

QUARTERLY SAMPLING
SEMI-ANNUAL GROUND WATER MONITORING REPORT
JULY TO DECEMBER OF 2021
FIELD DATA SHEET OF
THIRD AND FOURTH QUARTER

CONTROLS

SW ALLUVIUM

ZONE – 1

ZONE – 3

GROUND WATER FIELD MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: July QUARTER: Third YEAR: 2021

SOUTHWEST ALLUVIUM

WELL NO	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
509-D	7-19 0857	87.47	6949.50	6862.03	6,360	6.42	16.5
624	7-20 0955	58.60	6898.70	6840.10	5,500	6.53	16.6
627	7-20 1158	64.61	6892.40	6827.79	4,240	6.91	17.8
632	7-19 1235	52.20	6903.60	6851.40	6,300	6.49	18.2
801	7-19 1313	59.61	6904.30	6844.69	5,530	6.62	20.5
802	7-19 1155	55.73	6907.10	6851.37	6,280	6.50	17.1
803	7-19 1035	70.40	6922.60	6852.20	6,060	6.53	15.4
808	7-19 1110	57.63	6910.70	6853.07	6,140	6.51	17.9
GW-1	7-20 0908	69.50	6916.50	6847.00	5,980	6.73	16.2
GW-2			6912.90				
GW-3			6910.00				
EPA-23	7-19 0953	64.09	6926.50	6862.41	5,470	6.56	16.1
EPA-25	7-20 1305	61.05	6903.40	6842.35	4,630	6.67	18.4
EPA-28	7-19 1433	70.31	6917.90	6847.59	4,590	6.91	16.8
EPA-28 DUP (QA/QC)	7-19 1505	70.89	6917.90	6847.01	4,550	6.75	16.3
SBL-1	7-20 1035	51.80	6896.30	6844.50	7,530	6.65	16.9
805	7-23 1004	62.16	6915.60	6853.44			
807	7-23 0958	66.68	6923.40	6856.72			
RINSATE (QA/QC)	7-20 1350				6	7.14	37.0
FIELD BLANK 9QA/QC)	7-20 1440				1	6.92	31.7

COMMENTS: No sample or measurement for well GW-2 and GW-3 due to unsafe ground conditions. Well 632 water level dropped 4.74' during sample.

GROUND WATER FIELD MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: July QUARTER: Third YEAR: 2021

ZONE - 1

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
515-A	7-6 0910	108.97	7008.80	6899.83	9,020	5.96	20.5
604	7-5 1310	108.14	7006.00	6897.86	6,140	5.25	18.1
614	7-6 1030	107.56	7012.00	6904.44	7,000	6.36	24.0
142	7-12 1348	204.96	6983.40	6778.44	1,813	7.69	18.9
EPA-2	7-12 1237	176.73	7019.50	6842.77	3,510	6.82	15.9
EPA-2 DUP (QA/QC)	7-12 1311	177.59	7019.50	6841.91	3,460	6.81	15.7
EPA-4	7-12 1121	210.62	7069.80	6859.18	4,200	6.62	17.3
EPA-5	7-12 1006	129.59	7011.50	6881.91	4,320	6.36	18.6
EPA-7	7-12 0912	119.35	7011.70	6892.35	6,590	5.97	15.6
Rinsate (QA/QC)	7-14 1150				2	6.63	24.1
Field Blank (QA/QC)	7-14 1207				2	6.62	23.4
143	7-23 1041	211.37	6989.60	6778.23			
EPA-8	7-12 1210	218.29	7076.40	6858.11			
505-A	7-22 1429	124.25	6963.10	6838.85			
502-A	7-22 1348	197.99	7025.30	6827.31			
501-A	7-22 1355	214.27	7048.00	6833.73			
504-A	7-22 1312	202.32	7001.40	6799.08			
412	7-22 1218	188.12	6979.40	6791.28			

COMMENTS: Well 515-A water level dropped 3.78' during sample. Well 143 is measured to top layer oil level not water level. Wells 515-A, 604 and 614 samples were sent to Energy Lab as possible 11e(2) by product material.

GROUND WATER FIELD MONITORING

WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: July QUARTER: Third YEAR: 2021

ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
504-B	7-22 1306	dry @ 171.0	7001.80				
517	7-13 0915	109.54	6971.29	6861.75	5,460	3.28	18.6
EPA-14	7-5 1125	127.73	6963.88	6836.15	3,350	5.74	17.3
420	7-22 1253	159.11	6982.60	6823.49			
711	7-6 1233	186.39	7042.75	6856.36	4,750	3.10	21.3
613	7-5 0914	80.47	6961.30	6880.83	8,060	2.95	15.6
708	7-5 1210	161.32	7011.73	6850.41	4,980	3.84	16.2
NBL-1	7-22 1141	mud @ 197.49	6991.96				
EPA-9	7-12 1209	171.34	7076.60	6905.26			
EPA-13	7-6 1355	170.92	7031.66	6860.74	6,320	5.84	21.2
702	7-22 1443	84.55	6974.20	6889.65			
710	7-22 1342	168.26	7016.36	6848.10			
712	7-22 1329	178.51	7022.16	6843.65			
713	7-22 1320	169.89	7024.19	6854.30			
714	7-22 1423	109.97	6962.54	6852.57			
701	7-22 1438	85.76	6961.30	6875.54			
706	7-22 1405	118.24	6972.12	6853.88			
707	7-22 1337	164.99	7005.20	6840.21			
717	7-5 1016	137.75	6972.07	6834.32	4,660	3.60	17.8
717 DUPL (QA/QC)	7-5 1044	138.76	6972.07	6833.31	4,560	3.60	18.2
719	7-13 0948	171.46	7001.48	6830.02	5,230	5.54	21.2
402	7-22 1229	139.61	6968.20	6828.59			
446	7-23 1130	159.40	6998.30	6838.90			
424**	7-22 1238	145.60	6972.62	6827.02			

COMMENTS: Wells EPA-14, 613, 708 and 717 samples were sent to Energy Lab as possible 11e(2)

by product material. Well 446 is measured to top layer oil level not water level. Unable to sample well 420 due to pump stuck in well with disconnected lines. Well 517 required a 24 hr. recharge to resume/collect full sample and pump repair.

GROUND WATER FIELD MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: July QUARTER: Third YEAR: 2021

SUPPLEMENTAL

ZONE -3

WELL NO	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV	TOP OF WATER ELEV	FIELD COND (US/CM)	FIELD pH (UNITS)	FIELD TEMP (°C)
PB-2	7-16 1116	dry @ 189.95	6989.70				
PB-3	7-16 1118	dry @ 193.35	6990.23				
NBL-2	7-14 1005	175.96	6975.61	6799.65	3,440	7.16	17.0
RW-A	7-13 1325	176.76	6983.23	6806.47	4,980	4.66	17.2
RW-11			6983.73				
NW-1	7-21 1008	198.72	6997.15	6798.43			
NW-2	7-21 1024	200.83	6989.76	6788.93			
NW-3	7-7 1010	195.40	6985.57	6790.17	4,340	6.92	16.3
NW-4	7-13 1401	198.33	6990.13	6791.8	3,900	6.32	16.1
NW-5	7-13 1429	195.02	6985.85	6790.83	4,850	5.87	19.6
PB-4	7-16 1120	dry @ 193.50	6990.18				
MW-6	7-16 1113	mud @ 200.50	6990.94				
MW-7	7-7 0902	200.62	6988.82	6788.2	4,640	3.30	20.3
IW-A	7-22 1152	202.02	6992.77	6790.75			

COMMENTS: _____

GROUND WATER FIELD MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: October QUARTER: Fourth YEAR: 2021

SOUTHWEST ALLUVIUM

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
509-D	10-8 1238	87.56	6949.50	6861.94	6,360	6.38	16.4
624	10-11 1347	58.39	6898.70	6840.31	5,700	6.41	14.3
627	10-11 1530	64.65	6892.40	6827.75	4,360	6.85	15.1
632	10-7 1453	52.36	6903.60	6851.24	6,620	6.41	15.7
801	10-7 1343	59.79	6904.30	6844.51	5,760	6.82	16.5
802	10-11 1103	55.84	6907.10	6851.26	6,320	6.45	15.1
803	10-11 0950	70.29	6922.60	6852.31	5,970	6.56	13.3
808	10-11 1024	57.46	6910.70	6853.24	6,170	6.41	14.6
GW-1	10-11 1152	69.63	6916.50	6846.87	6,150	6.58	14.6
GW-2			6912.90				
GW-3			6910.00				
EPA-23	10-8 1328	64.05	6926.50	6862.45	5,290	6.52	15.8
EPA-25	10-12 0946	61.07	6903.40	6842.33	4,880	6.75	9.7
EPA-28	10-11 1236	70.34	6917.90	6847.56	4,680	6.75	14.7
EPA-28 DUP (QA/QC)	10-11 1315	70.96	6917.90	6846.94	4,580	6.69	15.3
SBL-1	10-11 1430	51.60	6896.30	6844.70	7,680	6.54	14.8
805	10-14 1241	62.23	6915.60	6853.37			
807	10-14 1234	66.77	6923.40	6856.63			
RINSATE	10-12 1032				4	7.42	8.5
FIELD BLANK	10-12 1100				2	6.20	9.2

COMMENTS: No Sample or measurement for well GW-2 and GW-3 due to unsafe ground conditions.

Well 632 water level dropped 4.75' during sample. Wells 624, 632, 801, 802, 803, 808, 509-D, EPA 23, EPA-25 and GW-1 samples were sent to Energy Lab as possible 11e(2) by product material.

GROUND WATER FIELD MONITORING

WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: October QUARTER: Fourth YEAR: 2021

ZONE - 1

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
515-A	10-4 1042	109.11	7008.80	6899.69	9,250	5.86	18.3
604	10-4 1148	108.33	7006.00	6897.67	6,410	5.12	15.7
614	10-4 0902	107.70	7012.00	6904.30	7,140	6.42	17.3
142	10-6 0917	205.18	6983.40	6778.22	1,923	7.64	14.5
EPA-2	10-8 1130	176.81	7019.50	6842.69	3,730	7.61	14.2
EPA-2 DUP (QA/QC)	10-8 1156	177.63	7019.50	6841.87	3,620	6.72	14.5
EPA-4	10-8 1017	210.63	7069.80	6859.17	4,430	6.55	14.9
EPA-5	10-8 0912	129.62	7011.50	6881.88	4,460	6.33	16.0
EPA-7	10-4 1235	119.50	7011.70	6892.20	6,800	5.92	15.7
Rinsate (QA/QC)	10-6 1102				2	7.42	16.7
Field Blank (QA/QC)	10-6 1155				2	6.60	18.0
143	10-15 14.39	211.85	6989.60	6777.75			
EPA-8	10-8 1103	218.25	7076.40	6858.15			
505-A	10-14 1345	124.22	6963.10	6838.88			
502-A	10-14 1404	197.83	7025.30	6827.47			
501-A	10-14 1411	214.11	7048.00	6833.89			
504-A	10-15 1132	202.48	7001.40	6798.92			
412	10-15 1437	188.30	6979.40	6791.10			

COMMENTS: Well 515-A water level dropped 3.63' during sample.

Well 143 is measured to top layer oil level not water level. Wells 515-A, 604, 614 and EPA-7 were sent to Energy Lab as possible 11e(2) by product material.

GROUND WATER FIELD MONITORING

WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: October QUARTER: Fourth YEAR: 2021
ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
504-B	10-15 1135		7001.80				
517	10-5 0843	109.61	6971.29	6861.68	5,980	2.90	13.1
EPA-14	10-4 1411	127.83	6963.88	6836.05	3,600	5.76	15.2
420	10-15 1237	159.44	6982.60	6823.16			
711	10-5 1105	186.48	7042.75	6856.27	4,940	3.69	18.4
613	10-4 1328	80.60	6961.30	6880.70	8,340	3.15	15.5
708	10-5 1010	161.52	7011.73	6850.21	5,150	3.87	14.3
NBL-1	10-15 1124	mud @ 197.46	6991.96				
EPA-9	10-8 1108	171.14	7076.60	6905.46			
EPA-13	10-4 1633	171.03	7031.66	6860.63	6,560	5.79	16.3
702	10-14 1338	84.49	6974.20	6889.71			
710	10-15 1219	168.14	7016.36	6848.22			
712	10-15 1204	178.79	7022.16	6843.37			
713	10-15 1156	170.08	7024.19	6854.11			
714	10-14 1349	109.92	6962.54	6852.62			
701	10-14 1332	85.83	6961.30	6875.47			
706	10-14 1359	118.37	6972.12	6853.75			
707	10-15 1210	165.13	7005.20	6840.07			
717	10-4 1452	137.83	6972.07	6834.24	4,920	3.52	16.2
717 DUPL (QA/QC)	10-4 1545	138.85	6972.07	6833.22	4,950	3.57	16.0
719	10-5 1226	171.42	7001.48	6830.06	5,340	5.63	16.7
402	10-15 1354	139.64	6968.20	6828.56			
446	10-15 1502	158.83	6998.30	6839.47			
424**	10-15 1341	145.75	6972.62	6826.87			

COMMENTS: Wells EPA-14, 613, 708, 717, 517, 711, 719 and EPA-13 were sent to Energy Lab as possible

11e(2) by product material. Well 446 is measured to top layer oil level not water level. Unable to sample well 420 due to pump stuck

in well with disconnected lines. Well 517 required 8 hr. recharge to resume/collect full sample. No WL measurement for well 504-B

due to unsafe condition (i.e. unknown gas emission from well) and dry @ 171'.

GROUND WATER FIELD MONITORING
WATER ELEVATIONS, pH, CONDUCTIVITY AND TEMPERATURE

MONTH: October QUARTER: Fourth YEAR: 2021

SUPPLEMENTAL

ZONE -3

WELL.NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)
PB-2	10-15 1056	dry @ 189.95	6989.70				
PB-3	10-15 1100	dry @ 193.35	6990.23				
NBL-2	10-6 1010	175.96	6975.61	6799.65	3,400	6.56	14.7
RW-A	10-12 1220		6983.23	6983.23	5,370	5.59	13.4
RW-11	10-13 1153	171.68	6983.73	6812.05	4,460	6.29	18.3
PB-4	10-15 1058	mud @ 193.50	6990.18				
MW-6	10-15 1054	mud @ 200.12	6990.94				
MW-7	10-5 1345	200.64	6988.82	6788.18	4,870	3.28	19.5
MW-2	10-15 1225	162.34	6996.94	6834.60			
MW-3	10-15 1312	174.08	6986.38	6812.30			
NW-1	10-15 1116	198.68	6997.15	6798.47			
703	10-14 1325	92.39	6978.92	6886.53			
709	10-15 1219	163.04	7003.54	6840.50			
715	10-14 1354	119.72	6963.90	6844.18			
716	10-15 1400	129.19	6964.94	6835.75			
718	10-15 1231	165.65	6995.06	6829.41			
IW-A	10-15 1059	202.05	6992.77	6790.72			
RW-16	10-15 1037	145.63	6979.73	6834.10			
RW-17	10-15 1031	175.52	7012.78	6837.26			
NW-2	10-15 1024	200.94	6989.76	6788.82			
NW-3	10-5 1500	195.38	6985.57	6790.19	4,560	6.94	15.4
NW-4	10-12 1300	198.54	6990.13	6791.59	4,060	5.69	13.2
NW-5	10-5 1530	195.06	6985.85	6790.79	5,120	6.02	16.3
Z3M-1	10-14 1249	68.54	6996.30	6927.76			
Z3M-2	10-14 1302	77.83	7009.30	6931.47			
SW-1B	10-12 1540	211.38	6976.69	6765.31	3,500	7.15	13.9
SW-3B	10-12 1500	290.25	7030.82	6740.57	1,172	8.15	11.6

COMMENTS: Wells MW-7, NW-4, NW-5, RW-A and RW-11 were sent to Energy Lab as possible

11e(2) by product material. Newly sampled sentinel wells SW-1B and SW-3B are located with in the Navajo Reservation.

NBL-1, NBL-2, RW-A & PB WELL GROUND WATER MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY, TITRATION AND TEMPERATURE

MONTH: July & September

QUARTER: Third

YEAR: 2021

ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)	HCO3 mg/l	Chl mg/l
NBL-1	7-22 1141	mud @ 197.49	6991.96						
NBL-2	7-14 1005	175.96	6975.61	6799.65	3,440	7.16	17.0	276	40
PB-2	7-16 1116	dry @ 189.95	6989.70						
PB-3	7-16 1118	dry @ 193.35	6990.23						
PB-4	7-16 1120	mud @ 193.50	6990.18						
RW-A	7-13 1325	176.76	6983.23	6806.47	4,980	4.66	17.2	0	27
NBL-1			6991.96						
NBL-2			6975.61						
PB-2			6989.70						
PB-3			6990.23						
PB-4			6990.18						
RW-A			6983.23						
NBL-1			6991.96						
NBL-2	9-9 1140	176.07	6975.61	6799.54	3,020	7.69	18.5	268	39
PB-2	9-9 1243	dry @ 189.95	6989.70						
PB-3	9-9 1246	dry @ 193.35	6990.23						
PB-4	9-9 1244	mud @ 193.46	6990.18						
RW-A	9-9 1154		6983.23	6983.23	5,130	5.53	15.3	12	30
NBL-1			6991.96						
NBL-2			6975.61						
PB-2			6989.70						
PB-3			6990.23						
PB-4			6990.18						
RW-A			6983.23						

COMMENTS: No Sample or measurement in August due to adherence to COVID-19 guidance and restrictions. No water level measurement for well RW-A on 9-9 due to placement of transducer probe well.

