SEMI-ANNUAL GROUND WATER QUALITY ASSURANCE REPORT

SECOND HALF OF 2021
(JULY THRU DECEMBER)

SEMI – ANNUAL QUALITY ASSURANCE

CHURCH ROCK SITE

JULY TO DECEMBER OF 2021 SAMPLING EVENTS

FEBRUARY - 2022

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1.0 REQUIREMENTS

The quality assurance and control procedures are contained in Sec. 3.0 of the Remedial Action Plan of Church Rock Site dated April 1989. The procedure addresses sampling, chain of custody, laboratory quality control, and data validation. These requirements became effective July3, 1989, when United Nuclear received the Administrative Order on the Church Rock Site from the U.S. Environmental Protection Agency (USEPA).

2.0 FIELD SAMPLING PROCEDURES AND QA/QC REPORT

Copies of the 2021 QUARTERLY (3rd AND 4th) field low flow purging and sampling data sheets are included in Appendix A. These sheets indicate the field parameter of pH, temperature, conductivity and the water level drop in the well if any, during the sampling. The quarterly QA/QC Field Blank, Rinsate, VOC Trip Blank and Duplicate analysis report are included in Appendix B.

3.0 CHAIN OF CUSTODY

Copies of the quarterly Chain of Custody report are included in Appendix C. Energy Laboratories, Inc., our contract laboratory is located in Casper, Wyoming. Energy Labs inspect the sample shipment upon arrival to verify the information of the Chain of Custody form and to determine if sample arrive at the appropriate temperature and preservation.

4.0 LABORATORY CONTROL

Copies of the quarterly internal Quality Control reports prepared by Energy Laboratories and associated EPA performance evaluations are included in Appendix D (1 of 2 & 2 of 2).

5.0 DATA EVALUATION

Analytical reports are reviewed by the Remedial Project Managers and site Radiation Safety Officer after receipt from Energy Labs. Significant increase or decrease and out of range values are identified and the laboratory is requested to recheck the suspect values. The laboratory responds by checking transcription for these items, and where necessary, repeats the analysis. A revised report is then issued for that sample if an error is discovered.

APPENDIX – A

QUARTERLY

FIELD DATA SHEET

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.04	7-5-21/0856	mc
7-Buffer	7.04	7-5-21/0854	mc

(Quar. Performance Monitoring – Pg. 1 of 7)

GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 2021 SAMPLING

(pH/cond. meter #2)

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1412	7-5-21/0854	mc

(pH/cond. meter #2 calibrated on 7-1-21 by mc)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	613	80.47'	81.52'	1st Cond. 7,630	2nd Cond. 7,710	Stable Cond. 7,850	Ending Cond. 8,060
				1st pH 3.02	2nd pH 3.02	Stable pH 3.02	Ending pH 2.95
				1st Temp. 16.8	2nd Temp. 16.5	Stable Temp. 16.0	Ending Temp. 15.6
	Time	Bubbler Start	Bubbler End	Comments: Conductivity is in uS/cm Temperature is in °C pH is in std. units			
	0914	4.354'	3.253'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	717	137.75'	138.76'	1st Cond. 4,370	2nd Cond. 4,420	Stable Cond. 4,560	Ending Cond. 4,660
				1st pH 3.33	2nd pH 3.29	Stable pH 3.28	Ending pH 3.60
				1st Temp. 21.3	2nd Temp. 20.7	Stable Temp. 20.6	Ending Temp. 17.8
	Time	Bubbler Start	Bubbler End	Comments:			
	1016	0.256'	0.251'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	717 DUPLICATE	138.76'	139.79'	1st Cond. 4,660	2nd Cond. 4,660	Stable Cond. 4,680	Ending Cond. 4,560
				1st pH 3.60	2nd pH 3.55	Stable pH 3.54	Ending pH 3.60
				1st Temp. 17.8	2nd Temp. 17.3	Stable Temp. 17.1	Ending Temp. 18.2
	Time	Bubbler Start	Bubbler End	Comments:			
	1044	0.251'	0.253'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	EPA-14	127.73'	128.48'	1st Cond. 3,040	2nd Cond. 3,170	Stable Cond. 3,170	Ending Cond. 3,350
				1st pH 6.83	2nd pH 6.89	Stable pH 6.94	Ending pH 5.74
				1st Temp. 19.1	2nd Temp. 18.9	Stable Temp. 18.9	Ending Temp. 17.3
	Time	Bubbler Start	Bubbler End	Comments:			
	1125	0.269'	0.269'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	708	161.32'	162.71'	1st Cond. 4,560	2nd Cond. 4,800	Stable Cond. 4,880	Ending Cond. 4,980
				1st pH 3.18	2nd pH 3.17	Stable pH 3.19	Ending pH 3.84
				1st Temp. 19.3	2nd Temp. 19.0	Stable Temp. 18.6	Ending Temp. 16.2
	Time	Bubbler Start	Bubbler End	Comments:			
	1210	0.311'	0.303'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-5-21	604	108.14'	108.91'	1st Cond. 5,630	2nd Cond. 5,780	Stable Cond. 5,800	Ending Cond. 6,140
				1st pH 5.80	2nd pH 5.81	Stable pH 5.81	Ending pH 5.25
				1st Temp. 18.6	2nd Temp. 18.0	Stable Temp. 17.8	Ending Temp. 18.1
	Time	Bubbler Start	Bubbler End	Comments:			
	1310	1.323'	0.535'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	3.95	7-6-21/0733	JJ
7-Buffer	6.96	7-6-21/0730	JJ

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GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1416	7-6-21/0734	JJ

(pH/cond. meter #2 on 7-6-21)

Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond. 8,810	Reading 2nd Cond. 8,860	Reading Stable Cond. 8,860	Reading Ending Cond. 9,020
	515-A	Pre-Sample	Post Sample	1st pH 7.50	2nd pH 7.46	Stable pH 7.36	Ending pH 5.96
		108.97		1st Temp. 16.2	2nd Temp. 16.1	Stable Temp. 16.1	Ending Temp. 20.5
7-6-21	Time	Bubbler Start	Bubbler End	Comments: Water level dropped 3.78' during sample to bubbler reading			
	0910	4.022'	0.241'	but no ending meter reading due to probe on top of pump.			
Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond. 6,290	Reading 2nd Cond. 6,310	Reading Stable Cond. 6,400	Reading Ending Cond. 7,000
	614	Pre-Sample	Post Sample	1st pH 7.03	2nd pH 7.03	Stable pH 7.02	Ending pH 6.36
		107.56'	108.37'	1st Temp. 21.4	2nd Temp. 21.1	Stable Temp. 20.8	Ending Temp. 24.0
7-6-21	Time	Bubbler Start	Bubbler End	Comments:			
	1030	0.223'	0.232'				
Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond. 4,490	Reading 2nd Cond. 4,590	Reading Stable Cond. 4,730	Reading Ending Cond. 4,750
	711	Pre-Sample	Post Sample	1st pH 3.18	2nd pH 3.12	Stable pH 3.10	Ending pH 3.10
		186.39'	187.37'	1st Temp. 22.9	2nd Temp. 21.9	Stable Temp. 21.5	Ending Temp. 21.3
7-6-21	Time	Bubbler Start	Bubbler End	Comments:			
	1233	0.063'	0.063'				
Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond. 5,440	Reading 2nd Cond. 5,640	Reading Stable Cond. 5,830	Reading Ending Cond. 6,320
	EPA-13	Pre-Sample	Post Sample	1st pH 6.64	2nd pH 6.74	Stable pH 6.73	Ending pH 5.84
		170.92'	171.83'	1st Temp. 21.8	2nd Temp. 20.7	Stable Temp. 20.6	Ending Temp. 21.2
7-6-21	Time	Bubbler Start	Bubbler End	Comments:			
	1355	0.875'	0.327				
Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
Date	Well Number	WL w/Probe	WL w/Probe	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	3.95	7-12-21/0823	JH
7-Buffer	6.98	7-12-21/0803	JH

(pH/cond. meter #2)

(Quar. Performance Monitoring – Pg. 3 of 7)

GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1423	7-12-21/0824	JH

(pH/cond. meter #2 calibrated on 7-9-21 by rc)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 6,310	2nd Cond. 6,460	Stable Cond. 6,570	Ending Cond. 6,590
	EPA-7			1st pH 8.09	2nd pH 8.09	Stable pH 7.91	Ending pH 5.97
		119.35'	120.88'	1st Temp. 16.4	2nd Temp. 16.5	Stable Temp. 16.3	Ending Temp. 15.6
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	0912	7.786'	6.219'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 4,140	2nd Cond. 4,280	Stable Cond. 4,320	Ending Cond. 4,320
	EPA-5			1st pH 7.09	2nd pH 7.09	Stable pH 7.10	Ending pH 6.36
		129.59'	130.08'	1st Temp. 19.1	2nd Temp. 18.5	Stable Temp. 18.5	Ending Temp. 18.6
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1006	1.277'	0.757'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 3,640	2nd Cond. 3,810	Stable Cond. 3,870	Ending Cond. 4,200
	EPA-4			1st pH 7.48	2nd pH 7.50	Stable pH 7.54	Ending pH 6.62
		210.62'	211.17'	1st Temp. 19.7	2nd Temp. 19.0	Stable Temp. 18.2	Ending Temp. 17.3
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1121	12.454'	11.890'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 3,600	2nd Cond. 3,620	Stable Cond. 3,600	Ending Cond. 3,510
	EPA-2			1st pH 6.87	2nd pH 6.88	Stable pH 6.88	Ending pH 6.82
		176.73'	177.59'	1st Temp. 16.4	2nd Temp. 16.7	Stable Temp. 16.7	Ending Temp. 15.9
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1237	4.759'	3.928				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 3,540	2nd Cond. 3,530	Stable Cond. 3,530	Ending Cond. 3,460
	EPA-2			1st pH 6.81	2nd pH 6.82	Stable pH 6.80	Ending pH 6.81
	DUPLICATE	177.59'	177.76'	1st Temp. 15.4	2nd Temp. 15.3	Stable Temp. 15.2	Ending Temp. 15.7
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1311	3.928'	3.777'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 1,688	2nd Cond. 1,741	Stable Cond. 1,799	Ending Cond. 1,813
	142			1st pH 7.69	2nd pH 7.68	Stable pH 7.67	Ending pH 7.69
		204.96'	205.66'	1st Temp. 21.0	2nd Temp. 21.1	Stable Temp. 20.4	Ending Temp. 18.9
7-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1348	16.036'	15.280'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	3.98	7-13-21/0749	JJ
7-Buffer	6.98	7-13-21/0744	JJ

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GROUND WATER MONITORING FIELD DATA SHEET
Third QUARTER 2021
SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1433	7-13-21/0750	JJ

(pH/cond. meter #2 on 7-13-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-13-21	517	109.54'		1st Cond. 5,670	2nd Cond. 5,750	Stable Cond. 5,750	Ending Cond. 5,460
				1st pH 2.83	2nd pH 2.80	Stable pH 2.78	Ending pH 3.28
				1st Temp. 17.3	2nd Temp. 17.2	Stable Temp. 17.1	Ending Temp. 18.6
	Time 0915	Bubbler Start 0.235'	Bubbler End	Comments: Required a 24hr. recharge to resume/collect full sample and pump repair due to ruptured bladder.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-13-21	719	171.46'	171.74'	1st Cond. 5,030	2nd Cond. 5,040	Stable Cond. 5,070	Ending Cond. 5,230
				1st pH 4.50	2nd pH 4.49	Stable pH 4.49	Ending pH 5.54
				1st Temp. 24.1	2nd Temp. 24.1	Stable Temp. 24.1	Ending Temp. 21.2
	Time 0948	Bubbler Start 0.314'	Bubbler End 0.318'	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-14-21	Rinsate			1st Cond. 2	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 6.63	2nd pH	Stable pH	Ending pH
				1st Temp. 24.1	2nd Temp.	Stable Temp.	Ending Temp.
	Time 1150	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-14-21	FIELD BLANK			1st Cond. 2	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 6.62	2nd pH	Stable pH	Ending pH
				1st Temp. 23.4	2nd Temp.	Stable Temp.	Ending Temp.
	Time 1207	Bubbler Start	Bubbler End	Comments: See Monthly/Quar. Supplemental – Pg. 2 of 2 for pH/cond. verification check readings on 7-14-21.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.02	7-19-21/0743	TW
7-Buffer	7.05	7-19-21/0734	TW

(pH/cond. meter #2)

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GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1417	7-19-21/0744	TW

(pH/Cond. meter #2 calibrated on 7-16-21 by tc)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 5,720	2nd Cond. 5,800	Stable Cond. 6,050	Ending Cond. 6,360
	509-D			1st pH 7.15	2nd pH 7.15	Stable pH 7.14	Ending pH 6.42
		87.47'	87.51'	1st Temp. 18.2	2nd Temp. 18.0	Stable Temp. 17.7	Ending Temp. 16.5
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	0857	0.241'	0.236'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 4,240	2nd Cond. 4,480	Stable Cond. 4,590	Ending Cond. 5,470
	EPA-23			1st pH 6.83	2nd pH 6.73	Stable pH 6.67	Ending pH 6.56
		64.09'	64.39'	1st Temp. 18.6	2nd Temp. 18.0	Stable Temp. 17.6	Ending Temp. 16.1
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	0953	0.188'	0.186'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 5,540	2nd Cond. 5,590	Stable Cond. 5,700	Ending Cond. 6,060
	803			1st pH 6.57	2nd pH 6.55	Stable pH 6.54	Ending pH 6.53
		70.40'	70.54'	1st Temp. 18.3	2nd Temp. 17.9	Stable Temp. 17.4	Ending Temp. 15.4
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	1035	6.421'	6.253'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 5,410	2nd Cond. 5,590	Stable Cond. 5,800	Ending Cond. 6,140
	808			1st pH 6.90	2nd pH 6.86	Stable pH 6.77	Ending pH 6.51
		57.63'	57.85'	1st Temp. 19.7	2nd Temp. 19.3	Stable Temp. 19.1	Ending Temp. 17.9
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	1110	6.023'	5.823'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 5,910	2nd Cond. 5,990	Stable Cond. 5,950	Ending Cond. 6,280
	802			1st pH 6.53	2nd pH 6.53	Stable pH 6.52	Ending pH 6.50
		55.73'	55.80'	1st Temp. 19.4	2nd Temp. 19.1	Stable Temp. 18.7	Ending Temp. 17.1
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	1155	11.980'	11.923'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond. 5,380	2nd Cond. 5,930	Stable Cond. 6,090	Ending Cond. 6,300
	632			1st pH 6.98	2nd pH 6.82	Stable pH 6.14	Ending pH 6.49
		52.20'	56.94'	1st Temp. 20.2	2nd Temp. 18.9	Stable Temp. 18.17	Ending Temp. 18.2
7-19-21	Time	Bubbler Start	Bubbler End	Comments: Water level dropped 4.74' during sample.			
	1235	4.824'	0.186'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.03	7-20-21/0745	AJS
7-Buffer	7.03	7-20-21/0739	AJS

GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1424	7-20-21/0746	AJS

(pH/cond. meter #2 on 7-20-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	801			1st Cond. 5,480	2nd Cond. 5,470	Stable Cond. 5,530	Ending Cond. 5,530
				1st pH 6.64	2nd pH 6.63	Stable pH 6.62	Ending pH 6.62
		59.61'	60.88'	1st Temp. 21.0	2nd Temp. 20.8	Stable Temp. 20.5	Ending Temp. 20.5
7-19-21	Time	Bubbler Start	Bubbler End	Comments: Good discharge @ beginning but slowed during middle part of sample and used vaccum pump often to fill 1 gal. bottle.			
	1313	2.085'	0.822'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-28			1st Cond. 4,230	2nd Cond. 4,320	Stable Cond. 4,400	Ending Cond. 4,590
				1st pH 7.76	2nd pH 7.63	Stable pH 7.54	Ending pH 6.91
		70.31'	70.89'	1st Temp. 19.9	2nd Temp. 19.8	Stable Temp. 19.2	Ending Temp. 16.8
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	1433	0.191'	0.189'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-28			1st Cond. 4,590	2nd Cond. 4,600	Stable Cond. 4,610	Ending Cond. 4,550
	DUPLICATE			1st pH 6.91	2nd pH 6.91	Stable pH 6.91	Ending pH 6.75
		70.89'	71.13'	1st Temp. 16.6	2nd Temp. 16.6	Stable Temp. 16.5	Ending Temp. 16.3
7-19-21	Time	Bubbler Start	Bubbler End	Comments:			
	1505	0.189'	0.194'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	GW-1			1st Cond. 5,110	2nd Cond. 5,180	Stable Cond. 5,240	Ending Cond. 5,980
				1st pH 7.55	2nd pH 7.54	Stable pH 7.48	Ending pH 6.73
		69.50'	69.86'	1st Temp. 17.6	2nd Temp. 17.2	Stable Temp. 17.0	Ending Temp. 16.2
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	0908	1.251'	0.897'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	624			1st Cond. 4,420	2nd Cond. 4,580	Stable Cond. 4,740	Ending Cond. 5,500
				1st pH 7.18	2nd pH 7.09	Stable pH 7.00	Ending pH 6.53
		58.60'	58.64'	1st Temp. 17.1	2nd Temp. 17.0	Stable Temp. 16.7	Ending Temp. 16.6
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	0955	3.893'	3.841'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	SBL-1			1st Cond. 6,510	2nd Cond. 6,950	Stable Cond. 7,240	Ending Cond. 7,530
				1st pH 7.20	2nd pH 7.08	Stable pH 6.99	Ending pH 6.65
		51.80'	52.69'	1st Temp. 19.3	2nd Temp. 18.6	Stable Temp. 18.1	Ending Temp. 16.9
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	1035	2.944'	1.977'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer			
7-Buffer			

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GROUND WATER MONITORING FIELD DATA SHEET

Third QUARTER 20 21

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	627			1st Cond. 4,080	2nd Cond. 4,080	Stable Cond. 4,130	Ending Cond. 4,240
				1st pH 7.05	2nd pH 7.04	Stable pH 7.03	Ending pH 6.91
		64.61'	64.68'	1st Temp. 19.6	2nd Temp. 19.4	Stable Temp. 19.0	Ending Temp. 17.8
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	1158	0.175'	0.171'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-25			1st Cond. 3,510	2nd Cond. 3,610	Stable Cond. 3,140	Ending Cond. 4,630
				1st pH 7.16	2nd pH 7.13	Stable pH 7.06	Ending pH 6.67
		61.05'	61.14'	1st Temp. 21.0	2nd Temp. 21.1	Stable Temp. 21.1	Ending Temp. 18.4
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	1305	0.116'	0.161'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	RINSATE			1st Cond. 6	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 7.14	2nd pH	Stable pH	Ending pH
				1st Temp. 37.0	2nd Temp.	Stable Temp.	Ending Temp.
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	1350						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	FIELD BLANK			1st Cond. /	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 6.92	2nd pH	Stable pH	Ending pH
				1st Temp. 31.7	2nd Temp.	Stable Temp.	Ending Temp.
7-20-21	Time	Bubbler Start	Bubbler End	Comments:			
	1440						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.00	7-7-21/0732	[illegible]
7-Buffer	6.99	7-7-21/0730	[illegible]

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Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1421	7-7-21/0733	[illegible]

(pH/cond. meter #2 on 7-7-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-7-21	MW-7	200.62'	200.68'	1st Cond. 4,560	2nd Cond. 4,620	Stable Cond. 4,640	Ending Cond. 4,640
				1st pH 3.31	2nd pH 3.30	Stable pH 3.30	Ending pH 3.30
				1st Temp. 20.5	2nd Temp. 20.4	Stable Temp. 20.3	Ending Temp. 20.3
	Time 0902	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-7-21	NW-3	195.40'	195.66'	1st Cond. 4,010	2nd Cond. 4,220	Stable Cond. 4,310	Ending Cond. 4,340
				1st pH 6.61	2nd pH 6.77	Stable pH 6.88	Ending pH 6.92
				1st Temp. 17.1	2nd Temp. 16.7	Stable Temp. 16.4	Ending Temp. 16.3
	Time 1010	Bubbler Start	Bubbler End	Comments: Inactive pumping well and used for monitoring only.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-13-21	RW-A	176.76'	177.77'	1st Cond. 3,690	2nd Cond. 4,560	Stable Cond. 4,750	Ending Cond. 4,980
				1st pH 4.61	2nd pH 4.62	Stable pH 4.63	Ending pH 4.66
				1st Temp. 19.1	2nd Temp. 18.4	Stable Temp. 17.9	Ending Temp. 17.2
	Time 1325	Bubbler Start	Bubbler End	Comments: See Quar. Performance Monitoring – Pg. 4 of 7 for pH/cond. verification check readings on 7-13-21. Active pumping/extraction well.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-13-21	NW-4	198.33'	199.56'	1st Cond. 3,840	2nd Cond. 3,890	Stable Cond. 3,900	Ending Cond. 3,900
				1st pH 8.38	2nd pH 7.83	Stable pH 7.55	Ending pH 6.32
				1st Temp. 16.1	2nd Temp. 16.1	Stable Temp. 16.1	Ending Temp. 16.1
	Time 1401	Bubbler Start	Bubbler End	Comments: Inactive pumping well and used for monitoring only.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
7-13-21	NW-5	195.02'	196.10'	1st Cond. 4,350	2nd Cond. 4,750	Stable Cond. 4,790	Ending Cond. 4,850
				1st pH 5.84	2nd pH 5.87	Stable pH 5.87	Ending pH 5.87
				1st Temp. 20.4	2nd Temp. 20.4	Stable Temp. 20.2	Ending Temp. 19.6
	Time 1429	Bubbler Start	Bubbler End	Comments: Active pumping/extraction well.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	3.95	7-14-21/0828	JH
7-Buffer	6.97	7-14-21/0816	JH

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Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1424	7-14-21/0827	JH

(pH/cond. meter #2 on 7-14-21)

				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date	NBL-2	Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
7-14-21		175.96'	176.14'	1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
	1005	4.339'	4.148'				
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.02	10-4-21/0755	mc
7-Buffer	7.05	10-4-21/0753	mc

(pH/cond. meter#2)

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Cond. Standard Verification Check

STD. µS/cm	Reading	Date/Time	Initial
1413 µS/cm	1430	10-4-21/0754	mc

(pH/cond. meter #2 calibrated on 10-1-21 by mc)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	614	107.70'	108.48'	1st Cond. 6,740	2nd Cond. 6,880	Stable Cond. 6,920	Ending Cond. 7,140
10-4-21				1st pH 7.06	2nd pH 7.08	Stable pH 7.07	Ending pH 6.42
				1st Temp. 14.5	2nd Temp. 14.2	Stable Temp. 14.2	Ending Temp. 17.3
	Time	Bubbler Start	Bubbler End	Comments: Conductivity is in uS/cm Temperature is in °C pH is in std. units			
	0902	0.248'	0.238'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	515-A	109.11'		1st Cond. 9,230	2nd Cond. 9,230	Stable Cond. 9,260	Ending Cond. 9,250
10-4-21				1st pH 7.28	2nd pH 7.26	Stable pH 7.24	Ending pH 5.86
				1st Temp. 15.4	2nd Temp. 15.2	Stable Temp. 15.0	Ending Temp. 18.3
	Time	Bubbler Start	Bubbler End	Comments: Water level dropped 3.63' during sample to bubbler reading but no ending meter reading due to probe on top of pump.			
	1042	3.880'	6.252'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	604	108.33'	109.09'	1st Cond. 5,980	2nd Cond. 6,100	Stable Cond. 6,240	Ending Cond. 6,410
10-4-21				1st pH 5.64	2nd pH 5.63	Stable pH 5.62	Ending pH 5.12
				1st Temp. 16.4	2nd Temp. 16.3	Stable Temp. 15.7	Ending Temp. 15.7
	Time	Bubbler Start	Bubbler End	Comments:			
	1148	1.143'	0.383'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-7	119.50'	121.04'	1st Cond. 6,690	2nd Cond. 6,750	Stable Cond. 6,550	Ending Cond. 6,800
10-4-21				1st pH 7.67	2nd pH 7.54	Stable pH 5.92	Ending pH 5.92
				1st Temp. 15.8	2nd Temp. 16.7	Stable Temp. 16.2	Ending Temp. 15.7
	Time	Bubbler Start	Bubbler End	Comments:			
	1235	7.648'	6.077'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	613	80.60'	81.51'	1st Cond. 7,050	2nd Cond. 7,850	Stable Cond. 8,000	Ending Cond. 8,340
10-4-21				1st pH 3.08	2nd pH 3.06	Stable pH 3.05	Ending pH 3.15
				1st Temp. 17.3	2nd Temp. 17.5	Stable Temp. 17.3	Ending Temp. 15.5
	Time	Bubbler Start	Bubbler End	Comments:			
	1328	4.235'	3.299'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-14	127.83'	128.55'	1st Cond. 3,220	2nd Cond. 3,410	Stable Cond. 3,410	Ending Cond. 3,600
10-4-21				1st pH 6.83	2nd pH 6.88	Stable pH 6.92	Ending pH 5.76
				1st Temp. 16.9	2nd Temp. 16.5	Stable Temp. 16.2	Ending Temp. 15.2
	Time	Bubbler Start	Bubbler End	Comments:			
	1411	0.284'	0.285'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.01	10-5-21/0754	mc
7-Buffer	7.04	10-5-21/0752	mc

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Cond. Standard Verification Check

STD. µS/cm	Reading	Date/Time	Initial
1413 µS/cm	1431	10-5-21/0753	mc

(pH/cond. meter on 10-5-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	717			1st Cond. 4,870	2nd Cond. 4,900	Stable Cond. 4,900	Ending Cond. 4,920
				1st pH 3.38	2nd pH 3.37	Stable pH 3.36	Ending pH 3.52
		137.83'	138.85'	1st Temp. 17.8	2nd Temp. 17.7	Stable Temp. 17.5	Ending Temp. 16.2
10-4-21	Time	Bubbler Start	Bubbler End	Comments:			
	1452	0.276'	0.277'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	717 DUPLICATE			1st Cond. 4,940	2nd Cond. 4,950	Stable Cond. 4,950	Ending Cond. 4,950
				1st pH 3.52	2nd pH 3.52	Stable pH 3.52	Ending pH 3.57
		138.85'	139.83'	1st Temp. 16.0	2nd Temp. 15.9	Stable Temp. 15.8	Ending Temp. 16.0
10-4-21	Time	Bubbler Start	Bubbler End	Comments:			
	1545	0.277'	0.275'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-13			1st Cond. 6,020	2nd Cond. 6,120	Stable Cond. 6,250	Ending Cond. 6,560
				1st pH 6.47	2nd pH 6.50	Stable pH 6.53	Ending pH 5.79
		171.03'	171.90'	1st Temp. 17.3	2nd Temp. 17.1	Stable Temp. 16.9	Ending Temp. 16.3
10-4-21	Time	Bubbler Start	Bubbler End	Comments: Will need maintenance work due to slow discharge.			
	1633	0.790'	0.338'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	517			1st Cond. 6,010	2nd Cond. 5,980	Stable Cond. 5,990	Ending Cond. 5,980
				1st pH 2.85	2nd pH 2.88	Stable pH 2.89	Ending pH 2.90
		109.61'		1st Temp. 13.1	2nd Temp. 13.1	Stable Temp. 13.1	Ending Temp. 13.1
10-5-21	Time	Bubbler Start	Bubbler End	Comments: Required 8 hr. recharge to resume/collect full sample.			
	0843	0.259'	0.265'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	708			1st Cond. 4,430	2nd Cond. 4,540	Stable Cond. 5,170	Ending Cond. 5,150
				1st pH 3.16	2nd pH 3.16	Stable pH 3.17	Ending pH 3.87
		161.52'	162.66'	1st Temp. 15.9	2nd Temp. 15.9	Stable Temp. 15.6	Ending Temp. 14.3
10-5-21	Time	Bubbler Start	Bubbler End	Comments:			
	1010	0.309'	0.300'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	711			1st Cond. 4,390	2nd Cond. 4,540	Stable Cond. 4,970	Ending Cond. 4,940
				1st pH 3.66	2nd pH 3.15	Stable pH 3.12	Ending pH 3.69
		186.48'	187.46'	1st Temp. 17.5	2nd Temp. 17.4	Stable Temp. 17.3	Ending Temp. 18.4
10-5-21	Time	Bubbler Start	Bubbler End	Comments:			
	1105	0.076'	0.069'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.02	10-7-21/1245	rc
7-Buffer	7.06	10-7-21/1239	rc

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Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1433	10-7-21/1240	rc

(pH/cond. meter #2 on 10-7-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-5-21	719	171.42'	171.89'	1st Cond. 4,860	2nd Cond. 4,940	Stable Cond. 5,210	Ending Cond. 5,340
				1st pH 4.58	2nd pH 4.59	Stable pH 4.62	Ending pH 5.63
				1st Temp. 16.9	2nd Temp. 16.6	Stable Temp. 16.5	Ending Temp. 16.7
	Time 1226	Bubbler Start 0.343'	Bubbler End 0.342'	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-6-21	142	205.18'	205.91'	1st Cond. 1,879	2nd Cond. 1,880	Stable Cond. 1,900	Ending Cond. 1,923
				1st pH 7.59	2nd pH 7.63	Stable pH 7.66	Ending pH 7.64
				1st Temp. 14.7	2nd Temp. 14.3	Stable Temp. 14.1	Ending Temp. 14.5
	Time 0917	Bubbler Start 15.848'	Bubbler End 15.058'	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-6-21	RINSATE			1st Cond. 2	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 7.42	2nd pH	Stable pH	Ending pH
				1st Temp. 16.7	2nd Temp.	Stable Temp.	Ending Temp.
	Time 1102	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-6-21	FIELD BLANK			1st Cond. 2	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 6.60	2nd pH	Stable pH	Ending pH
				1st Temp. 18.0	2nd Temp.	Stable Temp.	Ending Temp.
	Time 1155	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-7-21	801	59.79'	61.25'	1st Cond. 5,180	2nd Cond. 5,390	Stable Cond. 5,760	Ending Cond. 5,760
				1st pH 7.04	2nd pH 6.69	Stable pH 6.82	Ending pH 6.82
				1st Temp. 17.6	2nd Temp. 16.6	Stable Temp. 16.5	Ending Temp. 16.5
	Time 1343	Bubbler Start 1.943'	Bubbler End 0.483'	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-7-21	632	52.36'	57.11'	1st Cond. 5,830	2nd Cond. 5,950	Stable Cond. 6,150	Ending Cond. 6,620
				1st pH 7.06	2nd pH 6.97	Stable pH 6.80	Ending pH 6.41
				1st Temp. 18.3	2nd Temp. 17.2	Stable Temp. 16.6	Ending Temp. 15.7
	Time 1453	Bubbler Start 4.673'	Bubbler End 0.192'	Comments: Water level dropped 4.75' during sample.			

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(pH/cond. meter #2 on 10-8-21)

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.02	10-8-21/0817	mc
7-Buffer	7.06	10-8-21/0815	mc

Cond. Standard Verification Check

STD. µS/cm	Reading	Date/Time	Initial
1413 µS/cm	1454	10-8-21/0816	mc

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	EPA-5	129.62'	130.19'	1st Cond. 4,410	2nd Cond. 4,540	Stable Cond. 4,580	Ending Cond. 4,460
				1st pH 3.67	2nd pH 3.12	Stable pH 3.75	Ending pH 6.33
				1st Temp. 15.6	2nd Temp. 15.3	Stable Temp. 15.2	Ending Temp. 16.0
	Time	Bubbler Start	Bubbler End	Comments:			
	0912	1.249'	0.664'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	EPA-4	210.63'	211.20'	1st Cond. 3,960	2nd Cond. 4,080	Stable Cond. 4,090	Ending Cond. 4,430
				1st pH 7.53	2nd pH 7.55	Stable pH 7.55	Ending pH 6.55
				1st Temp. 15.5	2nd Temp. 15.4	Stable Temp. 15.0	Ending Temp. 14.9
	Time	Bubbler Start	Bubbler End	Comments:			
	1017	12.422'	11.873'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	EPA-2	176.81'	177.63'	1st Cond. 3,340	2nd Cond. 3,440	Stable Cond. 3,630	Ending Cond. 3,730
				1st pH 7.58	2nd pH 7.63	Stable pH 7.66	Ending pH 7.61
				1st Temp. 15.4	2nd Temp. 15.0	Stable Temp. 14.9	Ending Temp. 14.2
	Time	Bubbler Start	Bubbler End	Comments:			
	1130	4.735'	3.904'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	EPA-2 DUPLICATE	177.63'	177.82'	1st Cond. 3,750	2nd Cond. 3,750	Stable Cond. 3,750	Ending Cond. 3,620
				1st pH 6.75	2nd pH 6.74	Stable pH 6.75	Ending pH 6.72
				1st Temp. 14.0	2nd Temp. 14.1	Stable Temp. 14.0	Ending Temp. 14.5
	Time	Bubbler Start	Bubbler End	Comments:			
	1156	3.904'	3.723'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	509-D	87.56'	87.65'	1st Cond. 5,880	2nd Cond. 5,900	Stable Cond. 6,000	Ending Cond. 6,360
				1st pH 6.97	2nd pH 6.97	Stable pH 6.96	Ending pH 6.38
				1st Temp. 18.5	2nd Temp. 18.5	Stable Temp. 18.4	Ending Temp. 16.4
	Time	Bubbler Start	Bubbler End	Comments:			
	1238	0.236'	0.236'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-8-21	EPA-23	64.05'	64.39'	1st Cond. 5,290	2nd Cond. 5,390	Stable Cond. 5,460	Ending Cond. 5,290
				1st pH 6.78	2nd pH 6.72	Stable pH 6.70	Ending pH 6.52
				1st Temp. 16.1	2nd Temp. 18.0	Stable Temp. 15.7	Ending Temp. 15.8
	Time	Bubbler Start	Bubbler End	Comments:			
	1328	0.186'	0.193'				

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SAMPLING

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.05	10-11-21/0829	rc
7-Buffer	7.05	10-11-21/0827	rc

(pH/cond. meter #2)

Cond. Standard Verification Check

STD. µS/cm	Reading	Date/Time	Initial
1413 µS/cm	1434	10-11-21/0828	rc

(pH/cond. meter #2 calibrated on 10-8-21 by rc)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	803			1st Cond. 6,190	2nd Cond. 6,260	Stable Cond. 6,260	Ending Cond. 5,970
				1st pH 6.65	2nd pH 6.67	Stable pH 6.65	Ending pH 6.56
		70.29'	70.47'	1st Temp. 13.6	2nd Temp. 13.6	Stable Temp. 13.7	Ending Temp. 13.3
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	0950	6.531'	0.349'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	808			1st Cond. 5,290	2nd Cond. 5,660	Stable Cond. 5,900	Ending Cond. 6,170
				1st pH 6.92	2nd pH 6.87	Stable pH 6.79	Ending pH 6.41
		57.46'	57.77'	1st Temp. 15.0	2nd Temp. 14.5	Stable Temp. 14.4	Ending Temp. 14.6
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1024	6.203'	5.895'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	802			1st Cond. 6,120	2nd Cond. 6,240	Stable Cond. 6,200	Ending Cond. 6,320
				1st pH 6.50	2nd pH 6.50	Stable pH 6.50	Ending pH 6.45
		55.84'	55.89'	1st Temp. 15.0	2nd Temp. 14.9	Stable Temp. 14.6	Ending Temp. 15.1
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1103	11.883'	11.822'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	GW-1			1st Cond. 5,250	2nd Cond. 5,350	Stable Cond. 5,450	Ending Cond. 6,150
				1st pH 7.19	2nd pH 7.13	Stable pH 7.06	Ending pH 6.58
		69.63'	70.00'	1st Temp. 14.7	2nd Temp. 14.6	Stable Temp. 14.4	Ending Temp. 14.6
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1152	1.146'	0.763'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-28			1st Cond. 4,520	2nd Cond. 4,550	Stable Cond. 4,560	Ending Cond. 4,680
				1st pH 7.41	2nd pH 7.37	Stable pH 7.28	Ending pH 6.75
		70.34'	70.96'	1st Temp. 15.9	2nd Temp. 15.6	Stable Temp. 15.4	Ending Temp. 14.7
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1236	0.196'	0.198'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-28			1st Cond. 4,700	2nd Cond. 4,740	Stable Cond. 4,750	Ending Cond. 4,580
	DUPLICATE			1st pH 6.75	2nd pH 6.74	Stable pH 6.74	Ending pH 6.69
		70.96'	71.21'	1st Temp. 14.2	2nd Temp. 14.3	Stable Temp. 14.3	Ending Temp. 15.3
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1315	0.198'	0.203'				

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.04	10-12-21/0822	rc
7-Buffer	7.05	10-12-21/0819	rc

(Quar. Performance Monitoring – Pg. 6 of 7)

GROUND WATER MONITORING FIELD DATA SHEET

Fourth QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD. µS/cm	Reading	Date/Time	Initial
1413 µS/cm	1433	10-12-21/0820	rc

(pH/cond. meter #2 on 10-12-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	624			1st Cond. 4,650	2nd Cond. 4,840	Stable Cond. 5,060	Ending Cond. 5,700
Date				1st pH 6.67	2nd pH 6.70	Stable pH 6.59	Ending pH 6.41
		58.39'	58.44'	1st Temp. 15.3	2nd Temp. 15.0	Stable Temp. 14.9	Ending Temp. 14.3
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1347	4.128'	4.075'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	SBL-1			1st Cond. 7,010	2nd Cond. 7,290	Stable Cond. 7,300	Ending Cond. 7,680
Date				1st pH 6.64	2nd pH 6.91	Stable pH 6.87	Ending pH 6.54
		51.60'	52.60'	1st Temp. 20.4	2nd Temp. 15.8	Stable Temp. 15.7	Ending Temp. 14.8
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1430	3.159'	2.132'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	627			1st Cond. 3,930	2nd Cond. 4,040	Stable Cond. 4,180	Ending Cond. 4,360
Date				1st pH 6.98	2nd pH 6.95	Stable pH 6.94	Ending pH 6.85
		64.65'	64.75'	1st Temp. 16.9	2nd Temp. 16.5	Stable Temp. 16.5	Ending Temp. 15.1
10-11-21	Time	Bubbler Start	Bubbler End	Comments:			
	1530	0.190'	0.192'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	EPA-25			1st Cond. 4,490	2nd Cond. 4,520	Stable Cond. 4,560	Ending Cond. 4,880
Date				1st pH 6.82	2nd pH 6.80	Stable pH 6.78	Ending pH 6.75
		61.07'	61.15'	1st Temp. 10.3	2nd Temp. 10.3	Stable Temp. 10.3	Ending Temp. 9.7
10-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	0946	0.169'	0.171'				

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer			
7-Buffer			

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GROUND WATER MONITORING FIELD DATA SHEET

Fourth QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm			

				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond. 4	2nd Cond.	Stable Cond.	Ending Cond.
Date	RINSATE	Pre-Sample	Post Sample	1st pH 7.42	2nd pH	Stable pH	Ending pH
				1st Temp. 8.5	2nd Temp.	Stable Temp.	Ending Temp.
10-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1032						
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond. 2	2nd Cond.	Stable Cond.	Ending Cond.
Date	FIELD	Pre-Sample	Post Sample	1st pH 6.20	2nd pH	Stable pH	Ending pH
	BLANK			1st Temp. 9.2	2nd Temp.	Stable Temp.	Ending Temp.
10-12-21	Time	Bubbler Start	Bubbler End	Comments:			
	1100						
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			
				Reading	Reading	Reading	Reading
	Well Number	WL w/Probe	WL w/Probe	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
Date		Pre-Sample	Post Sample	1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	3.95	10-6-21/0809	[illegible]
7-Buffer	7.00	10-6-21/0805	[illegible]

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GROUND WATER MONITORING FIELD DATA SHEET

Fourth QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1438	10-6-21/0810	[illegible]

(pH/cond. meter #2 on 10-6-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	MW-7			1st Cond. 4,820	2nd Cond. 4,870	Stable Cond. 4,870	Ending Cond. 4,870
				1st pH 3.25	2nd pH 3.25	Stable pH 3.28	Ending pH 3.28
		200.64'	200.68'	1st Temp. 19.6	2nd Temp. 19.5	Stable Temp. 19.5	Ending Temp. 19.5
10-5-21	Time 1345	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	NW-3			1st Cond. 4,530	2nd Cond. 4,540	Stable Cond. 4,550	Ending Cond. 4,560
				1st pH 6.69	2nd pH 6.82	Stable pH 6.90	Ending pH 6.94
		195.38'	195.76'	1st Temp. 15.7	2nd Temp. 15.6	Stable Temp. 15.5	Ending Temp. 15.4
10-5-21	Time 1500	Bubbler Start	Bubbler End	Comments: Inactive pumping well but used for monitoring only.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	NW-5			1st Cond. 5,090	2nd Cond. 5,100	Stable Cond. 5,120	Ending Cond. 5,120
				1st pH 6.03	2nd pH 6.03	Stable pH 6.03	Ending pH 6.02
		195.06'	195.90'	1st Temp. 16.3	2nd Temp. 16.3	Stable Temp. 16.3	Ending Temp. 16.3
10-5-21	Time 1530	Bubbler Start	Bubbler End	Comments: Extraction well or pumping well.			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
	NBL-2			1st Cond. 3,310	2nd Cond. 3,320	Stable Cond. 3,370	Ending Cond. 3,400
				1st pH 7.40	2nd pH 7.41	Stable pH 7.42	Ending pH 6.56
		175.96'	176.28'	1st Temp. 14.8	2nd Temp. 14.9	Stable Temp. 14.4	Ending Temp. 14.7
10-6-21	Time 1010	Bubbler Start 4.404'	Bubbler End 4.081'	Comments:			

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

PH Standard Verification Check

STD.	PH Reading	Date/Time	Initial
4-Buffer	4.01	10-13-21/1113	[illegible]
7-Buffer	7.01	10-13-21/1110	[illegible]

(Monthly/Quar. Supplemental – Pg. 2 of 2)

GROUND WATER MONITORING FIELD DATA SHEET

Fourth QUARTER 2021

SAMPLING

Cond. Standard Verification Check

STD.	µS/cm Reading	Date/Time	Initial
1413 µS/cm	1443	10-13-21/1110	[illegible]

(pH/cond. meter #2 on 10-13-21)

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-12-21	RW-A			1st Cond. 5,350	2nd Cond. 5,360	Stable Cond. 5,370	Ending Cond. 5,370
				1st pH 5.59	2nd pH 5.59	Stable pH 5.59	Ending pH 5.59
				1st Temp. 13.7	2nd Temp. 13.7	Stable Temp. 13.5	Ending Temp. 13.4
	Time	Bubbler Start	Bubbler End	Comments: Extraction well and water level measurement is not taken due to placement of trandducer probe in well.			
	1220						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-12-21	NW-4			1st Cond. 4,050	2nd Cond. 4,050	Stable Cond. 4,060	Ending Cond. 4,060
				1st pH 5.67	2nd pH 5.68	Stable pH 5.68	Ending pH 5.69
		198.54'		1st Temp. 13.2	2nd Temp. 13.2	Stable Temp. 13.2	Ending Temp. 13.2
	Time	Bubbler Start	Bubbler End	Comments: Inactive extraction well but used for monitoring only.			
	1300						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-12-21	SW-3B			1st Cond. 1,190	2nd Cond. 1,187	Stable Cond. 1,189	Ending Cond. 1,172
				1st pH 7.83	2nd pH 7.84	Stable pH 7.85	Ending pH 8.15
		290.25'	290.47'	1st Temp. 12.0	2nd Temp. 12.1	Stable Temp. 12.1	Ending Temp. 11.6
	Time	Bubbler Start	Bubbler End	Comments: Sentinel well monitoring			
	1500						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-12-21	SW-1B			1st Cond. 3,500	2nd Cond. 3,500	Stable Cond. 3,500	Ending Cond. 3,500
				1st pH 7.13	2nd pH 7.14	Stable pH 7.15	Ending pH 7.15
		211.38'		1st Temp. 13.9	2nd Temp. 13.9	Stable Temp. 13.9	Ending Temp. 13.9
	Time	Bubbler Start	Bubbler End	Comments: Sentinel monitoring well and sample collected with grundfos pump.			
	1540						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
10-13-21	RW-11			1st Cond. 4,470	2nd Cond. 4,470	Stable Cond. 4,470	Ending Cond. 4,460
				1st pH 6.60	2nd pH 6.45	Stable pH 6.35	Ending pH 6.29
		171.68'		1st Temp. 18.3	2nd Temp. 18.3	Stable Temp. 18.3	Ending Temp. 18.3
	Time	Bubbler Start	Bubbler End	Comments: Extraction well but pump is malfunctioning and sample collected with grundfos pump.			
	1153						

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading	Reading	Reading	Reading
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
	Time	Bubbler Start	Bubbler End	Comments:			

APPENDIX B

QUARTERLY SAMPLING

SEMI-ANNUAL GROUND WATER MONITORING REPORT

JULY TO DECEMBER OF 2021

QA/QC CONTROLS

FIELD BLANKS
RINSATES
VOC TRIP BLANKS

EPA-28 AND EPA-28 DUPLICATE FOR SW ALLUVIUM

EPA–2 AND EPA–2 DUPLICATE FOR ZONE – 1

717 AND 717 DUPLICATE FOR ZONE - 3

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-004
Client Sample ID: Field Blank

Report Date: 08/13/21
Collection Date: 07/14/21 12:07
DateReceived: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	07/17/21 11:43 / dmb
Chloride	ND	mg/L		1		E300.0	07/20/21 02:42 / dmb
Sulfate	ND	mg/L		1		E300.0	07/20/21 02:42 / dmb
Calcium	ND	mg/L		1		E200.7	07/19/21 15:10 / meh
Magnesium	ND	mg/L		1		E200.7	07/19/21 15:10 / meh
Potassium	ND	mg/L		1		E200.7	07/19/21 15:10 / meh
Sodium	ND	mg/L		1		E200.7	07/19/21 15:10 / meh
PHYSICAL PROPERTIES							
pH	5.8	s.u.	H	0.1		A4500-H B	07/16/21 15:44 / pla
pH Measurement Temp	12.7	°C				A4500-H B	07/16/21 15:44 / pla
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	07/19/21 09:20 / kjp
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.01	mg/L		0.01		E353.2	07/19/21 14:36 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/22/21 15:06 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/22/21 02:19 / meh
Arsenic	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Beryllium	ND	mg/L		0.001		E200.8	07/28/21 06:50 / srm
Cadmium	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Cobalt	ND	mg/L		0.005		E200.8	07/22/21 02:19 / meh
Lead	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Manganese	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Nickel	ND	mg/L		0.005		E200.8	07/22/21 02:19 / meh
Selenium	ND	mg/L		0.001		E200.8	07/22/21 02:19 / meh
Uranium	ND	mg/L		0.0003		E200.8	07/22/21 02:19 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 02:19 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.4	pCi/L	U			E900.1	07/19/21 09:40 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	pCi/L				E900.1	07/19/21 09:40 / amm
Gross Alpha minus Rn & U MDC	1.3	pCi/L				E900.1	07/19/21 09:40 / amm
Lead 210	0.1	pCi/L	U			E909.0	08/09/21 07:46 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/09/21 07:46 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/09/21 07:46 / hat
Radium 226	0.08	pCi/L	U			E903.0	08/02/21 07:40 / trs
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 228	0.7	pCi/L	U			RA-05	07/27/21 11:36 / trs
Radium 228 precision (±)	0.6	pCi/L				RA-05	07/27/21 11:36 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-004
Client Sample ID: Field Blank

Report Date: 08/13/21
Collection Date: 07/14/21 12:07
DateReceived: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1	pCi/L				RA-05	07/27/21 11:36 / trs
Thorium 230	-0.006	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.06	pCi/L				A7500-U C	07/27/21 11:35 / mrt
Thorium 230 MDC	0.1	pCi/L				A7500-U C	07/27/21 11:35 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	07/22/21 10:06 / tlf
A/C Balance	50.2	%				A1030 E	07/22/21 10:06 / tlf
Anions	0	meq/L				A1030 E	07/22/21 10:06 / tlf
Cations	0.02	meq/L				A1030 E	07/22/21 10:06 / tlf
TDS Ratio	N/A	unitless				A1030 E	07/22/21 10:06 / tlf
Cation\Anion Balance <±0.2 meq/L Difference							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	0.79	ug/L		0.50		E624.1	07/20/21 15:49 / eli-b
Bromoform	0.98	ug/L		0.50		E624.1	07/20/21 15:49 / eli-b
Chlorodibromomethane	1.2	ug/L		0.50		E624.1	07/20/21 15:49 / eli-b
Chloroform	0.97	ug/L		0.50		E624.1	07/20/21 15:49 / eli-b
Trihalomethanes, Total	4.0	ug/L		0.50		E624.1	07/23/21 16:42 / tlf
Surr: 1,2-Dichloroethane-d4	112	%REC		71-139		E624.1	07/20/21 15:49 / eli-b
Surr: p-Bromofluorobenzene	108	%REC		80-127		E624.1	07/20/21 15:49 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/20/21 15:49 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-007
Client Sample ID: Field Blank

Report Date: 08/27/21
Collection Date: 07/20/21 14:40
DateReceived: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	07/24/21 15:06 / dmb
Chloride	ND	mg/L		1		E300.0	07/27/21 00:54 / dmb
Sulfate	ND	mg/L		1		E300.0	07/27/21 00:54 / dmb
Calcium	ND	mg/L		1		E200.7	07/23/21 17:23 / meh
Magnesium	ND	mg/L		1		E200.7	07/23/21 17:23 / meh
Potassium	ND	mg/L		1		E200.7	07/23/21 17:23 / meh
Sodium	ND	mg/L		1		E200.7	07/26/21 16:20 / meh
PHYSICAL PROPERTIES							
pH	5.9	s.u.	H	0.1		A4500-H B	07/23/21 11:58 / pla
pH Measurement Temp	11.1	°C				A4500-H B	07/23/21 11:58 / pla
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	07/23/21 12:45 / kjp
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	07/24/21 13:23 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:42 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 03:19 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 03:19 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Manganese	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 03:19 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 03:19 / jcg
Uranium	ND	mg/L		0.0003		E200.8	08/03/21 03:19 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 03:19 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.4	pCi/L	U			E900.1	08/03/21 15:29 / amm
Gross Alpha minus Rn & U Precision (±)	0.4	pCi/L				E900.1	08/03/21 15:29 / amm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	08/03/21 15:29 / amm
Lead 210	-0.3	pCi/L	U			E909.0	08/15/21 10:46 / hat
Lead 210 precision (±)	0.4	pCi/L				E909.0	08/15/21 10:46 / hat
Lead 210 MDC	0.7	pCi/L				E909.0	08/15/21 10:46 / hat
Radium 226	0.2	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 226 precision (±)	0.1	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 226 MDC	0.1	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 228	0.1	pCi/L	U			RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	0.8	pCi/L				RA-05	08/04/21 12:22 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-007
Client Sample ID: Field Blank

Report Date: 08/27/21
Collection Date: 07/20/21 14:40
DateReceived: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.4	pCi/L				RA-05	08/04/21 12:22 / trs
Thorium 230	-0.008	pCi/L	U			A7500-U C	08/04/21 16:16 / mrt
Thorium 230 precision (±)	0.02	pCi/L				A7500-U C	08/04/21 16:16 / mrt
Thorium 230 MDC	0.06	pCi/L				A7500-U C	08/04/21 16:16 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	07/29/21 16:02 / jlw
A/C Balance	100	%				A1030 E	07/29/21 16:02 / jlw
Anions	ND	meq/L				A1030 E	07/29/21 16:02 / jlw
Cations	0.02	meq/L				A1030 E	07/29/21 16:02 / jlw
TDS Ratio	ND	unitless				A1030 E	07/29/21 16:02 / jlw
The Anion/Cation Balance Difference is <±0.2 meq/L							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	1.6	ug/L		0.50		E624.1	07/28/21 20:37 / eli-b
Bromoform	0.97	ug/L		0.50		E624.1	07/28/21 20:37 / eli-b
Chlorodibromomethane	1.5	ug/L		0.50		E624.1	07/28/21 20:37 / eli-b
Chloroform	1.7	ug/L		0.50		E624.1	07/28/21 20:37 / eli-b
Trihalomethanes, Total	5.8	ug/L		0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	125	%REC		71-139		E624.1	07/28/21 20:37 / eli-b
Surr: p-Bromofluorobenzene	114	%REC		80-127		E624.1	07/28/21 20:37 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	07/28/21 20:37 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-003
Client Sample ID: Rinsate

Report Date: 08/13/21
Collection Date: 07/14/21 11:50
DateReceived: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	07/17/21 11:35 / dmb
Chloride	ND	mg/L		1		E300.0	07/20/21 01:44 / dmb
Sulfate	ND	mg/L		1		E300.0	07/20/21 01:44 / dmb
Calcium	ND	mg/L		1		E200.7	07/19/21 15:06 / meh
Magnesium	ND	mg/L		1		E200.7	07/19/21 15:06 / meh
Potassium	ND	mg/L		1		E200.7	07/19/21 15:06 / meh
Sodium	ND	mg/L		1		E200.7	07/19/21 15:06 / meh
PHYSICAL PROPERTIES							
pH	5.9	s.u.	H	0.1		A4500-H B	07/16/21 15:42 / pla
pH Measurement Temp	12.5	°C				A4500-H B	07/16/21 15:42 / pla
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	07/19/21 09:20 / kjp
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	07/19/21 14:34 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/22/21 15:04 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/22/21 02:14 / meh
Arsenic	ND	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Beryllium	ND	mg/L		0.001		E200.8	07/28/21 06:26 / srm
Cadmium	ND	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Cobalt	ND	mg/L		0.005		E200.8	07/22/21 02:14 / meh
Lead	ND	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Manganese	0.001	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Nickel	ND	mg/L		0.005		E200.8	07/22/21 02:14 / meh
Selenium	ND	mg/L		0.001		E200.8	07/22/21 02:14 / meh
Uranium	ND	mg/L		0.0003		E200.8	07/22/21 02:14 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 02:14 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.3	pCi/L	U			E900.1	07/19/21 10:10 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	pCi/L				E900.1	07/19/21 10:10 / amm
Gross Alpha minus Rn & U MDC	1.3	pCi/L				E900.1	07/19/21 10:10 / amm
Lead 210	0.3	pCi/L	U			E909.0	08/09/21 04:21 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/09/21 04:21 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/09/21 04:21 / hat
Radium 226	0.09	pCi/L	U			E903.0	08/02/21 07:40 / trs
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 228	0.2	pCi/L	U			RA-05	07/27/21 11:36 / trs
Radium 228 precision (±)	0.6	pCi/L				RA-05	07/27/21 11:36 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-003
Client Sample ID: Rinsate

Report Date: 08/13/21
Collection Date: 07/14/21 11:50
DateReceived: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	0.9	pCi/L				RA-05	07/27/21 11:36 / trs
Thorium 230	-0.01	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	07/27/21 11:35 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/27/21 11:35 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	07/22/21 10:05 / tlf
A/C Balance	9.94	%				A1030 E	07/22/21 10:05 / tlf
Anions	0	meq/L				A1030 E	07/22/21 10:05 / tlf
Cations	0.01	meq/L				A1030 E	07/22/21 10:05 / tlf
TDS Ratio	N/A	unitless				A1030 E	07/22/21 10:05 / tlf
Cation\Anion Balance <±0.2 meq/L Difference							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	0.80	ug/L		0.50		E624.1	07/20/21 15:24 / eli-b
Bromoform	0.93	ug/L		0.50		E624.1	07/20/21 15:24 / eli-b
Chlorodibromomethane	1.2	ug/L		0.50		E624.1	07/20/21 15:24 / eli-b
Chloroform	1.0	ug/L		0.50		E624.1	07/20/21 15:24 / eli-b
Trihalomethanes, Total	4.0	ug/L		0.50		E624.1	07/23/21 16:42 / tlf
Surr: 1,2-Dichloroethane-d4	114	%REC		71-139		E624.1	07/20/21 15:24 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		80-127		E624.1	07/20/21 15:24 / eli-b
Surr: Toluene-d8	99.0	%REC		80-123		E624.1	07/20/21 15:24 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-006
Client Sample ID: Rinsate

Report Date: 08/27/21
Collection Date: 07/20/21 13:50
DateReceived: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	07/24/21 15:02 / dmb
Chloride	ND	mg/L		1		E300.0	07/26/21 19:28 / dmb
Sulfate	3	mg/L		1		E300.0	07/26/21 19:28 / dmb
Calcium	2	mg/L		1		E200.7	07/23/21 17:19 / meh
Magnesium	ND	mg/L		1		E200.7	07/23/21 17:19 / meh
Potassium	ND	mg/L		1		E200.7	07/23/21 17:19 / meh
Sodium	ND	mg/L		1		E200.7	07/26/21 16:16 / meh
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	07/23/21 11:53 / pla
pH Measurement Temp	10.6	°C				A4500-H B	07/23/21 11:53 / pla
Solids, Total Dissolved TDS @ 180 C	11	mg/L		10		A2540 C	07/23/21 12:45 / kjp
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.01		E353.2	07/24/21 13:22 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:40 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 03:01 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 03:01 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Manganese	0.006	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 03:01 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 03:01 / jcg
Uranium	ND	mg/L		0.0003		E200.8	08/03/21 03:01 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 03:01 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.2	pCi/L	U			E900.1	08/03/21 15:29 / amm
Gross Alpha minus Rn & U Precision (±)	0.4	pCi/L				E900.1	08/03/21 15:29 / amm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	08/03/21 15:29 / amm
Lead 210	0.4	pCi/L	U			E909.0	08/15/21 07:22 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/15/21 07:22 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/15/21 07:22 / hat
Radium 226	0.1	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 226 precision (±)	0.09	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 226 MDC	0.1	pCi/L				E903.0	08/10/21 11:21 / amm
Radium 228	0.8	pCi/L	U			RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	0.8	pCi/L				RA-05	08/04/21 12:22 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-006
Client Sample ID: Rinsate

