846	0.637	0.332	11/13/2024 17:42	WG2392562
(T) Barium	86.2					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	89.6					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.16		0.625	0.659	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0294	U	0.0790	0.135	0.170	0.140	11/13/2024 17:55	WG2398293
(T) Barium-133	91.5					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.13		0.706	0.947	0.695	0.362	11/13/2024 17:42	WG2392562
(T) Barium	75.1					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	92.2					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.31		0.725	0.715	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.176		0.164	0.307	0.169	0.140	11/13/2024 17:55	WG2398293
(T) Barium-133	87.9					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.853		0.596	0.821	0.588	0.307	11/13/2024 17:42	WG2392562
(T) Barium	84.8					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	91.2					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.01		0.618	0.616	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.153	J	0.162	0.289	0.185	0.153	11/13/2024 17:55	WG2398293
(T) Barium-133	80.6					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.66		1.01	1.37	0.991	0.518	11/13/2024 17:42	WG2392562
(T) Barium	64.2					30.0-143	11/13/2024 17:42	WG2392562
(T) Yttrium	95.2					30.0-136	11/13/2024 17:42	WG2392562

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.11		1.06	1.04	11/13/2024 17:55	WG2398293

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.449		0.324	0.617	0.329	0.240	11/13/2024 17:55	WG2398293
(T) Barium-133	76.2					30.0-143	11/13/2024 17:55	WG2398293

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147532-1 11/13/24 17:42

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.118	<u>U</u>	0.135	0.265	0.140
(T) Barium	120		120		
(T) Yttrium	101		101		

L1790876-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1790876-07 11/13/24 17:42 • (DUP) R4147532-4 11/13/24 17:42

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	1.66	1.01	0.991	0.518	0.508	0.351	0.656	0.342	106	1.07	<u>J</u>	20	3
(T) Barium	64.2				107	107							
(T) Yttrium	95.2				97.5	97.5							

Laboratory Control Sample (LCS)

(LCS) R4147532-2 11/13/24 17:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.98	99.6	80.0-120	
(T) Barium			115		
(T) Yttrium			85.3		

L1790746-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790746-02 11/13/24 17:42 • (MS) R4147532-5 11/15/24 14:02 • (MSD) R4147532-3 11/13/24 17:42

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	1.89	18.8	18.3	102	98.5	1	70.0-130			2.74		20
(T) Barium		100			88.7	87.9							
(T) Yttrium		84.3			101	89.0							

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4146022-1 11/13/24 17:54

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00265	<u>U</u>	0.0506	0.104	0.0718
(T) Barium-133	78.3		78.3		

L1790876-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1790876-06 11/13/24 17:55 • (DUP) R4146022-5 11/13/24 17:54

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	0.153	0.162	0.185	0.153	0.0187	0.252	0.460	0.300	156	0.448	<u>U</u>	20	3
(T) Barium-133	80.6				84.4	84.4							

Laboratory Control Sample (LCS)

(LCS) R4146022-2 11/13/24 17:54

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.90	98.1	80.0-120	
(T) Barium-133			85.9		

L1790751-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790751-01 11/13/24 17:54 • (MS) R4146022-3 11/13/24 17:54 • (MSD) R4146022-4 11/13/24 17:54

Analyte	Spike Amount Bq/l	Original Result Bq/l	MS Result Bq/l	MSD Result Bq/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	0.740	0.000	0.726	0.742	98.1	100	1	75.0-125			2.17		20
(T) Barium-133		92.4			98.2	101							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Guide to Reading and Understanding Your Laboratory Report

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

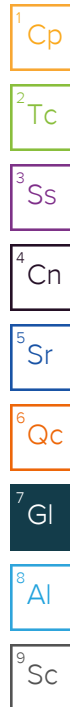
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

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

Qualifier Description

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



ACCREDITATIONS & LOCATIONS

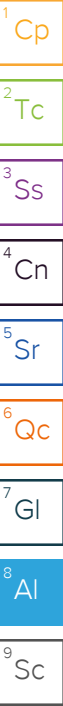
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER
Transfer Chain of Custody

B187

Pace Analytical Services, LLC
HJ03510

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

LTP0876

Sample: HJ03510-01
Name: OM16

Sampled: 10/16/24 10:54
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 10:54	
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Sample: HJ03510-02
Name: OM17D

Sampled: 10/16/24 11:44
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 11:44	
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Sample: HJ03510-03
Name: OM21

Sampled: 10/16/24 13:15
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 13:15	
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Sample: HJ03510-04
Name: OM24D

Sampled: 10/16/24 14:20
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 14:20	
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Sample: HJ03510-05
Name: OR02

Sampled: 10/16/24 15:13
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 15:13	
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SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ03510

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

LI790876

Sample: HJ03510-06
Name: G57S

Sampled: 10/16/24 13:50
Matrix: Ground Water
Preservative: HNO₃, pH <2

-06

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 13:50	
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Sample: HJ03510-07
Name: G54S

Sampled: 10/16/24 12:51
Matrix: Ground Water
Preservative: HNO₃, pH <2

-07

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 12:51	
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~~**Sample: HJ03510-08**~~
~~**Name: OM17**~~

~~**Sampled: 10/16/24 12:50**~~
~~**Matrix: Ground Water**~~
~~**Preservative: HNO₃, pH <2**~~

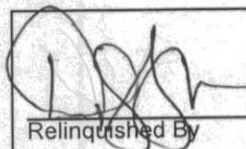
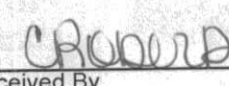
Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	10/29/24 16:00	04/14/25 12:50	
---------------------------------------	---------------------------	---------------------------	--

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

Date Shipped: 10/17/24 Total # of Containers: 7 Sample Origin (State): IL PO #: _____

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

	10/17/24 0620		10-18-24 0900	Sample Temperature Upon Receipt	_____ °C
				Sample(s) Received on Ice	Y or N
Relinquished By	Date/Time	Received By	Date/Time	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

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	

17932144 0013
11.0+0.3=11.9 TLA9

ANALYTICAL REPORT

November 27, 2024

Pace IR - Peoria, IL

Sample Delivery Group: L1791348
Samples Received: 10/22/2024
Project Number: HJ03767
Description:
Site: 001
Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Mark W. Beasley
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

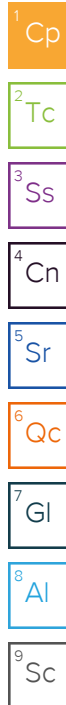


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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

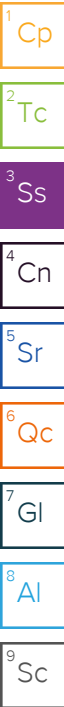
SAMPLE SUMMARY

HJ03767-01 L1791348-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 13:10
10/22/24 09:30



HJ03767-02 L1791348-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 11:56
10/22/24 09:30

HJ03767-03 L1791348-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 11:02
10/22/24 09:30

HJ03767-04 L1791348-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 12:28
10/22/24 09:30

HJ03767-05 L1791348-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 11:16
10/22/24 09:30

HJ03767-06 L1791348-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

Collected by
Collected date/time
Received date/time

10/17/24 13:25
10/22/24 09:30

SAMPLE SUMMARY

HJ03767-07 L1791348-07 Non-Potable Water

Collected by				Collected date/time	Received date/time	
				10/17/24 13:07	10/22/24 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

HJ03767-08 L1791348-08 Non-Potable Water

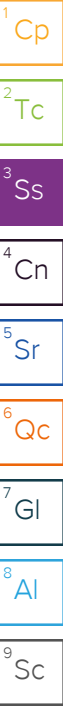
Collected by				Collected date/time	Received date/time	
				10/17/24 12:04	10/22/24 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2396110	1	11/08/24 08:47	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/15/24 14:02	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

HJ03767-09 L1791348-09 Non-Potable Water

Collected by				Collected date/time	Received date/time	
				10/17/24 14:20	10/22/24 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397041	1	11/11/24 14:23	11/16/24 10:58	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/16/24 10:58	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

HJ03767-10 L1791348-10 Non-Potable Water

Collected by				Collected date/time	Received date/time	
				10/17/24 14:30	10/22/24 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397041	1	11/11/24 14:23	11/16/24 10:58	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399468	1	11/11/24 12:35	11/16/24 10:58	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399468	1	11/11/24 12:35	11/14/24 19:33	ZRG	Mt. Juliet, TN

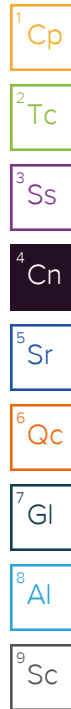


CASE NARRATIVE

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.