MW & NW WELL GROUND WATER MONITORING

WATER ELEVATIONS, pH, CONDUCTIVITY, TITRATION AND TEMPERATURE

MONTH: July & September

QUARTER: Third

YEAR: 2021

ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV	TOP OF WATER ELEV	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)	HCO3 mg/l	Chl mg/l
NW-1	7-21 1008	198.72	6997.15	6798.43					
NW-2	7-21 1024	200.83	6989.76	6788.93					
NW-3	7-7 1010	195.40	6985.57	6790.17	4,340	6.92	16.3	323	34
NW-4	7-13 1401	198.33	6990.13	6791.80	3,900	6.32	16.1	48	20
NW-5	7-13 1429	195.02	6985.85	6790.83	4,850	5.87	19.6	60	30
MW-6	7-16 1113	mud @ 200.50	6990.94						
MW-7	7-7 0902	200.62	6988.82	6788.20	4,640	3.30	20.3	0	28
NW-1			6997.15						
NW-2			6989.76						
NW-3			6985.57						
NW-4			6990.13						
NW-5			6985.85						
MW-6			6990.94						
MW-7			6988.82						
NW-1	9-9 1037	198.69	6997.15	6798.46					
NW-2	9-9 1057	200.83	6989.76	6788.93					
NW-3	9-9 1107	195.44	6985.57	6790.13	4,360	6.97	13.5	353	37
NW-4	9-9 1050	196.21	6990.13	6793.92	3,880	5.26	13.6	18	21
NW-5	9-9 1120	195.10	6985.85	6790.75	4,960	5.96	15.5	67	30
MW-6	9-9 1240	mud @ 200.12	6990.94						
MW-7	9-9 1214	200.69	6988.82	6788.13	4,690	3.30	23.6	0	34
NW-1			6997.15						
NW-2			6989.76						
NW-3			6985.57						
NW-4			6990.13						
NW-5			6985.85						
MW-6			6990.94						
MW-7			6988.82						

COMMENTS:

NBL-1, NBL-2, RW-A & PB WELL GROUND WATER MONITORING WATER ELEVATIONS, pH, CONDUCTIVITY, TITRATION AND TEMPERATURE

MONTH: October, November, December

QUARTER: Fourth

YEAR: 2021

ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)	HCO ₃ mg/l	Chl mg/l
NBL-1	10-15 1124	mud @ 197.46	6991.96						
NBL-2	10-6 1010	175.96	6975.61	6799.65	3,400	6.56	14.7	299	39
PB-2	10-15 1056	dry @ 189.95	6989.70						
PB-3	10-15 1100	dry @ 193.35	6990.23						
PB-4	10-15 1058	mud @ 193.50	6990.18						
RW-A	10-12 1220		6983.23	6983.23	5,370	5.59	13.4	24	30
NBL-1			6991.96						
NBL-2	11-30 1201	176.04	6975.61	6799.57	3,290	7.52	12.5	269	37
PB-2	11-30 1300	dry @ 189.95	6989.70						
PB-3	11-30 1305	dry @ 193.35	6990.23						
PB-4	11-30 1302	mud @ 193.50	6990.18						
RW-A	11-22 1129		6983.23	6983.23	5,260	5.53	11.6	12	29
NBL-1			6991.96						
NBL-2	12-22 0857	176.12	6975.61	6799.49	3,530	7.35	9.8	272	37
PB-2	12-22 1012	dry @ 189.95	6989.70						
PB-3	12-22 1009	dry @ 193.55	6990.23						
PB-4	12-21 1138	mud @ 193.15	6990.18						
RW-A	12-22 1032		6983.23	6983.23	5,250	5.64	11.7	12	29
NBL-1			6991.96						
NBL-2			6975.61						
PB-2			6989.70						
PB-3			6990.23						
PB-4			6990.18						
RW-A			6983.23						

COMMENTS: _____

MW & NW WELL GROUND WATER MONITORING
WATER ELEVATIONS, pH, CONDUCTIVITY, TITRATION AND TEMPERATURE
 MONTH: October, November & December QUARTER: Fourth YEAR: 2021
ZONE - 3

WELL NO.	DEPTH SAMPLE DATE/TIME	DEPTH TO WATER (FT)	REF. ELEV.	TOP OF WATER ELEV.	FIELD COND. (US/CM)	FIELD pH (UNITS)	FIELD TEMP. (°C)	HCO3 mg/l	Chl mg/l
NW-1	10-15 1116	198.68	6997.15	6798.47					
NW-2	10-15 1024	200.94	6989.76	6788.82					
NW-3	10-5 1500	195.38	6985.57	6790.19	4,560	6.94	15.4	311	37
NW-4	10-15 1300	198.54	6990.13	6791.59	4,060	5.69	13.2	14	21
NW-5	10-5 1530	195.06	6985.85	6790.79	5,120	6.02	16.3	79	30
MW-6	10-15 1054	mud @ 200.12	6990.94						
MW-7	10-5 1345	200.64	6988.82	6788.18	4,870	3.28	19.5	0	34
NW-1	11-22 1032	198.66	6997.15	6798.49					
NW-2	11-22 1052	200.90	6989.76	6788.86					
NW-3	11-22 1114	195.49	6985.57	6790.08	4,500	7.03	13.9	352	37
NW-4	11-22 1041	198.19	6990.13	6791.94	3,960	5.52	13.0	18	20
NW-5	11-22 1110	195.22	6985.85	6790.63					
MW-6	11-30 1249	mud @ 200.13	6990.94						
MW-7	11-30 1225	200.71	6988.82	6788.11	5,340	2.83	12.8	0	31
NW-1	12-22 0946	198.67	6997.15	6798.48					
NW-2	12-22 1025	200.89	6989.76	6788.87					
NW-3	12-22 1010	195.48	6985.57	6790.09	4,520	7.05	12.2	352	37
NW-4	12-22 0952	198.18	6990.13	6791.95	3,980	5.50	12.8	12	20
NW-5	12-22 1018	195.14	6985.85	6790.71					
MW-6	12-21 1127	mud @ 200.15	6990.94						
MW-7	12-22 0927	200.76	6988.82	6788.06	5,460	2.83	9.8	0	34
NW-1			6997.15						
NW-2			6989.76						
NW-3			6985.57						
NW-4			6990.13						
NW-5			6985.85						
MW-6			6990.94						
MW-7			6988.82						

COMMENTS: No Sample collected for Well NW-5 on 11-22-21 due to pump failure.

QUARTERLY SAMPLING
SEMI-ANNUAL GROUND WATER MONITORING REPORT

JULY TO DECEMBER OF 2021

SOUTH WEST ALLUVIUM

*509-D

624

627

*632

801

802

803

808

*GW-1

*EPA-23

EPA-25

*EPA-28

SBL-1

LEVELS ONLY

805

807

NOTE: *POINT OF COMPLIANCE WELLS
WATER LEVEL ONLY IS IN FIELD DATA SHEET

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-001
Client Sample ID: 509-D

Report Date: 08/27/21
Collection Date: 07/19/21 08:57
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	2160	mg/L		5		A2320 B	07/22/21 22:40 / dmb
Chloride	345	mg/L	D	2		E300.0	07/28/21 18:21 / dmb
Sulfate	2300	mg/L	D	8		E300.0	07/24/21 16:31 / dmb
Calcium	878	mg/L	D	2		E200.7	07/23/21 14:48 / meh
Magnesium	398	mg/L		1		E200.7	07/23/21 14:48 / meh
Potassium	13	mg/L	D	2		E200.7	07/23/21 14:48 / meh
Sodium	414	mg/L	D	5		E200.7	07/23/21 14:48 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 12:46 / kjp
pH Measurement Temp	13.8	°C				A4500-H B	07/22/21 12:46 / kjp
Solids, Total Dissolved TDS @ 180 C	5830	mg/L	D	100		A2540 C	07/22/21 10:40 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	12.0	mg/L	D	0.05		E353.2	07/24/21 12:33 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/22/21 16:13 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 15:30 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Cobalt	0.009	mg/L		0.005		E200.8	08/03/21 00:37 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Manganese	2.70	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Nickel	0.005	mg/L		0.005		E200.8	08/03/21 00:37 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:37 / jcg
Uranium	0.240	mg/L	D	0.0005		E200.8	08/03/21 00:37 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:37 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.06	pCi/L	U			E900.1	08/02/21 07:51 / trs
Gross Alpha minus Rn & U Precision (±)	0.4	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	0.09	pCi/L	U			E909.0	08/11/21 00:57 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 00:57 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 00:57 / hat
Radium 226	0.4	pCi/L				E903.0	08/09/21 09:45 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/09/21 09:45 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	08/09/21 09:45 / 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



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-001
Client Sample ID: 509-D

Report Date: 08/27/21
Collection Date: 07/19/21 08:57
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.008	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.06	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	5460	mg/L		1.00		A1030 E	07/30/21 12:42 / jlw
A/C Balance	0.65	%				A1030 E	07/30/21 12:42 / jlw
Anions	93.7	meq/L				A1030 E	07/30/21 12:42 / jlw
Cations	94.9	meq/L				A1030 E	07/30/21 12:42 / jlw
TDS Ratio	1.07	unitless				A1030 E	07/30/21 12:42 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 18:57 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 18:57 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 18:57 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/27/21 18:57 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/14/21 17:13 / tlf
Surr: 1,2-Dichloroethane-d4	119	%REC		71-139		E624.1	07/27/21 18:57 / eli-b
Surr: p-Bromofluorobenzene	117	%REC		80-127		E624.1	07/27/21 18:57 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/27/21 18:57 / eli-b

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-003
Client Sample ID: 509-D

Report Date: 11/28/21
Collection Date: 10/08/21 12:38
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	2140	mg/L		5		A2320 B	10/15/21 21:13 / kjp
Chloride	331	mg/L	D	2		E300.0	10/16/21 10:10 / dmb
Sulfate	2230	mg/L	D	8		E300.0	10/16/21 10:10 / dmb
Calcium	748	mg/L		1		E200.7	10/26/21 14:13 / jcg
Magnesium	400	mg/L		1		E200.7	10/26/21 14:13 / jcg
Potassium	13	mg/L		1		E200.7	10/26/21 14:13 / jcg
Sodium	390	mg/L	D	2		E200.7	10/26/21 14:13 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/13/21 10:52 / mnm
pH Measurement Temp	13.1	°C				A4500-H B	10/13/21 10:52 / mnm
Solids, Total Dissolved TDS @ 180 C	5670	mg/L	D	100		A2540 C	10/13/21 11:10 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	12.0	mg/L	D	0.05		E353.2	10/20/21 10:52 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/14/21 17:11 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.04		E200.8	10/21/21 18:34 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 08:23 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:06 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 18:34 / srm
Cobalt	0.007	mg/L		0.005		E200.8	10/21/21 18:34 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 18:34 / srm
Manganese	2.15	mg/L	D	0.002		E200.8	10/21/21 18:34 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 18:34 / srm
Nickel	ND	mg/L		0.005		E200.8	10/21/21 18:34 / srm
Selenium	ND	mg/L		0.001		E200.8	11/03/21 21:24 / jcg
Uranium	0.232	mg/L	D	0.0005		E200.8	10/21/21 18:34 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 18:34 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.9	pCi/L	U			E900.1	10/22/21 09:07 / amn
Gross Alpha minus Rn & U Precision (±)	0.8	pCi/L				E900.1	10/22/21 09:07 / amn
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 09:07 / amn
Lead 210	0.6	pCi/L	U			E909.0	10/28/21 23:56 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/28/21 23:56 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/28/21 23:56 / hat
Radium 226	0.2	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 228	0.6	pCi/L	U			RA-05	10/22/21 12:12 / amn
Radium 228 precision (±)	0.6	pCi/L				RA-05	10/22/21 12:12 / amn
Radium 228 MDC	1	pCi/L				RA-05	10/22/21 12:12 / amn

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-003
Client Sample ID: 509-D

Report Date: 11/28/21
Collection Date: 10/08/21 12:38
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.8	pCi/L	U			A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	-0.03	pCi/L	U			A7500-U C	11/02/21 14:33 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/02/21 14:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/02/21 14:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5210	mg/L		1.00		A1030 E	10/27/21 16:53 / jlw
A/C Balance	-2.25	%				A1030 E	10/27/21 16:53 / jlw
Anions	91.5	meq/L				A1030 E	10/27/21 16:53 / jlw
Cations	87.5	meq/L				A1030 E	10/27/21 16:53 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/27/21 16:53 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 20:04 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 20:04 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 20:04 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/17/21 20:04 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	97.0	%REC		73-122		E624.1	10/17/21 20:04 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/17/21 20:04 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/17/21 20:04 / etad

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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		509-D	509-D	509-D	509-D
Collection Date:		10/7/2021	7/19/2021	4/19/2021	1/18/2021
Receive Date:		10/12/2021	7/21/2021	4/22/2021	1/21/2021
Report Date:		11/28/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100467-003	C21070842-001	C21040873-001	C21010710-001
Bicarbonate as HCO ₃	mg/L	2140	2160	2210	2150
Calcium	mg/L	748	878	825	833
Chloride	mg/L	331	345	342	338
Magnesium	mg/L	400	398	393	381
Potassium	mg/L	13	13	14	16
Sodium	mg/L	390	414	396	429
Sulfate	mg/L	2230	2300	2220	2310
pH	s.u.	6.6	6.6	6.55	6.62
pH Measurement Temp	°C	13.1	13.8	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	5670	5830	5690	5850
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	12.0	12.0	11.0	13.4
Aluminum	mg/L	ND(0.04)	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	0.007	0.009	0.011	0.010
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	2.15	2.70	2.47	2.60
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	ND(0.005)	0.005	0.006	0.005
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.232	0.240	0.238	0.233
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.9	0.06	-0.1	0.08
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.8	0.4	0.5	0.5
Lead 210	pCi/L	0.6	0.09	0.2	0.2
Lead 210 MDC	pCi/L	0.9	0.9	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.2	0.4	0.4	0.5
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	0.6	0.4	1.6	1.1
Radium 228 MDC	pCi/L	1	1.5	0.9	1
Radium 228 precision (±)	pCi/L	0.6	0.9	0.7	0.6
Thorium 230	pCi/L	-0.03	0.008	0.2	0.1
Thorium 230 MDC	pCi/L	0.2	0.1	0.1	0.2
Thorium 230 precision (±)	pCi/L	0.07	0.06	0.1	0.1
A/C Balance	%	-2.25	0.65	-0.88	-0.93
Anions	meq/L	91.5	93.7	92.7	93.7
Cations	meq/L	87.5	94.9	91.1	92.0
Solids, Total Dissolved - Calculated	mg/L	5210	5460	5320	5420
TDS Ratio	unitless	1.09	1.07	1.07	1.08
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-002
Client Sample ID: 624

Report Date: 08/27/21
Collection Date: 07/20/21 09:55
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1660	mg/L		5		A2320 B	07/24/21 14:32 / dmb
Chloride	234	mg/L	D	2		E300.0	07/25/21 02:25 / dmb
Sulfate	2370	mg/L	D	8		E300.0	07/25/21 02:25 / dmb
Calcium	708	mg/L	D	3		E200.7	07/23/21 17:03 / meh
Magnesium	435	mg/L		1		E200.7	07/23/21 17:03 / meh
Potassium	7	mg/L	D	2		E200.7	07/23/21 17:03 / meh
Sodium	331	mg/L	D	5		E200.7	07/23/21 17:03 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 15:59 / kjp
pH Measurement Temp	16.1	°C				A4500-H B	07/22/21 15:59 / kjp
Solids, Total Dissolved TDS @ 180 C	5430	mg/L	D	40		A2540 C	07/23/21 12:43 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	74	mg/L	D	1		E353.2	07/24/21 13:12 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:31 / dmb
METALS, TOTAL							
Aluminum	0.06	mg/L	D	0.04		E200.8	08/03/21 02:44 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 02:44 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Manganese	0.128	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 02:44 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 02:44 / jcg
Uranium	0.0474	mg/L	D	0.0005		E200.8	08/03/21 02:44 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 02:44 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.01	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	0.02	pCi/L	U			E909.0	08/14/21 17:39 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/14/21 17:39 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/14/21 17:39 / hat
Radium 226	0.4	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	0.5	pCi/L	U			RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	08/04/21 12:22 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	08/04/21 12:22 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-002
Client Sample ID: 624

Report Date: 08/27/21
Collection Date: 07/20/21 09:55
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	-0.02	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.06	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	5230	mg/L		1.00		A1030 E	07/29/21 16:01 / jlw
A/C Balance	-1.58	%				A1030 E	07/29/21 16:01 / jlw
Anions	88.5	meq/L				A1030 E	07/29/21 16:01 / jlw
Cations	85.7	meq/L				A1030 E	07/29/21 16:01 / jlw
TDS Ratio	1.04	unitless				A1030 E	07/29/21 16:01 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 18:31 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 18:31 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 18:31 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/28/21 18:31 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/28/21 18:31 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/28/21 18:31 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/28/21 18:31 / 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)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-005
Client Sample ID: 624

Report Date: 12/03/21
Collection Date: 10/11/21 13:47
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1680	mg/L		5		A2320 B	10/16/21 00:54 / kjp
Chloride	227	mg/L	D	2		E300.0	10/16/21 23:54 / dmb
Sulfate	2320	mg/L	D	8		E300.0	10/16/21 23:54 / dmb
Calcium	679	mg/L		1		E200.7	10/26/21 16:02 / jcg
Magnesium	414	mg/L		1		E200.7	10/26/21 16:02 / jcg
Potassium	6	mg/L		1		E200.7	10/26/21 16:02 / jcg
Sodium	333	mg/L	D	2		E200.7	10/26/21 16:02 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/15/21 09:43 / mnm
pH Measurement Temp	12.3	°C				A4500-H B	10/15/21 09:43 / mnm
Solids, Total Dissolved TDS @ 180 C	5450	mg/L	D	40		A2540 C	10/15/21 09:49 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	69.8	mg/L	D	0.2		E353.2	10/18/21 13:10 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:31 / nts
METALS, TOTAL							
Aluminum	0.19	mg/L	D	0.05		E200.7	10/26/21 22:08 / jcg
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 14:44 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:08 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 14:44 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 14:44 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 14:44 / srm
Manganese	0.118	mg/L	D	0.004		E200.8	10/29/21 14:44 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 14:44 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 06:37 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 14:44 / srm
Uranium	0.043	mg/L	D	0.001		E200.8	10/29/21 14:44 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 14:44 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.2	pCi/L				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	1.2	pCi/L				E909.0	10/30/21 10:46 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/30/21 10:46 / hat
Lead 210 MDC	1	pCi/L				E909.0	10/30/21 10:46 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 228	0.2	pCi/L	U			RA-05	10/22/21 13:48 / amm
Radium 228 precision (±)	0.7	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: C21100526-005
Client Sample ID: 624

Report Date: 12/03/21
Collection Date: 10/11/21 13:47
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
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	1.1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.04	pCi/L	U			A7500-U C	11/04/21 13:21 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 13:21 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5120	mg/L		1.00		A1030 E	10/27/21 16:56 / jlw
A/C Balance	-2.77	%				A1030 E	10/27/21 16:56 / jlw
Anions	87.3	meq/L				A1030 E	10/27/21 16:56 / jlw
Cations	82.6	meq/L				A1030 E	10/27/21 16:56 / jlw
TDS Ratio	1.06	unitless				A1030 E	10/27/21 16:56 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 13:28 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 13:28 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 13:28 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 13:28 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	99.0	%REC		73-122		E624.1	10/22/21 13:28 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		79-119		E624.1	10/22/21 13:28 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	10/22/21 13:28 / etad

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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		624	624	624	624
Collection Date:		10/11/2021	7/20/2021	4/20/2021	1/19/2021
Receive Date:		10/14/2021	7/22/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100526-005	C21070886-002	C21040856-003	C21010711-003
Bicarbonate as HCO ₃	mg/L	1680	1660	1550	1580
Calcium	mg/L	679	708	670	605
Chloride	mg/L	227	234	227	233
Magnesium	mg/L	414	435	464	420
Potassium	mg/L	6	7	8	8
Sodium	mg/L	333	331	353	317
Sulfate	mg/L	2320	2370	2280	2310
pH	s.u.	6.6	6.6	6.57	6.59
pH Measurement Temp	°C	12.3	16.1	13	16
Solids, Total Dissolved TDS @ 180 C	mg/L	5450	5430	5230	5370
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	69.8	74	70	72
Aluminum	mg/L	0.19	0.06	ND(0.03)	0.07
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)	ND(0.001)	ND(0.001)
Manganese	mg/L	0.118	0.128	0.088	0.074
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(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	0.043	0.0474	0.0413	0.0415
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.2	-0.01	0.4	1
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.8	0.8	0.5
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.6	0.5	0.6	0.5
Lead 210	pCi/L	1.2	0.02	0.5	-0.06
Lead 210 MDC	pCi/L	1	0.8	0.8	1
Lead 210 precision (±)	pCi/L	0.7	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.4	0.2	0.5
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.1	0.1	0.2
Radium 228	pCi/L	0.2	0.5	0.9	1.3
Radium 228 MDC	pCi/L	1.1	1.2	0.8	0.9
Radium 228 precision (±)	pCi/L	0.7	0.7	0.5	0.6
Thorium 230	pCi/L	0.04	-0.02	-0.002	0.1
A/C Balance	%	-2.77	-1.58	1.74	-4.15
Anions	meq/L	87.3	88.5	84.2	85.6
Cations	meq/L	82.6	85.7	87.2	78.7
Chlorodibromomethane	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-004
Client Sample ID: 627

