ANALYTICAL REPORT

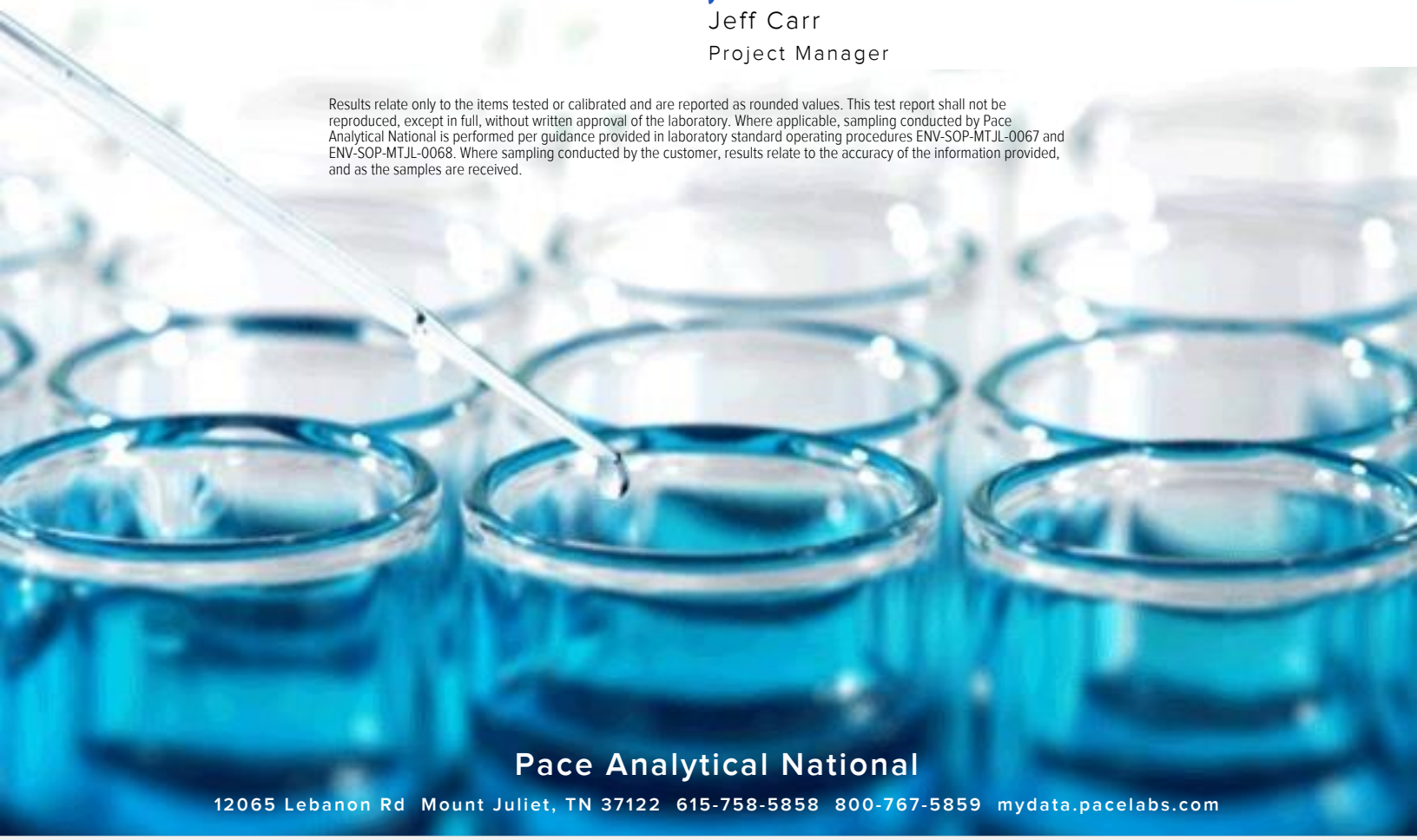
February 14, 2025

ERM - St. Louis, MO

Sample Delivery Group:	L1818469
Samples Received:	01/18/2025
Project Number:	0599247
Description:	Grand Tower Energy Center Groundwater 4Q24 Sampling
Report To:	Randy Homburg
	1968 Craig Road, Suite 100
	Saint Louis, MO 63146

Entire Report Reviewed By:

Jeff Carr
Project Manager



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

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APW-03-WG-20250116 L1818469-01 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 09:00 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-08-WG-20250115 L1818469-02 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 15:40 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-10S-WG-20250116 L1818469-03 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 11:40 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-10D-WG-20250116 L1818469-04 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/16/25 10:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-06S-WG-20250115 L1818469-05 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 08:05 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-06D-WG-20250115 L1818469-06 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 09:55 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2436773	1	01/21/25 12:37	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2436773	1	01/21/25 12:37	01/23/25 18:57	ZRG	Mt. Juliet, TN

APW-05R-WG-20250115 L1818469-07 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 11:30 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/28/25 11:53	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-09-WG-20250115 L1818469-08 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 13:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2436311	1	01/20/25 16:16	01/27/25 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/28/25 11:53	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-02-WG-20250115 L1818469-09 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 10:45 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2440415	1	01/27/25 12:39	01/30/25 18:46	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	01/30/25 18:46	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-01R-WG-20250115 L1818469-10 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/15/25 12:50 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

APW-04-WG-20250114 L1818469-11 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/14/25 16:10 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

EB-01-WG-20250114 L1818469-12 Non-Potable Water

Collected by: Marshall A | Collected date/time: 01/14/25 11:00 | Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

DUP-01-WG-20250115 L1818469-13 Non-Potable Water

Collected by: Marshall A
Collected date/time: 01/15/25 00:01
Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	ZRG	Mt. Juliet, TN

DUP-02-WG-20250115 L1818469-14 Non-Potable Water

Collected by: Marshall A
Collected date/time: 01/15/25 00:02
Received date/time: 01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2441146	1	01/30/25 10:21	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2439063	1	01/24/25 09:17	02/05/25 17:17	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2439063	1	01/24/25 09:17	01/28/25 11:53	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.

Jeff Carr
Project Manager

Project Narrative

-12 container label ID EB-01-WG-202501 differs from COC

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	0.698		0.382	0.674	0.670	0.356	01/27/2025 18:18	WG2436311
(T) Barium	*85.1*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*58.1*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.794		0.400	0.688	01/27/2025 18:18	WG2436773

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	0.0960	J	0.120	0.221	0.158	0.131	01/23/2025 18:57	WG2436773
(T) Barium-133	*98.4*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.10		0.445	0.719	0.767	0.401	01/27/2025 18:18	WG2436311
(T) Barium	*114*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*59.3*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.48		0.502	0.791	01/27/2025 18:18	WG2436773

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	0.382		0.233	0.461	0.194	0.147	01/23/2025 18:57	WG2436773
(T) Barium-133	*110*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.69		0.451	0.803	0.758	0.401	01/27/2025 18:18	WG2436311
(T) Barium	*96.4*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*68.4*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.02		0.498	0.774	01/27/2025 18:18	WG2436773

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	0.331		0.211	0.402	0.156	0.128	01/23/2025 18:57	WG2436773
(T) Barium-133	*106*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.10		0.605	0.995	1.03	0.539	01/27/2025 18:18	WG2436311
(T) Barium	*91.7*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*60.2*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.21		0.621	1.05	01/27/2025 18:18	WG2436773

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	0.114	J	0.141	0.242	0.194	0.147	01/23/2025 18:57	WG2436773
(T) Barium-133	*108*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.23		0.613	0.907	0.706	0.372	01/27/2025 18:18	WG2436311
(T) Barium	*88.4*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*56.5*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.49		0.641	0.723	01/27/2025 18:18	WG2436773

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	0.262		0.188	0.357	0.155	0.128	01/23/2025 18:57	WG2436773
(T) Barium-133	*108*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	2.46		0.606	0.856	0.696	0.364	01/27/2025 18:18	WG2436311
(T) Barium	*86.5*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*73.6*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.68		0.631	0.713	01/27/2025 18:18	WG2436773

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	0.227		0.176	0.340	0.154	0.127	01/23/2025 18:57	WG2436773
(T) Barium-133	*100*					*30.0-143*	*01/23/2025 18:57*	WG2436773

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	1.40		0.828	1.21	0.992	0.521	01/27/2025 18:18	WG2436311
(T) Barium	*88.8*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*62.8*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.10		0.917	1.07	01/28/2025 11:53	WG2439063

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	0.710		0.394	0.781	0.403	0.261	01/28/2025 11:53	WG2439063
(T) Barium-133	*108*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.21		0.764	1.13	0.915	0.478	01/27/2025 18:18	WG2436311
(T) Barium	*109*					*30.0-143*	*01/27/2025 18:18*	WG2436311
(T) Yttrium	*64.4*					*30.0-136*	*01/27/2025 18:18*	WG2436311