Report Date: 08/27/21
Collection Date: 07/20/21 13:50
DateReceived: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.3	pCi/L				RA-05	08/04/21 12:22 / trs
Thorium 230	0.02	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.03	pCi/L				A7500-U C	08/03/21 16:09 / mrt
Thorium 230 MDC	0.05	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	07/29/21 16:02 / jlw
A/C Balance	23.8	%				A1030 E	07/29/21 16:02 / jlw
Anions	0.09	meq/L				A1030 E	07/29/21 16:02 / jlw
Cations	0.14	meq/L				A1030 E	07/29/21 16:02 / jlw
TDS Ratio	ND	unitless				A1030 E	07/29/21 16:02 / jlw
The Anion/Cation Balance Difference is <±0.2 meq/L							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	2.0	ug/L		0.50		E624.1	07/28/21 20:12 / eli-b
Bromoform	1.1	ug/L		0.50		E624.1	07/28/21 20:12 / eli-b
Chlorodibromomethane	1.7	ug/L		0.50		E624.1	07/28/21 20:12 / eli-b
Chloroform	2.6	ug/L		0.50		E624.1	07/28/21 20:12 / eli-b
Trihalomethanes, Total	7.4	ug/L		0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	125	%REC		71-139		E624.1	07/28/21 20:12 / eli-b
Surr: p-Bromofluorobenzene	112	%REC		80-127		E624.1	07/28/21 20:12 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/28/21 20:12 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-007
Client Sample ID: Trip Blank- 79121

Report Date: 08/13/21
Collection Date: 07/05/21 09:14
DateReceived: 07/07/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 12:13 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 12:13 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 12:13 / etad
Chloroform	ND	ug/L		1.0		E624.1	07/15/21 12:13 / etad
Surr: 1,2-Dichloroethane-d4	102	%REC		73-122		E624.1	07/15/21 12:13 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/15/21 12:13 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	07/15/21 12:13 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-005
Client Sample ID: Trip Blank-79121

Report Date: 08/13/21
Collection Date: 07/06/21 12:33
DateReceived: 07/08/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/11/21 12:01 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/11/21 12:01 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/11/21 12:01 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/11/21 12:01 / eli-b
Surr: 1,2-Dichloroethane-d4	110	%REC		71-139		E624.1	07/11/21 12:01 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		80-127		E624.1	07/11/21 12:01 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624.1	07/11/21 12:01 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070280-003
Client Sample ID: Trip Blank-79121

Report Date: 08/13/21
Collection Date: 07/06/21 09:10
DateReceived: 07/08/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/13/21 16:27 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/13/21 16:27 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/13/21 16:27 / etad
Chloroform	ND	ug/L		1.0		E624.1	07/13/21 16:27 / etad
Surr: 1,2-Dichloroethane-d4	99.0	%REC		73-122		E624.1	07/13/21 16:27 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/13/21 16:27 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/13/21 16:27 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-007
Client Sample ID: Trip Blank-79121

Report Date: 08/13/21
Collection Date: 07/12/21 09:12
DateReceived: 07/14/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 11:25 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 11:25 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 11:25 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 11:25 / eli-b
Surr: 1,2-Dichloroethane-d4	109	%REC		71-139		E624.1	07/20/21 11:25 / eli-b
Surr: p-Bromofluorobenzene	109	%REC		80-127		E624.1	07/20/21 11:25 / eli-b
Surr: Toluene-d8	99.0	%REC		80-123		E624.1	07/20/21 11:25 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-009
Client Sample ID: Trip Blank- 79121

Report Date: 08/13/21
Collection Date: 07/13/21 09:15
DateReceived: 07/15/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 16:15 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 16:15 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 16:15 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 16:15 / eli-b
Surr: 1,2-Dichloroethane-d4	113	%REC		71-139		E624.1	07/20/21 16:15 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/20/21 16:15 / eli-b
Surr: Toluene-d8	99.0	%REC		80-123		E624.1	07/20/21 16:15 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-010
Client Sample ID: Trip Blank-79121

Report Date: 08/27/21
Collection Date: 07/19/21 08:57
DateReceived: 07/21/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 19:52 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 19:52 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 19:52 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/27/21 19:52 / eli-b
Surr: 1,2-Dichloroethane-d4	117	%REC		71-139		E624.1	07/27/21 19:52 / eli-b
Surr: p-Bromofluorobenzene	115	%REC		80-127		E624.1	07/27/21 19:52 / eli-b
Surr: Toluene-d8	93.0	%REC		80-123		E624.1	07/27/21 19:52 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-008
Client Sample ID: Trip Blank-79121

Report Date: 08/27/21
Collection Date: 07/20/21 09:08
DateReceived: 07/22/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 17:40 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 17:40 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 17:40 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/28/21 17:40 / eli-b
Surr: 1,2-Dichloroethane-d4	114	%REC		71-139		E624.1	07/28/21 17:40 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/28/21 17:40 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/28/21 17:40 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-011
Client Sample ID: Field Blank

Report Date: 11/27/21
Collection Date: 10/06/21 11:55
DateReceived: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	10/11/21 20:54 / kjp
Chloride	ND	mg/L		1		E300.0	10/13/21 12:47 / dmb
Sulfate	ND	mg/L		1		E300.0	10/13/21 12:47 / dmb
Calcium	ND	mg/L		1		E200.7	10/21/21 21:17 / jcg
Magnesium	ND	mg/L		1		E200.7	10/21/21 21:17 / jcg
Potassium	ND	mg/L		1		E200.7	10/21/21 21:17 / jcg
Sodium	ND	mg/L		1		E200.7	10/21/21 21:17 / jcg
PHYSICAL PROPERTIES							
pH	5.8	s.u.	H	0.1		A4500-H B	10/08/21 13:53 / mnm
pH Measurement Temp	14.9	°C				A4500-H B	10/08/21 13:53 / mnm
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	10/11/21 12:05 / mnm
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/12/21 13:53 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/11/21 12:59 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/19/21 07:02 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/19/21 07:02 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 23:25 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 07:02 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/19/21 07:02 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 23:25 / srm
Manganese	ND	mg/L		0.001		E200.8	10/21/21 23:25 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 23:25 / srm
Nickel	ND	mg/L		0.005		E200.8	10/19/21 07:02 / srm
Selenium	ND	mg/L		0.001		E200.8	10/21/21 23:25 / srm
Uranium	ND	mg/L		0.0003		E200.8	10/19/21 07:02 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 07:02 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	pCi/L	U			E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	0.6	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 10:56 / amm
Lead 210	0.2	pCi/L	U			E909.0	10/19/21 20:02 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 20:02 / hat
Lead 210 MDC	1	pCi/L				E909.0	10/19/21 20:02 / hat
Radium 226	-0.06	pCi/L	U			E903.0	11/06/21 07:41 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	11/06/21 07:41 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	11/06/21 07:41 / trs
Radium 228	0.2	pCi/L	U			RA-05	10/27/21 13:26 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/27/21 13:26 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-011
Client Sample ID: Field Blank

Report Date: 11/27/21
Collection Date: 10/06/21 11:55
DateReceived: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.8	pCi/L				RA-05	10/27/21 13:26 / trs
Radium 226 + Radium 228	0.2	pCi/L	U			A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.8	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.04	pCi/L	U			A7500-U C	10/27/21 14:31 / sec
Thorium 230 precision (±)	0.03	pCi/L				A7500-U C	10/27/21 14:31 / sec
Thorium 230 MDC	0.05	pCi/L				A7500-U C	10/27/21 14:31 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	10/22/21 17:56 / jlw
A/C Balance	100	%				A1030 E	10/22/21 17:56 / jlw
Anions	ND	meq/L				A1030 E	10/22/21 17:56 / jlw
Cations	0	meq/L				A1030 E	10/22/21 17:56 / jlw
TDS Ratio	NA	unitless				A1030 E	10/22/21 17:56 / jlw
Cation\Anion Balance <±0.2 meq/L Difference							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	1.6	ug/L		0.50		E624.1	10/18/21 16:43 / eli-b
Bromoform	0.86	ug/L		0.50		E624.1	10/18/21 16:43 / eli-b
Chlorodibromomethane	1.5	ug/L		0.50		E624.1	10/18/21 16:43 / eli-b
Chloroform	1.9	ug/L		0.50		E624.1	10/18/21 16:43 / eli-b
Trihalomethanes, Total	5.9	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	98.0	%REC		71-139		E624.1	10/18/21 16:43 / eli-b
Surr: p-Bromofluorobenzene	95.0	%REC		80-127		E624.1	10/18/21 16:43 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	10/18/21 16:43 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-015
Client Sample ID: Field Blank

Report Date: 12/03/21
Collection Date: 10/12/21 11:00
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	10/16/21 02:32 / kjp
Chloride	ND	mg/L		1		E300.0	10/17/21 04:23 / dmb
Sulfate	ND	mg/L		1		E300.0	10/17/21 04:23 / dmb
Calcium	2	mg/L		1		E200.7	10/26/21 17:42 / jcg
Magnesium	ND	mg/L		1		E200.7	10/26/21 17:42 / jcg
Potassium	ND	mg/L		1		E200.7	10/26/21 17:42 / jcg
Sodium	ND	mg/L		1		E200.7	10/26/21 17:42 / jcg
PHYSICAL PROPERTIES							
pH	5.8	s.u.	H	0.1		A4500-H B	10/18/21 10:27 / mnm
pH Measurement Temp	10.2	°C				A4500-H B	10/18/21 10:27 / mnm
Solids, Total Dissolved TDS @ 180 C	15	mg/L		10		A2540 C	10/15/21 10:01 / mnm
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/18/21 13:26 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:46 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	11/08/21 07:23 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 16:03 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 23:32 / jcg
Cadmium	ND	mg/L		0.001		E200.8	11/08/21 07:23 / srm
Cobalt	ND	mg/L		0.005		E200.8	11/08/21 07:23 / srm
Lead	ND	mg/L		0.001		E200.8	10/23/21 20:40 / srm
Manganese	ND	mg/L		0.001		E200.8	11/08/21 07:23 / srm
Molybdenum	ND	mg/L		0.001		E200.8	11/08/21 07:23 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 07:23 / srm
Selenium	ND	mg/L		0.001		E200.8	11/08/21 07:23 / srm
Uranium	ND	mg/L		0.0003		E200.8	10/23/21 20:40 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 16:03 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.06	pCi/L	U			E900.1	10/22/21 11:17 / amm
Gross Alpha minus Rn & U Precision (±)	0.5	pCi/L				E900.1	10/22/21 11:17 / amm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 11:17 / amm
Lead 210	-0.3	pCi/L	U			E909.0	10/30/21 17:24 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 17:24 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/30/21 17:24 / hat
Radium 226	0.06	pCi/L	U			E903.0	11/01/21 12:25 / amm
Radium 226 precision (±)	0.1	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 228	-0.6	pCi/L	U			RA-05	10/25/21 16:13 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/25/21 16:13 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-015
Client Sample ID: Field Blank

Report Date: 12/03/21
Collection Date: 10/12/21 11:00
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	2.0	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 226 + Radium 228	-0.5	pCi/L	U			A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 MDC	2.0	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Thorium 230	0.01	pCi/L	U			A7500-U C	11/04/21 06:56 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/04/21 06:56 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 06:56 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	10/27/21 16:58 / jlw
A/C Balance	100	%				A1030 E	10/27/21 16:58 / jlw
Anions	ND	meq/L				A1030 E	10/27/21 16:58 / jlw
Cations	0.11	meq/L				A1030 E	10/27/21 16:58 / jlw
TDS Ratio	ND	unitless	NA			A1030 E	10/27/21 16:58 / jlw
The Anion/Cation Balance Difference is <±0.2 meq/L							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	1.7	ug/L		0.50		E624.1	10/20/21 18:53 / eli-b
Bromoform	0.56	ug/L		0.50		E624.1	10/20/21 18:53 / eli-b
Chlorodibromomethane	1.2	ug/L		0.50		E624.1	10/20/21 18:53 / eli-b
Chloroform	2.6	ug/L		0.50		E624.1	10/20/21 18:53 / eli-b
Trihalomethanes, Total	6.0	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	101	%REC		71-139		E624.1	10/20/21 18:53 / eli-b
Surr: p-Bromofluorobenzene	95.0	%REC		80-127		E624.1	10/20/21 18:53 / eli-b
Surr: Toluene-d8	91.0	%REC		80-123		E624.1	10/20/21 18:53 / eli-b

Report Definitions:

RL - Analyte Reporting Limit
A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated
ND - Not detected at the Reporting Limit (RL)
MCL - Maximum Contaminant Level
QCL - Quality Control Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-010
Client Sample ID: Rinsate

Report Date: 11/27/21
Collection Date: 10/06/21 11:02
DateReceived: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	10/11/21 20:50 / kjp
Chloride	ND	mg/L		1		E300.0	10/13/21 12:28 / dmb
Sulfate	ND	mg/L		1		E300.0	10/13/21 12:28 / dmb
Calcium	ND	mg/L		1		E200.7	10/21/21 21:13 / jcg
Magnesium	ND	mg/L		1		E200.7	10/21/21 21:13 / jcg
Potassium	ND	mg/L		1		E200.7	10/21/21 21:13 / jcg
Sodium	ND	mg/L		1		E200.7	10/21/21 21:13 / jcg
PHYSICAL PROPERTIES							
pH	5.9	s.u.	H	0.1		A4500-H B	10/08/21 13:50 / mnm
pH Measurement Temp	14.7	°C				A4500-H B	10/08/21 13:50 / mnm
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	10/11/21 12:05 / mnm
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/12/21 13:52 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/11/21 12:58 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/19/21 06:47 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/19/21 06:47 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 23:08 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:47 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/19/21 06:47 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 23:08 / srm
Manganese	0.002	mg/L		0.001		E200.8	10/23/21 06:09 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 23:08 / srm
Nickel	ND	mg/L		0.005		E200.8	10/19/21 06:47 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 06:09 / srm
Uranium	ND	mg/L		0.0003		E200.8	10/19/21 06:47 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:47 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.1	pCi/L	U			E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	0.6	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 10:56 / amm
Lead 210	0.3	pCi/L	U			E909.0	10/19/21 16:32 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 16:32 / hat
Lead 210 MDC	1	pCi/L				E909.0	10/19/21 16:32 / hat
Radium 226	0.05	pCi/L	U			E903.0	11/05/21 14:05 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	11/05/21 14:05 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	11/05/21 14:05 / trs
Radium 228	-0.5	pCi/L	U			RA-05	10/27/21 13:26 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	10/27/21 13:26 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-010
Client Sample ID: Rinsate

Report Date: 11/27/21
Collection Date: 10/06/21 11:02
DateReceived: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.3	pCi/L				RA-05	10/27/21 13:26 / trs
Radium 226 + Radium 228	-0.5	pCi/L	U			A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.7	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.3	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.01	pCi/L	U			A7500-U C	10/27/21 14:31 / sec
Thorium 230 precision (±)	0.03	pCi/L				A7500-U C	10/27/21 14:31 / sec
Thorium 230 MDC	0.06	pCi/L				A7500-U C	10/27/21 14:31 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	ND	mg/L		1.00		A1030 E	10/22/21 14:13 / jlw
A/C Balance	100	%				A1030 E	10/22/21 14:13 / jlw
Anions	ND	meq/L				A1030 E	10/22/21 14:13 / jlw
Cations	0.06	meq/L				A1030 E	10/22/21 14:13 / jlw
TDS Ratio	NA	unitless				A1030 E	10/22/21 14:13 / jlw
The Anion/Cation Balance Difference is <±0.2 meq/L							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	1.9	ug/L		0.50		E624.1	10/18/21 16:17 / eli-b
Bromoform	0.95	ug/L		0.50		E624.1	10/18/21 16:17 / eli-b
Chlorodibromomethane	1.7	ug/L		0.50		E624.1	10/18/21 16:17 / eli-b
Chloroform	2.4	ug/L		0.50		E624.1	10/18/21 16:17 / eli-b
Trihalomethanes, Total	6.9	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	99.0	%REC		71-139		E624.1	10/18/21 16:17 / eli-b
Surr: p-Bromofluorobenzene	96.0	%REC		80-127		E624.1	10/18/21 16:17 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	10/18/21 16:17 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-014
Client Sample ID: Rinsate

Report Date: 12/03/21
Collection Date: 10/12/21 10:32
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	8	mg/L		5		A2320 B	10/16/21 02:27 / kjp
Chloride	ND	mg/L		1		E300.0	10/17/21 04:04 / dmb
Sulfate	3	mg/L		1		E300.0	10/17/21 04:04 / dmb
Calcium	1	mg/L		1		E200.7	10/26/21 17:38 / jcg
Magnesium	ND	mg/L		1		E200.7	10/26/21 17:38 / jcg
Potassium	ND	mg/L		1		E200.7	10/26/21 17:38 / jcg
Sodium	ND	mg/L		1		E200.7	10/26/21 17:38 / jcg
PHYSICAL PROPERTIES							
pH	6.5	s.u.	H	0.1		A4500-H B	10/18/21 10:22 / mnm
pH Measurement Temp	10.4	°C				A4500-H B	10/18/21 10:22 / mnm
Solids, Total Dissolved TDS @ 180 C	16	mg/L	H	10		A2540 C	10/19/21 13:44 / mnm
- H - Original analysis was done within hold time. Data is from recheck analysis.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.01		E353.2	10/18/21 13:20 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:45 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.7	10/26/21 23:28 / jcg
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 15:58 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 23:28 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:58 / srm
Cobalt	ND	mg/L		0.005		E200.8	11/08/21 07:18 / srm
Lead	ND	mg/L		0.001		E200.8	10/23/21 20:35 / srm
Manganese	0.003	mg/L		0.001		E200.8	11/08/21 07:18 / srm
Molybdenum	ND	mg/L	D	0.003		E200.8	10/29/21 15:58 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 07:18 / srm
Selenium	ND	mg/L		0.001		E200.8	11/08/21 07:18 / srm
Uranium	ND	mg/L		0.0003		E200.8	10/23/21 20:35 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:58 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.2	pCi/L	U			E900.1	10/22/21 09:37 / amm
Gross Alpha minus Rn & U Precision (±)	0.5	pCi/L				E900.1	10/22/21 09:37 / amm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 09:37 / amm
Lead 210	-0.1	pCi/L	U			E909.0	10/30/21 14:04 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 14:04 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/30/21 14:04 / hat
Radium 226	0.1	pCi/L	U			E903.0	11/01/21 12:25 / amm
Radium 226 precision (±)	0.1	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 228	-0.4	pCi/L	U			RA-05	10/25/21 16:13 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/25/21 16:13 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-014
Client Sample ID: Rinsate

Report Date: 12/03/21
Collection Date: 10/12/21 10:32
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	2.0	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 226 + Radium 228	-0.2	pCi/L	U			A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 precision (±)	1.2	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 MDC	2.0	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Thorium 230	0.05	pCi/L	U			A7500-U C	11/04/21 06:56 / sec
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	11/04/21 06:56 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 06:56 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	11.0	mg/L		1.00		A1030 E	10/27/21 16:57 / jlw
A/C Balance	-19.3	%				A1030 E	10/27/21 16:57 / jlw
Anions	0.20	meq/L				A1030 E	10/27/21 16:57 / jlw
Cations	0.14	meq/L				A1030 E	10/27/21 16:57 / jlw
TDS Ratio	1.45	unitless				A1030 E	10/27/21 16:57 / jlw
The Anion/Cation Balance Difference is <±0.2 meq/L							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	1.8	ug/L		0.50		E624.1	10/20/21 18:28 / eli-b
Bromoform	0.52	ug/L		0.50		E624.1	10/20/21 18:28 / eli-b
Chlorodibromomethane	1.3	ug/L		0.50		E624.1	10/20/21 18:28 / eli-b
Chloroform	2.8	ug/L		0.50		E624.1	10/20/21 18:28 / eli-b
Trihalomethanes, Total	6.4	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	95.0	%REC		71-139		E624.1	10/20/21 18:28 / eli-b
Surr: p-Bromofluorobenzene	99.0	%REC		80-127		E624.1	10/20/21 18:28 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	10/20/21 18:28 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-010
Client Sample ID: Trip Blank-80352

Report Date: 11/19/21
Collection Date: 10/04/21 09:02
DateReceived: 10/06/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 20:51 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 20:51 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 20:51 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/14/21 20:51 / etad
Surr: 1,2-Dichloroethane-d4	108	%REC		73-122		E624.1	10/14/21 20:51 / etad
Surr: p-Bromofluorobenzene	85.0	%REC		79-119		E624.1	10/14/21 20:51 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 20:51 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-011
Client Sample ID: Trip Blank-79121

Report Date: 11/19/21
Collection Date: 10/04/21 09:02
DateReceived: 10/06/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 21:11 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 21:11 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 21:11 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/14/21 21:11 / etad
Surr: 1,2-Dichloroethane-d4	105	%REC		73-122		E624.1	10/14/21 21:11 / etad
Surr: p-Bromofluorobenzene	84.0	%REC		79-119		E624.1	10/14/21 21:11 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 21:11 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-012
Client Sample ID: Trip Blank-80352

Report Date: 11/27/21
Collection Date: 10/05/21 08:43
DateReceived: 10/07/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 15:58 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 15:58 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 15:58 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 15:58 / etad
Surr: 1,2-Dichloroethane-d4	96.0	%REC		73-122		E624.1	10/15/21 15:58 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/15/21 15:58 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/15/21 15:58 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-013
Client Sample ID: Trip Blank-78474

Report Date: 11/27/21
Collection Date: 10/05/21 08:43
DateReceived: 10/07/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 16:20 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 16:20 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 16:20 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 16:20 / etad
Surr: 1,2-Dichloroethane-d4	95.0	%REC		73-122		E624.1	10/15/21 16:20 / etad
Surr: p-Bromofluorobenzene	96.0	%REC		79-119		E624.1	10/15/21 16:20 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/15/21 16:20 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-009
Client Sample ID: Trip Blank-80352

Report Date: 11/28/21
Collection Date: 10/07/21 13:43
DateReceived: 10/12/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 14:40 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 14:40 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 14:40 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/17/21 14:40 / etad
Surr: 1,2-Dichloroethane-d4	94.0	%REC		73-122		E624.1	10/17/21 14:40 / etad
Surr: p-Bromofluorobenzene	97.0	%REC		79-119		E624.1	10/17/21 14:40 / etad
Surr: Toluene-d8	99.0	%REC		80-120		E624.1	10/17/21 14:40 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-010
Client Sample ID: Trip Blank-79121

Report Date: 11/28/21
Collection Date: 10/07/21 13:43
DateReceived: 10/12/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 15:02 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 15:02 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 15:02 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/17/21 15:02 / etad
Surr: 1,2-Dichloroethane-d4	94.0	%REC		73-122		E624.1	10/17/21 15:02 / etad
Surr: p-Bromofluorobenzene	93.0	%REC		79-119		E624.1	10/17/21 15:02 / etad
Surr: Toluene-d8	98.0	%REC		80-120		E624.1	10/17/21 15:02 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Sentinel Wells
Lab ID: C21100534-003
Client Sample ID: Trip Blank- 79121

Report Date: 12/03/21
Collection Date: 10/12/21 15:00
DateReceived: 10/14/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 15:57 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 15:57 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 15:57 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 15:57 / eli-b
Surr: 1,2-Dichloroethane-d4	102	%REC		71-139		E624.1	10/20/21 15:57 / eli-b
Surr: p-Bromofluorobenzene	96.0	%REC		80-127		E624.1	10/20/21 15:57 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	10/20/21 15:57 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-016
Client Sample ID: Trip Blank-80352

Report Date: 12/03/21
Collection Date: 10/11/21 09:50
DateReceived: 10/14/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 14:54 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 14:54 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 14:54 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 14:54 / etad
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/22/21 14:54 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/22/21 14:54 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	10/22/21 14:54 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-017
Client Sample ID: Trip Blank-79121

Report Date: 12/03/21
Collection Date: 10/11/21 09:50
DateReceived: 10/14/21
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 15:16 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 15:16 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 15:16 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 15:16 / etad
Surr: 1,2-Dichloroethane-d4	99.0	%REC		73-122		E624.1	10/22/21 15:16 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/22/21 15:16 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	10/22/21 15:16 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		EPA-28	EPA-28	EPA-28	EPA-28
Collection Date:		10/11/2021	7/19/2021	4/20/2021	1/18/2021
Receive Date:		10/14/2021	7/21/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	**Units**	**C21100526-010**	**C21070842-008**	**C21040856-001**	**C21010710-007**
Bicarbonate as HCO3	mg/L	457	483	388	391
Calcium	mg/L	509	505	495	483
Chloride	mg/L	100	101	97	100
Magnesium	mg/L	447	457	479	468
Potassium	mg/L	11	12	12	12
Sodium	mg/L	235	235	254	246
Sulfate	mg/L	3240	3210	3140	3150
pH	s.u.	7.0	6.9	6.86	6.86
pH Measurement Temp	°C	13.5	14.8	13	14
Solids, Total Dissolved TDS @ 180 C	mg/L	5060	5070	5010	5090
Nitrogen, Ammonia as N	mg/L	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Nitrogen, Nitrate+Nitrite as N	mg/L	0.53	0.38	1.53	1.62
Aluminum	mg/L	ND(0.09)	0.45	ND(0.03)	ND(0.03)
Arsenic	mg/L	ND(0.02)	ND(0.001)	ND(0.001)	ND(0.001)
Beryllium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Lead	mg/L	ND(0.001)	0.001	ND(0.001)	ND(0.001)
Manganese	mg/L	0.346	0.453	0.091	0.106
Molybdenum	mg/L	ND(0.001)	0.001	ND(0.001)	ND(0.001)
Nickel	mg/L	0.007	0.007	0.007	0.007
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.014	0.0155	0.0149	0.0160
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.7	0.3	0.8	0.5
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.8	0.7	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.6	0.5	0.5	0.5
Lead 210	pCi/L	-0.07	-0.4	0.1	0.5
Lead 210 MDC	pCi/L	1.1	0.9	0.8	1.0
Lead 210 precision (±)	pCi/L	0.7	0.5	0.5	0.6
Radium 226	pCi/L	0.1	0.4	0.4	0.7
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.2	0.1	0.2
Radium 228	pCi/L	0.8	1.8	1.1	1.1
Radium 228 MDC	pCi/L	1.1	1.5	0.9	0.9
Radium 228 precision (±)	pCi/L	0.7	1.0	0.6	0.7
Thorium 230	pCi/L	0.1	0.1	-0.02	0.2
Thorium 230 precision (±)	pCi/L	0.08	0.08	0.1	0.1
A/C Balance	%	-3.35	-2.86	0.67	-0.86
Anions	meq/L	77.7	77.6	74.5	74.9
Cations	meq/L	72.7	73.3	75.5	73.6
Bromodichloromethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-009
Client Sample ID: EPA-28 Duplicate

Report Date: 08/27/21
Collection Date: 07/19/21 15:05
DateReceived: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	449	mg/L		5		A2320 B	07/23/21 00:13 / dmb
Chloride	105	mg/L	D	2		E300.0	07/24/21 19:43 / dmb
Sulfate	3370	mg/L	D	8		E300.0	07/24/21 19:43 / dmb
Calcium	524	mg/L		1		E200.7	07/23/21 16:07 / meh
Magnesium	467	mg/L		1		E200.7	07/23/21 16:07 / meh
Potassium	12	mg/L		1		E200.7	07/23/21 16:07 / meh
Sodium	237	mg/L	D	3		E200.7	07/23/21 16:07 / meh
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	07/22/21 13:11 / kjp
pH Measurement Temp	14.9	°C				A4500-H B	07/22/21 13:11 / kjp
Solids, Total Dissolved TDS @ 180 C	5080	mg/L	D	40		A2540 C	07/22/21 10:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.01		E353.2	07/24/21 12:45 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:09 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 16:14 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 01:38 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Manganese	0.596	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Nickel	0.007	mg/L		0.005		E200.8	08/03/21 01:38 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 01:38 / jcg
Uranium	0.0152	mg/L	D	0.0005		E200.8	08/03/21 01:38 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 01:38 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.6	pCi/L	U			E900.1	08/02/21 07:51 / trs
Gross Alpha minus Rn & U Precision (±)	0.5	pCi/L				E900.1	08/02/21 07:51 / trs
Gross Alpha minus Rn & U MDC	0.8	pCi/L				E900.1	08/02/21 07:51 / trs
Lead 210	0.2	pCi/L	U			E909.0	08/12/21 02:03 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/12/21 02:03 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/12/21 02:03 / hat
Radium 226	0.5	pCi/L				E903.0	08/09/21 11:24 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/09/21 11:24 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	08/09/21 11:24 / amm
Radium 228	0.4	pCi/L	U			RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	0.9	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 MDC	1.5	pCi/L				RA-05	08/03/21 15:29 / trs

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-009
Client Sample ID: EPA-28 Duplicate

Report Date: 08/27/21
Collection Date: 07/19/21 15:05
DateReceived: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.03	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.05	pCi/L				A7500-U C	08/03/21 16:09 / mrt
Thorium 230 MDC	0.1	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	4940	mg/L		1.00		A1030 E	07/27/21 14:27 / jlw
A/C Balance	-3.41	%				A1030 E	07/27/21 14:27 / jlw
Anions	80.5	meq/L				A1030 E	07/27/21 14:27 / jlw
Cations	75.2	meq/L				A1030 E	07/27/21 14:27 / jlw
TDS Ratio	1.03	unitless				A1030 E	07/27/21 14:27 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 23:31 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 23:31 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 23:31 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/27/21 23:31 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/14/21 17:13 / tlf
Surr: 1,2-Dichloroethane-d4	117	%REC		71-139		E624.1	07/27/21 23:31 / eli-b
Surr: p-Bromofluorobenzene	119	%REC		80-127		E624.1	07/27/21 23:31 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	07/27/21 23:31 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-011
Client Sample ID: EPA-28 Duplicate

Report Date: 12/03/21
Collection Date: 10/11/21 13:15
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	437	mg/L		5		A2320 B	10/16/21 02:06 / kjp
Chloride	96	mg/L	D	2		E300.0	10/17/21 03:06 / dmb
Sulfate	3130	mg/L	D	8		E300.0	10/17/21 03:06 / dmb
Calcium	487	mg/L		1		E200.7	10/26/21 17:09 / jcg
Magnesium	416	mg/L		1		E200.7	10/26/21 17:09 / jcg
Potassium	11	mg/L		1		E200.7	10/26/21 17:09 / jcg
Sodium	235	mg/L	D	2		E200.7	10/26/21 17:09 / jcg
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	10/15/21 10:12 / mnm
pH Measurement Temp	13.5	°C				A4500-H B	10/15/21 10:12 / mnm
Solids, Total Dissolved TDS @ 180 C	5050	mg/L	D	40		A2540 C	10/15/21 09:56 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.47	mg/L		0.01		E353.2	10/18/21 13:16 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:39 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	11/15/21 15:53 / jcg
Arsenic	ND	mg/L	D	0.02		E200.8	10/29/21 15:31 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:29 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:31 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 15:31 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 15:31 / srm
Manganese	0.375	mg/L	D	0.004		E200.8	10/29/21 15:31 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 15:31 / srm
Nickel	0.008	mg/L		0.005		E200.8	11/08/21 06:50 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 15:31 / srm
Uranium	0.013	mg/L	D	0.001		E200.8	10/29/21 15:31 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:31 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	pCi/L	U			E900.1	10/22/21 09:37 / amm
Gross Alpha minus Rn & U Precision (±)	0.6	pCi/L				E900.1	10/22/21 09:37 / amm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 09:37 / amm
Lead 210	0.2	pCi/L	U			E909.0	10/30/21 04:40 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/30/21 04:40 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/30/21 04:40 / hat
Radium 226	0.5	pCi/L				E903.0	10/27/21 11:06 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/27/21 11:06 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:06 / amm
Radium 228	1.4	pCi/L				RA-05	10/22/21 13:48 / amm
Radium 228 precision (±)	0.9	pCi/L				RA-05	10/22/21 13:48 / amm
Radium 228 MDC	1.1	pCi/L				RA-05	10/22/21 13:48 / amm

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-011
Client Sample ID: EPA-28 Duplicate

Report Date: 12/03/21
Collection Date: 10/11/21 13:15
DateReceived: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	1.9	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.9	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.06	pCi/L	U			A7500-U C	11/04/21 13:21 / sec
Thorium 230 precision (±)	0.09	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/04/21 13:21 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4590	mg/L		1.00		A1030 E	10/27/21 16:57 / jlw
A/C Balance	-4.18	%				A1030 E	10/27/21 16:57 / jlw
Anions	75.1	meq/L				A1030 E	10/27/21 16:57 / jlw
Cations	69.1	meq/L				A1030 E	10/27/21 16:57 / jlw
TDS Ratio	1.10	unitless				A1030 E	10/27/21 16:57 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 17:13 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 17:13 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 17:13 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 17:13 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	103	%REC		71-139		E624.1	10/20/21 17:13 / eli-b
Surr: p-Bromofluorobenzene	97.0	%REC		80-127		E624.1	10/20/21 17:13 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624.1	10/20/21 17:13 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		EPA-2	EPA-2	EPA-2	EPA-2
Collection Date:		10/8/2021	7/12/2021	4/12/2021	1/11/2021
Receive Date:		10/12/2021	7/14/2021	4/14/2021	1/14/2021
Report Date:		11/28/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	**Units**	**C21100467-007**	**C21070550-004**	**C21040618-003**	**C21010503-003**
Bicarbonate as HCO3	mg/L	238	254	228	258
Calcium	mg/L	480	508	487	468
Chloride	mg/L	29	26	29	28
Magnesium	mg/L	231	248	248	228
Potassium	mg/L	8	9	9	8
Sodium	mg/L	228	240	237	226
Sulfate	mg/L	2510	2240	2430	2280
pH	s.u.	7.0	6.9	6.86	6.82
pH Measurement Temp	°C	14.0	13.1	14	14
Solids, Total Dissolved TDS @ 180 C	mg/L	3870	3820	3790	3720
Nitrogen, Ammonia as N	mg/L	0.25	0.19	0.17	0.16
Nitrogen, Nitrate+Nitrite as N	mg/L	0.33	0.26	0.18	0.18
Aluminum	mg/L	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
Arsenic	mg/L	0.002	ND(0.001)	0.001	0.002
Beryllium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Lead	mg/L	ND(0.001)	0.001	0.002	0.004
Manganese	mg/L	1.84	2.10	1.92	1.80
Molybdenum	mg/L	ND(0.001)	ND(0.001)	0.002	0.002
Nickel	mg/L	0.008	ND(0.005)	ND(0.005)	ND(0.005)
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0014	0.0013	0.0017	0.0018
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.7	3.0	2.7	2.5
Gross Alpha minus Rn & U MDC	pCi/L	1.1	1.1	0.8	1.3
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.8	1.0	0.9	1.1
Lead 210	pCi/L	0.8	0.3	-0.2	1.3
Lead 210 MDC	pCi/L	0.9	0.8	1	1.2
Lead 210 precision (±)	pCi/L	0.6	0.5	0.6	0.8
Radium 226	pCi/L	1.7	2.3	1	1.2
Radium 226 MDC	pCi/L	0.2	0.2	0.08	0.2
Radium 226 precision (±)	pCi/L	0.4	0.5	0.1	0.3
Radium 228	pCi/L	4.2	2.5	4.7	4.0
Radium 228 MDC	pCi/L	1	1.2	1.0	1.0
Radium 228 precision (±)	pCi/L	1.1	0.9	1.2	1.1
Thorium 230	pCi/L	0.009	0.004	0.05	0.1
Thorium 230 MDC	pCi/L	0.08	0.06	0.07	0.08
Thorium 230 precision (±)	pCi/L	0.04	0.03	0.04	0.06
A/C Balance	%	-3.58	4.62	0.16	-0.38
Anions	meq/L	57.1	51.5	55.0	52.6
Cations	meq/L	53.1	56.5	55.2	52.2
Solids, Total Dissolved - Calculated	mg/L	3610	3390	3550	3370
TDS Ratio	unitless	1.07	1.13	1.07	1.10
Bromodichloromethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)

NOTE: The data presented on this form is intended for summary only. Laboratory approved data is contained within the database reports.

United Nuclear Corp					
UNC - Zone 1					
Well ID:		EPA-2 Duplicate	EPA-2 Duplicate	EPA-2 Duplicate	EPA-2 Duplicate
Collection Date:		7/12/2021	4/12/2021	1/11/2021	10/13/2020
Receive Date:		7/14/2021	4/14/2021	1/14/2021	10/15/2020
Report Date:		8/13/2021	5/20/2021	2/24/2021	12/4/2020
Analyte	**RUnits**	**C21070550-005**	**C21040618-004**	**C21010503-004**	**C20100712-006**
Bicarbonate as HCO3	mg/L	260	239	262	263
Calcium	mg/L	501	505	437	443
Chloride	mg/L	27	28	28	26
Magnesium	mg/L	243	256	215	219
Potassium	mg/L	9	9	8	8
Sodium	mg/L	238	245	206	210
Sulfate	mg/L	2280	2430	2320	2230
pH	s.u.	6.8	6.76	6.76	6.78
pH Measurement Temp	°C	12.9	14	14	14
Solids, Total Dissolved TDS @ 180 C	mg/L	3800	3840	3760	3690
Nitrogen, Ammonia as N	mg/L	0.29	0.38	0.38	0.31
Nitrogen, Nitrate+Nitrite as N	mg/L	0.06	0.04	ND(0.01)	0.04
Aluminum	mg/L	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
Arsenic	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Beryllium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Lead	mg/L	ND(0.001)	ND(0.001)	0.002	ND(0.001)
Manganese	mg/L	2.15	2.24	2.27	2.06
Molybdenum	mg/L	ND(0.001)	0.002	0.002	0.001
Nickel	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0011	0.0017	0.0020	0.0015
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	2.6	3.6	2.7	2.6
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	1.3	0.9
Gross Alpha minus Rn & U Precision (±)	pCi/L	1.0	1.1	1.1	0.9
Lead 210	pCi/L	0.4	0.5	0.8	0.1
Lead 210 MDC	pCi/L	0.8	1.0	1.1	0.8
Lead 210 precision (±)	pCi/L	0.5	0.6	0.7	0.5
Radium 226	pCi/L	2.6	1	1.1	1.5
Radium 226 MDC	pCi/L	0.2	0.08	0.2	0.2
Radium 226 precision (±)	pCi/L	0.6	0.1	0.3	0.3
Radium 228	pCi/L	3.0	6.4	3.8	2.2
Radium 228 MDC	pCi/L	1.3	1	1.1	1.4
Radium 228 precision (±)	pCi/L	1.0	1.5	1.0	1.1
Thorium 230	pCi/L	0.03	-0.003	0.1	0.001
Thorium 230 MDC	pCi/L	0.06	0.08	0.09	0.05
Thorium 230 precision (±)	pCi/L	0.03	0.04	0.07	0.02
A/C Balance	%	2.92	1.67	-4.55	-1.97
Anions	meq/L	52.4	55.3	53.4	51.4
Cations	meq/L	55.6	57.1	48.7	49.5
Solids, Total Dissolved - Calculated	mg/L	3420	3590	3340	3260
TDS Ratio	unitless	1.11	1.07	1.13	1.13
Bromodichloromethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)

NOTE: The data presented on this form is intended for summary only. Laboratory approved data is contained within the database reports.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-005
Client Sample ID: EPA-2 Duplicate

Report Date: 08/13/21
Collection Date: 07/12/21 13:11
DateReceived: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	260	mg/L		5		A2320 B	07/15/21 20:20 / dmb
Chloride	27	mg/L		1		E300.0	07/17/21 12:46 / dmb
Sulfate	2280	mg/L	D	4		E300.0	07/17/21 12:46 / dmb
Calcium	501	mg/L		1		E200.7	07/15/21 14:06 / meh
Magnesium	243	mg/L		1		E200.7	07/15/21 14:06 / meh
Potassium	9	mg/L		1		E200.7	07/15/21 14:06 / meh
Sodium	238	mg/L	D	3		E200.7	07/15/21 14:06 / meh
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	07/15/21 12:48 / pla
pH Measurement Temp	12.9	°C				A4500-H B	07/15/21 12:48 / pla
Solids, Total Dissolved TDS @ 180 C	3800	mg/L	D	40		A2540 C	07/15/21 11:52 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	07/19/21 13:13 / dmb
Nitrogen, Ammonia as N	0.29	mg/L		0.05		E350.1	07/15/21 13:19 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/26/21 15:36 / srm
Arsenic	ND	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Cobalt	ND	mg/L		0.005		E200.8	07/19/21 20:14 / jcg
Lead	ND	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Manganese	2.15	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/19/21 20:14 / jcg
Nickel	ND	mg/L		0.005		E200.8	07/19/21 20:14 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/21/21 15:06 / meh
Uranium	0.0011	mg/L	D	0.0005		E200.8	07/21/21 15:06 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 20:14 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.6	pCi/L				E900.1	07/19/21 08:07 / amm
Gross Alpha minus Rn & U Precision (±)	1.0	pCi/L				E900.1	07/19/21 08:07 / amm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	07/19/21 08:07 / amm
Lead 210	0.4	pCi/L	U			E909.0	07/25/21 05:09 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	07/25/21 05:09 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	07/25/21 05:09 / hat
Radium 226	2.6	pCi/L				E903.0	07/26/21 11:57 / plj
Radium 226 precision (±)	0.6	pCi/L				E903.0	07/26/21 11:57 / plj
Radium 226 MDC	0.2	pCi/L				E903.0	07/26/21 11:57 / plj
Radium 228	3.0	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	1.0	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.3	pCi/L				RA-05	07/19/21 17:28 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-005
Client Sample ID: EPA-2 Duplicate

Report Date: 08/13/21
Collection Date: 07/12/21 13:11
DateReceived: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.03	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.03	pCi/L				A7500-U C	07/27/21 11:35 / mrt
Thorium 230 MDC	0.06	pCi/L				A7500-U C	07/27/21 11:35 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	3420	mg/L		1.00		A1030 E	07/20/21 09:42 / tlf
A/C Balance	2.92	%				A1030 E	07/20/21 09:42 / tlf
Anions	52.4	meq/L				A1030 E	07/20/21 09:42 / tlf
Cations	55.6	meq/L				A1030 E	07/20/21 09:42 / tlf
TDS Ratio	1.11	unitless				A1030 E	07/20/21 09:42 / tlf
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 13:31 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 13:31 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 13:31 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 13:31 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tlf
Surr: 1,2-Dichloroethane-d4	112	%REC		71-139		E624.1	07/20/21 13:31 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/20/21 13:31 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	07/20/21 13:31 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-008
Client Sample ID: EPA-2 Duplicate

Report Date: 11/28/21
Collection Date: 10/08/21 11:56
DateReceived: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO3	256	mg/L		5		A2320 B	10/15/21 22:14 / kjp
Chloride	27	mg/L		1		E300.0	10/23/21 11:11 / dmb
Sulfate	2370	mg/L	D	4		E300.0	10/23/21 11:11 / dmb
Calcium	485	mg/L		1		E200.7	10/26/21 14:42 / jcg
Magnesium	235	mg/L		1		E200.7	10/26/21 14:42 / jcg
Potassium	8	mg/L		1		E200.7	10/26/21 14:42 / jcg
Sodium	236	mg/L	D	5		E200.7	11/01/21 23:27 / jcg
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	10/13/21 11:15 / mnm
pH Measurement Temp	14.9	°C				A4500-H B	10/13/21 11:15 / mnm
Solids, Total Dissolved TDS @ 180 C	3900	mg/L	D	40		A2540 C	10/13/21 11:12 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	10/18/21 12:42 / nts
Nitrogen, Ammonia as N	0.38	mg/L		0.05		E350.1	10/19/21 13:16 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/29/21 12:23 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 09:37 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:35 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 19:16 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 19:16 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 19:16 / srm
Manganese	2.31	mg/L	D	0.002		E200.8	10/21/21 19:16 / srm
Molybdenum	0.001	mg/L		0.001		E200.8	10/23/21 09:37 / srm
Nickel	ND	mg/L		0.005		E200.8	10/23/21 09:37 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 09:37 / srm
Uranium	0.0016	mg/L		0.0003		E200.8	11/04/21 19:45 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 19:16 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.2	pCi/L				E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U Precision (±)	1.0	pCi/L				E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 10:47 / amm
Lead 210	0.9	pCi/L	U			E909.0	10/29/21 17:31 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/29/21 17:31 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 17:31 / hat
Radium 226	1.5	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.4	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 228	3.9	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	1	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	1.0	pCi/L				RA-05	10/22/21 12:12 / amm

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-008
Client Sample ID: EPA-2 Duplicate

Report Date: 11/28/21
Collection Date: 10/08/21 11:56
DateReceived: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	5.3	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.007	pCi/L	U			A7500-U C	11/03/21 07:44 / sec
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	11/03/21 07:44 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/03/21 07:44 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3520	mg/L		1.00		A1030 E	11/02/21 15:29 / jlw
A/C Balance	-0.29	%				A1030 E	11/02/21 15:29 / jlw
Anions	54.3	meq/L				A1030 E	11/02/21 15:29 / jlw
Cations	54.0	meq/L				A1030 E	11/02/21 15:29 / jlw
TDS Ratio	1.11	unitless				A1030 E	11/02/21 15:29 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/15/21 21:51 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/15/21 21:51 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/15/21 21:51 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/15/21 21:51 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	108	%REC		71-139		E624.1	10/15/21 21:51 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		80-127		E624.1	10/15/21 21:51 / eli-b
Surr: Toluene-d8	105	%REC		80-123		E624.1	10/15/21 21:51 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

Guideline 8: Sweetwater					
Well ID:		717	717	717	717
Collection Date:		10/4/2021	7/5/2021	4/6/2021	1/5/2021
Receive Date:		10/6/2021	7/7/2021	4/9/2021	1/7/2021
Report Date:		11/19/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	**Units**	**C21100250-007**	**C21070218-002**	**C21040386-001**	**C21010234-001**
Acidity, Total as CaCO3	mg/L	1240	1160	1300	1320
Bicarbonate as HCO3	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	406	455	466	439
Chloride	mg/L	41	43	41	46
Magnesium	mg/L	361	414	391	384
Potassium	mg/L	9	7	9	8
Sodium	mg/L	126	141	154	144
Sulfate	mg/L	4380	4260	4230	4420
pH	s.u.	3.4	3.4	3.47	3.42
pH Measurement Temp	°C	16.1	15.5	17	12
Solids, Total Dissolved TDS @ 180 C	mg/L	5790	5950	6000	6020
Nitrogen, Ammonia as N	mg/L	15	14	15	17
Nitrogen, Nitrate+Nitrite as N	mg/L	0.03	0.02	0.02	ND(0.01)
Aluminum	mg/L	161	156	182	196
Arsenic	mg/L	0.008	0.009	0.009	0.011
Beryllium	mg/L	0.131	0.122	0.15	0.151
Cadmium	mg/L	0.012	0.011	0.012	0.013
Cobalt	mg/L	0.870	0.87	0.868	0.818
Lead	mg/L	0.030	0.028	0.030	0.024
Manganese	mg/L	13.1	12.0	13.4	15.0
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.911	0.876	0.920	0.933
Selenium	mg/L	0.006	0.007	0.007	0.007
Uranium	mg/L	0.591	0.555	0.602	0.582
Vanadium	mg/L	ND(0.01)	ND(0.2)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	28.0	26.8	29.2	38.9
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	1	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	5.7	5.6	5.9	7.8
Lead 210	pCi/L	1.1	2.0	2.1	2.0
Lead 210 MDC	pCi/L	1.0	1.0	0.9	1
Lead 210 precision (±)	pCi/L	0.7	0.9	0.9	0.9
Radium 226	pCi/L	11.7	13.9	7.8	11.1
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	2.3	2.6	1.5	2.1
Radium 228	pCi/L	16.5	14.5	14.5	14.4
Radium 228 MDC	pCi/L	1.6	0.9	1	0.8
Radium 228 precision (±)	pCi/L	3.3	2.7	2.8	2.7
Thorium 230	pCi/L	2.0	0.8	1.8	2.6
Thorium 230 MDC	pCi/L	0.4	1.3	0.4	0.6
Thorium 230 precision (±)	pCi/L	0.4	0.8	0.3	0.5
A/C Balance	%	-6.47	-1.67	-0.16	-3.17
Anions	meq/L	92.7	90.3	89.6	93.3
Cations	meq/L	81.4	87.4	89.4	87.5
Solids, Total Dissolved - Calculated	mg/L	5330	5330	5300	5440
TDS Ratio	unitless	1.09	1.12	1.13	1.11
Bromodichloromethane	ug/L	ND(1.0)	ND(1.0)	ND(1.0)	ND
Bromoform	ug/L	ND(2.0)	ND(2.0)	ND(2.0)	ND
Chlorodibromomethane	ug/L	ND(1.0)	ND(1.0)	ND(1.0)	ND
Chloroform	ug/L	1.1	ND(1.0)	ND(1.0)	0.40
Trihalomethanes, Total	ug/L	1.1	0.53	ND(1.0)	0.40

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United Nuclear Corp					
UNC - Zone 3 & Zone 1					
Well ID:		717 Duplicate	717 Duplicate	717 Duplicate	717 Duplicate
Collection Date:		7/5/2021	4/6/2021	1/5/2021	10/6/2020
Receive Date:		7/7/2021	4/9/2021	1/7/2021	10/8/2020
Report Date:		8/13/2021	5/20/2021	2/24/2021	12/18/2020
Analyte	**RUnits**	**C21070218-003**	**C21040386-002**	**C21010234-002**	**C20100431-002**
Acidity, Total as CaCO3	mg/L	1200	1290	1320	1290
Bicarbonate as HCO3	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	461	480	435	446
Chloride	mg/L	43	43	47	45
Magnesium	mg/L	421	407	379	398
Potassium	mg/L	7	9	8	8
Sodium	mg/L	144	159	141	147
Sulfate	mg/L	4340	4280	4450	4440
pH	s.u.	3.6	3.54	3.58	3.54
pH Measurement Temp	°C	15.8	16	12	17
Solids, Total Dissolved TDS @ 180 C	mg/L	5930	5970	6010	6180
Nitrogen, Ammonia as N	mg/L	13	18	16	16
Nitrogen, Nitrate+Nitrite as N	mg/L	0.04	0.02	ND(0.01)	ND(0.01)
Aluminum	mg/L	160	174	192	207
Arsenic	mg/L	0.009	0.008	0.011	0.011
Beryllium	mg/L	0.14	0.14	0.126	0.129
Cadmium	mg/L	0.011	0.012	0.013	0.013
Cobalt	mg/L	0.781	0.825	0.857	0.907
Lead	mg/L	0.012	0.012	0.013	0.012
Manganese	mg/L	12.4	13.2	14.1	13.7
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.889	0.912	0.971	0.964
Selenium	mg/L	0.007	0.007	0.007	0.011
Uranium	mg/L	0.563	0.593	0.605	0.600
Vanadium	mg/L	ND(0.2)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	24.9	37.9	30.9	44.9
Gross Alpha minus Rn & U MDC	pCi/L	1.4	1	1.2	0.9
Gross Alpha minus Rn & U Precision (±)	pCi/L	5.3	7.6	6.3	8.9
Lead 210	pCi/L	2.5	1.7	1.9	1.8
Lead 210 MDC	pCi/L	1.0	0.9	1	1.2
Lead 210 precision (±)	pCi/L	1.0	0.8	0.8	0.9
Radium 226	pCi/L	15.8	8.5	13.4	10.7
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	3.0	1.7	2.6	2.1
Radium 228	pCi/L	16.6	12.1	15.6	11.2
Radium 228 MDC	pCi/L	1.0	1.0	0.8	0.9
Radium 228 precision (±)	pCi/L	3.1	2.4	2.9	2.2
Thorium 230	pCi/L	1.5	2.4	2.8	1.1
Thorium 230 MDC	pCi/L	1.8	0.7	0.6	0.4
Thorium 230 precision (±)	pCi/L	0.3	0.4	0.5	0.2
A/C Balance	%	-1.59	0.46	-3.95	-2.83
Anions	meq/L	92.0	90.8	94.0	93.8
Cations	meq/L	89.1	91.6	86.9	88.6
Solids, Total Dissolved - Calculated	mg/L	5420	5390	5460	5490
TDS Ratio	unitless	1.09	1.11	1.10	1.13
Bromodichloromethane	ug/L	ND(1.0)	ND(1.0)	ND	ND
Bromoform	ug/L	ND(2.0)	ND(2.0)	ND	ND
Chlorodibromomethane	ug/L	ND(1.0)	ND(1.0)	ND	ND
Chloroform	ug/L	ND(1.0)	ND(1.0)	0.50	0.87
Trihalomethanes, Total	ug/L	ND(0.50)	ND(1.0)	0.50	0.87

NOTE: The data presented on this form is intended for summary only. Laboratory approved data is contained within the database reports.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-003
Client Sample ID: 717 Duplicate

Report Date: 08/13/21
Collection Date: 07/05/21 10:44
DateReceived: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO3	1200	mg/L				A2310 B	07/14/21 12:24 / dmb
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	07/08/21 17:04 / kjp
Chloride	43	mg/L	D	2		E300.0	07/09/21 21:02 / dmb
Sulfate	4340	mg/L	D	8		E300.0	07/09/21 21:02 / dmb
Calcium	461	mg/L		1		E200.7	07/08/21 12:32 / meh
Magnesium	421	mg/L		1		E200.7	07/08/21 12:32 / meh
Potassium	7	mg/L		1		E200.7	07/08/21 12:32 / meh
Sodium	144	mg/L	D	3		E200.7	07/08/21 12:32 / meh
PHYSICAL PROPERTIES							
pH	3.6	s.u.	H	0.1		A4500-H B	07/08/21 14:50 / pla
pH Measurement Temp	15.8	°C				A4500-H B	07/08/21 14:50 / pla
Solids, Total Dissolved TDS @ 180 C	5930	mg/L	D	40		A2540 C	07/09/21 13:40 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	07/12/21 14:33 / dmb
Nitrogen, Ammonia as N	13	mg/L	D	1		E350.1	07/09/21 10:29 / dmb
METALS, TOTAL							
Aluminum	160	mg/L	D	2		E200.8	07/21/21 22:33 / meh
Arsenic	0.009	mg/L		0.001		E200.8	07/15/21 21:21 / jcg
Beryllium	0.14	mg/L	D	0.01		E200.8	07/21/21 22:33 / meh
Cadmium	0.011	mg/L		0.001		E200.8	07/15/21 21:21 / jcg
Cobalt	0.781	mg/L		0.005		E200.8	07/15/21 21:21 / jcg
Lead	0.012	mg/L		0.001		E200.8	07/15/21 21:21 / jcg
Manganese	12.4	mg/L	D	0.07		E200.8	07/21/21 22:33 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/15/21 21:21 / jcg
Nickel	0.889	mg/L		0.005		E200.8	07/15/21 21:21 / jcg
Selenium	0.007	mg/L		0.001		E200.8	07/15/21 21:21 / jcg
Uranium	0.563	mg/L	D	0.0005		E200.8	07/15/21 21:21 / jcg
Vanadium	ND	mg/L	D	0.2		E200.8	07/21/21 22:33 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	24.9	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	5.3	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U MDC	1.4	pCi/L				E900.1	07/16/21 12:01 / amm
Lead 210	2.5	pCi/L				E909.0	07/15/21 09:06 / hat
Lead 210 precision (±)	1.0	pCi/L				E909.0	07/15/21 09:06 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	07/15/21 09:06 / hat
Radium 226	15.8	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 precision (±)	3.0	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 228	16.6	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	3.1	pCi/L				RA-05	07/12/21 13:50 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-003
Client Sample ID: 717 Duplicate

Report Date: 08/13/21
Collection Date: 07/05/21 10:44
DateReceived: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.0	pCi/L				RA-05	07/12/21 13:50 / trs
Thorium 230	1.5	pCi/L	U			A7500-U C	07/16/21 12:26 / mrt
Thorium 230 precision (±)	0.3	pCi/L				A7500-U C	07/16/21 12:26 / mrt
Thorium 230 MDC	1.8	pCi/L				A7500-U C	07/16/21 12:26 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5420	mg/L		1.00		A1030 E	07/15/21 15:32 / jlw
A/C Balance	-1.59	%				A1030 E	07/15/21 15:32 / jlw
Anions	92.0	meq/L				A1030 E	07/15/21 15:32 / jlw
Cations	89.1	meq/L				A1030 E	07/15/21 15:32 / jlw
TDS Ratio	1.09	unitless				A1030 E	07/15/21 15:32 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 10:45 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 10:45 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 10:45 / etad
Chloroform	0.49	ug/L	J	1.0		E624.1	07/15/21 10:45 / etad
Trihalomethanes, Total	0.49	ug/L	J	0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	102	%REC		73-122		E624.1	07/15/21 10:45 / etad
Surr: p-Bromofluorobenzene	100	%REC		79-119		E624.1	07/15/21 10:45 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	07/15/21 10:45 / etad

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-008
Client Sample ID: 717 Duplicate

Report Date: 11/19/21
Collection Date: 10/04/21 15:45
DateReceived: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO3	1220	mg/L				A2310 B	10/15/21 15:37 / dmb
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	10/08/21 18:52 / kjp
Chloride	41	mg/L	D	2		E300.0	10/09/21 05:11 / dmb
Sulfate	4390	mg/L	D	8		E300.0	10/09/21 05:11 / dmb
Calcium	405	mg/L		1		E200.7	10/13/21 15:01 / jcg
Magnesium	361	mg/L		1		E200.7	10/13/21 15:01 / jcg
Potassium	9	mg/L		1		E200.7	10/13/21 15:01 / jcg
Sodium	126	mg/L	D	3		E200.7	10/13/21 15:01 / jcg
PHYSICAL PROPERTIES							
pH	3.6	s.u.	H	0.1		A4500-H B	10/07/21 12:09 / mnm
pH Measurement Temp	16.0	°C				A4500-H B	10/07/21 12:09 / mnm
Solids, Total Dissolved TDS @ 180 C	5840	mg/L	D	40		A2540 C	10/07/21 10:22 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	10/07/21 14:09 / nts
Nitrogen, Ammonia as N	13	mg/L	D	1		E350.1	10/11/21 11:58 / nts
METALS, TOTAL							
Aluminum	165	mg/L	D	4		E200.8	11/07/21 19:45 / srm
Arsenic	0.008	mg/L		0.001		E200.8	10/18/21 16:19 / srm
Beryllium	0.150	mg/L	D	0.003		E200.7	10/18/21 17:14 / jcg
Cadmium	0.011	mg/L		0.001		E200.8	10/18/21 16:19 / srm
Cobalt	0.9	mg/L	D	0.1		E200.7	10/18/21 17:14 / jcg
Lead	0.012	mg/L		0.001		E200.8	10/18/21 16:19 / srm
Manganese	13.5	mg/L	D	0.006		E200.7	10/18/21 17:14 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	11/04/21 03:27 / jcg
Nickel	1.0	mg/L	D	0.1		E200.7	10/18/21 17:14 / jcg
Selenium	0.006	mg/L		0.001		E200.8	10/18/21 16:19 / srm
Uranium	0.587	mg/L	D	0.0005		E200.8	10/18/21 16:19 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 16:19 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	33.2	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	6.6	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 09:13 / amm
Lead 210	1.9	pCi/L				E909.0	10/18/21 05:12 / hat
Lead 210 precision (±)	0.9	pCi/L				E909.0	10/18/21 05:12 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/18/21 05:12 / hat
Radium 226	11.8	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	2.3	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 228	15.8	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	3.1	pCi/L				RA-05	10/15/21 12:59 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-008
Client Sample ID: 717 Duplicate