Mark W. Beasley
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.469	J	0.294	0.520	0.561	0.293	11/15/2024 14:02	WG2396110
(T) Barium	93.9					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	82.0					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.753		0.397	0.655	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.284	J	0.267	0.456	0.338	0.227	11/14/2024 19:33	WG2399468
(T) Barium-133	97.4					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.350	J	0.267	0.481	0.513	0.268	11/15/2024 14:02	WG2396110
(T) Barium	112					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	87.1					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.73		0.573	0.611	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.38		0.507	1.27	0.332	0.233	11/14/2024 19:33	WG2399468
(T) Barium-133	90.7					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.207	U	0.390	0.636	0.755	0.393	11/15/2024 14:02	WG2396110
(T) Barium	84.5					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	76.8					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.480	J	0.490	0.853	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.272	J	0.296	0.529	0.397	0.265	11/14/2024 19:33	WG2399468
(T) Barium-133	88.3					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	2.44		0.436	0.763	0.697	0.369	11/21/2024 17:05	WG2396110
(T) Barium	84.1					30.0-143	11/21/2024 17:05	WG2396110
(T) Yttrium	86.0					30.0-136	11/21/2024 17:05	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.95		0.652	0.746	11/21/2024 17:05	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.52		0.485	1.16	0.265	0.190	11/14/2024 19:33	WG2399468
(T) Barium-133	90.6					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.762	J	0.490	0.778	0.937	0.489	11/15/2024 14:02	WG2396110
(T) Barium	62.9					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	76.8					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.21		0.562	0.965	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.453		0.276	0.474	0.230	0.175	11/14/2024 19:33	WG2399468
(T) Barium-133	95.8					30.0-143	11/14/2024 19:33	WG2399468

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.256	U	0.322	0.561	0.624	0.326	11/15/2024 14:02	WG2396110
(T) Barium	85.7					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	80.4					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.418	J	0.391	0.701	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.162	J	0.221	0.367	0.319	0.210	11/14/2024 19:33	WG2399468
(T) Barium-133	98.2					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.393	J	0.280	0.508	0.537	0.282	11/15/2024 14:02	WG2396110
(T) Barium	89.1					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	85.0					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.43		0.485	0.600	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.04		0.396	0.980	0.267	0.187	11/14/2024 19:33	WG2399468
(T) Barium-133	89.5					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.23		0.260	0.492	0.466	0.246	11/15/2024 14:02	WG2396110
(T) Barium	93.3					30.0-143	11/15/2024 14:02	WG2396110
(T) Yttrium	78.9					30.0-136	11/15/2024 14:02	WG2396110

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.71		0.382	0.532	11/15/2024 14:02	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.481		0.280	0.496	0.257	0.182	11/14/2024 19:33	WG2399468
(T) Barium-133	90.6					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.03		0.289	0.511	0.534	0.279	11/16/2024 10:58	WG2397041
(T) Barium	81.1					30.0-143	11/16/2024 10:58	WG2397041
(T) Yttrium	105					30.0-136	11/16/2024 10:58	WG2397041

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.41		0.413	0.634	11/16/2024 10:58	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.381		0.295	0.500	0.341	0.230	11/14/2024 19:33	WG2399468
(T) Barium-133	98.3					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.336	<u>U</u>	0.263	0.478	0.526	0.274	11/16/2024 10:58	WG2397041
(T) Barium	92.5					30.0-143	11/16/2024 10:58	WG2397041
(T) Yttrium	92.1					30.0-136	11/16/2024 10:58	WG2397041

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.000	<u>U</u>	0.318	0.671	11/16/2024 10:58	WG2399468

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	-0.110	<u>U</u>	0.178	0.366	0.416	0.272	11/14/2024 19:33	WG2399468
(T) Barium-133	100					30.0-143	11/14/2024 19:33	WG2399468

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149252-1 11/14/24 22:40

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.167	<u>J</u>	0.167	0.318	0.167
(T) Barium	115		115		
(T) Yttrium	96.1		96.1		

L1791348-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791348-01 11/15/24 14:02 • (DUP) R4149252-3 11/14/24 22:40

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	0.469	0.294	0.561	0.293	0.108	0.277	0.540	0.286	125	0.893	<u>U</u>	20	3
(T) Barium	93.9				93.8	93.8							
(T) Yttrium	82.0				95.7	95.7							

Laboratory Control Sample (LCS)

(LCS) R4149252-2 11/14/24 22:40

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.98	99.5	80.0-120	
(T) Barium			114		
(T) Yttrium			89.9		

L1791120-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791120-06 11/19/24 17:47 • (MS) R4149252-6 11/19/24 17:47 • (MSD) R4149252-7 11/19/24 17:47

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	12.8	18.7	19.8	58.3	69.4	1	70.0-130	<u>J6</u>	<u>J6</u>	5.78		20
(T) Barium		94.2			80.8	83.0							
(T) Yttrium		112			114	113							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4148063-1 11/16/24 10:58

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.190	<u>U</u>	0.142	0.288	0.151
(T) Barium	94.6		94.6		
(T) Yttrium	97.4		97.4		

L1792020-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1792020-08 11/16/24 14:09 • (DUP) R4148063-5 11/16/24 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-228	0.874	0.307	0.561	0.293	0.150	0.363	0.704	0.367	141	1.52	<u>U</u>	20	3
(T) Barium	89.2				91.6	91.6							
(T) Yttrium	86.4				99.2	99.2							

Laboratory Control Sample (LCS)

(LCS) R4148063-2 11/16/24 10:58

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.77	115	80.0-120	
(T) Barium			87.9		
(T) Yttrium			100		

L1792020-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792020-05 11/16/24 14:09 • (MS) R4148063-3 11/16/24 10:58 • (MSD) R4148063-4 11/16/24 10:58

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.277	9.88	11.0	96.0	107	1	70.0-130			10.5		20
(T) Barium		97.4			92.2	83.5							
(T) Yttrium		111			100	118							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147734-1 11/14/24 19:33

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00165	<u>U</u>	0.0217	0.0514	0.0381
(T) Barium-133	95.2		95.2		

L1795811-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1795811-06 11/14/24 19:33 • (DUP) R4147734-5 11/14/24 19:33

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	0.477	0.303	0.311	0.212	0.207	0.267	0.377	0.247	78.8	0.667	<u>J</u>	20	3
(T) Barium-133	95.4				92.9	92.9							

Laboratory Control Sample (LCS)

(LCS) R4147734-2 11/14/24 19:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.18	104	80.0-120	
(T) Barium-133			90.3		

L1791381-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791381-02 11/14/24 19:33 • (MS) R4147734-3 11/14/24 19:33 • (MSD) R4147734-4 11/14/24 19:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	-0.139	19.2	20.2	96.0	101	1	75.0-125			4.93		20
(T) Barium-133		90.5			97.8	89.9							

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.

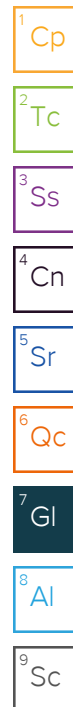
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
U	Below Detectable Limits: Indicates that the analyte was not detected.



ACCREDITATIONS & LOCATIONS

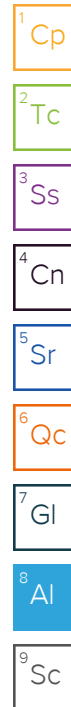
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HJ03767

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

U791348

Sample: HJ03767-01
Name: G61S

Sampled: 10/17/24 13:10
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 13:10	

Sample: HJ03767-02
Name: G60S

Sampled: 10/17/24 11:56
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 11:56	

Sample: HJ03767-03
Name: G60L

Sampled: 10/17/24 11:02
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 11:02	

Sample: HJ03767-04
Name: OR03D

Sampled: 10/17/24 12:28
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 12:28	

Sample: HJ03767-05
Name: OR04D

Sampled: 10/17/24 11:16
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 11:16	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ03767

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

L1791348

Sample: HJ03767-06
Name: OM23D

Sampled: 10/17/24 13:25
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 13:25	

Sample: HJ03767-07
Name: OM12

Sampled: 10/17/24 13:07
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 13:07	

Sample: HJ03767-08
Name: OM12D

Sampled: 10/17/24 12:04
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 12:04	

Sample: HJ03767-09
Name: OM25S

Sampled: 10/17/24 14:20
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 14:20	

Sample: HJ03767-10
Name: EB #1

Sampled: 10/17/24 14:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-10

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	10/30/24 16:00	04/15/25 14:30	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ03767

B229

11791348

77940860 0711

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		

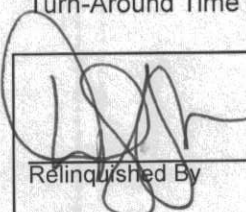
17.4+0.3-17.7 TLA9

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

Date Shipped: 10/21/24 Total # of Containers: 10 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☐ NORMAL ☐ RUSH

Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	_____ °C
	10/21/24 1250	C. Brubaker	10/22/24 0930	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

November 25, 2024

Pace IR - Peoria, IL

Sample Delivery Group: L1792125
Samples Received: 10/24/2024
Project Number:
Description:

Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

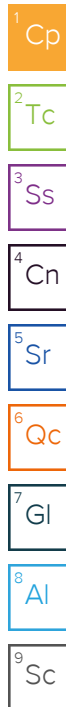
Entire Report Reviewed By:

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



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SAMPLE SUMMARY

HJ04301-01 L1792125-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397854	1	11/11/24 09:24	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399979	1	11/12/24 13:02	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399979	1	11/12/24 13:02	11/14/24 21:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/22/24 14:40

10/24/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04301-02 L1792125-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397854	1	11/11/24 09:24	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399979	1	11/12/24 13:02	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399979	1	11/12/24 13:02	11/14/24 21:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/22/24 13:41

10/24/24 09:00

HJ04301-03 L1792125-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397854	1	11/11/24 09:24	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399979	1	11/12/24 13:02	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399979	1	11/12/24 13:02	11/14/24 21:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/22/24 13:05

10/24/24 09:00

HJ04301-04 L1792125-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397854	1	11/11/24 09:24	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399979	1	11/12/24 13:02	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399979	1	11/12/24 13:02	11/14/24 21:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/22/24 14:40

10/24/24 09:00

HJ04301-05 L1792125-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397854	1	11/11/24 09:24	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2399979	1	11/12/24 13:02	11/19/24 17:47	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2399979	1	11/12/24 13:02	11/14/24 21:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/22/24 15:40

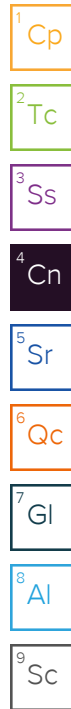
10/24/24 09:00

CASE NARRATIVE

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



Haley Torrence
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.841		0.297	0.507	0.495	0.260	11/19/2024 17:47	WG2397854
(T) Barium	92.8					30.0-143	11/19/2024 17:47	WG2397854
(T) Yttrium	95.9					30.0-136	11/19/2024 17:47	WG2397854

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.12		0.379	0.543	11/19/2024 17:47	WG2399979