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.46		0.806	0.975	01/28/2025 11:53	WG2439063

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	0.246	J	0.256	0.405	0.338	0.227	01/28/2025 11:53	WG2439063
(T) Barium-133	*111*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.89		0.774	1.33	1.44	0.755	01/30/2025 18:46	WG2440415
(T) Barium	*75.5*					*30.0-143*	*01/30/2025 18:46*	WG2440415
(T) Yttrium	*91.9*					*30.0-136*	*01/30/2025 18:46*	WG2440415

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.19		0.814	1.47	01/30/2025 18:46	WG2439063

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	0.301		0.253	0.388	0.284	0.207	01/28/2025 11:53	WG2439063
(T) Barium-133	*109*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.924		0.295	0.533	0.493	0.260	02/05/2025 17:17	WG2441146
(T) Barium	*112*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*72.9*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.946		0.307	0.529	02/05/2025 17:17	WG2439063

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	0.0217	U	0.0838	0.135	0.191	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*94.0*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.111	U	0.567	0.936	0.996	0.520	02/05/2025 17:17	WG2441146
(T) Barium	*105*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*62.5*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.174	U	0.580	1.02	02/05/2025 17:17	WG2439063

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	0.0629	U	0.123	0.204	0.208	0.151	01/28/2025 11:53	WG2439063
(T) Barium-133	*104*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.689		0.386	0.645	0.662	0.347	02/05/2025 17:17	WG2441146
(T) Barium	*90.1*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*67.5*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.839		0.417	0.686	02/05/2025 17:17	WG2439063

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	0.149	J	0.158	0.291	0.181	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*85.8*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	1.48		0.434	0.706	0.723	0.378	02/05/2025 17:17	WG2441146
(T) Barium	*91.1*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*62.4*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.83		0.490	0.750	02/05/2025 17:17	WG2439063

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	0.356		0.228	0.447	0.198	0.150	01/28/2025 11:53	WG2439063
(T) Barium-133	*98.0*					*30.0-143*	*01/28/2025 11:53*	WG2439063

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	0.630	J	0.376	0.624	0.645	0.337	02/05/2025 17:17	WG2441146
(T) Barium	*107*					*30.0-143*	*02/05/2025 17:17*	WG2441146
(T) Yttrium	*68.4*					*30.0-136*	*02/05/2025 17:17*	WG2441146

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.691		0.389	0.664	02/05/2025 17:17	WG2439063

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	J	0.0981	0.169	0.156	0.128	01/28/2025 11:53	WG2439063
(T) Barium-133	*109*					*30.0-143*	*01/28/2025 11:53*	WG2439063

Method Blank (MB)

(MB) R4171569-1 01/27/25 18:18

Analyte	MB Result	MB Qualifier	MB 2 sigma CE	MB MDA	MB Lc
	pCi/l		+ / -	pCi/l	pCi/l
Radium-228	0.174	U	0.229	0.410	0.216
(T) Barium	*115*		*115*		
(T) Yttrium	*60.2*		*60.2*		

L1818469-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1818469-07 01/27/25 18:18 • (DUP) R4171569-5 01/27/25 18:18

Analyte	Original Result	Original 2 sigma CE	Original MDA	Original Lc	DUP Result	DUP 2 sigma CE	DUP MDA	DUP Lc	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	pCi/l	+ / -	pCi/l	pCi/l	%			%	
Radium-228	1.40	0.828	0.992	0.521	0.319	0.639	1.14	0.593	126	1.03	U	20	3
(T) Barium	*88.8*				*83.7*	*83.7*							
(T) Yttrium	*62.8*				*66.6*	*66.6*							

Laboratory Control Sample (LCS)

(LCS) R4171569-2 01/27/25 18:18

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.53	111	80.0-120	
(T) Barium			*122*		
(T) Yttrium			*74.2*		

L1818231-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818231-06 01/27/25 18:18 • (MS) R4171569-3 01/27/25 18:18 • (MSD) R4171569-4 01/27/25 18:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	16.7	2.05	20.5	22.0	111	120	1	70.0-130			6.96		20
(T) Barium		*93.4*			*98.6*	*104*							
(T) Yttrium		*66.5*			*71.1*	*64.0*							