Report Date: 08/27/21
Collection Date: 07/20/21 11:58
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	527	mg/L		5		A2320 B	07/24/21 14:47 / dmb
Chloride	35	mg/L	D	2		E300.0	07/25/21 03:04 / dmb
Sulfate	2330	mg/L	D	8		E300.0	07/25/21 03:04 / dmb
Calcium	543	mg/L		1		E200.7	07/23/21 17:11 / meh
Magnesium	234	mg/L		1		E200.7	07/23/21 17:11 / meh
Potassium	6	mg/L		1		E200.7	07/23/21 17:11 / meh
Sodium	373	mg/L	D	3		E200.7	07/23/21 17:11 / meh
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	07/22/21 16:04 / kjp
pH Measurement Temp	16.5	°C				A4500-H B	07/22/21 16:04 / kjp
Solids, Total Dissolved TDS @ 180 C	4140	mg/L	D	40		A2540 C	07/23/21 12:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	78	mg/L	D	1		E353.2	07/24/21 13:15 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:38 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 16:28 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 02:52 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Manganese	0.028	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 02:52 / jcg
Selenium	0.016	mg/L		0.001		E200.8	08/03/21 02:52 / jcg
Uranium	0.0184	mg/L	D	0.0005		E200.8	08/03/21 02:52 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 02:52 / 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	0.3	pCi/L	U			E909.0	08/15/21 00:42 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/15/21 00:42 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/15/21 00:42 / hat
Radium 226	0.4	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	0.2	pCi/L	U			RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	08/04/21 12:22 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	08/04/21 12:22 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-004
Client Sample ID: 627

Report Date: 08/27/21
Collection Date: 07/20/21 11:58
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.007	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	4130	mg/L		1.00		A1030 E	07/29/21 16:02 / jlw
A/C Balance	-0.79	%				A1030 E	07/29/21 16:02 / jlw
Anions	63.7	meq/L				A1030 E	07/29/21 16:02 / jlw
Cations	62.7	meq/L				A1030 E	07/29/21 16:02 / jlw
TDS Ratio	1.00	unitless				A1030 E	07/29/21 16:02 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 19:22 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 19:22 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 19:22 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/28/21 19:22 / eli-b
Trihalomethanes, Total	ND	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 19:22 / eli-b
Surr: p-Bromofluorobenzene	109	%REC		80-127		E624.1	07/28/21 19:22 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	07/28/21 19:22 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-013
Client Sample ID: 627

Report Date: 12/03/21
Collection Date: 10/11/21 15:30
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	540	mg/L		5		A2320 B	10/16/21 02:21 / kjp
Chloride	34	mg/L	D	2		E300.0	10/17/21 03:45 / dmb
Sulfate	2340	mg/L	D	8		E300.0	10/17/21 03:45 / dmb
Calcium	520	mg/L		1		E200.7	10/26/21 17:34 / jcg
Magnesium	226	mg/L		1		E200.7	10/26/21 17:34 / jcg
Potassium	6	mg/L		1		E200.7	10/26/21 17:34 / jcg
Sodium	370	mg/L	D	2		E200.7	10/26/21 17:34 / jcg
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	10/15/21 10:18 / mnm
pH Measurement Temp	13.8	°C				A4500-H B	10/15/21 10:18 / mnm
Solids, Total Dissolved TDS @ 180 C	4200	mg/L	D	40		A2540 C	10/15/21 09:58 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	75.0	mg/L	D	0.2		E353.2	10/18/21 14:08 / nts
Nitrogen, Ammonia as N	0.09	mg/L		0.05		E350.1	10/19/21 13:44 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.09		E200.8	10/29/21 15:53 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 15:53 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:46 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:53 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 15:53 / srm
Lead	ND	mg/L		0.001		E200.8	11/08/21 07:14 / srm
Manganese	0.088	mg/L	D	0.007		E200.8	11/08/21 07:14 / srm
Molybdenum	ND	mg/L	D	0.003		E200.8	10/29/21 15:53 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 07:14 / srm
Selenium	0.017	mg/L	D	0.002		E200.8	11/08/21 07:14 / srm
Uranium	0.018	mg/L	D	0.003		E200.8	11/08/21 07:14 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:53 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.4	pCi/L	U			E900.1	10/22/21 09:37 / amn
Gross Alpha minus Rn & U Precision (±)	0.6	pCi/L				E900.1	10/22/21 09:37 / amn
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 09:37 / amn
Lead 210	1.1	pCi/L	U			E909.0	10/30/21 11:06 / hat
Lead 210 precision (±)	0.8	pCi/L				E909.0	10/30/21 11:06 / hat
Lead 210 MDC	1.2	pCi/L				E909.0	10/30/21 11:06 / hat
Radium 226	0.3	pCi/L				E903.0	11/01/21 12:25 / amn
Radium 226 precision (±)	0.1	pCi/L				E903.0	11/01/21 12:25 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	11/01/21 12:25 / amn
Radium 228	-0.2	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
Radium 228 MDC	1.8	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
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-013
Client Sample ID: 627

Report Date: 12/03/21
Collection Date: 10/11/21 15:30
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.05	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	1.8	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	4090	mg/L		1.00		A1030 E	10/27/21 16:57 / jlw
A/C Balance	-2.48	%				A1030 E	10/27/21 16:57 / jlw
Anions	63.8	meq/L				A1030 E	10/27/21 16:57 / jlw
Cations	60.7	meq/L				A1030 E	10/27/21 16:57 / jlw
TDS Ratio	1.03	unitless				A1030 E	10/27/21 16:57 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 18:03 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 18:03 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 18:03 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 18:03 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	105	%REC		71-139		E624.1	10/20/21 18:03 / eli-b
Surr: p-Bromofluorobenzene	98.0	%REC		80-127		E624.1	10/20/21 18:03 / eli-b
Surr: Toluene-d8	93.0	%REC		80-123		E624.1	10/20/21 18:03 / 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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		627	627	627	627
Collection Date:		10/11/2021	7/20/2021	4/20/2021	1/19/2021
Receive Date:		10/14/2021	7/22/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100526-013	C21070886-004	C21040856-005	C21010711-005
Bicarbonate as HCO ₃	mg/L	540	527	539	547
Calcium	mg/L	520	543	550	526
Chloride	mg/L	34	35	32	34
Magnesium	mg/L	226	234	230	219
Potassium	mg/L	6	6	7	6
Sodium	mg/L	370	373	384	356
Sulfate	mg/L	2340	2330	2230	2280
pH	s.u.	7.0	6.9	6.87	6.95
pH Measurement Temp	°C	13.8	16.5	14	16
Solids, Total Dissolved TDS @ 180 C	mg/L	4200	4140	4180	4160
Nitrogen, Ammonia as N	mg/L	0.09	ND(0.05)	ND(0.05)	ND(0.05)
Nitrogen, Nitrate+Nitrite as N	mg/L	75.0	78	73	71
Aluminum	mg/L	ND(0.09)	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)	ND(0.001)	ND(0.001)
Manganese	mg/L	0.088	0.028	0.085	0.055
Molybdenum	mg/L	ND(0.003)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Selenium	mg/L	0.017	0.016	0.018	0.017
Uranium	mg/L	0.018	0.0184	0.0175	0.0189
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.4	-0.2	0.4	0.8
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.7	0.8	0.7
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.6	0.4	0.5	0.5
Lead 210	pCi/L	1.1	0.3	0.5	0.009
Lead 210 MDC	pCi/L	1.2	0.8	0.8	1
Lead 210 precision (±)	pCi/L	0.8	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.4	0.2	0.4
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.1	0.1	0.1	0.2
Radium 228	pCi/L	-0.2	0.2	1.5	1.1
Radium 228 MDC	pCi/L	1.8	1.2	0.9	1
Radium 228 precision (±)	pCi/L	1.1	0.7	0.6	0.7
Thorium 230	pCi/L	0.05	0.007	0.06	0.06
Thorium 230 precision (±)	pCi/L	0.08	0.05	0.05	0.03
A/C Balance	%	-2.48	-0.79	1.55	-2.14
Anions	meq/L	63.8	63.7	61.3	62.5
Cations	meq/L	60.7	62.7	63.3	59.9
Solids, Total Dissolved - Calculated	mg/L	4090	4130	4020	4010
TDS Ratio	unitless	1.03	1.00	1.04	1.04
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: C21070842-006
Client Sample ID: 632

Report Date: 08/27/21
Collection Date: 07/19/21 12:35
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1680	mg/L		5		A2320 B	07/22/21 23:47 / dmb
Chloride	255	mg/L	D	2		E300.0	07/24/21 18:45 / dmb
Sulfate	3490	mg/L	D	8		E300.0	07/24/21 18:45 / dmb
Calcium	591	mg/L	D	2		E200.7	07/23/21 15:08 / meh
Magnesium	784	mg/L		1		E200.7	07/23/21 15:08 / meh
Potassium	10	mg/L	D	2		E200.7	07/23/21 15:08 / meh
Sodium	403	mg/L	D	5		E200.7	07/23/21 15:08 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 13:00 / kjp
pH Measurement Temp	14.7	°C				A4500-H B	07/22/21 13:00 / kjp
Solids, Total Dissolved TDS @ 180 C	6900	mg/L	D	100		A2540 C	07/22/21 10:43 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	33.0	mg/L	D	0.5		E353.2	07/24/21 12:39 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:06 / dmb
METALS, TOTAL							
Aluminum	0.06	mg/L		0.03		E200.8	08/03/21 16:10 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 00:59 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Manganese	2.18	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Nickel	0.010	mg/L		0.005		E200.8	08/03/21 00:59 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:59 / jcg
Uranium	0.0754	mg/L	D	0.0005		E200.8	08/03/21 00:59 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:59 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	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	1.6	pCi/L				E909.0	08/11/21 17:03 / hat
Lead 210 precision (±)	0.8	pCi/L				E909.0	08/11/21 17:03 / hat
Lead 210 MDC	1	pCi/L				E909.0	08/11/21 17:03 / hat
Radium 226	0.8	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	0.3	pCi/L				E903.0	08/09/21 11:24 / amm
Radium 228	0.9	pCi/L	U			RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 MDC	1.8	pCi/L				RA-05	08/03/21 15:29 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-006
Client Sample ID: 632

Report Date: 08/27/21
Collection Date: 07/19/21 12:35
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.05	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.08	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	6500	mg/L		1.00		A1030 E	07/27/21 14:26 / jlw
A/C Balance	0.93	%				A1030 E	07/27/21 14:26 / jlw
Anions	110	meq/L				A1030 E	07/27/21 14:26 / jlw
Cations	112	meq/L				A1030 E	07/27/21 14:26 / jlw
TDS Ratio	1.06	unitless				A1030 E	07/27/21 14:26 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 16:12 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 16:12 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 16:12 / eli-b
Chloroform	0.51	ug/L		0.50		E624.1	07/27/21 16:12 / eli-b
Trihalomethanes, Total	0.51	ug/L		0.50		E624.1	08/14/21 17:13 / tif
Surr: 1,2-Dichloroethane-d4	118	%REC		71-139		E624.1	07/27/21 16:12 / eli-b
Surr: p-Bromofluorobenzene	122	%REC		80-127		E624.1	07/27/21 16:12 / eli-b
Surr: Toluene-d8	100	%REC		80-123		E624.1	07/27/21 16:12 / 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)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-002
Client Sample ID: 632

Report Date: 11/28/21
Collection Date: 10/07/21 14:53
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1670	mg/L		5		A2320 B	10/15/21 21:00 / kjp
Chloride	247	mg/L	D	2		E300.0	10/16/21 09:50 / dmb
Sulfate	3430	mg/L	D	8		E300.0	10/16/21 09:50 / dmb
Calcium	506	mg/L		1		E200.7	10/21/21 22:23 / jcg
Magnesium	721	mg/L		1		E200.7	10/26/21 14:09 / jcg
Potassium	9	mg/L		1		E200.7	10/21/21 22:23 / jcg
Sodium	364	mg/L		1		E200.7	10/21/21 22:23 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/13/21 10:49 / mnm
pH Measurement Temp	13.4	°C				A4500-H B	10/13/21 10:49 / mnm
Solids, Total Dissolved TDS @ 180 C	6880	mg/L	D	100		A2540 C	10/13/21 11:09 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	31.7	mg/L	D	0.1		E353.2	10/18/21 12:30 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/14/21 17:10 / nts
METALS, TOTAL							
Aluminum	0.06	mg/L	D	0.04		E200.8	10/21/21 18:29 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 08:18 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:02 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 18:29 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 18:29 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 18:29 / srm
Manganese	2.37	mg/L	D	0.002		E200.8	10/21/21 18:29 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 18:29 / srm
Nickel	0.010	mg/L		0.005		E200.8	10/23/21 08:18 / srm
Selenium	ND	mg/L		0.001		E200.8	11/03/21 21:20 / jcg
Uranium	0.0708	mg/L	D	0.0005		E200.8	10/21/21 18:29 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 18:29 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.0	pCi/L				E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.9	pCi/L				E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 09:07 / amm
Lead 210	3.0	pCi/L				E909.0	10/28/21 21:13 / hat
Lead 210 precision (±)	1.1	pCi/L				E909.0	10/28/21 21:13 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/28/21 21:13 / hat
Radium 226	0.8	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.2	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	1.9	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.8	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	0.9	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

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-002
Client Sample ID: 632

Report Date: 11/28/21
Collection Date: 10/07/21 14:53
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	2.6	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	-0.1	pCi/L	U			A7500-U C	11/02/21 14:33 / sec
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	11/02/21 14:33 / sec
Thorium 230 MDC	0.5	pCi/L				A7500-U C	11/02/21 14:33 / sec

- The sample MDC for Th-230 could not be achieved on this sample due to significant matrix interferences, restricting the volume of sample that could be used in the analysis.

DATA QUALITY

Solids, Total Dissolved - Calculated	6240	mg/L		1.00		A1030 E	10/27/21 16:52 / jlw
A/C Balance	-3.59	%				A1030 E	10/27/21 16:52 / jlw
Anions	108	meq/L				A1030 E	10/27/21 16:52 / jlw
Cations	101	meq/L				A1030 E	10/27/21 16:52 / jlw
TDS Ratio	1.10	unitless				A1030 E	10/27/21 16:52 / jlw

VOLATILE ORGANIC COMPOUNDS

Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 19:43 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 19:43 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 19:43 / etad
Chloroform	0.51	ug/L	J	1.0		E624.1	10/17/21 19:43 / etad
Trihalomethanes, Total	0.51	ug/L		0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	95.0	%REC		73-122		E624.1	10/17/21 19:43 / etad
Surr: p-Bromofluorobenzene	96.0	%REC		79-119		E624.1	10/17/21 19:43 / etad
Surr: Toluene-d8	99.0	%REC		80-120		E624.1	10/17/21 19:43 / 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)



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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		632	632	632	632
Collection Date:		10/7/2021	7/19/2021	4/19/2021	1/18/2021
Receive Date:		10/12/2021	7/21/2021	4/22/2021	1/21/2021
Report Date:		11/28/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100467-002	C21070842-006	C21040873-006	C21010710-006
Bicarbonate as HCO ₃	mg/L	1670	1680	1690	1670
Calcium	mg/L	506	591	566	516
Chloride	mg/L	247	255	253	251
Magnesium	mg/L	721	784	757	740
Potassium	mg/L	9	10	11	12
Sodium	mg/L	364	403	388	377
Sulfate	mg/L	3430	3490	3410	3380
pH	s.u.	6.6	6.6	6.52	6.56
pH Measurement Temp	°C	13.4	14.7	15	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6880	6900	6790	6830
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	31.7	33.0	31	33.8
Aluminum	mg/L	0.06	0.06	0.04	0.07
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)	ND(0.001)	ND(0.001)
Manganese	mg/L	2.37	2.18	2.11	1.83
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.010	0.010	0.010	0.009
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0708	0.0754	0.0742	0.0716
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	2.0	0.5	1.2	1
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.9	0.5	0.6	0.6
Lead 210	pCi/L	3.0	1.6	0.7	-0.08
Lead 210 MDC	pCi/L	1.1	1	0.8	1
Lead 210 precision (±)	pCi/L	1.1	0.8	0.5	0.6
Radium 226	pCi/L	0.8	0.8	0.5	1.2
Radium 226 MDC	pCi/L	0.2	0.3	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.2	0.1	0.3
Radium 228	pCi/L	1.9	0.9	2.1	1.5
Radium 228 MDC	pCi/L	0.9	1.8	1	0.9
Radium 228 precision (±)	pCi/L	0.8	1.1	0.8	0.8
Thorium 230	pCi/L	-0.1	0.05	-0.04	0.2
Thorium 230 MDC	pCi/L	0.5	0.1	0.2	0.2
Thorium 230 precision (±)	pCi/L	0.2	0.08	0.07	0.1
A/C Balance	%	-3.59	0.93	-0.12	-1.87
Anions	meq/L	108	110	108	107
Cations	meq/L	101	112	108	103
Solids, Total Dissolved - Calculated	mg/L	6240	6500	6350	6250
TDS Ratio	unitless	1.10	1.06	1.07	1.09
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	0.51	0.59	0.60
Trihalomethanes, Total	ug/L	0.51	0.51	0.59	0.60

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-007
Client Sample ID: 801

Report Date: 08/27/21
Collection Date: 07/19/21 13:13
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1470	mg/L		5		A2320 B	07/22/21 23:57 / dmb
Chloride	216	mg/L	D	2		E300.0	07/24/21 19:04 / dmb
Sulfate	3110	mg/L	D	8		E300.0	07/24/21 19:04 / dmb
Calcium	616	mg/L	D	2		E200.7	07/23/21 15:11 / meh
Magnesium	676	mg/L		1		E200.7	07/23/21 15:11 / meh
Potassium	13	mg/L	D	2		E200.7	07/23/21 15:11 / meh
Sodium	369	mg/L	D	5		E200.7	07/23/21 15:11 / meh
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	07/22/21 13:06 / kjp
pH Measurement Temp	14.9	°C				A4500-H B	07/22/21 13:06 / kjp
Solids, Total Dissolved TDS @ 180 C	6150	mg/L	D	100		A2540 C	07/22/21 10:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	16.6	mg/L	D	0.2		E353.2	07/24/21 12:40 / dmb
Nitrogen, Ammonia as N	0.84	mg/L		0.05		E350.1	07/27/21 13:07 / dmb
METALS, TOTAL							
Aluminum	0.07	mg/L	D	0.04		E200.8	08/03/21 01:03 / jcg
Arsenic	0.001	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 01:03 / jcg
Lead	0.001	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Manganese	3.40	mg/L	D	0.01		E200.7	07/27/21 21:55 / meh
Molybdenum	0.003	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Nickel	0.013	mg/L		0.005		E200.8	08/03/21 01:03 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 01:03 / jcg
Uranium	0.0397	mg/L	D	0.0005		E200.8	08/03/21 01:03 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 01:03 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.2	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	0.8	pCi/L	U			E909.0	08/11/21 19:43 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	08/11/21 19:43 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 19:43 / hat
Radium 226	0.5	pCi/L				E903.0	08/09/21 11:24 / amrm
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/09/21 11:24 / amrm
Radium 226 MDC	0.2	pCi/L				E903.0	08/09/21 11:24 / amrm
Radium 228	0.8	pCi/L	U			RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	1.0	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 MDC	1.7	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
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-007
Client Sample ID: 801