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.281		0.236	0.459	0.223	0.184	11/14/2024 21:42	WG2399979
(T) Barium-133	71.9					30.0-143	11/14/2024 21:42	WG2399979

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.930		0.410	0.703	0.692	0.362	11/19/2024 17:47	WG2397854
(T) Barium	93.4					30.0-143	11/19/2024 17:47	WG2397854
(T) Yttrium	96.0					30.0-136	11/19/2024 17:47	WG2397854

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.49		0.556	0.795	11/19/2024 17:47	WG2399979

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.558		0.376	0.706	0.391	0.270	11/14/2024 21:42	WG2399979
(T) Barium-133	76.9					30.0-143	11/14/2024 21:42	WG2399979

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.0538	U	0.248	0.446	0.434	0.228	11/19/2024 17:47	WG2397854
(T) Barium	106					30.0-143	11/19/2024 17:47	WG2397854
(T) Yttrium	104					30.0-136	11/19/2024 17:47	WG2397854

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.114	U	0.322	0.591	11/19/2024 17:47	WG2399979

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0607	U	0.206	0.259	0.401	0.292	11/14/2024 21:42	WG2399979
(T) Barium-133	70.9					30.0-143	11/14/2024 21:42	WG2399979

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.785		0.230	0.443	0.378	0.201	11/19/2024 17:47	WG2397854
(T) Barium	112					30.0-143	11/19/2024 17:47	WG2397854
(T) Yttrium	87.3					30.0-136	11/19/2024 17:47	WG2397854

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.13		0.369	0.503	11/19/2024 17:47	WG2399979

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.347		0.289	0.530	0.332	0.235	11/14/2024 21:42	WG2399979
(T) Barium-133	81.4					30.0-143	11/14/2024 21:42	WG2399979

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.361	J	0.213	0.415	0.364	0.193	11/19/2024 17:47	WG2397854
(T) Barium	95.6					30.0-143	11/19/2024 17:47	WG2397854
(T) Yttrium	107					30.0-136	11/19/2024 17:47	WG2397854

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.454		0.268	0.449	11/19/2024 17:47	WG2399979

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0931	U	0.162	0.261	0.263	0.195	11/14/2024 21:42	WG2399979
(T) Barium-133	80.2					30.0-143	11/14/2024 21:42	WG2399979

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149273-1 11/19/24 17:47

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.249	<u>U</u>	0.171	0.306	0.160
(T) Barium	115		115		
(T) Yttrium	100		100		

L1792125-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1792125-03 11/19/24 17:47 • (DUP) R4149273-5 11/19/24 17:47

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	0.0538	0.248	0.434	0.228	0.549	0.406	0.693	0.360	164	1.04	<u>J</u>	20	3
(T) Barium	106				106	106							
(T) Yttrium	104				103	103							

Laboratory Control Sample (LCS)

(LCS) R4149273-2 11/19/24 17:47

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.06	81.2	80.0-120	
(T) Barium			106		
(T) Yttrium			89.4		

L1792020-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792020-10 11/19/24 17:47 • (MS) R4149273-3 11/19/24 17:47 • (MSD) R4149273-4 11/19/24 17:47

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.276	9.14	9.07	88.7	87.9	1	70.0-130			0.824		20
(T) Barium		115			107	114							
(T) Yttrium		104			105	110							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147823-1 11/14/24 21:42

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00563	<u>U</u>	0.0116	0.0220	0.0166
(T) Barium-133	85.9		85.9		

L1792125-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1792125-05 11/14/24 21:42 • (DUP) R4147823-5 11/14/24 21:42

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-226	0.0931	0.162	0.263	0.195	-0.176	0.284	0.665	0.434	200	0.822	<u>U</u>	20	3
(T) Barium-133	80.2				58.4	58.4							

Laboratory Control Sample (LCS)

(LCS) R4147823-2 11/14/24 21:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.24	105	80.0-120	
(T) Barium-133			86.4		

L1792125-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792125-01 11/14/24 21:42 • (MS) R4147823-3 11/14/24 21:42 • (MSD) R4147823-4 11/14/24 21:42

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-226	20.0	0.281	18.9	19.1	93.1	94.0	1	75.0-125			1.00		20
(T) Barium-133		71.9			59.0	71.4							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

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.

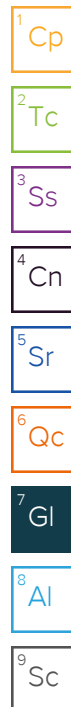
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

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



ACCREDITATIONS & LOCATIONS

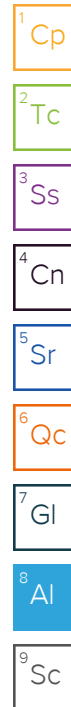
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER Transfer Chain of Custody

Pace Analytical Services, LLC

HJ04301

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

1007

U792125

Sample: HJ04301-01
Name: OR14D

Sampled: 10/22/24 14:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis

Due

Expires

Comments

01-Radium 226/228 combined

11/04/24 16:00

04/20/25 14:40

Sample: HJ04301-02
Name: P60

Sampled: 10/22/24 13:41
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis

Due

Expires

Comments

01-Radium 226/228 combined

11/04/24 16:00

04/20/25 13:41

Sample: HJ04301-03
Name: G64L

Sampled: 10/22/24 13:05
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis

Due

Expires

Comments

01-Radium 226/228 combined

11/04/24 16:00

04/20/25 13:05

Sample: HJ04301-04
Name: G64S

Sampled: 10/22/24 14:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis

Due

Expires

Comments

01-Radium 226/228 combined

11/04/24 16:00

04/20/25 14:40

Sample: HJ04301-05
Name: G62L

Sampled: 10/22/24 15:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis

Due

Expires

Comments

01-Radium 226/228 combined

11/04/24 16:00

04/20/25 15:40

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HJ04301

17992125

ATTACHMENT B.
845 QUARTERLY REPORT - QUARTER 4, 2024
DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

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

Date Shipped: 10/23/24 Total # of Containers: 5 Sample Origin (State): IL PO #: _____

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

Sample Receipt Checklist
COC Seal Present/Intact: N
COC Signed/Accurate: N
Bottles active/Intact: N
Correct bottles used: N
Sufficient volume sent: N
PA Screen <0.5 mR/hr: N

13.2+0.3=13.5
NOA
794 6638440

Relinquished By: [Signature] Date/Time: 10/23/24 1200 Received By: [Signature] Date/Time: 10/24/24 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

December 09, 2024

Revised Report

Pace IR - Peoria, IL

Sample Delivery Group: L1792986

Samples Received: 10/25/2024

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

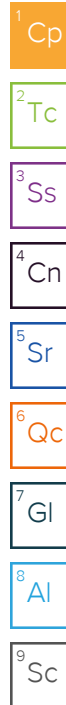


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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

HJ04568-01 L1792986-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 11:20

10/25/24 08:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04568-02 L1792986-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 13:48

10/25/24 08:00

HJ04568-03 L1792986-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 15:08

10/25/24 08:00

HJ04568-04 L1792986-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 15:08

10/25/24 08:00

HJ04568-05 L1792986-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 13:45

10/25/24 08:00

HJ04568-06 L1792986-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/23/24 12:35

10/25/24 08:00

SAMPLE SUMMARY

HJ04568-07 L1792986-07 Non-Potable Water

Collected by

Collected date/time

Received date/time

10/23/24 11:35

10/25/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04568-08 L1792986-08 Non-Potable Water

Collected by

Collected date/time

Received date/time

10/23/24 11:35

10/25/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/20/24 16:35	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/15/24 14:42	ZRG	Mt. Juliet, TN

HJ04568-09 L1792986-09 Non-Potable Water

Collected by

Collected date/time

Received date/time

10/23/24 14:59

10/25/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/22/24 11:55	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/22/24 11:55	ZRG	Mt. Juliet, TN

HJ04568-10 L1792986-10 Non-Potable Water

Collected by

Collected date/time

Received date/time

10/23/24 11:52

10/25/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2401028	1	11/13/24 15:27	11/22/24 11:55	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2401028	1	11/13/24 15:27	11/22/24 11:55	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.

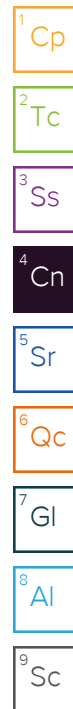


Haley Torrence
Project Manager

Report Revision History

Level II Report - Version 1: 11/25/24 16:06
Level II Report - Version 2: 12/03/24 15:02