Report Date: 11/19/21
Collection Date: 10/04/21 15:45
DateReceived: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.6	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 226 + Radium 228	27.5	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	3.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.6	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	1.6	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 precision (±)	0.3	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 MDC	0.6	pCi/L				A7500-U C	10/28/21 15:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5340	mg/L		1.00		A1030 E	10/18/21 08:59 / jlw
A/C Balance	-6.85	%				A1030 E	10/18/21 08:59 / jlw
Anions	92.9	meq/L				A1030 E	10/18/21 08:59 / jlw
Cations	81.0	meq/L				A1030 E	10/18/21 08:59 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/18/21 08:59 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 20:09 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 20:09 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 20:09 / etad
Chloroform	0.83	ug/L	J	1.0		E624.1	10/14/21 20:09 / etad
Trihalomethanes, Total	0.83	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	108	%REC		73-122		E624.1	10/14/21 20:09 / etad
Surr: p-Bromofluorobenzene	86.0	%REC		79-119		E624.1	10/14/21 20:09 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 20:09 / etad

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

APPENDIX – C

QUARTERLY

CHAIN OF CUSTODY REPORT

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 3 & ZONE 1
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228,	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	613	7-5-21	0914	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C707028
2	717	7-5-21	1016	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	717 DUPLICATE	7-5-21	1044	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	EPB-14	7-5-21	1125	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	708	7-5-21	1210	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	604	7-5-21	1310	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly JR.	7-5-21/1400	Max Chischilly	Franchesca Gillreath	7-6-21/0845	[illegible]
	Ricky E. Spitz	7-6-21/1308	[illegible]	[illegible]	7/6/21 10:53	[illegible]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070218

Login completed by: Kirsten L. Smith

Reviewed by: Misty Stephens

Reviewed Date: 7/8/2021

Date Received: 7/7/2021

Received by: cml

Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	4.0°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Temperature Blank temperature for Cooler 1 was 4.0°C and Cooler 2 was 5.2°C. 7/7/2021-KS

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235 0515

C21070218

CHAIN-OF-CUSTODY RECORD

07-Jul-21

PO:

Earliest HT Expires: Mon, 7/19/2021 0914
Test Codes: VOC-624.1-W

Earliest Due Date: 8/4/2021
 # Bus. Days Until Due: 20

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

Subcontractor's Client

					Requested Tests: VOC-624.1-W
	C21070218-001G	Aqueous	07/05/21 09:14 A	3 - 40ML-CG-VOA-AA-H	1
	C21070218-002G	Aqueous	07/05/21 10:16 A	3 - 40ML-CG-VOA-AA-H	1
	C21070218-003G	Aqueous	07/05/21 10:44 A	3 - 40ML-CG-VOA-AA-H	1
	C21070218-004G	Aqueous	07/05/21 11:25 A	3 - 40ML-CG-VOA-AA-H	1
	C21070218-005G	Aqueous	07/05/21 12:10 P	3 - 40ML-CG-VOA-AA-H	1
	C21070218-006G	Aqueous	07/05/21 01:10 P	3 - 40ML-CG-VOA-AA-H	1
	C21070218-007A	Trip Blank	07/05/21 09:14 A	2 - 40ML-CG-VOA-AA-3	1

Project # 28019578 Samples are ice

See attached for analysis requested

Comments:

QC Level:
STD

280-150725 Chain of Custody

Relinquished by:	**Date/Time** 7/7/2021	**Received by:**	**Date/Time** 07/13/2021 1030
Relinquished by:	1120.18	**Received by:**	

Shipped By:	Custody Seal Y N	Intact Y N	Receipt Temp: 24.4 IR12 +0.6 °C	Temp Blank Y N	On Ice Y N

G ☐ ☐ VOC-624.1-W ☐ ☐ ☑ Sub-TA-Arvada

A	Bromodichloromethane	0.01078	0.5	0
A	Bromoform	0.0325	0.5	0
A	Chlorodibromomethane	0.01741	0.5	0
A	Chloroform	0.03818	0.5	0
S	1,2-Dichloroethane-d4	0	0.5	0
S	p-Bromofluorobenzene	0	0.5	0
S	Toluene-d8	0	0.5	0

G ☐ ☐ VOC-624.1-W-CALC ☐ ☐ ☑ Sub-TA-Arvada

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-150725-1

Login Number: 150725
List Number: 1
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Chain of Custody & Analytical Request Record

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Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (If different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	711	7-6-21	1233	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21070279
2	EPA-13	7-6-21	1355	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	MW-7	7-7-21	0902	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	NW-3	7-7-21	1010	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	7-6-21/1500	Max Chischilly Jr.	Francheska Gillreath	7-7-21/1120	[signature]
	Ricky E. Spitz	7-7-21/1230	[signature]	Parker Albert	7/8/21 11:59	Parker Albert

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070279

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/9/2021

Date Received: 7/8/2021
Received by: pla
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	4.0°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 1
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
■ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling -- See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	515-A	7-6-21	0910	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21070280
2	614	7-6-21	1030	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3																	
4																	
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	7-6-21/1500	Max Chischilly Jr.	Francesco Gillreath	7-7-21/1530	[illegible]
	Ricky E. Spitz	7-7-21/1230	Ricky E. Spitz	Valerie Albert	7/8/21 11:43	[illegible]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070280

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/9/2021

Date Received: 7/8/2021
Received by: pla
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	5.0°C Melted Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21070280

CHAIN-OF-CUSTODY RECORD

08-Jul-21

PO:

Earliest HT Expires: Tue, 7/20/2021 0910
Test Codes: VOC-624.1-W

Earliest Due Date: 8/5/2021
 # Bus. Days Until Due: 20

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

Subcontractor's Client

					Requested Tests: VOC-624.1-W
	C21070280-001G	Aqueous	07/06/21 09:10 A	3 - 40ML-CG-VOA-AA-H	1
	C21070280-002G	Aqueous	07/06/21 10:30 A	3 - 40ML-CG-VOA-AA-H	1
	C21070280-003A	Trip Blank	07/06/21 09:10 A	1 - 40ML-CG-VOA-AA-3	1

280-150692 Chain of Custody

Comments:

QC Level:
STD

Relinquished by: [signature]	Date/Time 7/8/2021	**Received by:** MKGR CO STA DEN	Date/Time 07/12/21 1000
Relinquished by:	15:10	**Received by:**	

Shipped By:	Custody Seal Y N	Intact Y N	Receipt Temp: °C	Temp Blank Y N	On Ice Y N

Temp 23.8 CF +0.6 12+12

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-150692-1

Login Number: 150692
List Number: 1
Creator: Dubicki, Adam L

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Chain of Custody & Analytical Request Record

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Page 1 of 1

Account Information (Billing information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (If different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC-Zone 1
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228,	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	EPA-7	7-12-21	9:12 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21070550
2	EPA-5	7-12-21	10:06 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	EPA-4	7-12-21	11:21 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	EPA-2	7-12-21	12:37 pm	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	EPA-2 DUP	7-12-21	1:11 pm	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	142	7-12-21	1:48 pm	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed						
Relinquished by (print)	AARON GAROUTTE	Date/Time	7/13/21 1300	Signature		
Relinquished by (print)	RICK SPITZ	Date/Time	7-13-21 1300	Signature		
Received by (print)	Dorina Young	Date/Time	7-13-21 / 1:00	Signature		
Received by Laboratory (print)	Bryana Hedlund	Date/Time	7/14/21 10:49 AM	Signature	Bryana Hedlund	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070550

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/15/2021

Date Received: 7/14/2021
Received by: bmh
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	3.6°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Temperature Blank temperature for Cooler 1 was 4.3°C and Cooler 2 was 3.6°C. 7/14/2021-KS

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC-Zone 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn; Al	Co, Combined Ra-226 & Ra-228.	TTHM'S			See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	517	7-13-21	9:15 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓					C21070106
2	719	7-13-21	9:48 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
3	RINSATE	7-14-21	11:50 am	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
4	FIELD BLANK	7-14-21	12:07 pm	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
5																		
6																		
7																		
8																		
9																		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC:

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Aaron Garoutte	7-14-21 12:30	[signature]	Franchesca Gillrestu	7-14-21 13:03	[signature]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	RICK SPITZ	7-14-21 1255	[signature]	Sydney Atkinson	7/15/21 11:30	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

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Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (if different then Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC-Zone 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST Indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Bicarbonate	Chloride	pH	TDS						See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	RW-A	7-13-21	1:25 pm	1	W	✓	✓	✓	✓								C21070006
2	NW-4	7-13-21	2:01 pm	1	W	✓	✓	✓	✓								
3	NW-5	7-13-21	2:29 pm	1	W	✓	✓	✓	✓								
4	NBL-2	7-14-21	10:05 am	1	W	✓	✓	✓	✓								
5																	
6																	
7																	
8																	
9																	

ELI Is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Aaron Garoutte	7-14-21 1130	[signature]	Franchesca Gilreath	7-14-21 13:03	[signature]
	RICK SPITZ	7-14-21 1255	[signature]	Received by Laboratory (print): Sidney Atkinson	7/15/21 11:30	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation C21070606

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/16/2021

Date Received: 7/15/2021
Received by: saa
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.7°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Sample 517 2 of 3 VOA's have <1/4" headspace.
Temperature Blank temperature for Cooler 1 was 4.0°C and Cooler 2 was 1.7°C. 7/15/2021-KS

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Page 1 of 1

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐ Hard Copy ☒ Email
Receive Report	☐ Hard Copy ☒ Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (If different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐ Hard Copy ☒ Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - SW ALLUVIUM
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	509-D	7-19-21	0857	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21070842
2	EPA-23	7-19-21	0953	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	803	7-19-21	1035	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	808	7-19-21	1110	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	802	7-19-21	1155	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	632	7-19-21	1235	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7	801	7-19-21	1313	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
8	EPA-28	7-19-21	1433	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
9	EPA-28 DUPLICATE	7-19-21	1505	9	W	✓	✓	✓	✓	✓	✓	✓	✓				

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	7-19-21/1600	Max Chischilly Jr.	Franchesca Gillreath	7-20-21/0847	[illegible]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Ricky E. Spitz	7-20-21/1135	[illegible]	Parker Albert	7/20/21 10:18	Parker Albert

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070842

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/22/2021

Date Received: 7/21/2021
Received by: pla
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.6°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Temperature of Cooler 1 was 1.6°C, Cooler 2 was 2.4°C, and Cooler 3 was 2.2°C.

Sample 802, 2 of 3 VOA's have <1/4" headspace.

Sample 803, 1 of 3 VOA's have <1/4" headspace.

Sample 808, 2 of 3 VOA's have <1/4" headspace.

Sample 509-D, 3 of 3 VOA's have <1/4" headspace.

Work Order Receipt Checklist - Continued

United Nuclear Corporation C21070842

Sample EPA-23, 1 of 3 VOA's have <1/4" headspace.

Sample EPA-28, 1 of 3 VOA's have <1/4" headspace. 7/21/2021-KS

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Chain of Custody & Analytical Request Record

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Page 1 of 1

Account Information (Billing information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	66016

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - SW ALLUVIUM
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

A -	Air
W -	Water
S -	Soils/Solids
V -	Vegetation
B -	Bioassay
O -	Oil
DW -	Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	GW-1	7-20-21	0908	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21070881
2	624	7-20-21	0955	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	SBL-1	7-20-21	1035	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	627	7-20-21	1158	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	EPA-25	7-20-21	1305	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	RINSATE	7-20-21	1350	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7	FIELD BLANK	7-20-21	1440	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	7-20-21/1500	Max Chischilly Jr.	Franchesca Gillreath	7-21-21/0902	[illegible]
	Ricky E. Spitz	7-21-21/1120	[illegible]	Received by Laboratory (print) [illegible]	Date/Time 7-22-21 10:15	Signature [illegible]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21070886

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 7/23/2021

Date Received: 7/22/2021
Received by: dmf
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	0.8°C Melted Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Temperature Blank temperature for Cooler 1 was 0.8°C, Cooler 2 was 1.7°C, and Cooler 3 was 1.4°C.
Sample 624, 2 of 3 VOA's have <1/4" headspace.
Sample GW-1, 1 of 3 VOA's have <1/4" headspace.
Sample EPA-25, 1 of 3 VOA's have <1/4" headspace. 7/22/2021-KS

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Chain of Custody & Analytical Request Record

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Page 1 of 1

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐ Hard Copy ☒ Email
Receive Report	☐ Hard Copy ☒ Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (If different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐ Hard Copy ☒ Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other _____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 1 & ZONE 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	614	10-4-21	0902	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100250
2	515-A	10-4-21	1042	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	604	10-4-21	1148	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	EPA-7	10-4-21	1235	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	613	10-4-21	1328	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	EPA-14	10-4-21	1411	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7	717	10-4-21	1452	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
8	717 DUPLICATE	10-4-21	1545	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
9	EPA-23	10-4-21	1633	9	W	✓	✓	✓	✓	✓	✓	✓	✓				

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-4-21/1730	Max Chischilly Jr.	Franchesca Gillreath	10-5-21/0810	[illegible]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Rick E. Spitz	10-5-21/1335	[illegible]	[illegible]	10-6-21 11:10	[illegible]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be [illegible]

Work Order Receipt Checklist

United Nuclear Corporation

C21100250

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 10/8/2021

Date Received: 10/6/2021
Received by: cml
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	5.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

1 of 3 trip blanks broke during receiving. 10/7/2021-KS
5.1 Cooler 1, 4.6 Cooler 2, 3.2 Cooler 3 - MRT

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Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 2

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling -- See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	517	10-5-21	0843	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100328
2	708	10-5-21	1010	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	711	10-5-21	1105	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	719	10-5-21	1226	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	MW-7	10-5-21	1345	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	NW-5	10-5-21	1530	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-5-21/1730	Max Chischilly Jr.	Francesca Gillreath	10-6-21/1300	[signature]
	Ricky E. Spitz	10-6-21/1400	[signature]	Austin Williamson	10-7-21 11:55	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 3 & ZONE 1
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHMS		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	NW-3	10-5-21	1500	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100328
2	142	10-6-21	0917	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	NBL-2	10-6-21	1010	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	RINSATE	10-6-21	1102	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	FIELD BLANK	10-6-21	1155	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-6-21/1200	Max Chischilly Jr.	Francesca Gilreath	10-6-21/1300	[signature]
	Ricky E. Spitz	10-6-21/1400	[signature]	Austin Williamson	10-7-21 11:55	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21100328

Login completed by: Kirsten L. Smith

Reviewed by: Misty Stephens

Reviewed Date: 10/8/2021

Date Received: 10/7/2021

Received by: adw

Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	2.0°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Temperature Blank temperature for Cooler 1 was 2.0°C, Cooler 2 was 1.7°C, Cooler 3 was 4.0, and Cooler 4 was 3.6°C. 10/8/2021-KS

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21100328

CHAIN-OF-CUSTODY RECORD

08-Oct-21

PO:

Earliest HT Expires: Tue, 10/19/2021 0843
Test Codes: VOC-624.1-W

Earliest Due Date: 11/4/2021
 # Bus. Days Until Due: 19

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

Subcontractor's Client

					Requested Tests: VOC-624.1-W
C21100328-001G	Aqueous	10/05/21 08:43 A	3 - 40ML-CG-VOA-AA-H	1	
C21100328-002G	Aqueous	10/05/21 10:10 A	3 - 40ML-CG-VOA-AA-H	1	
C21100328-003G	Aqueous	10/05/21 11:05 A	3 - 40ML-CG-VOA-AA-H	1	
C21100328-004G	Aqueous	10/05/21 12:26 P	3 - 40ML-CG-VOA-AA-H	1	
C21100328-005G	Aqueous	10/05/21 01:45 P	3 - 40ML-CG-VOA-AA-H	1	
C21100328-006G	Aqueous	10/05/21 03:30 P	3 - 40ML-CG-VOA-AA-H	1	
C21100328-012A	Trip Blank	10/05/21 08:43 A	3 - 40ML-CG-VOA-AA-3	1	
C21100328-013A	Trip Blank	10/05/21 08:43 A	1 - 40ML-CG-VOA-AA-3	1	

280-154037 Chain of Custody

Project # 28019578

Samples are HCL

See Attached for Analysis Requested

Comments:

QC Level:
STD

Relinquished by:	**Date/Time** 10/8/2021	**Received by:**	**Date/Time** 10/12/2021 0945
Relinquished by:	7:31	**Received by:**	

Shipped By:	Custody Seal	Intact	Receipt Temp:	Temp Blank	On Ice
UPS	Y (N)	(Y) N	1.7 °C	(Y) N	(Y) N

AND

280-154037 Waybill

LYDIA CORMANEY / CIARA LEIS
(307) 235-0515
ENERGY LABORATORIES
2393 SALT CREEK HWY
CASPER WY 82601-8201

7 LBS

1 OF 1

DWT: 12,10,11

SHIP TO:
SAMPLE RECIEVING
(303) 736-0100
TESTAMERICA LABS
4955 YARROW ST
ARVADA CO 80002-4517

CO 802 9-30

UPS GROUND
TRACKING #: 1Z 822 358 03 6042 0401

BILLING: P/P

REF 1:Samples

TESTAMERICA LABS
4955 YARROW ST
ARVADA CO 80002

P:ORANGE S: 2TW
216-RDR
0401
1Z822358036042
SHK9HM
US 80003
COPENB52UDC
HIP 21.8.0
OCT 12 06:22:07 2021
2EB827410

1:2W

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822358 OCT 11 1 OF 1

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-154037-1

Login Number: 154037
List Number: 1
Creator: Dubicki, Adam L

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Chain of Custody & Analytical Request Record

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Page 1 of 2

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐ Hard Copy ☒ Email
Receive Report	☐ Hard Copy ☒ Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (If different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐ Hard Copy ☒ Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - SW ALLUVIUM
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S			See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	801	10-7-21	1343	9	W	✓	✓	✓	✓	✓	✓	✓	✓					C21100467
2	632	10-7-21	1453	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
3	509-D	10-8-21	1238	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
4	EPA-23	10-8-21	1328	9	W	✓	✓	✓	✓	✓	✓	✓	✓					
5																		
6																		
7																		
8																		
9																		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-8-21 / 1500	Max Chischilly Jr.	Francesca Gilreath	10-11-21 / 0856	[signature]
	Ricky E. Spitz	10-11-21 / 12:00	[signature]	Briana Hedlund	10/12/21 9:52 Am	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check_____	$	

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐ Hard Copy ☒ Email
Receive Report	☐ Hard Copy ☒ Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐ Hard Copy ☒ Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC – ZONE 1
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
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DW - Drinking Water

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Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	EPA-5	10-8-21	0912	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100467
2	EPA-4	10-8-21	1017	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	EPA-2	10-8-21	1130	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	EPA-2 DUPLICATE	10-8-21	1156	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-8-21/1500	Max Chischilly Jr.	Francheska Gilreath	10-11-21/0856	
	Ricky E. Spitz	10-11-21/1200		Received by Laboratory (print)	Date/Time	Signature
					10/12/21 9:53am	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

Work Order Receipt Checklist

United Nuclear Corporation

C21100467

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 10/13/2021

Date Received: 10/12/2021
Received by: bmh
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.5°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Sample 632, 1 of 3 VOA's has <1/4" headspace, the other two are zero headspace.
Sample EPA-23, 1 of 3 VOA's was received broken. 10/12/2021-KS

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21100467

CHAIN-OF-CUSTODY RECORD

12-Oct-21

PO:

Earliest HT Expires: Thu, 10/21/2021 1343
Test Codes: VOC-624.1-W

Earliest Due Date: 11/9/2021
 # Bus. Days Until Due: 20

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada. CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

280-154272 Chain of Custody

Subcontractor's Client

					Requested Tests: VOC-624.1-W
C21100467-001G	Aqueous	10/07/21 01:43 P	3 - 40ML-CG-VOA-AA-H		1
C21100467-002G	Aqueous	10/07/21 02:53 P	3 - 40ML-CG-VOA-AA-H		1
C21100467-003G	Aqueous	10/08/21 12:38 P	3 - 40ML-CG-VOA-AA-H		1
C21100467-004G	Aqueous	10/08/21 01:28 P	3 - 40ML-CG-VOA-AA-H		1
C21100467-009A	Trip Blank	10/07/21 01:43 P	2 - 40ML-CG-VOA-AA-3		1
C21100467-010A	Trip Blank	10/07/21 01:43 P	1 - 40ML-CG-VOA-AA-3		1

Project # 28019578

Samples are Hcl

See Attached for Analysis Requested

Comments:

QC Level:
STD

Relinquished by:	**Date/Time** 10/12/2021	**Received by:**	**Date/Time** 10/15/21 0995
Relinquished by:	15:38	**Received by:**	

Shipped By:	Custody Seal	Intact	Receipt Temp: 1.9 °C	Temp Blank	On Ice
	Y N	Y N		Y N	Y N

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-154272-

Login Number: 154272
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Chain of Custody & Analytical Request Record

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Page 1 of 1

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67435

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - SENTINEL WELLS
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	SW-3B	10-12-21	1500	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100534
2	SW-1B	10-12-21	1540	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3																	
4																	
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-12-21/1630	Max Chischilly Jr.	Franchesca Gillreath	10-13-21/0900	[signature]
	Ricky E. Spitz	10-13-21/1330	[signature]	Received by Laboratory (print) [signature]	Date/Time 10/14/2021 12:50	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21100534

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 10/16/2021

Date Received: 10/14/2021
Received by: kls
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.4°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

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Page 1 of 3

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc. UNC - SW ALLUVIUM & ZONE 3

Sampler Name Max Chischilly JR. | Sampler Phone 505-905-6651

Sample Origin State NM | EPA/State Compliance ☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	803	10-11-21	0950	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100526
2	808	10-11-21	1024	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	802	10-11-21	1103	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	GW-1	10-11-21	1152	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	624	10-11-21	1347	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	EPA-25	10-12-21	0946	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7	RW-A	10-12-21	1220	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
8	RW-11	10-13-21	1153	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-12-21/1630	Max Chischilly Jr.	Franchesca Gillreath	10-13-21/0900	[illegible]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Ricky E. Spitz	10-13-21/1330	[illegible]	[illegible]	10-14-21 1:40	[illegible]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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Chain of Custody & Analytical Request Record

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Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - ZONE 3
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☒ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Bicarbonate	Chloride	pH	TDS						See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	NW-4	10-12-21	1300	1	W	✓	✓	✓	✓								C21100526
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-12-21/1630	Max Chischilly Jr.	Francesca Gillreath	10-13-21/0900	[illegible]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Ricky E. Spitz	10-13-21/1330	[illegible]		10-14-21 1:00	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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Chain of Custody & Analytical Request Record

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Page 3 of 3

Account Information (Billing Information)

Company/Name	Wood PLC
Contact	Dorina Young
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	dorina.young@woodplc.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	C014000055
Quote	6117
Bottle Order	67375

Report Information (if different than Account Information)

Company/Name	United Nuclear Corp.
Contact	Max Chischilly JR.
Phone	505-905-6651
Mailing Address	P.O. Box 1088
City, State, Zip	Gallup, NM 87305
Email	max.chischilly@woodplc.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Wood PLC
Acct. No. is C16610
United Nuclear Corporation is no longer mining and milling.

These water samples were not considered Radioactive under US DOT-HMR gudelines for shipping on recent/previous quarterly sampling.

Project Information

Project Name, PWSID, Permit, etc.	UNC - SW ALLUVIUM
Sampler Name	Max Chischilly JR.
Sampler Phone	505-905-6651
Sample Origin State	NM
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	As (Total)	Se (Total)	Be, Ca, Cd, Cl, HCO3 K, Mg, Mn, Na	NH4, Ni, NO3, Pb, Mo Pb-210, pH, SO4	TDS, Th-230, U, V Chloroform	Gross Alpha (-) U & Rn, Al	Co, Combined Ra-226 & Ra-228.	TTHM'S		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	EPA-28	10-11-21	1236	9	W	✓	✓	✓	✓	✓	✓	✓	✓				C21100526
2	EPA-28 DUPLICATE	10-11-21	1315	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
3	SBL-1	10-11-21	1430	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
4	627	10-11-21	1530	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
5	RINSATE	10-12-21	1032	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
6	FIELD BLANK	10-12-21	1100	9	W	✓	✓	✓	✓	✓	✓	✓	✓				
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Max Chischilly Jr.	10-12-21/1630	Max Chischilly Jr.	Franchesca Gillreath	10-13-21/0900	[signature]
	Ricky E. Spitz	10-13-21/1330	[signature]	Received by Laboratory (print)	Date/Time 10-14-21 1:00	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N		Y N	Y N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Work Order Receipt Checklist

United Nuclear Corporation

C21100526

Login completed by: Kirsten L. Smith
Reviewed by: Misty Stephens
Reviewed Date: 10/15/2021

Date Received: 10/14/2021
Received by: cml
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	4.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Sample 808, 2 of 3 VOA's have <1/4" headspace.
Sample 802, 3 of 3 VOA's have <1/4" headspace.
Sample GW-1, 1 of 3 VOA's have <1/4" headspace.
Sample 624, 2 of 3 VOA's have <1/4" headspace.
Temperature Blank temperature for Cooler 1 was 4.1°, Cooler 2 was 3.6°C, Cooler 3 was 4.5°C, Cooler 4 was 5.1°C, and Cooler 5 was 6.2°C. 10/14/2021-KS

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21100526

CHAIN-OF-CUSTODY RECORD

14-Oct-21

PO:

Earliest HT Expires: Mon, 10/25/2021
Test Codes: VOC-624.1-W

Earliest Due Date: 11/11/2021
 # Bus. Days Until Due: 20

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

280-154364 Chain of Custody

Subcontractor's Client:

					Requested Tests: VOC-624.1-W
	C21100526-001G	Aqueous	10/11/21 09:50 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-002G	Aqueous	10/11/21 10:24 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-003G	Aqueous	10/11/21 11:03 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-004G	Aqueous	10/11/21 11:52 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-005G	Aqueous	10/11/21 01:47 P	3 - 40ML-CG-VOA-AA-H	1
	C21100526-006G	Aqueous	10/12/21 09:46 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-007G	Aqueous	10/12/21 12:20 P	3 - 40ML-CG-VOA-AA-H	1
	C21100526-008G	Aqueous	10/13/21 11:53 A	3 - 40ML-CG-VOA-AA-H	1
	C21100526-016A	Trip Blank	10/11/21 09:50 A	3 - 40ML-CG-VOA-AA-3	1

Project #28019578

Samples are HCL

Comments:

See Attached for Analysis Requested

QC Level:
STD

Relinquished by:	**Date/Time** 10/14/2021	**Received by:**	**Date/Time** 10/14/2021 0935
Relinquished by:	1543	**Received by:**	

Shipped By:	Custody Seal Y N	Intact Y N	Receipt Temp: 1.8 °C	Temp Blank Y N	On Ice Y N

JR 11 CF710

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21100526

CHAIN-OF-CUSTODY RECORD

14-Oct-21

PO:

Earliest HT Expires: Mon, 10/25/2021
Test Codes: VOC-624.1-W

Earliest Due Date: 11/11/2021
 # Bus. Days Until Due: 20

Subcontractor:
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL: 3037360100
FAX:
Acct #: 3037360100

Subcontractor's Client

				Requested Tests															
				VOC-624.1-W															
C21100526-017A	Trip Blank	10/11/21 09:50 A	3 - 40ML-CG-VOA-AA-3	1															

Project # 28019578

Samples are HCL

See Attached for Analysis Requested

Comments:

QC Level:
STD

Relinquished by:	**Date/Time** 10/14/2021 15:47	**Received by:**	**Date/Time** 10/19/2021 0935
Relinquished by:		**Received by:**	

Shipped By:	Custody Seal	Intact	Receipt Temp: 1.8 °C	Temp Blank	On Ice
	Y N	Y N		Y N	Y N

IR#CM1.0

G	☐	☐	VOC-624.1-W	☐	☐	☑	Sub-TA-Arvada	
A	Bromodichloromethane			0.01076	0.5		0	
A	Bromoform			0.0325	0.5		0	
A	Chlorodibromomethane			0.01741	0.5		0	
A	Chloroform			0.03616	0.5		0	
S	1,2-Dichloroethane-d4			0	0.5		0	
S	p-Bromofluorobenzene			0	0.5		0	
S	Toluene-d8			0	0.5		0	
G	☐	☐	VOC-624.1-W-CALC	☐	☐	☑	Sub-TA-Arvada	

LYDIA CORMANEY / CIARA LEIS
(307) 235-0515
ENERGY LABORATORIES
2393 SALT CREEK HWY
CASPER WY 82601-8201

12 LBS

1 OF 1

DWT: 12,10,13

SHIP TO:
SAMPLE RECEIVING
(303) 736-0100
EUROFINS TA DENVER
4955 YARROW ST
ARVADA CO 80002-4517

280-154364 Waybill

CO 802 9-30

UPS GROUND
TRACKING #: 1Z 822 358 03 5865 3969

BILLING: P/P

WG 24.0.17 Zebra ZP 460 48.0A 07/2021

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-154364-1

Login Number: 154364
List Number: 1
Creator: Dubicki, Adam L

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Narrative to indicate if headspace container used for analysis.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX - D (1 OF 2)

THIRD QUARTER

LABORATORY QUALITY CONTROL AND

PERFORMANCE REPORT

ANALYTICAL SUMMARY REPORT

August 27, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070842 Quote ID: C6117

Project Name: UNC-SW Alluvium

Energy Laboratories, Inc. Casper WY received the following 10 samples for United Nuclear Corporation on 7/21/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070842-001	509-D	07/19/21 8:57	07/21/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070842-002	EPA-23	07/19/21 9:53	07/21/21	Aqueous	Same As Above
C21070842-003	803	07/19/21 10:35	07/21/21	Aqueous	Same As Above
C21070842-004	808	07/19/21 11:10	07/21/21	Aqueous	Same As Above
C21070842-005	802	07/19/21 11:55	07/21/21	Aqueous	Same As Above
C21070842-006	632	07/19/21 12:35	07/21/21	Aqueous	Same As Above
C21070842-007	801	07/19/21 13:13	07/21/21	Aqueous	Same As Above
C21070842-008	EPA-28	07/19/21 14:33	07/21/21	Aqueous	Same As Above
C21070842-009	EPA-28 Duplicate	07/19/21 15:05	07/21/21	Aqueous	Same As Above
C21070842-010	Trip Blank-79121	07/19/21 8:57	07/21/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

ANALYTICAL SUMMARY REPORT

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.27 12:37:20 -06:00

CLIENT: United Nuclear Corporation
Project: UNC-SW Alluvium
Work Order: C21070842

Report Date: 08/27/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210722A	
Lab ID: ICV		Initial Calibration Verification Standard							07/22/21 15:00	
pH		6.90	s.u.	0.010	101	98	102			
Method: A2320 B									Batch: R272718	
Lab ID: MBLK		Method Blank				Run: MANTECH_210722A			07/22/21 21:07	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210722A			07/22/21 21:16	
Alkalinity, Total as CaCO3		254	mg/L	5.0	101	90	110			
Lab ID: C21070842-001ADUP		Sample Duplicate				Run: MANTECH_210722A			07/22/21 22:52	
Alkalinity, Total as CaCO3		1770	mg/L	5.0				0.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210722B
Lab ID: MB-25_210722B		Method Blank				Run: BAL-111_210722B				07/22/21 10:42
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-26_210722B		Laboratory Control Sample				Run: BAL-111_210722B				07/22/21 10:42
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21070842-005A DUP		Sample Duplicate				Run: BAL-111_210722B				07/22/21 10:43
Solids, Total Dissolved TDS @ 180 C		6600	mg/L	100				1.4	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210722A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/22/21 10:23	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.5	°C			0	0			
Method: A4500-H B										Batch: R272683
Lab ID: C21070842-006ADUP	2	Sample Duplicate				Run: PHSC_101-C_210722A			07/22/21 13:03	
pH		6.6	s.u.	0.1				0.2	1.5	
pH Measurement Temp		14.5	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210723A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/23/21 12:24	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272768	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210723A			07/23/21 12:43	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210723A			07/23/21 13:02	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Lab ID:	**C21070842-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210723A			07/24/21 16:50	
Chloride			550	mg/L	2.1	111	80	120			
Sulfate			3260	mg/L	8.3	120	80	120			
Lab ID:	**C21070842-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210723A			07/24/21 17:09	
Chloride			521	mg/L	2.1	97	80	120	5.2	20	
Sulfate			3040	mg/L	8.3	93	80	120	6.8	20	
Method:	**E300.0**									Analytical Run: IC3-C_210728A	
Lab ID:	**ICV**		Initial Calibration Verification Standard							07/28/21 13:53	
Chloride			10.4	mg/L	1.0	104	90	110			
Method:	**E300.0**									Batch: R272902	
Lab ID:	**ICB**		Method Blank				Run: IC3-C_210728A			07/28/21 14:12	
Chloride			ND	mg/L	0.06						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: IC3-C_210728A			07/28/21 14:31	
Chloride			10.4	mg/L	1.0	104	90	110			
Lab ID:	**C21070807-002AMS**		Sample Matrix Spike				Run: IC3-C_210728A			07/28/21 15:28	
Chloride			1240	mg/L	5.2	96	80	120			
Lab ID:	**C21070807-002AMSD**		Sample Matrix Spike Duplicate				Run: IC3-C_210728A			07/28/21 15:48	
Chloride			1310	mg/L	5.2	109	80	120	5.4	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210722B	
Lab ID: ICV		Initial Calibration Verification Standard							07/22/21 14:35	
Nitrogen, Ammonia as N		0.978	mg/L	0.050	98	90	110			
Method: E350.1									Batch: R272706	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210722B			07/22/21 14:34	
Nitrogen, Ammonia as N		0.02	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210722B			07/22/21 14:36	
Nitrogen, Ammonia as N		0.983	mg/L	0.050	99	90	110			
Lab ID: C21070801-002CMS		Sample Matrix Spike				Run: FIA201-C_210722B			07/22/21 16:05	
Nitrogen, Ammonia as N		17.3	mg/L	0.50	102	90	110			
Lab ID: C21070801-002CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210722B			07/22/21 16:06	
Nitrogen, Ammonia as N		17.1	mg/L	0.50	100	90	110	1.2	10	
Method: E350.1									Analytical Run: FIA201-C_210727A	
Lab ID: ICV		Initial Calibration Verification Standard							07/27/21 12:59	
Nitrogen, Ammonia as N		0.964	mg/L	0.050	96	90	110			
Method: E350.1									Batch: R272841	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210727A			07/27/21 12:57	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210727A			07/27/21 13:00	
Nitrogen, Ammonia as N		0.988	mg/L	0.050	100	90	110			
Lab ID: C21070842-005EMS		Sample Matrix Spike				Run: FIA201-C_210727A			07/27/21 13:03	
Nitrogen, Ammonia as N		0.562	mg/L	0.050	56	90	110			S
Lab ID: C21070842-005EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210727A			07/27/21 13:05	
Nitrogen, Ammonia as N		0.604	mg/L	0.050	60	90	110	7.3	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210724A	
Lab ID: ICV		Initial Calibration Verification Standard							07/24/21 11:16	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110			
Method: E353.2									Batch: R272754	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210724A			07/24/21 11:18	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210724A			07/24/21 11:19	
Nitrogen, Nitrate+Nitrite as N		1.00	mg/L	0.010	101	90	110			
Lab ID: C21070842-009EMS		Sample Matrix Spike				Run: FIA201-C_210724A			07/24/21 12:46	
Nitrogen, Nitrate+Nitrite as N		1.19	mg/L	0.010	103	90	110			
Lab ID: C21070842-009EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210724A			07/24/21 12:47	
Nitrogen, Nitrate+Nitrite as N		1.21	mg/L	0.010	105	90	110	1.7	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210723A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/23/21 11:49	
Calcium		43.0	mg/L	0.50	108	90	110			
Magnesium		42.8	mg/L	0.50	107	90	110			
Potassium		42.0	mg/L	0.50	105	90	110			
Sodium		42.6	mg/L	0.53	106	90	110			
Method: E200.7									Batch: R272726	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210723A			07/23/21 11:29	
Calcium		ND	mg/L	0.06						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	1						
Sodium		ND	mg/L	0.2						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210723A			07/23/21 11:45	
Calcium		55.5	mg/L	0.50	111	85	115			
Magnesium		55.2	mg/L	0.50	110	85	115			
Potassium		53.8	mg/L	0.50	108	85	115			
Sodium		54.6	mg/L	0.54	109	85	115			
Lab ID: C21070842-007BMS2	4	Sample Matrix Spike				Run: ICP4-C_210723A			07/23/21 15:19	
Calcium		1270	mg/L	2.6	130	70	130			
Magnesium		1350	mg/L	1.0	134	70	130			S
Potassium		651	mg/L	2.6	128	70	130			
Sodium		1020	mg/L	5.4	130	70	130			
Lab ID: C21070842-007BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210723A			07/23/21 16:00	
Calcium		1100	mg/L	2.6	97	70	130	14	20	
Magnesium		1160	mg/L	1.0	97	70	130	15	20	
Potassium		559	mg/L	2.6	109	70	130	15	20	
Sodium		874	mg/L	5.4	101	70	130	15	20	
Method: E200.7									Analytical Run: ICP4-C_210726B	
Lab ID: QCS		Initial Calibration Verification Standard							07/27/21 16:35	
Manganese		3.74	mg/L	0.010	94	90	110			
Method: E200.7									Batch: 63260	
Lab ID: MB-63260		Method Blank				Run: ICP4-C_210726B			07/27/21 21:47	
Manganese		ND	mg/L	0.001						
Lab ID: LCS3-63260		Laboratory Control Sample				Run: ICP4-C_210726B			07/27/21 21:51	
Manganese		2.33	mg/L	0.0010	93	85	115			
Lab ID: C21070842-007CMS3		Sample Matrix Spike				Run: ICP4-C_210726B			07/27/21 22:03	
Manganese		5.62	mg/L	0.012	89	70	130			
Lab ID: C21070842-007CMSD		Sample Matrix Spike Duplicate				Run: ICP4-C_210726B			07/27/21 22:07	
Manganese		5.90	mg/L	0.012	100	70	130	4.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210728A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/28/21 10:55	
Calcium		39.0	mg/L	0.50	97	95	105			
Magnesium		38.5	mg/L	0.50	96	95	105			
Potassium		39.0	mg/L	0.50	98	95	105			
Sodium		39.5	mg/L	0.53	99	95	105			
Method: E200.7										Batch: R272883
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210728A			07/28/21 10:35	
Calcium		ND	mg/L	0.06						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	1						
Sodium		ND	mg/L	0.2						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210728A			07/28/21 10:51	
Calcium		48.5	mg/L	0.50	97	85	115			
Magnesium		48.1	mg/L	0.50	96	85	115			
Potassium		48.7	mg/L	0.50	97	85	115			
Sodium		49.7	mg/L	0.54	99	85	115			
Lab ID: C21070966-001BMS2	4	Sample Matrix Spike				Run: ICP4-C_210728A			07/28/21 13:34	
Calcium		475	mg/L	1.3	104	70	130			
Magnesium		366	mg/L	1.0	104	70	130			
Potassium		273	mg/L	1.3	103	70	130			
Sodium		796	mg/L	2.7	100	70	130			
Lab ID: C21070966-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210728A			07/28/21 13:37	
Calcium		473	mg/L	1.3	103	70	130	0.5	20	
Magnesium		365	mg/L	1.0	103	70	130	0.3	20	
Potassium		272	mg/L	1.3	103	70	130	0.2	20	
Sodium		793	mg/L	2.7	99	70	130	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210802A	
Lab ID: QCS	12	Initial Calibration Verification Standard							08/02/21 11:22	
Aluminum		0.251	mg/L	0.030	100	90	110			
Arsenic		0.0495	mg/L	0.0010	99	90	110			
Beryllium		0.0250	mg/L	0.0010	100	90	110			
Cadmium		0.0240	mg/L	0.0010	96	90	110			
Cobalt		0.0505	mg/L	0.0050	101	90	110			
Lead		0.0486	mg/L	0.0010	97	90	110			
Manganese		0.249	mg/L	0.0010	99	90	110			
Molybdenum		0.0469	mg/L	0.0010	94	90	110			
Nickel		0.0510	mg/L	0.0050	102	90	110			
Selenium		0.0509	mg/L	0.0010	102	90	110			
Uranium		0.0193	mg/L	0.00030	97	90	110			
Vanadium		0.0484	mg/L	0.010	97	90	110			
Method: E200.8										Batch: 63260
Lab ID: MB-63260	12	Method Blank				Run: ICPMS5-C_210802A			08/02/21 23:57	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63260	12	Laboratory Control Sample				Run: ICPMS5-C_210802A			08/03/21 00:02	
Aluminum		2.47	mg/L	0.030	99	85	115			
Arsenic		0.473	mg/L	0.0010	95	85	115			
Beryllium		0.225	mg/L	0.0010	90	85	115			
Cadmium		0.235	mg/L	0.0010	94	85	115			
Cobalt		0.493	mg/L	0.0050	99	85	115			
Lead		0.470	mg/L	0.0010	94	85	115			
Manganese		2.51	mg/L	0.0010	100	85	115			
Molybdenum		0.484	mg/L	0.0010	97	85	115			
Nickel		0.478	mg/L	0.0050	96	85	115			
Selenium		0.453	mg/L	0.0010	91	85	115			
Uranium		0.474	mg/L	0.00030	95	85	115			
Vanadium		0.490	mg/L	0.010	98	85	115			
Lab ID: C21070842-007CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210802A			08/03/21 01:25	
Aluminum		2.36	mg/L	0.036	92	70	130			
Arsenic		0.477	mg/L	0.0010	95	70	130			
Beryllium		0.200	mg/L	0.0010	80	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63260
Lab ID: C21070842-007CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210802A				08/03/21 01:25
Cadmium		0.225	mg/L	0.0010	90	70	130			
Cobalt		0.459	mg/L	0.0050	91	70	130			
Lead		0.473	mg/L	0.0010	94	70	130			
Manganese		5.68	mg/L	0.0014	93	70	130			
Molybdenum		0.483	mg/L	0.0014	96	70	130			
Nickel		0.439	mg/L	0.0050	85	70	130			
Selenium		0.515	mg/L	0.0010	103	70	130			
Uranium		0.585	mg/L	0.00054	109	70	130			
Vanadium		0.498	mg/L	0.010	100	70	130			
Lab ID: C21070842-007CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210802A				08/03/21 01:29
Aluminum		2.34	mg/L	0.036	91	70	130	0.9	20	
Arsenic		0.475	mg/L	0.0010	95	70	130	0.6	20	
Beryllium		0.194	mg/L	0.0010	77	70	130	3.2	20	
Cadmium		0.222	mg/L	0.0010	89	70	130	1.3	20	
Cobalt		0.458	mg/L	0.0050	91	70	130	0.2	20	
Lead		0.474	mg/L	0.0010	95	70	130	0.2	20	
Manganese		5.72	mg/L	0.0014	95	70	130	0.7	20	
Molybdenum		0.478	mg/L	0.0014	95	70	130	1.0	20	
Nickel		0.437	mg/L	0.0050	85	70	130	0.5	20	
Selenium		0.500	mg/L	0.0010	100	70	130	3.0	20	
Uranium		0.580	mg/L	0.00054	108	70	130	0.9	20	
Vanadium		0.493	mg/L	0.010	99	70	130	1.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210803A	
Lab ID: QCS	2	Initial Calibration Verification Standard							08/03/21 12:36	
Aluminum		0.246	mg/L	0.030	98	90	110			
Uranium		0.0196	mg/L	0.00030	98	90	110			
Lab ID: QCS	2	Initial Calibration Verification Standard							08/03/21 20:33	
Aluminum		0.243	mg/L	0.030	97	90	110			
Uranium		0.0189	mg/L	0.00030	95	90	110			
Method: E200.8									Batch: 63260	
Lab ID: MB-63260	12	Method Blank				Run: ICPMS5-C_210803A			08/03/21 15:26	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R364530	
Lab ID: CCV072721	7	Continuing Calibration Verification Standard							07/27/21 10:49	
Bromodichloromethane		5.61	ug/L	0.50	112	70	130			
Bromoform		5.85	ug/L	0.50	117	70	130			
Chlorodibromomethane		5.26	ug/L	0.50	105	70	130			
Chloroform		5.98	ug/L	0.50	120	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	109	71	139			
Surr: p-Bromofluorobenzene				0.50	114	80	127			
Surr: Toluene-d8				0.50	91	80	123			
Method: E624.1									Batch: R364530	
Lab ID: LCS072721	7	Laboratory Control Sample				Run: 5971A.I_210727A			07/27/21 12:05	
Bromodichloromethane		5.80	ug/L	0.50	116	74	128			
Bromoform		6.16	ug/L	0.50	123	70	130			
Chlorodibromomethane		5.23	ug/L	0.50	105	74	125			
Chloroform		5.89	ug/L	0.50	118	70	135			
Surr: 1,2-Dichloroethane-d4				0.50	113	71	139			
Surr: p-Bromofluorobenzene				0.50	120	80	127			
Surr: Toluene-d8				0.50	95	80	123			
Lab ID: MBLK072721	7	Method Blank				Run: 5971A.I_210727A			07/27/21 13:27	
Bromodichloromethane		ND	ug/L	0.50						
Bromoform		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4				0.50	115	71	139			
Surr: p-Bromofluorobenzene				0.50	113	80	127			
Surr: Toluene-d8				0.50	95	80	123			
Lab ID: C21070842-006GMS	7	Sample Matrix Spike				Run: 5971A.I_210727A			07/27/21 21:41	
Bromodichloromethane		5.96	ug/L	0.50	119	74	128			
Bromoform		6.56	ug/L	0.50	131	66	128			S
Chlorodibromomethane		5.59	ug/L	0.50	112	74	125			
Chloroform		6.18	ug/L	0.50	113	68	124			
Surr: 1,2-Dichloroethane-d4				0.50	120	71	139			
Surr: p-Bromofluorobenzene				0.50	117	80	127			
Surr: Toluene-d8				0.50	96	80	123			
Lab ID: C21070842-006GMSD	7	Sample Matrix Spike Duplicate				Run: 5971A.I_210727A			07/27/21 22:09	
Bromodichloromethane		5.94	ug/L	0.50	119	74	128	0.2	20	
Bromoform		6.44	ug/L	0.50	129	66	128	1.7	20	S
Chlorodibromomethane		5.47	ug/L	0.50	109	74	125	2.2	20	
Chloroform		6.40	ug/L	0.50	118	68	124	3.5	20	
Surr: 1,2-Dichloroethane-d4				0.50	120	71	139			
Surr: p-Bromofluorobenzene				0.50	115	80	127			
Surr: Toluene-d8				0.50	98	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C										Batch: RA-TH-ISO-3266
Lab ID: MB-RA-TH-ISO-3266	3	Method Blank				Run: EGG-ORTEC_2_210728A			08/03/21 16:10	
Thorium 230		-0.003	pCi/L							U
Thorium 230 precision (±)		0.04	pCi/L							
Thorium 230 MDC		0.08	pCi/L							
Lab ID: LCS-RA-TH-ISO-3266	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210728A			08/03/21 16:10	
Thorium 230		9.1	pCi/L		95	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.048	pCi/L							
Lab ID: C21070886-005FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210728A			08/03/21 17:02	
Thorium 230		-0.0078	pCi/L					410	30	UR
Thorium 230 precision (±)		0.049	pCi/L							
Thorium 230 MDC		0.10	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.44.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1304
Lab ID: MB-GA-1304	3	Method Blank				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		0.08	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.8	pCi/L							
Lab ID: LCS-GA-1304	3	Laboratory Control Sample				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		33	pCi/L		97	70	130			
Gross Alpha minus Rn & U Precision (±)		6.6	pCi/L							
Gross Alpha minus Rn & U MDC		0.76	pCi/L							
Lab ID: C21070886-003FDUP	3	Sample Duplicate				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		0.53	pCi/L					35	30	UR
Gross Alpha minus Rn & U Precision (±)		0.54	pCi/L							
Gross Alpha minus Rn & U MDC		0.76	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.29.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10116
Lab ID: LCS-RA226-10116	3	Laboratory Control Sample				Run: TENNELEC-4_210727C			08/09/21 09:45	
Radium 226		11	pCi/L		105	70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.22	pCi/L							
Lab ID: MB-RA226-10116	3	Method Blank				Run: TENNELEC-4_210727C			08/09/21 09:45	
Radium 226		-0.01	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21070823-004FDUP	3	Sample Duplicate				Run: TENNELEC-4_210727C			08/09/21 09:45	
Radium 226		6.3	pCi/L					14	30	
Radium 226 precision (±)		1.3	pCi/L							
Radium 226 MDC		0.21	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1287
Lab ID: LCS-PB-210-1287	3	Laboratory Control Sample				Run: PACKARD 3100TR_210722A			08/10/21 10:40	
Lead 210		14	pCi/L		79	70	130			
Lead 210 precision (±)		4.2	pCi/L							
Lead 210 MDC		1.4	pCi/L							
Lab ID: MB-PB-210-1287	3	Method Blank				Run: PACKARD 3100TR_210722A			08/10/21 11:46	
Lead 210		-0.5	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.8	pCi/L							
Lab ID: C21070845-003FDUP	3	Sample Duplicate				Run: PACKARD 3100TR_210722A			08/12/21 08:22	
Lead 210		-0.035	pCi/L					470	30	UR
Lead 210 precision (±)		0.52	pCi/L							
Lead 210 MDC		0.88	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.16.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070842 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6549
Lab ID: LCS-228-RA226-10116	3	Laboratory Control Sample				Run: TENNELEC-3_210727A			08/03/21 13:47	
Radium 228		6.4	pCi/L		80	70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		1.2	pCi/L							
Lab ID: MB-RA226-10116	3	Method Blank				Run: TENNELEC-3_210727A			08/03/21 13:47	
Radium 228		-0.08	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21070823-004FDUP	3	Sample Duplicate				Run: TENNELEC-3_210727A			08/03/21 13:47	
Radium 228		15	pCi/L					19	30	
Radium 228 precision (±)		2.9	pCi/L							
Radium 228 MDC		1.2	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

ANALYTICAL SUMMARY REPORT

August 27, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070886 Quote ID: C6117

Project Name: UNC-SW Alluvium

Energy Laboratories, Inc. Casper WY received the following 8 samples for United Nuclear Corporation on 7/22/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070886-001	GW-1	07/20/21 9:08	07/22/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21070886-002	624	07/20/21 9:55	07/22/21	Aqueous	Same As Above
C21070886-003	SBL-1	07/20/21 10:35	07/22/21	Aqueous	Same As Above
C21070886-004	627	07/20/21 11:58	07/22/21	Aqueous	Same As Above
C21070886-005	EPA-25	07/20/21 13:05	07/22/21	Aqueous	Same As Above
C21070886-006	Rinsate	07/20/21 13:50	07/22/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics

ANALYTICAL SUMMARY REPORT

C21070886-007	Field Blank	07/20/21 14:40	07/22/21	Aqueous	Same As Above
C21070886-008	Trip Blank-79121	07/20/21 9:08	07/22/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.27 10:09:00 -06:00

CLIENT: United Nuclear Corporation
Project: UNC-SW Alluvium
Work Order: C21070886