Report Date: 08/27/21
Collection Date: 07/19/21 13:13
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.04	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.07	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	5800	mg/L		1.00		A1030 E	07/27/21 14:26 / jlw
A/C Balance	3.36	%				A1030 E	07/27/21 14:26 / jlw
Anions	96.1	meq/L				A1030 E	07/27/21 14:26 / jlw
Cations	103	meq/L				A1030 E	07/27/21 14:26 / jlw
TDS Ratio	1.06	unitless				A1030 E	07/27/21 14:26 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 16:39 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 16:39 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 16:39 / eli-b
Chloroform	0.28	ug/L	J	0.50		E624.1	07/27/21 16:39 / eli-b
Trihalomethanes, Total	0.28	ug/L	J	0.50		E624.1	08/14/21 17:13 / tif
Surr: 1,2-Dichloroethane-d4	119	%REC		71-139		E624.1	07/27/21 16:39 / eli-b
Surr: p-Bromofluorobenzene	120	%REC		80-127		E624.1	07/27/21 16:39 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	07/27/21 16:39 / eli-b

**Report
Definitions:**

RL - Analyte Reporting Limit
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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 1
Lab ID: C21100467-001
Client Sample ID: 801

Report Date: 11/28/21
Collection Date: 10/07/21 13:43
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1470	mg/L		5		A2320 B	10/15/21 20:50 / kjp
Chloride	216	mg/L	D	2		E300.0	10/16/21 09:31 / dmb
Sulfate	3140	mg/L	D	8		E300.0	10/16/21 09:31 / dmb
Calcium	488	mg/L		1		E200.7	10/21/21 22:19 / jcg
Magnesium	610	mg/L		1		E200.7	10/26/21 14:05 / jcg
Potassium	11	mg/L		1		E200.7	10/21/21 22:19 / jcg
Sodium	310	mg/L		1		E200.7	10/21/21 22:19 / jcg
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	10/13/21 10:46 / mnm
pH Measurement Temp	13.2	°C				A4500-H B	10/13/21 10:46 / mnm
Solids, Total Dissolved TDS @ 180 C	6250	mg/L	D	100		A2540 C	10/13/21 11:09 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	18.7	mg/L	D	0.05		E353.2	10/18/21 12:29 / nts
Nitrogen, Ammonia as N	0.83	mg/L		0.05		E350.1	10/14/21 17:08 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	11/03/21 21:15 / jcg
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 08:00 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 19:45 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/23/21 08:00 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 18:08 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 18:08 / srm
Manganese	3.31	mg/L	D	0.002		E200.8	10/21/21 18:08 / srm
Molybdenum	0.001	mg/L		0.001		E200.8	10/23/21 08:00 / srm
Nickel	0.012	mg/L		0.005		E200.8	10/23/21 08:00 / srm
Selenium	ND	mg/L		0.001		E200.8	11/03/21 21:05 / jcg
Uranium	0.037	mg/L	D	0.001		E200.8	10/29/21 10:47 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 18:08 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.0	pCi/L				E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.8	pCi/L				E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 09:07 / amm
Lead 210	1.4	pCi/L				E909.0	10/28/21 18:01 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/28/21 18:01 / hat
Lead 210 MDC	1	pCi/L				E909.0	10/28/21 18:01 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.2	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	0.5	pCi/L	U			RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.6	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	0.9	pCi/L				RA-05	10/22/21 12:12 / amm

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-001
Client Sample ID: 801

Report Date: 11/28/21
Collection Date: 10/07/21 13:43
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.8	pCi/L	U			A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.009	pCi/L	U			A7500-U C	11/02/21 14:33 / sec
Thorium 230 precision (±)	0.09	pCi/L				A7500-U C	11/02/21 14:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/02/21 14:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5580	mg/L		1.00		A1030 E	10/27/21 16:52 / jlw
A/C Balance	-4.59	%				A1030 E	10/27/21 16:52 / jlw
Anions	96.9	meq/L				A1030 E	10/27/21 16:52 / jlw
Cations	88.4	meq/L				A1030 E	10/27/21 16:52 / jlw
TDS Ratio	1.12	unitless				A1030 E	10/27/21 16:52 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 19:21 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 19:21 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 19:21 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/17/21 19:21 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	96.0	%REC		73-122		E624.1	10/17/21 19:21 / etad
Surr: p-Bromofluorobenzene	96.0	%REC		79-119		E624.1	10/17/21 19:21 / etad
Surr: Toluene-d8	98.0	%REC		80-120		E624.1	10/17/21 19:21 / etad

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:		801	801	801	801
Collection Date:		10/7/2021	7/19/2021	4/19/2021	1/19/2021
Receive Date:		10/12/2021	7/21/2021	4/22/2021	1/21/2021
Report Date:		11/28/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100467-001	C21070842-007	C21040873-007	C21010711-001
Bicarbonate as HCO ₃	mg/L	1470	1470	1470	1470
Calcium	mg/L	488	616	572	533
Chloride	mg/L	216	216	215	220
Magnesium	mg/L	610	676	640	576
Potassium	mg/L	11	13	14	12
Sodium	mg/L	310	369	349	308
Sulfate	mg/L	3140	3110	3080	3100
pH	s.u.	6.7	6.7	6.61	6.62
pH Measurement Temp	°C	13.2	14.9	15	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6250	6150	6100	6150
Nitrogen, Ammonia as N	mg/L	0.83	0.84	0.34	0.80
Nitrogen, Nitrate+Nitrite as N	mg/L	18.7	16.6	13.6	14.7
Aluminum	mg/L	ND(0.03)	0.07	ND(0.03)	ND(0.03)
Arsenic	mg/L	ND(0.001)	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	3.31	3.40	3.17	3.65
Molybdenum	mg/L	0.001	0.003	0.001	0.003
Nickel	mg/L	0.012	0.013	0.013	0.013
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.037	0.0397	0.0387	0.0367
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	2.0	0.2	0.6	0.9
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.7
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.8	0.5	0.6	0.6
Lead 210	pCi/L	1.4	0.8	0.6	0.8
Lead 210 MDC	pCi/L	1	0.9	0.8	1.0
Lead 210 precision (±)	pCi/L	0.7	0.6	0.5	0.6
Radium 226	pCi/L	0.3	0.5	0.3	0.4
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	0.5	0.8	1.0	1
Radium 228 MDC	pCi/L	0.9	1.7	1.0	0.9
Radium 228 precision (±)	pCi/L	0.6	1.0	0.7	0.6
Thorium 230	pCi/L	0.009	0.04	0.01	0.08
Thorium 230 MDC	pCi/L	0.2	0.1	0.07	0.2
Thorium 230 precision (±)	pCi/L	0.09	0.07	0.03	0.09
A/C Balance	%	-4.59	3.36	0.75	-4.49
Anions	meq/L	96.9	96.1	95.3	96.0
Cations	meq/L	88.4	103	96.8	87.8
Solids, Total Dissolved - Calculated	mg/L	5580	5800	5660	5540
TDS Ratio	unitless	1.12	1.06	1.08	1.11
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-005
Client Sample ID: 802

Report Date: 08/27/21
Collection Date: 07/19/21 11:55
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1930	mg/L		5		A2320 B	07/22/21 23:36 / dmb
Chloride	197	mg/L	D	2		E300.0	07/24/21 18:26 / dmb
Sulfate	3050	mg/L	D	8		E300.0	07/24/21 18:26 / dmb
Calcium	648	mg/L	D	3		E200.7	07/28/21 13:14 / meh
Magnesium	700	mg/L		1		E200.7	07/28/21 13:14 / meh
Potassium	6	mg/L	D	2		E200.7	07/28/21 13:14 / meh
Sodium	328	mg/L	D	5		E200.7	07/28/21 13:14 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 12:57 / kjp
pH Measurement Temp	14.3	°C				A4500-H B	07/22/21 12:57 / kjp
Solids, Total Dissolved TDS @ 180 C	6690	mg/L	D	100		A2540 C	07/22/21 10:43 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	74.0	mg/L	D	0.5		E353.2	07/24/21 12:38 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:02 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 16:06 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 00:54 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Manganese	1.34	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Nickel	0.007	mg/L		0.005		E200.8	08/03/21 00:54 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:54 / jcg
Uranium	0.138	mg/L	D	0.0005		E200.8	08/03/21 00:54 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:54 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	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	0.3	pCi/L	U			E909.0	08/11/21 13:58 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 13:58 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 13:58 / hat
Radium 226	0.4	pCi/L				E903.0	08/09/21 11:24 / ammm
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/09/21 11:24 / ammm
Radium 226 MDC	0.2	pCi/L				E903.0	08/09/21 11:24 / ammm
Radium 228	0.2	pCi/L	U			RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	1	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 MDC	1.6	pCi/L				RA-05	08/03/21 15:29 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-005
Client Sample ID: 802

Report Date: 08/27/21
Collection Date: 07/19/21 11:55
Date Received: 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 (±)	0.07	pCi/L				A7500-U C	08/03/21 16:09 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	6210	mg/L		1.00		A1030 E	07/29/21 15:30 / jlw
A/C Balance	-0.76	%				A1030 E	07/29/21 15:30 / jlw
Anions	106	meq/L				A1030 E	07/29/21 15:30 / jlw
Cations	104	meq/L				A1030 E	07/29/21 15:30 / jlw
TDS Ratio	1.08	unitless				A1030 E	07/29/21 15:30 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 17:07 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 17:07 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 17:07 / eli-b
Chloroform	1.0	ug/L		0.50		E624.1	07/27/21 17:07 / eli-b
Trihalomethanes, Total	1.0	ug/L		0.50		E624.1	08/14/21 17:13 / tif
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/27/21 17:07 / eli-b
Surr: p-Bromofluorobenzene	122	%REC		80-127		E624.1	07/27/21 17:07 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/27/21 17:07 / 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: C21100526-003
Client Sample ID: 802

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1910	mg/L		5		A2320 B	10/16/21 00:33 / kjp
Chloride	201	mg/L	D	2		E300.0	10/16/21 23:16 / dmb
Sulfate	3140	mg/L	D	8		E300.0	10/16/21 23:16 / dmb
Calcium	629	mg/L		1		E200.7	10/26/21 15:53 / jcg
Magnesium	655	mg/L		1		E200.7	10/26/21 15:53 / jcg
Potassium	6	mg/L		1		E200.7	10/26/21 15:53 / jcg
Sodium	325	mg/L	D	2		E200.7	10/26/21 15:53 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/15/21 09:37 / mnm
pH Measurement Temp	12.2	°C				A4500-H B	10/15/21 09:37 / mnm
Solids, Total Dissolved TDS @ 180 C	6650	mg/L	D	100		A2540 C	10/15/21 09:45 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	71.0	mg/L	D	0.2		E353.2	10/18/21 13:03 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:28 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.04		E200.8	10/29/21 14:33 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 14:33 / srm
Beryllium	ND	mg/L		0.001		E200.8	11/08/21 06:27 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/23/21 18:40 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 14:33 / srm
Lead	ND	mg/L		0.001		E200.8	10/23/21 18:40 / srm
Manganese	1.43	mg/L	D	0.002		E200.8	10/23/21 18:40 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/23/21 18:40 / srm
Nickel	0.008	mg/L		0.005		E200.8	11/08/21 06:27 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 14:33 / srm
Uranium	0.128	mg/L	D	0.0005		E200.8	10/23/21 18:40 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/23/21 18:40 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.2	pCi/L				E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U Precision (±)	0.5	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	0.8	pCi/L	U			E909.0	10/30/21 03:51 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 03:51 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/30/21 03:51 / hat
Radium 226	0.4	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 228	0.6	pCi/L	U			RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.6	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-003
Client Sample ID: 802

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	1	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	1.1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.07	pCi/L	U			A7500-U C	11/03/21 14:04 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/03/21 14:04 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/03/21 14:04 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	6210	mg/L		1.00		A1030 E	10/27/21 16:55 / jlw
A/C Balance	-3.77	%				A1030 E	10/27/21 16:55 / jlw
Anions	107	meq/L				A1030 E	10/27/21 16:55 / jlw
Cations	99.6	meq/L				A1030 E	10/27/21 16:55 / jlw
TDS Ratio	1.07	unitless				A1030 E	10/27/21 16:55 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 12:44 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 12:44 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 12:44 / etad
Chloroform	1.0	ug/L		1.0		E624.1	10/22/21 12:44 / etad
Trihalomethanes, Total	1.0	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	100	%REC		73-122		E624.1	10/22/21 12:44 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		79-119		E624.1	10/22/21 12:44 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/22/21 12:44 / etad

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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		802	802	802	802
Collection Date:		10/11/2021	7/19/2021	4/19/2021	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	C21100526-003	C21070842-005	C21040873-005	C21010710-005
Bicarbonate as HCO ₃	mg/L	1910	1930	1950	1880
Calcium	mg/L	629	648	672	611
Chloride	mg/L	201	197	201	196
Magnesium	mg/L	655	700	730	693
Potassium	mg/L	6	6	7	11
Sodium	mg/L	325	328	338	328
Sulfate	mg/L	3140	3050	3060	2980
pH	s.u.	6.6	6.6	6.51	6.57
pH Measurement Temp	°C	12.2	14.3	15	13
Solids, Total Dissolved TDS @ 180 C	mg/L	6650	6690	6610	6590
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	71.0	74.0	68	71.5
Aluminum	mg/L	ND(0.04)	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)	ND(0.001)	ND(0.001)
Manganese	mg/L	1.43	1.34	1.36	1.11
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.008	0.007	0.007	0.006
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.128	0.138	0.136	0.130
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.2	0.5	0.5	0.6
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.5	0.5	0.5	0.5
Lead 210	pCi/L	0.8	0.3	-0.09	0.2
Lead 210 MDC	pCi/L	0.9	0.9	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.4	0.4	0.2	0.4
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	0.6	0.2	1	0.7
Radium 228 MDC	pCi/L	1.0	1.6	1.0	1
Radium 228 precision (±)	pCi/L	0.6	1	0.7	0.6
Thorium 230	pCi/L	0.07	-0.03	0.009	0.2
TDS Ratio	unitless	1.07	1.08	1.05	1.09
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	1.0	1.0	1.1	1.1
Trihalomethanes, Total	ug/L	1.0	1.0	1.1	1.1

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-003
Client Sample ID: 803

Report Date: 08/27/21
Collection Date: 07/19/21 10:35
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1770	mg/L		5		A2320 B	07/22/21 23:14 / dmb
Chloride	188	mg/L	D	2		E300.0	07/24/21 17:48 / dmb
Sulfate	3350	mg/L	D	8		E300.0	07/24/21 17:48 / dmb
Calcium	668	mg/L	D	2		E200.7	07/23/21 14:56 / meh
Magnesium	763	mg/L		1		E200.7	07/23/21 14:56 / meh
Potassium	16	mg/L	D	2		E200.7	07/23/21 14:56 / meh
Sodium	308	mg/L	D	5		E200.7	07/23/21 14:56 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 12:51 / kjp
pH Measurement Temp	14.5	°C				A4500-H B	07/22/21 12:51 / kjp
Solids, Total Dissolved TDS @ 180 C	6630	mg/L	D	100		A2540 C	07/22/21 10:41 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	29.4	mg/L	D	0.5		E353.2	07/24/21 12:35 / dmb
Nitrogen, Ammonia as N	0.67	mg/L		0.05		E350.1	07/22/21 16:15 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 15:57 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 00:46 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Manganese	1.44	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 00:46 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:46 / jcg
Uranium	0.0823	mg/L	D	0.0005		E200.8	08/03/21 00:46 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:46 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.3	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	-0.03	pCi/L	U			E909.0	08/11/21 07:27 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 07:27 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 07:27 / hat
Radium 226	0.3	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	-0.6	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 RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-003
Client Sample ID: 803

Report Date: 08/27/21
Collection Date: 07/19/21 10:35
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.04	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.06	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	6290	mg/L		1.00		A1030 E	07/27/21 14:25 / jlw
A/C Balance	1.77	%				A1030 E	07/27/21 14:25 / jlw
Anions	106	meq/L				A1030 E	07/27/21 14:25 / jlw
Cations	110	meq/L				A1030 E	07/27/21 14:25 / jlw
TDS Ratio	1.05	unitless				A1030 E	07/27/21 14:25 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 18:02 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 18:02 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 18:02 / eli-b
Chloroform	0.29	ug/L	J	0.50		E624.1	07/27/21 18:02 / eli-b
Trihalomethanes, Total	0.29	ug/L	J	0.50		E624.1	08/14/21 17:13 / tif
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/27/21 18:02 / eli-b
Surr: p-Bromofluorobenzene	118	%REC		80-127		E624.1	07/27/21 18:02 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/27/21 18:02 / eli-b

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)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-001
Client Sample ID: 803

Report Date: 12/03/21
Collection Date: 10/11/21 09:50
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1620	mg/L		5		A2320 B	10/16/21 00:11 / kjp
Chloride	174	mg/L	D	2		E300.0	10/16/21 22:37 / dmb
Sulfate	3340	mg/L	D	8		E300.0	10/16/21 22:37 / dmb
Calcium	607	mg/L		1		E200.7	10/26/21 15:45 / jcg
Magnesium	651	mg/L		1		E200.7	10/26/21 15:45 / jcg
Potassium	12	mg/L		1		E200.7	10/26/21 15:45 / jcg
Sodium	265	mg/L	D	2		E200.7	10/26/21 15:45 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/15/21 09:32 / mnm
pH Measurement Temp	12.7	°C				A4500-H B	10/15/21 09:32 / mnm
Solids, Total Dissolved TDS @ 180 C	6410	mg/L	D	100		A2540 C	10/15/21 09:43 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	26.4	mg/L	D	0.1		E353.2	10/18/21 13:01 / nts
Nitrogen, Ammonia as N	0.59	mg/L		0.05		E350.1	10/19/21 13:26 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/29/21 13:57 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 21:30 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Cobalt	0.006	mg/L		0.005		E200.8	10/23/21 18:16 / srm
Lead	ND	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Manganese	2.81	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Nickel	0.005	mg/L		0.005		E200.8	11/04/21 20:04 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 18:16 / srm
Uranium	0.0685	mg/L	D	0.0005		E200.8	10/23/21 18:16 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/23/21 18:16 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.6	pCi/L	U			E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	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	0.6	pCi/L	U			E909.0	10/29/21 20:54 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/29/21 20:54 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 20:54 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.2	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	0.7	pCi/L	U			RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.6	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	1	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-001
Client Sample ID: 803

Report Date: 12/03/21
Collection Date: 10/11/21 09:50
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	-0.003	pCi/L	U			A7500-U C	11/02/21 14:33 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	11/02/21 14:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/02/21 14:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5960	mg/L		1.00		A1030 E	10/27/21 16:55 / jlw
A/C Balance	-3.56	%				A1030 E	10/27/21 16:55 / jlw
Anions	103	meq/L				A1030 E	10/27/21 16:55 / jlw
Cations	95.7	meq/L				A1030 E	10/27/21 16:55 / jlw
TDS Ratio	1.08	unitless				A1030 E	10/27/21 16:55 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 12:01 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 12:01 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 12:01 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 12:01 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/22/21 12:01 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		94-119		E624.1	10/22/21 12:01 / etad
Surr: Toluene-d8	103	%REC		103-120		E624.1	10/22/21 12:01 / etad