Project Narrative



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.276	U	0.448	0.745	0.772	0.402	11/20/2024 16:35	WG2397991
(T) Barium	92.8					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	94.2					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.276	U	0.455	0.819	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	-0.0350	U	0.0767	0.140	0.272	0.202	11/15/2024 14:42	WG2401028
(T) Barium-133	71.9					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.0556	U	0.501	0.831	0.874	0.457	11/20/2024 16:35	WG2397991
(T) Barium	75.0					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	97.4					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.558	J	0.601	0.910	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.558		0.332	0.707	0.254	0.199	11/15/2024 14:42	WG2401028
(T) Barium-133	69.7					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.372	J	0.368	0.610	0.632	0.330	11/20/2024 16:35	WG2397991
(T) Barium	89.8					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	75.6					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.452	J	0.398	0.685	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0801	U	0.152	0.240	0.264	0.207	11/15/2024 14:42	WG2401028
(T) Barium-133	67.4					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.551	J	0.329	0.561	0.558	0.293	11/20/2024 16:35	WG2397991
(T) Barium	82.3					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	88.6					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.627		0.360	0.612	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0764	U	0.145	0.233	0.252	0.198	11/15/2024 14:42	WG2401028
(T) Barium-133	70.2					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.175	J	0.221	0.430	0.383	0.202	11/20/2024 16:35	WG2397991
(T) Barium	93.8					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	96.1					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.430	J	0.308	0.433	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.254		0.214	0.399	0.202	0.167	11/15/2024 14:42	WG2401028
(T) Barium-133	76.6					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.281	J	0.293	0.505	0.489	0.257	11/20/2024 16:35	WG2397991
(T) Barium	101					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	87.9					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.343	J	0.315	0.530	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0618	U	0.117	0.199	0.204	0.160	11/15/2024 14:42	WG2401028
(T) Barium-133	86.6					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.677		0.298	0.546	0.487	0.259	11/20/2024 16:35	WG2397991
(T) Barium	68.9					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	99.1					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.21		0.399	0.511	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.532		0.266	0.548	0.155	0.128	11/15/2024 14:42	WG2401028
(T) Barium-133	110					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.885		0.233	0.437	0.366	0.194	11/20/2024 16:35	WG2397991
(T) Barium	99.3					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	95.0					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.05		0.282	0.410	11/20/2024 16:35	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.161	J	0.159	0.234	0.185	0.145	11/15/2024 14:42	WG2401028
(T) Barium-133	111					30.0-143	11/15/2024 14:42	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.0797	U	0.220	0.428	0.375	0.199	11/20/2024 16:35	WG2397991
(T) Barium	91.5					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	99.7					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.591		0.402	0.523	11/22/2024 11:55	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.512		0.336	0.599	0.364	0.241	11/22/2024 11:55	WG2401028
(T) Barium-133	111					30.0-143	11/22/2024 11:55	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.271	J	0.302	0.503	0.502	0.262	11/20/2024 16:35	WG2397991
(T) Barium	97.6					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	99.5					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.381	J	0.350	0.571	11/22/2024 11:55	WG2401028

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.110	J	0.176	0.248	0.273	0.196	11/22/2024 11:55	WG2401028
(T) Barium-133	118					30.0-143	11/22/2024 11:55	WG2401028

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149278-1 11/20/24 16:35

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.213	<u>U</u>	0.245	0.438	0.230
(T) Barium	78.2		78.2		
(T) Yttrium	76.8		76.8		

L1793620-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-01 11/20/24 16:35 • (DUP) R4149278-5 11/20/24 16:35

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	0.0529	0.255	0.413	0.219	0.0780	0.368	0.638	0.333	38.2	0.0559	<u>U</u>	20	3
(T) Barium	96.6				107	107							
(T) Yttrium	88.8				108	108							

Laboratory Control Sample (LCS)

(LCS) R4149278-2 11/20/24 16:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.18	104	80.0-120	
(T) Barium			89.9		
(T) Yttrium			86.0		

L1792986-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792986-03 11/20/24 16:35 • (MS) R4149278-3 11/20/24 16:35 • (MSD) R4149278-4 11/20/24 16:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.372	10.5	8.78	102	84.1	1	70.0-130			18.1		20
(T) Barium		89.8			95.1	96.6							
(T) Yttrium		75.6			86.1	85.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149555-1 11/15/24 14:42

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	-0.00228	<u>U</u>	0.00997	0.0524	0.0433
(T) Barium-133	70.9		70.9		

L1792518-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792518-02 11/15/24 14:42 • (DUP) R4149555-5 11/15/24 14:42

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-226	0.0993	0.154	0.240	0.182	0.214	0.251	0.346	0.238	73.1	0.389	<u>J</u>	20	3
(T) Barium-133	80.9				77.4	77.4							

Laboratory Control Sample (LCS)

(LCS) R4149555-2 11/15/24 14:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.54	111	80.0-120	
(T) Barium-133			78.4		

L1792986-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792986-10 11/22/24 11:55 • (MS) R4149555-3 11/15/24 14:42 • (MSD) R4149555-4 11/15/24 14:42

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-226	20.0	0.110	20.7	19.5	103	97.0	1	75.0-125			6.06		20
(T) Barium-133		118			78.8	72.9							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Guide to Reading and Understanding Your Laboratory Report

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

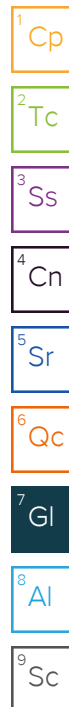
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

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

Qualifier Description

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



ACCREDITATIONS & LOCATIONS

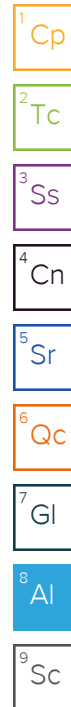
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ04568

K018

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

L1792986

Sample: HJ04568-01
Name: G02S

Sampled: 10/22/24 11:20
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
----------	-----	---------	----------

01-Radium 226/228 combined	11/05/24 16:00	04/20/25 11:20	
----------------------------	----------------	----------------	--

Sample: HJ04568-02
Name: OR11

Sampled: 10/23/24 13:48
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
----------	-----	---------	----------

01-Radium 226/228 combined	11/05/24 16:00	04/21/25 13:48	
----------------------------	----------------	----------------	--

Sample: HJ04568-03
Name: OR20

Sampled: 10/23/24 15:08
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
----------	-----	---------	----------

01-Radium 226/228 combined	11/05/24 16:00	04/21/25 15:08	
----------------------------	----------------	----------------	--

Sample: HJ04568-04
Name: OR20 DUP

Sampled: 10/23/24 15:08
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/05/24 16:00	04/21/25 15:08	
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Sample: HJ04568-05
Name: BA03

Sampled: 10/23/24 13:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/05/24 16:00	04/21/25 13:45	
----------------------------	----------------	----------------	--

SUBCONTRACT ORDER
Transfer Chain of Custody
Pace Analytical Services, LLC
HJ04568

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

U792986

Sample: HJ04568-06
Name: BA02

Sampled: 10/23/24 12:35
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/05/24 16:00	04/21/25 12:35	
----------------------------	----------------	----------------	--

Sample: HJ04568-07
Name: BA01

Sampled: 10/23/24 11:35
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/05/24 16:00	04/21/25 11:35	
----------------------------	----------------	----------------	--

Sample: HJ04568-08
Name: BA01 Dup

Sampled: 10/23/24 11:35
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
----------	-----	---------	----------

01-Radium 226/228 combined	11/05/24 16:00	04/21/25 11:35	
----------------------------	----------------	----------------	--

Sample: HJ04568-09
Name: BA06

Sampled: 10/23/24 14:59
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
----------	-----	---------	----------

01-Radium 226/228 combined	11/05/24 16:00	04/21/25 14:59	
----------------------------	----------------	----------------	--

Sample: HJ04568-10
Name: R61L

Sampled: 10/23/24 00:00
Matrix: Ground Water
Preservative: HNO3, pH <2

1152 10/23/24
-10

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/05/24 16:00	04/21/25 00:00	
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SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ04568

L1792986

Sample Receipt Checklist *total 10*

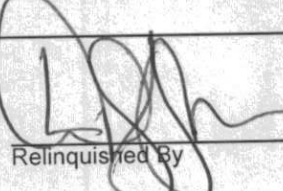
COC Seal Present/Intact:	☒ Y ☐ N	If Applicable	
COC Signed/Accurate:	☒ Y ☐ N	VOA Zero Headspace:	☒ Y ☐ N
Bottles arrive intact:	☒ Y ☐ N	Fres. Correct/Check:	☒ Y ☐ N
Correct bottles used:	☒ Y ☐ N		
Sufficient volume sent:	☒ Y ☐ N		
RA Screen <0.5 mR/hr:	☒ Y ☐ N		

7794 9550 5650

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

Date Shipped: 10/24/24 Total # of Containers: 10 Sample Origin (State): IL PO #: _____

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

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	<u>AMB</u>
	<u>10/24/24 1200</u>		<u>10-25-24 1730</u>	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

November 27, 2024

Pace IR - Peoria, IL

Sample Delivery Group: L1793620
Samples Received: 10/29/2024
Project Number:
Description:

Report To: Diane Billings
2231 W. Altorfer Drive
Peoria, IL 61615

Entire Report Reviewed By:



Mark W. Beasley
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

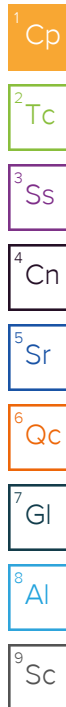


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HJ04994-03 L1793620-03	10	⁵Sr
HJ04994-04 L1793620-04	11	
HJ04994-05 L1793620-05	12	⁶Qc
HJ04994-06 L1793620-06	13	
HJ04994-07 L1793620-07	14	⁷Gl
HJ04994-08 L1793620-08	15	⁸Al
HJ04994-09 L1793620-09	16	
HJ04994-10 L1793620-10	17	⁹Sc
HJ04994-11 L1793620-11	18	
HJ04994-12 L1793620-12	19	
HJ04994-13 L1793620-13	20	
HJ04994-14 L1793620-14	21	
HJ04994-15 L1793620-15	22	
HJ04994-16 L1793620-16	23	
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SAMPLE SUMMARY

HJ04994-01 L1793620-01 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 10:38

10/29/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04994-02 L1793620-02 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 13:40

10/29/24 09:00

HJ04994-03 L1793620-03 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 12:15

10/29/24 09:00

HJ04994-04 L1793620-04 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2397991	1	11/13/24 15:57	11/20/24 16:35	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 10:41

10/29/24 09:00

HJ04994-05 L1793620-05 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 15:30

10/29/24 09:00

HJ04994-06 L1793620-06 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 12:59

10/29/24 09:00

SAMPLE SUMMARY

HJ04994-07 L1793620-07 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 12:30

10/29/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04994-08 L1793620-08 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2403691	1	11/18/24 11:15	11/21/24 17:06	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2403691	1	11/18/24 11:15	11/21/24 17:06	ASN	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 11:22

10/29/24 09:00

HJ04994-09 L1793620-09 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 00:40	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 00:40	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 15:40

10/29/24 09:00

HJ04994-10 L1793620-10 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 00:40	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 00:40	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 08:49