Report Date: 08/27/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210724A	
Lab ID: ICV		Initial Calibration Verification Standard							07/24/21 13:31	
pH		6.87	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R272769	
Lab ID: MBLK		Method Blank				Run: MANTECH_210724A			07/24/21 13:35	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210724A			07/24/21 13:43	
Alkalinity, Total as CaCO3		251	mg/L	5.0	100	90	110			
Lab ID: C21070674-003ADUP		Sample Duplicate				Run: MANTECH_210724A			07/24/21 13:56	
Alkalinity, Total as CaCO3		63.0	mg/L	5.0				1.3	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210723A
Lab ID: MB-1_210723A		Method Blank				Run: BAL-111_210723B				07/23/21 12:41
Solids, Total Dissolved TDS @ 180 C		5	mg/L	5						
Lab ID: LCS-2_210723A		Laboratory Control Sample				Run: BAL-111_210723B				07/23/21 12:42
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21070875-001A DUP		Sample Duplicate				Run: BAL-111_210723B				07/23/21 12:42
Solids, Total Dissolved TDS @ 180 C		858	mg/L	10				0.2	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210722A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/22/21 10:23	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.5	°C			0	0			
Method: A4500-H B									Batch: R272683	
Lab ID: C21070872-002ADUP	2	Sample Duplicate				Run: PHSC_101-C_210722A			07/22/21 15:41	
pH		7.4	s.u.	0.1				0.0	1.5	
pH Measurement Temp		17.8	°C							
Method: A4500-H B									Analytical Run: PHSC_101-C_210723A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/23/21 09:38	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.7	°C			0	0			
Method: A4500-H B									Batch: R272715	
Lab ID: C21070886-006ADUP	2	Sample Duplicate				Run: PHSC_101-C_210723A			07/23/21 11:56	
pH		6.8	s.u.	0.1				0.4	1.5	
pH Measurement Temp		10.6	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC3-C_210723A		
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/23/21 12:24	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272768	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210723A			07/23/21 12:43	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210723A			07/23/21 13:02	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Lab ID:	**C21070886-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210723A			07/25/21 01:47	
Chloride			445	mg/L	2.1	92	80	120			
Sulfate			3520	mg/L	8.3	75	80	120			S
Lab ID:	**C21070886-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210723A			07/25/21 02:06	
Chloride			449	mg/L	2.1	95	80	120	1.0	20	
Sulfate			3530	mg/L	8.3	77	80	120	0.5	20	S
Method:	**E300.0**								Analytical Run: IC3-C_210726A		
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/26/21 13:43	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			42.0	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272822	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210726A			07/26/21 14:02	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210726A			07/26/21 14:21	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			41.7	mg/L	1.0	104	90	110			
Lab ID:	**C21070886-006AMS**	2	Sample Matrix Spike				Run: IC3-C_210726A			07/26/21 19:47	
Chloride			11.0	mg/L	1.0	107	80	120			
Sulfate			46.8	mg/L	1.0	108	80	120			
Lab ID:	**C21070886-006AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210726A			07/26/21 20:06	
Chloride			11.1	mg/L	1.0	108	80	120	0.7	20	
Sulfate			47.1	mg/L	1.0	109	80	120	0.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210728A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/28/21 13:53	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.8	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272902	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210728A			07/28/21 14:12	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210728A			07/28/21 14:31	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			42.0	mg/L	1.0	105	90	110			
Lab ID:	**C21070807-002AMS**	2	Sample Matrix Spike				Run: IC3-C_210728A			07/28/21 15:28	
Chloride			1240	mg/L	5.2	96	80	120			
Sulfate			6850	mg/L	21	93	80	120			
Lab ID:	**C21070807-002AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210728A			07/28/21 15:48	
Chloride			1310	mg/L	5.2	109	80	120	5.4	20	
Sulfate			7100	mg/L	21	105	80	120	3.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210727A	
Lab ID: ICV		Initial Calibration Verification Standard							07/27/21 12:59	
Nitrogen, Ammonia as N		0.964	mg/L	0.050	96	90	110			
Method: E350.1									Batch: R272841	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210727A			07/27/21 12:57	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210727A			07/27/21 13:00	
Nitrogen, Ammonia as N		0.988	mg/L	0.050	100	90	110			
Lab ID: C21070886-003EMS		Sample Matrix Spike				Run: FIA201-C_210727A			07/27/21 13:36	
Nitrogen, Ammonia as N		0.788	mg/L	0.050	76	90	110			S
Lab ID: C21070886-003EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210727A			07/27/21 13:37	
Nitrogen, Ammonia as N		0.835	mg/L	0.050	81	90	110	5.8	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210724A	
Lab ID: ICV		Initial Calibration Verification Standard							07/24/21 11:16	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110			
Method: E353.2									Batch: R272754	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210724A			07/24/21 11:18	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210724A			07/24/21 11:19	
Nitrogen, Nitrate+Nitrite as N		1.00	mg/L	0.010	101	90	110			
Lab ID: C21070886-005EMS		Sample Matrix Spike				Run: FIA201-C_210724A			07/24/21 13:19	
Nitrogen, Nitrate+Nitrite as N		112	mg/L	0.50	96	90	110			
Lab ID: C21070886-005EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210724A			07/24/21 13:21	
Nitrogen, Nitrate+Nitrite as N		113	mg/L	0.50	97	90	110	0.5	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/04/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP4-C_210723A	
Lab ID:	**QCS**	4	Initial Calibration Verification Standard							07/23/21 11:49	
Calcium			43.0	mg/L	0.50	108	90	110			
Magnesium			42.8	mg/L	0.50	107	90	110			
Potassium			42.0	mg/L	0.50	105	90	110			
Sodium			42.6	mg/L	0.53	106	90	110			
Method:	**E200.7**									Batch: R272726	
Lab ID:	**LRB**	4	Method Blank				Run: ICP4-C_210723A			07/23/21 11:29	
Calcium			ND	mg/L	0.06						
Magnesium			ND	mg/L	0.08						
Potassium			ND	mg/L	1						
Sodium			ND	mg/L	0.2						
Lab ID:	**LFB**	4	Laboratory Fortified Blank				Run: ICP4-C_210723A			07/23/21 11:45	
Calcium			55.5	mg/L	0.50	111	85	115			
Magnesium			55.2	mg/L	0.50	110	85	115			
Potassium			53.8	mg/L	0.50	108	85	115			
Sodium			54.6	mg/L	0.54	109	85	115			
Lab ID:	**C21070872-002BMS2**	4	Sample Matrix Spike				Run: ICP4-C_210723A			07/23/21 16:52	
Calcium			245	mg/L	1.0	107	70	130			
Magnesium			144	mg/L	1.0	107	70	130			
Potassium			109	mg/L	3.1	106	70	130			
Sodium			178	mg/L	1.1	107	70	130			
Lab ID:	**C21070872-002BMSD**	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210723A			07/23/21 16:55	
Calcium			248	mg/L	1.0	110	70	130	1.2	20	
Magnesium			147	mg/L	1.0	109	70	130	1.7	20	
Potassium			110	mg/L	1.0	107	70	130	0.4	20	
Sodium			178	mg/L	1.1	107	70	130	0.1	20	
Method:	**E200.7**									Analytical Run: ICP4-C_210726A	
Lab ID:	**QCS**		Initial Calibration Verification Standard							07/26/21 11:07	
Sodium			41.1	mg/L	0.53	103	95	105			
Method:	**E200.7**									Batch: R272771	
Lab ID:	**LRB**		Method Blank				Run: ICP4-C_210726A			07/26/21 10:47	
Sodium			ND	mg/L	0.2						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: ICP4-C_210726A			07/26/21 11:03	
Sodium			49.2	mg/L	0.54	98	85	115			
Lab ID:	**C21070905-003BMS2**		Sample Matrix Spike				Run: ICP4-C_210726A			07/26/21 16:40	
Sodium			779	mg/L	2.7	102	70	130			
Lab ID:	**C21070905-003BMSD**		Sample Matrix Spike Duplicate				Run: ICP4-C_210726A			07/26/21 16:44	
Sodium			779	mg/L	2.7	102	70	130	0.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210728A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/28/21 10:55	
Calcium		39.0	mg/L	0.50	97	95	105			
Magnesium		38.5	mg/L	0.50	96	95	105			
Potassium		39.0	mg/L	0.50	98	95	105			
Sodium		39.5	mg/L	0.53	99	95	105			
Method: E200.7										Batch: R272883
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210728A			07/28/21 10:35	
Calcium		ND	mg/L	0.06						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	1						
Sodium		ND	mg/L	0.2						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210728A			07/28/21 10:51	
Calcium		48.5	mg/L	0.50	97	85	115			
Magnesium		48.1	mg/L	0.50	96	85	115			
Potassium		48.7	mg/L	0.50	97	85	115			
Sodium		49.7	mg/L	0.54	99	85	115			
Lab ID: C21070966-001BMS2	4	Sample Matrix Spike				Run: ICP4-C_210728A			07/28/21 13:34	
Calcium		475	mg/L	1.3	104	70	130			
Magnesium		366	mg/L	1.0	104	70	130			
Potassium		273	mg/L	1.3	103	70	130			
Sodium		796	mg/L	2.7	100	70	130			
Lab ID: C21070966-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210728A			07/28/21 13:37	
Calcium		473	mg/L	1.3	103	70	130	0.5	20	
Magnesium		365	mg/L	1.0	103	70	130	0.3	20	
Potassium		272	mg/L	1.3	103	70	130	0.2	20	
Sodium		793	mg/L	2.7	99	70	130	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210802A	
Lab ID: QCS	12	Initial Calibration Verification Standard							08/02/21 22:12	
Aluminum		0.251	mg/L	0.030	100	90	110			
Arsenic		0.0498	mg/L	0.0010	100	90	110			
Beryllium		0.0255	mg/L	0.0010	102	90	110			
Cadmium		0.0247	mg/L	0.0010	99	90	110			
Cobalt		0.0518	mg/L	0.0050	104	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Manganese		0.250	mg/L	0.0010	100	90	110			
Molybdenum		0.0481	mg/L	0.0010	96	90	110			
Nickel		0.0508	mg/L	0.0050	102	90	110			
Selenium		0.0512	mg/L	0.0010	102	90	110			
Uranium		0.0196	mg/L	0.00030	98	90	110			
Vanadium		0.0473	mg/L	0.010	95	90	110			
Method: E200.8									Batch: 63261	
Lab ID: MB-63261	12	Method Blank				Run: ICPMS5-C_210802A			08/03/21 02:04	
Aluminum		0.02	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63261	12	Laboratory Control Sample				Run: ICPMS5-C_210802A			08/03/21 02:22	
Aluminum		2.40	mg/L	0.030	96	85	115			
Arsenic		0.458	mg/L	0.0010	92	85	115			
Beryllium		0.226	mg/L	0.0010	90	85	115			
Cadmium		0.246	mg/L	0.0010	98	85	115			
Cobalt		0.453	mg/L	0.0050	91	85	115			
Lead		0.468	mg/L	0.0010	94	85	115			
Manganese		2.23	mg/L	0.0010	89	85	115			
Molybdenum		0.457	mg/L	0.0010	91	85	115			
Nickel		0.452	mg/L	0.0050	90	85	115			
Selenium		0.452	mg/L	0.0010	90	85	115			
Uranium		0.527	mg/L	0.00030	105	85	115			
Vanadium		0.437	mg/L	0.010	87	85	115			
Lab ID: C21070886-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210802A			08/03/21 02:35	
Aluminum		2.26	mg/L	0.036	90	70	130			
Arsenic		0.474	mg/L	0.0010	95	70	130			
Beryllium		0.196	mg/L	0.0010	78	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63261
Lab ID: C21070886-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210802A				08/03/21 02:35
Cadmium		0.223	mg/L	0.0010	89	70	130			
Cobalt		0.447	mg/L	0.0050	89	70	130			
Lead		0.477	mg/L	0.0010	95	70	130			
Manganese		2.30	mg/L	0.0014	92	70	130			
Molybdenum		0.480	mg/L	0.0014	96	70	130			
Nickel		0.424	mg/L	0.0050	84	70	130			
Selenium		0.496	mg/L	0.0010	99	70	130			
Uranium		0.664	mg/L	0.00054	113	70	130			
Vanadium		0.482	mg/L	0.010	96	70	130			
Lab ID: C21070886-001CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210802A				08/03/21 02:39
Aluminum		2.25	mg/L	0.036	90	70	130	0.4	20	
Arsenic		0.476	mg/L	0.0010	95	70	130	0.3	20	
Beryllium		0.191	mg/L	0.0010	76	70	130	2.8	20	
Cadmium		0.221	mg/L	0.0010	88	70	130	1.2	20	
Cobalt		0.452	mg/L	0.0050	90	70	130	1.2	20	
Lead		0.467	mg/L	0.0010	93	70	130	2.2	20	
Manganese		2.27	mg/L	0.0014	91	70	130	1.4	20	
Molybdenum		0.478	mg/L	0.0014	95	70	130	0.5	20	
Nickel		0.423	mg/L	0.0050	84	70	130	0.3	20	
Selenium		0.491	mg/L	0.0010	98	70	130	1.0	20	
Uranium		0.646	mg/L	0.00054	109	70	130	2.7	20	
Vanadium		0.484	mg/L	0.010	97	70	130	0.3	20	
Lab ID: C21070907-001AMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210802A				08/03/21 03:41
Aluminum		11.2	mg/L	0.091	92	70	130			
Arsenic		0.475	mg/L	0.0014	95	70	130			
Beryllium		0.236	mg/L	0.0010	94	70	130			
Cadmium		0.240	mg/L	0.0010	95	70	130			
Cobalt		5.94	mg/L	0.0050		70	130			A
Lead		0.481	mg/L	0.0010	95	70	130			
Manganese		2.32	mg/L	0.0035	89	70	130			
Molybdenum		0.447	mg/L	0.0034	89	70	130			
Nickel		0.445	mg/L	0.0050	86	70	130			
Selenium		0.500	mg/L	0.0010	100	70	130			
Uranium		0.520	mg/L	0.0014	104	70	130			
Vanadium		0.422	mg/L	0.012	84	70	130			
Lab ID: C21070907-001AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210802A				08/03/21 03:45
Aluminum		11.1	mg/L	0.091	90	70	130	0.4	20	
Arsenic		0.470	mg/L	0.0014	94	70	130	1.1	20	
Beryllium		0.236	mg/L	0.0010	94	70	130	0.1	20	
Cadmium		0.238	mg/L	0.0010	95	70	130	0.6	20	
Cobalt		5.80	mg/L	0.0050		70	130	2.3	20	A
Lead		0.473	mg/L	0.0010	94	70	130	1.5	20	
Manganese		2.29	mg/L	0.0035	88	70	130	1.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/04/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63261
Lab ID: C21070907-001AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210802A				08/03/21 03:45
Molybdenum		0.437	mg/L	0.0034	87	70	130	2.4	20	
Nickel		0.439	mg/L	0.0050	85	70	130	1.4	20	
Selenium		0.494	mg/L	0.0010	99	70	130	1.2	20	
Uranium		0.512	mg/L	0.0014	102	70	130	1.6	20	
Vanadium		0.415	mg/L	0.012	83	70	130	1.6	20	
Method: E200.8										Analytical Run: ICPMS5-C_210803A
Lab ID: QCS		Initial Calibration Verification Standard								08/03/21 12:36
Aluminum		0.246	mg/L	0.030	98	90	110			
Method: E200.8										Batch: 63261
Lab ID: MB-63261	12	Method Blank				Run: ICPMS5-C_210803A				08/03/21 16:19
Aluminum		0.02	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/03/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1										Analytical Run: R364834
Lab ID: CCV072821	7	Continuing Calibration Verification Standard								07/28/21 09:54
Bromodichloromethane		4.76	ug/L	0.50	95	70	130			
Bromoform		4.59	ug/L	0.50	92	70	130			
Chlorodibromomethane		4.61	ug/L	0.50	92	70	130			
Chloroform		4.86	ug/L	0.50	97	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	110	71	139			
Surr: p-Bromofluorobenzene				0.50	101	80	127			
Surr: Toluene-d8				0.50	97	80	123			
Method: E624.1										Batch: R364834
Lab ID: LCS072821	7	Laboratory Control Sample				Run: SV5972.I_210728B				07/28/21 10:19
Bromodichloromethane		5.23	ug/L	0.50	105	74	128			
Bromoform		4.94	ug/L	0.50	99	70	130			
Chlorodibromomethane		4.93	ug/L	0.50	99	74	125			
Chloroform		5.09	ug/L	0.50	102	70	135			
Surr: 1,2-Dichloroethane-d4				0.50	109	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	98	80	123			
Lab ID: MBLK072821	7	Method Blank				Run: SV5972.I_210728B				07/28/21 11:10
Bromodichloromethane		ND	ug/L	0.50						
Bromoform		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4				0.50	112	71	139			
Surr: p-Bromofluorobenzene				0.50	111	80	127			
Surr: Toluene-d8				0.50	100	80	123			
Lab ID: B21071951-001BMS	7	Sample Matrix Spike				Run: SV5972.I_210728B				07/28/21 16:24
Bromodichloromethane		5.66	ug/L	0.50	113	74	128			
Bromoform		5.55	ug/L	0.50	111	66	128			
Chlorodibromomethane		5.39	ug/L	0.50	108	74	125			
Chloroform		5.52	ug/L	0.50	110	68	124			
Surr: 1,2-Dichloroethane-d4				0.50	120	71	139			
Surr: p-Bromofluorobenzene				0.50	102	80	127			
Surr: Toluene-d8				0.50	100	80	123			
Lab ID: B21071951-001BMSD	7	Sample Matrix Spike Duplicate				Run: SV5972.I_210728B				07/28/21 16:49
Bromodichloromethane		5.98	ug/L	0.50	120	74	128	5.4	20	
Bromoform		5.82	ug/L	0.50	116	66	128	4.8	20	
Chlorodibromomethane		5.47	ug/L	0.50	109	74	125	1.4	20	
Chloroform		5.60	ug/L	0.50	112	68	124	1.5	20	
Surr: 1,2-Dichloroethane-d4				0.50	114	71	139			
Surr: p-Bromofluorobenzene				0.50	106	80	127			
Surr: Toluene-d8				0.50	99	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3266	
Lab ID: MB-RA-TH-ISO-3266	3	Method Blank				Run: EGG-ORTEC_2_210728A			08/03/21 16:10	
Thorium 230		-0.003	pCi/L							U
Thorium 230 precision (±)		0.04	pCi/L							
Thorium 230 MDC		0.08	pCi/L							
Lab ID: LCS-RA-TH-ISO-3266	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210728A			08/03/21 16:10	
Thorium 230		9.1	pCi/L		95	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.048	pCi/L							
Lab ID: C21070886-005FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210728A			08/03/21 17:02	
Thorium 230		-0.0078	pCi/L					410	30	UR
Thorium 230 precision (±)		0.049	pCi/L							
Thorium 230 MDC		0.10	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.44.										
Method: A7500-U C									Batch: RA-TH-ISO-3267	
Lab ID: MB-RA-TH-ISO-3267	3	Method Blank				Run: EGG-ORTEC_2_210729B			08/04/21 16:16	
Thorium 230		0.06	pCi/L							U
Thorium 230 precision (±)		0.05	pCi/L							
Thorium 230 MDC		0.07	pCi/L							
Lab ID: LCS-RA-TH-ISO-3267	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210729B			08/04/21 16:16	
Thorium 230		9.0	pCi/L		94	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.045	pCi/L							
Lab ID: C21070898-001FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210729B			08/04/21 16:16	
Thorium 230		-0.0020	pCi/L					240	30	UR
Thorium 230 precision (±)		0.032	pCi/L							
Thorium 230 MDC		0.068	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.47.										

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1304
Lab ID: MB-GA-1304	3	Method Blank				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		0.08	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.8	pCi/L							
Lab ID: LCS-GA-1304	3	Laboratory Control Sample				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		33	pCi/L		97	70	130			
Gross Alpha minus Rn & U Precision (±)		6.6	pCi/L							
Gross Alpha minus Rn & U MDC		0.76	pCi/L							
Lab ID: C21070886-003FDUP	3	Sample Duplicate				Run: TENNELEC-4_210729A				08/02/21 07:51
Gross Alpha minus Rn & U		0.53	pCi/L					35	30	UR
Gross Alpha minus Rn & U Precision (±)		0.54	pCi/L							
Gross Alpha minus Rn & U MDC		0.76	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.29.										
Method: E900.1										Batch: GA-1305R
Lab ID: MB-GA-1305	3	Method Blank				Run: TENNELEC-4_210729B				08/03/21 15:29
Gross Alpha minus Rn & U		-0.5	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.4	pCi/L							
Gross Alpha minus Rn & U MDC		0.7	pCi/L							
Lab ID: LCS-GA-1305	3	Laboratory Control Sample				Run: TENNELEC-4_210729B				08/03/21 15:29
Gross Alpha minus Rn & U		27	pCi/L		79	70	130			
Gross Alpha minus Rn & U Precision (±)		5.4	pCi/L							
Gross Alpha minus Rn & U MDC		0.69	pCi/L							
Lab ID: C21061054-002BDUP	3	Sample Duplicate				Run: TENNELEC-4_210729B				08/03/21 17:42
Gross Alpha minus Rn & U		3.8	pCi/L					6.5	30	
Gross Alpha minus Rn & U Precision (±)		1.0	pCi/L							
Gross Alpha minus Rn & U MDC		0.68	pCi/L							

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10123
Lab ID: LCS-RA226-10123	3	Laboratory Control Sample				Run: TENNELEC-3_210728B				08/10/21 11:21
Radium 226		11	pCi/L		103	70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.15	pCi/L							
Lab ID: MB-RA226-10123	3	Method Blank				Run: TENNELEC-3_210728B				08/10/21 11:21
Radium 226		0.3	pCi/L							
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Lab ID: C21071106-001FDUP	3	Sample Duplicate				Run: TENNELEC-3_210728B				08/10/21 11:21
Radium 226		2.3	pCi/L					11	30	
Radium 226 precision (±)		0.47	pCi/L							
Radium 226 MDC		0.12	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1289
Lab ID: LCS-PB-210-1289	3	Laboratory Control Sample				Run: TRICARB LSC_210727B			08/14/21 06:15	
Lead 210		16	pCi/L		92	70	130			
Lead 210 precision (±)		4.9	pCi/L							
Lead 210 MDC		1.3	pCi/L							
Lab ID: MB-PB-210-1289	3	Method Blank				Run: TRICARB LSC_210727B			08/14/21 07:14	
Lead 210		0.2	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.8	pCi/L							
Lab ID: C21070898-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_210727B			08/15/21 17:36	
Lead 210		1.1	pCi/L					1.5	30	
Lead 210 precision (±)		0.60	pCi/L							
Lead 210 MDC		0.82	pCi/L							

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070886 **Report Date:** 08/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6564
Lab ID: LCS-228-RA226-10137	3	Laboratory Control Sample				Run: G5000W_210813A			08/18/21 17:01	
Radium 228		6.9	pCi/L		88	70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		0.96	pCi/L							
Lab ID: MB-RA226-10137	3	Method Blank				Run: G5000W_210813A			08/18/21 17:01	
Radium 228		-0.01	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C21080590-003FDUP	3	Sample Duplicate				Run: G5000W_210813A			08/18/21 17:01	
Radium 228		7.9	pCi/L					0.1	30	
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		0.98	pCi/L							
Method: RA-05										Batch: RA228-6553
Lab ID: LCS-228-RA226-10123	3	Laboratory Control Sample				Run: TENNELEC-3_210729B			08/04/21 12:22	
Radium 228		5.9	pCi/L		74	70	130			
Radium 228 precision (±)		1.4	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-10123	3	Method Blank				Run: TENNELEC-3_210729B			08/04/21 12:22	
Radium 228		-0.09	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21071106-001FDUP	3	Sample Duplicate				Run: TENNELEC-3_210729B			08/04/21 12:22	
Radium 228		0.61	pCi/L					61	30	UR
Radium 228 precision (±)		0.74	pCi/L							
Radium 228 MDC		1.2	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.50.

Qualifiers:

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ANALYTICAL SUMMARY REPORT

August 13, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070218 Quote ID: C6117

Project Name: UNC - Zone 3 & Zone 1

Energy Laboratories, Inc. Casper WY received the following 7 samples for United Nuclear Corporation on 7/7/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070218-001	613	07/05/21 9:14	07/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070218-002	717	07/05/21 10:16	07/07/21	Aqueous	Same As Above
C21070218-003	717 Duplicate	07/05/21 10:44	07/07/21	Aqueous	Same As Above
C21070218-004	EPA-14	07/05/21 11:25	07/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics

ANALYTICAL SUMMARY REPORT

C21070218-005	708	07/05/21 12:10	07/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070218-006	604	07/05/21 13:10	07/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070218-007	Trip Blank- 79121	07/05/21 9:14	07/07/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.13 15:45:08 -06:00

CLIENT: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Work Order: C21070218

Report Date: 08/13/21

CASE NARRATIVE

Tests associated with analyst identified as "etad" were subcontracted to Eurofins Test America, 4955 Yarrow St, Arvada, CO 80002, TEL (303) 736-0100. Please see attached data packet for details.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B									Analytical Run: ACIDITY_210714A	
Lab ID: ICV		Initial Calibration Verification Standard							07/14/21 11:40	
pH		6.83	s.u.	0.010	100	98	102			
Method: A2310 B									Batch: ACID210714_A	
Lab ID: MBLK		Method Blank				Run: ACIDITY_210714A			07/14/21 11:49	
Acidity, Total as CaCO3		1	mg/L							
Lab ID: LCS		Laboratory Control Sample				Run: ACIDITY_210714A			07/14/21 12:00	
Acidity, Total as CaCO3		810	mg/L		103	90	110			
Lab ID: C21070218-002A DUP		Sample Duplicate				Run: ACIDITY_210714A			07/14/21 12:22	
Acidity, Total as CaCO3		1160	mg/L					0.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210708A	
Lab ID: ICV		Initial Calibration Verification Standard							07/08/21 14:47	
pH		6.85	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R272218	
Lab ID: MBLK		Method Blank				Run: MANTECH_210708A			07/08/21 14:51	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210708A			07/08/21 14:59	
Alkalinity, Total as CaCO3		369	mg/L	5.0	98	90	110			
Lab ID: C21070195-001ADUP		Sample Duplicate				Run: MANTECH_210708A			07/08/21 16:46	
Alkalinity, Total as CaCO3		188	mg/L	5.0				0.1	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210709A
Lab ID: MB-1_210709A		Method Blank				Run: BAL-111_210709A				07/09/21 13:31
Solids, Total Dissolved TDS @ 180 C		6	mg/L	5						
Lab ID: LCS-2_210709A		Laboratory Control Sample				Run: BAL-111_210709A				07/09/21 13:31
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21070190-002A DUP		Sample Duplicate				Run: BAL-111_210709A				07/09/21 13:38
Solids, Total Dissolved TDS @ 180 C		119	mg/L	10				0.3	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210708A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/08/21 10:31	
pH		6.9	s.u.	0.1	101	98	102			
pH Measurement Temp		22.2	°C			0	0			
Method: A4500-H B										Batch: R272176
Lab ID: C21070218-004ADUP	2	Sample Duplicate				Run: PHSC_101-C_210708A			07/08/21 14:56	
pH		5.9	s.u.	0.1				0.2	1.5	
pH Measurement Temp		16.6	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210709A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/09/21 12:24	
Chloride			10.6	mg/L	1.0	106	90	110			
Sulfate			42.3	mg/L	1.0	106	90	110			
Method:	**E300.0**									Batch: R272206	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210709A			07/09/21 12:43	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210709A			07/09/21 13:02	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			40.4	mg/L	1.0	101	90	110			
Lab ID:	**C21070206-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210709A			07/09/21 19:26	
Chloride			79.8	mg/L	1.0	91	80	120			
Sulfate			178	mg/L	1.0	98	80	120			
Lab ID:	**C21070206-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210709A			07/09/21 19:45	
Chloride			80.9	mg/L	1.0	96	80	120	1.3	20	
Sulfate			181	mg/L	1.0	102	80	120	1.7	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210709A	
Lab ID: ICV		Initial Calibration Verification Standard							07/09/21 10:00	
Nitrogen, Ammonia as N		1.05	mg/L	0.050	105	90	110			
Method: E350.1									Batch: R272236	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210709A			07/09/21 09:58	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210709A			07/09/21 10:01	
Nitrogen, Ammonia as N		0.923	mg/L	0.050	93	90	110			
Lab ID: C21070218-006EMS		Sample Matrix Spike				Run: FIA201-C_210709A			07/09/21 10:37	
Nitrogen, Ammonia as N		0.894	mg/L	0.050	86	90	110			S
Lab ID: C21070218-006EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210709A			07/09/21 10:38	
Nitrogen, Ammonia as N		0.914	mg/L	0.050	88	90	110	2.2	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210712B	
Lab ID: ICV		Initial Calibration Verification Standard							07/12/21 14:22	
Nitrogen, Nitrate+Nitrite as N		0.990	mg/L	0.010	99	90	110			
Method: E353.2									Batch: R272287	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210712B			07/12/21 14:23	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210712B			07/12/21 14:24	
Nitrogen, Nitrate+Nitrite as N		0.934	mg/L	0.010	94	90	110			
Lab ID: C21070116-001CMS		Sample Matrix Spike				Run: FIA201-C_210712B			07/12/21 14:28	
Nitrogen, Nitrate+Nitrite as N		1.34	mg/L	0.010	96	90	110			
Lab ID: C21070116-001CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210712B			07/12/21 14:29	
Nitrogen, Nitrate+Nitrite as N		1.37	mg/L	0.010	99	90	110	2.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210708A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/08/21 10:55	
Calcium		40.1	mg/L	0.50	100	95	105			
Magnesium		40.3	mg/L	0.50	101	95	105			
Potassium		39.5	mg/L	0.50	99	95	105			
Sodium		39.3	mg/L	0.53	98	95	105			
Method: E200.7										Batch: R272181
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210708A			07/08/21 10:35	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210708A			07/08/21 10:51	
Calcium		49.2	mg/L	0.50	98	85	115			
Magnesium		49.5	mg/L	0.50	99	85	115			
Potassium		48.5	mg/L	0.50	97	85	115			
Sodium		49.1	mg/L	0.54	98	85	115			
Lab ID: C21070218-004BMS2	4	Sample Matrix Spike				Run: ICP4-C_210708A			07/08/21 12:40	
Calcium		753	mg/L	1.3	99	70	130			
Magnesium		548	mg/L	1.0	103	70	130			
Potassium		256	mg/L	1.3	99	70	130			
Sodium		397	mg/L	2.7	101	70	130			
Lab ID: C21070218-004BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210708A			07/08/21 12:44	
Calcium		753	mg/L	1.3	99	70	130	0.0	20	
Magnesium		547	mg/L	1.0	103	70	130	0.2	20	
Potassium		255	mg/L	1.3	99	70	130	0.1	20	
Sodium		398	mg/L	2.7	101	70	130	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210715A	
Lab ID: QCS	11	Initial Calibration Verification Standard							07/15/21 13:34	
Aluminum		0.246	mg/L	0.030	98	90	110			
Arsenic		0.0494	mg/L	0.0010	99	90	110			
Beryllium		0.0248	mg/L	0.0010	99	90	110			
Cadmium		0.0243	mg/L	0.0010	97	90	110			
Cobalt		0.0490	mg/L	0.0050	98	90	110			
Lead		0.0480	mg/L	0.0010	96	90	110			
Manganese		0.251	mg/L	0.0010	100	90	110			
Molybdenum		0.0469	mg/L	0.0010	94	90	110			
Nickel		0.0508	mg/L	0.0050	102	90	110			
Selenium		0.0513	mg/L	0.0010	103	90	110			
Uranium		0.0181	mg/L	0.00030	90	90	110			
Method: E200.8										Batch: 63001
Lab ID: LCS3-63001	11	Laboratory Control Sample				Run: ICPMS5-C_210715A			07/15/21 20:29	
Aluminum		2.35	mg/L	0.030	94	85	115			
Arsenic		0.458	mg/L	0.0010	92	85	115			
Beryllium		0.234	mg/L	0.0010	93	85	115			
Cadmium		0.242	mg/L	0.0010	97	85	115			
Cobalt		0.441	mg/L	0.0050	88	85	115			
Lead		0.481	mg/L	0.0010	96	85	115			
Manganese		2.35	mg/L	0.0010	94	85	115			
Molybdenum		0.443	mg/L	0.0010	89	85	115			
Nickel		0.471	mg/L	0.0050	94	85	115			
Selenium		0.456	mg/L	0.0010	91	85	115			
Uranium		0.483	mg/L	0.00030	97	85	115			
Lab ID: C21070077-001AMS3	11	Sample Matrix Spike				Run: ICPMS5-C_210715A			07/15/21 20:38	
Aluminum		2.49	mg/L	0.030	94	70	130			
Arsenic		0.479	mg/L	0.0050	95	70	130			
Beryllium		0.232	mg/L	0.0010	93	70	130			
Cadmium		0.232	mg/L	0.0010	93	70	130			
Cobalt		0.440	mg/L	0.0050	88	70	130			
Lead		0.487	mg/L	0.0010	97	70	130			
Manganese		2.28	mg/L	0.0016	91	70	130			
Molybdenum		0.450	mg/L	0.0050	90	70	130			
Nickel		0.441	mg/L	0.010	87	70	130			
Selenium		0.485	mg/L	0.0010	97	70	130			
Uranium		0.500	mg/L	0.00030	100	70	130			
Lab ID: C21070077-001AMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210715A			07/15/21 20:42	
Aluminum		2.50	mg/L	0.030	94	70	130	0.3	20	
Arsenic		0.480	mg/L	0.0050	95	70	130	0.2	20	
Beryllium		0.234	mg/L	0.0010	94	70	130	0.7	20	
Cadmium		0.233	mg/L	0.0010	93	70	130	0.7	20	
Cobalt		0.440	mg/L	0.0050	88	70	130	0.2	20	
Lead		0.490	mg/L	0.0010	98	70	130	0.7	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63001
Lab ID: C21070077-001AMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210715A			07/15/21 20:42	
Manganese		2.24	mg/L	0.0016	89	70	130	1.6	20	
Molybdenum		0.454	mg/L	0.0050	91	70	130	1.0	20	
Nickel		0.443	mg/L	0.010	87	70	130	0.4	20	
Selenium		0.481	mg/L	0.0010	96	70	130	1.0	20	
Uranium		0.500	mg/L	0.00030	100	70	130	0.1	20	
Method: E200.8										Batch: 63001
Lab ID: MB-63001	11	Method Blank				Run: ICPMS5-C_210719A			07/19/21 15:31	
Aluminum		0.2	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		0.0002	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		0.0002	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210721A	
Lab ID: QCS	6	Initial Calibration Verification Standard							07/21/21 20:06	
Aluminum		0.245	mg/L	0.030	98	90	110			
Beryllium		0.0250	mg/L	0.0010	100	90	110			
Cobalt		0.0504	mg/L	0.0050	101	90	110			
Manganese		0.244	mg/L	0.0010	97	90	110			
Uranium		0.0197	mg/L	0.00030	99	90	110			
Vanadium		0.0477	mg/L	0.010	95	90	110			
Method: E200.8									Batch: 63144	
Lab ID: MB-63144	6	Method Blank				Run: ICPMS5-C_210721A			07/21/21 21:53	
Aluminum		ND	mg/L	0.02						
Beryllium		ND	mg/L	0.0002						
Cobalt		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63144	6	Laboratory Control Sample				Run: ICPMS5-C_210721A			07/21/21 21:58	
Aluminum		2.27	mg/L	0.030	91	85	115			
Beryllium		0.227	mg/L	0.0010	91	85	115			
Cobalt		0.480	mg/L	0.0050	96	85	115			
Manganese		2.38	mg/L	0.0010	95	85	115			
Uranium		0.507	mg/L	0.00030	101	85	115			
Vanadium		0.473	mg/L	0.010	95	85	115			
Lab ID: C21070218-003CMS3	6	Sample Matrix Spike				Run: ICPMS5-C_210721A			07/21/21 22:42	
Aluminum		192	mg/L	1.8		70	130			A
Beryllium		2.45	mg/L	0.010	93	70	130			
Cobalt		5.65	mg/L	0.010	95	70	130			
Manganese		36.6	mg/L	0.070	97	70	130			
Uranium		5.51	mg/L	0.027	99	70	130			
Vanadium		4.47	mg/L	0.25	89	70	130			
Lab ID: C21070218-003CMSD	6	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210721A			07/21/21 22:47	
Aluminum		186	mg/L	1.8		70	130	2.9	20	A
Beryllium		2.46	mg/L	0.010	93	70	130	0.1	20	
Cobalt		5.58	mg/L	0.010	94	70	130	1.3	20	
Manganese		36.5	mg/L	0.070	96	70	130	0.4	20	
Uranium		5.46	mg/L	0.027	99	70	130	0.8	20	
Vanadium		4.48	mg/L	0.25	90	70	130	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 07/23/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.8**									Analytical Run: ICPMS5-C_210722A	
Lab ID:	**QCS**		Initial Calibration Verification Standard							07/22/21 15:24	
Uranium			0.0193	mg/L	0.00030	97	90	110			
Method:	**E200.8**									Batch: 63144	
Lab ID:	**MB-63144**	6	Method Blank				Run: ICPMS5-C_210722A			07/22/21 15:50	
Aluminum			ND	mg/L	0.02						
Beryllium			ND	mg/L	0.0002						
Cobalt			ND	mg/L	0.0001						
Manganese			ND	mg/L	0.0007						
Uranium			ND	mg/L	0.0003						
Vanadium			ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3251	
Lab ID: MB-RA-TH-ISO-3251	3	Method Blank				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.004	pCi/L							U
Thorium 230 precision (±)		0.02	pCi/L							
Thorium 230 MDC		0.04	pCi/L							
Lab ID: LCS-RA-TH-ISO-3251	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		8.7	pCi/L		91	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.045	pCi/L							
Lab ID: C21070279-002FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.12	pCi/L					110	30	UR
Thorium 230 precision (±)		0.098	pCi/L							
Thorium 230 MDC		0.15	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.69.

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3252	
Lab ID: MB-RA-TH-ISO-3252	3	Method Blank				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		0.1	pCi/L							U
Thorium 230 precision (±)		0.1	pCi/L							
Thorium 230 MDC		0.2	pCi/L							
Lab ID: LCS-RA-TH-ISO-3252	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		9.1	pCi/L		95	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.13	pCi/L							
Lab ID: C21070279-003FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		0.17	pCi/L					240	30	UR
Thorium 230 precision (±)		0.22	pCi/L							
Thorium 230 MDC		0.35	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.59.

Qualifiers:

RL - Analyte Reporting Limit
R - Relative Percent Difference (RPD) exceeds advisory limit
ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1298R
Lab ID: MB-GA-1298	3	Method Blank				Run: G5000W_210713A				07/16/21 12:01
Gross Alpha minus Rn & U		0.05	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.8	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1298	3	Laboratory Control Sample				Run: G5000W_210713A				07/16/21 12:01
Gross Alpha minus Rn & U		31	pCi/L		91	70	130			
Gross Alpha minus Rn & U Precision (±)		6.4	pCi/L							
Gross Alpha minus Rn & U MDC		1.4	pCi/L							
Lab ID: C21070279-001FDUP	3	Sample Duplicate				Run: G5000W_210713A				07/23/21 19:10
Gross Alpha minus Rn & U		8.9	pCi/L					18	30	
Gross Alpha minus Rn & U Precision (±)		1.9	pCi/L							
Gross Alpha minus Rn & U MDC		0.62	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10094
Lab ID: LCS-RA226-10094	3	Laboratory Control Sample				Run: G5000W_210708A				07/19/21 09:35
Radium 226		10	pCi/L		98	70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.14	pCi/L							
Lab ID: MB-RA226-10094	3	Method Blank				Run: G5000W_210708A				07/19/21 09:35
Radium 226		0.1	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21070106-001ADUP	3	Sample Duplicate				Run: G5000W_210708A				07/19/21 09:35
Radium 226		0.22	pCi/L					79	30	R
Radium 226 precision (±)		0.13	pCi/L							
Radium 226 MDC		0.17	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.78.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1276
Lab ID: LCS-PB-210-1276	3	Laboratory Control Sample				Run: TRICARB LSC_210709B				07/14/21 18:37
Lead 210		19	pCi/L		108	70	130			
Lead 210 precision (±)		5.7	pCi/L							
Lead 210 MDC		1.6	pCi/L							
Lab ID: MB-PB-210-1276	3	Method Blank				Run: TRICARB LSC_210709B				07/14/21 19:38
Lead 210		-0.1	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.9	pCi/L							
Lab ID: C21070269-001CDUP	3	Sample Duplicate				Run: TRICARB LSC_210709B				07/15/21 21:37
Lead 210		1500	pCi/L					8.1	30	
Lead 210 precision (±)		440	pCi/L							
Lead 210 MDC		14	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070218 **Report Date:** 08/13/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6536
Lab ID: LCS-228-RA226-10094	3	Laboratory Control Sample				Run: TENNELEC-4_210708A			07/12/21 13:50	
Radium 228		8.7	pCi/L		109	70	130			
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		0.95	pCi/L							
Lab ID: MB-RA226-10094	3	Method Blank				Run: TENNELEC-4_210708A			07/12/21 13:50	
Radium 228		-0.2	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21070106-001ADUP	3	Sample Duplicate				Run: TENNELEC-4_210708A			07/12/21 13:50	
Radium 228		-0.22	pCi/L					130	30	UR
Radium 228 precision (±)		0.63	pCi/L							
Radium 228 MDC		1.1	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.00.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-150725-1
Client Project/Site: 11(e) Byproduct Material

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
7/16/2021 9:42:22 AM

Dylan Bieniulis, Project Manager I
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Dylan.Bieniulis@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-150725-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Energy Laboratories, Inc.

Project: 11(e) Byproduct Material

Report Number: 280-150725-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 07/13/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 25.0 C.

The following samples were received at the laboratory outside the required temperature criteria of 0-6°C at an elevated temperature of 25.0°C as all ice melted in transit: C21070218-001G (280-150725-1), C21070218-002G (280-150725-2), C21070218-003G (280-150725-3), C21070218-004G (280-150725-4), C21070218-005G (280-150725-5), C21070218-006G (280-150725-6) and C21070218-007A (280-150725-7). The laboratory will proceed with analysis unless instructed otherwise. The client was notified on 7/14/2021.

VOLATILE ORGANIC COMPOUNDS BY GC/MS
Samples C21070218-001G (280-150725-1), C21070218-002G (280-150725-2), C21070218-003G (280-150725-3), C21070218-004G (280-150725-4), C21070218-005G (280-150725-5), C21070218-006G (280-150725-6) and C21070218-007A (280-150725-7) were analyzed for Volatile Organic Compounds by GC/MS in accordance with 624.1 40CFR136A. The samples were analyzed on 07/15/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Client Sample ID: C21070218-001G — Lab Sample ID: 280-150725-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	66		1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	66		1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21070218-002G — Lab Sample ID: 280-150725-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.53	J	1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	0.53	J	1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21070218-003G — Lab Sample ID: 280-150725-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.49	J	1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	0.49	J	1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21070218-004G — Lab Sample ID: 280-150725-4

No Detections.

Client Sample ID: C21070218-005G — Lab Sample ID: 280-150725-5

No Detections.

Client Sample ID: C21070218-006G — Lab Sample ID: 280-150725-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	7.2		1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	7.2		1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21070218-007A — Lab Sample ID: 280-150725-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL DEN

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-150725-1	C21070218-001G	Water	07/05/21 09:14	07/13/21 10:30	
280-150725-2	C21070218-002G	Water	07/05/21 10:16	07/13/21 10:30	
280-150725-3	C21070218-003G	Water	07/05/21 10:44	07/13/21 10:30	
280-150725-4	C21070218-004G	Water	07/05/21 11:25	07/13/21 10:30	
280-150725-5	C21070218-005G	Water	07/05/21 12:10	07/13/21 10:30	
280-150725-6	C21070218-006G	Water	07/05/21 13:10	07/13/21 10:30	
280-150725-7	C21070218-007A	Water	07/05/21 09:14	07/13/21 10:30	

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: C21070218-001G — **Lab Sample ID: 280-150725-1**
Date Collected: 07/05/21 09:14 — **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 10:00	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 10:00	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 10:00	1
Chloroform	**66**		1.0	0.22	ug/L			07/15/21 10:00	1
Trihalomethanes, Total	**66**		1.0	0.15	ug/L			07/15/21 10:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*		*07/15/21 10:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*		*07/15/21 10:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/21 10:00*	*1*

Client Sample ID: C21070218-002G — **Lab Sample ID: 280-150725-2**
Date Collected: 07/05/21 10:16 — **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 10:22	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 10:22	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 10:22	1
Chloroform	**0.53**	**J**	1.0	0.22	ug/L			07/15/21 10:22	1
Trihalomethanes, Total	**0.53**	**J**	1.0	0.15	ug/L			07/15/21 10:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*73 - 122*		*07/15/21 10:22*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*		*07/15/21 10:22*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/15/21 10:22*	*1*

Client Sample ID: C21070218-003G — **Lab Sample ID: 280-150725-3**
Date Collected: 07/05/21 10:44 — **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 10:45	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 10:45	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 10:45	1
Chloroform	**0.49**	**J**	1.0	0.22	ug/L			07/15/21 10:45	1
Trihalomethanes, Total	**0.49**	**J**	1.0	0.15	ug/L			07/15/21 10:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*73 - 122*		*07/15/21 10:45*	*1*
4-Bromofluorobenzene (Surr)	*100*		*79 - 119*		*07/15/21 10:45*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/21 10:45*	*1*

Client Sample ID: C21070218-004G — **Lab Sample ID: 280-150725-4**
Date Collected: 07/05/21 11:25 — **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 11:07	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 11:07	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 11:07	1
Chloroform	ND		1.0	0.22	ug/L			07/15/21 11:07	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/15/21 11:07	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		73 - 122		07/15/21 11:07	1
4-Bromofluorobenzene (Surr)	101		79 - 119		07/15/21 11:07	1
Toluene-d8 (Surr)	104		80 - 120		07/15/21 11:07	1

Client Sample ID: C21070218-005G **Lab Sample ID: 280-150725-5**
Date Collected: 07/05/21 12:10 **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 11:29	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 11:29	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 11:29	1
Chloroform	ND		1.0	0.22	ug/L			07/15/21 11:29	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/15/21 11:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		73 - 122		07/15/21 11:29	1
4-Bromofluorobenzene (Surr)	100		79 - 119		07/15/21 11:29	1
Toluene-d8 (Surr)	104		80 - 120		07/15/21 11:29	1

Client Sample ID: C21070218-006G **Lab Sample ID: 280-150725-6**
Date Collected: 07/05/21 13:10 **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 11:51	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 11:51	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 11:51	1
Chloroform	**7.2**		1.0	0.22	ug/L			07/15/21 11:51	1
Trihalomethanes, Total	**7.2**		1.0	0.15	ug/L			07/15/21 11:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		73 - 122		07/15/21 11:51	1
4-Bromofluorobenzene (Surr)	101		79 - 119		07/15/21 11:51	1
Toluene-d8 (Surr)	103		80 - 120		07/15/21 11:51	1

Client Sample ID: C21070218-007A **Lab Sample ID: 280-150725-7**
Date Collected: 07/05/21 09:14 **Matrix: Water**
Date Received: 07/13/21 10:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 12:13	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 12:13	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 12:13	1
Chloroform	ND		1.0	0.22	ug/L			07/15/21 12:13	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/15/21 12:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		73 - 122		07/15/21 12:13	1
4-Bromofluorobenzene (Surr)	101		79 - 119		07/15/21 12:13	1
Toluene-d8 (Surr)	103		80 - 120		07/15/21 12:13	1

Surrogate Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA (73-122)	BFB (79-119)	TOL (80-120)
280-150725-1	C21070218-001G	100	101	103
280-150725-2	C21070218-002G	103	102	104
280-150725-3	C21070218-003G	102	100	103
280-150725-4	C21070218-004G	99	101	104
280-150725-5	C21070218-005G	101	100	104
280-150725-6	C21070218-006G	102	101	103
280-150725-7	C21070218-007A	102	101	103
LCS 280-543250/4	Lab Control Sample	94	101	103
LCSD 280-543250/5	Lab Control Sample Dup	99	101	101
MB 280-543250/8	Method Blank	97	99	107

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-543250/8
Matrix: Water
Analysis Batch: 543250

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/15/21 09:16	1
Bromoform	ND		2.0	0.67	ug/L			07/15/21 09:16	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/15/21 09:16	1
Chloroform	ND		1.0	0.22	ug/L			07/15/21 09:16	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/15/21 09:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*		*07/15/21 09:16*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 119*		*07/15/21 09:16*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/15/21 09:16*	*1*

Lab Sample ID: LCS 280-543250/4
Matrix: Water
Analysis Batch: 543250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	50.0	46.2		ug/L		92	65 - 135
Bromoform	50.0	43.7		ug/L		87	70 - 130
Chlorodibromomethane	50.0	47.1		ug/L		94	70 - 135
Chloroform	50.0	52.5		ug/L		105	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 122*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 280-543250/5
Matrix: Water
Analysis Batch: 543250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	50.0	45.9		ug/L		92	65 - 135	1	30
Bromoform	50.0	43.5		ug/L		87	70 - 130	0	30
Chlorodibromomethane	50.0	46.5		ug/L		93	70 - 135	1	30
Chloroform	50.0	51.4		ug/L		103	70 - 135	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 122*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

GC/MS VOA

Analysis Batch: 543250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-150725-1	C21070218-001G	Total/NA	Water	624.1	
280-150725-2	C21070218-002G	Total/NA	Water	624.1	
280-150725-3	C21070218-003G	Total/NA	Water	624.1	
280-150725-4	C21070218-004G	Total/NA	Water	624.1	
280-150725-5	C21070218-005G	Total/NA	Water	624.1	
280-150725-6	C21070218-006G	Total/NA	Water	624.1	
280-150725-7	C21070218-007A	Total/NA	Water	624.1	
MB 280-543250/8	Method Blank	Total/NA	Water	624.1	
LCS 280-543250/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-543250/5	Lab Control Sample Dup	Total/NA	Water	624.1	

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Client Sample ID: C21070218-001G — Lab Sample ID: 280-150725-1

Date Collected: 07/05/21 09:14
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 10:00	RJS	TAL DEN

Client Sample ID: C21070218-002G — Lab Sample ID: 280-150725-2

Date Collected: 07/05/21 10:16
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 10:22	RJS	TAL DEN

Client Sample ID: C21070218-003G — Lab Sample ID: 280-150725-3

Date Collected: 07/05/21 10:44
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 10:45	RJS	TAL DEN

Client Sample ID: C21070218-004G — Lab Sample ID: 280-150725-4

Date Collected: 07/05/21 11:25
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 11:07	RJS	TAL DEN

Client Sample ID: C21070218-005G — Lab Sample ID: 280-150725-5

Date Collected: 07/05/21 12:10
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 11:29	RJS	TAL DEN

Client Sample ID: C21070218-006G — Lab Sample ID: 280-150725-6

Date Collected: 07/05/21 13:10
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 11:51	RJS	TAL DEN

Client Sample ID: C21070218-007A — Lab Sample ID: 280-150725-7

Date Collected: 07/05/21 09:14
Date Received: 07/13/21 10:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	543250	07/15/21 12:13	RJS	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150725-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ANALYTICAL SUMMARY REPORT

August 13, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070280 Quote ID: C6117

Project Name: UNC - Zone 1

Energy Laboratories, Inc. Casper WY received the following 3 samples for United Nuclear Corporation on 7/8/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070280-001	515-A	07/06/21 9:10	07/08/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070280-002	614	07/06/21 10:30	07/08/21	Aqueous	Same As Above
C21070280-003	Trip Blank-79121	07/06/21 9:10	07/08/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.13 15:19:56 -06:00

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210712A	
Lab ID: ICV		Initial Calibration Verification Standard							07/12/21 11:58	
pH		6.85	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R272308	
Lab ID: MBLK		Method Blank				Run: MANTECH_210712A			07/12/21 12:03	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210712A			07/12/21 12:11	
Alkalinity, Total as CaCO3		251	mg/L	5.0	101	90	110			
Lab ID: C21070313-001ADUP		Sample Duplicate				Run: MANTECH_210712A			07/12/21 13:38	
Alkalinity, Total as CaCO3		14.1	mg/L	5.0				0.1	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210709A
Lab ID: MB-25_210709A		Method Blank				Run: BAL-111_210709A			07/09/21 13:42	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-26_210709A		Laboratory Control Sample				Run: BAL-111_210709A			07/09/21 13:42	
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21070279-001A DUP		Sample Duplicate				Run: BAL-111_210709A			07/09/21 13:46	
Solids, Total Dissolved TDS @ 180 C		5850	mg/L	41				0.2	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210709A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/09/21 10:45	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		22.2	°C			0	0			
Method: A4500-H B										Batch: R272230
Lab ID: C21070274-001ADUP	2	Sample Duplicate				Run: PHSC_101-C_210709A			07/09/21 11:56	
pH		7.3	s.u.	0.1				0.0	1.5	
pH Measurement Temp		11.2	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210712A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/12/21 15:13	
Chloride			10.6	mg/L	1.0	106	90	110			
Sulfate			41.8	mg/L	1.0	104	90	110			
Method:	**E300.0**									Batch: R272393	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210712A			07/12/21 15:32	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210712A			07/12/21 15:51	
Chloride			10.5	mg/L	1.0	105	90	110			
Sulfate			41.7	mg/L	1.0	104	90	110			
Lab ID:	**C21070280-002AMS**	2	Sample Matrix Spike				Run: IC3-C_210712A			07/12/21 21:17	
Chloride			882	mg/L	5.2	101	80	120			
Sulfate			5550	mg/L	21	92	80	120			
Lab ID:	**C21070280-002AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210712A			07/12/21 21:36	
Chloride			881	mg/L	5.2	101	80	120	0.1	20	
Sulfate			5530	mg/L	21	91	80	120	0.4	20	
Method:	**E300.0**									Analytical Run: IC3-C_210716A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/16/21 15:02	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272542	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210716A			07/16/21 15:22	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210716A			07/16/21 15:41	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			41.3	mg/L	1.0	103	90	110			
Lab ID:	**C21070280-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210716A			07/16/21 16:38	
Chloride			937	mg/L	5.2	101	80	120			
Sulfate			9020	mg/L	21	97	80	120			
Lab ID:	**C21070280-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210716A			07/16/21 16:57	
Chloride			975	mg/L	5.2	108	80	120	4.0	20	
Sulfate			9660	mg/L	21	129	80	120	6.9	20	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210709A	
Lab ID: ICV		Initial Calibration Verification Standard							07/09/21 10:00	
Nitrogen, Ammonia as N		1.05	mg/L	0.050	105	90	110			
Method: E350.1									Batch: R272236	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210709A			07/09/21 09:58	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210709A			07/09/21 10:01	
Nitrogen, Ammonia as N		0.923	mg/L	0.050	93	90	110			
Lab ID: C21070280-002EMS		Sample Matrix Spike				Run: FIA201-C_210709A			07/09/21 10:53	
Nitrogen, Ammonia as N		118	mg/L	2.5	85	90	110			SE
Lab ID: C21070280-002EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210709A			07/09/21 10:54	
Nitrogen, Ammonia as N		117	mg/L	2.5	84	90	110	0.4	10	SE

Qualifiers:

RL - Analyte Reporting Limit

E - Estimated value - result exceeds the instrument upper quantitation limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210712B	
Lab ID: ICV		Initial Calibration Verification Standard							07/12/21 14:22	
Nitrogen, Nitrate+Nitrite as N		0.990	mg/L	0.010	99	90	110			
Method: E353.2									Batch: R272287	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210712B			07/12/21 14:23	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210712B			07/12/21 14:24	
Nitrogen, Nitrate+Nitrite as N		0.934	mg/L	0.010	94	90	110			
Lab ID: C21070258-001AMS		Sample Matrix Spike				Run: FIA201-C_210712B			07/12/21 14:45	
Nitrogen, Nitrate+Nitrite as N		16.0	mg/L	0.050	90	90	110			
Lab ID: C21070258-001AMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210712B			07/12/21 14:46	
Nitrogen, Nitrate+Nitrite as N		15.8	mg/L	0.050	86	90	110	1.3	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210709A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/09/21 10:46	
Calcium		39.2	mg/L	0.50	98	90	110			
Magnesium		39.1	mg/L	0.50	98	90	110			
Potassium		39.1	mg/L	0.50	98	90	110			
Sodium		38.9	mg/L	0.53	97	90	110			
Method: E200.7									Batch: R272237	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210709A			07/09/21 10:25	
Calcium		0.1	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210709A			07/09/21 11:14	
Calcium		47.9	mg/L	0.50	96	85	115			
Magnesium		48.0	mg/L	0.50	96	85	115			
Potassium		47.2	mg/L	0.50	94	85	115			
Sodium		47.3	mg/L	0.54	95	85	115			
Lab ID: C21070235-001BMS2	4	Sample Matrix Spike				Run: ICP4-C_210709A			07/09/21 11:26	
Calcium		5580	mg/L	26	98	70	130			
Magnesium		5010	mg/L	1.3	99	70	130			
Potassium		4890	mg/L	26	97	70	130			
Sodium		5670	mg/L	54	98	70	130			
Lab ID: C21070235-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210709A			07/09/21 11:30	
Calcium		5560	mg/L	26	98	70	130	0.3	20	
Magnesium		4950	mg/L	1.3	98	70	130	1.1	20	
Potassium		4880	mg/L	26	97	70	130	0.3	20	
Sodium		5680	mg/L	54	98	70	130	0.2	20	
Method: E200.7									Analytical Run: ICP4-C_210713A	
Lab ID: QCS		Initial Calibration Verification Standard							07/13/21 12:24	
Manganese		4.10	mg/L	0.010	103	95	105			
Method: E200.7									Batch: 63011	
Lab ID: MB-63011		Method Blank				Run: ICP4-C_210713A			07/13/21 16:12	
Manganese		ND	mg/L	0.0008						
Lab ID: LCS3-63011		Laboratory Control Sample				Run: ICP4-C_210713A			07/13/21 16:16	
Manganese		2.36	mg/L	0.0012	94	85	115			
Lab ID: C21070280-001CMS3		Sample Matrix Spike				Run: ICP4-C_210713A			07/13/21 16:28	
Manganese		8.74	mg/L	0.012	99	70	130			
Lab ID: C21070280-001CMSD		Sample Matrix Spike Duplicate				Run: ICP4-C_210713A			07/13/21 16:32	
Manganese		8.54	mg/L	0.012	91	70	130	2.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210719A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/19/21 12:16	
Calcium		41.8	mg/L	0.50	105	90	110			
Magnesium		41.5	mg/L	0.50	104	90	110			
Potassium		41.3	mg/L	0.50	103	90	110			
Sodium		41.7	mg/L	0.53	104	90	110			
Method: E200.7										Batch: R272560
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210719A			07/19/21 11:56	
Calcium		ND	mg/L	0.2						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210719A			07/19/21 12:12	
Calcium		50.1	mg/L	0.50	100	85	115			
Magnesium		49.8	mg/L	0.50	100	85	115			
Potassium		49.4	mg/L	0.50	99	85	115			
Sodium		49.9	mg/L	0.54	100	85	115			
Lab ID: C21070280-001BMS2	4	Sample Matrix Spike				Run: ICP4-C_210719A			07/19/21 13:00	
Calcium		689	mg/L	1.3	97	70	130			
Magnesium		1590	mg/L	1.0		70	130			A
Potassium		265	mg/L	1.3	99	70	130			
Sodium		839	mg/L	2.7	96	70	130			
Lab ID: C21070280-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210719A			07/19/21 13:04	
Calcium		701	mg/L	1.3	102	70	130	1.7	20	
Magnesium		1610	mg/L	1.0		70	130	1.4	20	A
Potassium		271	mg/L	1.3	102	70	130	2.3	20	
Sodium		853	mg/L	2.7	101	70	130	1.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210714A	
Lab ID: QCS	9	Initial Calibration Verification Standard							07/14/21 12:46	
Arsenic		0.0486	mg/L	0.0010	97	90	110			
Cadmium		0.0248	mg/L	0.0010	99	90	110			
Cobalt		0.0513	mg/L	0.0050	103	90	110			
Lead		0.0476	mg/L	0.0010	95	90	110			
Manganese		0.244	mg/L	0.0010	98	90	110			
Molybdenum		0.0483	mg/L	0.0010	97	90	110			
Nickel		0.0499	mg/L	0.0050	100	90	110			
Selenium		0.0506	mg/L	0.0010	101	90	110			
Vanadium		0.0476	mg/L	0.010	95	90	110			
Method: E200.8									Batch: 63011	
Lab ID: MB-63011	12	Method Blank				Run: ICPMS5-C_210714A			07/14/21 20:49	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63011	12	Laboratory Control Sample				Run: ICPMS5-C_210714A			07/14/21 20:53	
Aluminum		2.09	mg/L	0.030	84	85	115			S
Arsenic		0.455	mg/L	0.0010	91	85	115			
Beryllium		0.193	mg/L	0.0010	77	85	115			S
Cadmium		0.240	mg/L	0.0010	96	85	115			
Cobalt		0.426	mg/L	0.0050	85	85	115			
Lead		0.464	mg/L	0.0010	93	85	115			
Manganese		2.27	mg/L	0.0010	91	85	115			
Molybdenum		0.450	mg/L	0.0010	90	85	115			
Nickel		0.456	mg/L	0.0050	91	85	115			
Selenium		0.455	mg/L	0.0010	91	85	115			
Uranium		0.448	mg/L	0.00030	90	85	115			
Vanadium		0.478	mg/L	0.010	96	85	115			
Lab ID: C21070280-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210714A			07/14/21 21:06	
Aluminum		2.55	mg/L	0.036	85	70	130			
Arsenic		0.485	mg/L	0.0010	97	70	130			
Beryllium		0.174	mg/L	0.0010	70	70	130			
Cadmium		0.223	mg/L	0.0010	89	70	130			
Cobalt		0.448	mg/L	0.0050	86	70	130			
Lead		0.473	mg/L	0.0010	94	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63011
Lab ID: C21070280-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210714A				07/14/21 21:06
Manganese		8.48	mg/L	0.0014	102	70	130			
Molybdenum		0.475	mg/L	0.0014	95	70	130			
Nickel		0.532	mg/L	0.0050	89	70	130			
Selenium		0.643	mg/L	0.0010	114	70	130			
Uranium		0.469	mg/L	0.00054	92	70	130			
Vanadium		0.486	mg/L	0.010	97	70	130			
Lab ID: C21070280-001CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210714A				07/14/21 21:24
Aluminum		2.48	mg/L	0.036	83	70	130	2.5	20	
Arsenic		0.481	mg/L	0.0010	96	70	130	0.8	20	
Beryllium		0.172	mg/L	0.0010	69	70	130	1.2	20	S
Cadmium		0.222	mg/L	0.0010	88	70	130	0.6	20	
Cobalt		0.441	mg/L	0.0050	84	70	130	1.5	20	
Lead		0.470	mg/L	0.0010	94	70	130	0.6	20	
Manganese		8.33	mg/L	0.0014	96	70	130	1.8	20	
Molybdenum		0.459	mg/L	0.0014	92	70	130	3.6	20	
Nickel		0.530	mg/L	0.0050	89	70	130	0.5	20	
Selenium		0.637	mg/L	0.0010	113	70	130	0.9	20	
Uranium		0.469	mg/L	0.00054	92	70	130	0.1	20	
Vanadium		0.482	mg/L	0.010	96	70	130	0.9	20	
Method: E200.8										Analytical Run: ICPMS5-C_210719A
Lab ID: QCS	3	Initial Calibration Verification Standard								07/19/21 10:45
Aluminum		0.253	mg/L	0.030	101	90	110			
Beryllium		0.0255	mg/L	0.0010	102	90	110			
Uranium		0.0193	mg/L	0.00030	97	90	110			
Method: E200.8										Batch: 63011
Lab ID: MB-63011	12	Method Blank				Run: ICPMS5-C_210719A				07/19/21 15:45
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210722A	
Lab ID: QCS		Initial Calibration Verification Standard							07/22/21 15:24	
Aluminum		0.251	mg/L	0.030	100	90	110			
Method: E200.8									Batch: 63011	
Lab ID: MB-63011	12	Method Blank				Run: ICPMS5-C_210722A			07/22/21 15:37	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C										Batch: RA-TH-ISO-3251
Lab ID: MB-RA-TH-ISO-3251	3	Method Blank				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.004	pCi/L							U
Thorium 230 precision (±)		0.02	pCi/L							
Thorium 230 MDC		0.04	pCi/L							
Lab ID: LCS-RA-TH-ISO-3251	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		8.7	pCi/L		91	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.045	pCi/L							
Lab ID: C21070279-002FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.12	pCi/L					110	30	UR
Thorium 230 precision (±)		0.098	pCi/L							
Thorium 230 MDC		0.15	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.69.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1298R
Lab ID: MB-GA-1298	3	Method Blank				Run: G5000W_210713A				07/16/21 12:01
Gross Alpha minus Rn & U		0.05	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.8	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1298	3	Laboratory Control Sample				Run: G5000W_210713A				07/16/21 12:01
Gross Alpha minus Rn & U		31	pCi/L		91	70	130			
Gross Alpha minus Rn & U Precision (±)		6.4	pCi/L							
Gross Alpha minus Rn & U MDC		1.4	pCi/L							
Lab ID: C21070279-001FDUP	3	Sample Duplicate				Run: G5000W_210713A				07/23/21 19:10
Gross Alpha minus Rn & U		8.9	pCi/L					18	30	
Gross Alpha minus Rn & U Precision (±)		1.9	pCi/L							
Gross Alpha minus Rn & U MDC		0.62	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226-10096	
Lab ID: LCS-RA226-10096	3	Laboratory Control Sample				Run: G542M-2_210713D			07/21/21 09:54	
Radium 226		9.9	pCi/L		97	70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.25	pCi/L							
Lab ID: MB-RA226-10096	3	Method Blank				Run: G542M-2_210713D			07/21/21 09:54	
Radium 226		-0.05	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Lab ID: C21070344-001FDUP	3	Sample Duplicate				Run: G542M-2_210713D			07/21/21 11:31	
Radium 226		1.3	pCi/L					0.9	30	
Radium 226 precision (±)		0.36	pCi/L							
Radium 226 MDC		0.26	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1276
Lab ID: LCS-PB-210-1276	3	Laboratory Control Sample				Run: TRICARB LSC_210709B				07/14/21 18:37
Lead 210		19	pCi/L		108	70	130			
Lead 210 precision (±)		5.7	pCi/L							
Lead 210 MDC		1.6	pCi/L							
Lab ID: MB-PB-210-1276	3	Method Blank				Run: TRICARB LSC_210709B				07/14/21 19:38
Lead 210		-0.1	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.9	pCi/L							
Lab ID: C21070269-001CDUP	3	Sample Duplicate				Run: TRICARB LSC_210709B				07/15/21 21:37
Lead 210		1500	pCi/L					8.1	30	
Lead 210 precision (±)		440	pCi/L							
Lead 210 MDC		14	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070280 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6537
Lab ID: LCS-228-RA226-10096	3	Laboratory Control Sample				Run: G542M_210713A			07/16/21 11:55	
Radium 228		7.6	pCi/L		95	70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		0.91	pCi/L							
Lab ID: MB-RA226-10096	3	Method Blank				Run: G542M_210713A			07/16/21 11:55	
Radium 228		0.7	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C21070344-001FDUP	3	Sample Duplicate				Run: G542M_210713A			07/16/21 11:55	
Radium 228		0.89	pCi/L					16	30	U
Radium 228 precision (±)		0.59	pCi/L							
Radium 228 MDC		0.91	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-150692-1
Client Project/Site: 11(e) Byproduct Material

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
7/16/2021 9:47:03 AM

Dylan Bieniulis, Project Manager I
(303)736-0138
Dylan.Bieniulis@Eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-150692-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Energy Laboratories, Inc.