**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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		803	803	803	803
Collection Date:		10/11/2021	7/19/2021	4/19/2021	1/18/2021
Receive Date:		10/14/2021	7/21/2021	4/22/2021	0/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/4/2021
Analyte	Units	C21100526-001	C21070842-003	C21040873-003	C21010710-003
Bicarbonate as HCO ₃	mg/L	1620	1770	1690	1640
Calcium	mg/L	607	668	637	641
Chloride	mg/L	174	188	174	172
Magnesium	mg/L	651	763	722	694
Potassium	mg/L	12	16	14	13
Sodium	mg/L	265	308	283	275
Sulfate	mg/L	3340	3350	3190	3170
pH	s.u.	6.6	6.6	6.55	6.62
pH Measurement Temp	°C	12.7	14.5	15	13
Solids, Total Dissolved TDS @ 180 C	mg/L	6410	6630	6440	6400
Nitrogen, Ammonia as N	mg/L	0.59	0.67	0.54	0.47
Nitrogen, Nitrate+Nitrite as N	mg/L	26.4	29.4	28.5	27.8
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	0.006	ND(0.005)	0.006	ND(0.005)
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	2.81	1.44	2.01	2.41
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.005	ND(0.005)	0.005	0.006
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0685	0.0823	0.0751	0.0747
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.6	0.3	0.6	0.5
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.7	0.5	0.6	0.5
Lead 210	pCi/L	0.6	-0.03	0.03	0.1
Lead 210 MDC	pCi/L	0.9	0.9	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.3	0.2	0.3
Radium 226 + Radium 228	pCi/L	1.0	-0.3	3.3	
Radium 226 + Radium 228 MDC	pCi/L	1	1.5	0.8	
Radium 226 + Radium 228 precision (±)	pCi/L	0.6	0.9	0.8	
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.2	0.1	0.1
Radium 228	pCi/L	0.7	-0.6	3.1	1
Radium 228 MDC	pCi/L	1	1.5	0.8	1
Radium 228 precision (±)	pCi/L	0.6	0.9	0.8	0.6
Thorium 230	pCi/L	-0.003	0.04	0.05	0.2
Thorium 230 MDC	pCi/L	0.2	0.1	0.08	0.09
Thorium 230 precision (±)	pCi/L	0.1	0.06	0.05	0.08
A/C Balance	%	-3.56	1.77	1.41	0.81
Anions	meq/L	103	106	101	99.8
Cations	meq/L	95.7	110	104	101
Solids, Total Dissolved - Calculated	mg/L	5960	6290	5980	5900
TDS Ratio	unitless	1.08	1.05	1.08	1.08
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-004
Client Sample ID: 808

Report Date: 08/27/21
Collection Date: 07/19/21 11:10
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1890	mg/L		5		A2320 B	07/22/21 23:25 / dmb
Chloride	193	mg/L	D	2		E300.0	07/24/21 18:07 / dmb
Sulfate	3330	mg/L	D	8		E300.0	07/24/21 18:07 / dmb
Calcium	690	mg/L	D	2		E200.7	07/23/21 15:00 / meh
Magnesium	760	mg/L		1		E200.7	07/23/21 15:00 / meh
Potassium	11	mg/L	D	2		E200.7	07/23/21 15:00 / meh
Sodium	368	mg/L	D	5		E200.7	07/23/21 15:00 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 12:54 / kjp
pH Measurement Temp	14.4	°C				A4500-H B	07/22/21 12:54 / kjp
Solids, Total Dissolved TDS @ 180 C	6720	mg/L	D	100		A2540 C	07/22/21 10:41 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	26.8	mg/L	D	0.2		E353.2	07/24/21 12:36 / dmb
Nitrogen, Ammonia as N	0.57	mg/L		0.05		E350.1	07/22/21 16:18 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 16:01 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 00:50 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Manganese	2.05	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 00:50 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:50 / jcg
Uranium	0.0835	mg/L	D	0.0005		E200.8	08/03/21 00:50 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:50 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1	pCi/L				E900.1	08/02/21 07:51 / trs
Gross Alpha minus Rn & U Precision (±)	0.6	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	-0.1	pCi/L	U			E909.0	08/11/21 10:41 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 10:41 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 10:41 / hat
Radium 226	0.2	pCi/L	U			E903.0	08/09/21 11:24 / ammm
Radium 226 precision (±)	0.2	pCi/L				E903.0	08/09/21 11:24 / ammm
Radium 226 MDC	0.3	pCi/L				E903.0	08/09/21 11:24 / ammm
Radium 228	0.9	pCi/L	U			RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	1.0	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 MDC	1.7	pCi/L				RA-05	08/03/21 15:29 / trs

Report RL - Analyte Reporting Limit
Definitions: 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: C21070842-004
Client Sample ID: 808

Report Date: 08/27/21
Collection Date: 07/19/21 11:10
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.01	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.07	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	6410	mg/L		1.00		A1030 E	07/27/21 14:26 / jlw
A/C Balance	2.50	%				A1030 E	07/27/21 14:26 / jlw
Anions	108	meq/L				A1030 E	07/27/21 14:26 / jlw
Cations	113	meq/L				A1030 E	07/27/21 14:26 / jlw
TDS Ratio	1.05	unitless				A1030 E	07/27/21 14:26 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 17:34 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 17:34 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 17:34 / eli-b
Chloroform	0.32	ug/L	J	0.50		E624.1	07/27/21 17:34 / eli-b
Trihalomethanes, Total	0.32	ug/L	J	0.50		E624.1	08/14/21 17:13 / tif
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/27/21 17:34 / eli-b
Surr: p-Bromofluorobenzene	120	%REC		80-127		E624.1	07/27/21 17:34 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/27/21 17:34 / eli-b

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)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-002
Client Sample ID: 808

Report Date: 12/03/21
Collection Date: 10/11/21 10:24
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1840	mg/L		5		A2320 B	10/16/21 00:22 / kjp
Chloride	185	mg/L	D	2		E300.0	10/16/21 22:57 / dmb
Sulfate	3270	mg/L	D	8		E300.0	10/16/21 22:57 / dmb
Calcium	615	mg/L		1		E200.7	10/26/21 15:49 / jcg
Magnesium	621	mg/L		1		E200.7	10/26/21 15:49 / jcg
Potassium	11	mg/L		1		E200.7	10/26/21 15:49 / jcg
Sodium	338	mg/L	D	2		E200.7	10/26/21 15:49 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/15/21 09:35 / mnm
pH Measurement Temp	12.3	°C				A4500-H B	10/15/21 09:35 / mnm
Solids, Total Dissolved TDS @ 180 C	6540	mg/L	D	100		A2540 C	10/15/21 09:44 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	15.3	mg/L	D	0.1		E353.2	10/18/21 13:02 / nts
Nitrogen, Ammonia as N	1.13	mg/L		0.05		E350.1	10/19/21 13:27 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.04		E200.8	10/29/21 14:28 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 14:28 / srm
Beryllium	ND	mg/L		0.001		E200.8	11/08/21 06:23 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/23/21 18:35 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 14:28 / srm
Lead	ND	mg/L		0.001		E200.8	10/23/21 18:35 / srm
Manganese	2.47	mg/L	D	0.002		E200.8	10/23/21 18:35 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/23/21 18:35 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 06:23 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 14:28 / srm
Uranium	0.0682	mg/L	D	0.0005		E200.8	10/23/21 18:35 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/23/21 18:35 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	pCi/L	U			E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U Precision (±)	0.9	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	0.6	pCi/L	U			E909.0	10/30/21 00:23 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 00:23 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/30/21 00:23 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.2	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	0.6	pCi/L	U			RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.6	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	1	pCi/L				RA-05	10/22/21 12:12 / amm

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-002
Client Sample ID: 808

Report Date: 12/03/21
Collection Date: 10/11/21 10:24
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.9	pCi/L	U			A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	0.6	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.07	pCi/L	U			A7500-U C	11/05/21 13:25 / sec
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	11/05/21 13:25 / sec
Thorium 230 MDC	0.5	pCi/L				A7500-U C	11/05/21 13:25 / sec
- The sample MDC could not be achieved on this sample due to significant matrix interferences, restricting the volume of sample that could be used in the analysis.							
DATA QUALITY							
Solids, Total Dissolved - Calculated	6010	mg/L		1.00		A1030 E	10/27/21 16:55 / jlw
A/C Balance	-3.83	%				A1030 E	10/27/21 16:55 / jlw
Anions	105	meq/L				A1030 E	10/27/21 16:55 / jlw
Cations	96.9	meq/L				A1030 E	10/27/21 16:55 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/27/21 16:55 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 12:23 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 12:23 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 12:23 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 12:23 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	97.0	%REC		73-122		E624.1	10/22/21 12:23 / etad
Surr: p-Bromofluorobenzene	92.0	%REC		79-119		E624.1	10/22/21 12:23 / etad
Surr: Toluene-d8	101	%REC		80-120		E624.1	10/22/21 12:23 / etad

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:		808	808	808	808
Collection Date:		10/11/2021	7/19/2021	4/19/2021	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	C21100526-002	C21070842-004	C21040873-004	C21010710-004
Bicarbonate as HCO ₃	mg/L	1840	1890	1930	1770
Calcium	mg/L	615	690	666	594
Chloride	mg/L	185	193	200	183
Magnesium	mg/L	621	760	812	651
Potassium	mg/L	11	11	12	11
Sodium	mg/L	338	368	360	339
Sulfate	mg/L	3270	3330	3410	3130
pH	s.u.	6.6	6.6	6.53	6.60
pH Measurement Temp	°C	12.3	14.4	15	13
Solids, Total Dissolved TDS @ 180 C	mg/L	6540	6720	6900	6430
Nitrogen, Ammonia as N	mg/L	1.13	0.57	0.29	0.60
Nitrogen, Nitrate+Nitrite as N	mg/L	15.3	26.8	29.8	17.0
Aluminum	mg/L	ND(0.04)	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)	0.007	ND(0.005)
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	2.47	2.05	2.02	2.08
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(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	0.0682	0.0835	0.0839	0.0713
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.5	1	0.2	0.2
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.7
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.9	0.6	0.5	0.4
Lead 210	pCi/L	0.6	-0.1	0.2	-0.2
Lead 210 MDC	pCi/L	0.9	0.9	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.2	0.2	0.4
Radium 226 MDC	pCi/L	0.2	0.3	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.2	0.1	0.1
Radium 228	pCi/L	0.6	0.9	0.8	0.6
Radium 228 MDC	pCi/L	1	1.7	1.2	1
Radium 228 precision (±)	pCi/L	0.6	1.0	0.7	0.6
Thorium 230	pCi/L	0.07	0.01	0.01	0.4
Solids, Total Dissolved - Calculated	mg/L	6010	6410	6540	5860
TDS Ratio	unitless	1.09	1.05	1.06	1.10
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-001
Client Sample ID: GW-1

Report Date: 08/27/21
Collection Date: 07/20/21 09:08
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1490	mg/L		5		A2320 B	07/24/21 14:21 / dmb
Chloride	260	mg/L	D	2		E300.0	07/25/21 01:27 / dmb
Sulfate	2920	mg/L	D	8		E300.0	07/25/21 01:27 / dmb
Calcium	579	mg/L	D	3		E200.7	07/23/21 16:59 / meh
Magnesium	554	mg/L		1		E200.7	07/23/21 16:59 / meh
Potassium	11	mg/L	D	2		E200.7	07/23/21 16:59 / meh
Sodium	400	mg/L	D	5		E200.7	07/23/21 16:59 / meh
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	07/22/21 15:56 / kjp
pH Measurement Temp	16.8	°C				A4500-H B	07/22/21 15:56 / kjp
Solids, Total Dissolved TDS @ 180 C	5890	mg/L	D	100		A2540 C	07/23/21 12:43 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	66	mg/L	D	1		E353.2	07/24/21 13:11 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:30 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 16:23 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 02:26 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Manganese	0.007	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Molybdenum	0.001	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 02:26 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 02:26 / jcg
Uranium	0.100	mg/L	D	0.0005		E200.8	08/03/21 02:26 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 02:26 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	-0.02	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	0.5	pCi/L	U			E909.0	08/14/21 14:18 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/14/21 14:18 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/14/21 14:18 / hat
Radium 226	0.3	pCi/L				E903.0	08/10/21 11:21 / amrm
Radium 226 precision (±)	0.1	pCi/L				E903.0	08/10/21 11:21 / amrm
Radium 226 MDC	0.1	pCi/L				E903.0	08/10/21 11:21 / amrm
Radium 228	-0.004	pCi/L	U			RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	08/04/21 12:22 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	08/04/21 12:22 / trs

Report RL - Analyte Reporting Limit
Definitions: 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: C21070886-001
Client Sample ID: GW-1

Report Date: 08/27/21
Collection Date: 07/20/21 09:08
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.04	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.07	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	5740	mg/L		1.00		A1030 E	07/29/21 16:01 / jlw
A/C Balance	-2.64	%				A1030 E	07/29/21 16:01 / jlw
Anions	97.1	meq/L				A1030 E	07/29/21 16:01 / jlw
Cations	92.1	meq/L				A1030 E	07/29/21 16:01 / jlw
TDS Ratio	1.03	unitless				A1030 E	07/29/21 16:01 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 18:05 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 18:05 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 18:05 / eli-b
Chloroform	0.32	ug/L	J	0.50		E624.1	07/28/21 18:05 / eli-b
Trihalomethanes, Total	0.32	ug/L	J	0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	114	%REC		71-139		E624.1	07/28/21 18:05 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		80-127		E624.1	07/28/21 18:05 / eli-b
Surr: Toluene-d8	99.0	%REC		80-123		E624.1	07/28/21 18:05 / eli-b

**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-SW Alluvium & Zone 3
Lab ID: C21100526-004
Client Sample ID: GW-1

Report Date: 12/03/21
Collection Date: 10/11/21 11:52
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1510	mg/L		5		A2320 B	10/16/21 00:44 / kjp
Chloride	257	mg/L	D	2		E300.0	10/16/21 23:35 / dmb
Sulfate	2930	mg/L	D	8		E300.0	10/16/21 23:35 / dmb
Calcium	619	mg/L		1		E200.7	10/26/21 15:58 / jcg
Magnesium	514	mg/L		1		E200.7	10/26/21 15:58 / jcg
Potassium	9	mg/L		1		E200.7	10/26/21 15:58 / jcg
Sodium	402	mg/L	D	2		E200.7	10/26/21 15:58 / jcg
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	10/15/21 09:40 / mnm
pH Measurement Temp	12.3	°C				A4500-H B	10/15/21 09:40 / mnm
Solids, Total Dissolved TDS @ 180 C	6010	mg/L	D	100		A2540 C	10/15/21 09:47 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	60.0	mg/L	D	0.2		E353.2	10/18/21 14:05 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:30 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.04		E200.8	10/29/21 14:39 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 21:55 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 14:39 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Manganese	0.004	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 06:32 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 14:39 / srm
Uranium	0.102	mg/L	D	0.0005		E200.8	10/29/21 14:39 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 14:39 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.6	pCi/L	U			E900.1	10/22/21 10:47 / amn
Gross Alpha minus Rn & U Precision (±)	0.8	pCi/L				E900.1	10/22/21 10:47 / amn
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 10:47 / amn
Lead 210	0.5	pCi/L	U			E909.0	10/30/21 07:15 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 07:15 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/30/21 07:15 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 11:05 / amn
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/27/21 11:05 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:05 / amn
Radium 228	0.4	pCi/L	U			RA-05	10/22/21 13:48 / amn
Radium 228 precision (±)	0.7	pCi/L				RA-05	10/22/21 13:48 / amn
Radium 228 MDC	1.2	pCi/L				RA-05	10/22/21 13:48 / amn

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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-004
Client Sample ID: GW-1

Report Date: 12/03/21
Collection Date: 10/11/21 11:52
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.7	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	1.2	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.05	pCi/L	U			A7500-U C	11/03/21 14:04 / sec
Thorium 230 precision (±)	0.06	pCi/L				A7500-U C	11/03/21 14:04 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/03/21 14:04 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5740	mg/L		1.00		A1030 E	10/27/21 16:56 / jlw
A/C Balance	-3.40	%				A1030 E	10/27/21 16:56 / jlw
Anions	97.2	meq/L				A1030 E	10/27/21 16:56 / jlw
Cations	90.8	meq/L				A1030 E	10/27/21 16:56 / jlw
TDS Ratio	1.05	unitless				A1030 E	10/27/21 16:56 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 13:06 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 13:06 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 13:06 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 13:06 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/22/21 13:06 / etad
Surr: p-Bromofluorobenzene	92.0	%REC		79-119		E624.1	10/22/21 13:06 / etad
Surr: Toluene-d8	102	%REC		80-120		E624.1	10/22/21 13:06 / etad

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:		GW-1	GW-1	GW-1	GW-1
Collection Date:		10/11/2021	7/20/2021	4/19/2021	1/29/2021
Receive Date:		10/14/2021	7/22/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100526-004	C21070886-001	C21040873-008	C21010711-002
Bicarbonate as HCO ₃	mg/L	1510	1490	1600	1670
Calcium	mg/L	619	579	587	556
Chloride	mg/L	257	260	245	255
Magnesium	mg/L	514	554	563	537
Potassium	mg/L	9	11	11	10
Sodium	mg/L	402	400	417	383
Sulfate	mg/L	2930	2920	2690	2760
pH	s.u.	6.8	6.8	6.80	6.86
pH Measurement Temp	°C	12.3	16.8	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6010	5890	5940	6040
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	60.0	66	59.0	63.0
Aluminum	mg/L	ND(0.04)	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)	ND(0.001)	ND(0.001)
Manganese	mg/L	0.004	0.007	0.023	0.043
Molybdenum	mg/L	ND(0.001)	0.001	ND(0.001)	ND(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	0.102	0.100	0.105	0.104
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.6	-0.02	0.5	0.3
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.5
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.8	0.5	0.6	0.4
Lead 210	pCi/L	0.5	0.5	0.03	-0.5
Lead 210 MDC	pCi/L	0.9	0.8	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.3	0.2	0.3
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.1	0.1	0.2
Radium 228	pCi/L	0.4	-0.004	1.4	0.8
Radium 228 MDC	pCi/L	1.2	1.2	0.8	1
Radium 228 precision (±)	pCi/L	0.7	0.7	0.6	0.6
Thorium 230	pCi/L	0.05	0.04	0	0.07
TDS Ratio	unitless	1.05	1.03	1.07	1.08
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-002
Client Sample ID: EPA-23

Report Date: 08/27/21
Collection Date: 07/19/21 09:53
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1540	mg/L		5		A2320 B	07/22/21 23:03 / dmb
Chloride	174	mg/L	D	2		E300.0	07/24/21 17:29 / dmb
Sulfate	2820	mg/L	D	8		E300.0	07/24/21 17:29 / dmb
Calcium	713	mg/L	D	2		E200.7	07/23/21 14:52 / meh
Magnesium	578	mg/L		1		E200.7	07/23/21 14:52 / meh
Potassium	15	mg/L	D	2		E200.7	07/23/21 14:52 / meh
Sodium	260	mg/L	D	5		E200.7	07/23/21 14:52 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/22/21 12:48 / kjp
pH Measurement Temp	14.2	°C				A4500-H B	07/22/21 12:48 / kjp
Solids, Total Dissolved TDS @ 180 C	5770	mg/L	D	40		A2540 C	07/22/21 10:41 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	49.7	mg/L	D	0.5		E353.2	07/24/21 12:34 / dmb
Nitrogen, Ammonia as N	14.1	mg/L	D	0.5		E350.1	07/27/21 13:01 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	08/03/21 15:52 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Cobalt	0.008	mg/L		0.005		E200.8	08/03/21 00:41 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Manganese	3.23	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 00:41 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 00:41 / jcg
Uranium	0.0521	mg/L		0.0003		E200.8	08/03/21 15:52 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 00:41 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.3	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	08/11/21 04:08 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 04:08 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 04:08 / hat
Radium 226	0.2	pCi/L	U			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	0.2	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 RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-002
Client Sample ID: EPA-23