10/29/24 09:00

HJ04994-11 L1793620-11 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 09:38

10/29/24 09:00

HJ04994-12 L1793620-12 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 11:35

10/29/24 09:00

SAMPLE SUMMARY

HJ04994-13 L1793620-13 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 10:42

10/29/24 09:00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HJ04994-14 L1793620-14 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399773	1	11/13/24 15:59	11/21/24 17:05	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 12:45

10/29/24 09:00

HJ04994-15 L1793620-15 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399762	1	11/15/24 10:23	11/22/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 13:45

10/29/24 09:00

HJ04994-16 L1793620-16 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399762	1	11/15/24 10:23	11/22/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 14:23

10/29/24 09:00

HJ04994-17 L1793620-17 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399762	1	11/15/24 10:23	11/22/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 13:13	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 13:13	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 15:28

10/29/24 09:00

HJ04994-18 L1793620-18 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399762	1	11/15/24 10:23	11/22/24 17:42	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 18:50	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 18:50	ZRG	Mt. Juliet, TN

Collected by

Collected date/time

Received date/time

10/24/24 14:10

10/29/24 09:00

SAMPLE SUMMARY

Collected by
Collected date/time
Received date/time

10/24/24 14:10
10/29/24 09:00

HJ04994-19 L1793620-19 Non-Potable Water

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2399762	1	11/15/24 10:23	11/22/24 22:10	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2405861	1	11/21/24 15:09	11/23/24 00:41	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2405861	1	11/21/24 15:09	11/23/24 00:41	ZRG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

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



Mark W. Beasley
Project Manager



Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.0529	U	0.255	0.469	0.413	0.219	11/20/2024 16:35	WG2397991
(T) Barium	96.6					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	88.8					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.350	J	0.484	0.725	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.297	J	0.411	0.672	0.596	0.400	11/21/2024 17:06	WG2403691
(T) Barium-133	55.3					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.476		0.226	0.424	0.351	0.186	11/20/2024 16:35	WG2397991
(T) Barium	108					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	105					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.03		0.494	0.608	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.552		0.439	0.903	0.497	0.347	11/21/2024 17:06	WG2403691
(T) Barium-133	60.7					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN
DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.473		0.277	0.498	0.434	0.230	11/20/2024 16:35	WG2397991
(T) Barium	89.8					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	89.4					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.776		0.466	0.682	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.303	J	0.375	0.651	0.526	0.351	11/21/2024 17:06	WG2403691
(T) Barium-133	66.6					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.788		0.337	0.619	0.521	0.276	11/20/2024 16:35	WG2397991
(T) Barium	106					30.0-143	11/20/2024 16:35	WG2397991
(T) Yttrium	96.9					30.0-136	11/20/2024 16:35	WG2397991

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.04		0.438	0.638	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.255	J	0.279	0.446	0.369	0.264	11/21/2024 17:06	WG2403691
(T) Barium-133	65.1					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

DUCK CREEK, BOTTOM ASH BASIN

DC-845-205

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.122	<u>U</u>	0.288	0.505	0.511	0.267	11/21/2024 17:05	WG2399773
(T) Barium	112					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	84.5					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.141	<u>U</u>	0.313	0.586	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0198	<u>U</u>	0.123	0.158	0.286	0.217	11/21/2024 17:06	WG2403691
(T) Barium-133	77.0					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.678		0.356	0.589	0.616	0.321	11/21/2024 17:05	WG2399773
(T) Barium	86.5					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	83.7					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.834		0.439	0.728	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.156	J	0.257	0.406	0.388	0.256	11/21/2024 17:06	WG2403691
(T) Barium-133	80.8					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.312	U	0.366	0.595	0.657	0.342	11/21/2024 17:05	WG2399773
(T) Barium	91.2					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	81.9					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.265	U	0.462	0.755	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.265	J	0.282	0.529	0.371	0.260	11/21/2024 17:06	WG2403691
(T) Barium-133	64.4					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.34	J	0.833	1.24	1.44	0.754	11/21/2024 17:05	WG2399773
(T) Barium	63.0					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	73.3					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.66		0.875	1.47	11/21/2024 17:06	WG2403691

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.321		0.267	0.440	0.307	0.217	11/21/2024 17:06	WG2403691
(T) Barium-133	75.7					30.0-143	11/21/2024 17:06	WG2403691

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	-0.287	U	0.322	0.549	0.583	0.305	11/21/2024 17:05	WG2399773
(T) Barium	96.3					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	80.6					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.166	U	0.388	0.660	11/23/2024 00:40	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.166	J	0.217	0.318	0.310	0.215	11/23/2024 00:40	WG2405861
(T) Barium-133	110					30.0-143	11/23/2024 00:40	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.424	J	0.346	0.581	0.606	0.317	11/21/2024 17:05	WG2399773
(T) Barium	86.7					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	81.9					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.896		0.476	0.707	11/23/2024 00:40	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.472		0.327	0.575	0.364	0.241	11/23/2024 00:40	WG2405861
(T) Barium-133	114					30.0-143	11/23/2024 00:40	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.484	J	0.445	0.722	0.782	0.410	11/21/2024 17:05	WG2399773
(T) Barium	66.1					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	78.4					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.845		0.504	0.818	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.361		0.237	0.496	0.239	0.167	11/23/2024 13:13	WG2405861
(T) Barium-133	114					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.925	J	0.550	0.947	0.957	0.505	11/21/2024 17:05	WG2399773
(T) Barium	62.1					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	80.9					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.87		0.656	0.985	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.947		0.357	0.735	0.232	0.164	11/23/2024 13:13	WG2405861
(T) Barium-133	116					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.822	J	0.501	0.837	0.871	0.457	11/21/2024 17:05	WG2399773
(T) Barium	73.0					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	96.9					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.00		0.553	0.933	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.180	J	0.235	0.355	0.335	0.227	11/23/2024 13:13	WG2405861
(T) Barium-133	113					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.46		0.669	1.16	1.15	0.603	11/21/2024 17:05	WG2399773
(T) Barium	94.9					30.0-143	11/21/2024 17:05	WG2399773
(T) Yttrium	94.6					30.0-136	11/21/2024 17:05	WG2399773

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.94		0.759	1.22	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.482		0.358	0.782	0.416	0.272	11/23/2024 13:13	WG2405861
(T) Barium-133	122					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.58		0.795	1.37	1.51	0.792	11/22/2024 17:42	WG2399762
(T) Barium	88.2					30.0-143	11/22/2024 17:42	WG2399762
(T) Yttrium	74.9					30.0-136	11/22/2024 17:42	WG2399762

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.63		0.918	1.56	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.05		0.459	0.974	0.388	0.258	11/23/2024 13:13	WG2405861
(T) Barium-133	109					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	2.78		1.01	1.76	1.88	0.999	11/22/2024 17:42	WG2399762
(T) Barium	51.6					30.0-143	11/22/2024 17:42	WG2399762
(T) Yttrium	79.0					30.0-136	11/22/2024 17:42	WG2399762

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	4.18		1.12	1.91	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.40		0.493	1.12	0.359	0.238	11/23/2024 13:13	WG2405861
(T) Barium-133	107					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.17		0.438	0.802	0.821	0.435	11/22/2024 17:42	WG2399762
(T) Barium	79.9					30.0-143	11/22/2024 17:42	WG2399762
(T) Yttrium	73.0					30.0-136	11/22/2024 17:42	WG2399762

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.17		0.613	0.883	11/23/2024 13:13	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.00		0.429	0.942	0.325	0.225	11/23/2024 13:13	WG2405861
(T) Barium-133	110					30.0-143	11/23/2024 13:13	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.362	J	0.247	0.481	0.475	0.252	11/22/2024 17:42	WG2399762
(T) Barium	82.2					30.0-143	11/22/2024 17:42	WG2399762
(T) Yttrium	87.2					30.0-136	11/22/2024 17:42	WG2399762

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.430	J	0.256	0.483	11/23/2024 18:50	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.0675	J	0.0690	0.147	0.0878	0.0665	11/23/2024 18:50	WG2405861
(T) Barium-133	104					30.0-143	11/23/2024 18:50	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.138	U	0.231	0.447	0.451	0.237	11/22/2024 22:10	WG2399762
(T) Barium	85.1					30.0-143	11/22/2024 22:10	WG2399762
(T) Yttrium	111					30.0-136	11/22/2024 22:10	WG2399762

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.334	J	0.278	0.491	11/23/2024 00:41	WG2405861

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.196		0.154	0.452	0.194	0.128	11/23/2024 00:41	WG2405861
(T) Barium-133	98.3					30.0-143	11/23/2024 00:41	WG2405861

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149278-1 11/20/24 16:35

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.213	<u>U</u>	0.245	0.438	0.230
(T) Barium	78.2		78.2		
(T) Yttrium	76.8		76.8		

L1793620-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-01 11/20/24 16:35 • (DUP) R4149278-5 11/20/24 16:35

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	0.0529	0.255	0.413	0.219	0.0780	0.368	0.638	0.333	38.2	0.0559	<u>U</u>	20	3
(T) Barium	96.6				107	107							
(T) Yttrium	88.8				108	108							

Laboratory Control Sample (LCS)

(LCS) R4149278-2 11/20/24 16:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.18	104	80.0-120	
(T) Barium			89.9		
(T) Yttrium			86.0		

L1792986-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792986-03 11/20/24 16:35 • (MS) R4149278-3 11/20/24 16:35 • (MSD) R4149278-4 11/20/24 16:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.372	10.5	8.78	102	84.1	1	70.0-130			18.1		20
(T) Barium		89.8			95.1	96.6							
(T) Yttrium		75.6			86.1	85.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4151069-1 11/22/24 17:42

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.0595	<u>U</u>	0.196	0.388	0.203
(T) Barium	86.3		86.3		
(T) Yttrium	89.6		89.6		