Project: 11(e) Byproduct Material

Report Number: 280-150692-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 07/12/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 24.2 C.

All HCl preserved VOA vials received for each of the following samples contained a headspace bubble greater than 6mm in diameter: C21070280-001G (280-150692-1), C21070280-002G (280-150692-2) and C21070280-003A (280-150692-3). Analytical results may be biased low due to headspace. The laboratory will proceed with the requested analyses unless instructed otherwise. The client was notified on 7/13/2021.

Samples were received at the laboratory outside of the required receipt temperature criteria of 0-6 degrees Celsius at an elevated temperature of 24.4 degrees Celsius. The laboratory will proceed with the requested analyses unless instructed otherwise. The client was notified on 7/13/2021.

VOLATILE ORGANIC COMPOUNDS BY GC/MS

Samples C21070280-001G (280-150692-1), C21070280-002G (280-150692-2) and C21070280-003A (280-150692-3) were analyzed for Volatile Organic Compounds by GC/MS in accordance with 624.1 40CFR136A. The samples were analyzed on 07/13/2021 and 07/14/2021.

The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): C21070280-001G (280-150692-1), C21070280-002G (280-150692-2) and C21070280-003A (280-150692-3).

Samples C21070280-001G (280-150692-1)[20X] and C21070280-001G (280-150692-1)[4X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Client Sample ID: C21070280-001G — Lab Sample ID: 280-150692-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform - DL	380		20	4.4	ug/L	20		624.1	Total/NA
Trihalomethanes, Total - DL	380		20	3.1	ug/L	20		624.1	Total/NA

Client Sample ID: C21070280-002G — Lab Sample ID: 280-150692-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	64		1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	64		1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21070280-003A — Lab Sample ID: 280-150692-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL DEN

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-150692-1	C21070280-001G	Water	07/06/21 09:10	07/12/21 10:00	
280-150692-2	C21070280-002G	Water	07/06/21 10:30	07/12/21 10:00	
280-150692-3	C21070280-003A	Water	07/06/21 09:10	07/12/21 10:00	

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: C21070280-001G — **Lab Sample ID: 280-150692-1**
Date Collected: 07/06/21 09:10 — **Matrix: Water**
Date Received: 07/12/21 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		4.0	0.61	ug/L			07/13/21 15:43	4
Bromoform	ND		8.0	2.7	ug/L			07/13/21 15:43	4
Chlorodibromomethane	ND		4.0	0.86	ug/L			07/13/21 15:43	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 122*		*07/13/21 15:43*	*4*
4-Bromofluorobenzene (Surr)	*103*		*79 - 119*		*07/13/21 15:43*	*4*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/13/21 15:43*	*4*

Client Sample ID: C21070280-002G — **Lab Sample ID: 280-150692-2**
Date Collected: 07/06/21 10:30 — **Matrix: Water**
Date Received: 07/12/21 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/13/21 16:05	1
Bromoform	ND		2.0	0.67	ug/L			07/13/21 16:05	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/13/21 16:05	1
Chloroform	**64**		1.0	0.22	ug/L			07/13/21 16:05	1
Trihalomethanes, Total	**64**		1.0	0.15	ug/L			07/13/21 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*		*07/13/21 16:05*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*		*07/13/21 16:05*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/13/21 16:05*	*1*

Client Sample ID: C21070280-003A — **Lab Sample ID: 280-150692-3**
Date Collected: 07/06/21 09:10 — **Matrix: Water**
Date Received: 07/12/21 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/13/21 16:27	1
Bromoform	ND		2.0	0.67	ug/L			07/13/21 16:27	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/13/21 16:27	1
Chloroform	ND		1.0	0.22	ug/L			07/13/21 16:27	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/13/21 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 122*		*07/13/21 16:27*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*		*07/13/21 16:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/13/21 16:27*	*1*

Method: 624.1 - Volatile Organic Compounds (GC/MS) - DL

Client Sample ID: C21070280-001G — **Lab Sample ID: 280-150692-1**
Date Collected: 07/06/21 09:10 — **Matrix: Water**
Date Received: 07/12/21 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**380**		20	4.4	ug/L			07/14/21 10:24	20
Trihalomethanes, Total	**380**		20	3.1	ug/L			07/14/21 10:24	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*		*07/14/21 10:24*	*20*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*		*07/14/21 10:24*	*20*

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) - DL (Continued)

Client Sample ID: C21070280-001G
Date Collected: 07/06/21 09:10
Date Received: 07/12/21 10:00

Lab Sample ID: 280-150692-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/14/21 10:24*	*20*

Surrogate Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	**Client Sample ID**	**(73-122)**	**(79-119)**	**(80-120)**
280-150692-1	C21070280-001G	101	103	104
280-150692-1 - DL	C21070280-001G	97	101	102
280-150692-2	C21070280-002G	100	102	104
280-150692-3	C21070280-003A	99	101	104
LCS 280-542999/4	Lab Control Sample	99	102	101
LCS 280-543116/4	Lab Control Sample	100	102	102
LCSD 280-542999/5	Lab Control Sample Dup	94	102	101
LCSD 280-543116/5	Lab Control Sample Dup	99	102	101
MB 280-542999/8	Method Blank	102	100	103
MB 280-543116/8	Method Blank	102	101	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-542999/8
Matrix: Water
Analysis Batch: 542999

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			07/13/21 09:16	1
Bromoform	ND		2.0	0.67	ug/L			07/13/21 09:16	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			07/13/21 09:16	1
Chloroform	ND		1.0	0.22	ug/L			07/13/21 09:16	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			07/13/21 09:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*73 - 122*		*07/13/21 09:16*	*1*
4-Bromofluorobenzene (Surr)	*100*		*79 - 119*		*07/13/21 09:16*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/13/21 09:16*	*1*

Lab Sample ID: LCS 280-542999/4
Matrix: Water
Analysis Batch: 542999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	50.0	47.2		ug/L		94	65 - 135
Bromoform	50.0	44.0		ug/L		88	70 - 130
Chlorodibromomethane	50.0	46.7		ug/L		93	70 - 135
Chloroform	50.0	52.4		ug/L		105	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 122*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 280-542999/5
Matrix: Water
Analysis Batch: 542999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	50.0	45.7		ug/L		91	65 - 135	3	30
Bromoform	50.0	43.7		ug/L		87	70 - 130	1	30
Chlorodibromomethane	50.0	46.7		ug/L		93	70 - 135	0	30
Chloroform	50.0	52.3		ug/L		105	70 - 135	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 122*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 280-543116/8
Matrix: Water
Analysis Batch: 543116

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.22	ug/L			07/14/21 09:33	1

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-543116/8
Matrix: Water
Analysis Batch: 543116

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*73 - 122*		*07/14/21 09:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*79 - 119*		*07/14/21 09:33*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/21 09:33*	*1*

Lab Sample ID: LCS 280-543116/4
Matrix: Water
Analysis Batch: 543116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloroform			50.0	53.0		ug/L		106	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 280-543116/5
Matrix: Water
Analysis Batch: 543116

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			50.0	53.5		ug/L		107	70 - 135	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 122*
4-Bromofluorobenzene (Surr)	*102*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

GC/MS VOA

Analysis Batch: 542999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-150692-1	C21070280-001G	Total/NA	Water	624.1	
280-150692-2	C21070280-002G	Total/NA	Water	624.1	
280-150692-3	C21070280-003A	Total/NA	Water	624.1	
MB 280-542999/8	Method Blank	Total/NA	Water	624.1	
LCS 280-542999/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-542999/5	Lab Control Sample Dup	Total/NA	Water	624.1	

Analysis Batch: 543116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-150692-1 - DL	C21070280-001G	Total/NA	Water	624.1	
MB 280-543116/8	Method Blank	Total/NA	Water	624.1	
LCS 280-543116/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-543116/5	Lab Control Sample Dup	Total/NA	Water	624.1	

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Client Sample ID: C21070280-001G

Lab Sample ID: 280-150692-1
Matrix: Water

Date Collected: 07/06/21 09:10
Date Received: 07/12/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		4	5 mL	5 mL	542999	07/13/21 15:43	AJP	TAL DEN
Total/NA	Analysis	624.1	DL	20	5 mL	5 mL	543116	07/14/21 10:24	RJS	TAL DEN

Client Sample ID: C21070280-002G

Lab Sample ID: 280-150692-2
Matrix: Water

Date Collected: 07/06/21 10:30
Date Received: 07/12/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	542999	07/13/21 16:05	AJP	TAL DEN

Client Sample ID: C21070280-003A

Lab Sample ID: 280-150692-3
Matrix: Water

Date Collected: 07/06/21 09:10
Date Received: 07/12/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	542999	07/13/21 16:27	AJP	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-150692-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ANALYTICAL SUMMARY REPORT

August 13, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070550 Quote ID: C6117

Project Name: UNC - Zone 1

Energy Laboratories, Inc. Casper WY received the following 7 samples for United Nuclear Corporation on 7/14/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070550-001	EPA-7	07/12/21 9:12	07/14/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070550-002	EPA-5	07/12/21 10:06	07/14/21	Aqueous	Same As Above
C21070550-003	EPA-4	07/12/21 11:21	07/14/21	Aqueous	Same As Above
C21070550-004	EPA-2	07/12/21 12:37	07/14/21	Aqueous	Same As Above
C21070550-005	EPA-2 Duplicate	07/12/21 13:11	07/14/21	Aqueous	Same As Above
C21070550-006	TWQ-142	07/12/21 13:48	07/14/21	Aqueous	Same As Above
C21070550-007	Trip Blank-79121	07/12/21 9:12	07/14/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.13 15:21:18 -06:00

CLIENT: United Nuclear Corporation
Project: UNC - Zone 1
Work Order: C21070550

Report Date: 08/13/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R364284	
Lab ID: CCV072021	7	Continuing Calibration Verification Standard							07/20/21 09:36	
Bromodichloromethane		4.87	ug/L	0.50	97	70	130			
Bromoform		4.90	ug/L	0.50	98	70	130			
Chlorodibromomethane		4.86	ug/L	0.50	97	70	130			
Chloroform		4.84	ug/L	0.50	97	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	111	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	99	80	123			
Method: E624.1									Batch: R364284	
Lab ID: LCS072021	7	Laboratory Control Sample				Run: SV5972.I_210720A			07/20/21 10:01	
Bromodichloromethane		4.80	ug/L	0.50	96	74	128			
Bromoform		4.79	ug/L	0.50	96	70	130			
Chlorodibromomethane		4.75	ug/L	0.50	95	74	125			
Chloroform		4.57	ug/L	0.50	91	70	135			
Surr: 1,2-Dichloroethane-d4				0.50	107	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	101	80	123			
Lab ID: MBLK072021	7	Method Blank				Run: SV5972.I_210720A			07/20/21 10:51	
Bromodichloromethane		ND	ug/L	0.50						
Bromoform		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4				0.50	110	71	139			
Surr: p-Bromofluorobenzene				0.50	105	80	127			
Surr: Toluene-d8				0.50	101	80	123			
Lab ID: C21070550-001GMS	7	Sample Matrix Spike				Run: SV5972.I_210720A			07/20/21 16:40	
Bromodichloromethane		4.83	ug/L	0.50	97	74	128			
Bromoform		5.07	ug/L	0.50	101	66	128			
Chlorodibromomethane		4.67	ug/L	0.50	93	74	125			
Chloroform		4.90	ug/L	0.50	91	68	124			
Surr: 1,2-Dichloroethane-d4				0.50	112	71	139			
Surr: p-Bromofluorobenzene				0.50	105	80	127			
Surr: Toluene-d8				0.50	98	80	123			
Lab ID: C21070550-001GMSD	7	Sample Matrix Spike Duplicate				Run: SV5972.I_210720A			07/20/21 17:06	
Bromodichloromethane		5.23	ug/L	0.50	105	74	128	7.9	20	
Bromoform		5.39	ug/L	0.50	108	66	128	6.1	20	
Chlorodibromomethane		5.16	ug/L	0.50	103	74	125	9.9	20	
Chloroform		5.41	ug/L	0.50	102	68	124	10	20	
Surr: 1,2-Dichloroethane-d4				0.50	114	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	99	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210715B	
Lab ID: ICV		Initial Calibration Verification Standard							07/15/21 16:08	
pH		6.88	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R272484	
Lab ID: MBLK		Method Blank				Run: MANTECH_210715B			07/15/21 19:14	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210715B			07/15/21 19:22	
Alkalinity, Total as CaCO3		254	mg/L	5.0	101	90	110			
Lab ID: C21070491-005ADUP		Sample Duplicate				Run: MANTECH_210715B			07/15/21 19:38	
Alkalinity, Total as CaCO3		152	mg/L	5.0				0.7	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210715A
Lab ID: MB-1_210715A		Method Blank				Run: BAL-111_210715A			07/15/21 11:28	
Solids, Total Dissolved TDS @ 180 C		7	mg/L	5						
Lab ID: LCS-2_210715A		Laboratory Control Sample				Run: BAL-111_210715A			07/15/21 11:28	
Solids, Total Dissolved TDS @ 180 C		1010	mg/L	10	101	90	110			
Lab ID: C21070550-006A DUP		Sample Duplicate				Run: BAL-111_210715A			07/15/21 11:52	
Solids, Total Dissolved TDS @ 180 C		1370	mg/L	19				0.2	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210715A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/15/21 11:31	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.8	°C			0	0			
Method: A4500-H B									Batch: R272444	
Lab ID: C21070550-005ADUP	2	Sample Duplicate				Run: PHSC_101-C_210715A			07/15/21 12:51	
pH		6.8	s.u.	0.1				0.3	1.5	
pH Measurement Temp		13.1	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210716A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/16/21 15:02	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			41.9	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272542	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210716A			07/16/21 15:22	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210716A			07/16/21 15:41	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			41.3	mg/L	1.0	103	90	110			
Lab ID:	**C21070523-017AMS**	2	Sample Matrix Spike				Run: IC3-C_210716A			07/17/21 10:32	
Chloride			28.3	mg/L	1.0	62	80	120			S
Sulfate			74.1	mg/L	1.0	66	80	120			S
Lab ID:	**C21070523-017AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210716A			07/17/21 10:51	
Chloride			28.4	mg/L	1.0	63	80	120	0.4	20	S
Sulfate			74.1	mg/L	1.0	67	80	120	0.1	20	S
Method:	**E300.0**									Analytical Run: IC3-C_210728A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/28/21 13:53	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.8	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272902	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210728A			07/28/21 14:12	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210728A			07/28/21 14:31	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			42.0	mg/L	1.0	105	90	110			
Lab ID:	**C21070807-002AMS**	2	Sample Matrix Spike				Run: IC3-C_210728A			07/28/21 15:28	
Chloride			1240	mg/L	5.2	96	80	120			
Sulfate			6850	mg/L	21	93	80	120			
Lab ID:	**C21070807-002AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210728A			07/28/21 15:48	
Chloride			1310	mg/L	5.2	109	80	120	5.4	20	
Sulfate			7100	mg/L	21	105	80	120	3.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210715A	
Lab ID: ICV		Initial Calibration Verification Standard							07/15/21 11:45	
Nitrogen, Ammonia as N		1.06	mg/L	0.050	106	90	110			
Method: E350.1									Batch: R272461	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210715A			07/15/21 11:44	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210715A			07/15/21 11:46	
Nitrogen, Ammonia as N		0.910	mg/L	0.050	92	90	110			
Lab ID: C21070555-004EMS		Sample Matrix Spike				Run: FIA201-C_210715A			07/15/21 13:29	
Nitrogen, Ammonia as N		0.808	mg/L	0.050	77	90	110			S
Lab ID: C21070555-004EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210715A			07/15/21 13:30	
Nitrogen, Ammonia as N		0.806	mg/L	0.050	77	90	110	0.3	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/30/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210719A	
Lab ID: ICV		Initial Calibration Verification Standard							07/19/21 12:50	
Nitrogen, Nitrate+Nitrite as N		0.991	mg/L	0.010	99	90	110			
Method: E353.2									Batch: R272573	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210719A			07/19/21 12:52	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210719A			07/19/21 12:53	
Nitrogen, Nitrate+Nitrite as N		0.972	mg/L	0.010	98	90	110			
Lab ID: C21070550-006EMS		Sample Matrix Spike				Run: FIA201-C_210719A			07/19/21 13:18	
Nitrogen, Nitrate+Nitrite as N		1.41	mg/L	0.010	100	90	110			
Lab ID: C21070550-006EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210719A			07/19/21 13:19	
Nitrogen, Nitrate+Nitrite as N		1.43	mg/L	0.010	102	90	110	1.4	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210715A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/15/21 12:55	
Calcium		40.8	mg/L	0.50	102	95	105			
Magnesium		40.3	mg/L	0.50	101	95	105			
Potassium		41.5	mg/L	0.50	104	95	105			
Sodium		41.0	mg/L	0.53	103	95	105			
Method: E200.7									Batch: R272450	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210715A			07/15/21 10:39	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	0.2						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210715A			07/15/21 10:55	
Calcium		53.9	mg/L	0.50	108	85	115			
Magnesium		53.9	mg/L	0.50	108	85	115			
Potassium		52.2	mg/L	0.50	104	85	115			
Sodium		53.0	mg/L	0.54	106	85	115			
Lab ID: C21070550-005BMS2	4	Sample Matrix Spike				Run: ICP4-C_210715A			07/15/21 14:10	
Calcium		755	mg/L	1.3	102	70	130			
Magnesium		499	mg/L	1.0	103	70	130			
Potassium		271	mg/L	1.3	105	70	130			
Sodium		493	mg/L	2.7	102	70	130			
Lab ID: C21070550-005BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210715A			07/15/21 14:22	
Calcium		754	mg/L	1.3	101	70	130	0.1	20	
Magnesium		499	mg/L	1.0	102	70	130	0.1	20	
Potassium		270	mg/L	1.3	105	70	130	0.3	20	
Sodium		491	mg/L	2.7	101	70	130	0.4	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210719A	
Lab ID: QCS	11	Initial Calibration Verification Standard							07/19/21 10:45	
Aluminum		0.253	mg/L	0.030	101	90	110			
Arsenic		0.0493	mg/L	0.0010	99	90	110			
Beryllium		0.0255	mg/L	0.0010	102	90	110			
Cadmium		0.0244	mg/L	0.0010	98	90	110			
Cobalt		0.0506	mg/L	0.0050	101	90	110			
Lead		0.0489	mg/L	0.0010	98	90	110			
Manganese		0.254	mg/L	0.0010	102	90	110			
Molybdenum		0.0484	mg/L	0.0010	97	90	110			
Nickel		0.0505	mg/L	0.0050	101	90	110			
Selenium		0.0504	mg/L	0.0010	101	90	110			
Vanadium		0.0480	mg/L	0.010	96	90	110			
Method: E200.8										Batch: 63096
Lab ID: MB-63096	12	Method Blank				Run: ICPMS5-C_210719A			07/19/21 18:33	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		0.0003	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63096	12	Laboratory Control Sample				Run: ICPMS5-C_210719A			07/19/21 18:37	
Aluminum		2.30	mg/L	0.030	92	85	115			
Arsenic		0.478	mg/L	0.0010	96	85	115			
Beryllium		0.224	mg/L	0.0010	90	85	115			
Cadmium		0.258	mg/L	0.0010	103	85	115			
Cobalt		0.447	mg/L	0.0050	89	85	115			
Lead		0.477	mg/L	0.0010	95	85	115			
Manganese		2.40	mg/L	0.0010	96	85	115			
Molybdenum		0.486	mg/L	0.0010	97	85	115			
Nickel		0.498	mg/L	0.0050	100	85	115			
Selenium		0.503	mg/L	0.0010	101	85	115			
Uranium		0.511	mg/L	0.00030	102	85	115			
Vanadium		0.483	mg/L	0.010	97	85	115			
Lab ID: C21070518-001BMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210719A			07/19/21 19:34	
Aluminum		2.49	mg/L	0.036	95	70	130			
Arsenic		0.493	mg/L	0.0010	99	70	130			
Beryllium		0.230	mg/L	0.0010	92	70	130			
Cadmium		0.253	mg/L	0.0010	101	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63096
Lab ID: C21070518-001BMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210719A				07/19/21 19:34
Cobalt		0.456	mg/L	0.0050	91	70	130			
Lead		0.499	mg/L	0.0010	100	70	130			
Manganese		2.41	mg/L	0.0014	95	70	130			
Molybdenum		0.465	mg/L	0.0014	93	70	130			
Nickel		0.486	mg/L	0.0050	97	70	130			
Selenium		0.524	mg/L	0.0010	105	70	130			
Uranium		0.530	mg/L	0.00054	105	70	130			
Vanadium		0.489	mg/L	0.010	98	70	130			
Lab ID: C21070518-001BMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210719A				07/19/21 19:39
Aluminum		2.47	mg/L	0.036	94	70	130	0.8	20	
Arsenic		0.491	mg/L	0.0010	98	70	130	0.3	20	
Beryllium		0.227	mg/L	0.0010	91	70	130	1.2	20	
Cadmium		0.256	mg/L	0.0010	103	70	130	1.2	20	
Cobalt		0.455	mg/L	0.0050	91	70	130	0.2	20	
Lead		0.494	mg/L	0.0010	99	70	130	0.9	20	
Manganese		2.42	mg/L	0.0014	96	70	130	0.4	20	
Molybdenum		0.467	mg/L	0.0014	93	70	130	0.4	20	
Nickel		0.485	mg/L	0.0050	97	70	130	0.2	20	
Selenium		0.526	mg/L	0.0010	105	70	130	0.2	20	
Uranium		0.528	mg/L	0.00054	105	70	130	0.4	20	
Vanadium		0.487	mg/L	0.010	97	70	130	0.4	20	
Method: E200.8										Analytical Run: ICPMS5-C_210721A
Lab ID: QCS		Initial Calibration Verification Standard								07/21/21 11:31
Uranium		0.0193	mg/L	0.00030	97	90	110			
Method: E200.8										Batch: 63096
Lab ID: MB-63096	12	Method Blank				Run: ICPMS5-C_210721A				07/21/21 14:12
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 07/27/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.8**										Batch: 63204
Lab ID:	**LCS3-63204**	2	Laboratory Control Sample				Run: ICPMS5-C_210722A				07/22/21 21:48
Aluminum			2.18	mg/L	0.030	87	85	115			
Uranium			0.510	mg/L	0.00030	102	85	115			
Lab ID:	**C21070550-001CMS3**	2	Sample Matrix Spike				Run: ICPMS5-C_210722A				07/22/21 22:01
Aluminum			2.45	mg/L	0.030	84	70	130			
Uranium			0.538	mg/L	0.00030	107	70	130			
Lab ID:	**C21070550-001CMSD**	2	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210722A				07/22/21 22:05
Aluminum			2.49	mg/L	0.030	85	70	130	1.6	20	
Uranium			0.533	mg/L	0.00030	106	70	130	1.0	20	
Method:	**E200.8**										Analytical Run: ICPMS5-C_210726A
Lab ID:	**QCS**	2	Initial Calibration Verification Standard								07/26/21 11:00
Aluminum			0.252	mg/L	0.030	101	90	110			
Uranium			0.0190	mg/L	0.00030	95	90	110			
Method:	**E200.8**										Batch: 63204
Lab ID:	**MB-63204**	2	Method Blank				Run: ICPMS5-C_210726A				07/26/21 15:00
Aluminum			ND	mg/L	0.02						
Uranium			ND	mg/L	0.0003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3259	
Lab ID: MB-RA-TH-ISO-3259	3	Method Blank				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		0.05	pCi/L							
Thorium 230 precision (±)		0.02	pCi/L							
Thorium 230 MDC		0.02	pCi/L							
Lab ID: LCS-RA-TH-ISO-3259	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		9.5	pCi/L		99	70	130			
Thorium 230 precision (±)		1.8	pCi/L							
Thorium 230 MDC		0.044	pCi/L							
Lab ID: C21070649-001BDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		0.11	pCi/L					180	30	R
Thorium 230 precision (±)		0.056	pCi/L							
Thorium 230 MDC		0.079	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.61.

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1299
Lab ID: MB-GA-1299	3	Method Blank				Run: G542M-2_210716A				07/19/21 08:07
Gross Alpha minus Rn & U		-0.6	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.6	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1299	3	Laboratory Control Sample				Run: G542M-2_210716A				07/19/21 08:07
Gross Alpha minus Rn & U		31	pCi/L		91	70	130			
Gross Alpha minus Rn & U Precision (±)		6.2	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							
Lab ID: C21070471-001FDUP	3	Sample Duplicate				Run: G542M-2_210716A				07/19/21 08:07
Gross Alpha minus Rn & U		9.4	pCi/L					8.1	30	
Gross Alpha minus Rn & U Precision (±)		2.2	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							
Lab ID: C21070606-004FDUP	3	Sample Duplicate				Run: G542M-2_210716A				07/19/21 09:40
Gross Alpha minus Rn & U		0.11	pCi/L					340	30	UR
Gross Alpha minus Rn & U Precision (±)		0.77	pCi/L							
Gross Alpha minus Rn & U MDC		1.3	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.47.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10099
Lab ID: LCS-RA226-10099	3	Laboratory Control Sample				Run: TENNELEC-3_210714A				07/26/21 10:22
Radium 226		11	pCi/L		104	70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.15	pCi/L							
Lab ID: MB-RA226-10099	3	Method Blank				Run: TENNELEC-3_210714A				07/26/21 10:22
Radium 226		0.4	pCi/L							
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Lab ID: C21070560-004FDUP	3	Sample Duplicate				Run: TENNELEC-3_210714A				07/26/21 11:56
Radium 226		2.0	pCi/L					0.9	30	
Radium 226 precision (±)		0.46	pCi/L							
Radium 226 MDC		0.16	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1278	
Lab ID: LCS-PB-210-1278	3	Laboratory Control Sample				Run: TRICARB LSC_210715B			07/23/21 13:59	
Lead 210		17	pCi/L		100	70	130			
Lead 210 precision (±)		5.3	pCi/L							
Lead 210 MDC		1.4	pCi/L							
Lab ID: MB-PB-210-1278	3	Method Blank				Run: TRICARB LSC_210715B			07/23/21 14:57	
Lead 210		0.5	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.8	pCi/L							
Lab ID: C21070471-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_210715B			07/24/21 01:22	
Lead 210		0.025	pCi/L					160	30	UR
Lead 210 precision (±)		0.48	pCi/L							
Lead 210 MDC		0.81	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.30.

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1283	
Lab ID: LCS-PB-210-1283	3	Laboratory Control Sample				Run: TRICARB LSC_210721B			08/08/21 01:05	
Lead 210		17	pCi/L		98	70	130			
Lead 210 precision (±)		5.2	pCi/L							
Lead 210 MDC		1.4	pCi/L							
Lab ID: MB-PB-210-1283	3	Method Blank				Run: TRICARB LSC_210721B			08/08/21 02:03	
Lead 210		0.3	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.8	pCi/L							
Lab ID: C21070763-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_210721B			08/09/21 21:45	
Lead 210		0.032	pCi/L					180	30	UR
Lead 210 precision (±)		0.46	pCi/L							
Lead 210 MDC		0.77	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.67.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070550 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6540
Lab ID: LCS-228-RA226-10099	3	Laboratory Control Sample				Run: TENNELEC-4_210715A			07/19/21 15:47	
Radium 228		7.1	pCi/L		89	70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		0.95	pCi/L							
Lab ID: MB-RA226-10099	3	Method Blank				Run: TENNELEC-4_210715A			07/19/21 15:47	
Radium 228		-0.5	pCi/L							U
Radium 228 precision (±)		0.5	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C21070560-004FDUP	3	Sample Duplicate				Run: TENNELEC-4_210715A			07/19/21 15:47	
Radium 228		0.63	pCi/L					57	30	UR
Radium 228 precision (±)		0.64	pCi/L							
Radium 228 MDC		1.0	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.31.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

ANALYTICAL SUMMARY REPORT

August 13, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070279 Quote ID: C6117

Project Name: UNC-Zone 3

Energy Laboratories, Inc. Casper WY received the following 5 samples for United Nuclear Corporation on 7/8/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070279-001	711	07/06/21 12:33	07/08/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070279-002	EPA-13	07/06/21 13:55	07/08/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics

ANALYTICAL SUMMARY REPORT

C21070279-003	MW-7	07/07/21 9:02	07/08/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070279-004	NW-3	07/07/21 10:10	07/08/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070279-005	Trip Blank-79121	07/06/21 12:33	07/08/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.13 15:18:41 -06:00

CLIENT: United Nuclear Corporation
Project: UNC-Zone 3
Work Order: C21070279

Report Date: 08/13/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B									Analytical Run: ACIDITY_210714A	
Lab ID: ICV		Initial Calibration Verification Standard							07/14/21 11:40	
pH		6.83	s.u.		1	98	102			
Method: A2310 B									Batch: ACID210714_A	
Lab ID: MBLK		Method Blank				Run: ACIDITY_210714A			07/14/21 11:49	
Acidity, Total as CaCO3		1	mg/L							
Lab ID: LCS		Laboratory Control Sample				Run: ACIDITY_210714A			07/14/21 12:00	
Acidity, Total as CaCO3		810	mg/L		1.03	90	110			
Lab ID: C21070218-002A DUP		Sample Duplicate				Run: ACIDITY_210714A			07/14/21 12:22	
Acidity, Total as CaCO3		1165	mg/L					0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2320 B**									Analytical Run: MANTECH_210712A	
Lab ID: **ICV**		Initial Calibration Verification Standard							07/12/21 11:58	
pH		6.85	s.u.		1	98	102			
Method: **A2320 B**									Batch: R272308	
Lab ID: **MBLK**		Method Blank				Run: MANTECH_210712A			07/12/21 12:03	
Alkalinity, Total as CaCO3		0	mg/L							
Lab ID: **LCS**		Laboratory Control Sample				Run: MANTECH_210712A			07/12/21 12:11	
Alkalinity, Total as CaCO3		251.28	mg/L		1.01	90	110			
Lab ID: **C21070313-001ADUP**		Sample Duplicate				Run: MANTECH_210712A			07/12/21 13:38	
Alkalinity, Total as CaCO3		14.11	mg/L					.00141844	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210709A
Lab ID: MB-25_210709A		Method Blank				Run: BAL-111_210709A				07/09/21 13:42
Solids, Total Dissolved TDS @ 180 C		0	mg/L							
Lab ID: LCS-26_210709A		Laboratory Control Sample				Run: BAL-111_210709A				07/09/21 13:42
Solids, Total Dissolved TDS @ 180 C		999.7	mg/L	1		90	110			
Lab ID: C21070279-001A DUP		Sample Duplicate				Run: BAL-111_210709A				07/09/21 13:46
Solids, Total Dissolved TDS @ 180 C		5849.29	mg/L					.00213554	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210709A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/09/21 10:45	
pH		6.89	s.u.		1	98	102			
pH Measurement Temp		22.2	°C		0	0	0			
Method: A4500-H B									Batch: R272230	
Lab ID: C21070284-001ADUP	2	Sample Duplicate				Run: PHSC_101-C_210709A			07/09/21 12:25	
pH		7.92	s.u.					.00126342	1.5	
pH Measurement Temp		13.6	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC3-C_210712A		
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/12/21 15:13	
Chloride			10.626	mg/L		1.06	90	110			
Sulfate			41.787	mg/L		1.04	90	110			
Method:	**E300.0**									Batch: R272393	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210712A			07/12/21 15:32	
Chloride			0	mg/L							
Sulfate			0	mg/L							
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210712A			07/12/21 15:51	
Chloride			10.472	mg/L		1.05	90	110			
Sulfate			41.721	mg/L		1.04	90	110			
Lab ID:	**C21070272-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210712A			07/12/21 16:49	
Chloride			271.482	mg/L		1.04	80	120			
Sulfate			1967.18	mg/L		0.95	80	120			
Lab ID:	**C21070272-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210712A			07/12/21 17:08	
Chloride			271.939	mg/L		1.04	80	120	.00168415	20	
Sulfate			1961.4	mg/L		0.94	80	120	.00294376	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210709A	
Lab ID: ICV		Initial Calibration Verification Standard							07/09/21 10:00	
Nitrogen, Ammonia as N		1.05	mg/L		1.05	90	110			
Method: E350.1									Batch: R272236	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210709A			07/09/21 09:58	
Nitrogen, Ammonia as N		0	mg/L							
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210709A			07/09/21 10:01	
Nitrogen, Ammonia as N		0.923	mg/L		0.93	90	110			
Lab ID: C21070218-006EMS		Sample Matrix Spike				Run: FIA201-C_210709A			07/09/21 10:37	
Nitrogen, Ammonia as N		0.89385	mg/L		0.86	90	110			S
Lab ID: C21070218-006EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210709A			07/09/21 10:38	
Nitrogen, Ammonia as N		0.91405	mg/L		0.88	90	110	0.0223464	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/19/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210712B	
Lab ID: ICV		Initial Calibration Verification Standard							07/12/21 14:22	
Nitrogen, Nitrate+Nitrite as N		0.99	mg/L		0.99	90	110			
Method: E353.2									Batch: R272287	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210712B			07/12/21 14:23	
Nitrogen, Nitrate+Nitrite as N		0	mg/L							
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210712B			07/12/21 14:24	
Nitrogen, Nitrate+Nitrite as N		0.934	mg/L		0.94	90	110			
Lab ID: C21070258-001AMS		Sample Matrix Spike				Run: FIA201-C_210712B			07/12/21 14:45	
Nitrogen, Nitrate+Nitrite as N		15.958	mg/L		0.9	90	110			
Lab ID: C21070258-001AMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210712B			07/12/21 14:46	
Nitrogen, Nitrate+Nitrite as N		15.756	mg/L		0.86	90	110	0.0127389	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210709A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/09/21 10:46	
Calcium		39.2	mg/L	0.50	98	90	110			
Magnesium		39.1	mg/L	0.50	98	90	110			
Potassium		39.1	mg/L	0.50	98	90	110			
Sodium		38.9	mg/L	0.53	97	90	110			
Method: E200.7									Batch: R272237	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210709A			07/09/21 10:25	
Calcium		0.1	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210709A			07/09/21 11:14	
Calcium		47.9	mg/L	0.50	96	85	115			
Magnesium		48.0	mg/L	0.50	96	85	115			
Potassium		47.2	mg/L	0.50	94	85	115			
Sodium		47.3	mg/L	0.54	95	85	115			
Lab ID: C21070235-001BMS2	4	Sample Matrix Spike				Run: ICP4-C_210709A			07/09/21 11:26	
Calcium		5580	mg/L	26	98	70	130			
Magnesium		5010	mg/L	1.3	99	70	130			
Potassium		4890	mg/L	26	97	70	130			
Sodium		5670	mg/L	54	98	70	130			
Lab ID: C21070235-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210709A			07/09/21 11:30	
Calcium		5560	mg/L	26	98	70	130	0.3	20	
Magnesium		4950	mg/L	1.3	98	70	130	1.1	20	
Potassium		4880	mg/L	26	97	70	130	0.3	20	
Sodium		5680	mg/L	54	98	70	130	0.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210715A	
Lab ID: QCS	8	Initial Calibration Verification Standard							07/15/21 13:34	
Arsenic		0.0494	mg/L	0.0010	99	90	110			
Cadmium		0.0243	mg/L	0.0010	97	90	110			
Lead		0.0480	mg/L	0.0010	96	90	110			
Manganese		0.251	mg/L	0.0010	100	90	110			
Molybdenum		0.0469	mg/L	0.0010	94	90	110			
Nickel		0.0508	mg/L	0.0050	102	90	110			
Selenium		0.0513	mg/L	0.0010	103	90	110			
Uranium		0.0181	mg/L	0.00030	90	90	110			
Method: E200.8										Batch: 63001
Lab ID: MB-63001	8	Method Blank				Run: ICPMS5-C_210715A			07/15/21 20:25	
Arsenic		ND	mg/L	0.0003						
Cadmium		ND	mg/L	0.00002						
Lead		0.0002	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Lab ID: LCS3-63001	8	Laboratory Control Sample				Run: ICPMS5-C_210715A			07/15/21 20:29	
Arsenic		0.458	mg/L	0.0010	92	85	115			
Cadmium		0.242	mg/L	0.0010	97	85	115			
Lead		0.481	mg/L	0.0010	96	85	115			
Manganese		2.35	mg/L	0.0010	94	85	115			
Molybdenum		0.443	mg/L	0.0010	89	85	115			
Nickel		0.471	mg/L	0.0050	94	85	115			
Selenium		0.456	mg/L	0.0010	91	85	115			
Uranium		0.483	mg/L	0.00030	97	85	115			
Lab ID: C21070269-002EMS3	8	Sample Matrix Spike				Run: ICPMS5-C_210715A			07/15/21 21:56	
Arsenic		1.16	mg/L	0.0028	87	70	130			
Cadmium		0.235	mg/L	0.0010	86	70	130			
Lead		0.666	mg/L	0.0010	95	70	130			
Manganese		38.2	mg/L	0.0070		70	130			A
Molybdenum		0.809	mg/L	0.0068	94	70	130			
Nickel		3.46	mg/L	0.0050		70	130			A
Selenium		0.593	mg/L	0.0017	109	70	130			
Uranium		0.564	mg/L	0.0027	99	70	130			
Lab ID: C21070269-002EMSD	8	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210715A			07/15/21 22:00	
Arsenic		1.19	mg/L	0.0028	92	70	130	2.5	20	
Cadmium		0.246	mg/L	0.0010	90	70	130	4.8	20	
Lead		0.690	mg/L	0.0010	100	70	130	3.7	20	
Manganese		38.8	mg/L	0.0070		70	130	1.5	20	A
Molybdenum		0.816	mg/L	0.0068	95	70	130	0.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63001
Lab ID: C21070269-002EMSD	8	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210715A			07/15/21 22:00	
Nickel		3.57	mg/L	0.0050		70	130	3.1	20	A
Selenium		0.627	mg/L	0.0017	116	70	130	5.7	20	
Uranium		0.594	mg/L	0.0027	105	70	130	5.2	20	
Method: E200.8										Analytical Run: ICPMS5-C_210721A
Lab ID: QCS	4	Initial Calibration Verification Standard							07/21/21 23:49	
Aluminum		0.248	mg/L	0.030	99	90	110			
Cobalt		0.0507	mg/L	0.0050	101	90	110			
Manganese		0.248	mg/L	0.0010	99	90	110			
Vanadium		0.0481	mg/L	0.010	96	90	110			
Method: E200.8										Batch: 63144
Lab ID: MB-63144	4	Method Blank				Run: ICPMS5-C_210721A			07/21/21 21:53	
Aluminum		ND	mg/L	0.02						
Cobalt		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63144	5	Laboratory Control Sample				Run: ICPMS5-C_210721A			07/21/21 21:58	
Aluminum		2.27	mg/L	0.030	91	85	115			
Beryllium		0.227	mg/L	0.0010	91	85	115			
Cobalt		0.480	mg/L	0.0050	96	85	115			
Manganese		2.38	mg/L	0.0010	95	85	115			
Vanadium		0.473	mg/L	0.010	95	85	115			
Lab ID: C21070239-002AMS3	5	Sample Matrix Spike				Run: ICPMS5-C_210721A			07/22/21 00:11	
Aluminum		2.88	mg/L	0.18	87	70	130			
Beryllium		0.192	mg/L	0.0010	77	70	130			
Cobalt		0.464	mg/L	0.0050	92	70	130			
Manganese		2.43	mg/L	0.0070	95	70	130			
Vanadium		0.490	mg/L	0.025	98	70	130			
Lab ID: C21070239-002AMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210721A			07/22/21 00:42	
Aluminum		2.96	mg/L	0.18	90	70	130	2.9	20	
Beryllium		0.195	mg/L	0.0010	78	70	130	1.1	20	
Cobalt		0.471	mg/L	0.0050	94	70	130	1.5	20	
Manganese		2.44	mg/L	0.0070	95	70	130	0.5	20	
Vanadium		0.489	mg/L	0.025	98	70	130	0.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210722A	
Lab ID: QCS	2	Initial Calibration Verification Standard							07/22/21 15:24	
Aluminum		0.251	mg/L	0.030	100	90	110			
Beryllium		0.0256	mg/L	0.0010	103	90	110			
Method: E200.8									Batch: 63144	
Lab ID: MB-63144	2	Method Blank				Run: ICPMS5-C_210722A			07/22/21 15:50	
Aluminum		ND	mg/L	0.02						
Beryllium		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3251	
Lab ID: MB-RA-TH-ISO-3251	3	Method Blank				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.004	pCi/L							U
Thorium 230 precision (±)		0.02	pCi/L							
Thorium 230 MDC		0.04	pCi/L							
Lab ID: LCS-RA-TH-ISO-3251	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		8.7	pCi/L		91	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.045	pCi/L							
Lab ID: C21070279-002FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210713B			07/15/21 16:55	
Thorium 230		0.12	pCi/L					110	30	UR
Thorium 230 precision (±)		0.098	pCi/L							
Thorium 230 MDC		0.15	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.69.										
Method: A7500-U C									Batch: RA-TH-ISO-3252	
Lab ID: MB-RA-TH-ISO-3252	3	Method Blank				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		0.1	pCi/L							U
Thorium 230 precision (±)		0.1	pCi/L							
Thorium 230 MDC		0.2	pCi/L							
Lab ID: LCS-RA-TH-ISO-3252	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		9.1	pCi/L		95	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.13	pCi/L							
Lab ID: C21070279-003FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210713C			07/16/21 12:26	
Thorium 230		0.17	pCi/L					240	30	UR
Thorium 230 precision (±)		0.22	pCi/L							
Thorium 230 MDC		0.35	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.59.										

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1298R
Lab ID: MB-GA-1298	3	Method Blank				Run: G5000W_210713A			07/16/21 12:01	
Gross Alpha minus Rn & U		0.05	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.8	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1298	3	Laboratory Control Sample				Run: G5000W_210713A			07/16/21 12:01	
Gross Alpha minus Rn & U		31	pCi/L		91	70	130			
Gross Alpha minus Rn & U Precision (±)		6.4	pCi/L							
Gross Alpha minus Rn & U MDC		1.4	pCi/L							
Lab ID: C21070279-001FDUP	3	Sample Duplicate				Run: G5000W_210713A			07/23/21 19:10	
Gross Alpha minus Rn & U		8.9	pCi/L					18	30	
Gross Alpha minus Rn & U Precision (±)		1.9	pCi/L							
Gross Alpha minus Rn & U MDC		0.62	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226-10096	
Lab ID: LCS-RA226-10096	3	Laboratory Control Sample				Run: G542M-2_210713D			07/21/21 09:54	
Radium 226		9.9	pCi/L		97	70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.25	pCi/L							
Lab ID: MB-RA226-10096	3	Method Blank				Run: G542M-2_210713D			07/21/21 09:54	
Radium 226		-0.05	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Lab ID: C21070344-001FDUP	3	Sample Duplicate				Run: G542M-2_210713D			07/21/21 11:31	
Radium 226		1.3	pCi/L					0.9	30	
Radium 226 precision (±)		0.36	pCi/L							
Radium 226 MDC		0.26	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1276
Lab ID: LCS-PB-210-1276	3	Laboratory Control Sample				Run: TRICARB LSC_210709B				07/14/21 18:37
Lead 210		19	pCi/L		108	70	130			
Lead 210 precision (±)		5.7	pCi/L							
Lead 210 MDC		1.6	pCi/L							
Lab ID: MB-PB-210-1276	3	Method Blank				Run: TRICARB LSC_210709B				07/14/21 19:38
Lead 210		-0.1	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.9	pCi/L							
Lab ID: C21070269-001CDUP	3	Sample Duplicate				Run: TRICARB LSC_210709B				07/15/21 21:37
Lead 210		1500	pCi/L					8.1	30	
Lead 210 precision (±)		440	pCi/L							
Lead 210 MDC		14	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070279 **Report Date:** 07/29/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6537
Lab ID: LCS-228-RA226-10096	3	Laboratory Control Sample				Run: G542M_210713A			07/16/21 11:55	
Radium 228		7.6	pCi/L		95	70	130			
Radium 228 precision (±)		1.5	pCi/L							
Radium 228 MDC		0.91	pCi/L							
Lab ID: MB-RA226-10096	3	Method Blank				Run: G542M_210713A			07/16/21 11:55	
Radium 228		0.7	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C21070344-001FDUP	3	Sample Duplicate				Run: G542M_210713A			07/16/21 11:55	
Radium 228		0.89	pCi/L					16	30	U
Radium 228 precision (±)		0.59	pCi/L							
Radium 228 MDC		0.91	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

ANALYTICAL SUMMARY REPORT

August 13, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21070606 Quote ID: C6117

Project Name: UNC - Zone 3

Energy Laboratories, Inc. Casper WY received the following 9 samples for United Nuclear Corporation on 7/15/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21070606-001	517	07/13/21 9:15	07/15/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070606-002	719	07/13/21 9:48	07/15/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21070606-003	Rinsate	07/14/21 11:50	07/15/21	Aqueous	Same As Above
C21070606-004	Field Blank	07/14/21 12:07	07/15/21	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

C21070606-005	RW-A	07/13/21 13:25	07/15/21	Aqueous	Acidity, Total as CaCO3 Alkalinity Anions by Ion Chromatography pH Solids, Total Dissolved
C21070606-006	NW-4	07/13/21 14:01	07/15/21	Aqueous	Alkalinity Anions by Ion Chromatography pH Solids, Total Dissolved
C21070606-007	NW-5	07/13/21 14:29	07/15/21	Aqueous	Same As Above
C21070606-008	NBL-2	07/14/21 10:05	07/15/21	Aqueous	Same As Above
C21070606-009	Trip Blank- 79121	07/13/21 9:15	07/15/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Kasey Vidick
Project Manager

Digitally signed by
Kasey Vidick
Date: 2021.08.13 15:27:05 -06:00

CLIENT: United Nuclear Corporation
Project: UNC - Zone 3
Work Order: C21070606

Report Date: 08/13/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/23/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R364284	
Lab ID: CCV072021	7	Continuing Calibration Verification Standard							07/20/21 09:36	
Bromodichloromethane		4.87	ug/L	0.50	97	70	130			
Bromoform		4.90	ug/L	0.50	98	70	130			
Chlorodibromomethane		4.86	ug/L	0.50	97	70	130			
Chloroform		4.84	ug/L	0.50	97	70	130			
Surr: 1,2-Dichloroethane-d4				0.50	111	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	99	80	123			
Method: E624.1									Batch: R364284	
Lab ID: LCS072021	7	Laboratory Control Sample				Run: SV5972.I_210720A			07/20/21 10:01	
Bromodichloromethane		4.80	ug/L	0.50	96	74	128			
Bromoform		4.79	ug/L	0.50	96	70	130			
Chlorodibromomethane		4.75	ug/L	0.50	95	74	125			
Chloroform		4.57	ug/L	0.50	91	70	135			
Surr: 1,2-Dichloroethane-d4				0.50	107	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	101	80	123			
Lab ID: MBLK072021	7	Method Blank				Run: SV5972.I_210720A			07/20/21 10:51	
Bromodichloromethane		ND	ug/L	0.50						
Bromoform		ND	ug/L	0.50						
Chlorodibromomethane		ND	ug/L	0.50						
Chloroform		ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4				0.50	110	71	139			
Surr: p-Bromofluorobenzene				0.50	105	80	127			
Surr: Toluene-d8				0.50	101	80	123			
Lab ID: B21071268-001GMS	7	Sample Matrix Spike				Run: SV5972.I_210720A			07/20/21 16:40	
Bromodichloromethane		4.83	ug/L	0.50	97	74	128			
Bromoform		5.07	ug/L	0.50	101	66	128			
Chlorodibromomethane		4.67	ug/L	0.50	93	74	125			
Chloroform		4.90	ug/L	0.50	91	68	124			
Surr: 1,2-Dichloroethane-d4				0.50	112	71	139			
Surr: p-Bromofluorobenzene				0.50	105	80	127			
Surr: Toluene-d8				0.50	98	80	123			
Lab ID: B21071268-001GMSD	7	Sample Matrix Spike Duplicate				Run: SV5972.I_210720A			07/20/21 17:06	
Bromodichloromethane		5.23	ug/L	0.50	105	74	128	7.9	20	
Bromoform		5.39	ug/L	0.50	108	66	128	6.1	20	
Chlorodibromomethane		5.16	ug/L	0.50	103	74	125	9.9	20	
Chloroform		5.41	ug/L	0.50	102	68	124	10	20	
Surr: 1,2-Dichloroethane-d4				0.50	114	71	139			
Surr: p-Bromofluorobenzene				0.50	103	80	127			
Surr: Toluene-d8				0.50	99	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B									Analytical Run: ACIDITY_210723A	
Lab ID: ICV		Initial Calibration Verification Standard							07/23/21 13:20	
pH		6.79	s.u.	0.010	99	98	102			
Method: A2310 B									Batch: ACID210723_A	
Lab ID: MBLK		Method Blank				Run: ACIDITY_210723A			07/23/21 13:22	
Acidity, Total as CaCO3		1	mg/L							
Lab ID: LCS		Laboratory Control Sample				Run: ACIDITY_210723A			07/23/21 13:25	
Acidity, Total as CaCO3		810	mg/L		103	90	110			
Lab ID: C21070606-001A DUP		Sample Duplicate				Run: ACIDITY_210723A			07/23/21 13:28	
Acidity, Total as CaCO3		652	mg/L					0.4	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210717A	
Lab ID: ICV		Initial Calibration Verification Standard							07/17/21 10:01	
pH		6.84	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R272541	
Lab ID: MBLK		Method Blank				Run: MANTECH_210717A			07/17/21 10:05	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210717A			07/17/21 10:13	
Alkalinity, Total as CaCO3		251	mg/L	5.0	100	90	110			
Lab ID: C21070606-003ADUP		Sample Duplicate				Run: MANTECH_210717A			07/17/21 11:39	
Alkalinity, Total as CaCO3		ND	mg/L	5.0					10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210719A
Lab ID: MB-1_210719A		Method Blank				Run: BAL-111_210719A			07/19/21 09:15	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-2_210719A		Laboratory Control Sample				Run: BAL-111_210719A			07/19/21 09:15	
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21070606-002A DUP		Sample Duplicate				Run: BAL-111_210719A			07/19/21 09:19	
Solids, Total Dissolved TDS @ 180 C		6430	mg/L	42				0.3	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210716A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							07/16/21 14:25	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		19.4	°C			0	0			
Method: A4500-H B									Batch: R272500	
Lab ID: C21070606-002ADUP	2	Sample Duplicate				Run: PHSC_101-C_210716A			07/16/21 15:39	
pH		5.6	s.u.	0.1				0.0	1.5	
pH Measurement Temp		12.3	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210719A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							07/19/21 12:00	
Chloride			10.5	mg/L	1.0	105	90	110			
Sulfate			42.1	mg/L	1.0	105	90	110			
Method:	**E300.0**									Batch: R272631	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210719A			07/19/21 12:19	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210719A			07/19/21 12:38	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			42.0	mg/L	1.0	105	90	110			
Lab ID:	**C21070606-004AMS**	2	Sample Matrix Spike				Run: IC3-C_210719A			07/20/21 03:01	
Chloride			10.7	mg/L	1.0	107	80	120			
Sulfate			44.0	mg/L	1.0	110	80	120			
Lab ID:	**C21070606-004AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210719A			07/20/21 03:20	
Chloride			10.9	mg/L	1.0	108	80	120	1.1	20	
Sulfate			44.0	mg/L	1.0	110	80	120	0.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210722B	
Lab ID: ICV		Initial Calibration Verification Standard							07/22/21 14:35	
Nitrogen, Ammonia as N		0.978	mg/L	0.050	98	90	110			
Method: E350.1									Batch: R272706	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210722B			07/22/21 14:34	
Nitrogen, Ammonia as N		0.02	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210722B			07/22/21 14:36	
Nitrogen, Ammonia as N		0.983	mg/L	0.050	99	90	110			
Lab ID: C21070603-001DMS		Sample Matrix Spike				Run: FIA201-C_210722B			07/22/21 14:57	
Nitrogen, Ammonia as N		1.62	mg/L	0.050	59	90	110			S
Lab ID: C21070603-001DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210722B			07/22/21 14:58	
Nitrogen, Ammonia as N		1.70	mg/L	0.050	67	90	110	4.9	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/27/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210719A	
Lab ID: ICV		Initial Calibration Verification Standard							07/19/21 12:50	
Nitrogen, Nitrate+Nitrite as N		0.991	mg/L	0.010	99	90	110			
Method: E353.2									Batch: R272573	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210719A			07/19/21 12:52	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210719A			07/19/21 12:53	
Nitrogen, Nitrate+Nitrite as N		0.972	mg/L	0.010	98	90	110			
Lab ID: C21070603-002DMS		Sample Matrix Spike				Run: FIA201-C_210719A			07/19/21 14:25	
Nitrogen, Nitrate+Nitrite as N		1.50	mg/L	0.010	98	90	110			
Lab ID: C21070603-002DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210719A			07/19/21 14:26	
Nitrogen, Nitrate+Nitrite as N		1.54	mg/L	0.010	101	90	110	2.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210719A	
Lab ID: QCS	4	Initial Calibration Verification Standard							07/19/21 12:16	
Calcium		41.8	mg/L	0.50	105	90	110			
Magnesium		41.5	mg/L	0.50	104	90	110			
Potassium		41.3	mg/L	0.50	103	90	110			
Sodium		41.7	mg/L	0.53	104	90	110			
Method: E200.7									Batch: R272560	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_210719A			07/19/21 11:56	
Calcium		ND	mg/L	0.2						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_210719A			07/19/21 12:12	
Calcium		50.1	mg/L	0.50	100	85	115			
Magnesium		49.8	mg/L	0.50	100	85	115			
Potassium		49.4	mg/L	0.50	99	85	115			
Sodium		49.9	mg/L	0.54	100	85	115			
Lab ID: C21070632-002CMS2	4	Sample Matrix Spike				Run: ICP4-C_210719A			07/19/21 15:26	
Calcium		217	mg/L	0.52	106	70	130			
Magnesium		137	mg/L	0.50	107	70	130			
Potassium		111	mg/L	0.50	107	70	130			
Sodium		426	mg/L	1.1	98	70	130			
Lab ID: C21070632-002CMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_210719A			07/19/21 15:40	
Calcium		197	mg/L	0.52	85	70	130	9.8	20	
Magnesium		122	mg/L	0.50	92	70	130	11	20	
Potassium		99.4	mg/L	0.50	95	70	130	11	20	
Sodium		392	mg/L	1.1	64	70	130	8.3	20	S
Method: E200.7									Analytical Run: ICP4-C_210720A	
Lab ID: QCS		Initial Calibration Verification Standard							07/20/21 13:36	
Manganese		3.98	mg/L	0.010	100	95	105			
Method: E200.7									Batch: 63145	
Lab ID: MB-63145		Method Blank				Run: ICP4-C_210720A			07/20/21 18:43	
Manganese		ND	mg/L	0.0008						
Lab ID: LCS3-63145		Laboratory Control Sample				Run: ICP4-C_210720A			07/20/21 18:47	
Manganese		2.28	mg/L	0.0012	91	85	115			
Lab ID: C21070561-001AMS3		Sample Matrix Spike				Run: ICP4-C_210720A			07/20/21 18:59	
Manganese		2.30	mg/L	0.050	92	70	130			
Lab ID: C21070561-001AMSD		Sample Matrix Spike Duplicate				Run: ICP4-C_210720A			07/20/21 19:03	
Manganese		2.31	mg/L	0.050	93	70	130	0.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210721A	
Lab ID: QCS	10	Initial Calibration Verification Standard							07/22/21 05:13	
Aluminum		0.243	mg/L	0.030	97	90	110			
Arsenic		0.0485	mg/L	0.0010	97	90	110			
Cadmium		0.0245	mg/L	0.0010	98	90	110			
Cobalt		0.0499	mg/L	0.0050	100	90	110			
Lead		0.0472	mg/L	0.0010	94	90	110			
Molybdenum		0.0462	mg/L	0.0010	92	90	110			
Nickel		0.0495	mg/L	0.0050	99	90	110			
Selenium		0.0496	mg/L	0.0010	99	90	110			
Uranium		0.0190	mg/L	0.00030	95	90	110			
Vanadium		0.0475	mg/L	0.010	95	90	110			
Method: E200.8									Batch: 63145	
Lab ID: MB-63145	12	Method Blank				Run: ICPMS5-C_210721A			07/22/21 01:04	
Aluminum		ND	mg/L	0.02						
Arsenic		0.0004	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		0.0001	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-63145	12	Laboratory Control Sample				Run: ICPMS5-C_210721A			07/22/21 01:08	
Aluminum		2.23	mg/L	0.030	89	85	115			
Arsenic		0.462	mg/L	0.0010	92	85	115			
Beryllium		0.206	mg/L	0.0010	83	85	115			S
Cadmium		0.236	mg/L	0.0010	95	85	115			
Cobalt		0.454	mg/L	0.0050	91	85	115			
Lead		0.464	mg/L	0.0010	93	85	115			
Manganese		2.32	mg/L	0.0015	93	85	115			
Molybdenum		0.459	mg/L	0.0010	92	85	115			
Nickel		0.465	mg/L	0.0050	93	85	115			
Selenium		0.442	mg/L	0.0010	88	85	115			
Uranium		0.496	mg/L	0.00030	99	85	115			
Vanadium		0.471	mg/L	0.010	94	85	115			
Lab ID: C21070606-002CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210721A			07/22/21 02:06	
Aluminum		6.02	mg/L	0.030	76	70	130			
Arsenic		0.477	mg/L	0.0010	95	70	130			
Beryllium		0.187	mg/L	0.0010	73	70	130			
Cadmium		0.215	mg/L	0.0010	86	70	130			
Cobalt		0.619	mg/L	0.0050	86	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 63145
Lab ID: C21070606-002CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_210721A				07/22/21 02:06
Lead		0.451	mg/L	0.0010	90	70	130			
Manganese		7.52	mg/L	0.0030	91	70	130			
Molybdenum		0.780	mg/L	0.0014	88	70	130			
Nickel		0.719	mg/L	0.0050	86	70	130			
Selenium		0.518	mg/L	0.0010	104	70	130			
Uranium		0.588	mg/L	0.00030	97	70	130			
Vanadium		0.458	mg/L	0.010	92	70	130			
Lab ID: C21070606-002CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210721A				07/22/21 02:10
Aluminum		6.21	mg/L	0.030	84	70	130	3.1	20	
Arsenic		0.483	mg/L	0.0010	96	70	130	1.1	20	
Beryllium		0.187	mg/L	0.0010	73	70	130	0.2	20	
Cadmium		0.217	mg/L	0.0010	87	70	130	1.0	20	
Cobalt		0.628	mg/L	0.0050	88	70	130	1.4	20	
Lead		0.454	mg/L	0.0010	90	70	130	0.5	20	
Manganese		7.71	mg/L	0.0030	98	70	130	2.5	20	
Molybdenum		0.805	mg/L	0.0014	93	70	130	3.1	20	
Nickel		0.730	mg/L	0.0050	88	70	130	1.5	20	
Selenium		0.521	mg/L	0.0010	104	70	130	0.5	20	
Uranium		0.607	mg/L	0.00030	100	70	130	3.1	20	
Vanadium		0.469	mg/L	0.010	94	70	130	2.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210722A	
Lab ID: QCS	2	Initial Calibration Verification Standard							07/22/21 19:19	
Aluminum		0.246	mg/L	0.030	98	90	110			
Manganese		0.247	mg/L	0.0010	99	90	110			
Method: E200.8									Batch: 63145	
Lab ID: MB-63145	12	Method Blank				Run: ICPMS5-C_210722A			07/22/21 20:38	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: C21070561-001AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210722A			07/22/21 21:00	
Aluminum		2.30	mg/L	0.030	88	70	130	1.1	20	
Arsenic		0.471	mg/L	0.0010	94	70	130	1.1	20	
Beryllium		0.212	mg/L	0.0010	85	70	130	0.5	20	
Cadmium		0.235	mg/L	0.0010	94	70	130	0.6	20	
Cobalt		0.447	mg/L	0.0050	89	70	130	1.6	20	
Lead		0.458	mg/L	0.0010	92	70	130	0.3	20	
Manganese		2.30	mg/L	0.0015	92	70	130	1.6	20	
Molybdenum		0.453	mg/L	0.0010	90	70	130	3.5	20	
Nickel		0.458	mg/L	0.0050	91	70	130	1.0	20	
Selenium		0.459	mg/L	0.0010	92	70	130	0.9	20	
Uranium		0.521	mg/L	0.00030	102	70	130	1.7	20	
Vanadium		0.477	mg/L	0.010	93	70	130	3.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 07/28/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210726A	
Lab ID: QCS		Initial Calibration Verification Standard							07/26/21 11:00	
Beryllium		0.0254	mg/L	0.0010	101	90	110			
Method: E200.8									Batch: 63145	
Lab ID: MB-63145	12	Method Blank				Run: ICPMS5-C_210726A			07/26/21 13:58	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Method: E200.8									Analytical Run: ICPMS5-C_210727A	
Lab ID: QCS		Initial Calibration Verification Standard							07/28/21 04:22	
Beryllium		0.0254	mg/L	0.0010	102	90	110			
Method: E200.8									Batch: 63145	
Lab ID: MB-63145	12	Method Blank				Run: ICPMS5-C_210727A			07/28/21 06:22	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		0.001	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3259	
Lab ID: MB-RA-TH-ISO-3259	3	Method Blank				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		0.05	pCi/L							
Thorium 230 precision (±)		0.02	pCi/L							
Thorium 230 MDC		0.02	pCi/L							
Lab ID: LCS-RA-TH-ISO-3259	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		9.5	pCi/L		99	70	130			
Thorium 230 precision (±)		1.8	pCi/L							
Thorium 230 MDC		0.044	pCi/L							
Lab ID: C21070649-001BDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210721D			07/27/21 11:35	
Thorium 230		0.11	pCi/L					180	30	R
Thorium 230 precision (±)		0.056	pCi/L							
Thorium 230 MDC		0.079	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.61.										
Method: A7500-U C									Batch: RA-TH-ISO-3261	
Lab ID: MB-RA-TH-ISO-3261	3	Method Blank				Run: EGG-ORTEC_2_210722C			07/28/21 15:36	
Thorium 230		0.1	pCi/L							
Thorium 230 precision (±)		0.06	pCi/L							
Thorium 230 MDC		0.09	pCi/L							
Lab ID: LCS-RA-TH-ISO-3261	3	Laboratory Control Sample				Run: EGG-ORTEC_2_210722C			07/28/21 15:36	
Thorium 230		10	pCi/L		106	70	130			
Thorium 230 precision (±)		1.9	pCi/L							
Thorium 230 MDC		0.053	pCi/L							
Lab ID: C21070663-002DDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_210722C			07/28/21 15:36	
Thorium 230		0.19	pCi/L					95	30	R
Thorium 230 precision (±)		0.060	pCi/L							
Thorium 230 MDC		0.057	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.65.										