Method Blank (MB)

(MB) R4172937-1 01/30/25 18:46

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.373		0.188	0.354	0.185
(T) Barium	*83.8*		*83.8*		
(T) Yttrium	*101*		*101*		

L1820183-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1820183-07 01/31/25 16:37 • (DUP) R4172937-5 01/30/25 18:46

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	0.767	0.381	0.674	0.357	2.13	0.845	1.57	0.823	94.1	1.47		20	3
(T) Barium	*85.9*				*79.9*	*79.9*							
(T) Yttrium	*82.4*				*81.0*	*81.0*							

Laboratory Control Sample (LCS)

(LCS) R4172937-2 01/30/25 18:46

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.80	116	80.0-120	
(T) Barium			*84.9*		
(T) Yttrium			*91.5*		

L1819831-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819831-03 01/31/25 16:37 • (MS) R4172937-3 01/30/25 18:46 • (MSD) R4172937-4 01/30/25 18:46

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.666	19.9	20.9	115	121	1	70.0-130			4.51		20
(T) Barium		*93.7*			*83.3*	*86.6*							
(T) Yttrium		*89.6*			*92.8*	*93.2*							

Method Blank (MB)

(MB) R4176524-1 02/04/25 17:04

Analyte	MB Result	MB Qualifier	MB 2 sigma CE	MB MDA	MB Lc
	pCi/l		+ / -	pCi/l	pCi/l
Radium-228	0.0392	U	0.179	0.348	0.182
(T) Barium	*95.1*		*95.1*		
(T) Yttrium	*85.3*		*85.3*		

L1820688-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1820688-10 02/05/25 22:14 • (DUP) R4176524-5 02/04/25 17:04

Analyte	Original Result	Original 2 sigma CE	Original MDA	Original Lc	DUP Result	DUP 2 sigma CE	DUP MDA	DUP Lc	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	pCi/l	+ / -	pCi/l	pCi/l	%			%	
Radium-228	0.374	0.533	1.03	0.537	-0.193	0.575	1.12	0.586	200	0.723	U	20	3
(T) Barium	*98.1*				*106*	*106*							
(T) Yttrium	*61.2*				*93.1*	*93.1*							

Laboratory Control Sample (LCS)

(LCS) R4176524-2 02/04/25 17:04

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.76	115	80.0-120	
(T) Barium			*112*		
(T) Yttrium			*86.5*		

L1818469-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818469-11 02/05/25 17:17 • (MS) R4176524-3 02/04/25 17:04 • (MSD) R4176524-4 02/04/25 17:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	10.0	0.111	11.4	10.8	113	107	1	70.0-130			5.41		20
(T) Barium		*105*			*107*	*92.5*							
(T) Yttrium		*62.5*			*83.4*	*77.8*							

Method Blank (MB)

(MB) R4170041-5 01/23/25 22:51

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0136	J	0.0163	0.0239	0.0171
(T) Barium-133	*103*		*103*		

L1818231-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1818231-03 01/23/25 22:51 • (DUP) R4170041-4 01/23/25 18:56

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	0.0660	0.129	0.218	0.159	0.000	0.166	0.343	0.235	200	0.314	U	20	3
(T) Barium-133	*95.3*				*97.9*	*97.9*							

Laboratory Control Sample (LCS)

(LCS) R4170041-1 01/23/25 18:56

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.70	114	80.0-120	
(T) Barium-133			*74.4*		

L1818231-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1818231-07 01/23/25 18:56 • (MS) R4170041-2 01/23/25 18:56 • (MSD) R4170041-3 01/23/25 18:56

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	0.0629	18.1	18.0	90.2	89.7	1	75.0-125			0.554		20
(T) Barium-133		*112*			*99.0*	*101*							

Method Blank (MB)

(MB) R4171352-1 01/28/25 11:53

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0112	U	0.0346	0.0594	0.0365
(T) Barium-133	*87.3*		*87.3*		

L1817489-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1817489-06 01/28/25 11:53 • (DUP) R4171352-5 01/28/25 11:53

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	21.3	1.83	0.318	0.220	16.8	1.60	0.245	0.182	23.5	1.84		20	3
(T) Barium-133	*109*				*104*	*104*							

Laboratory Control Sample (LCS)

(LCS) R4171352-2 01/28/25 11:53

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	4.34	86.8	80.0-120	
(T) Barium-133			*97.5*		