L1793620-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-19 11/22/24 22:10 • (DUP) R4151069-5 11/22/24 17:42

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	0.138	0.231	0.451	0.237	0.359	0.362	0.699	0.366	89.0	0.514	<u>J</u>	20	3
(T) Barium	85.1				101	101							
(T) Yttrium	111				88.4	88.4							

Laboratory Control Sample (LCS)

(LCS) R4151069-2 11/22/24 17:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.33	107	80.0-120	
(T) Barium			73.7		
(T) Yttrium			88.6		

L1793620-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1793620-18 11/22/24 17:42 • (MS) R4151069-3 11/22/24 17:42 • (MSD) R4151069-4 11/22/24 17:42

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	10.0	0.362	9.51	8.75	91.5	83.9	1	70.0-130			8.30		20
(T) Barium		82.2			68.9	96.4							
(T) Yttrium		87.2			98.3	108							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4151075-1 11/21/24 17:05

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.0550	<u>U</u>	0.157	0.281	0.148
(T) Barium	97.2		97.2		
(T) Yttrium	97.1		97.1		

L1793620-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-05 11/21/24 17:05 • (DUP) R4151075-5 11/21/24 17:05

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-228	0.122	0.288	0.511	0.267	0.0684	0.400	0.710	0.370	55.9	0.108	<u>U</u>	20	3
(T) Barium	112				112	112							
(T) Yttrium	84.5				90.3	90.3							

Laboratory Control Sample (LCS)

(LCS) R4151075-2 11/21/24 17:05

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.75	95.1	80.0-120	
(T) Barium			87.7		
(T) Yttrium			95.8		

L1793620-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1793620-06 11/21/24 17:05 • (MS) R4151075-3 11/21/24 17:05 • (MSD) R4151075-4 11/21/24 17:05

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.678	10.7	8.75	100	80.7	1	70.0-130			20.0		20
(T) Barium		86.5			97.7	98.1							
(T) Yttrium		83.7			70.7	86.1							

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4150386-1 11/21/24 17:06

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00817	<u>U</u>	0.0316	0.0719	0.0564
(T) Barium-133	68.7		68.7		

L1793620-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-08 11/21/24 17:06 • (DUP) R4150386-3 11/21/24 17:06

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	0.321	0.267	0.307	0.217	0.141	0.264	0.407	0.266	78.2	0.481	<u>U</u>	20	3
(T) Barium-133	75.7				80.3	80.3							

Laboratory Control Sample (LCS)

(LCS) R4150386-2 11/21/24 17:06

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.88	97.5	80.0-120	
(T) Barium-133			86.5		

L1792180-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792180-01 11/25/24 13:33 • (MS) R4150386-4 11/25/24 12:32 • (MSD) R4150386-5 11/25/24 12:32

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	92.9	92.4	109	0.000	78.0	1	75.0-125	<u>V</u>		16.0		20
(T) Barium-133		89.9			93.7	85.5							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R4150614-2 11/23/24 00:41

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00938	J	0.0138	0.0219	0.0166
(T) Barium-133	112		112		

L1793620-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1793620-09 11/23/24 00:40 • (DUP) R4150614-1 11/23/24 00:39

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	0.166	0.217	0.310	0.215	0.176	0.215	0.301	0.211	5.38	0.0301	J	20	3
(T) Barium-133	110				116	116							

Laboratory Control Sample (LCS)

(LCS) R4150614-3 11/23/24 00:41

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.68	93.6	80.0-120	
(T) Barium-133			106		

L1793620-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1793620-12 11/23/24 13:13 • (MS) R4150614-4 11/23/24 00:41 • (MSD) R4150614-5 11/23/24 13:13

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	0.947	18.9	17.0	89.8	80.4	1	75.0-125			10.5		20
(T) Barium-133		116			105	99.7							

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

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.

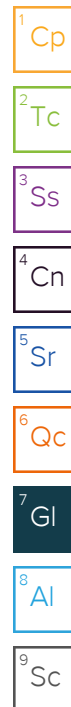
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

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.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

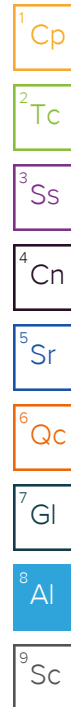
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ04994

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

L17P3620

Sample: HJ04994-01
Name: G54L

Sampled: 10/24/24 10:38
Matrix: Ground Water
Preservative: HNO3, pH <2

-01

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/06/24 16:00	04/22/25 10:38	
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Sample: HJ04994-02
Name: BA04

Sampled: 10/24/24 13:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-02

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/06/24 16:00	04/22/25 13:40	
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Sample: HJ04994-03
Name: BA05

Sampled: 10/24/24 12:15
Matrix: Ground Water
Preservative: HNO3, pH <2

-03

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/06/24 16:00	04/22/25 12:15	
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Sample: HJ04994-04
Name: G51S

Sampled: 10/24/24 10:41
Matrix: Ground Water
Preservative: HNO3, pH <2

-04

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/06/24 16:00	04/22/25 10:41	
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Sample: HJ04994-05
Name: Field Blank

Sampled: 10/24/24 15:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-05

Analysis	Due	Expires	Comments
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01-Radium 226/228 combined	11/06/24 16:00	04/22/25 15:30	
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SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HJ04994

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

L1793620

Sample: HJ04994-06
Name: OR13D

Sampled: 10/24/24 12:59
Matrix: Ground Water
Preservative: HNO3, pH <2

-06

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 12:59	

Sample: HJ04994-07
Name: OR13S

Sampled: 10/24/24 12:30
Matrix: Ground Water
Preservative: HNO3, pH <2

-07

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 12:30	

Sample: HJ04994-08
Name: OR19

Sampled: 10/24/24 11:22
Matrix: Ground Water
Preservative: HNO3, pH <2

-08

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 11:22	

Sample: HJ04994-09
Name: EB #2

Sampled: 10/24/24 15:40
Matrix: Ground Water
Preservative: HNO3, pH <2

-09

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 15:40	

Sample: HJ04994-10
Name: OM07

Sampled: 10/24/24 08:49
Matrix: Ground Water
Preservative: HNO3, pH <2

-10

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 08:49	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC

HJ04994

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

L1793620

Sample: HJ04994-11
Name: OR06A

Sampled: 10/24/24 09:38
Matrix: Ground Water
Preservative: HNO3, pH <2

-11

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 09:38	

Sample: HJ04994-12
Name: OM22D

Sampled: 10/24/24 11:35
Matrix: Ground Water
Preservative: HNO3, pH <2

-12

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 11:35	

Sample: HJ04994-13
Name: OM15D

Sampled: 10/24/24 10:42
Matrix: Ground Water
Preservative: HNO3, pH <2

-13

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 10:42	

Sample: HJ04994-14
Name: OM28

Sampled: 10/24/24 12:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-14

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 12:45	

Sample: HJ04994-15
Name: OM27

Sampled: 10/24/24 13:45
Matrix: Ground Water
Preservative: HNO3, pH <2

-15

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 13:45	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ04994

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

L1793620

Sample: HJ04994-16
Name: OM26

Sampled: 10/24/24 14:23
Matrix: Ground Water
Preservative: HNO3, pH <2

-16

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 14:23	

Sample: HJ04994-17
Name: XPW01

Sampled: 10/24/24 15:28
Matrix: Ground Water
Preservative: HNO3, pH <2

-17

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 15:28	

Sample: HJ04994-18
Name: OM01

Sampled: 10/24/24 14:10
Matrix: Ground Water
Preservative: HNO3, pH <2

-18

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 14:10	

Sample: HJ04994-19
Name: OM01 Dup

Sampled: 10/24/24 14:10
Matrix: Ground Water
Preservative: HNO3, pH <2

-19

Analysis	Due	Expires	Comments
01-Radium 226/228 combined	11/06/24 16:00	04/22/25 14:10	

SUBCONTRACT ORDER
Transfer Chain of Custody

Pace Analytical Services, LLC
HJ04994

G008

L1793620

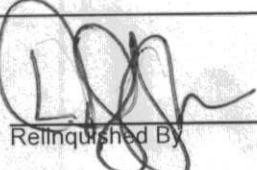
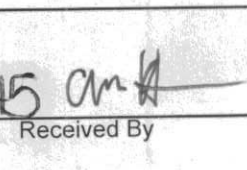
Sample Receipt Checklist

COC Seal Present/Intact:	☒ Y ☐ N	If Applicable	
COC Signed/Accurate:	☐ Y ☐ N	VCA 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 Green <0.5 mR/hr:	☒ Y ☐ N		

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

Date Shipped: 10/28/24 Total # of Containers: 19 Sample Origin (State): IL PO #: _____

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

	<u>10/28/24</u>	<u>0945 am</u>		<u>10/29/24</u>	<u>930</u>	Sample Temperature Upon Receipt	_____ °C
						Sample(s) Received on Ice	Y or N
Relinquished By	Date/Time	Received By	Date/Time	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		
Relinquished By	Date/Time	Received By	Date/Time				

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			Section D Requested Analysis Filtered (Y/N)			Requested Analysis Filtered (Y/N)			Requested Analysis Filtered (Y/N)		
Company			Report To			Attention			Company Name			NPDES			REGULATORY AGENCY		
Address			Copy To			Dary Johnson			see Section A			GROUND WATER			DRINKING WATER		
Email To			Purchase Order No.			Project Name			Project Manager			UST			OTHER		
Phone			Project Number			Profile #			Site Location			RCRA			IL		
Requested Due Date/TAT:			10 day														
1	OM 1015	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
2	OM 101P	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
3	OM 102S	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
4	OM 106D	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
5	OM 415	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
6	G535	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
7	G53L	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
8	G52L	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
9	G50S	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
10	G12L	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
11	R11L	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
12	R10L	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
13	R10L Dip	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24	10/15/24
14																	
15																	
16																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP IN C	Received on	Custody	Sealed Cooler	Samples Intact
DC-24Q4 Rev 0	h-dm	10/15/24	1657	h-dm	10/15/24	1657	1.7	1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE	DATE SIGNED (MM/DD/YYYY)
PRINT Name of SAMPLER SIGNATURE of SAMPLER	DATE SIGNED (MM/DD/YYYY) 10/15/24