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1299
Lab ID: MB-GA-1299	3	Method Blank				Run: G542M-2_210716A				07/19/21 08:07
Gross Alpha minus Rn & U		-0.6	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.6	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1299	3	Laboratory Control Sample				Run: G542M-2_210716A				07/19/21 08:07
Gross Alpha minus Rn & U		31	pCi/L		91	70	130			
Gross Alpha minus Rn & U Precision (±)		6.2	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							
Lab ID: C21070606-004FDUP	3	Sample Duplicate				Run: G542M-2_210716A				07/19/21 09:40
Gross Alpha minus Rn & U		0.11	pCi/L					340	30	UR
Gross Alpha minus Rn & U Precision (±)		0.77	pCi/L							
Gross Alpha minus Rn & U MDC		1.3	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.47.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10106
Lab ID: LCS-RA226-10106	3	Laboratory Control Sample				Run: G5000W_210721B				08/02/21 07:40
Radium 226		11	pCi/L		110	70	130			
Radium 226 precision (±)		2.2	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-10106	3	Method Blank				Run: G5000W_210721B				08/02/21 07:40
Radium 226		0.07	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21070652-005FDUP	3	Sample Duplicate				Run: G5000W_210721B				08/02/21 09:23
Radium 226		8.6	pCi/L					5.7	30	
Radium 226 precision (±)		1.7	pCi/L							
Radium 226 MDC		0.21	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1283	
Lab ID: LCS-PB-210-1283	3	Laboratory Control Sample				Run: TRICARB LSC_210721B			08/08/21 01:05	
Lead 210		17	pCi/L		98	70	130			
Lead 210 precision (±)		5.2	pCi/L							
Lead 210 MDC		1.4	pCi/L							
Lab ID: MB-PB-210-1283	3	Method Blank				Run: TRICARB LSC_210721B			08/08/21 02:03	
Lead 210		0.3	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.8	pCi/L							
Lab ID: C21070763-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_210721B			08/09/21 21:45	
Lead 210		0.032	pCi/L					180	30	UR
Lead 210 precision (±)		0.46	pCi/L							
Lead 210 MDC		0.77	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.67.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21070606 **Report Date:** 08/11/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6542
Lab ID: LCS-228-RA226-10106	3	Laboratory Control Sample				Run: TENNELEC-4_210721A			07/27/21 11:36	
Radium 228		8.6	pCi/L		108	70	130			
Radium 228 precision (±)		1.7	pCi/L							
Radium 228 MDC		0.88	pCi/L							
Lab ID: MB-RA226-10106	3	Method Blank				Run: TENNELEC-4_210721A			07/27/21 11:36	
Radium 228		0.1	pCi/L							U
Radium 228 precision (±)		0.5	pCi/L							
Radium 228 MDC		0.9	pCi/L							
Lab ID: C21070652-005FDUP	3	Sample Duplicate				Run: TENNELEC-4_210721A			07/27/21 11:36	
Radium 228		0.18	pCi/L					51	30	UR
Radium 228 precision (±)		0.53	pCi/L							
Radium 228 MDC		0.88	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.16.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

APPENDIX - D (2 OF 2)

FOURTH QUARTER

LABORATORY QUALITY CONTROL AND

PERFORMANCE REPORT

ANALYTICAL SUMMARY REPORT

November 28, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21100467 Quote ID: C6117

Project Name: UNC-SW Alluvium & Zone 1

Energy Laboratories, Inc. Casper WY received the following 10 samples for United Nuclear Corporation on 10/12/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21100467-001	801	10/07/21 13:43	10/12/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100467-002	632	10/07/21 14:53	10/12/21	Aqueous	Same As Above
C21100467-003	509-D	10/08/21 12:38	10/12/21	Aqueous	Same As Above
C21100467-004	EPA-23	10/08/21 13:28	10/12/21	Aqueous	Same As Above
C21100467-005	EPA-5	10/08/21 9:12	10/12/21	Aqueous	Same As Above
C21100467-006	EPA-4	10/08/21 10:17	10/12/21	Aqueous	Same As Above
C21100467-007	EPA-2	10/08/21 11:30	10/12/21	Aqueous	Same As Above
C21100467-008	EPA-2 Duplicate	10/08/21 11:56	10/12/21	Aqueous	Same As Above
C21100467-009	Trip Blank-80352	10/07/21 13:43	10/12/21	Trip Blank	624-Purgeable Organics
C21100467-010	Trip Blank-79121	10/07/21 13:43	10/12/21	Trip Blank	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

ANALYTICAL SUMMARY REPORT

Report Approved By:

Wyoming Regional Director

Digitally signed by
Terry Friedlan
Date: 2021.11.28 14:22:14 -07:00

CLIENT: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Work Order: C21100467

Report Date: 11/28/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as emsl were subcontracted to EMSL, 1010 Yuma Street, Denver, CO. Original report from EMSL is included in data packet.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_211015A	
Lab ID: ICV		Initial Calibration Verification Standard							10/15/21 15:13	
pH		6.89	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275711	
Lab ID: MBLK		Method Blank				Run: MANTECH_211015A			10/15/21 18:37	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_211015A			10/15/21 18:46	
Alkalinity, Total as CaCO3		255	mg/L	5.0	102	90	110			
Lab ID: C21100466-005ADUP		Sample Duplicate				Run: MANTECH_211015A			10/15/21 20:25	
Alkalinity, Total as CaCO3		209	mg/L	5.0				0.2	10	
Lab ID: MBLK		Method Blank				Run: MANTECH_211015A			10/15/21 21:57	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_211015A			10/15/21 22:06	
Alkalinity, Total as CaCO3		253	mg/L	5.0	101	90	110			
Lab ID: C21100467-008ADUP		Sample Duplicate				Run: MANTECH_211015A			10/15/21 22:21	
Alkalinity, Total as CaCO3		207	mg/L	5.0				1.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS211013A
Lab ID: MB-1_211013A		Method Blank				Run: BAL-111_211013A				10/13/21 10:59
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-2_211013A		Laboratory Control Sample				Run: BAL-111_211013A				10/13/21 10:59
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21100466-006A DUP		Sample Duplicate				Run: BAL-111_211013A				10/13/21 11:08
Solids, Total Dissolved TDS @ 180 C		116	mg/L	10				1.7	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_211013A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/13/21 09:27	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.0	°C			0	0			
Method: A4500-H B										Batch: R275563
Lab ID: C21100467-008ADUP	2	Sample Duplicate				Run: PHSC_101-C_211013A			10/13/21 11:18	
pH		6.8	s.u.	0.1				0.2	1.5	
pH Measurement Temp		14.4	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_211015A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/15/21 12:26	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			39.5	mg/L	1.0	99	90	110			
Method:	**E300.0**									Batch: R275722	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211015A			10/15/21 12:45	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211015A			10/15/21 13:04	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			39.9	mg/L	1.0	100	90	110			
Lab ID:	**C21100467-007AMS**	2	Sample Matrix Spike				Run: IC3-C_211015A			10/16/21 12:24	
Chloride			113	mg/L	1.0	99	80	120			
Sulfate			1630	mg/L	4.2	93	80	120			
Lab ID:	**C21100467-007AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211015A			10/16/21 12:43	
Chloride			115	mg/L	1.0	101	80	120	1.7	20	
Sulfate			1620	mg/L	4.2	90	80	120	0.8	20	
Method:	**E300.0**									Analytical Run: IC3-C_211022A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/22/21 13:46	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			40.3	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R275988	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211022A			10/22/21 14:05	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211022A			10/22/21 14:24	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.1	mg/L	1.0	103	90	110			
Lab ID:	**C21100750-002AMS**	2	Sample Matrix Spike				Run: IC3-C_211022A			10/23/21 09:15	
Chloride			32.3	mg/L	1.0	99	80	120			
Sulfate			225	mg/L	1.0	96	80	120			
Lab ID:	**C21100750-002AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211022A			10/23/21 09:35	
Chloride			33.1	mg/L	1.0	103	80	120	2.5	20	
Sulfate			224	mg/L	1.0	95	80	120	0.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_211014C	
Lab ID: ICV		Initial Calibration Verification Standard							10/14/21 16:18	
Nitrogen, Ammonia as N		1.06	mg/L	0.050	106	90	110			
Method: E350.1									Batch: R275641	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211014C			10/14/21 16:17	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211014C			10/14/21 16:19	
Nitrogen, Ammonia as N		1.00	mg/L	0.050	101	90	110			
Lab ID: C21100426-003DMS		Sample Matrix Spike				Run: FIA201-C_211014C			10/14/21 16:59	
Nitrogen, Ammonia as N		0.647	mg/L	0.050	62	90	110			S
Lab ID: C21100426-003DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211014C			10/14/21 17:00	
Nitrogen, Ammonia as N		0.658	mg/L	0.050	64	90	110	1.5	10	S
Method: E350.1									Analytical Run: FIA201-C_211019A	
Lab ID: ICV		Initial Calibration Verification Standard							10/19/21 13:03	
Nitrogen, Ammonia as N		1.03	mg/L	0.050	103	90	110			
Method: E350.1									Batch: R275777	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211019A			10/19/21 13:02	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211019A			10/19/21 13:05	
Nitrogen, Ammonia as N		0.966	mg/L	0.050	98	90	110			
Lab ID: C21100406-001EMS		Sample Matrix Spike				Run: FIA201-C_211019A			10/19/21 13:07	
Nitrogen, Ammonia as N		38.1	mg/L	1.3	98	90	110			
Lab ID: C21100406-001EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211019A			10/19/21 13:08	
Nitrogen, Ammonia as N		37.1	mg/L	1.3	94	90	110	2.7	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_211018A	
Lab ID: ICV		Initial Calibration Verification Standard							10/18/21 11:22	
Nitrogen, Nitrate+Nitrite as N		0.951	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275730	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211018A			10/18/21 11:23	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211018A			10/18/21 11:24	
Nitrogen, Nitrate+Nitrite as N		0.967	mg/L	0.010	98	90	110			
Lab ID: C21100463-001AMS		Sample Matrix Spike				Run: FIA201-C_211018A			10/18/21 12:18	
Nitrogen, Nitrate+Nitrite as N		0.977	mg/L	0.010	98	90	110			
Lab ID: C21100463-001AMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211018A			10/18/21 12:19	
Nitrogen, Nitrate+Nitrite as N		0.996	mg/L	0.010	100	90	110	1.9	10	
Method: E353.2									Analytical Run: FIA201-C_211020A	
Lab ID: ICV		Initial Calibration Verification Standard							10/20/21 10:44	
Nitrogen, Nitrate+Nitrite as N		0.948	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275818	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211020A			10/20/21 10:45	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211020A			10/20/21 10:46	
Nitrogen, Nitrate+Nitrite as N		0.948	mg/L	0.010	96	90	110			
Lab ID: C21100600-001DMS		Sample Matrix Spike				Run: FIA201-C_211020A			10/20/21 10:50	
Nitrogen, Nitrate+Nitrite as N		1.85	mg/L	0.010	96	90	110			
Lab ID: C21100600-001DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211020A			10/20/21 10:51	
Nitrogen, Nitrate+Nitrite as N		1.88	mg/L	0.010	99	90	110	1.6	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP4-C_211021A	
Lab ID:	**QCS**	3	Initial Calibration Verification Standard							10/21/21 17:50	
Calcium			40.7	mg/L	0.50	102	95	105			
Potassium			40.6	mg/L	0.50	102	95	105			
Sodium			40.9	mg/L	0.53	102	95	105			
Method:	**E200.7**									Batch: R275919	
Lab ID:	**LRB**	3	Method Blank				Run: ICP4-C_211021A			10/21/21 17:29	
Calcium			ND	mg/L	0.1						
Potassium			ND	mg/L	0.2						
Sodium			ND	mg/L	1						
Lab ID:	**LFB**	3	Laboratory Fortified Blank				Run: ICP4-C_211021A			10/21/21 17:46	
Calcium			49.7	mg/L	0.50	99	85	115			
Potassium			49.2	mg/L	0.50	98	85	115			
Sodium			49.7	mg/L	0.54	99	85	115			
Lab ID:	**C21100466-005BMS2**	3	Sample Matrix Spike				Run: ICP4-C_211021A			10/21/21 22:03	
Calcium			117	mg/L	1.0	85	70	130			
Potassium			46.9	mg/L	1.0	91	70	130			
Sodium			58.0	mg/L	1.0	91	70	130			
Lab ID:	**C21100466-005BMSD**	3	Sample Matrix Spike Duplicate				Run: ICP4-C_211021A			10/21/21 22:07	
Calcium			118	mg/L	1.0	86	70	130	0.4	20	
Potassium			47.6	mg/L	1.0	93	70	130	1.5	20	
Sodium			58.7	mg/L	1.0	92	70	130	1.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP4-C_211021B	
Lab ID:	**QCS**	5	Initial Calibration Verification Standard							10/26/21 12:04	
Beryllium			0.415	mg/L	0.010	104	95	105			
Calcium			40.5	mg/L	0.50	101	95	105			
Magnesium			40.3	mg/L	0.50	101	95	105			
Potassium			39.8	mg/L	0.50	100	95	105			
Sodium			41.7	mg/L	0.53	104	95	105			
Method:	**E200.7**									Batch: 64405	
Lab ID:	**MB-64405**		Method Blank				Run: ICP4-C_211021B			10/26/21 19:37	
Beryllium			ND	mg/L	0.0002						
Lab ID:	**LCS3-64405**		Laboratory Control Sample				Run: ICP4-C_211021B			10/26/21 19:41	
Beryllium			0.256	mg/L	0.0010	102	85	115			
Lab ID:	**C21100467-001CMS3**		Sample Matrix Spike				Run: ICP4-C_211021B			10/26/21 19:54	
Beryllium			0.250	mg/L	0.0013	100	70	130			
Lab ID:	**C21100467-001CMSD**		Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/26/21 19:58	
Beryllium			0.245	mg/L	0.0013	98	70	130	2.1	20	
Method:	**E200.7**									Batch: R276019	
Lab ID:	**LRB**	4	Method Blank				Run: ICP4-C_211021B			10/26/21 11:43	
Calcium			ND	mg/L	0.1						
Magnesium			ND	mg/L	0.08						
Potassium			ND	mg/L	0.2						
Sodium			ND	mg/L	1						
Lab ID:	**LFB**	4	Laboratory Fortified Blank				Run: ICP4-C_211021B			10/26/21 12:00	
Calcium			51.9	mg/L	0.50	104	85	115			
Magnesium			51.9	mg/L	0.50	104	85	115			
Potassium			51.1	mg/L	0.50	102	85	115			
Sodium			53.3	mg/L	0.54	107	85	115			
Lab ID:	**C21100509-001BMS2**	4	Sample Matrix Spike				Run: ICP4-C_211021B			10/26/21 15:29	
Calcium			193	mg/L	1.0	99	70	130			
Magnesium			118	mg/L	1.0	96	70	130			
Potassium			103	mg/L	1.0	101	70	130			
Sodium			139	mg/L	1.0	101	70	130			
Lab ID:	**C21100509-001BMSD**	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/26/21 15:33	
Calcium			193	mg/L	1.0	99	70	130	0.0	20	
Magnesium			119	mg/L	1.0	97	70	130	0.8	20	
Potassium			103	mg/L	1.0	100	70	130	0.5	20	
Sodium			138	mg/L	1.0	100	70	130	0.4	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211101A	
Lab ID: QCS		Initial Calibration Verification Standard							11/01/21 22:37	
Sodium		40.3	mg/L	0.53	101	95	105			
Method: E200.7									Batch: R276293	
Lab ID: LRB		Method Blank				Run: ICP4-C_211101A			11/01/21 22:16	
Sodium		ND	mg/L	1						
Lab ID: LFB		Laboratory Fortified Blank				Run: ICP4-C_211101A			11/01/21 22:33	
Sodium		45.6	mg/L	0.54	91	85	115			
Lab ID: C21100328-001BMS2		Sample Matrix Spike				Run: ICP4-C_211101A			11/01/21 23:14	
Sodium		232	mg/L	1.0	82	70	130			
Lab ID: C21100328-001BMSD		Sample Matrix Spike Duplicate				Run: ICP4-C_211101A			11/01/21 23:19	
Sodium		230	mg/L	1.0	79	70	130	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211020A	
Lab ID: QCS	10	Initial Calibration Verification Standard							10/21/21 17:31	
Aluminum		0.255	mg/L	0.030	102	90	110			
Cadmium		0.0256	mg/L	0.0010	102	90	110			
Cobalt		0.0489	mg/L	0.0050	98	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.266	mg/L	0.0010	106	90	110			
Molybdenum		0.0489	mg/L	0.0010	98	90	110			
Nickel		0.0493	mg/L	0.0050	99	90	110			
Selenium		0.0520	mg/L	0.0010	104	90	110			
Uranium		0.0190	mg/L	0.00030	95	90	110			
Vanadium		0.0471	mg/L	0.010	94	90	110			
Method: E200.8									Batch: 64405	
Lab ID: MB-64405	10	Method Blank				Run: ICPMS5-C_211020A			10/21/21 17:57	
Aluminum		ND	mg/L	0.02						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-64405	11	Laboratory Control Sample				Run: ICPMS5-C_211020A			10/21/21 18:02	
Aluminum		2.58	mg/L	0.030	103	85	115			
Arsenic		0.518	mg/L	0.0010	104	85	115			
Cadmium		0.261	mg/L	0.0010	104	85	115			
Cobalt		0.501	mg/L	0.0050	100	85	115			
Lead		0.515	mg/L	0.0010	103	85	115			
Manganese		2.81	mg/L	0.0010	113	85	115			
Molybdenum		0.494	mg/L	0.0010	99	85	115			
Nickel		0.521	mg/L	0.0050	104	85	115			
Selenium		0.499	mg/L	0.0010	100	85	115			
Uranium		0.533	mg/L	0.00030	107	85	115			
Vanadium		0.504	mg/L	0.010	101	85	115			
Lab ID: C21100467-001CMS3	11	Sample Matrix Spike				Run: ICPMS5-C_211020A			10/21/21 18:18	
Aluminum		2.52	mg/L	0.036	101	70	130			
Arsenic		0.548	mg/L	0.0010	110	70	130			
Cadmium		0.250	mg/L	0.0010	100	70	130			
Cobalt		0.495	mg/L	0.0050	98	70	130			
Lead		0.517	mg/L	0.0010	103	70	130			
Manganese		6.85	mg/L	0.0014	142	70	130			S
Molybdenum		0.520	mg/L	0.0014	104	70	130			
Nickel		0.515	mg/L	0.0050	102	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 64405
Lab ID: C21100467-001CMS3	11	Sample Matrix Spike				Run: ICPMS5-C_211020A			10/21/21 18:18	
Selenium		0.532	mg/L	0.0010	106	70	130			
Uranium		0.596	mg/L	0.00054	112	70	130			
Vanadium		0.534	mg/L	0.010	107	70	130			
Lab ID: C21100467-001CMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211020A			10/21/21 18:23	
Aluminum		2.56	mg/L	0.036	102	70	130	1.3	20	
Arsenic		0.539	mg/L	0.0010	108	70	130	1.7	20	
Cadmium		0.245	mg/L	0.0010	98	70	130	2.1	20	
Cobalt		0.494	mg/L	0.0050	98	70	130	0.4	20	
Lead		0.515	mg/L	0.0010	103	70	130	0.4	20	
Manganese		6.76	mg/L	0.0014	138	70	130	1.3	20	S
Molybdenum		0.524	mg/L	0.0014	105	70	130	0.7	20	
Nickel		0.505	mg/L	0.0050	100	70	130	1.8	20	
Selenium		0.524	mg/L	0.0010	105	70	130	1.6	20	
Uranium		0.591	mg/L	0.00054	111	70	130	0.8	20	
Vanadium		0.525	mg/L	0.010	105	70	130	1.7	20	
Method: E200.8										Analytical Run: ICPMS5-C_211024A
Lab ID: QCS	5	Initial Calibration Verification Standard							10/23/21 07:41	
Arsenic		0.0500	mg/L	0.0010	100	90	110			
Cadmium		0.0250	mg/L	0.0010	100	90	110			
Molybdenum		0.0474	mg/L	0.0010	95	90	110			
Nickel		0.0498	mg/L	0.0050	100	90	110			
Selenium		0.0502	mg/L	0.0010	100	90	110			
Lab ID: QCS	5	Initial Calibration Verification Standard							10/23/21 09:14	
Arsenic		0.0500	mg/L	0.0010	100	90	110			
Cadmium		0.0236	mg/L	0.0010	94	90	110			
Molybdenum		0.0466	mg/L	0.0010	93	90	110			
Nickel		0.0497	mg/L	0.0050	99	90	110			
Selenium		0.0515	mg/L	0.0010	103	90	110			
Method: E200.8										Batch: 64405
Lab ID: MB-64405	5	Method Blank				Run: ICPMS5-C_211024A			10/23/21 07:09	
Arsenic		ND	mg/L	0.0003						
Cadmium		ND	mg/L	0.00002						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/05/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211028A	
Lab ID: QCS	5	Initial Calibration Verification Standard							10/29/21 09:58	
Aluminum		0.240	mg/L	0.030	96	90	110			
Arsenic		0.0506	mg/L	0.0010	101	90	110			
Cadmium		0.0248	mg/L	0.0010	99	90	110			
Lead		0.0497	mg/L	0.0010	99	90	110			
Uranium		0.0196	mg/L	0.00030	98	90	110			
Method: E200.8									Batch: 64405	
Lab ID: MB-64405	5	Method Blank				Run: ICPMS5-C_211028A			10/29/21 10:37	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Cadmium		ND	mg/L	0.00002						
Lead		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Method: E200.8									Analytical Run: ICPMS5-C_211102A	
Lab ID: QCS	4	Initial Calibration Verification Standard							11/03/21 12:50	
Aluminum		0.251	mg/L	0.030	100	90	110			
Arsenic		0.0513	mg/L	0.0010	103	90	110			
Manganese		0.247	mg/L	0.0010	99	90	110			
Selenium		0.0518	mg/L	0.0010	104	90	110			
Method: E200.8									Batch: 64405	
Lab ID: MB-64405	4	Method Blank				Run: ICPMS5-C_211102A			11/03/21 21:00	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Manganese		0.0008	mg/L	0.0007						
Selenium		ND	mg/L	0.0001						
Method: E200.8									Analytical Run: ICPMS5-C_211104A	
Lab ID: QCS		Initial Calibration Verification Standard							11/04/21 16:10	
Uranium		0.0186	mg/L	0.00030	93	90	110			
Method: E200.8									Batch: 64405	
Lab ID: MB-64405		Method Blank				Run: ICPMS5-C_211104A			11/04/21 19:31	
Uranium		ND	mg/L	0.0003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 10/27/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R369129
Lab ID: CCV_101521	Continuing Calibration Verification Standard								10/15/21 10:45
Bromodichloromethane	5.19	ug/L	0.50	104	70	130			
Bromoform	5.14	ug/L	0.50	103	70	130			
Chlorodibromomethane	5.29	ug/L	0.50	106	70	130			
Chloroform	5.25	ug/L	0.50	105	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	105	71	139			
Surr: p-Bromofluorobenzene			0.50	101	80	127			
Surr: Toluene-d8			0.50	104	80	123			
Method: E624.1									Batch: R369129
Lab ID: LCS_101521	Laboratory Control Sample				Run: VOA5975C.I_211015B				10/15/21 11:39
Bromodichloromethane	4.73	ug/L	0.50	95	74	128			
Bromoform	4.79	ug/L	0.50	96	70	130			
Chlorodibromomethane	4.55	ug/L	0.50	91	74	125			
Chloroform	4.49	ug/L	0.50	90	70	135			
Surr: 1,2-Dichloroethane-d4			0.50	103	71	139			
Surr: p-Bromofluorobenzene			0.50	101	80	127			
Surr: Toluene-d8			0.50	105	80	123			
Lab ID: MBLK_101521	Method Blank				Run: VOA5975C.I_211015B				10/15/21 13:01
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4			0.50	106	71	139			
Surr: p-Bromofluorobenzene			0.50	101	80	127			
Surr: Toluene-d8			0.50	105	80	123			
Lab ID: B21101111-001DMS	Sample Matrix Spike				Run: VOA5975C.I_211015B				10/15/21 16:25
Bromodichloromethane	4.84	ug/L	0.50	97	74	128			
Bromoform	4.74	ug/L	0.50	95	66	128			
Chlorodibromomethane	4.67	ug/L	0.50	93	74	125			
Chloroform	4.62	ug/L	0.50	92	68	124			
Surr: 1,2-Dichloroethane-d4			0.50	104	71	139			
Surr: p-Bromofluorobenzene			0.50	101	80	127			
Surr: Toluene-d8			0.50	105	80	123			
Lab ID: B21101111-001DMSD	Sample Matrix Spike Duplicate				Run: VOA5975C.I_211015B				10/15/21 16:52
Bromodichloromethane	5.10	ug/L	0.50	102	74	128	5.2	20	
Bromoform	5.06	ug/L	0.50	101	66	128	6.6	20	
Chlorodibromomethane	4.99	ug/L	0.50	100	74	125	6.6	20	
Chloroform	4.84	ug/L	0.50	97	68	124	4.6	20	
Surr: 1,2-Dichloroethane-d4			0.50	104	71	139			
Surr: p-Bromofluorobenzene			0.50	101	80	127			
Surr: Toluene-d8			0.50	105	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3314RR	
Lab ID: MB-RA-TH-ISO-3314	3	Method Blank				Run: EGG-ORTEC_2_211020D			11/02/21 14:33	
Thorium 230		0.02	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3314	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211020D			11/02/21 14:33	
Thorium 230		9.2	pCi/L		96	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.057	pCi/L							
Lab ID: C21100425-001FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211020D			11/03/21 07:44	
Thorium 230		0.13	pCi/L					170	30	UR
Thorium 230 precision (±)		0.11	pCi/L							
Thorium 230 MDC		0.17	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.88.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1321
Lab ID: MB-GA-1321	3	Method Blank				Run: G5000W_211019A				10/22/21 09:07
Gross Alpha minus Rn & U		-0.05	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.7	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1321	3	Laboratory Control Sample				Run: G5000W_211019A				10/22/21 09:07
Gross Alpha minus Rn & U		38	pCi/L		110	70	130			
Gross Alpha minus Rn & U Precision (±)		7.6	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							
Lab ID: C21100526-001FDUP	3	Sample Duplicate				Run: G5000W_211019A				10/22/21 10:47
Gross Alpha minus Rn & U		-0.11	pCi/L					300	30	UR
Gross Alpha minus Rn & U Precision (±)		0.70	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.65.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10227
Lab ID: LCS-RA226-10227	3	Laboratory Control Sample				Run: G5000W_211018A				10/27/21 08:52
Radium 226		11	pCi/L		104	70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-10227	3	Method Blank				Run: G5000W_211018A				10/27/21 08:52
Radium 226		0.05	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21100467-001FDUP	3	Sample Duplicate				Run: G5000W_211018A				10/27/21 08:52
Radium 226		0.44	pCi/L					25	30	
Radium 226 precision (±)		0.17	pCi/L							
Radium 226 MDC		0.20	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: PB-210-1322
Lab ID: LCS-PB-210-1322	3	Laboratory Control Sample				Run: TRICARB LSC_211020A			10/27/21 16:59	
Lead 210		18	pCi/L		102	70	130			
Lead 210 precision (±)		5.3	pCi/L							
Lead 210 MDC		1.5	pCi/L							
Lab ID: MB-PB-210-1322	3	Method Blank				Run: TRICARB LSC_211020A			10/27/21 18:04	
Lead 210		-0.07	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.9	pCi/L							
Lab ID: C21100466-006FDUP	3	Sample Duplicate				Run: TRICARB LSC_211020A			10/28/21 10:46	
Lead 210		0.20	pCi/L					97	30	UR
Lead 210 precision (±)		0.54	pCi/L							
Lead 210 MDC		0.90	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.48.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100467 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6611
Lab ID: LCS-228-RA226-10227	3	Laboratory Control Sample				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		7.5	pCi/L		98	70	130			
Radium 228 precision (±)		1.6	pCi/L							
Radium 228 MDC		1.3	pCi/L							
Lab ID: MB-RA226-10227	3	Method Blank				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		-0.07	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21100467-001FDUP	3	Sample Duplicate				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		0.47	pCi/L					2.6	30	U
Radium 228 precision (±)		0.57	pCi/L							
Radium 228 MDC		0.91	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-154272-1
Client Project/Site: 11(e) Byproduct Material

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
10/19/2021 3:02:15 AM

Dylan Bieniulis, Project Manager I
(303)736-0138
Dylan.Bieniulis@Eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-154272-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

Job Narrative
280-154272-1

Receipt
The samples were received on 10/15/2021 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C

Receipt Exceptions
The chain of custody references an attached analyte list; however, an additional analyte list was unable to be located in the cooler with the samples and chain of custody. The laboratory logged the samples for the requested 624.1 VOCs analysis with an analyte list that matches recent and historical requests for this analysis. The client was notified on 10/18/2021.

GC/MS VOA
Method 624.1: The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): C21100467-001G (280-154272-1), C21100467-003G (280-154272-3), C21100467-004G (280-154272-4), C21100467-009A (280-154272-5) and C21100467-010A (280-154272-6).

Method 624.1: The following sample(s) was collected in a properly preserved vial; however, the pH of 5 was outside the required criteria when verified by the laboratory. The samples were analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: C21100467-003G (280-154272-3) and C21100467-009A (280-154272-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Client Sample ID: C21100467-001G — Lab Sample ID: 280-154272-1

No Detections.

Client Sample ID: C21100467-002G — Lab Sample ID: 280-154272-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.51	J	1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	0.51	J	1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21100467-003G — Lab Sample ID: 280-154272-3

No Detections.

Client Sample ID: C21100467-004G — Lab Sample ID: 280-154272-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.34	J	1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	0.34	J	1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21100467-009A — Lab Sample ID: 280-154272-5

No Detections.

Client Sample ID: C21100467-010A — Lab Sample ID: 280-154272-6

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL DEN

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-154272-1	C21100467-001G	Water	10/07/21 13:43	10/15/21 09:45
280-154272-2	C21100467-002G	Water	10/07/21 14:53	10/15/21 09:45
280-154272-3	C21100467-003G	Water	10/08/21 12:38	10/15/21 09:45
280-154272-4	C21100467-004G	Water	10/08/21 13:28	10/15/21 09:45
280-154272-5	C21100467-009A	Water	10/07/21 13:43	10/15/21 09:45
280-154272-6	C21100467-010A	Water	10/07/21 13:43	10/15/21 09:45

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: C21100467-001G — **Lab Sample ID: 280-154272-1**
Date Collected: 10/07/21 13:43 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 19:21	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 19:21	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 19:21	1
Chloroform	ND		1.0	0.22	ug/L			10/17/21 19:21	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/17/21 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*73 - 122*		*10/17/21 19:21*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*		*10/17/21 19:21*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/17/21 19:21*	*1*

Client Sample ID: C21100467-002G — **Lab Sample ID: 280-154272-2**
Date Collected: 10/07/21 14:53 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 19:43	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 19:43	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 19:43	1
Chloroform	**0.51**	**J**	1.0	0.22	ug/L			10/17/21 19:43	1
Trihalomethanes, Total	**0.51**	**J**	1.0	0.15	ug/L			10/17/21 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 122*		*10/17/21 19:43*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*		*10/17/21 19:43*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/17/21 19:43*	*1*

Client Sample ID: C21100467-003G — **Lab Sample ID: 280-154272-3**
Date Collected: 10/08/21 12:38 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 20:04	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 20:04	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 20:04	1
Chloroform	ND		1.0	0.22	ug/L			10/17/21 20:04	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/17/21 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*		*10/17/21 20:04*	*1*
4-Bromofluorobenzene (Surr)	*95*		*79 - 119*		*10/17/21 20:04*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/17/21 20:04*	*1*

Client Sample ID: C21100467-004G — **Lab Sample ID: 280-154272-4**
Date Collected: 10/08/21 13:28 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 20:26	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 20:26	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 20:26	1
Chloroform	**0.34**	**J**	1.0	0.22	ug/L			10/17/21 20:26	1
Trihalomethanes, Total	**0.34**	**J**	1.0	0.15	ug/L			10/17/21 20:26	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 122*		*10/17/21 20:26*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*		*10/17/21 20:26*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/17/21 20:26*	*1*

Client Sample ID: C21100467-009A — **Lab Sample ID: 280-154272-5**
Date Collected: 10/07/21 13:43 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 14:40	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 14:40	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 14:40	1
Chloroform	ND		1.0	0.22	ug/L			10/17/21 14:40	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/17/21 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 122*		*10/17/21 14:40*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 119*		*10/17/21 14:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/17/21 14:40*	*1*

Client Sample ID: C21100467-010A — **Lab Sample ID: 280-154272-6**
Date Collected: 10/07/21 13:43 — **Matrix: Water**
Date Received: 10/15/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 15:02	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 15:02	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 15:02	1
Chloroform	ND		1.0	0.22	ug/L			10/17/21 15:02	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/17/21 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*94*		*73 - 122*		*10/17/21 15:02*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*		*10/17/21 15:02*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/17/21 15:02*	*1*

Surrogate Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(73-122)	(79-119)	(80-120)
280-154023-A-2 MS	Matrix Spike	95	93	97
280-154023-A-2 MSD	Matrix Spike Duplicate	93	92	98
280-154272-1	C21100467-001G	96	96	98
280-154272-2	C21100467-002G	95	96	99
280-154272-3	C21100467-003G	97	95	100
280-154272-4	C21100467-004G	93	93	100
280-154272-5	C21100467-009A	94	97	99
280-154272-6	C21100467-010A	94	93	98
LCS 280-553869/4	Lab Control Sample	95	93	96
LCSD 280-553869/5	Lab Control Sample Dup	92	96	99
MB 280-553869/9	Method Blank	92	94	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-553869/9
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/17/21 13:56	1
Bromoform	ND		2.0	0.67	ug/L			10/17/21 13:56	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/17/21 13:56	1
Chloroform	ND		1.0	0.22	ug/L			10/17/21 13:56	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/17/21 13:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*73 - 122*		*10/17/21 13:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/17/21 13:56*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/17/21 13:56*	*1*

Lab Sample ID: LCS 280-553869/4
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	50.0	48.2		ug/L		96	65 - 135
Bromoform	50.0	52.7		ug/L		105	70 - 130
Chlorodibromomethane	50.0	50.7		ug/L		101	70 - 135
Chloroform	50.0	48.8		ug/L		98	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 122*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: LCSD 280-553869/5
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	50.0	49.4		ug/L		99	65 - 135	2	30
Bromoform	50.0	52.2		ug/L		104	70 - 130	1	30
Chlorodibromomethane	50.0	52.8		ug/L		106	70 - 135	4	30
Chloroform	50.0	50.3		ug/L		101	70 - 135	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*73 - 122*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 280-154023-A-2 MS
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	3.1		50.0	51.8		ug/L		97	35 - 155
Bromoform	ND		50.0	46.2		ug/L		92	45 - 169

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-154023-A-2 MS
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorodibromomethane	2.2		50.0	50.2		ug/L		96	53 - 149		
Chloroform	5.7		50.0	54.6		ug/L		98	51 - 138		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 122*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 280-154023-A-2 MSD
Matrix: Water
Analysis Batch: 553869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	3.1		50.0	51.8		ug/L		97	35 - 155	0	30
Bromoform	ND		50.0	48.0		ug/L		96	45 - 169	4	30
Chlorodibromomethane	2.2		50.0	51.4		ug/L		98	53 - 149	2	30
Chloroform	5.7		50.0	53.7		ug/L		96	51 - 138	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*73 - 122*
4-Bromofluorobenzene (Surr)	*92*		*79 - 119*
Toluene-d8 (Surr)	*98*		*80 - 120*

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

GC/MS VOA

Analysis Batch: 553869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-154272-1	C21100467-001G	Total/NA	Water	624.1	
280-154272-2	C21100467-002G	Total/NA	Water	624.1	
280-154272-3	C21100467-003G	Total/NA	Water	624.1	
280-154272-4	C21100467-004G	Total/NA	Water	624.1	
280-154272-5	C21100467-009A	Total/NA	Water	624.1	
280-154272-6	C21100467-010A	Total/NA	Water	624.1	
MB 280-553869/9	Method Blank	Total/NA	Water	624.1	
LCS 280-553869/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-553869/5	Lab Control Sample Dup	Total/NA	Water	624.1	
280-154023-A-2 MS	Matrix Spike	Total/NA	Water	624.1	
280-154023-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Client Sample ID: C21100467-001G — Lab Sample ID: 280-154272-1

Date Collected: 10/07/21 13:43
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 19:21	AJP	TAL DEN

Client Sample ID: C21100467-002G — Lab Sample ID: 280-154272-2

Date Collected: 10/07/21 14:53
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 19:43	AJP	TAL DEN

Client Sample ID: C21100467-003G — Lab Sample ID: 280-154272-3

Date Collected: 10/08/21 12:38
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 20:04	AJP	TAL DEN

Client Sample ID: C21100467-004G — Lab Sample ID: 280-154272-4

Date Collected: 10/08/21 13:28
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 20:26	AJP	TAL DEN

Client Sample ID: C21100467-009A — Lab Sample ID: 280-154272-5

Date Collected: 10/07/21 13:43
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 14:40	AJP	TAL DEN

Client Sample ID: C21100467-010A — Lab Sample ID: 280-154272-6

Date Collected: 10/07/21 13:43
Date Received: 10/15/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553869	10/17/21 15:02	AJP	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154272-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21 *
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ANALYTICAL SUMMARY REPORT

December 03, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21100526 Quote ID: C6117

Project Name: UNC-SW Alluvium & Zone 3

Energy Laboratories, Inc. Casper WY received the following 17 samples for United Nuclear Corporation on 10/14/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21100526-001	803	10/11/21 9:50	10/14/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100526-002	808	10/11/21 10:24	10/14/21	Aqueous	Same As Above
C21100526-003	802	10/11/21 11:03	10/14/21	Aqueous	Same As Above
C21100526-004	GW-1	10/11/21 11:52	10/14/21	Aqueous	Same As Above
C21100526-005	624	10/11/21 13:47	10/14/21	Aqueous	Same As Above
C21100526-006	EPA-25	10/12/21 9:46	10/14/21	Aqueous	Same As Above
C21100526-007	RW-A	10/12/21 12:20	10/14/21	Aqueous	Same As Above
C21100526-008	RW-11	10/13/21 11:53	10/14/21	Aqueous	Same As Above
C21100526-009	NW-4	10/12/21 13:00	10/14/21	Aqueous	Alkalinity Anions by Ion Chromatography pH Solids, Total Dissolved

ANALYTICAL SUMMARY REPORT

C21100526-010	EPA-28	10/11/21 12:36	10/14/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100526-011	EPA-28 Duplicate	10/11/21 13:15	10/14/21	Aqueous	Same As Above
C21100526-012	SBL-1	10/11/21 14:30	10/14/21	Aqueous	Same As Above
C21100526-013	627	10/11/21 15:30	10/14/21	Aqueous	Same As Above
C21100526-014	Rinsate	10/12/21 10:32	10/14/21	Aqueous	Same As Above
C21100526-015	Field Blank	10/12/21 11:00	10/14/21	Aqueous	Same As Above
C21100526-016	Trip Blank-80352	10/11/21 9:50	10/14/21	Trip Blank	624-Purgeable Organics
C21100526-017	Trip Blank-79121	10/11/21 9:50	10/14/21	Trip Blank	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Terry Friedlan
Wyoming Regional Director

Digitally signed by
Terry Friedlan
Date: 2021.12.03 07:54:57 -07:00

CLIENT: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Work Order: C21100526

Report Date: 12/03/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as "etad" were subcontracted to Eurofins Test America, 4955 Yarrow St, Arvada, CO 80002, TEL (303) 736-0100. Please see attached data packet for details.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_211015A	
Lab ID: ICV		Initial Calibration Verification Standard							10/15/21 15:13	
pH		6.89	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275711	
Lab ID: MBLK		Method Blank				Run: MANTECH_211015A			10/15/21 21:57	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_211015A			10/15/21 22:06	
Alkalinity, Total as CaCO3		253	mg/L	5.0	101	90	110			
Lab ID: C21100494-003ADUP		Sample Duplicate				Run: MANTECH_211015A			10/15/21 23:45	
Alkalinity, Total as CaCO3		201	mg/L	5.0				1.1	10	
Lab ID: MBLK		Method Blank				Run: MANTECH_211015A			10/16/21 01:23	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_211015A			10/16/21 01:31	
Alkalinity, Total as CaCO3		252	mg/L	5.0	101	90	110			
Lab ID: C21100526-008ADUP		Sample Duplicate				Run: MANTECH_211015A			10/16/21 01:45	
Alkalinity, Total as CaCO3		100	mg/L	5.0				1.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS211015A
Lab ID: MB-1_211015A		Method Blank				Run: BAL-111_211015B				10/15/21 09:39
Solids, Total Dissolved TDS @ 180 C		10	mg/L	5						
Lab ID: LCS-2_211015A		Laboratory Control Sample				Run: BAL-111_211015B				10/15/21 09:40
Solids, Total Dissolved TDS @ 180 C		1020	mg/L	10	102	90	110			
Lab ID: C21100516-001A DUP		Sample Duplicate				Run: BAL-111_211015B				10/15/21 09:41
Solids, Total Dissolved TDS @ 180 C		51.5	mg/L	10				2.0	5	
Lab ID: C21100526-009A DUP		Sample Duplicate				Run: BAL-111_211015B				10/15/21 09:54
Solids, Total Dissolved TDS @ 180 C		4410	mg/L	39				0.0	5	
Method: A2540 C										Batch: TDS211019A
Lab ID: MB-1_211019A		Method Blank				Run: BAL-111_211019A				10/19/21 13:35
Solids, Total Dissolved TDS @ 180 C		9	mg/L	5						
Lab ID: LCS-2_211019A		Laboratory Control Sample				Run: BAL-111_211019A				10/19/21 13:36
Solids, Total Dissolved TDS @ 180 C		1010	mg/L	10	101	90	110			
Lab ID: C21100572-013A DUP		Sample Duplicate				Run: BAL-111_211019A				10/19/21 13:38
Solids, Total Dissolved TDS @ 180 C		1260	mg/L	10				0.3	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_211015A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/15/21 08:26	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		17.4	°C			0	0			
Method: A4500-H B									Batch: R275645	
Lab ID: C21100516-001ADUP	2	Sample Duplicate				Run: PHSC_101-C_211015A			10/15/21 09:26	
pH		6.8	s.u.	0.1				0.0	1.5	
pH Measurement Temp		17.3	°C							
Lab ID: C21100526-009ADUP	2	Sample Duplicate				Run: PHSC_101-C_211015A			10/15/21 10:06	
pH		5.8	s.u.	0.1				0.2	1.5	
pH Measurement Temp		13.5	°C							
Method: A4500-H B									Analytical Run: PHSC_101-C_211018A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/18/21 08:47	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.4	°C			0	0			
Method: A4500-H B									Batch: R275710	
Lab ID: C21100526-014ADUP	2	Sample Duplicate				Run: PHSC_101-C_211018A			10/18/21 10:24	
pH		6.6	s.u.	0.1				0.6	1.5	
pH Measurement Temp		9.9	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_211015A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/15/21 12:26	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			39.5	mg/L	1.0	99	90	110			
Method:	**E300.0**									Batch: R275722	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211015A			10/15/21 12:45	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211015A			10/15/21 13:04	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			39.9	mg/L	1.0	100	90	110			
Lab ID:	**C21100509-001AMS**	2	Sample Matrix Spike				Run: IC3-C_211015A			10/16/21 21:21	
Chloride			21.3	mg/L	1.0	99	80	120			
Sulfate			205	mg/L	1.0	97	80	120			
Lab ID:	**C21100509-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211015A			10/16/21 21:40	
Chloride			21.7	mg/L	1.0	102	80	120	2.2	20	
Sulfate			206	mg/L	1.0	99	80	120	0.8	20	
Lab ID:	**C21100526-008AMS**	2	Sample Matrix Spike				Run: IC3-C_211015A			10/17/21 01:49	
Chloride			231	mg/L	2.1	99	80	120			
Sulfate			4100	mg/L	8.3		80	120			A
Lab ID:	**C21100526-008AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211015A			10/17/21 02:09	
Chloride			234	mg/L	2.1	101	80	120	1.5	20	
Sulfate			4140	mg/L	8.3		80	120	0.9	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC3-C_211028A		
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/28/21 16:26	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			40.4	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R276211	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211028A			10/28/21 16:45	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211028A			10/28/21 17:04	
Chloride			10.5	mg/L	1.0	105	90	110			
Sulfate			41.1	mg/L	1.0	103	90	110			
Lab ID:	**C21100526-010AMS**	2	Sample Matrix Spike				Run: IC3-C_211028A			10/28/21 18:02	
Chloride			303	mg/L	2.1	98	80	120			
Sulfate			4020	mg/L	8.3		80	120			A
Lab ID:	**C21100526-010AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211028A			10/28/21 18:21	
Chloride			303	mg/L	2.1	98	80	120	0.3	20	
Sulfate			3920	mg/L	8.3		80	120	2.6	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_211019A	
Lab ID: ICV		Initial Calibration Verification Standard							10/19/21 13:03	
Nitrogen, Ammonia as N		1.03	mg/L	0.050	103	90	110			
Method: E350.1									Batch: R275777	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211019A			10/19/21 13:02	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211019A			10/19/21 13:05	
Nitrogen, Ammonia as N		0.966	mg/L	0.050	98	90	110			
Lab ID: C21100510-002CMS		Sample Matrix Spike				Run: FIA201-C_211019A			10/19/21 13:24	
Nitrogen, Ammonia as N		10.2	mg/L	0.25	99	90	110			E
Lab ID: C21100510-002CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211019A			10/19/21 13:25	
Nitrogen, Ammonia as N		10.0	mg/L	0.25	96	90	110	1.5	10	
Lab ID: C21100526-011EMS		Sample Matrix Spike				Run: FIA201-C_211019A			10/19/21 13:40	
Nitrogen, Ammonia as N		0.822	mg/L	0.050	82	90	110			S
Lab ID: C21100526-011EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211019A			10/19/21 13:42	
Nitrogen, Ammonia as N		0.853	mg/L	0.050	85	90	110	3.7	10	S

Qualifiers:

RL - Analyte Reporting Limit

E - Estimated value - result exceeds the instrument upper quantitation limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_211018A	
Lab ID: ICV		Initial Calibration Verification Standard							10/18/21 11:22	
Nitrogen, Nitrate+Nitrite as N		0.951	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275730	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211018A			10/18/21 11:23	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211018A			10/18/21 11:24	
Nitrogen, Nitrate+Nitrite as N		0.967	mg/L	0.010	98	90	110			
Lab ID: C21100526-014EMS		Sample Matrix Spike				Run: FIA201-C_211018A			10/18/21 13:21	
Nitrogen, Nitrate+Nitrite as N		1.02	mg/L	0.010	92	90	110			
Lab ID: C21100526-014EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211018A			10/18/21 13:22	
Nitrogen, Nitrate+Nitrite as N		1.05	mg/L	0.010	95	90	110	2.9	10	
Lab ID: C21100526-015EMS		Sample Matrix Spike				Run: FIA201-C_211018A			10/18/21 13:27	
Nitrogen, Nitrate+Nitrite as N		0.966	mg/L	0.010	97	90	110			
Lab ID: C21100526-015EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211018A			10/18/21 13:28	
Nitrogen, Nitrate+Nitrite as N		0.992	mg/L	0.010	99	90	110	2.7	10	
Lab ID: C21100572-014CMS		Sample Matrix Spike				Run: FIA201-C_211018A			10/18/21 14:01	
Nitrogen, Nitrate+Nitrite as N		0.968	mg/L	0.010	97	90	110			
Lab ID: C21100572-014CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211018A			10/18/21 14:02	
Nitrogen, Nitrate+Nitrite as N		0.980	mg/L	0.010	98	90	110	1.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211021B	
Lab ID: QCS	8	Initial Calibration Verification Standard							10/26/21 12:04	
Aluminum		4.21	mg/L	0.30	105	95	105			
Beryllium		0.415	mg/L	0.010	104	95	105			
Calcium		40.5	mg/L	0.50	101	95	105			
Magnesium		40.3	mg/L	0.50	101	95	105			
Molybdenum		0.786	mg/L	0.10	98	95	105			
Nickel		0.767	mg/L	0.050	96	95	105			
Potassium		39.8	mg/L	0.50	100	95	105			
Sodium		41.7	mg/L	0.53	104	95	105			
Method: E200.7										Batch: 64406
Lab ID: MB-64406	4	Method Blank				Run: ICP4-C_211021B			10/26/21 21:17	
Aluminum		ND	mg/L	0.02						
Beryllium		ND	mg/L	0.0002						
Molybdenum		ND	mg/L	0.005						
Nickel		0.007	mg/L	0.004						
Lab ID: LCS3-64406	4	Laboratory Control Sample				Run: ICP4-C_211021B			10/26/21 21:26	
Aluminum		2.49	mg/L	0.030	100	85	115			
Beryllium		0.248	mg/L	0.0010	99	85	115			
Molybdenum		0.493	mg/L	0.025	99	85	115			
Nickel		0.490	mg/L	0.025	98	85	115			
Lab ID: C21100526-011CMS3	4	Sample Matrix Spike				Run: ICP4-C_211021B			10/26/21 22:33	
Aluminum		2.53	mg/L	0.050	101	70	130			
Beryllium		0.247	mg/L	0.0013	99	70	130			
Molybdenum		0.480	mg/L	0.050	96	70	130			
Nickel		0.465	mg/L	0.050	93	70	130			
Lab ID: C21100526-011CMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/26/21 22:37	
Aluminum		2.71	mg/L	0.050	109	70	130	7.0	20	
Beryllium		0.255	mg/L	0.0013	102	70	130	2.9	20	
Molybdenum		0.492	mg/L	0.050	98	70	130	2.5	20	
Nickel		0.484	mg/L	0.050	97	70	130	4.0	20	
Method: E200.7										Batch: R276019
Lab ID: LRB	4	Method Blank				Run: ICP4-C_211021B			10/26/21 06:40	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_211021B			10/26/21 06:57	
Calcium		49.7	mg/L	0.50	99	85	115			
Magnesium		48.0	mg/L	0.50	96	85	115			
Potassium		49.8	mg/L	0.50	100	85	115			
Sodium		48.2	mg/L	0.54	96	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**										Batch: R276019
Lab ID:	**C21100509-001BMS2**	4	Sample Matrix Spike				Run: ICP4-C_211021B				10/26/21 15:29
Calcium			193	mg/L	1.0	99	70	130			
Magnesium			118	mg/L	1.0	96	70	130			
Potassium			103	mg/L	1.0	101	70	130			
Sodium			139	mg/L	1.0	101	70	130			
Lab ID:	**C21100509-001BMSD**	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211021B				10/26/21 15:33
Calcium			193	mg/L	1.0	99	70	130	0.0	20	
Magnesium			119	mg/L	1.0	97	70	130	0.8	20	
Potassium			103	mg/L	1.0	100	70	130	0.5	20	
Sodium			138	mg/L	1.0	100	70	130	0.4	20	
Method:	**E200.7**										Analytical Run: ICP4-C_211029A
Lab ID:	**QCS**	2	Initial Calibration Verification Standard								10/29/21 10:46
Calcium			41.1	mg/L	0.50	103	95	105			
Magnesium			40.3	mg/L	0.50	101	95	105			
Method:	**E200.7**										Batch: R276234
Lab ID:	**LRB**	2	Method Blank				Run: ICP4-C_211029A				10/29/21 10:25
Calcium			ND	mg/L	0.1						
Magnesium			ND	mg/L	0.08						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: ICP4-C_211029A				10/29/21 10:42
Calcium			51.5	mg/L	0.50	103	85	115			
Magnesium			51.3	mg/L	0.50	103	85	115			
Lab ID:	**C21100328-001BMS2**	2	Sample Matrix Spike				Run: ICP4-C_211029A				10/29/21 11:45
Calcium			546	mg/L	1.0		70	130			A
Magnesium			713	mg/L	1.0		70	130			A
Lab ID:	**C21100328-001BMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211029A				10/29/21 11:49
Calcium			552	mg/L	1.0		70	130	1.1	20	A
Magnesium			716	mg/L	1.0		70	130	0.4	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**								Analytical Run: ICP4-C_211101A		
Lab ID:	**QCS**	2	Initial Calibration Verification Standard							11/01/21 22:37	
Potassium			40.2	mg/L	0.50	101	95	105			
Sodium			40.3	mg/L	0.53	101	95	105			
Method:	**E200.7**									Batch: R276293	
Lab ID:	**LRB**	2	Method Blank				Run: ICP4-C_211101A			11/01/21 22:16	
Potassium			ND	mg/L	0.2						
Sodium			ND	mg/L	1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: ICP4-C_211101A			11/01/21 22:33	
Potassium			44.9	mg/L	0.50	90	85	115			
Sodium			45.6	mg/L	0.54	91	85	115			
Lab ID:	**C21100328-001BMS2**	2	Sample Matrix Spike				Run: ICP4-C_211101A			11/01/21 23:14	
Potassium			88.6	mg/L	1.0	79	70	130			
Sodium			232	mg/L	1.0	82	70	130			
Lab ID:	**C21100328-001BMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211101A			11/01/21 23:19	
Potassium			86.6	mg/L	1.0	77	70	130	2.3	20	
Sodium			230	mg/L	1.0	79	70	130	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211024A	
Lab ID: QCS	9	Initial Calibration Verification Standard							10/22/21 18:00	
Arsenic		0.0507	mg/L	0.0010	101	90	110			
Cadmium		0.0251	mg/L	0.0010	100	90	110			
Cobalt		0.0477	mg/L	0.0050	95	90	110			
Lead		0.0478	mg/L	0.0010	96	90	110			
Manganese		0.245	mg/L	0.0010	98	90	110			
Molybdenum		0.0479	mg/L	0.0010	96	90	110			
Selenium		0.0509	mg/L	0.0010	102	90	110			
Uranium		0.0184	mg/L	0.00030	92	90	110			
Vanadium		0.0481	mg/L	0.010	96	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211028A	
Lab ID: QCS	11 Initial Calibration Verification Standard								10/29/21 13:41	
Aluminum		0.240	mg/L	0.030	96	90	110			
Arsenic		0.0513	mg/L	0.0010	103	90	110			
Cadmium		0.0247	mg/L	0.0010	99	90	110			
Cobalt		0.0472	mg/L	0.0050	94	90	110			
Lead		0.0474	mg/L	0.0010	95	90	110			
Manganese		0.249	mg/L	0.0010	100	90	110			
Molybdenum		0.0470	mg/L	0.0010	94	90	110			
Nickel		0.0500	mg/L	0.0050	100	90	110			
Selenium		0.0497	mg/L	0.0010	99	90	110			
Uranium		0.0187	mg/L	0.00030	94	90	110			
Vanadium		0.0477	mg/L	0.010	95	90	110			
Method: E200.8										Batch: 64406
Lab ID: MB-64406	12 Method Blank					Run: ICPMS5-C_211028A			10/29/21 13:15	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-64406	12 Laboratory Control Sample					Run: ICPMS5-C_211028A			10/29/21 13:20	
Aluminum		2.31	mg/L	0.030	92	85	115			
Arsenic		0.465	mg/L	0.0010	93	85	115			
Beryllium		0.205	mg/L	0.0010	82	85	115			S
Cadmium		0.321	mg/L	0.0010	128	85	115			S
Cobalt		0.465	mg/L	0.0050	93	85	115			
Lead		0.496	mg/L	0.0010	99	85	115			
Manganese		2.52	mg/L	0.0010	101	85	115			
Molybdenum		0.479	mg/L	0.0010	96	85	115			
Nickel		0.629	mg/L	0.0050	126	85	115			S
Selenium		0.493	mg/L	0.0010	99	85	115			
Uranium		0.488	mg/L	0.00030	98	85	115			
Vanadium		0.517	mg/L	0.010	103	85	115			
Lab ID: C21100526-001CMS3	12 Sample Matrix Spike					Run: ICPMS5-C_211028A			10/29/21 14:18	
Aluminum		2.26	mg/L	0.030	90	70	130			
Arsenic		0.534	mg/L	0.0010	107	70	130			
Beryllium		0.204	mg/L	0.0010	82	70	130			
Cadmium		0.229	mg/L	0.0010	91	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 64406
Lab ID: C21100526-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211028A				10/29/21 14:18
Cobalt		0.460	mg/L	0.0050	91	70	130			
Lead		0.499	mg/L	0.0010	100	70	130			
Manganese		5.33	mg/L	0.0010	100	70	130			
Molybdenum		0.523	mg/L	0.0010	105	70	130			
Nickel		0.485	mg/L	0.0050	96	70	130			
Selenium		0.583	mg/L	0.0010	117	70	130			
Uranium		0.606	mg/L	0.00030	107	70	130			
Vanadium		0.529	mg/L	0.010	106	70	130			
Lab ID: C21100526-001CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211028A				10/29/21 14:23
Aluminum		2.27	mg/L	0.030	91	70	130	0.8	20	
Arsenic		0.558	mg/L	0.0010	112	70	130	4.4	20	
Beryllium		0.201	mg/L	0.0010	80	70	130	1.7	20	
Cadmium		0.232	mg/L	0.0010	93	70	130	1.6	20	
Cobalt		0.466	mg/L	0.0050	92	70	130	1.3	20	
Lead		0.499	mg/L	0.0010	100	70	130	0.1	20	
Manganese		5.52	mg/L	0.0010	107	70	130	3.5	20	
Molybdenum		0.529	mg/L	0.0010	106	70	130	1.1	20	
Nickel		0.503	mg/L	0.0050	100	70	130	3.6	20	
Selenium		0.585	mg/L	0.0010	117	70	130	0.3	20	
Uranium		0.596	mg/L	0.00030	105	70	130	1.6	20	
Vanadium		0.541	mg/L	0.010	108	70	130	2.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211104A	
Lab ID: QCS		Initial Calibration Verification Standard							11/04/21 16:10	
Nickel		0.0515	mg/L	0.0050	103	90	110			
Method: E200.8									Batch: 64406	
Lab ID: MB-64406	12	Method Blank				Run: ICPMS5-C_211104A			11/04/21 19:55	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: C21100526-001CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211104A			11/04/21 20:27	
Aluminum		2.27	mg/L	0.030	91	70	130			
Arsenic		0.533	mg/L	0.0010	106	70	130			
Beryllium		0.191	mg/L	0.0010	76	70	130			
Cadmium		0.232	mg/L	0.0010	93	70	130			
Cobalt		0.458	mg/L	0.0050	91	70	130			
Lead		0.505	mg/L	0.0010	101	70	130			
Manganese		5.44	mg/L	0.0010	108	70	130			
Molybdenum		0.515	mg/L	0.0010	103	70	130			
Nickel		0.463	mg/L	0.0050	92	70	130			
Selenium		0.577	mg/L	0.0010	115	70	130			
Uranium		0.603	mg/L	0.00030	106	70	130			
Vanadium		0.532	mg/L	0.010	106	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/17/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211107A	
Lab ID: QCS	10	Initial Calibration Verification Standard							11/08/21 01:32	
Aluminum		0.246	mg/L	0.030	98	90	110			
Beryllium		0.0247	mg/L	0.0010	99	90	110			
Cadmium		0.0245	mg/L	0.0010	98	90	110			
Cobalt		0.0491	mg/L	0.0050	98	90	110			
Lead		0.0475	mg/L	0.0010	95	90	110			
Manganese		0.242	mg/L	0.0010	97	90	110			
Molybdenum		0.0468	mg/L	0.0010	94	90	110			
Nickel		0.0498	mg/L	0.0050	100	90	110			
Selenium		0.0497	mg/L	0.0010	99	90	110			
Uranium		0.0184	mg/L	0.00030	92	90	110			
Method: E200.8									Batch: 64406	
Lab ID: MB2-64406	12	Method Blank				Run: ICPMS5-C_211107A			11/08/21 06:18	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Method: E200.8									Analytical Run: ICPMS5-C_211112A	
Lab ID: QCS		Initial Calibration Verification Standard							11/12/21 03:11	
Aluminum		0.252	mg/L	0.030	101	90	110			
Method: E200.8									Analytical Run: ICPMS5-C_211115A	
Lab ID: QCS		Initial Calibration Verification Standard							11/15/21 14:42	
Aluminum		0.249	mg/L	0.030	100	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 10/22/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R369003
Lab ID: CCV102021	Continuing Calibration Verification Standard								10/20/21 09:34
Bromodichloromethane	4.76	ug/L	0.50	95	70	130			
Bromoform	4.96	ug/L	0.50	99	70	130			
Chlorodibromomethane	4.83	ug/L	0.50	97	70	130			
Chloroform	4.96	ug/L	0.50	99	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	99	71	139			
Surr: p-Bromofluorobenzene			0.50	92	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Method: E624.1									Batch: R369003
Lab ID: LCS102021	Laboratory Control Sample				Run: SV5972.I_211020B				10/20/21 10:24
Bromodichloromethane	4.71	ug/L	0.50	94	74	128			
Bromoform	5.09	ug/L	0.50	102	70	130			
Chlorodibromomethane	4.78	ug/L	0.50	96	74	125			
Chloroform	4.51	ug/L	0.50	90	70	135			
Surr: 1,2-Dichloroethane-d4			0.50	101	71	139			
Surr: p-Bromofluorobenzene			0.50	96	80	127			
Surr: Toluene-d8			0.50	94	80	123			
Lab ID: MBLK102021	Method Blank				Run: SV5972.I_211020B				10/20/21 12:04
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4			0.50	98	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Lab ID: B21101441-001GMS	Sample Matrix Spike				Run: SV5972.I_211020B				10/20/21 19:18
Bromodichloromethane	4.88	ug/L	0.50	98	74	128			
Bromoform	5.20	ug/L	0.50	104	66	128			
Chlorodibromomethane	4.92	ug/L	0.50	98	74	125			
Chloroform	4.65	ug/L	0.50	93	68	124			
Surr: 1,2-Dichloroethane-d4			0.50	99	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Lab ID: B21101441-001GMSD	Sample Matrix Spike Duplicate				Run: SV5972.I_211020B				10/20/21 19:43
Bromodichloromethane	4.86	ug/L	0.50	97	74	128	0.2	20	
Bromoform	5.67	ug/L	0.50	113	66	128	8.7	20	
Chlorodibromomethane	5.06	ug/L	0.50	101	74	125	2.9	20	
Chloroform	4.88	ug/L	0.50	98	68	124	4.9	20	
Surr: 1,2-Dichloroethane-d4			0.50	103	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	93	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3314RR	
Lab ID: MB-RA-TH-ISO-3314	3	Method Blank				Run: EGG-ORTEC_2_211020D			11/02/21 14:33	
Thorium 230		0.02	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3314	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211020D			11/02/21 14:33	
Thorium 230		9.2	pCi/L		96	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.057	pCi/L							
Lab ID: C21100425-001FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211020D			11/03/21 07:44	
Thorium 230		0.13	pCi/L					170	30	UR
Thorium 230 precision (±)		0.11	pCi/L							
Thorium 230 MDC		0.17	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.88.										
Method: A7500-U C									Batch: RA-TH-ISO-3315	
Lab ID: MB-RA-TH-ISO-3315	3	Method Blank				Run: EGG-ORTEC_2_211021A			11/03/21 14:04	
Thorium 230		0.06	pCi/L							U
Thorium 230 precision (±)		0.04	pCi/L							
Thorium 230 MDC		0.07	pCi/L							
Lab ID: LCS-RA-TH-ISO-3315	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211021A			11/03/21 14:04	
Thorium 230		9.0	pCi/L		94	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.068	pCi/L							
Lab ID: C21100572-005EDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211021A			11/04/21 06:56	
Thorium 230		-0.0048	pCi/L					260	30	UR
Thorium 230 precision (±)		0.085	pCi/L							
Thorium 230 MDC		0.18	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.34.										
Method: A7500-U C									Batch: RA-TH-ISO-3325	
Lab ID: MB-RA-TH-ISO-3325	3	Method Blank				Run: EGG-ORTEC_2_211104A			11/05/21 13:25	
Thorium 230		0.04	pCi/L							U
Thorium 230 precision (±)		0.04	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3325	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211104A			11/05/21 13:25	
Thorium 230		9.1	pCi/L		94	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.051	pCi/L							
Lab ID: C21100926-018DDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211104A			11/05/21 13:25	
Thorium 230		-0.015	pCi/L					240	30	UR
Thorium 230 precision (±)		0.070	pCi/L							
Thorium 230 MDC		0.15	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.72.										

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1321
Lab ID: MB-GA-1321	3	Method Blank				Run: G5000W_211019A			10/22/21 09:07	
Gross Alpha minus Rn & U		-0.05	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.7	pCi/L							
Gross Alpha minus Rn & U MDC		1	pCi/L							
Lab ID: LCS-GA-1321	3	Laboratory Control Sample				Run: G5000W_211019A			10/22/21 09:07	
Gross Alpha minus Rn & U		38	pCi/L		110	70	130			
Gross Alpha minus Rn & U Precision (±)		7.6	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							
Lab ID: C21100526-001FDUP	3	Sample Duplicate				Run: G5000W_211019A			10/22/21 10:47	
Gross Alpha minus Rn & U		-0.11	pCi/L					300	30	UR
Gross Alpha minus Rn & U Precision (±)		0.70	pCi/L							
Gross Alpha minus Rn & U MDC		1.1	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.65.

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1322
Lab ID: MB-GA-1322	3	Method Blank				Run: G542M_211019A			10/22/21 09:37	
Gross Alpha minus Rn & U		0.3	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.7	pCi/L							
Lab ID: LCS-GA-1322	3	Laboratory Control Sample				Run: G542M_211019A			10/22/21 09:37	
Gross Alpha minus Rn & U		35	pCi/L		102	70	130			
Gross Alpha minus Rn & U Precision (±)		7.0	pCi/L							
Gross Alpha minus Rn & U MDC		0.75	pCi/L							
Lab ID: C21100526-005FDUP	3	Sample Duplicate				Run: G542M_211019A			10/22/21 09:37	
Gross Alpha minus Rn & U		0.38	pCi/L					100	20	UR
Gross Alpha minus Rn & U Precision (±)		0.54	pCi/L							
Gross Alpha minus Rn & U MDC		0.74	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 2, the RER result is 0.95.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10227
Lab ID: LCS-RA226-10227	3	Laboratory Control Sample				Run: G5000W_211018A				10/27/21 08:52
Radium 226		11	pCi/L		104	70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-10227	3	Method Blank				Run: G5000W_211018A				10/27/21 08:52
Radium 226		0.05	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21100467-001FDUP	3	Sample Duplicate				Run: G5000W_211018A				10/27/21 08:52
Radium 226		0.44	pCi/L					25	30	
Radium 226 precision (±)		0.17	pCi/L							
Radium 226 MDC		0.20	pCi/L							
Method: E903.0										Batch: RA226-10228
Lab ID: LCS-RA226-10228	3	Laboratory Control Sample				Run: G5000W_211020B				11/01/21 12:25
Radium 226		10	pCi/L		102	70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.18	pCi/L							
Lab ID: MB-RA226-10228	3	Method Blank				Run: G5000W_211020B				11/01/21 12:25
Radium 226		-0.04	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21100588-001ADUP	3	Sample Duplicate				Run: G5000W_211020B				11/01/21 12:25
Radium 226		0.11	pCi/L					14	20	U
Radium 226 precision (±)		0.14	pCi/L							
Radium 226 MDC		0.20	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1323	
Lab ID: LCS-PB-210-1323	3	Laboratory Control Sample				Run: PACKARD 3100TR_211022B			10/29/21 12:08	
Lead 210		18	pCi/L		104	70	130			
Lead 210 precision (±)		5.5	pCi/L							
Lead 210 MDC		1.7	pCi/L							
Lab ID: MB-PB-210-1323	3	Method Blank				Run: PACKARD 3100TR_211022B			10/29/21 13:13	
Lead 210		0.08	pCi/L							U
Lead 210 precision (±)		0.7	pCi/L							
Lead 210 MDC		1	pCi/L							
Lab ID: C21100526-010FDUP	3	Sample Duplicate				Run: PACKARD 3100TR_211022B			10/30/21 01:39	
Lead 210		0.89	pCi/L					230	30	UR
Lead 210 precision (±)		0.70	pCi/L							
Lead 210 MDC		1.2	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.00.

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1322	
Lab ID: LCS-PB-210-1322	3	Laboratory Control Sample				Run: TRICARB LSC_211020A			10/27/21 16:59	
Lead 210		18	pCi/L		102	70	130			
Lead 210 precision (±)		5.3	pCi/L							
Lead 210 MDC		1.5	pCi/L							
Lab ID: MB-PB-210-1322	3	Method Blank				Run: TRICARB LSC_211020A			10/27/21 18:04	
Lead 210		-0.07	pCi/L							U
Lead 210 precision (±)		0.5	pCi/L							
Lead 210 MDC		0.9	pCi/L							
Lab ID: C21100466-006FDUP	3	Sample Duplicate				Run: TRICARB LSC_211020A			10/28/21 10:46	
Lead 210		0.20	pCi/L					97	30	UR
Lead 210 precision (±)		0.54	pCi/L							
Lead 210 MDC		0.90	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.48.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100526 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6613
Lab ID: LCS-228-RA226-10228	3	Laboratory Control Sample				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		7.0	pCi/L		91	70	130			
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		2.1	pCi/L							
Lab ID: MB-RA226-10228	3	Method Blank				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		0.02	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C21100588-001ADUP	3	Sample Duplicate				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		-1.2	pCi/L					75	20	UR
Radium 228 precision (±)		1.2	pCi/L							
Radium 228 MDC		2.1	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.40.

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6611
Lab ID: LCS-228-RA226-10227	3	Laboratory Control Sample				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		7.5	pCi/L		98	70	130			
Radium 228 precision (±)		1.6	pCi/L							
Radium 228 MDC		1.3	pCi/L							
Lab ID: MB-RA226-10227	3	Method Blank				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		-0.07	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21100467-001FDUP	3	Sample Duplicate				Run: TENNELEC-4_211018B			10/22/21 12:12	
Radium 228		0.47	pCi/L					2.6	30	U
Radium 228 precision (±)		0.57	pCi/L							
Radium 228 MDC		0.91	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-154364-1
Client Project/Site: 11(e) Byproduct Material
Revision: 1

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
10/25/2021 10:27:18 AM

Dylan Bieniulis, Project Manager I
(303)736-0138
Dylan.Bieniulis@Eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-154364-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

Job Narrative
280-154364-1

Comments
Revision 1: The original final report did not include information provided by the GC/MS VOA analyst that data reported for specific samples was from analysis of a container that had headspace greater than 6mm in diameter. This information is included in this revision. No change to reported data.

Receipt
The samples were received on 10/19/2021 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8° C.

Receipt Exceptions

Three of three HCl preserved VOA vials for the following samples were received with a headspace bubble greater than 6mm in diameter: C21100526-002G (280-154364-2), C21100526-003G (280-154364-3) and C21100526-005G (280-154364-5). The laboratory will proceed with analysis unless instructed otherwise. The client was notified on 10/19/2021.

Two of three HCl preserved VOA vials for sample C21100526-004G (280-154364-4) were received with a headspace bubble greater than 6mm in diameter. The client was notified on 10/19/2021.

GC/MS VOA

The method requirement for no headspace was not met. The following volatile samples were analyzed with significant headspace in the sample containers: C21100526-002G (280-154364-2), C21100526-003G (280-154364-3), C21100526-004G (280-154364-4) and C21100526-005G (280-154364-5). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Client Sample ID: C21100526-001G — Lab Sample ID: 280-154364-1

No Detections.

Client Sample ID: C21100526-002G — Lab Sample ID: 280-154364-2

No Detections.

Client Sample ID: C21100526-003G — Lab Sample ID: 280-154364-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.0		1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	1.0		1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21100526-004G — Lab Sample ID: 280-154364-4

No Detections.

Client Sample ID: C21100526-005G — Lab Sample ID: 280-154364-5

No Detections.

Client Sample ID: C21100526-006G — Lab Sample ID: 280-154364-6

No Detections.

Client Sample ID: C21100526-007G — Lab Sample ID: 280-154364-7

No Detections.

Client Sample ID: C21100526-008G — Lab Sample ID: 280-154364-8

No Detections.

Client Sample ID: C21100526-016A — Lab Sample ID: 280-154364-9

No Detections.

Client Sample ID: C21100526-017A — Lab Sample ID: 280-154364-10

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL DEN

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-154364-1	C21100526-001G	Water	10/11/21 09:50	10/19/21 09:35
280-154364-2	C21100526-002G	Water	10/11/21 10:24	10/19/21 09:35
280-154364-3	C21100526-003G	Water	10/11/21 11:03	10/19/21 09:35
280-154364-4	C21100526-004G	Water	10/11/21 11:52	10/19/21 09:35
280-154364-5	C21100526-005G	Water	10/11/21 13:47	10/19/21 09:35
280-154364-6	C21100526-006G	Water	10/11/21 09:46	10/19/21 09:35
280-154364-7	C21100526-007G	Water	10/12/21 12:20	10/19/21 09:35
280-154364-8	C21100526-008G	Water	10/12/21 11:53	10/19/21 09:35
280-154364-9	C21100526-016A	Water	10/13/21 09:50	10/19/21 09:35
280-154364-10	C21100526-017A	Water	10/11/21 09:50	10/19/21 09:35

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: C21100526-001G — **Lab Sample ID: 280-154364-1**
Date Collected: 10/11/21 09:50 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 12:01	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 12:01	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 12:01	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 12:01	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 12:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 122*		*10/22/21 12:01*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/22/21 12:01*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/22/21 12:01*	*1*

Client Sample ID: C21100526-002G — **Lab Sample ID: 280-154364-2**
Date Collected: 10/11/21 10:24 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 12:23	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 12:23	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 12:23	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 12:23	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*		*10/22/21 12:23*	*1*
4-Bromofluorobenzene (Surr)	*92*		*79 - 119*		*10/22/21 12:23*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/22/21 12:23*	*1*

Client Sample ID: C21100526-003G — **Lab Sample ID: 280-154364-3**
Date Collected: 10/11/21 11:03 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 12:44	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 12:44	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 12:44	1
Chloroform	**1.0**		1.0	0.22	ug/L			10/22/21 12:44	1
Trihalomethanes, Total	**1.0**		1.0	0.15	ug/L			10/22/21 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*		*10/22/21 12:44*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/22/21 12:44*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/22/21 12:44*	*1*

Client Sample ID: C21100526-004G — **Lab Sample ID: 280-154364-4**
Date Collected: 10/11/21 11:52 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 13:06	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 13:06	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 13:06	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 13:06	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 13:06	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		73 - 122		10/22/21 13:06	1
4-Bromofluorobenzene (Surr)	92		79 - 119		10/22/21 13:06	1
Toluene-d8 (Surr)	102		80 - 120		10/22/21 13:06	1

Client Sample ID: C21100526-005G **Lab Sample ID: 280-154364-5**
Date Collected: 10/11/21 13:47 **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 13:28	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 13:28	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 13:28	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 13:28	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		73 - 122		10/22/21 13:28	1
4-Bromofluorobenzene (Surr)	94		79 - 119		10/22/21 13:28	1
Toluene-d8 (Surr)	103		80 - 120		10/22/21 13:28	1

Client Sample ID: C21100526-006G **Lab Sample ID: 280-154364-6**
Date Collected: 10/11/21 09:46 **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 13:49	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 13:49	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 13:49	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 13:49	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		73 - 122		10/22/21 13:49	1
4-Bromofluorobenzene (Surr)	95		79 - 119		10/22/21 13:49	1
Toluene-d8 (Surr)	101		80 - 120		10/22/21 13:49	1

Client Sample ID: C21100526-007G **Lab Sample ID: 280-154364-7**
Date Collected: 10/12/21 12:20 **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 14:11	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 14:11	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 14:11	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 14:11	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		73 - 122		10/22/21 14:11	1
4-Bromofluorobenzene (Surr)	95		79 - 119		10/22/21 14:11	1
Toluene-d8 (Surr)	100		80 - 120		10/22/21 14:11	1

Client Sample ID: C21100526-008G **Lab Sample ID: 280-154364-8**
Date Collected: 10/12/21 11:53 **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 14:32	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: C21100526-008G — **Lab Sample ID: 280-154364-8**
Date Collected: 10/12/21 11:53 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		2.0	0.67	ug/L			10/22/21 14:32	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 14:32	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 14:32	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*73 - 122*		*10/22/21 14:32*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*		*10/22/21 14:32*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/22/21 14:32*	*1*

Client Sample ID: C21100526-016A — **Lab Sample ID: 280-154364-9**
Date Collected: 10/13/21 09:50 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 14:54	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 14:54	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 14:54	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 14:54	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 122*		*10/22/21 14:54*	*1*
4-Bromofluorobenzene (Surr)	*95*		*79 - 119*		*10/22/21 14:54*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*10/22/21 14:54*	*1*

Client Sample ID: C21100526-017A — **Lab Sample ID: 280-154364-10**
Date Collected: 10/11/21 09:50 — **Matrix: Water**
Date Received: 10/19/21 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 15:16	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 15:16	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 15:16	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 15:16	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*73 - 122*		*10/22/21 15:16*	*1*
4-Bromofluorobenzene (Surr)	*95*		*79 - 119*		*10/22/21 15:16*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/22/21 15:16*	*1*

Surrogate Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	**Client Sample ID**	**(73-122)**	**(79-119)**	**(80-120)**
280-154364-1	C21100526-001G	98	94	103
280-154364-2	C21100526-002G	97	92	101
280-154364-3	C21100526-003G	100	94	100
280-154364-4	C21100526-004G	98	92	102
280-154364-5	C21100526-005G	99	94	103
280-154364-6	C21100526-006G	98	95	101
280-154364-7	C21100526-007G	98	95	100
280-154364-8	C21100526-008G	96	93	102
280-154364-9	C21100526-016A	98	95	103
280-154364-10	C21100526-017A	99	95	100
280-154429-A-1 MS	Matrix Spike	98	96	103
280-154429-A-1 MSD	Matrix Spike Duplicate	97	93	101
LCS 280-554575/5	Lab Control Sample	101	95	103
LCSD 280-554575/6	Lab Control Sample Dup	100	94	104
MB 280-554575/10	Method Blank	100	95	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-554575/10
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/22/21 11:17	1
Bromoform	ND		2.0	0.67	ug/L			10/22/21 11:17	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/22/21 11:17	1
Chloroform	ND		1.0	0.22	ug/L			10/22/21 11:17	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/22/21 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*		*10/22/21 11:17*	*1*
4-Bromofluorobenzene (Surr)	*95*		*79 - 119*		*10/22/21 11:17*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/22/21 11:17*	*1*

Lab Sample ID: LCS 280-554575/5
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	25.0	22.5		ug/L		90	65 - 135
Bromoform	25.0	21.9		ug/L		88	70 - 130
Chlorodibromomethane	25.0	23.1		ug/L		93	70 - 135
Chloroform	25.0	23.3		ug/L		93	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*73 - 122*
4-Bromofluorobenzene (Surr)	*95*		*79 - 119*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 280-554575/6
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	25.0	23.3		ug/L		93	65 - 135	4	30
Bromoform	25.0	23.1		ug/L		93	70 - 130	5	30
Chlorodibromomethane	25.0	24.5		ug/L		98	70 - 135	6	30
Chloroform	25.0	24.3		ug/L		97	70 - 135	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*73 - 122*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 280-154429-A-1 MS
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	ND	F2	50.0	57.5		ug/L		115	35 - 155
Bromoform	ND	F2	50.0	60.6		ug/L		121	45 - 169

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-154429-A-1 MS
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorodibromomethane	ND	F2	50.0	62.6		ug/L		125	53 - 149
Chloroform	ND	F2	50.0	58.5		ug/L		117	51 - 138

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 122*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 280-154429-A-1 MSD
Matrix: Water
Analysis Batch: 554575

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	ND	F2	50.0	40.5	F2	ug/L		81	35 - 155	35	30
Bromoform	ND	F2	50.0	40.0	F2	ug/L		80	45 - 169	41	30
Chlorodibromomethane	ND	F2	50.0	41.8	F2	ug/L		84	53 - 149	40	30
Chloroform	ND	F2	50.0	41.0	F2	ug/L		82	51 - 138	35	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*
4-Bromofluorobenzene (Surr)	*93*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

GC/MS VOA

Analysis Batch: 554575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-154364-1	C21100526-001G	Total/NA	Water	624.1	
280-154364-2	C21100526-002G	Total/NA	Water	624.1	
280-154364-3	C21100526-003G	Total/NA	Water	624.1	
280-154364-4	C21100526-004G	Total/NA	Water	624.1	
280-154364-5	C21100526-005G	Total/NA	Water	624.1	
280-154364-6	C21100526-006G	Total/NA	Water	624.1	
280-154364-7	C21100526-007G	Total/NA	Water	624.1	
280-154364-8	C21100526-008G	Total/NA	Water	624.1	
280-154364-9	C21100526-016A	Total/NA	Water	624.1	
280-154364-10	C21100526-017A	Total/NA	Water	624.1	
MB 280-554575/10	Method Blank	Total/NA	Water	624.1	
LCS 280-554575/5	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-554575/6	Lab Control Sample Dup	Total/NA	Water	624.1	
280-154429-A-1 MS	Matrix Spike	Total/NA	Water	624.1	
280-154429-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624.1	

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Client Sample ID: C21100526-001G — **Lab Sample ID: 280-154364-1**
Date Collected: 10/11/21 09:50 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 12:01	JLS	TAL DEN

Client Sample ID: C21100526-002G — **Lab Sample ID: 280-154364-2**
Date Collected: 10/11/21 10:24 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 12:23	JLS	TAL DEN

Client Sample ID: C21100526-003G — **Lab Sample ID: 280-154364-3**
Date Collected: 10/11/21 11:03 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 12:44	JLS	TAL DEN

Client Sample ID: C21100526-004G — **Lab Sample ID: 280-154364-4**
Date Collected: 10/11/21 11:52 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 13:06	JLS	TAL DEN

Client Sample ID: C21100526-005G — **Lab Sample ID: 280-154364-5**
Date Collected: 10/11/21 13:47 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 13:28	JLS	TAL DEN

Client Sample ID: C21100526-006G — **Lab Sample ID: 280-154364-6**
Date Collected: 10/11/21 09:46 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 13:49	JLS	TAL DEN

Client Sample ID: C21100526-007G — **Lab Sample ID: 280-154364-7**
Date Collected: 10/12/21 12:20 — Matrix: Water
Date Received: 10/19/21 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 14:11	JLS	TAL DEN

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Client Sample ID: C21100526-008G

Lab Sample ID: 280-154364-8

Date Collected: 10/12/21 11:53
Date Received: 10/19/21 09:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 14:32	JLS	TAL DEN

Client Sample ID: C21100526-016A

Lab Sample ID: 280-154364-9

Date Collected: 10/13/21 09:50
Date Received: 10/19/21 09:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 14:54	JLS	TAL DEN

Client Sample ID: C21100526-017A

Lab Sample ID: 280-154364-10

Date Collected: 10/11/21 09:50
Date Received: 10/19/21 09:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	554575	10/22/21 15:16	JLS	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154364-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21 *
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ANALYTICAL SUMMARY REPORT

November 19, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21100250 Quote ID: C6117

Project Name: UNC- Zone 1 & Zone 3

Energy Laboratories, Inc. Casper WY received the following 11 samples for United Nuclear Corporation on 10/6/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21100250-001	614	10/04/21 9:02	10/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100250-002	515-A	10/04/21 10:42	10/06/21	Aqueous	Same As Above
C21100250-003	604	10/04/21 11:48	10/06/21	Aqueous	Same As Above
C21100250-004	EPA-7	10/04/21 12:35	10/06/21	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

C21100250-005	613	10/04/21 13:28	10/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100250-006	EPA-14	10/04/21 14:11	10/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics

ANALYTICAL SUMMARY REPORT

C21100250-007	717	10/04/21 14:52	10/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100250-008	717 Duplicate	10/04/21 15:45	10/06/21	Aqueous	Same As Above
C21100250-009	EPA-13	10/04/21 16:33	10/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100250-010	Trip Blank-80352	10/04/21 9:02	10/06/21	Trip Blank	624-Purgeable Organics
C21100250-011	Trip Blank-79121	10/04/21 9:02	10/06/21	Trip Blank	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Ashley Wilson
Project Manager

Digitally signed by
Ashley L. Wilson
Date: 2021.11.19 16:41:42 -07:00

CLIENT: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Work Order: C21100250

Report Date: 11/19/21

CASE NARRATIVE

Tests associated with analyst identified as "etad" were subcontracted to Eurofins Test America, 4955 Yarrow St, Arvada, CO 80002, TEL (303) 736-0100. Please see attached data packet for details.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B									Analytical Run: ACIDITY_211015A	
Lab ID: ICV		Initial Calibration Verification Standard							10/15/21 15:05	
pH		6.81	s.u.	0.010	99	98	102			
Method: A2310 B									Batch: ACID211015_A	
Lab ID: MBLK		Method Blank				Run: ACIDITY_211015A			10/15/21 15:07	
Acidity, Total as CaCO3		3	mg/L							
Lab ID: LCS		Laboratory Control Sample				Run: ACIDITY_211015A			10/15/21 15:24	
Acidity, Total as CaCO3		820	mg/L		104	90	110			
Lab ID: C21100250-005A DUP		Sample Duplicate				Run: ACIDITY_211015A			10/15/21 15:31	
Acidity, Total as CaCO3		3370	mg/L					0.9	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_211008A	
Lab ID: ICV		Initial Calibration Verification Standard							10/08/21 10:50	
pH		6.83	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275453	
Lab ID: MBLK		Method Blank				Run: MANTECH_211008A			10/08/21 17:06	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: C21100234-020ADUP		Sample Duplicate				Run: MANTECH_211008A			10/08/21 17:29	
Alkalinity, Total as CaCO3		250	mg/L	5.0				0.5	10	
Lab ID: C21100250-006ADUP		Sample Duplicate				Run: MANTECH_211008A			10/08/21 18:46	
Alkalinity, Total as CaCO3		88.1	mg/L	5.0				5.3	10	
Method: A2320 B									Analytical Run: MANTECH_211018A	
Lab ID: ICV		Initial Calibration Verification Standard							10/18/21 11:05	
pH		6.85	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275733	
Lab ID: MBLK		Method Blank				Run: MANTECH_211018A			10/18/21 11:10	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_211018A			10/18/21 11:17	
Alkalinity, Total as CaCO3		250	mg/L	5.0	100	90	110			
Lab ID: C21100250-009ADUP		Sample Duplicate				Run: MANTECH_211018A			10/18/21 11:30	
Alkalinity, Total as CaCO3		43.9	mg/L	5.0				0.1	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS211007A
Lab ID: MB-1_211007A		Method Blank				Run: BAL-111_211007A				10/07/21 10:10
Solids, Total Dissolved TDS @ 180 C		6	mg/L	5						
Lab ID: LCS-2_211007A		Laboratory Control Sample				Run: BAL-111_211007A				10/07/21 10:11
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21100250-001A DUP		Sample Duplicate				Run: BAL-111_211007A				10/07/21 10:18
Solids, Total Dissolved TDS @ 180 C		6470	mg/L	100				0.2	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_211007A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/07/21 09:14	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.1	°C			0	0			
Method: A4500-H B									Batch: R275363	
Lab ID: C21100234-018ADUP	2	Sample Duplicate				Run: PHSC_101-C_211007A			10/07/21 11:17	
pH		7.6	s.u.	0.1				0.3	1.5	
pH Measurement Temp		13.7	°C							
Lab ID: C21100250-004ADUP	2	Sample Duplicate				Run: PHSC_101-C_211007A			10/07/21 11:57	
pH		6.2	s.u.	0.1				0.2	1.5	
pH Measurement Temp		15.9	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC3-C_211008A		
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/08/21 16:05	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			40.1	mg/L	1.0	100	90	110			
Method:	**E300.0**									Batch: R275452	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211008A			10/08/21 16:24	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211008A			10/08/21 16:43	
Chloride			10.2	mg/L	1.0	102	90	110			
Sulfate			40.5	mg/L	1.0	101	90	110			
Lab ID:	**C21100250-001AMS**	2	Sample Matrix Spike				Run: IC3-C_211008A			10/09/21 02:38	
Chloride			855	mg/L	5.2	101	80	120			
Sulfate			5320	mg/L	21	100	80	120			
Lab ID:	**C21100250-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211008A			10/09/21 02:57	
Chloride			857	mg/L	5.2	102	80	120	0.2	20	
Sulfate			5350	mg/L	21	101	80	120	0.6	20	
Method:	**E300.0**								Analytical Run: IC3-C_211012A		
Lab ID:	**ICV**		Initial Calibration Verification Standard							10/12/21 15:43	
Sulfate			40.5	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R275590	
Lab ID:	**ICB**		Method Blank				Run: IC3-C_211012A			10/12/21 16:02	
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: IC3-C_211012A			10/12/21 16:21	
Sulfate			40.0	mg/L	1.0	100	90	110			
Lab ID:	**C21100323-002AMS**		Sample Matrix Spike				Run: IC3-C_211012A			10/12/21 17:18	
Sulfate			747	mg/L	2.1	92	80	120			
Lab ID:	**C21100323-002AMSD**		Sample Matrix Spike Duplicate				Run: IC3-C_211012A			10/12/21 17:38	
Sulfate			751	mg/L	2.1	94	80	120	0.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC3-C_211018A		
Lab ID:	**ICV**	Initial Calibration Verification Standard								10/18/21 14:40	
Sulfate			39.6	mg/L	1.0	99	90	110			
Method:	**E300.0**									Batch: R275781	
Lab ID:	**ICB**	Method Blank					Run: IC3-C_211018A			10/18/21 15:00	
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	Laboratory Fortified Blank					Run: IC3-C_211018A			10/18/21 15:19	
Sulfate			40.2	mg/L	1.0	101	90	110			
Lab ID:	**C21100250-009AMS**	Sample Matrix Spike					Run: IC3-C_211018A			10/18/21 16:16	
Sulfate			5920	mg/L	8.3		80	120			A
Lab ID:	**C21100250-009AMSD**	Sample Matrix Spike Duplicate					Run: IC3-C_211018A			10/18/21 16:35	
Sulfate			5970	mg/L	8.3		80	120	0.8	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_211011A	
Lab ID: ICV		Initial Calibration Verification Standard							10/11/21 11:09	
Nitrogen, Ammonia as N		1.01	mg/L	0.050	101	90	110			
Method: E350.1									Batch: R275462	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211011A			10/11/21 11:08	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211011A			10/11/21 11:10	
Nitrogen, Ammonia as N		0.907	mg/L	0.050	92	90	110			
Lab ID: C21100224-003DMS		Sample Matrix Spike				Run: FIA201-C_211011A			10/11/21 11:46	
Nitrogen, Ammonia as N		0.616	mg/L	0.050	62	90	110			S
Lab ID: C21100224-003DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211011A			10/11/21 11:47	
Nitrogen, Ammonia as N		0.649	mg/L	0.050	65	90	110	5.3	10	S
Lab ID: C21100250-009EMS		Sample Matrix Spike				Run: FIA201-C_211011A			10/11/21 12:03	
Nitrogen, Ammonia as N		0.891	mg/L	0.050	87	90	110			S
Lab ID: C21100250-009EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211011A			10/11/21 12:04	
Nitrogen, Ammonia as N		0.930	mg/L	0.050	91	90	110	4.3	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 10/25/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_211007A	
Lab ID: ICV		Initial Calibration Verification Standard							10/07/21 12:28	
Nitrogen, Nitrate+Nitrite as N		0.971	mg/L	0.010	97	90	110			
Method: E353.2									Batch: R275380	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211007A			10/07/21 12:29	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211007A			10/07/21 12:30	
Nitrogen, Nitrate+Nitrite as N		0.938	mg/L	0.010	95	90	110			
Lab ID: C21100250-001EMS		Sample Matrix Spike				Run: FIA201-C_211007A			10/07/21 14:00	
Nitrogen, Nitrate+Nitrite as N		132	mg/L	0.25	96	90	110			E
Lab ID: C21100250-001EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211007A			10/07/21 14:01	
Nitrogen, Nitrate+Nitrite as N		131	mg/L	0.25	94	90	110	0.4	10	E

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

E - Estimated value - result exceeds the instrument upper quantitation limit

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211012A	
Lab ID: QCS	4	Initial Calibration Verification Standard							10/12/21 21:47	
Calcium		42.8	mg/L	0.50	107	90	110			
Magnesium		41.4	mg/L	0.50	104	90	110			
Potassium		42.2	mg/L	0.50	106	90	110			
Sodium		42.0	mg/L	0.53	105	90	110			
Method: E200.7										Batch: R275567
Lab ID: LRB	4	Method Blank				Run: ICP4-C_211012A			10/12/21 21:26	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_211012A			10/12/21 21:43	
Calcium		51.0	mg/L	0.50	102	85	115			
Magnesium		49.5	mg/L	0.50	99	85	115			
Potassium		50.9	mg/L	0.50	102	85	115			
Sodium		51.0	mg/L	0.54	102	85	115			
Lab ID: C21100234-020BMS2	4	Sample Matrix Spike				Run: ICP4-C_211012A			10/13/21 13:38	
Calcium		189	mg/L	1.0	88	70	130			
Magnesium		122	mg/L	1.0	88	70	130			
Potassium		53.9	mg/L	1.0	96	70	130			
Sodium		57.6	mg/L	1.0	93	70	130			
Lab ID: C21100234-020BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211012A			10/13/21 13:51	
Calcium		184	mg/L	1.0	79	70	130	2.3	20	
Magnesium		115	mg/L	1.0	74	70	130	6.0	20	
Potassium		54.1	mg/L	1.0	97	70	130	0.4	20	
Sodium		55.2	mg/L	1.0	88	70	130	4.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211018A	
Lab ID: QCS	5	Initial Calibration Verification Standard							10/18/21 14:27	
Beryllium		0.427	mg/L	0.010	107	90	110			
Cobalt		0.756	mg/L	0.020	95	90	110			
Magnesium		41.4	mg/L	0.50	104	90	110			
Manganese		3.97	mg/L	0.010	99	90	110			
Nickel		0.777	mg/L	0.050	97	90	110			
Method: E200.7										Batch: 64330
Lab ID: MB-64330	4	Method Blank				Run: ICP4-C_211018A			10/18/21 16:41	
Aluminum		0.03	mg/L	0.02						
Beryllium		ND	mg/L	0.0002						
Cobalt		ND	mg/L	0.002						
Manganese		ND	mg/L	0.0008						
Lab ID: LCS3-64330	4	Laboratory Control Sample				Run: ICP4-C_211018A			10/18/21 16:45	
Aluminum		2.64	mg/L	0.030	106	85	115			
Beryllium		0.260	mg/L	0.0010	104	85	115			
Cobalt		0.487	mg/L	0.025	97	85	115			
Manganese		2.52	mg/L	0.0012	101	85	115			
Lab ID: C21100250-001CMS3	4	Sample Matrix Spike				Run: ICP4-C_211018A			10/18/21 16:58	
Aluminum		2.84	mg/L	0.25	114	70	130			
Beryllium		0.257	mg/L	0.0063	103	70	130			
Cobalt		0.448	mg/L	0.25	90	70	130			
Manganese		3.35	mg/L	0.012	99	70	130			
Lab ID: C21100250-001CMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211018A			10/18/21 17:02	
Aluminum		2.76	mg/L	0.25	110	70	130	3.2	20	
Beryllium		0.257	mg/L	0.0063	103	70	130	0.1	20	
Cobalt		0.461	mg/L	0.25	92	70	130	2.8	20	
Manganese		3.35	mg/L	0.012	99	70	130	0.1	20	
Method: E200.7										Batch: R275736
Lab ID: LRB	3	Method Blank				Run: ICP4-C_211018A			10/18/21 14:06	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Sodium		ND	mg/L	1						
Lab ID: LFB	3	Laboratory Fortified Blank				Run: ICP4-C_211018A			10/18/21 14:23	
Calcium		54.6	mg/L	0.50	109	85	115			
Magnesium		54.9	mg/L	0.50	110	85	115			
Sodium		54.6	mg/L	0.54	109	85	115			
Lab ID: C21100205-006BMS2	3	Sample Matrix Spike				Run: ICP4-C_211018A			10/18/21 17:48	
Calcium		86.5	mg/L	1.0	111	70	130			
Magnesium		64.8	mg/L	1.0	108	70	130			
Sodium		64.7	mg/L	1.0	118	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Batch: R275736	
Lab ID:	**C21100205-006BMSD**	3	Sample Matrix Spike Duplicate				Run: ICP4-C_211018A			10/18/21 17:52	
Calcium			80.6	mg/L	1.0	100	70	130	7.0	20	
Magnesium			59.1	mg/L	1.0	96	70	130	9.2	20	
Sodium			58.1	mg/L	1.0	105	70	130	11	20	
Method:	**E200.7**									Analytical Run: ICP4-C_211021A	
Lab ID:	**QCS**		Initial Calibration Verification Standard							10/21/21 17:50	
Potassium			40.6	mg/L	0.50	102	95	105			
Method:	**E200.7**									Batch: R275919	
Lab ID:	**LRB**		Method Blank				Run: ICP4-C_211021A			10/21/21 17:29	
Potassium			ND	mg/L	0.2						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: ICP4-C_211021A			10/21/21 17:46	
Potassium			49.2	mg/L	0.50	98	85	115			
Lab ID:	**C21100455-001BMS2**		Sample Matrix Spike				Run: ICP4-C_211021A			10/22/21 09:52	
Potassium			5260	mg/L	26	101	70	130			
Lab ID:	**C21100455-001BMSD**		Sample Matrix Spike Duplicate				Run: ICP4-C_211021A			10/22/21 09:56	
Potassium			5610	mg/L	26	108	70	130	6.4	20	
Method:	**E200.7**									Analytical Run: ICP4-C_211021B	
Lab ID:	**QCS**	2	Initial Calibration Verification Standard							10/26/21 12:04	
Aluminum			4.21	mg/L	0.30	105	95	105			
Beryllium			0.415	mg/L	0.010	104	95	105			
Method:	**E200.7**									Batch: 64430	
Lab ID:	**MB-64430**	2	Method Blank				Run: ICP4-C_211021B			10/26/21 23:41	
Aluminum			0.07	mg/L	0.02						
Beryllium			ND	mg/L	0.0002						
Lab ID:	**LCS3-64430**	2	Laboratory Control Sample				Run: ICP4-C_211021B			10/26/21 23:45	
Aluminum			2.58	mg/L	0.030	103	85	115			
Beryllium			0.261	mg/L	0.0010	104	85	115			
Lab ID:	**C21100529-001DMS3**	2	Sample Matrix Spike				Run: ICP4-C_211021B			10/27/21 00:44	
Aluminum			2.56	mg/L	0.050	96	70	130			
Beryllium			0.241	mg/L	0.0013	96	70	130			
Lab ID:	**C21100529-001DMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/27/21 00:48	
Aluminum			2.59	mg/L	0.050	98	70	130	1.1	20	
Beryllium			0.246	mg/L	0.0013	98	70	130	2.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211018A	
Lab ID: QCS	9	Initial Calibration Verification Standard							10/19/21 14:48	
Arsenic		0.0494	mg/L	0.0010	99	90	110			
Cadmium		0.0246	mg/L	0.0010	99	90	110			
Cobalt		0.0477	mg/L	0.0050	95	90	110			
Lead		0.0471	mg/L	0.0010	94	90	110			
Manganese		0.239	mg/L	0.0010	95	90	110			
Nickel		0.0480	mg/L	0.0050	96	90	110			
Selenium		0.0514	mg/L	0.0010	103	90	110			
Uranium		0.0183	mg/L	0.00030	92	90	110			
Vanadium		0.0465	mg/L	0.010	93	90	110			
Method: E200.8										Batch: 64330
Lab ID: MB-64330	12	Method Blank				Run: ICPMS5-C_211018A			10/18/21 14:36	
Aluminum		0.02	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		0.0009	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		0.0002	mg/L	0.0001						
Uranium		0.0004	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-64330	12	Laboratory Control Sample				Run: ICPMS5-C_211018A			10/18/21 14:41	
Aluminum		2.31	mg/L	0.030	92	85	115			
Arsenic		0.479	mg/L	0.0010	96	85	115			
Beryllium		0.208	mg/L	0.0010	83	85	115			S
Cadmium		0.247	mg/L	0.0010	99	85	115			
Cobalt		0.463	mg/L	0.0050	93	85	115			
Lead		0.492	mg/L	0.0010	98	85	115			
Manganese		2.38	mg/L	0.0010	95	85	115			
Molybdenum		0.624	mg/L	0.0010	125	85	115			S
Nickel		0.477	mg/L	0.0050	95	85	115			
Selenium		0.483	mg/L	0.0010	97	85	115			
Uranium		0.467	mg/L	0.00030	93	85	115			
Vanadium		0.481	mg/L	0.010	96	85	115			
Lab ID: C21100250-008CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211018A			10/18/21 16:23	
Aluminum		145	mg/L	0.036		70	130			A
Arsenic		0.480	mg/L	0.0010	94	70	130			
Beryllium		0.312	mg/L	0.0010	78	70	130			
Cadmium		0.250	mg/L	0.0010	96	70	130			
Cobalt		1.34	mg/L	0.0050	96	70	130			
Lead		0.504	mg/L	0.0010	98	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 64330
Lab ID: C21100250-008CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211018A			10/18/21 16:23	
Manganese		14.4	mg/L	0.0014		70	130			A
Molybdenum		0.483	mg/L	0.0014	97	70	130			
Nickel		1.33	mg/L	0.0050	87	70	130			
Selenium		0.563	mg/L	0.0010	112	70	130			
Uranium		1.07	mg/L	0.00054	97	70	130			
Vanadium		0.455	mg/L	0.010	91	70	130			
Lab ID: C21100250-008CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211018A			10/18/21 16:28	
Aluminum		148	mg/L	0.036		70	130	1.8	20	A
Arsenic		0.490	mg/L	0.0010	96	70	130	2.0	20	
Beryllium		0.314	mg/L	0.0010	79	70	130	0.6	20	
Cadmium		0.251	mg/L	0.0010	96	70	130	0.5	20	
Cobalt		1.35	mg/L	0.0050	98	70	130	0.8	20	
Lead		0.513	mg/L	0.0010	100	70	130	1.9	20	
Manganese		14.8	mg/L	0.0014		70	130	2.8	20	A
Molybdenum		0.492	mg/L	0.0014	98	70	130	1.9	20	
Nickel		1.36	mg/L	0.0050	93	70	130	2.5	20	
Selenium		0.575	mg/L	0.0010	114	70	130	2.1	20	
Uranium		1.10	mg/L	0.00054	102	70	130	2.4	20	
Vanadium		0.466	mg/L	0.010	93	70	130	2.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211028A	
Lab ID: QCS	3	Initial Calibration Verification Standard							10/29/21 17:30	
Aluminum		0.244	mg/L	0.030	98	90	110			
Manganese		0.243	mg/L	0.0010	97	90	110			
Uranium		0.0183	mg/L	0.00030	92	90	110			
Method: E200.8										Batch: 64430
Lab ID: MB-64430	6	Method Blank				Run: ICPMS5-C_211028A			10/29/21 16:35	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Lab ID: LCS3-64430	6	Laboratory Control Sample				Run: ICPMS5-C_211028A			10/29/21 16:40	
Aluminum		2.16	mg/L	0.030	87	85	115			
Arsenic		0.486	mg/L	0.0010	97	85	115			
Beryllium		0.204	mg/L	0.0010	82	85	115			S
Manganese		2.38	mg/L	0.0010	95	85	115			
Molybdenum		0.466	mg/L	0.0010	93	85	115			
Uranium		0.466	mg/L	0.00030	93	85	115			
Lab ID: C21100529-001DMS3	6	Sample Matrix Spike				Run: ICPMS5-C_211028A			10/29/21 19:31	
Aluminum		2.24	mg/L	0.030	88	70	130			
Arsenic		0.484	mg/L	0.0010	97	70	130			
Beryllium		0.220	mg/L	0.0010	88	70	130			
Manganese		2.34	mg/L	0.0010	93	70	130			
Molybdenum		0.456	mg/L	0.0010	91	70	130			
Uranium		0.479	mg/L	0.00030	95	70	130			
Lab ID: C21100529-001DMSD	6	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211028A			10/29/21 19:36	
Aluminum		2.28	mg/L	0.030	90	70	130	1.8	20	
Arsenic		0.484	mg/L	0.0010	97	70	130	0.1	20	
Beryllium		0.223	mg/L	0.0010	89	70	130	1.5	20	
Manganese		2.34	mg/L	0.0010	94	70	130	0.3	20	
Molybdenum		0.464	mg/L	0.0010	93	70	130	1.6	20	
Uranium		0.481	mg/L	0.00030	95	70	130	0.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211102A	
Lab ID: QCS		Initial Calibration Verification Standard							11/02/21 23:26	
Molybdenum		0.0468	mg/L	0.0010	94	90	110			
Method: E200.8									Batch: 64430	
Lab ID: MB-64430	6	Method Blank				Run: ICPMS5-C_211102A			11/04/21 02:28	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Method: E200.8									Analytical Run: ICPMS5-C_211104A	
Lab ID: QCS	4	Initial Calibration Verification Standard							11/04/21 16:10	
Aluminum		0.248	mg/L	0.030	99	90	110			
Beryllium		0.0255	mg/L	0.0010	102	90	110			
Molybdenum		0.0481	mg/L	0.0010	96	90	110			
Uranium		0.0186	mg/L	0.00030	93	90	110			
Method: E200.8									Batch: 64430	
Lab ID: MB-64430	6	Method Blank				Run: ICPMS5-C_211104A			11/04/21 17:22	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Method: E200.8									Analytical Run: ICPMS5-C_211107A	
Lab ID: QCS		Initial Calibration Verification Standard							11/07/21 18:04	
Aluminum		0.243	mg/L	0.030	97	90	110			
Method: E200.8									Batch: 64430	
Lab ID: MB-64430	6	Method Blank				Run: ICPMS5-C_211107A			11/07/21 19:31	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/16/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211109A	
Lab ID: QCS		Initial Calibration Verification Standard							11/09/21 15:47	
Aluminum		0.243	mg/L	0.030	97	90	110			
Method: E200.8									Batch: 64430	
Lab ID: MB-64430	6	Method Blank				Run: ICPMS5-C_211109A			11/09/21 15:09	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3306	
Lab ID: MB-RA-TH-ISO-3306	3	Method Blank				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		0.01	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3306	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		8.5	pCi/L		89	70	130			
Thorium 230 precision (±)		1.6	pCi/L							
Thorium 230 MDC		0.039	pCi/L							
Lab ID: C21100328-006FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		0.13	pCi/L					61	30	R
Thorium 230 precision (±)		0.076	pCi/L							
Thorium 230 MDC		0.11	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.53.										
Method: A7500-U C									Batch: RA-TH-ISO-3310	
Lab ID: MB-RA-TH-ISO-3310	3	Method Blank				Run: EGG-ORTEC_2_211019D			10/28/21 15:34	
Thorium 230		0.1	pCi/L							
Thorium 230 precision (±)		0.05	pCi/L							
Thorium 230 MDC		0.07	pCi/L							
Lab ID: LCS-RA-TH-ISO-3310	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211019D			10/28/21 15:34	
Thorium 230		10	pCi/L		108	70	130			
Thorium 230 precision (±)		2.0	pCi/L							
Thorium 230 MDC		0.056	pCi/L							
Lab ID: C21100328-004FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211019D			10/28/21 15:33	
Thorium 230		0.54	pCi/L					3.8	30	
Thorium 230 precision (±)		0.14	pCi/L							
Thorium 230 MDC		0.12	pCi/L							
Method: A7500-U C									Batch: RA-TH-ISO-3318	
Lab ID: MB-RA-TH-ISO-3318	3	Method Blank				Run: EGG-ORTEC_2_211026C			11/01/21 17:02	
Thorium 230		0.01	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3318	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211026C			11/01/21 17:02	
Thorium 230		9.0	pCi/L		94	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.044	pCi/L							
Lab ID: C21100572-010EDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211026C			11/02/21 10:11	
Thorium 230		-0.013	pCi/L					530	30	UR
Thorium 230 precision (±)		0.072	pCi/L							
Thorium 230 MDC		0.17	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.40.										