Report Date: 08/27/21
Collection Date: 07/19/21 09:53
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.009	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.04	pCi/L				A7500-U C	08/03/21 16:09 / mrt
Thorium 230 MDC	0.09	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5540	mg/L		1.00		A1030 E	07/27/21 14:25 / jlw
A/C Balance	1.27	%				A1030 E	07/27/21 14:25 / jlw
Anions	92.5	meq/L				A1030 E	07/27/21 14:25 / jlw
Cations	94.8	meq/L				A1030 E	07/27/21 14:25 / jlw
TDS Ratio	1.04	unitless				A1030 E	07/27/21 14:25 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 18:29 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 18:29 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 18:29 / eli-b
Chloroform	0.54	ug/L		0.50		E624.1	07/27/21 18:29 / eli-b
Trihalomethanes, Total	0.54	ug/L		0.50		E624.1	08/14/21 17:13 / tlf
Surr: 1,2-Dichloroethane-d4	118	%REC		71-139		E624.1	07/27/21 18:29 / eli-b
Surr: p-Bromofluorobenzene	119	%REC		80-127		E624.1	07/27/21 18:29 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	07/27/21 18:29 / 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: C21100467-004
Client Sample ID: EPA-23

Report Date: 11/28/21
Collection Date: 10/08/21 13:28
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1410	mg/L		5		A2320 B	10/15/21 21:23 / kjp
Chloride	154	mg/L	D	2		E300.0	10/16/21 10:29 / dmb
Sulfate	2580	mg/L	D	8		E300.0	10/16/21 10:29 / dmb
Calcium	630	mg/L		1		E200.7	10/26/21 14:17 / jcg
Magnesium	468	mg/L		1		E200.7	10/26/21 14:17 / jcg
Potassium	12	mg/L		1		E200.7	10/21/21 22:31 / jcg
Sodium	188	mg/L		1		E200.7	10/21/21 22:31 / jcg
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	10/13/21 10:55 / mnm
pH Measurement Temp	13.2	°C				A4500-H B	10/13/21 10:55 / mnm
Solids, Total Dissolved TDS @ 180 C	5270	mg/L	D	40		A2540 C	10/13/21 11:10 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	33.8	mg/L	D	0.1		E353.2	10/18/21 12:37 / nts
Nitrogen, Ammonia as N	5.4	mg/L	D	0.2		E350.1	10/19/21 13:12 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.04		E200.8	10/21/21 18:55 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 08:28 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:10 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 18:55 / srm
Cobalt	0.007	mg/L		0.005		E200.8	10/21/21 18:55 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 18:55 / srm
Manganese	3.34	mg/L	D	0.002		E200.8	10/21/21 18:55 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 18:55 / srm
Nickel	ND	mg/L		0.005		E200.8	10/21/21 18:55 / srm
Selenium	ND	mg/L		0.001		E200.8	11/04/21 01:45 / jcg
Uranium	0.0478	mg/L	D	0.0005		E200.8	10/21/21 18:55 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 18:55 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.5	pCi/L	U			E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	pCi/L				E900.1	10/22/21 09:07 / amm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 09:07 / amm
Lead 210	0.4	pCi/L	U			E909.0	10/29/21 03:26 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/29/21 03:26 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 03:26 / hat
Radium 226	0.3	pCi/L				E903.0	10/27/21 08:52 / amm
Radium 226 precision (±)	0.2	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	1.1	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 precision (±)	0.6	pCi/L				RA-05	10/22/21 12:12 / amm
Radium 228 MDC	1	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: C21100467-004
Client Sample ID: EPA-23

Report Date: 11/28/21
Collection Date: 10/08/21 13:28
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	1.3	pCi/L				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	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.1	pCi/L	U			A7500-U C	11/02/21 14:33 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	11/02/21 14:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/02/21 14:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4870	mg/L		1.00		A1030 E	10/27/21 17:02 / jlw
A/C Balance	-2.94	%				A1030 E	10/27/21 17:02 / jlw
Anions	83.6	meq/L				A1030 E	10/27/21 17:02 / jlw
Cations	78.8	meq/L				A1030 E	10/27/21 17:02 / jlw
TDS Ratio	1.08	unitless				A1030 E	10/27/21 17:02 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/17/21 20:26 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/17/21 20:26 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/17/21 20:26 / etad
Chloroform	0.34	ug/L	J	1.0		E624.1	10/17/21 20:26 / etad
Trihalomethanes, Total	0.34	ug/L	J	0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	93.0	%REC		73-122		E624.1	10/17/21 20:26 / etad
Surr: p-Bromofluorobenzene	93.0	%REC		79-119		E624.1	10/17/21 20:26 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/17/21 20:26 / 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)



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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		EPA-23	EPA-23	EPA-23	EPA-23
Collection Date:		10/7/2021	7/19/2021	4/19/2021	1/18/2021
Receive Date:		10/12/2021	7/21/2021	4/22/2021	1/21/2021
Report Date:		11/28/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100467-004	C21070842-002	C21040873-002	C21010710-002
Bicarbonate as HCO ₃	mg/L	1410	1540	1450	1420
Calcium	mg/L	630	713	648	705
Chloride	mg/L	154	174	156	155
Magnesium	mg/L	468	578	501	467
Potassium	mg/L	12	15	15	15
Sodium	mg/L	188	260	203	211
Sulfate	mg/L	2580	2820	2590	2550
pH	s.u.	6.7	6.6	6.59	6.65
pH Measurement Temp	°C	13.2	14.2	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	5270	5770	5310	5260
Nitrogen, Ammonia as N	mg/L	5.4	14.1	7.2	4.8
Nitrogen, Nitrate+Nitrite as N	mg/L	33.8	49.7	21.5	25.9
Aluminum	mg/L	ND(0.04)	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	0.007	0.008	0.010	0.011
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	3.34	3.23	4.47	5.70
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(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	0.0478	0.0521	0.0460	0.0411
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.5	0.3	0.5	0.4
Gross Alpha minus Rn & U MDC	pCi/L	1.1	0.8	0.8	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.7	0.5	0.6	0.5
Lead 210	pCi/L	0.4	-0.2	0.3	0.06
Lead 210 MDC	pCi/L	0.9	0.9	0.8	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.3	0.2	0.2	0.4
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.2	0.1	0.1
Radium 228	pCi/L	1.1	0.2	1.6	0.7
Radium 228 MDC	pCi/L	1	1.5	0.8	1
Radium 228 precision (±)	pCi/L	0.6	0.9	0.7	0.6
Thorium 230	pCi/L	0.1	0.009	0.03	0.3
Thorium 230 MDC	pCi/L	0.2	0.09	0.1	0.1
Thorium 230 precision (±)	pCi/L	0.1	0.04	0.05	0.1
A/C Balance	%	-2.94	1.27	-0.18	0.55
Anions	meq/L	83.6	92.5	83.6	82.6
Cations	meq/L	78.8	94.8	83.3	83.5
Solids, Total Dissolved - Calculated	mg/L	4870	5540	4920	4920
TDS Ratio	unitless	1.08	1.04	1.08	1.07
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	0.54	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	0.54	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: C21070886-005
Client Sample ID: EPA-25

Report Date: 08/27/21
Collection Date: 07/20/21 13:05
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1380	mg/L		5		A2320 B	07/24/21 14:57 / dmb
Chloride	161	mg/L	D	2		E300.0	07/25/21 03:23 / dmb
Sulfate	1960	mg/L	D	8		E300.0	07/25/21 03:23 / dmb
Calcium	749	mg/L		1		E200.7	07/23/21 17:15 / meh
Magnesium	264	mg/L		1		E200.7	07/23/21 17:15 / meh
Potassium	9	mg/L		1		E200.7	07/23/21 17:15 / meh
Sodium	231	mg/L	D	3		E200.7	07/23/21 17:15 / meh
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	07/22/21 16:07 / kjp
pH Measurement Temp	16.7	°C				A4500-H B	07/22/21 16:07 / kjp
Solids, Total Dissolved TDS @ 180 C	4470	mg/L	D	40		A2540 C	07/23/21 12:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	64.0	mg/L	D	0.5		E353.2	07/24/21 13:18 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:39 / dmb
METALS, TOTAL							
Aluminum	0.63	mg/L	D	0.04		E200.8	08/03/21 02:57 / jcg
Arsenic	0.001	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 02:57 / jcg
Lead	0.001	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Manganese	1.20	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Nickel	ND	mg/L		0.005		E200.8	08/03/21 02:57 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 02:57 / jcg
Uranium	0.131	mg/L	D	0.0005		E200.8	08/03/21 02:57 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 02:57 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.04	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	0.7	pCi/L	U			E909.0	08/15/21 04:07 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/15/21 04:07 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/15/21 04:07 / hat
Radium 226	0.2	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	08/18/21 17:01 / trs
Radium 228 precision (±)	1.6	pCi/L				RA-05	08/18/21 17:01 / trs
Radium 228 MDC	2.7	pCi/L				RA-05	08/18/21 17:01 / 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: C21070886-005
Client Sample ID: EPA-25

Report Date: 08/27/21
Collection Date: 07/20/21 13:05
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.02	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	0.09	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	4340	mg/L		1.00		A1030 E	07/29/21 16:02 / jlw
A/C Balance	-2.25	%				A1030 E	07/29/21 16:02 / jlw
Anions	72.5	meq/L				A1030 E	07/29/21 16:02 / jlw
Cations	69.3	meq/L				A1030 E	07/29/21 16:02 / jlw
TDS Ratio	1.03	unitless				A1030 E	07/29/21 16:02 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 19:47 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 19:47 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 19:47 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/28/21 19:47 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	116	%REC		71-139		E624.1	07/28/21 19:47 / eli-b
Surr: p-Bromofluorobenzene	113	%REC		80-127		E624.1	07/28/21 19:47 / eli-b
Surr: Toluene-d8	93.0	%REC		80-123		E624.1	07/28/21 19:47 / 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: C21100526-006
Client Sample ID: EPA-25

Report Date: 12/03/21
Collection Date: 10/12/21 09:46
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1340	mg/L		5		A2320 B	10/16/21 01:04 / kjp
Chloride	162	mg/L	D	2		E300.0	10/17/21 00:14 / dmb
Sulfate	1920	mg/L	D	8		E300.0	10/17/21 00:14 / dmb
Calcium	684	mg/L		1		E200.7	10/26/21 16:06 / jcg
Magnesium	238	mg/L		1		E200.7	10/26/21 16:06 / jcg
Potassium	8	mg/L		1		E200.7	10/26/21 16:06 / jcg
Sodium	221	mg/L	D	2		E200.7	10/26/21 16:06 / jcg
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	10/15/21 09:46 / mnm
pH Measurement Temp	12.8	°C				A4500-H B	10/15/21 09:46 / mnm
Solids, Total Dissolved TDS @ 180 C	4460	mg/L	D	40		A2540 C	10/15/21 09:50 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	58.0	mg/L	D	0.2		E353.2	10/18/21 13:12 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:32 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.09		E200.8	11/12/21 06:21 / jcg
Arsenic	ND	mg/L		0.001		E200.8	10/29/21 14:49 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:12 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 14:49 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 14:49 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 14:49 / srm
Manganese	0.640	mg/L	D	0.004		E200.8	10/29/21 14:49 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 14:49 / srm
Nickel	ND	mg/L		0.005		E200.8	11/08/21 06:41 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 14:49 / srm
Uranium	0.121	mg/L	D	0.001		E200.8	10/29/21 14:49 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 14:49 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.4	pCi/L				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	0.7	pCi/L	U			E909.0	10/30/21 14:03 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/30/21 14:03 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/30/21 14:03 / hat
Radium 226	0.06	pCi/L	U			E903.0	10/27/21 11:05 / amm
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:05 / amm
Radium 228	0.07	pCi/L	U			RA-05	10/22/21 13:48 / amm
Radium 228 precision (±)	0.7	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
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MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-006
Client Sample ID: EPA-25

Report Date: 12/03/21
Collection Date: 10/12/21 09:46
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.1	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	1.2	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	-0.0002	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	0.2	pCi/L				A7500-U C	11/04/21 06:56 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3890	mg/L		1.00		A1030 E	10/27/21 17:05 / jlw
A/C Balance	-2.19	%				A1030 E	10/27/21 17:05 / jlw
Anions	66.4	meq/L				A1030 E	10/27/21 17:05 / jlw
Cations	63.6	meq/L				A1030 E	10/27/21 17:05 / jlw
TDS Ratio	1.15	unitless				A1030 E	10/27/21 17:05 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 13:49 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 13:49 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 13:49 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 13:49 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/22/21 13:49 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/22/21 13:49 / etad
Surr: Toluene-d8	101	%REC		80-120		E624.1	10/22/21 13:49 / etad

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-25	EPA-25	EPA-25	EPA-25
Collection Date:		10/12/2021	7/20/2021	4/20/2021	1/19/2021
Receive Date:		10/14/2021	7/22/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100526-006	C21070886-005	C21040856-006	C21010711-006
Bicarbonate as HCO ₃	mg/L	1340	1380	1320	1390
Calcium	mg/L	684	749	732	752
Chloride	mg/L	162	161	157	155
Magnesium	mg/L	238	264	257	241
Potassium	mg/L	8	9	9	9
Sodium	mg/L	221	231	237	212
Sulfate	mg/L	1920	1960	1880	1830
pH	s.u.	6.8	6.8	6.73	6.78
pH Measurement Temp	°C	12.8	16.7	14	16
Solids, Total Dissolved TDS @ 180 C	mg/L	4460	4470	4480	4470
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	58.0	64.0	57	58
Aluminum	mg/L	ND(0.09)	0.63	ND(0.03)	0.04
Arsenic	mg/L	ND(0.001)	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	0.640	1.20	0.378	0.479
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(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	0.121	0.131	0.119	0.124
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.4	0.04	-0.2	0.9
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.7	0.8	0.7
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.6	0.4	0.5	0.6
Lead 210	pCi/L	0.7	0.7	0.4	0.5
Lead 210 MDC	pCi/L	0.9	0.8	0.8	1.0
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.06	0.2	0.08	0.2
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.1	0.09	0.1	0.2
Radium 228	pCi/L	0.07	-0.8	0.9	0.8
Radium 228 MDC	pCi/L	1.1	2.7	0.9	1.1
Radium 228 precision (±)	pCi/L	0.7	1.6	0.6	0.7
Thorium 230	pCi/L	-0.0002	0.02	0.05	0.08
Thorium 230 precision (±)	pCi/L	0.08	0.05	0.04	0.04
A/C Balance	%	-2.19	-2.25	-0.72	-1.80
Anions	meq/L	66.4	72.5	69.3	69.3
Cations	meq/L	63.6	69.3	68.3	66.8
Solids, Total Dissolved - Calculated	mg/L	3890	4340	4170	4130
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-008
Client Sample ID: EPA-28

Report Date: 08/27/21
Collection Date: 07/19/21 14:33
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	483	mg/L		5		A2320 B	07/23/21 00:05 / dmb
Chloride	101	mg/L	D	2		E300.0	07/24/21 19:23 / dmb
Sulfate	3210	mg/L	D	8		E300.0	07/24/21 19:23 / dmb
Calcium	505	mg/L		1		E200.7	07/23/21 16:04 / meh
Magnesium	457	mg/L		1		E200.7	07/23/21 16:04 / meh
Potassium	12	mg/L		1		E200.7	07/23/21 16:04 / meh
Sodium	235	mg/L	D	3		E200.7	07/23/21 16:04 / meh
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	07/22/21 13:08 / kjp
pH Measurement Temp	14.8	°C				A4500-H B	07/22/21 13:08 / kjp
Solids, Total Dissolved TDS @ 180 C	5070	mg/L	D	40		A2540 C	07/22/21 10:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.38	mg/L		0.01		E353.2	07/24/21 12:41 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:08 / dmb
METALS, TOTAL							
Aluminum	0.45	mg/L	D	0.04		E200.8	08/03/21 01:33 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Cobalt	ND	mg/L		0.005		E200.8	08/03/21 01:33 / jcg
Lead	0.001	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Manganese	0.453	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Nickel	0.007	mg/L		0.005		E200.8	08/03/21 01:33 / jcg
Selenium	ND	mg/L		0.001		E200.8	08/03/21 01:33 / jcg
Uranium	0.0155	mg/L	D	0.0005		E200.8	08/03/21 01:33 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 01:33 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.3	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	-0.4	pCi/L	U			E909.0	08/11/21 22:39 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/11/21 22:39 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/11/21 22:39 / hat
Radium 226	0.4	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	1.8	pCi/L				RA-05	08/03/21 15:29 / trs
Radium 228 precision (±)	1.0	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 RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070842-008
Client Sample ID: EPA-28

Report Date: 08/27/21
Collection Date: 07/19/21 14:33
Date Received: 07/21/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.1	pCi/L	U			A7500-U C	08/03/21 16:10 / mrt
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	08/03/21 16:10 / mrt
Thorium 230 MDC	0.1	pCi/L				A7500-U C	08/03/21 16:10 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	4760	mg/L		1.00		A1030 E	07/27/21 14:26 / jlw
A/C Balance	-2.86	%				A1030 E	07/27/21 14:26 / jlw
Anions	77.6	meq/L				A1030 E	07/27/21 14:26 / jlw
Cations	73.3	meq/L				A1030 E	07/27/21 14:26 / jlw
TDS Ratio	1.07	unitless				A1030 E	07/27/21 14:26 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/27/21 23:04 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/27/21 23:04 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/27/21 23:04 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/27/21 23:04 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/14/21 17:13 / tlf
Surr: 1,2-Dichloroethane-d4	121	%REC		71-139		E624.1	07/27/21 23:04 / eli-b
Surr: p-Bromofluorobenzene	118	%REC		80-127		E624.1	07/27/21 23:04 / eli-b
Surr: Toluene-d8	93.0	%REC		80-123		E624.1	07/27/21 23:04 / 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: C21100526-010
Client Sample ID: EPA-28

Report Date: 12/03/21
Collection Date: 10/11/21 12:36
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	457	mg/L		5		A2320 B	10/16/21 01:59 / kjp
Chloride	100	mg/L	D	2		E300.0	10/17/21 02:47 / dmb
Sulfate	3240	mg/L	D	8		E300.0	10/17/21 02:47 / dmb
Calcium	509	mg/L		1		E200.7	10/29/21 12:22 / jcg
Magnesium	447	mg/L		1		E200.7	10/29/21 12:22 / jcg
Potassium	11	mg/L		1		E200.7	11/01/21 23:31 / jcg
Sodium	235	mg/L		1		E200.7	11/01/21 23:31 / jcg
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	10/15/21 10:09 / mnm
pH Measurement Temp	13.5	°C				A4500-H B	10/15/21 10:09 / mnm
Solids, Total Dissolved TDS @ 180 C	5060	mg/L	D	40		A2540 C	10/15/21 09:55 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.53	mg/L		0.01		E353.2	10/18/21 13:15 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:36 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.09		E200.8	11/12/21 06:25 / jcg
Arsenic	ND	mg/L	D	0.02		E200.8	10/29/21 15:26 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:25 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:26 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/29/21 15:26 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 15:26 / srm
Manganese	0.346	mg/L	D	0.004		E200.8	10/29/21 15:26 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 15:26 / srm
Nickel	0.007	mg/L		0.005		E200.8	11/08/21 06:46 / srm
Selenium	ND	mg/L		0.001		E200.8	10/29/21 15:26 / srm
Uranium	0.014	mg/L	D	0.001		E200.8	10/29/21 15:26 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:26 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.7	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	-0.07	pCi/L	U			E909.0	10/29/21 22:20 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/29/21 22:20 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/29/21 22:20 / hat
Radium 226	0.1	pCi/L	U			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	0.8	pCi/L	U			RA-05	10/22/21 13:48 / amm
Radium 228 precision (±)	0.7	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 RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-010
Client Sample ID: EPA-28