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Required Client Information:

Company:	Vistra Corp Duck Creek	Report To:	Sam Davies: samantha.davies@vistracorp.com	Company Name:	Vistra Corp
Address:	17751 North Clico Rd	Copy To:	Sam Davies: samantha.davies@vistracorp.com	Address:	see Section A
	Carleton, IL 61520		Day Johnson: Robert.Johnson@vistracorp.com		
Email To:	Brian.Voelker@vistracorp.com	Purchase Order No.:		Reference:	
Phone:	(217) 753-8911	Project Name:		Project Manager:	
Requested Due Date/TAT:	10 day	Project Number:		Profile #:	

Section B

Required Project Information:

Section C

Invoice Information:

Attention:	Brian Voelker	REGULATORY AGENCY	
		NPDES	GROUND WATER
		UST	RCRA
		STATE:	IL
		OTHER	

ITEM #	Valid Matrix Codes MATRIX CODE (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	COLLECTED DATE TIME	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Project No / Lab I.D.
						Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Y	N				
1	DM19	10/17/24	1307		5	X	X	X	X	X	X	X	X	X					
2	DM18B	10/17/24	1804		5	X	X	X	X	X	X	X	X	X					
3	DM855 #1	10/17/24	1420		5	X	X	X	X	X	X	X	X	X					
4	EB	10/17/24	1430		5	X	X	X	X	X	X	X	X	X					
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			

ADDITIONAL COMMENTS
DC-24Q4 Rev 0

RELINQUISHED BY / AFFILIATION
DATE
TIME

ACCEPTED BY / AFFILIATION
DATE
TIME

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):
Temp in °C
Received on Ice (Y/N)
Custody Sealed Cooler (Y/N)
Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
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
	Canton, IL 61520		Daryl Johnson: Robert.Johnson@vistracorp.com	Address:	see Section A
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Quote Reference:	
Phone:	(217) 753-8911	Project Name:		Project Manager:	
		Project Number:		Profile #:	
Requested Due Date/TAT:		10 day			

Section D Required Client Information		Valid Matrix Codes		COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)		MATRIX CODE (see valid codes to left)		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Requested Analysis Filtered (Y/N)		Project No./ Lab I.D.	
ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE	CODE	DATE	TIME														
1	0914D	GRAB	DW	10/29/24	1440														
2	P60		WT		1341														
3	P37L		WW		1208														
4	P30L		P		1119														
5	P30L DUPE		SL		1119														
6	T46L		SL		1017														
7	T45L		WP		1042														
8	T49L		WP		1102														
9	T43L DUPE		WP		1132														
10	G64L		WP		1305														
11	G64L		WP		1440														
12	G64S		WP		1540														
13	G63L		WP																
14			WP																
15			WP																
16			WP																

Section E Additional Comments		Relinquished By / Affiliation		Date		Time		Accepted By / Affiliation		Date		Time		Sample Conditions	
DC-24Q4 Rev 0		[Signature]		10/29/24		1639		[Signature]		10/29/24		1639		Received on (Y/N) X N Y Custody (Y/N) X N Y Sealed cooler (Y/N) X N Y Samples intact (Y/N) X N Y	
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER:		DATE Signed (MM/DD/YYYY):											
[Signature]		KALY DESSE		10/22/24											

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:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section B

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section C

Invoice Information:

Attention:

Company Name:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section D

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section E

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section F

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section G

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section H

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section I

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section J

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section K

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section L

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section M

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section N

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section O

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section P

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section Q

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section R

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section S

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section T

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section U

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section V

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section W

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section X

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section Y

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section Z

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section AA

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section AB

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section AC

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section AD

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section AE

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section AF

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section AG

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section AH

Required Client Information:

Company:

Address:

City:

State:

Zip:

Phone:

Fax:

Requested Due Date/TAT:

10 day

Section AI

Required Project Information:

Report To:

Copy To:

Purchase Order No.:

Project Name:

Project Number:

Section AJ

Required Client Information:

Company:

Address:

City:

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Vistra Corp-Duck Creek	Report To:	Brian Voelker	Attention:	Brian Voelker
Address:	17751 North Cicco Rd Canton, IL 61520	Copy To:	Sam Davies; samantha.davies@vistracorp.com	Company Name:	Vistra Corp
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:	Daryl Johnson; Robert.Johnson@vistracorp.com	Address:	see Section A
Phone:	(217) 753-8911	Project Name:		Quote Reference:	
Fax:		Project Number:		Project Manager:	
Requested Due Date/TAT:	10 day	Profile #:		Site Location STATE:	IL

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	DATE	TIME	SAMPLE TYPE (G=GRAB C=COMP)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Project No./ Lab I.D.
1	G5476		10/24/24	10:38			4	X	DC-257-203			
2	G5475			18:01			3	X	DC-257-204			
3	G5475 DUP			18:01			3	X	DC-257-205			
4	G5476								DC-811-204			
5	X301 Pump House								DC-845-201-202			
6	BAD41			14:14			3	X	DC-845-203			
7	BA05			13:40			4	X	DC-845-205			
8	G515			18:15			4	X	DC-CLOSURE-201-202			
9	P36L			10:41			4	X	DC-HCR-201-202			
10	G66L			10:48			4	X	DC-SUP-000			
11	FIELD BEAK			12:03			4	X	DC-WPCP-203-206			
12	OR13D			15:30			8	X				
13	OR13S			18:59			5	X				
14	OR19			18:30			5	X				
15	FOOTWEAR BEAK			11:21			5	X				
16	OMO7			15:40			5	X				
				08:49			5	X				

SAMPLER NAME AND SIGNATURE		DATE	
PRINT Name of SAMPLER:	HANES DESKE	DATE Signed (MM/DD/YYYY):	10/24/24
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YYYY):	10/24/24

Handwritten notes and signatures at the bottom right of the page.

CHAIN-OF-CUSTODY / Analytical Request Document

Section A
Required Client Information:

Section B
Required Project Information:

Section C
Invoice Information:

Company:	Vistra Corp-Duck Creek	Report To:	Brian Voelker	Attention:	Brian Voelker	REGULATORY AGENCY
Address:	17751 North Clico Rd	Copy To:	Sam Davies: samantha.davies@vistracorp.com	Company Name:	Vistra Corp	NPDES
	Canton, IL 61520	Dary Johnson: Robert.Johnson@vistracorp.com		Address:	see Section A	GROUND WATER
Email To:	Brian.Voelker@VistraCorp.com	Purchase Order No.:		Quote Reference:		UST
Phone:	(217) 753-8911	Project Name:		Project Manager:		RCRA
Fax:		Project Number:		Profile #:		OTHER
Requested Due Date/TAT:	10 day					Site Location STATE: IL

ITEM #	Section D Required Client Information Valid Matrix Codes MATRIX CODE DRAINAGE WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL SOLID WASTE SW AIR AR OTHER OT TS	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test 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-HCR-201-202 DC-SUP-000 DC-WPCP-203-206	Residual Chlorine (Y/N)	Project No./Lab I.D.	
													COLLECTED
1		OROGA	246		10/24/24	09:38		5 X	X				
2		DM281D				11:35		5 X	X				
3		DM15D				10:40		5 X	X				
4		DM28				18:45		4 X	X				
5		DM27				13:45		4 X	X				
6		DM26				14:23		4 X	X				
7		XPL201				15:28		5 X	X				
8		DM01				14:10		5 X	X				
9		DM01 Dup				14:16		5 X	X				
10													
11													
12													
13													
14													
15													
16													

ADDITIONAL COMMENTS: DC-24Q4 Rev 0

RELINQUISHED BY / AFFILIATION: [Signature] DATE: 10/24/24 TIME: 10:09

ACCEPTED BY / AFFILIATION: [Signature] DATE: 10/24/24 TIME: 10:09

DATE Signed (MM/DD/YYYY): 10/24/24

Temp in °C: 0.8

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): N

Samples Intact (Y/N): Y

field team

17064816 CD
H1004994

**ATTACHMENT C
COMPARISON TO BACKGROUND
QUARTER 4, 2024**

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 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	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.003
BA01	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	27	CI around geomean	0.00101	0.0240
BA01	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CB around T-S line	0.0898	0.480
BA01	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.00210
BA01	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CI around median	0.022	7.90
BA01	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.001
BA01	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	11.6	700
BA01	UA	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.004	0.0730
BA01	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.002	0.0300
BA01	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	63	CI around median	0.25	0.461
BA01	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	53	CI around median	0.001	0.0420
BA01	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680
BA01	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	93	Most recent sample	0.0002	0.004
BA01	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	7	CB around T-S line	0.000284	0.00550
BA01	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	31	0	CI around median	6.9/7.0	6.4/7.5
BA01	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.57	7.27
BA01	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	14	100	All ND - Last	0.001	0.00230
BA01	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	137	890
BA01	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.001
BA01	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	571	2,590
BA02	UA	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.003
BA02	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	7	CI around geomean	0.00183	0.0240
BA02	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CI around mean	0.194	0.480
BA02	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.001	0.00210
BA02	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	0.0488	7.90
BA02	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.001
BA02	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	9.45	700