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C										Batch: RA-TH-ISO-3319
Lab ID: MB-RA-TH-ISO-3319	3	Method Blank				Run: EGG-ORTEC_2_211028A			10/29/21 16:48	
Thorium 230		0.02	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3319	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211028A			10/29/21 16:48	
Thorium 230		9.3	pCi/L		97	70	130			
Thorium 230 precision (±)		1.8	pCi/L							
Thorium 230 MDC		0.054	pCi/L							
Lab ID: C21100675-004FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211028A			10/29/21 16:47	
Thorium 230		0.023	pCi/L					70	30	UR
Thorium 230 precision (±)		0.032	pCi/L							
Thorium 230 MDC		0.058	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.29.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1320
Lab ID: MB-GA-1320	3	Method Blank				Run: G5000W_211012A				10/15/21 09:13
Gross Alpha minus Rn & U		-0.4	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.9	pCi/L							
Lab ID: LCS-GA-1320	3	Laboratory Control Sample				Run: G5000W_211012A				10/15/21 09:13
Gross Alpha minus Rn & U		30	pCi/L		88	70	130			
Gross Alpha minus Rn & U Precision (±)		6.0	pCi/L							
Gross Alpha minus Rn & U MDC		0.88	pCi/L							
Lab ID: C21100250-002FDUP	3	Sample Duplicate				Run: G5000W_211012A				10/15/21 10:56
Gross Alpha minus Rn & U		3.9	pCi/L					1.4	30	
Gross Alpha minus Rn & U Precision (±)		1.1	pCi/L							
Gross Alpha minus Rn & U MDC		0.86	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10213
Lab ID: LCS-RA226-10213	3	Laboratory Control Sample				Run: G542M-2_211008A				10/20/21 08:58
Radium 226		9.4	pCi/L		92	70	130			
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.27	pCi/L							
Lab ID: MB-RA226-10213	3	Method Blank				Run: G542M-2_211008A				10/20/21 08:58
Radium 226		0.06	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Lab ID: C21090296-001BDUP	3	Sample Duplicate				Run: G542M-2_211008A				10/20/21 08:59
Radium 226		0.33	pCi/L					29	30	
Radium 226 precision (±)		0.17	pCi/L							
Radium 226 MDC		0.25	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1315	
Lab ID: LCS-PB-210-1315	3	Laboratory Control Sample				Run: TRICARB LSC_211008B			10/16/21 18:01	
Lead 210		17	pCi/L		96	70	130			
Lead 210 precision (±)		5.1	pCi/L							
Lead 210 MDC		1.6	pCi/L							
Lab ID: MB-PB-210-1315	3	Method Blank				Run: TRICARB LSC_211008B			10/16/21 19:13	
Lead 210		0.1	pCi/L							U
Lead 210 precision (±)		0.6	pCi/L							
Lead 210 MDC		1	pCi/L							
Lab ID: C21100250-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_211008B			10/17/21 05:53	
Lead 210		0.67	pCi/L					36	30	UR
Lead 210 precision (±)		0.62	pCi/L							
Lead 210 MDC		1.0	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.23.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100250 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6605
Lab ID: LCS-228-RA226-10213	3	Laboratory Control Sample				Run: TENNELEC-3_211008A			10/15/21 11:18	
Radium 228		7.8	pCi/L		101	70	130			
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		1.7	pCi/L							
Lab ID: MB-RA226-10213	3	Method Blank				Run: TENNELEC-3_211008A			10/15/21 11:18	
Radium 228		-0.9	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C21090296-001BDUP	3	Sample Duplicate				Run: TENNELEC-3_211008A			10/15/21 11:18	
Radium 228		-0.19	pCi/L					20	30	U
Radium 228 precision (±)		0.90	pCi/L							
Radium 228 MDC		1.5	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

ANALYTICAL SUMMARY REPORT

November 27, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21100328 Quote ID: C6117

Project Name: UNC-Zone 3 & Zone 1

Energy Laboratories, Inc. Casper WY received the following 13 samples for United Nuclear Corporation on 10/7/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21100328-001	517	10/05/21 8:43	10/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100328-002	708	10/05/21 10:10	10/07/21	Aqueous	Same As Above
C21100328-003	711	10/05/21 11:05	10/07/21	Aqueous	Same As Above
C21100328-004	719	10/05/21 12:26	10/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics

ANALYTICAL SUMMARY REPORT

C21100328-005	MW-7	10/05/21 13:45	10/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100328-006	NW-5	10/05/21 15:30	10/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated TRACKER SHEET 624-Purgeable Organics 624-Purgeable Organics
C21100328-007	NW-3	10/05/21 15:00	10/07/21	Aqueous	Same As Above
C21100328-008	TWQ-142	10/06/21 9:17	10/07/21	Aqueous	Same As Above
C21100328-009	NBL-2	10/06/21 10:10	10/07/21	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

C21100328-010	Rinsate	10/06/21 11:02	10/07/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21100328-011	Field Blank	10/06/21 11:55	10/07/21	Aqueous	Same As Above
C21100328-012	Trip Blank-80352	10/05/21 8:43	10/07/21	Trip Blank	624-Purgeable Organics
C21100328-013	Trip Blank-78474	10/05/21 8:43	10/07/21	Trip Blank	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Terry Friedlan
Wyoming Regional Director

Digitally signed by
Terry Friedlan
Date: 2021.11.27 16:25:07 -07:00

CLIENT: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Work Order: C21100328

Report Date: 11/27/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as "etad" were subcontracted to Eurofins Test America, 4955 Yarrow St, Arvada, CO 80002, TEL (303) 736-0100. Please see attached data packet for details.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B									Analytical Run: ACIDITY_211015A	
Lab ID: ICV		Initial Calibration Verification Standard							10/15/21 15:05	
pH		6.81	s.u.	0.010	99	98	102			
Method: A2310 B									Batch: ACID211015_A	
Lab ID: MBLK		Method Blank				Run: ACIDITY_211015A			10/15/21 15:07	
Acidity, Total as CaCO3		3	mg/L							
Lab ID: LCS		Laboratory Control Sample				Run: ACIDITY_211015A			10/15/21 15:24	
Acidity, Total as CaCO3		820	mg/L		104	90	110			
Lab ID: C21100250-005A DUP		Sample Duplicate				Run: ACIDITY_211015A			10/15/21 15:31	
Acidity, Total as CaCO3		3370	mg/L					0.9	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_211011A	
Lab ID: ICV		Initial Calibration Verification Standard							10/11/21 10:17	
pH		6.83	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275510	
Lab ID: MBLK		Method Blank				Run: MANTECH_211011A			10/11/21 17:10	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: C21100327-004ADUP		Sample Duplicate				Run: MANTECH_211011A			10/11/21 19:23	
Alkalinity, Total as CaCO3		292	mg/L	5.0				0.6	10	
Lab ID: MBLK		Method Blank				Run: MANTECH_211011A			10/11/21 20:21	
Bicarbonate as HCO3		ND	mg/L	5						
Lab ID: C21100328-009ADUP		Sample Duplicate				Run: MANTECH_211011A			10/11/21 20:44	
Alkalinity, Total as CaCO3		273	mg/L	5.0				0.4	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS211011A
Lab ID: MB-25_211011A		Method Blank				Run: BAL-111_211011A			10/11/21 08:14	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-26_211011A		Laboratory Control Sample				Run: BAL-111_211011A			10/11/21 08:16	
Solids, Total Dissolved TDS @ 180 C		1010	mg/L	10	101	90	110			
Lab ID: C21100325-003A DUP		Sample Duplicate				Run: BAL-111_211011A			10/11/21 08:28	
Solids, Total Dissolved TDS @ 180 C		2880	mg/L	20				0.0	5	
Method: A2540 C										Batch: TDS211011B
Lab ID: MB-1_211011B		Method Blank				Run: BAL-111_211011B			10/11/21 11:53	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-2_211011B		Laboratory Control Sample				Run: BAL-111_211011B			10/11/21 11:54	
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21100328-003A DUP		Sample Duplicate				Run: BAL-111_211011B			10/11/21 11:55	
Solids, Total Dissolved TDS @ 180 C		5920	mg/L	40				0.2	5	
Lab ID: C21100328-007A DUP		Sample Duplicate				Run: BAL-111_211011B			10/11/21 12:04	
Solids, Total Dissolved TDS @ 180 C		4810	mg/L	40				0.0	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_211008A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/08/21 08:14	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.1	°C			0	0			
Method: A4500-H B									Batch: R275397	
Lab ID: C21100327-002ADUP	2	Sample Duplicate				Run: PHSC_101-C_211008A			10/08/21 13:10	
pH		7.7	s.u.	0.1				0.1	1.5	
pH Measurement Temp		16.3	°C							
Lab ID: C21100328-007ADUP	2	Sample Duplicate				Run: PHSC_101-C_211008A			10/08/21 13:42	
pH		6.7	s.u.	0.1				0.2	1.5	
pH Measurement Temp		14.2	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_211012A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/12/21 15:43	
Chloride			10.2	mg/L	1.0	102	90	110			
Sulfate			40.5	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R275590	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211012A			10/12/21 16:02	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211012A			10/12/21 16:21	
Chloride			10.2	mg/L	1.0	102	90	110			
Sulfate			40.0	mg/L	1.0	100	90	110			
Lab ID:	**C21100327-002AMS**	2	Sample Matrix Spike				Run: IC3-C_211012A			10/13/21 06:44	
Chloride			30.8	mg/L	1.0	97	80	120			
Sulfate			214	mg/L	1.0	95	80	120			
Lab ID:	**C21100327-002AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211012A			10/13/21 07:03	
Chloride			31.6	mg/L	1.0	101	80	120	2.5	20	
Sulfate			218	mg/L	1.0	100	80	120	1.7	20	
Lab ID:	**C21100328-007AMS**	2	Sample Matrix Spike				Run: IC3-C_211012A			10/13/21 11:12	
Chloride			239	mg/L	2.1	102	80	120			
Sulfate			3890	mg/L	8.3	91	80	120			
Lab ID:	**C21100328-007AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211012A			10/13/21 11:31	
Chloride			242	mg/L	2.1	103	80	120	1.1	20	
Sulfate			3840	mg/L	8.3	86	80	120	1.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_211011A	
Lab ID: ICV		Initial Calibration Verification Standard							10/11/21 11:09	
Nitrogen, Ammonia as N		1.01	mg/L	0.050	101	90	110			
Method: E350.1									Batch: R275462	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211011A			10/11/21 11:08	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211011A			10/11/21 11:10	
Nitrogen, Ammonia as N		0.907	mg/L	0.050	92	90	110			
Lab ID: C21100288-004DMS		Sample Matrix Spike				Run: FIA201-C_211011A			10/11/21 12:19	
Nitrogen, Ammonia as N		0.652	mg/L	0.050	65	90	110			S
Lab ID: C21100288-004DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211011A			10/11/21 12:21	
Nitrogen, Ammonia as N		0.690	mg/L	0.050	69	90	110	5.6	10	S
Lab ID: C21100328-002EMS		Sample Matrix Spike				Run: FIA201-C_211011A			10/11/21 12:42	
Nitrogen, Ammonia as N		1.68	mg/L	0.050	84	90	110			S
Lab ID: C21100328-002EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211011A			10/11/21 12:43	
Nitrogen, Ammonia as N		1.69	mg/L	0.050	85	90	110	0.6	10	S
Lab ID: C21100328-007EMS		Sample Matrix Spike				Run: FIA201-C_211011A			10/11/21 12:53	
Nitrogen, Ammonia as N		1.30	mg/L	0.050	69	90	110			S
Lab ID: C21100328-007EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211011A			10/11/21 12:54	
Nitrogen, Ammonia as N		1.29	mg/L	0.050	68	90	110	0.8	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/26/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_211012A	
Lab ID: ICV		Initial Calibration Verification Standard							10/12/21 11:01	
Nitrogen, Nitrate+Nitrite as N		0.947	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275519	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211012A			10/12/21 11:02	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211012A			10/12/21 11:04	
Nitrogen, Nitrate+Nitrite as N		0.954	mg/L	0.010	96	90	110			
Lab ID: C21100325-003DMS		Sample Matrix Spike				Run: FIA201-C_211012A			10/12/21 11:41	
Nitrogen, Nitrate+Nitrite as N		23.4	mg/L	0.050	98	90	110			
Lab ID: C21100325-003DMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211012A			10/12/21 11:42	
Nitrogen, Nitrate+Nitrite as N		23.3	mg/L	0.050	97	90	110	0.2	10	
Method: E353.2									Analytical Run: FIA201-C_211012B	
Lab ID: ICV		Initial Calibration Verification Standard							10/12/21 13:36	
Nitrogen, Nitrate+Nitrite as N		0.955	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275530	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211012B			10/12/21 13:37	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211012B			10/12/21 13:38	
Nitrogen, Nitrate+Nitrite as N		0.952	mg/L	0.010	96	90	110			
Lab ID: C21100328-003EMS		Sample Matrix Spike				Run: FIA201-C_211012B			10/12/21 13:42	
Nitrogen, Nitrate+Nitrite as N		0.981	mg/L	0.010	96	90	110			
Lab ID: C21100328-003EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211012B			10/12/21 13:43	
Nitrogen, Nitrate+Nitrite as N		0.997	mg/L	0.010	98	90	110	1.6	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/02/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211021A	
Lab ID: QCS	4	Initial Calibration Verification Standard							10/21/21 17:50	
Calcium		40.7	mg/L	0.50	102	95	105			
Magnesium		39.9	mg/L	0.50	100	95	105			
Potassium		40.6	mg/L	0.50	102	95	105			
Sodium		40.9	mg/L	0.53	102	95	105			
Method: E200.7										Batch: R275919
Lab ID: LRB	4	Method Blank				Run: ICP4-C_211021A			10/21/21 17:29	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_211021A			10/21/21 17:46	
Calcium		49.7	mg/L	0.50	99	85	115			
Magnesium		48.7	mg/L	0.50	97	85	115			
Potassium		49.2	mg/L	0.50	98	85	115			
Sodium		49.7	mg/L	0.54	99	85	115			
Lab ID: C21100328-008BMS2	4	Sample Matrix Spike				Run: ICP4-C_211021A			10/21/21 21:00	
Calcium		158	mg/L	1.0	94	70	130			
Magnesium		129	mg/L	1.0	95	70	130			
Potassium		99.0	mg/L	1.0	95	70	130			
Sodium		394	mg/L	1.0	91	70	130			
Lab ID: C21100328-008BMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211021A			10/21/21 21:04	
Calcium		158	mg/L	1.0	95	70	130	0.1	20	
Magnesium		129	mg/L	1.0	95	70	130	0.1	20	
Potassium		99.3	mg/L	1.0	95	70	130	0.3	20	
Sodium		394	mg/L	1.0	91	70	130	0.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/02/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP4-C_211029A	
Lab ID:	**QCS**	2	Initial Calibration Verification Standard							10/29/21 10:46	
Calcium			41.1	mg/L	0.50	103	95	105			
Magnesium			40.3	mg/L	0.50	101	95	105			
Method:	**E200.7**									Batch: R276234	
Lab ID:	**LRB**	2	Method Blank				Run: ICP4-C_211029A			10/29/21 10:25	
Calcium			ND	mg/L	0.1						
Magnesium			ND	mg/L	0.08						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: ICP4-C_211029A			10/29/21 10:42	
Calcium			51.5	mg/L	0.50	103	85	115			
Magnesium			51.3	mg/L	0.50	103	85	115			
Lab ID:	**C21100328-001BMS2**	2	Sample Matrix Spike				Run: ICP4-C_211029A			10/29/21 11:45	
Calcium			546	mg/L	1.0		70	130			A
Magnesium			713	mg/L	1.0		70	130			A
Lab ID:	**C21100328-001BMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211029A			10/29/21 11:49	
Calcium			552	mg/L	1.0		70	130	1.1	20	A
Magnesium			716	mg/L	1.0		70	130	0.4	20	A
Method:	**E200.7**									Analytical Run: ICP4-C_211101A	
Lab ID:	**QCS**	2	Initial Calibration Verification Standard							11/01/21 22:37	
Potassium			40.2	mg/L	0.50	101	95	105			
Sodium			40.3	mg/L	0.53	101	95	105			
Method:	**E200.7**									Batch: R276293	
Lab ID:	**LRB**	2	Method Blank				Run: ICP4-C_211101A			11/01/21 22:16	
Potassium			ND	mg/L	0.2						
Sodium			ND	mg/L	1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: ICP4-C_211101A			11/01/21 22:33	
Potassium			44.9	mg/L	0.50	90	85	115			
Sodium			45.6	mg/L	0.54	91	85	115			
Lab ID:	**C21100328-001BMS2**	2	Sample Matrix Spike				Run: ICP4-C_211101A			11/01/21 23:14	
Potassium			88.6	mg/L	1.0	79	70	130			
Sodium			232	mg/L	1.0	82	70	130			
Lab ID:	**C21100328-001BMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211101A			11/01/21 23:19	
Potassium			86.6	mg/L	1.0	77	70	130	2.3	20	
Sodium			230	mg/L	1.0	79	70	130	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/02/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211018A	
Lab ID: QCS	8	Initial Calibration Verification Standard							10/18/21 22:52	
Aluminum		0.236	mg/L	0.030	94	90	110			
Arsenic		0.0495	mg/L	0.0010	99	90	110			
Cadmium		0.0244	mg/L	0.0010	98	90	110			
Cobalt		0.0495	mg/L	0.0050	99	90	110			
Manganese		0.241	mg/L	0.0010	96	90	110			
Nickel		0.0497	mg/L	0.0050	99	90	110			
Uranium		0.0183	mg/L	0.00030	92	90	110			
Vanadium		0.0470	mg/L	0.010	94	90	110			
Method: E200.8									Batch: 64367	
Lab ID: MB-64367	12	Method Blank				Run: ICPMS5-C_211018A			10/19/21 05:25	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-64367	12	Laboratory Control Sample				Run: ICPMS5-C_211018A			10/19/21 05:30	
Aluminum		2.26	mg/L	0.030	91	85	115			
Arsenic		0.462	mg/L	0.0010	92	85	115			
Beryllium		0.229	mg/L	0.0010	92	85	115			
Cadmium		0.231	mg/L	0.0010	92	85	115			
Cobalt		0.469	mg/L	0.0050	94	85	115			
Lead		0.466	mg/L	0.0010	93	85	115			
Manganese		2.25	mg/L	0.0010	90	85	115			
Molybdenum		0.463	mg/L	0.0010	93	85	115			
Nickel		0.457	mg/L	0.0050	91	85	115			
Selenium		0.455	mg/L	0.0010	91	85	115			
Uranium		0.493	mg/L	0.00030	99	85	115			
Vanadium		0.461	mg/L	0.010	92	85	115			
Lab ID: C21100328-010CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211018A			10/19/21 06:52	
Aluminum		2.30	mg/L	0.030	92	70	130			
Arsenic		0.470	mg/L	0.0010	94	70	130			
Beryllium		0.226	mg/L	0.0010	91	70	130			
Cadmium		0.236	mg/L	0.0010	95	70	130			
Cobalt		0.469	mg/L	0.0050	94	70	130			
Lead		0.470	mg/L	0.0010	94	70	130			
Manganese		2.26	mg/L	0.0010	90	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/02/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 64367
Lab ID: C21100328-010CMS3	12	Sample Matrix Spike				Run: ICPMS5-C_211018A				10/19/21 06:52
Molybdenum		0.462	mg/L	0.0010	92	70	130			
Nickel		0.462	mg/L	0.0050	92	70	130			
Selenium		0.454	mg/L	0.0010	91	70	130			
Uranium		0.494	mg/L	0.00030	99	70	130			
Vanadium		0.464	mg/L	0.010	93	70	130			
Lab ID: C21100328-010CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211018A				10/19/21 06:57
Aluminum		2.29	mg/L	0.030	92	70	130	0.2	20	
Arsenic		0.472	mg/L	0.0010	94	70	130	0.4	20	
Beryllium		0.225	mg/L	0.0010	90	70	130	0.4	20	
Cadmium		0.236	mg/L	0.0010	95	70	130	0.0	20	
Cobalt		0.470	mg/L	0.0050	94	70	130	0.1	20	
Lead		0.465	mg/L	0.0010	93	70	130	1.0	20	
Manganese		2.27	mg/L	0.0010	91	70	130	0.4	20	
Molybdenum		0.458	mg/L	0.0010	92	70	130	0.8	20	
Nickel		0.466	mg/L	0.0050	93	70	130	0.8	20	
Selenium		0.456	mg/L	0.0010	91	70	130	0.4	20	
Uranium		0.490	mg/L	0.00030	98	70	130	0.7	20	
Vanadium		0.465	mg/L	0.010	93	70	130	0.1	20	
Method: E200.8										Analytical Run: ICPMS5-C_211020A
Lab ID: QCS	5	Initial Calibration Verification Standard								10/20/21 17:53
Beryllium		0.0247	mg/L	0.0010	99	90	110			
Lead		0.0481	mg/L	0.0010	96	90	110			
Manganese		0.241	mg/L	0.0010	97	90	110			
Molybdenum		0.0480	mg/L	0.0010	96	90	110			
Selenium		0.0492	mg/L	0.0010	98	90	110			
Method: E200.8										Batch: 64367
Lab ID: MB-64367	12	Method Blank				Run: ICPMS5-C_211020A				10/21/21 20:30
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/02/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS5-C_211024A		
Lab ID: QCS	2	Initial Calibration Verification Standard							10/23/21 01:21	
Manganese		0.242	mg/L	0.0010	97	90	110			
Selenium		0.0509	mg/L	0.0010	102	90	110			
Method: E200.8								Analytical Run: ICPMS5-C_211026A		
Lab ID: QCS		Initial Calibration Verification Standard							10/26/21 18:44	
Aluminum		0.246	mg/L	0.030	99	90	110			
Method: E200.8									Batch: 64367	
Lab ID: MB-64367	12	Method Blank				Run: ICPMS5-C_211026A			10/26/21 22:03	
Aluminum		ND	mg/L	0.02						
Arsenic		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Vanadium		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 10/22/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R368847
Lab ID: CCV101821	Continuing Calibration Verification Standard								10/18/21 09:06
Bromodichloromethane	4.50	ug/L	0.50	90	70	130			
Bromoform	4.70	ug/L	0.50	94	70	130			
Chlorodibromomethane	4.65	ug/L	0.50	93	70	130			
Chloroform	4.56	ug/L	0.50	91	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	97	71	139			
Surr: p-Bromofluorobenzene			0.50	92	80	127			
Surr: Toluene-d8			0.50	94	80	123			
Method: E624.1									Batch: R368847
Lab ID: LCS101821	Laboratory Control Sample				Run: SV5972.I_211018B				10/18/21 09:56
Bromodichloromethane	4.71	ug/L	0.50	94	74	128			
Bromoform	5.07	ug/L	0.50	101	70	130			
Chlorodibromomethane	4.73	ug/L	0.50	95	74	125			
Chloroform	4.56	ug/L	0.50	91	70	135			
Surr: 1,2-Dichloroethane-d4			0.50	97	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	95	80	123			
Lab ID: MBLK101821	Method Blank				Run: SV5972.I_211018B				10/18/21 10:47
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4			0.50	98	71	139			
Surr: p-Bromofluorobenzene			0.50	103	80	127			
Surr: Toluene-d8			0.50	97	80	123			
Lab ID: C21100328-007GMS	Sample Matrix Spike				Run: SV5972.I_211018B				10/18/21 17:08
Bromodichloromethane	5.11	ug/L	0.50	102	74	128			
Bromoform	5.73	ug/L	0.50	115	66	128			
Chlorodibromomethane	5.31	ug/L	0.50	106	74	125			
Chloroform	4.86	ug/L	0.50	97	68	124			
Surr: 1,2-Dichloroethane-d4			0.50	97	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Lab ID: C21100328-007GMSD	Sample Matrix Spike Duplicate				Run: SV5972.I_211018B				10/18/21 17:34
Bromodichloromethane	4.60	ug/L	0.50	92	74	128	10	20	
Bromoform	5.33	ug/L	0.50	107	66	128	7.3	20	
Chlorodibromomethane	4.69	ug/L	0.50	94	74	125	12	20	
Chloroform	4.60	ug/L	0.50	92	68	124	5.4	20	
Surr: 1,2-Dichloroethane-d4			0.50	99	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	94	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C									Batch: RA-TH-ISO-3306	
Lab ID: MB-RA-TH-ISO-3306	3	Method Blank				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		0.01	pCi/L							U
Thorium 230 precision (±)		0.03	pCi/L							
Thorium 230 MDC		0.06	pCi/L							
Lab ID: LCS-RA-TH-ISO-3306	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		8.5	pCi/L		89	70	130			
Thorium 230 precision (±)		1.6	pCi/L							
Thorium 230 MDC		0.039	pCi/L							
Lab ID: C21100328-006FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211014C			10/26/21 15:30	
Thorium 230		0.13	pCi/L					61	30	R
Thorium 230 precision (±)		0.076	pCi/L							
Thorium 230 MDC		0.11	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.53.										
Method: A7500-U C									Batch: RA-TH-ISO-3310	
Lab ID: MB-RA-TH-ISO-3310	3	Method Blank				Run: EGG-ORTEC_2_211019D			10/28/21 15:34	
Thorium 230		0.1	pCi/L							
Thorium 230 precision (±)		0.05	pCi/L							
Thorium 230 MDC		0.07	pCi/L							
Lab ID: LCS-RA-TH-ISO-3310	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211019D			10/28/21 15:34	
Thorium 230		10	pCi/L		108	70	130			
Thorium 230 precision (±)		2.0	pCi/L							
Thorium 230 MDC		0.056	pCi/L							
Lab ID: C21100328-004FDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211019D			10/28/21 15:33	
Thorium 230		0.54	pCi/L					3.8	30	
Thorium 230 precision (±)		0.14	pCi/L							
Thorium 230 MDC		0.12	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1320
Lab ID: MB-GA-1320	3	Method Blank				Run: G5000W_211012A				10/15/21 09:13
Gross Alpha minus Rn & U		-0.4	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.9	pCi/L							
Lab ID: LCS-GA-1320	3	Laboratory Control Sample				Run: G5000W_211012A				10/15/21 09:13
Gross Alpha minus Rn & U		30	pCi/L		88	70	130			
Gross Alpha minus Rn & U Precision (±)		6.0	pCi/L							
Gross Alpha minus Rn & U MDC		0.88	pCi/L							
Lab ID: C21100250-002FDUP	3	Sample Duplicate				Run: G5000W_211012A				10/15/21 10:56
Gross Alpha minus Rn & U		3.9	pCi/L					1.4	30	
Gross Alpha minus Rn & U Precision (±)		1.1	pCi/L							
Gross Alpha minus Rn & U MDC		0.86	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-10214
Lab ID: LCS-RA226-10214	3	Laboratory Control Sample				Run: G5000W_211011D				10/20/21 09:03
Radium 226		11	pCi/L		106	70	130			
Radium 226 precision (±)		2.1	pCi/L							
Radium 226 MDC		0.23	pCi/L							
Lab ID: MB-RA226-10214	3	Method Blank				Run: G5000W_211011D				10/20/21 09:03
Radium 226		7E-09	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21100296-003EDUP	3	Sample Duplicate				Run: G5000W_211011D				10/20/21 09:03
Radium 226		1.2	pCi/L					0.6	30	
Radium 226 precision (±)		0.30	pCi/L							
Radium 226 MDC		0.20	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1315	
Lab ID: LCS-PB-210-1315	3	Laboratory Control Sample				Run: TRICARB LSC_211008B			10/16/21 18:01	
Lead 210		17	pCi/L		96	70	130			
Lead 210 precision (±)		5.1	pCi/L							
Lead 210 MDC		1.6	pCi/L							
Lab ID: MB-PB-210-1315	3	Method Blank				Run: TRICARB LSC_211008B			10/16/21 19:13	
Lead 210		0.1	pCi/L							U
Lead 210 precision (±)		0.6	pCi/L							
Lead 210 MDC		1	pCi/L							
Lab ID: C21100250-001FDUP	3	Sample Duplicate				Run: TRICARB LSC_211008B			10/17/21 05:53	
Lead 210		0.67	pCi/L					36	30	UR
Lead 210 precision (±)		0.62	pCi/L							
Lead 210 MDC		1.0	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.23.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100328 **Report Date:** 11/01/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6616
Lab ID: LCS-228-RA228-6616	3	Laboratory Control Sample				Run: TENNELEC-3_211022A			10/27/21 13:26	
Radium 228		6.4	pCi/L		83	70	130			
Radium 228 precision (±)		1.3	pCi/L							
Radium 228 MDC		0.82	pCi/L							
Lab ID: MB-228-RA228-6616	3	Method Blank				Run: TENNELEC-3_211022A			10/27/21 13:26	
Radium 228		0.5	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: LCS-228-RA228-LCSD	3	Laboratory Control Sample Duplicate				Run: TENNELEC-3_211022A			10/27/21 13:26	
Radium 228		6.3	pCi/L		81	70	130	2.3	30	
Radium 228 precision (±)		1.2	pCi/L							
Radium 228 MDC		0.82	pCi/L							
Method: RA-05										Batch: RA228-6606
Lab ID: LCS-228-RA226-10214	3	Laboratory Control Sample				Run: TENNELEC-4_211011A			10/15/21 11:57	
Radium 228		8.3	pCi/L		107	70	130			
Radium 228 precision (±)		1.7	pCi/L							
Radium 228 MDC		1.1	pCi/L							
Lab ID: MB-RA226-10214	3	Method Blank				Run: TENNELEC-4_211011A			10/15/21 11:57	
Radium 228		-0.4	pCi/L							U
Radium 228 precision (±)		0.7	pCi/L							
Radium 228 MDC		1	pCi/L							
Lab ID: C21100296-003EDUP	3	Sample Duplicate				Run: TENNELEC-4_211011A			10/15/21 11:57	
Radium 228		0.50	pCi/L					87	30	UR
Radium 228 precision (±)		0.72	pCi/L							
Radium 228 MDC		1.2	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.29.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-154037-1
Client Project/Site: 11(e) Byproduct Material

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
10/18/2021 1:47:40 AM

Dylan Bieniulis, Project Manager I
(303)736-0138
Dylan.Bieniulis@Eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-154037-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

Job Narrative
280-154037-1

Receipt
The samples were received on 10/12/2021 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.7°C

Receipt Exceptions
The chain of custody references an attached analyte list; however, an additional analyte list was unable to be located in the cooler with the samples and chain of custody. The laboratory logged the samples for the requested 624.1 VOCs analysis with an analyte list that matches recent and historical requests for this analysis. The client was notified on 10/13/2021.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Client Sample ID: C21100328-001G — Lab Sample ID: 280-154037-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	4.1		1.0	0.22	ug/L	1		624.1	Total/NA
Trihalomethanes, Total	4.1		1.0	0.15	ug/L	1		624.1	Total/NA

Client Sample ID: C21100328-002G — Lab Sample ID: 280-154037-2

No Detections.

Client Sample ID: C21100328-003G — Lab Sample ID: 280-154037-3

No Detections.

Client Sample ID: C21100328-004G — Lab Sample ID: 280-154037-4

No Detections.

Client Sample ID: C21100328-005G — Lab Sample ID: 280-154037-5

No Detections.

Client Sample ID: C21100328-006G — Lab Sample ID: 280-154037-6

No Detections.

Client Sample ID: C21100328-012A — Lab Sample ID: 280-154037-7

No Detections.

Client Sample ID: C21100328-013A — Lab Sample ID: 280-154037-8

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL DEN

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-154037-1	C21100328-001G	Water	10/05/21 08:43	10/12/21 09:45
280-154037-2	C21100328-002G	Water	10/05/21 10:10	10/12/21 09:45
280-154037-3	C21100328-003G	Water	10/05/21 11:05	10/12/21 09:45
280-154037-4	C21100328-004G	Water	10/05/21 12:26	10/12/21 09:45
280-154037-5	C21100328-005G	Water	10/05/21 13:45	10/12/21 09:45
280-154037-6	C21100328-006G	Water	10/05/21 15:30	10/12/21 09:45
280-154037-7	C21100328-012A	Water	10/05/21 08:43	10/12/21 09:45
280-154037-8	C21100328-013A	Water	10/05/21 08:43	10/12/21 09:45

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: C21100328-001G — **Lab Sample ID: 280-154037-1**
Date Collected: 10/05/21 08:43 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 13:48	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 13:48	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 13:48	1
Chloroform	**4.1**		1.0	0.22	ug/L			10/15/21 13:48	1
Trihalomethanes, Total	**4.1**		1.0	0.15	ug/L			10/15/21 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 122*		*10/15/21 13:48*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/15/21 13:48*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/15/21 13:48*	*1*

Client Sample ID: C21100328-002G — **Lab Sample ID: 280-154037-2**
Date Collected: 10/05/21 10:10 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 14:10	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 14:10	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 14:10	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 14:10	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*73 - 122*		*10/15/21 14:10*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/15/21 14:10*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/15/21 14:10*	*1*

Client Sample ID: C21100328-003G — **Lab Sample ID: 280-154037-3**
Date Collected: 10/05/21 11:05 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 14:31	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 14:31	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 14:31	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 14:31	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*73 - 122*		*10/15/21 14:31*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/15/21 14:31*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/15/21 14:31*	*1*

Client Sample ID: C21100328-004G — **Lab Sample ID: 280-154037-4**
Date Collected: 10/05/21 12:26 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 14:53	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 14:53	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 14:53	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 14:53	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 14:53	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		73 - 122		10/15/21 14:53	1
4-Bromofluorobenzene (Surr)	96		79 - 119		10/15/21 14:53	1
Toluene-d8 (Surr)	101		80 - 120		10/15/21 14:53	1

Client Sample ID: C21100328-005G — **Lab Sample ID: 280-154037-5**
Date Collected: 10/05/21 13:45 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 15:15	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 15:15	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 15:15	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 15:15	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		73 - 122		10/15/21 15:15	1
4-Bromofluorobenzene (Surr)	95		79 - 119		10/15/21 15:15	1
Toluene-d8 (Surr)	100		80 - 120		10/15/21 15:15	1

Client Sample ID: C21100328-006G — **Lab Sample ID: 280-154037-6**
Date Collected: 10/05/21 15:30 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 15:37	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 15:37	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 15:37	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 15:37	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		73 - 122		10/15/21 15:37	1
4-Bromofluorobenzene (Surr)	96		79 - 119		10/15/21 15:37	1
Toluene-d8 (Surr)	99		80 - 120		10/15/21 15:37	1

Client Sample ID: C21100328-012A — **Lab Sample ID: 280-154037-7**
Date Collected: 10/05/21 08:43 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 15:58	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 15:58	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 15:58	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 15:58	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		73 - 122		10/15/21 15:58	1
4-Bromofluorobenzene (Surr)	95		79 - 119		10/15/21 15:58	1
Toluene-d8 (Surr)	100		80 - 120		10/15/21 15:58	1

Client Sample ID: C21100328-013A — **Lab Sample ID: 280-154037-8**
Date Collected: 10/05/21 08:43 — **Matrix: Water**
Date Received: 10/12/21 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 16:20	1

Client Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: C21100328-013A
Date Collected: 10/05/21 08:43
Date Received: 10/12/21 09:45

Lab Sample ID: 280-154037-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		2.0	0.67	ug/L			10/15/21 16:20	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 16:20	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 16:20	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 122*		*10/15/21 16:20*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*		*10/15/21 16:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/15/21 16:20*	*1*

Surrogate Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	**Client Sample ID**	**(73-122)**	**(79-119)**	**(80-120)**
280-154037-1	C21100328-001G	98	94	99
280-154037-2	C21100328-002G	98	94	100
280-154037-3	C21100328-003G	97	94	99
280-154037-4	C21100328-004G	94	96	101
280-154037-5	C21100328-005G	96	95	100
280-154037-6	C21100328-006G	98	96	99
280-154037-7	C21100328-012A	96	95	100
280-154037-8	C21100328-013A	95	96	100
LCS 280-553665/4	Lab Control Sample	96	96	100
LCSD 280-553665/5	Lab Control Sample Dup	96	96	101
MB 280-553665/9	Method Blank	95	94	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-553665/9
Matrix: Water
Analysis Batch: 553665

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.15	ug/L			10/15/21 11:33	1
Bromoform	ND		2.0	0.67	ug/L			10/15/21 11:33	1
Chlorodibromomethane	ND		1.0	0.21	ug/L			10/15/21 11:33	1
Chloroform	ND		1.0	0.22	ug/L			10/15/21 11:33	1
Trihalomethanes, Total	ND		1.0	0.15	ug/L			10/15/21 11:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*73 - 122*		*10/15/21 11:33*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 119*		*10/15/21 11:33*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/15/21 11:33*	*1*

Lab Sample ID: LCS 280-553665/4
Matrix: Water
Analysis Batch: 553665

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	25.0	23.3		ug/L		93	65 - 135
Bromoform	25.0	23.4		ug/L		94	70 - 130
Chlorodibromomethane	25.0	24.0		ug/L		96	70 - 135
Chloroform	25.0	23.6		ug/L		94	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*73 - 122*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 280-553665/5
Matrix: Water
Analysis Batch: 553665

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	25.0	21.5		ug/L		86	65 - 135	8	30
Bromoform	25.0	20.8		ug/L		83	70 - 130	12	30
Chlorodibromomethane	25.0	23.2		ug/L		93	70 - 135	3	30
Chloroform	25.0	23.5		ug/L		94	70 - 135	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*73 - 122*
4-Bromofluorobenzene (Surr)	*96*		*79 - 119*
Toluene-d8 (Surr)	*101*		*80 - 120*

QC Association Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

GC/MS VOA

Analysis Batch: 553665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-154037-1	C21100328-001G	Total/NA	Water	624.1	
280-154037-2	C21100328-002G	Total/NA	Water	624.1	
280-154037-3	C21100328-003G	Total/NA	Water	624.1	
280-154037-4	C21100328-004G	Total/NA	Water	624.1	
280-154037-5	C21100328-005G	Total/NA	Water	624.1	
280-154037-6	C21100328-006G	Total/NA	Water	624.1	
280-154037-7	C21100328-012A	Total/NA	Water	624.1	
280-154037-8	C21100328-013A	Total/NA	Water	624.1	
MB 280-553665/9	Method Blank	Total/NA	Water	624.1	
LCS 280-553665/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 280-553665/5	Lab Control Sample Dup	Total/NA	Water	624.1	

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Client Sample ID: C21100328-001G — Lab Sample ID: 280-154037-1

Date Collected: 10/05/21 08:43
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 13:48	JLS	TAL DEN

Client Sample ID: C21100328-002G — Lab Sample ID: 280-154037-2

Date Collected: 10/05/21 10:10
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 14:10	JLS	TAL DEN

Client Sample ID: C21100328-003G — Lab Sample ID: 280-154037-3

Date Collected: 10/05/21 11:05
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 14:31	JLS	TAL DEN

Client Sample ID: C21100328-004G — Lab Sample ID: 280-154037-4

Date Collected: 10/05/21 12:26
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 14:53	JLS	TAL DEN

Client Sample ID: C21100328-005G — Lab Sample ID: 280-154037-5

Date Collected: 10/05/21 13:45
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 15:15	JLS	TAL DEN

Client Sample ID: C21100328-006G — Lab Sample ID: 280-154037-6

Date Collected: 10/05/21 15:30
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 15:37	JLS	TAL DEN

Client Sample ID: C21100328-012A — Lab Sample ID: 280-154037-7

Date Collected: 10/05/21 08:43
Date Received: 10/12/21 09:45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 15:58	JLS	TAL DEN

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Client Sample ID: C21100328-013A
Date Collected: 10/05/21 08:43
Date Received: 10/12/21 09:45

Lab Sample ID: 280-154037-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	553665	10/15/21 16:20	JLS	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-154037-1

Laboratory: Eurofins TestAmerica, Denver

l accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21 *
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ANALYTICAL SUMMARY REPORT

December 03, 2021

United Nuclear Corporation
21 Miles NE of Gallup
Gallup, NM 87305

Work Order: C21100534 Quote ID: C6117

Project Name: UNC- Sentinel Wells

Energy Laboratories, Inc. Casper WY received the following 3 samples for United Nuclear Corporation on 10/14/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21100534-001	SW-3B	10/12/21 15:00	10/14/21	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Gross Alpha minus Radon and Uranium, Total Lead 210, Total Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Thorium, Isotopic, Total Solids, Total Dissolved Solids, Total Dissolved - Calculated 624-Purgeable Organics 624-Purgeable Organics
C21100534-002	SW-1B	10/12/21 15:40	10/14/21	Aqueous	Same As Above
C21100534-003	Trip Blank- 79121	10/12/21 15:00	10/14/21	Trip Blank	624-Purgeable Organics

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

Wyoming Regional Director

Digitally signed by
Terry Friedlan
Date: 2021.12.03 06:26:09 -07:00

CLIENT: United Nuclear Corporation
Project: UNC- Sentinel Wells
Work Order: C21100534

Report Date: 12/03/21

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_211018A	
Lab ID: ICV		Initial Calibration Verification Standard							10/18/21 11:05	
pH		6.85	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R275733	
Lab ID: MBLK		Method Blank				Run: MANTECH_211018A			10/18/21 11:10	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: C21100250-009ADUP		Sample Duplicate				Run: MANTECH_211018A			10/18/21 11:30	
Alkalinity, Total as CaCO3		43.9	mg/L	5.0				0.1	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS211015A
Lab ID: MB-25_211015A		Method Blank				Run: BAL-111_211015B				10/15/21 10:06
Solids, Total Dissolved TDS @ 180 C		10	mg/L	5						
Lab ID: LCS-26_211015A		Laboratory Control Sample				Run: BAL-111_211015B				10/15/21 10:07
Solids, Total Dissolved TDS @ 180 C		1010	mg/L	10	101	90	110			
Lab ID: C21100527-004A DUP		Sample Duplicate				Run: BAL-111_211015B				10/15/21 10:09
Solids, Total Dissolved TDS @ 180 C		270	mg/L	10				1.5	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_211015A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							10/15/21 08:26	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		17.4	°C			0	0			
Method: A4500-H B										Batch: R275645
Lab ID: C21100527-003ADUP	2	Sample Duplicate				Run: PHSC_101-C_211015A			10/15/21 10:35	
pH		7.8	s.u.	0.1				0.1	1.5	
pH Measurement Temp		14.4	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_211018A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							10/18/21 14:40	
Chloride			10.1	mg/L	1.0	101	90	110			
Sulfate			39.6	mg/L	1.0	99	90	110			
Method:	**E300.0**									Batch: R275781	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_211018A			10/18/21 15:00	
Chloride			0.08	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_211018A			10/18/21 15:19	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			40.2	mg/L	1.0	101	90	110			
Lab ID:	**C21100527-003AMS**	2	Sample Matrix Spike				Run: IC3-C_211018A			10/18/21 20:44	
Chloride			42.3	mg/L	1.0	96	80	120			
Sulfate			48.6	mg/L	1.0	101	80	120			
Lab ID:	**C21100527-003AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_211018A			10/18/21 21:04	
Chloride			41.9	mg/L	1.0	92	80	120	1.1	20	
Sulfate			48.8	mg/L	1.0	101	80	120	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_211019A	
Lab ID: ICV		Initial Calibration Verification Standard							10/19/21 13:03	
Nitrogen, Ammonia as N		1.03	mg/L	0.050	103	90	110			
Method: E350.1									Batch: R275777	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211019A			10/19/21 13:02	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211019A			10/19/21 13:05	
Nitrogen, Ammonia as N		0.966	mg/L	0.050	98	90	110			
Lab ID: C21100526-011EMS		Sample Matrix Spike				Run: FIA201-C_211019A			10/19/21 13:40	
Nitrogen, Ammonia as N		0.822	mg/L	0.050	82	90	110			S
Lab ID: C21100526-011EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211019A			10/19/21 13:42	
Nitrogen, Ammonia as N		0.853	mg/L	0.050	85	90	110	3.7	10	S
Lab ID: C21100534-002EMS		Sample Matrix Spike				Run: FIA201-C_211019A			10/19/21 13:57	
Nitrogen, Ammonia as N		2.36	mg/L	0.050	66	90	110			SE
Lab ID: C21100534-002EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211019A			10/19/21 13:58	
Nitrogen, Ammonia as N		2.36	mg/L	0.050	66	90	110	0.0	10	SE

Qualifiers:

RL - Analyte Reporting Limit

E - Estimated value - result exceeds the instrument upper quantitation limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/21/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_211018A	
Lab ID: ICV		Initial Calibration Verification Standard							10/18/21 11:22	
Nitrogen, Nitrate+Nitrite as N		0.951	mg/L	0.010	95	90	110			
Method: E353.2									Batch: R275730	
Lab ID: MBLK		Method Blank				Run: FIA201-C_211018A			10/18/21 11:23	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_211018A			10/18/21 11:24	
Nitrogen, Nitrate+Nitrite as N		0.967	mg/L	0.010	98	90	110			
Lab ID: C21100526-015EMS		Sample Matrix Spike				Run: FIA201-C_211018A			10/18/21 13:27	
Nitrogen, Nitrate+Nitrite as N		0.966	mg/L	0.010	97	90	110			
Lab ID: C21100526-015EMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_211018A			10/18/21 13:28	
Nitrogen, Nitrate+Nitrite as N		0.992	mg/L	0.010	99	90	110	2.7	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_211021B	
Lab ID: QCS	5	Initial Calibration Verification Standard							10/26/21 12:04	
Beryllium		0.415	mg/L	0.010	104	95	105			
Calcium		40.5	mg/L	0.50	101	95	105			
Magnesium		40.3	mg/L	0.50	101	95	105			
Potassium		39.8	mg/L	0.50	100	95	105			
Sodium		41.7	mg/L	0.53	104	95	105			
Method: E200.7									Batch: 64405	
Lab ID: MB-64405		Method Blank				Run: ICP4-C_211021B			10/26/21 19:37	
Beryllium		ND	mg/L	0.0002						
Lab ID: LCS3-64405		Laboratory Control Sample				Run: ICP4-C_211021B			10/26/21 19:41	
Beryllium		0.256	mg/L	0.0010	102	85	115			
Lab ID: C21100502-007CMS3		Sample Matrix Spike				Run: ICP4-C_211021B			10/26/21 20:44	
Beryllium		0.262	mg/L	0.0013	105	70	130			
Lab ID: C21100502-007CMSD		Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/26/21 20:48	
Beryllium		0.265	mg/L	0.0013	106	70	130	1.2	20	
Method: E200.7									Batch: R276019	
Lab ID: LRB	4	Method Blank				Run: ICP4-C_211021B			10/26/21 11:43	
Calcium		ND	mg/L	0.1						
Magnesium		ND	mg/L	0.08						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Lab ID: LFB	4	Laboratory Fortified Blank				Run: ICP4-C_211021B			10/26/21 12:00	
Calcium		51.9	mg/L	0.50	104	85	115			
Magnesium		51.9	mg/L	0.50	104	85	115			
Potassium		51.1	mg/L	0.50	102	85	115			
Sodium		53.3	mg/L	0.54	107	85	115			
Lab ID: C21100538-001AMS2	4	Sample Matrix Spike				Run: ICP4-C_211021B			10/26/21 18:04	
Calcium		346	mg/L	1.0		70	130			A
Magnesium		964	mg/L	1.0		70	130			A
Potassium		88.8	mg/L	1.0	95	70	130			
Sodium		1800	mg/L	1.0		70	130			A
Lab ID: C21100538-001AMSD	4	Sample Matrix Spike Duplicate				Run: ICP4-C_211021B			10/26/21 18:46	
Calcium		358	mg/L	1.0		70	130	3.4	20	A
Magnesium		961	mg/L	1.0		70	130	0.3	20	A
Potassium		90.0	mg/L	1.0	97	70	130	1.4	20	
Sodium		1900	mg/L	1.0		70	130	5.3	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/08/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP4-C_211101A	
Lab ID:	**QCS**	2	Initial Calibration Verification Standard							11/01/21 22:37	
Calcium			40.4	mg/L	0.50	101	95	105			
Sodium			40.3	mg/L	0.53	101	95	105			
Method:	**E200.7**									Batch: R276293	
Lab ID:	**LRB**	2	Method Blank				Run: ICP4-C_211101A			11/01/21 22:16	
Calcium			ND	mg/L	0.1						
Sodium			ND	mg/L	1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: ICP4-C_211101A			11/01/21 22:33	
Calcium			45.4	mg/L	0.50	91	85	115			
Sodium			45.6	mg/L	0.54	91	85	115			
Lab ID:	**C21100328-001BMS2**	2	Sample Matrix Spike				Run: ICP4-C_211101A			11/01/21 23:14	
Calcium			500	mg/L	1.0		70	130			A
Sodium			232	mg/L	1.0	82	70	130			
Lab ID:	**C21100328-001BMSD**	2	Sample Matrix Spike Duplicate				Run: ICP4-C_211101A			11/01/21 23:19	
Calcium			498	mg/L	1.0		70	130	0.4	20	A
Sodium			230	mg/L	1.0	79	70	130	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211020A	
Lab ID: QCS	9	Initial Calibration Verification Standard							10/21/21 17:31	
Aluminum		0.255	mg/L	0.030	102	90	110			
Cadmium		0.0256	mg/L	0.0010	102	90	110			
Cobalt		0.0489	mg/L	0.0050	98	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.266	mg/L	0.0010	106	90	110			
Molybdenum		0.0489	mg/L	0.0010	98	90	110			
Nickel		0.0493	mg/L	0.0050	99	90	110			
Selenium		0.0520	mg/L	0.0010	104	90	110			
Vanadium		0.0471	mg/L	0.010	94	90	110			
Method: E200.8									Batch: 64405	
Lab ID: MB-64405	9	Method Blank				Run: ICPMS5-C_211020A			10/21/21 17:57	
Aluminum		ND	mg/L	0.02						
Cadmium		ND	mg/L	0.00002						
Cobalt		ND	mg/L	0.0001						
Lead		ND	mg/L	0.0001						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0003						
Selenium		ND	mg/L	0.0001						
Vanadium		ND	mg/L	0.003						
Lab ID: LCS3-64405	11	Laboratory Control Sample				Run: ICPMS5-C_211020A			10/21/21 18:02	
Aluminum		2.58	mg/L	0.030	103	85	115			
Arsenic		0.518	mg/L	0.0010	104	85	115			
Cadmium		0.261	mg/L	0.0010	104	85	115			
Cobalt		0.501	mg/L	0.0050	100	85	115			
Lead		0.515	mg/L	0.0010	103	85	115			
Manganese		2.81	mg/L	0.0010	113	85	115			
Molybdenum		0.494	mg/L	0.0010	99	85	115			
Nickel		0.521	mg/L	0.0050	104	85	115			
Selenium		0.499	mg/L	0.0010	100	85	115			
Uranium		0.533	mg/L	0.00030	107	85	115			
Vanadium		0.504	mg/L	0.010	101	85	115			
Lab ID: C21100502-007CMS3	11	Sample Matrix Spike				Run: ICPMS5-C_211020A			10/21/21 19:37	
Aluminum		2.65	mg/L	0.030	106	70	130			
Arsenic		0.525	mg/L	0.0010	105	70	130			
Cadmium		0.251	mg/L	0.0010	100	70	130			
Cobalt		0.491	mg/L	0.0050	97	70	130			
Lead		0.506	mg/L	0.0010	101	70	130			
Manganese		3.14	mg/L	0.0010	111	70	130			
Molybdenum		0.501	mg/L	0.0010	100	70	130			
Nickel		0.497	mg/L	0.0050	98	70	130			
Selenium		0.506	mg/L	0.0010	101	70	130			
Uranium		0.538	mg/L	0.00030	108	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/08/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 64405
Lab ID: C21100502-007CMS3	11	Sample Matrix Spike				Run: ICPMS5-C_211020A				10/21/21 19:37
Vanadium		0.496	mg/L	0.010	99	70	130			
Lab ID: C21100502-007CMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211020A				10/21/21 19:42
Aluminum		2.68	mg/L	0.030	107	70	130	1.1	20	
Arsenic		0.533	mg/L	0.0010	107	70	130	1.6	20	
Cadmium		0.256	mg/L	0.0010	102	70	130	2.0	20	
Cobalt		0.496	mg/L	0.0050	98	70	130	0.9	20	
Lead		0.512	mg/L	0.0010	102	70	130	1.1	20	
Manganese		3.18	mg/L	0.0010	113	70	130	1.3	20	
Molybdenum		0.501	mg/L	0.0010	100	70	130	0	20	
Nickel		0.504	mg/L	0.0050	99	70	130	1.5	20	
Selenium		0.511	mg/L	0.0010	102	70	130	0.9	20	
Uranium		0.543	mg/L	0.00030	109	70	130	1.0	20	
Vanadium		0.503	mg/L	0.010	101	70	130	1.5	20	
Method: E200.8										Analytical Run: ICPMS5-C_211024A
Lab ID: QCS	5	Initial Calibration Verification Standard								10/23/21 16:42
Arsenic		0.0526	mg/L	0.0010	105	90	110			
Manganese		0.253	mg/L	0.0010	101	90	110			
Molybdenum		0.0484	mg/L	0.0010	97	90	110			
Selenium		0.0523	mg/L	0.0010	105	90	110			
Uranium		0.0192	mg/L	0.00030	96	90	110			
Method: E200.8										Batch: 64405
Lab ID: MB-64405	5	Method Blank				Run: ICPMS5-C_211024A				10/23/21 07:09
Arsenic		ND	mg/L	0.0003						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0001						
Selenium		ND	mg/L	0.0001						
Uranium		ND	mg/L	0.0003						
Method: E200.8										Analytical Run: ICPMS5-C_211107A
Lab ID: QCS		Initial Calibration Verification Standard								11/07/21 18:04
Aluminum		0.243	mg/L	0.030	97	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 10/22/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624.1									Analytical Run: R369003
Lab ID: CCV102021	Continuing Calibration Verification Standard								10/20/21 09:34
Bromodichloromethane	4.76	ug/L	0.50	95	70	130			
Bromoform	4.96	ug/L	0.50	99	70	130			
Chlorodibromomethane	4.83	ug/L	0.50	97	70	130			
Chloroform	4.96	ug/L	0.50	99	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	99	71	139			
Surr: p-Bromofluorobenzene			0.50	92	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Method: E624.1									Batch: R369003
Lab ID: LCS102021	Laboratory Control Sample				Run: SV5972.I_211020B				10/20/21 10:24
Bromodichloromethane	4.71	ug/L	0.50	94	74	128			
Bromoform	5.09	ug/L	0.50	102	70	130			
Chlorodibromomethane	4.78	ug/L	0.50	96	74	125			
Chloroform	4.51	ug/L	0.50	90	70	135			
Surr: 1,2-Dichloroethane-d4			0.50	101	71	139			
Surr: p-Bromofluorobenzene			0.50	96	80	127			
Surr: Toluene-d8			0.50	94	80	123			
Lab ID: MBLK102021	Method Blank				Run: SV5972.I_211020B				10/20/21 12:04
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4			0.50	98	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Lab ID: C21100534-001GMS	Sample Matrix Spike				Run: SV5972.I_211020B				10/20/21 19:18
Bromodichloromethane	4.88	ug/L	0.50	98	74	128			
Bromoform	5.20	ug/L	0.50	104	66	128			
Chlorodibromomethane	4.92	ug/L	0.50	98	74	125			
Chloroform	4.65	ug/L	0.50	93	68	124			
Surr: 1,2-Dichloroethane-d4			0.50	99	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	96	80	123			
Lab ID: C21100534-001GMSD	Sample Matrix Spike Duplicate				Run: SV5972.I_211020B				10/20/21 19:43
Bromodichloromethane	4.86	ug/L	0.50	97	74	128	0.2	20	
Bromoform	5.67	ug/L	0.50	113	66	128	8.7	20	
Chlorodibromomethane	5.06	ug/L	0.50	101	74	125	2.9	20	
Chloroform	4.88	ug/L	0.50	98	68	124	4.9	20	
Surr: 1,2-Dichloroethane-d4			0.50	103	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	93	80	123			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A7500-U C										Batch: RA-TH-ISO-3315
Lab ID: MB-RA-TH-ISO-3315	3	Method Blank				Run: EGG-ORTEC_2_211021A			11/03/21 14:04	
Thorium 230		0.06	pCi/L							U
Thorium 230 precision (±)		0.04	pCi/L							
Thorium 230 MDC		0.07	pCi/L							
Lab ID: LCS-RA-TH-ISO-3315	3	Laboratory Control Sample				Run: EGG-ORTEC_2_211021A			11/03/21 14:04	
Thorium 230		9.0	pCi/L		94	70	130			
Thorium 230 precision (±)		1.7	pCi/L							
Thorium 230 MDC		0.068	pCi/L							
Lab ID: C21100572-005EDUP	3	Sample Duplicate				Run: EGG-ORTEC_2_211021A			11/04/21 06:56	
Thorium 230		-0.0048	pCi/L					260	30	UR
Thorium 230 precision (±)		0.085	pCi/L							
Thorium 230 MDC		0.18	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.34.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.1										Batch: GA-1322
Lab ID: MB-GA-1322	3	Method Blank				Run: G542M_211019A				10/22/21 09:37
Gross Alpha minus Rn & U		0.3	pCi/L							U
Gross Alpha minus Rn & U Precision (±)		0.5	pCi/L							
Gross Alpha minus Rn & U MDC		0.7	pCi/L							
Lab ID: LCS-GA-1322	3	Laboratory Control Sample				Run: G542M_211019A				10/22/21 09:37
Gross Alpha minus Rn & U		35	pCi/L		102	70	130			
Gross Alpha minus Rn & U Precision (±)		7.0	pCi/L							
Gross Alpha minus Rn & U MDC		0.75	pCi/L							
Lab ID: C21100526-005FDUP	3	Sample Duplicate				Run: G542M_211019A				10/22/21 09:37
Gross Alpha minus Rn & U		0.38	pCi/L					100	20	UR
Gross Alpha minus Rn & U Precision (±)		0.54	pCi/L							
Gross Alpha minus Rn & U MDC		0.74	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 2, the RER result is 0.95.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

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U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226-10228	
Lab ID: LCS-RA226-10228	3	Laboratory Control Sample				Run: G5000W_211020B			11/01/21 12:25	
Radium 226		10	pCi/L		102	70	130			
Radium 226 precision (±)		2.0	pCi/L							
Radium 226 MDC		0.18	pCi/L							
Lab ID: MB-RA226-10228	3	Method Blank				Run: G5000W_211020B			11/01/21 12:25	
Radium 226		-0.04	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Lab ID: C21100588-001ADUP	3	Sample Duplicate				Run: G5000W_211020B			11/01/21 12:25	
Radium 226		0.11	pCi/L					14	20	U
Radium 226 precision (±)		0.14	pCi/L							
Radium 226 MDC		0.20	pCi/L							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: PB-210-1323	
Lab ID: LCS-PB-210-1323	3	Laboratory Control Sample				Run: PACKARD 3100TR_211022B			10/29/21 12:08	
Lead 210		18	pCi/L		104	70	130			
Lead 210 precision (±)		5.5	pCi/L							
Lead 210 MDC		1.7	pCi/L							
Lab ID: MB-PB-210-1323	3	Method Blank				Run: PACKARD 3100TR_211022B			10/29/21 13:13	
Lead 210		0.08	pCi/L							U
Lead 210 precision (±)		0.7	pCi/L							
Lead 210 MDC		1	pCi/L							
Lab ID: C21100526-010FDUP	3	Sample Duplicate				Run: PACKARD 3100TR_211022B			10/30/21 01:39	
Lead 210		0.89	pCi/L					230	30	UR
Lead 210 precision (±)		0.70	pCi/L							
Lead 210 MDC		1.2	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 1.00.

Qualifiers:

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R - Relative Percent Difference (RPD) exceeds advisory limit

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U - Not detected at Minimum Detectable Concentration (MDC)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: United Nuclear Corporation **Work Order:** C21100534 **Report Date:** 11/09/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05										Batch: RA228-6613
Lab ID: LCS-228-RA226-10228	3	Laboratory Control Sample				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		7.0	pCi/L		91	70	130			
Radium 228 precision (±)		1.8	pCi/L							
Radium 228 MDC		2.1	pCi/L							
Lab ID: MB-RA226-10228	3	Method Blank				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		0.02	pCi/L							U
Radium 228 precision (±)		1	pCi/L							
Radium 228 MDC		2	pCi/L							
Lab ID: C21100588-001ADUP	3	Sample Duplicate				Run: G542M-2_211020B			10/25/21 16:13	
Radium 228		-1.2	pCi/L					75	20	UR
Radium 228 precision (±)		1.2	pCi/L							
Radium 228 MDC		2.1	pCi/L							

- Duplicate RPD is outside of the acceptance range for this analysis. However, the RER is less than the limit of 3, the RER result is 0.40.

Qualifiers:

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)