Report Date: 12/03/21
Collection Date: 10/11/21 12:36
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	0.9	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	1.2	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.1	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 13:21 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4780	mg/L		1.00		A1030 E	11/02/21 15:29 / jlw
A/C Balance	-3.35	%				A1030 E	11/02/21 15:29 / jlw
Anions	77.7	meq/L				A1030 E	11/02/21 15:29 / jlw
Cations	72.7	meq/L				A1030 E	11/02/21 15:29 / jlw
TDS Ratio	1.06	unitless				A1030 E	11/02/21 15:29 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 16:48 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 16:48 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 16:48 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 16:48 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	100	%REC		71-139		E624.1	10/20/21 16:48 / eli-b
Surr: p-Bromofluorobenzene	97.0	%REC		80-127		E624.1	10/20/21 16:48 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	10/20/21 16:48 / 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-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 HCO ₃	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)

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

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-003
Client Sample ID: SBL-1

Report Date: 08/27/21
Collection Date: 07/20/21 10:35
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	454	mg/L		5		A2320 B	07/24/21 14:40 / dmb
Chloride	84	mg/L	D	5		E300.0	07/28/21 18:40 / dmb
Sulfate	6340	mg/L	D	20		E300.0	07/28/21 18:40 / dmb
Calcium	474	mg/L	D	3		E200.7	07/28/21 13:18 / meh
Magnesium	1230	mg/L		1		E200.7	07/28/21 13:18 / meh
Potassium	14	mg/L	D	2		E200.7	07/28/21 13:18 / meh
Sodium	281	mg/L	D	5		E200.7	07/28/21 13:18 / meh
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	07/22/21 16:01 / kjp
pH Measurement Temp	16.3	°C				A4500-H B	07/22/21 16:01 / kjp
Solids, Total Dissolved TDS @ 180 C	9560	mg/L	D	100		A2540 C	07/23/21 12:44 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	34	mg/L	D	1		E353.2	07/24/21 13:14 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/27/21 13:34 / dmb
METALS, TOTAL							
Aluminum	0.18	mg/L	D	0.04		E200.8	08/03/21 02:48 / jcg
Arsenic	ND	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Beryllium	ND	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Cadmium	ND	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Cobalt	0.021	mg/L		0.005		E200.8	08/03/21 02:48 / jcg
Lead	ND	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Manganese	2.93	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Molybdenum	0.001	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Nickel	0.079	mg/L		0.005		E200.8	08/03/21 02:48 / jcg
Selenium	0.014	mg/L		0.001		E200.8	08/03/21 02:48 / jcg
Uranium	0.0079	mg/L	D	0.0005		E200.8	08/03/21 02:48 / jcg
Vanadium	ND	mg/L		0.01		E200.8	08/03/21 02:48 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.8	pCi/L	U			E900.1	08/02/21 07:51 / trs
Gross Alpha minus Rn & U Precision (±)	0.6	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	08/14/21 21:13 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/14/21 21:13 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/14/21 21:13 / hat
Radium 226	0.7	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	2.8	pCi/L				RA-05	08/04/21 12:22 / trs
Radium 228 precision (±)	1	pCi/L				RA-05	08/04/21 12:22 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	08/04/21 12:22 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium
Lab ID: C21070886-003
Client Sample ID: SBL-1

Report Date: 08/27/21
Collection Date: 07/20/21 10:35
Date Received: 07/22/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	-0.07	pCi/L	U			A7500-U C	08/03/21 16:09 / mrt
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	08/03/21 16:09 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	08/03/21 16:09 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	8800	mg/L		1.00		A1030 E	07/30/21 12:42 / jlw
A/C Balance	-2.37	%				A1030 E	07/30/21 12:42 / jlw
Anions	144	meq/L				A1030 E	07/30/21 12:42 / jlw
Cations	138	meq/L				A1030 E	07/30/21 12:42 / jlw
TDS Ratio	1.09	unitless				A1030 E	07/30/21 12:42 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/28/21 18:56 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/28/21 18:56 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/28/21 18:56 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/28/21 18:56 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	08/19/21 15:39 / jlw
Surr: 1,2-Dichloroethane-d4	127	%REC		71-139		E624.1	07/28/21 18:56 / eli-b
Surr: p-Bromofluorobenzene	113	%REC		80-127		E624.1	07/28/21 18:56 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/28/21 18:56 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-012
Client Sample ID: SBL-1

Report Date: 12/03/21
Collection Date: 10/11/21 14:30
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	449	mg/L		5		A2320 B	10/16/21 02:14 / kjp
Chloride	86	mg/L	D	5		E300.0	10/28/21 18:40 / dmb
Sulfate	6360	mg/L	D	20		E300.0	10/28/21 18:40 / dmb
Calcium	477	mg/L		1		E200.7	10/29/21 12:27 / jcg
Magnesium	1230	mg/L		1		E200.7	10/29/21 12:27 / jcg
Potassium	14	mg/L		1		E200.7	11/01/21 23:35 / jcg
Sodium	284	mg/L		1		E200.7	11/01/21 23:35 / jcg
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	10/15/21 10:15 / mnm
pH Measurement Temp	13.8	°C				A4500-H B	10/15/21 10:15 / mnm
Solids, Total Dissolved TDS @ 180 C	9600	mg/L	D	100		A2540 C	10/15/21 09:57 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	29.5	mg/L	D	0.2		E353.2	10/18/21 14:07 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/19/21 13:43 / nts
METALS, TOTAL							
Aluminum	0.13	mg/L	D	0.09		E200.8	10/29/21 15:47 / srm
Arsenic	ND	mg/L	D	0.02		E200.8	10/29/21 15:47 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 22:41 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:47 / srm
Cobalt	0.025	mg/L		0.005		E200.8	10/29/21 15:47 / srm
Lead	ND	mg/L		0.001		E200.8	11/08/21 06:55 / srm
Manganese	3.76	mg/L	D	0.004		E200.8	10/29/21 15:47 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/29/21 15:47 / srm
Nickel	0.094	mg/L		0.005		E200.8	10/29/21 15:47 / srm
Selenium	0.012	mg/L		0.001		E200.8	10/29/21 15:47 / srm
Uranium	0.008	mg/L	D	0.003		E200.8	11/08/21 06:55 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:47 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.8	pCi/L				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 07:53 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/30/21 07:53 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/30/21 07:53 / hat
Radium 226	0.5	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 226 precision (±)	0.2	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	2.3	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 228 precision (±)	1.3	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 228 MDC	1.9	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-012
Client Sample ID: SBL-1

Report Date: 12/03/21
Collection Date: 10/11/21 14:30
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	2.8	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 precision (±)	1.3	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 MDC	1.9	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Thorium 230	0.03	pCi/L	U			A7500-U C	11/04/21 13:21 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 MDC	0.3	pCi/L				A7500-U C	11/04/21 13:21 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	8820	mg/L		1.00		A1030 E	11/02/21 15:29 / jlw
A/C Balance	-2.19	%				A1030 E	11/02/21 15:29 / jlw
Anions	144	meq/L				A1030 E	11/02/21 15:29 / jlw
Cations	138	meq/L				A1030 E	11/02/21 15:29 / jlw
TDS Ratio	1.09	unitless				A1030 E	11/02/21 15:29 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 17:38 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 17:38 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 17:38 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 17:38 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	102	%REC		71-139		E624.1	10/20/21 17:38 / eli-b
Surr: p-Bromofluorobenzene	98.0	%REC		80-127		E624.1	10/20/21 17:38 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	10/20/21 17:38 / 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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		SBL-1	SBL-1	SBL-1	SBL-1
Collection Date:		10/11/2021	7/20/2021	4/20/2021	1/19/2021
Receive Date:		10/14/2021	7/22/2021	4/22/2021	1/21/2021
Report Date:		12/3/2021	8/27/2021	5/27/2021	2/24/2021
Analyte	Units	C21100526-012	C21070886-003	C21040856-004	C21010711-004
Bicarbonate as HCO ₃	mg/L	449	454	444	439
Calcium	mg/L	477	474	491	434
Chloride	mg/L	86	84	89	82
Magnesium	mg/L	1230	1230	1310	1160
Potassium	mg/L	14	14	16	13
Sodium	mg/L	284	281	297	249
Sulfate	mg/L	6360	6340	6870	6110
pH	s.u.	6.7	6.7	6.68	6.79
pH Measurement Temp	°C	13.8	16.3	14	16
Solids, Total Dissolved TDS @ 180 C	mg/L	9600	9560	9410	9380
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	29.5	34	32.6	34
Aluminum	mg/L	0.13	0.18	0.17	0.23
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	0.025	0.021	0.022	0.024
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	3.76	2.93	3.26	3.50
Molybdenum	mg/L	ND(0.001)	0.001	ND(0.001)	0.001
Nickel	mg/L	0.094	0.079	0.090	0.089
Selenium	mg/L	0.012	0.014	0.016	0.011
Uranium	mg/L	0.008	0.0079	0.0075	0.0080
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	0.8	0.8	0.8	1.3
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.8	0.8	0.7
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.6	0.6	0.6	0.6
Lead 210	pCi/L	0.2	0.2	0.4	-0.8
Lead 210 MDC	pCi/L	1.1	0.8	0.8	0.9
Lead 210 precision (±)	pCi/L	0.7	0.5	0.5	0.5
Radium 226	pCi/L	0.5	0.7	0.3	0.7
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.1	0.1	0.2
Radium 228	pCi/L	2.3	2.8	2.4	2.8
Radium 228 MDC	pCi/L	1.9	1.2	0.9	0.9
Radium 228 precision (±)	pCi/L	1.3	1	0.8	0.9
Thorium 230	pCi/L	0.03	-0.07	0.09	0.09
Thorium 230 precision (±)	pCi/L	0.1	0.1	0.09	0.09
A/C Balance	%	-2.19	-2.37	-3.16	-4.15
Anions	meq/L	144	144	155	139
Cations	meq/L	138	138	146	128
Solids, Total Dissolved - Calculated	mg/L	8820	8800	9430	8410
TDS Ratio	unitless	1.09	1.09	1.00	1.12
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.

QUARTERLY SAMPLING
SEMI-ANNUAL GROUND WATER MONITORING REPORT
JULY TO DECEMBER OF 2021

ZONE – 1

515-A

*604

*614

TWQ-142

EPA-2

*EPA-4

*EPA-5

*EPA-7

LEVELS ONLY

TWQ-143

EPA-8

505-A

502-A

501-A

504-A

412

NOTE: *POINT OF COMPLIANCE WELLS
WATER LEVEL ONLY IS IN FIELD DATA SHEET

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070280-001
Client Sample ID: 515-A

Report Date: 08/13/21
Collection Date: 07/06/21 09:10
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	792	mg/L		5		A2320 B	07/12/21 12:54 / kjp
Chloride	435	mg/L	D	5		E300.0	07/16/21 16:19 / dmb
Sulfate	7090	mg/L	D	20		E300.0	07/16/21 16:19 / dmb
Calcium	446	mg/L		1		E200.7	07/19/21 12:52 / meh
Magnesium	1340	mg/L		1		E200.7	07/19/21 12:52 / meh
Potassium	17	mg/L		1		E200.7	07/19/21 12:52 / meh
Sodium	599	mg/L	D	2		E200.7	07/19/21 12:52 / meh
PHYSICAL PROPERTIES							
pH	6.2	s.u.	H	0.1		A4500-H B	07/09/21 12:16 / pla
pH Measurement Temp	12.6	°C				A4500-H B	07/09/21 12:16 / pla
Solids, Total Dissolved TDS @ 180 C	10800	mg/L	D	100		A2540 C	07/09/21 13:47 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	41.4	mg/L	D	0.5		E353.2	07/12/21 14:55 / dmb
Nitrogen, Ammonia as N	14	mg/L	D	1		E350.1	07/09/21 10:49 / dmb
METALS, TOTAL							
Aluminum	0.45	mg/L	D	0.04		E200.8	07/19/21 15:49 / jcg
Arsenic	ND	mg/L		0.001		E200.8	07/14/21 20:57 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 15:49 / jcg
Cadmium	0.001	mg/L		0.001		E200.8	07/14/21 20:57 / jcg
Cobalt	0.019	mg/L		0.005		E200.8	07/14/21 20:57 / jcg
Lead	0.001	mg/L		0.001		E200.8	07/14/21 20:57 / jcg
Manganese	6.26	mg/L	D	0.01		E200.7	07/13/21 16:20 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/14/21 20:57 / jcg
Nickel	0.087	mg/L		0.005		E200.8	07/14/21 20:57 / jcg
Selenium	0.071	mg/L		0.001		E200.8	07/14/21 20:57 / jcg
Uranium	0.0075	mg/L	D	0.0005		E200.8	07/19/21 15:49 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/14/21 20:57 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	3.9	pCi/L				E900.1	07/16/21 12:01 / ammm
Gross Alpha minus Rn & U Precision (±)	1.4	pCi/L				E900.1	07/16/21 12:01 / ammm
Gross Alpha minus Rn & U MDC	1.4	pCi/L				E900.1	07/16/21 12:01 / ammm
Lead 210	0.6	pCi/L	U			E909.0	07/16/21 11:14 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/16/21 11:14 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/16/21 11:14 / hat
Radium 226	2.5	pCi/L				E903.0	07/21/21 09:54 / ammm
Radium 226 precision (±)	0.6	pCi/L				E903.0	07/21/21 09:54 / ammm
Radium 226 MDC	0.2	pCi/L				E903.0	07/21/21 09:54 / ammm
Radium 228	3.3	pCi/L				RA-05	07/16/21 11:56 / ammm
Radium 228 precision (±)	0.8	pCi/L				RA-05	07/16/21 11:56 / ammm
Radium 228 MDC	0.9	pCi/L				RA-05	07/16/21 11:56 / ammm

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: C21070280-001
Client Sample ID: 515-A

Report Date: 08/13/21
Collection Date: 07/06/21 09:10
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	10500	mg/L		1.00		A1030 E	07/20/21 16:47 / jlw
A/C Balance	-4.58	%				A1030 E	07/20/21 16:47 / jlw
Anions	176	meq/L				A1030 E	07/20/21 16:47 / jlw
Cations	160	meq/L				A1030 E	07/20/21 16:47 / jlw
TDS Ratio	1.03	unitless				A1030 E	07/20/21 16:47 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		4.0		E624.1	07/13/21 15:43 / etad
Bromoform	ND	ug/L		8.0		E624.1	07/13/21 15:43 / etad
Chlorodibromomethane	ND	ug/L		4.0		E624.1	07/13/21 15:43 / etad
Chloroform	380	ug/L		20		E624.1	07/14/21 10:24 / etad
Trihalomethanes, Total	380	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	101	%REC		73-122		E624.1	07/13/21 15:43 / etad
Surr: 1,2-Dichloroethane-d4	97.0	%REC		73-122		E624.1	07/14/21 10:24 / etad
Surr: p-Bromofluorobenzene	103	%REC		79-119		E624.1	07/13/21 15:43 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/14/21 10:24 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/13/21 15:43 / etad
Surr: Toluene-d8	102	%REC		80-120		E624.1	07/14/21 10:24 / etad

**Report
Definitions:**

RL - Analyte Reporting Limit
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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 1 & Zone 3
Lab ID: C21100250-002
Client Sample ID: 515-A

Report Date: 11/19/21
Collection Date: 10/04/21 10:42
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	796	mg/L		5		A2320 B	10/08/21 18:17 / kjp
Chloride	396	mg/L	D	5		E300.0	10/09/21 03:16 / dmb
Sulfate	6410	mg/L	D	20		E300.0	10/09/21 03:16 / dmb
Calcium	393	mg/L		1		E200.7	10/13/21 14:16 / jcg
Magnesium	1250	mg/L		1		E200.7	10/18/21 18:08 / jcg
Potassium	17	mg/L		1		E200.7	10/13/21 14:16 / jcg
Sodium	517	mg/L	D	3		E200.7	10/13/21 14:16 / jcg
PHYSICAL PROPERTIES							
pH	6.1	s.u.	H	0.1		A4500-H B	10/07/21 11:40 / mnm
pH Measurement Temp	15.7	°C				A4500-H B	10/07/21 11:40 / mnm
Solids, Total Dissolved TDS @ 180 C	10600	mg/L	D	100		A2540 C	10/07/21 10:18 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	40.2	mg/L	D	0.2		E353.2	10/07/21 14:02 / nts
Nitrogen, Ammonia as N	13	mg/L	D	1		E350.1	10/11/21 11:51 / nts
METALS, TOTAL							
Aluminum	0.38	mg/L	D	0.09		E200.8	11/04/21 17:40 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/18/21 15:32 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 23:53 / jcg
Cadmium	0.001	mg/L		0.001		E200.8	10/18/21 15:32 / srm
Cobalt	0.022	mg/L		0.005		E200.8	10/18/21 15:32 / srm
Lead	0.001	mg/L		0.001		E200.8	10/18/21 15:32 / srm
Manganese	6.35	mg/L	D	0.002		E200.8	10/18/21 15:32 / srm
Molybdenum	ND	mg/L		0.001		E200.8	11/04/21 17:40 / srm
Nickel	0.091	mg/L		0.005		E200.8	10/18/21 15:32 / srm
Selenium	0.074	mg/L		0.001		E200.8	10/18/21 15:32 / srm
Uranium	0.008	mg/L	D	0.001		E200.8	11/04/21 17:40 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:32 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	4.0	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	1.2	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	0.7	pCi/L	U			E909.0	10/17/21 09:15 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/17/21 09:15 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/17/21 09:15 / hat
Radium 226	2.2	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	0.5	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	2.2	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 MDC	1.6	pCi/L				RA-05	10/15/21 12:59 / trs

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-002
Client Sample ID: 515-A

Report Date: 11/19/21
Collection Date: 10/04/21 10:42
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	4.4	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.2	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	0.01	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	9550	mg/L		1.00		A1030 E	10/19/21 15:08 / jlw
A/C Balance	-4.79	%				A1030 E	10/19/21 15:08 / jlw
Anions	161	meq/L				A1030 E	10/19/21 15:08 / jlw
Cations	146	meq/L				A1030 E	10/19/21 15:08 / jlw
TDS Ratio	1.11	unitless				A1030 E	10/19/21 15:08 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		4.0		E624.1	10/14/21 18:04 / etad
Bromoform	ND	ug/L		8.0		E624.1	10/14/21 18:04 / etad
Chlorodibromomethane	ND	ug/L		4.0		E624.1	10/14/21 18:04 / etad
Chloroform	380	ug/L		4.0		E624.1	10/14/21 18:04 / etad
Trihalomethanes, Total	380	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	107	%REC		73-122		E624.1	10/14/21 18:04 / etad
Surr: p-Bromofluorobenzene	87.0	%REC		79-119		E624.1	10/14/21 18:04 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 18:04 / etad