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 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
BA02	UA	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.004	0.0730
BA02	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.002	0.0300
BA02	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	82	CI around median	0.25	0.461
BA02	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	80	CI around median	0.001	0.0420
BA02	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680
BA02	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	93	CI around median	0.0002	0.004
BA02	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	0	CI around mean	0.00408	0.00550
BA02	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	28	0	CI around mean	6.9/7.2	6.4/7.5
BA02	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.496	7.27
BA02	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.001	0.00230
BA02	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	11.8	890
BA02	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	93	Most recent sample	0.001	0.001
BA02	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	477	2,590
BA02L	UA/PMP	E007	Antimony, total	mg/L	--	--	--	--	NS ⁷	0.003
BA02L	UA/PMP	E007	Arsenic, total	mg/L	--	--	--	--	NS ⁷	0.0240
BA02L	UA/PMP	E007	Barium, total	mg/L	--	--	--	--	NS ⁷	0.480
BA02L	UA/PMP	E007	Beryllium, total	mg/L	--	--	--	--	NS ⁷	0.00210
BA02L	UA/PMP	E007	Boron, total	mg/L	--	--	--	--	NS ⁷	7.90
BA02L	UA/PMP	E007	Cadmium, total	mg/L	--	--	--	--	NS ⁷	0.001
BA02L	UA/PMP	E007	Chloride, total	mg/L	--	--	--	--	NS ⁷	700
BA02L	UA/PMP	E007	Chromium, total	mg/L	--	--	--	--	NS ⁷	0.0730
BA02L	UA/PMP	E007	Cobalt, total	mg/L	--	--	--	--	NS ⁷	0.0300
BA02L	UA/PMP	E007	Fluoride, total	mg/L	--	--	--	--	NS ⁷	0.461
BA02L	UA/PMP	E007	Lead, total	mg/L	--	--	--	--	NS ⁷	0.0420
BA02L	UA/PMP	E007	Lithium, total	mg/L	--	--	--	--	NS ⁷	0.0680
BA02L	UA/PMP	E007	Mercury, total	mg/L	--	--	--	--	NS ⁷	0.004
BA02L	UA/PMP	E007	Molybdenum, total	mg/L	--	--	--	--	NS ⁷	0.00550

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 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
BA02L	UA/PMP	E007	pH (field)	SU	--	--	--	--	NS ⁷	6.4/7.5
BA02L	UA/PMP	E007	Radium 226 + Radium 228, total	pCi/L	--	--	--	--	NS ⁷	7.27
BA02L	UA/PMP	E007	Selenium, total	mg/L	--	--	--	--	NS ⁷	0.00230
BA02L	UA/PMP	E007	Sulfate, total	mg/L	--	--	--	--	NS ⁷	890
BA02L	UA/PMP	E007	Thallium, total	mg/L	--	--	--	--	NS ⁷	0.001
BA02L	UA/PMP	E007	Total Dissolved Solids	mg/L	--	--	--	--	NS ⁷	2,590
BA03	UA	E007	Antimony, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.003	0.003
BA03	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.001	0.0240
BA03	UA	E007	Barium, total	mg/L	02/05/16 - 10/23/24	15	0	CB around linear reg	0.109	0.480
BA03	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.00210
BA03	UA	E007	Boron, total	mg/L	02/05/16 - 10/23/24	27	0	CB around T-S line	0.0132	7.90
BA03	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.001
BA03	UA	E007	Chloride, total	mg/L	02/05/16 - 10/23/24	27	0	CI around mean	5.6	700
BA03	UA	E007	Chromium, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.004	0.0730
BA03	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.002	0.0300
BA03	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/23/24	27	59	CI around median	0.25	0.461
BA03	UA	E007	Lead, total	mg/L	02/05/16 - 10/23/24	15	73	CI around median	0.001	0.0420
BA03	UA	E007	Lithium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.02	0.0680
BA03	UA	E007	Mercury, total	mg/L	02/05/16 - 10/23/24	15	87	CI around median	0.0002	0.004
BA03	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/23/24	15	13	CB around linear reg	-0.0006	0.00550
BA03	UA	E007	pH (field)	SU	02/05/16 - 10/23/24	29	0	CI around mean	7.0/7.2	6.4/7.5
BA03	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/23/24	15	0	CI around mean	0.593	7.27
BA03	UA	E007	Selenium, total	mg/L	02/05/16 - 10/23/24	15	47	CI around median	0.001	0.00230
BA03	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/23/24	27	0	CB around linear reg	13.5	890
BA03	UA	E007	Thallium, total	mg/L	02/05/16 - 10/23/24	15	100	All ND - Last	0.001	0.001
BA03	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/23/24	27	0	CI around mean	416	2,590
BA03L	UA/PMP	E007	Antimony, total	mg/L	--	--	--	--	NS ⁷	0.003

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 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
BA03L	UA/PMP	E007	Arsenic, total	mg/L	--	--	--	--	NS ⁷	0.0240
BA03L	UA/PMP	E007	Barium, total	mg/L	--	--	--	--	NS ⁷	0.480
BA03L	UA/PMP	E007	Beryllium, total	mg/L	--	--	--	--	NS ⁷	0.00210
BA03L	UA/PMP	E007	Boron, total	mg/L	--	--	--	--	NS ⁷	7.90
BA03L	UA/PMP	E007	Cadmium, total	mg/L	--	--	--	--	NS ⁷	0.001
BA03L	UA/PMP	E007	Chloride, total	mg/L	--	--	--	--	NS ⁷	700
BA03L	UA/PMP	E007	Chromium, total	mg/L	--	--	--	--	NS ⁷	0.0730
BA03L	UA/PMP	E007	Cobalt, total	mg/L	--	--	--	--	NS ⁷	0.0300
BA03L	UA/PMP	E007	Fluoride, total	mg/L	--	--	--	--	NS ⁷	0.461
BA03L	UA/PMP	E007	Lead, total	mg/L	--	--	--	--	NS ⁷	0.0420
BA03L	UA/PMP	E007	Lithium, total	mg/L	--	--	--	--	NS ⁷	0.0680
BA03L	UA/PMP	E007	Mercury, total	mg/L	--	--	--	--	NS ⁷	0.004
BA03L	UA/PMP	E007	Molybdenum, total	mg/L	--	--	--	--	NS ⁷	0.00550
BA03L	UA/PMP	E007	pH (field)	SU	--	--	--	--	NS ⁷	6.4/7.5
BA03L	UA/PMP	E007	Radium 226 + Radium 228, total	pCi/L	--	--	--	--	NS ⁷	7.27
BA03L	UA/PMP	E007	Selenium, total	mg/L	--	--	--	--	NS ⁷	0.00230
BA03L	UA/PMP	E007	Sulfate, total	mg/L	--	--	--	--	NS ⁷	890
BA03L	UA/PMP	E007	Thallium, total	mg/L	--	--	--	--	NS ⁷	0.001
BA03L	UA/PMP	E007	Total Dissolved Solids	mg/L	--	--	--	--	NS ⁷	2,590
BA04	UA	E007	Antimony, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.003	0.003
BA04	UA	E007	Arsenic, total	mg/L	02/05/16 - 10/24/24	15	80	CI around median	0.001	0.0240
BA04	UA	E007	Barium, total	mg/L	02/05/16 - 10/24/24	15	0	CI around mean	0.102	0.480
BA04	UA	E007	Beryllium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.001	0.00210
BA04	UA	E007	Boron, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	0.284	7.90
BA04	UA	E007	Cadmium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.001	0.001
BA04	UA	E007	Chloride, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	39.8	700
BA04	UA	E007	Chromium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.004	0.0730

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 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
BA04	UA	E007	Cobalt, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.002	0.0300
BA04	UA	E007	Fluoride, total	mg/L	02/05/16 - 10/24/24	27	30	CB around linear reg	0.223	0.461
BA04	UA	E007	Lead, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.0420
BA04	UA	E007	Lithium, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.02	0.0680
BA04	UA	E007	Mercury, total	mg/L	02/05/16 - 10/24/24	15	100	All ND - Last	0.0002	0.004
BA04	UA	E007	Molybdenum, total	mg/L	02/05/16 - 10/24/24	15	0	CI around geomean	0.00184	0.00550
BA04	UA	E007	pH (field)	SU	02/05/16 - 10/24/24	28	0	CI around mean	7.0/7.2	6.4/7.5
BA04	UA	E007	Radium 226 + Radium 228, total	pCi/L	02/05/16 - 10/24/24	15	0	CI around mean	0.493	7.27
BA04	UA	E007	Selenium, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.00230
BA04	UA	E007	Sulfate, total	mg/L	02/05/16 - 10/24/24	27	0	CB around T-S line	147	890
BA04	UA	E007	Thallium, total	mg/L	02/05/16 - 10/24/24	15	93	CI around median	0.001	0.001
BA04	UA	E007	Total Dissolved Solids	mg/L	02/05/16 - 10/24/24	27	0	CB around linear reg	684	2,590

ATTACHMENT C.
COMPARISON TO BACKGROUND - QUARTER 4, 2024
845 QUARTERLY REPORT
DUCK CREEK POWER PLANT
BOTTOM ASH BASIN
CANTON, IL

Notes:

- = no data available

Events:

NA

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UA/PMP = Uppermost Aquifer/Potential Migration Pathway

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

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

Statistical Calculation = method used to calculate the statistical result:

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

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

CB around 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

Statistical Result Code (if applicable):

NR¹ = Parameter not analyzed.

NS¹ = Well has been, or will be, abandoned; therefore, a sample was not collected.

NS² = Well either needs or was undergoing maintenance; therefore, a sample was not collected.

NS³ = The location was not accessible; therefore, a sample was not collected.

NS⁴ = The location could not be found; therefore, a sample was not collected.

NS⁵ = The location was damaged; therefore, a sample was not collected.

NS⁶ = Sampling pump could not yield a sample.

NS⁷ = Well was either dry or purged dry and did not recover sufficiently to yield adequate volume for a sample.

NS⁸ = A sample was not collected.

PM¹ = Parameter not analyzed as the well purged dry during sample collection and did not sufficiently recover to yield adequate sample volume for analysis.

For pH, the values presented are the lower / upper limits of the background determination