L1819451-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819451-04 01/28/25 11:53 • (MS) R4171352-3 01/28/25 11:53 • (MSD) R4171352-4 01/28/25 11:53

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	0.330	18.5	17.6	90.8	86.1	1	75.0-125			5.16		20
(T) Barium-133		*101*			*97.8*	*102*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

Company Name/Address:
ERM - St. Louis, MO

1968 Craig Road, Suite 100
Saint Louis, MO 63146

Billing Information:
Accounts Payable Dept.
1701 Golf Road, Suite 1-1000
Rolling Meadows, IL 60008-4242

Report to: **Randy Homburg**

Email To: **Randy.Homburg@erm.com;Tim.Wilson@erm.co**

Project Description: **Grand Tower Energy Center Groundwater 4Q24**

City/State Collected: Grand Tower, IL

Please Circle: PT MT CT ET

Phone: **314-682-3980**

Client Project # **0599247**

Lab Project # **ERMSCMO-0599247**

Collected by (print): Marshall Arendell

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day Standard

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	Remarks	Sample # (lab only)
APW-03-WG-2024[5011]6	Grab	NPW		1/16/25	0900	3	X	X		-01
APW-08-WG-2024[5011]5		NPW		1/15/25	1540	3	X	X		02
~~APW-07-WG-2024[5011]6~~		~~NPW~~		~~1/16/25~~		3	X	X	No samples collected	
APW-10S-WG-2024[5011]6		NPW		〃	1140	3	X	X		03
APW-10D-WG-2024[5011]6		NPW		〃	1050	3	X	X		04
APW-06S-WG-2024[5011]6		NPW		1/15/25	0805	3	X	X		05
APW-06D-WG-2024[5011]5		NPW		〃	0955	3	X	X		06
APW-05R-WG-2024[5011]5		NPW		〃	1130	3	X	X		07
APW-09-WG-2024[5011]5		NPW		〃	1350	3	X	X		08
APW-02-WG-2024[5011]5		NPW		〃	1045	3	X	X		09

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1818469
F184

Acctnum: **ERMSCMO**
Template: **T243472**
Prelogin: **P1122251**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Marshall Arendell	1/17/25	12:30	Esmo	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 42
	1/17/25	13:00		PH – 10BDH0941 TRC – 3227A333
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time: Hold: Condition: NCF / OK
			CRobeiza	01.18.25 0900

Company Name/Address:
ERM - St. Louis, MO

1968 Craig Road, Suite 100
Saint Louis, MO 63146

Billing Information:
Accounts Payable Dept.
1701 Golf Road, Suite 1-1000
Rolling Meadows, IL 60008-4242

Report to: **Randy Homburg**

Email To: **Randy.Homburg@erm.com;Tim.Wilson@erm.co**

Project Description: **Grand Tower Energy Center Groundwater 4Q24**

City/State Collected: Grand Tower, IL

Please Circle: PT MT (CT) ET

Phone: **314-682-3980**

Client Project # **0599247**

Lab Project # **ERMSCMO-0599247**

Collected by (print): Marshall Arendell

Site/Facility ID #

P.O. #

Collected by (signature): Marshall Arendell

Immediately Packed on Ice N____ Y X

Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day Standard

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	Remarks	Sample # (lab only)
APW-01R-WG-2024 50115	Grab	NPW		1/15/25	1250	3	X	X		-10
APW-04-WG-2024 50114		NPW		1/14/25	1610	3	X	X		11
EB-01-WG-2024 50114		NPW		1/14/25	1100	3	X	X		12
DUP-01-WG-2024 50115		NPW		1/15/25	0001	3	X	X		13
DUP-02-WG-2024 50115		NPW		1/15/25	0002	3	X	X		14

Analysis / Container / Preservative

Pres Chk

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1518469

Table #

Acctnum: **ERMSCMO**
Template: **T243472**
Prelogin: **P1122251**
PM: **206 - Jeff Carr**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

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Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Marshall Arendell	1/17/25	12:30	ESCMO	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 42
	1/17/25	13:00		If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time: Hold: Condition: NCF / OK
			CROBERTS	01.18.25 0900

L# L1818469

Fed Ex tracking #	Gun ID	Temperature
4257 0933 7305	EDA9	2.8+0.4 = 3.2
4257 0933 7290	"	4.6+0.4 = 5.0
4257 0933 7316	"	2.4+0.4 = 2.8

Name

Date