**Report
Definitions:**

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Guideline 8: Sweetwater					
Well ID:		515-A	515-A	515-A	515-A
Collection Date:		10/4/2021	7/6/2021	4/5/2021	1/4/2021
Receive Date:		10/6/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/19/2021	8/13/2021	5/1/2021	2/24/2021
Analyte	Units	C21100250-002	C21070280-001	C21040387-002	C21010254-002
Bicarbonate as HCO ₃	mg/L	796	792	762	800
Calcium	mg/L	393	446	421	436
Chloride	mg/L	396	435	459	451
Magnesium	mg/L	1250	1340	1360	1310
Potassium	mg/L	17	17	16	17
Sodium	mg/L	517	599	567	598
Sulfate	mg/L	6410	7090	7310	7110
pH	s.u.	6.1	6.2	6.04	6.11
pH Measurement Temp	°C	15.7	12.6	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	10600	10800	10700	10700
Nitrogen, Ammonia as N	mg/L	13	14	14	13.7
Nitrogen, Nitrate+Nitrite as N	mg/L	40.2	41.4	39.5	43.7
Aluminum	mg/L	0.38	0.45	0.80	0.61
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	0.001	0.001	0.001	0.001
Cobalt	mg/L	0.022	0.019	0.020	0.023
Lead	mg/L	0.001	0.001	0.001	0.001
Manganese	mg/L	6.35	6.26	6.11	6.74
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.091	0.087	0.092	0.100
Selenium	mg/L	0.074	0.071	0.061	0.075
Uranium	mg/L	0.008	0.0075	0.0080	0.0082
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	4.0	3.9	2.3	3.2
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	1.2	1.4	0.8	1.2
Lead 210	pCi/L	0.7	0.6	1.2	1.0
Lead 210 MDC	pCi/L	1.0	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.6	0.7	0.6
Radium 226	pCi/L	2.2	2.5	2.0	1.7
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.08
Radium 226 precision (±)	pCi/L	0.5	0.6	0.4	0.3
Radium 228	pCi/L	2.2	3.3	2.5	3.8
Radium 228 MDC	pCi/L	1.6	0.9	1.4	0.9
Radium 228 precision (±)	pCi/L	1.1	0.8	1.1	1
Thorium 230	pCi/L	0.01	0	0.1	0.2
Thorium 230 MDC	pCi/L	0.2	0.2	0.2	0.3
Thorium 230 precision (±)	pCi/L	0.1	0.08	0.1	0.2
A/C Balance	%	-4.79	-4.58	-6.38	-5.81
Anions	meq/L	161	176	180	177
Cations	meq/L	146	160	159	158
Solids, Total Dissolved - Calculated	mg/L	9550	10500	10700	10500
TDS Ratio	unitless	1.11	1.03	1.00	1.02
Bromodichloromethane	ug/L	ND(4.0)	ND(4.0)	ND(1.0)	ND
Bromoform	ug/L	ND(8.0)	ND(8.0)	ND(2.0)	ND
Chlorodibromomethane	ug/L	ND(4.0)	ND(4.0)	ND(1.0)	ND
Chloroform	ug/L	380	380	330	310
Trihalomethanes, Total	ug/L	380	380	330	310

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-006
Client Sample ID: 604

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	13	mg/L		5		A2320 B	07/08/21 17:19 / kjp
Chloride	131	mg/L	D	2		E300.0	07/09/21 22:38 / dmb
Sulfate	4650	mg/L	D	8		E300.0	07/09/21 22:38 / dmb
Calcium	426	mg/L		1		E200.7	07/08/21 13:00 / meh
Magnesium	804	mg/L		1		E200.7	07/08/21 13:00 / meh
Potassium	10	mg/L		1		E200.7	07/08/21 13:00 / meh
Sodium	292	mg/L	D	3		E200.7	07/08/21 13:00 / meh
PHYSICAL PROPERTIES							
pH	5.5	s.u.	H	0.1		A4500-H B	07/08/21 15:10 / pla
pH Measurement Temp	16.2	°C				A4500-H B	07/08/21 15:10 / pla
Solids, Total Dissolved TDS @ 180 C	7200	mg/L	D	100		A2540 C	07/09/21 13:40 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	60	mg/L	D	1		E353.2	07/12/21 14:36 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/09/21 10:35 / dmb
METALS, TOTAL							
Aluminum	0.85	mg/L	D	0.04		E200.8	07/21/21 23:17 / meh
Arsenic	0.001	mg/L		0.001		E200.8	07/15/21 21:34 / jcg
Beryllium	0.001	mg/L		0.001		E200.8	07/21/21 23:17 / meh
Cadmium	0.002	mg/L		0.001		E200.8	07/15/21 21:34 / jcg
Cobalt	0.108	mg/L		0.005		E200.8	07/15/21 21:34 / jcg
Lead	ND	mg/L		0.001		E200.8	07/15/21 21:34 / jcg
Manganese	4.79	mg/L	D	0.002		E200.8	07/15/21 21:34 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/15/21 21:34 / jcg
Nickel	0.183	mg/L		0.005		E200.8	07/15/21 21:34 / jcg
Selenium	0.060	mg/L		0.001		E200.8	07/15/21 21:34 / jcg
Uranium	ND	mg/L		0.0003		E200.8	07/22/21 15:55 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/21/21 23:17 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.9	pCi/L				E900.1	07/16/21 12:01 / ammm
Gross Alpha minus Rn & U Precision (±)	1.1	pCi/L				E900.1	07/16/21 12:01 / ammm
Gross Alpha minus Rn & U MDC	1.4	pCi/L				E900.1	07/16/21 12:01 / ammm
Lead 210	0.5	pCi/L	U			E909.0	07/15/21 18:11 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/15/21 18:11 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/15/21 18:11 / hat
Radium 226	1.7	pCi/L				E903.0	07/19/21 14:29 / ammm
Radium 226 precision (±)	0.4	pCi/L				E903.0	07/19/21 14:29 / ammm
Radium 226 MDC	0.1	pCi/L				E903.0	07/19/21 14:29 / ammm
Radium 228	3.5	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	0.9	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 MDC	1	pCi/L				RA-05	07/12/21 13:50 / trs

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-006
Client Sample ID: 604

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.4	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.4	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.6	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	6580	mg/L		1.00		A1030 E	07/15/21 15:33 / jlw
A/C Balance	-2.23	%				A1030 E	07/15/21 15:33 / jlw
Anions	105	meq/L				A1030 E	07/15/21 15:33 / jlw
Cations	100	meq/L				A1030 E	07/15/21 15:33 / jlw
TDS Ratio	1.09	unitless				A1030 E	07/15/21 15:33 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 11:51 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 11:51 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 11:51 / etad
Chloroform	7.2	ug/L		1.0		E624.1	07/15/21 11:51 / etad
Trihalomethanes, Total	7.2	ug/L		0.50		E624.1	07/16/21 17:50 / tif
Surr: 1,2-Dichloroethane-d4	102	%REC		73-122		E624.1	07/15/21 11:51 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/15/21 11:51 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	07/15/21 11:51 / etad

**Report
Definitions:**

RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration
(MDC)

MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-003
Client Sample ID: 604

Report Date: 11/19/21
Collection Date: 10/04/21 11:48
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	16	mg/L		5		A2320 B	10/08/21 18:23 / kjp
Chloride	133	mg/L	D	2		E300.0	10/09/21 03:35 / dmb
Sulfate	4610	mg/L	D	8		E300.0	10/09/21 03:35 / dmb
Calcium	407	mg/L		1		E200.7	10/13/21 14:20 / jcg
Magnesium	723	mg/L		1		E200.7	10/13/21 14:20 / jcg
Potassium	12	mg/L		1		E200.7	10/13/21 14:20 / jcg
Sodium	273	mg/L	D	3		E200.7	10/13/21 14:20 / jcg
PHYSICAL PROPERTIES							
pH	5.4	s.u.	H	0.1		A4500-H B	10/07/21 11:42 / mnm
pH Measurement Temp	15.9	°C				A4500-H B	10/07/21 11:42 / mnm
Solids, Total Dissolved TDS @ 180 C	6980	mg/L	D	100		A2540 C	10/07/21 10:19 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	58.2	mg/L	D	0.2		E353.2	10/07/21 14:03 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/11/21 11:52 / nts
METALS, TOTAL							
Aluminum	0.81	mg/L	D	0.09		E200.8	11/04/21 17:45 / srm
Arsenic	0.001	mg/L		0.001		E200.8	10/18/21 15:37 / srm
Beryllium	0.002	mg/L		0.001		E200.7	10/26/21 23:58 / jcg
Cadmium	0.002	mg/L		0.001		E200.8	10/18/21 15:37 / srm
Cobalt	0.122	mg/L		0.005		E200.8	10/18/21 15:37 / srm
Lead	ND	mg/L		0.001		E200.8	10/18/21 15:37 / srm
Manganese	5.37	mg/L	D	0.002		E200.8	10/18/21 15:37 / srm
Molybdenum	ND	mg/L		0.001		E200.8	11/04/21 17:45 / srm
Nickel	0.203	mg/L		0.005		E200.8	10/18/21 15:37 / srm
Selenium	0.065	mg/L		0.001		E200.8	10/18/21 15:37 / srm
Uranium	ND	mg/L	D	0.001		E200.8	11/04/21 17:45 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:37 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	4.0	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	1.1	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	0.6	pCi/L	U			E909.0	10/17/21 12:37 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/17/21 12:37 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/17/21 12:37 / hat
Radium 226	1.7	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	0.4	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	4.1	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.4	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 MDC	1.6	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
 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-003
Client Sample ID: 604

Report Date: 11/19/21
Collection Date: 10/04/21 11:48
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	5.7	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.4	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	0.04	pCi/L	U			A7500-U C	11/01/21 17:02 / sec
Thorium 230 precision (±)	0.09	pCi/L				A7500-U C	11/01/21 17:02 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/01/21 17:02 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	6160	mg/L		1.00		A1030 E	10/15/21 14:41 / jlw
A/C Balance	-4.11	%				A1030 E	10/15/21 14:41 / jlw
Anions	99.9	meq/L				A1030 E	10/15/21 14:41 / jlw
Cations	92.0	meq/L				A1030 E	10/15/21 14:41 / jlw
TDS Ratio	1.13	unitless				A1030 E	10/15/21 14:41 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 21:38 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 21:38 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 21:38 / etad
Chloroform	13	ug/L		1.0		E624.1	10/15/21 21:38 / etad
Trihalomethanes, Total	13	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	111	%REC		73-122		E624.1	10/15/21 21:38 / etad
Surr: p-Bromofluorobenzene	84.0	%REC		79-119		E624.1	10/15/21 21:38 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/15/21 21:38 / etad

**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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Guideline 8: Sweetwater					
Well ID:		604	604	604	604
Collection Date:		10/4/2021	7/5/2021	4/5/2021	1/4/2021
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	C21100250-003	C21070218-006	C21040387-003	C21010254-003
Bicarbonate as HCO ₃	mg/L	16	13	14	18
Calcium	mg/L	407	426	430	449
Chloride	mg/L	133	131	129	126
Magnesium	mg/L	723	804	769	838
Potassium	mg/L	12	10	13	12
Sodium	mg/L	273	292	304	321
Sulfate	mg/L	4610	4650	4630	4550
pH	s.u.	5.4	5.5	5.43	5.51
pH Measurement Temp	°C	15.9	16.2	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6980	7200	7030	7070
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	58.2	60	57.8	63.5
Aluminum	mg/L	0.81	0.85	0.87	1.05
Arsenic	mg/L	0.001	0.001	ND(0.001)	0.001
Beryllium	mg/L	0.002	0.001	0.001	0.002
Cadmium	mg/L	0.002	0.002	0.002	0.002
Cobalt	mg/L	0.122	0.108	0.115	0.121
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	5.37	4.79	4.92	5.13
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.203	0.183	0.202	0.218
Selenium	mg/L	0.065	0.060	0.053	0.059
Uranium	mg/L	ND(0.001)	ND(0.0003)	ND(0.0003)	ND(0.0003)
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	4.0	2.9	2.8	1.4
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	1.1	1.1	1	0.9
Lead 210	pCi/L	0.6	0.5	1.0	0.4
Lead 210 MDC	pCi/L	1.0	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.6	0.6	0.5
Radium 226	pCi/L	1.7	1.7	1.2	0.9
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.08
Radium 226 precision (±)	pCi/L	0.4	0.4	0.3	0.1
Radium 228	pCi/L	4.1	3.5	2.3	4.1
Radium 228 MDC	pCi/L	1.6	1	1.7	0.9
Radium 228 precision (±)	pCi/L	1.4	0.9	1.2	1.1
Thorium 230	pCi/L	0.04	0.4	0.08	0.3
Thorium 230 MDC	pCi/L	0.2	0.6	0.09	0.2
Thorium 230 precision (±)	pCi/L	0.09	0.4	0.06	0.1
A/C Balance	%	-4.11	-2.23	-1.02	1.19
Anions	meq/L	99.9	105	100	103
Cations	meq/L	92.0	100	98.3	106
Solids, Total Dissolved - Calculated	mg/L	6160	6580	6280	6590
TDS Ratio	unitless	1.13	1.09	1.12	1.07
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	13	7.2	11	16
Trihalomethanes, Total	ug/L	13	7.2	11	16

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070280-002
Client Sample ID: 614

Report Date: 08/13/21
Collection Date: 07/06/21 10:30
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1270	mg/L		5		A2320 B	07/12/21 13:03 / kjp
Chloride	378	mg/L	D	5		E300.0	07/12/21 20:58 / dmb
Sulfate	3700	mg/L	D	20		E300.0	07/12/21 20:58 / dmb
Calcium	557	mg/L		1		E200.7	07/09/21 12:02 / meh
Magnesium	642	mg/L		1		E200.7	07/09/21 12:02 / meh
Potassium	13	mg/L		1		E200.7	07/09/21 12:02 / meh
Sodium	462	mg/L	D	3		E200.7	07/09/21 12:02 / meh
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	07/09/21 12:19 / pla
pH Measurement Temp	13.6	°C				A4500-H B	07/09/21 12:19 / pla
Solids, Total Dissolved TDS @ 180 C	6760	mg/L	D	100		A2540 C	07/09/21 13:48 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	106	mg/L	D	1		E353.2	07/12/21 15:28 / dmb
Nitrogen, Ammonia as N	75	mg/L	D	2		E350.1	07/09/21 10:52 / dmb
METALS, TOTAL							
Aluminum	0.03	mg/L		0.03		E200.8	07/22/21 15:41 / jcg
Arsenic	ND	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 16:07 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Cobalt	ND	mg/L		0.005		E200.8	07/14/21 21:28 / jcg
Lead	0.002	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Manganese	0.832	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Nickel	0.014	mg/L		0.005		E200.8	07/14/21 21:28 / jcg
Selenium	0.074	mg/L		0.001		E200.8	07/14/21 21:28 / jcg
Uranium	0.0449	mg/L	D	0.0005		E200.8	07/19/21 16:07 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/14/21 21:28 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.1	pCi/L	U			E900.1	07/16/21 14:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.9	pCi/L				E900.1	07/16/21 14:07 / amm
Gross Alpha minus Rn & U MDC	1.3	pCi/L				E900.1	07/16/21 14:07 / amm
Lead 210	0.5	pCi/L	U			E909.0	07/16/21 14:36 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/16/21 14:36 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	07/16/21 14:36 / hat
Radium 226	0.9	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 228	2.9	pCi/L				RA-05	07/16/21 11:56 / amm
Radium 228 precision (±)	0.8	pCi/L				RA-05	07/16/21 11:56 / amm
Radium 228 MDC	0.8	pCi/L				RA-05	07/16/21 11:56 / amm

Report Definitions:
 RL - Analyte Reporting Limit
 QCL - Quality Control Limit
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MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070280-002
Client Sample ID: 614

Report Date: 08/13/21
Collection Date: 07/06/21 10:30
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	-0.08	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	6850	mg/L		1.00		A1030 E	07/15/21 15:35 / jlw
A/C Balance	-4.38	%				A1030 E	07/15/21 15:35 / jlw
Anions	116	meq/L				A1030 E	07/15/21 15:35 / jlw
Cations	106	meq/L				A1030 E	07/15/21 15:35 / jlw
TDS Ratio	0.99	unitless				A1030 E	07/15/21 15:35 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/13/21 16:05 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/13/21 16:05 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/13/21 16:05 / etad
Chloroform	64	ug/L		1.0		E624.1	07/13/21 16:05 / etad
Trihalomethanes, Total	64	ug/L		0.50		E624.1	07/16/21 17:50 / tif
Surr: 1,2-Dichloroethane-d4	100	%REC		73-122		E624.1	07/13/21 16:05 / etad
Surr: p-Bromofluorobenzene	102	%REC		79-119		E624.1	07/13/21 16:05 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/13/21 16:05 / etad

**Report
Definitions:**

RL - Analyte Reporting Limit
QCL - Quality Control Limit
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-001
Client Sample ID: 614

Report Date: 11/19/21
Collection Date: 10/04/21 09:02
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	1200	mg/L		5		A2320 B	10/08/21 18:09 / kjp
Chloride	348	mg/L	D	5		E300.0	10/09/21 02:18 / dmb
Sulfate	3330	mg/L	D	20		E300.0	10/09/21 02:18 / dmb
Calcium	488	mg/L		1		E200.7	10/13/21 14:11 / jcg
Magnesium	558	mg/L		1		E200.7	10/13/21 14:11 / jcg
Potassium	13	mg/L		1		E200.7	10/13/21 14:11 / jcg
Sodium	400	mg/L	D	3		E200.7	10/13/21 14:11 / jcg
PHYSICAL PROPERTIES							
pH	6.6	s.u.	H	0.1		A4500-H B	10/07/21 11:37 / mnm
pH Measurement Temp	15.8	°C				A4500-H B	10/07/21 11:37 / mnm
Solids, Total Dissolved TDS @ 180 C	6480	mg/L	D	100		A2540 C	10/07/21 10:17 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	108	mg/L	D	0.2		E353.2	10/07/21 13:59 / nts
Nitrogen, Ammonia as N	72	mg/L	D	2		E350.1	10/11/21 11:49 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.2		E200.8	11/04/21 17:36 / srm
Arsenic	ND	mg/L	D	0.003		E200.8	11/04/21 17:36 / srm
Beryllium	ND	mg/L		0.001		E200.8	11/04/21 17:36 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/18/21 15:14 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/18/21 15:14 / srm
Lead	0.002	mg/L		0.001		E200.8	10/18/21 15:14 / srm
Manganese	0.863	mg/L		0.001		E200.8	10/18/21 15:14 / srm
Molybdenum	0.003	mg/L		0.001		E200.8	11/04/21 02:38 / jcg
Nickel	0.015	mg/L		0.005		E200.8	10/18/21 15:14 / srm
Selenium	0.078	mg/L		0.001		E200.8	10/18/21 15:14 / srm
Uranium	0.0371	mg/L	D	0.0005		E200.8	10/18/21 15:14 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:14 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.5	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	0.8	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	0.5	pCi/L	U			E909.0	10/17/21 02:26 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/17/21 02:26 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/17/21 02:26 / hat
Radium 226	0.8	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	0.2	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	1.8	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 MDC	1.5	pCi/L				RA-05	10/15/21 12:59 / trs

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-001
Client Sample ID: 614

Report Date: 11/19/21
Collection Date: 10/04/21 09:02
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	2.6	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.5	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.05	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.06	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5730	mg/L		1.00		A1030 E	10/15/21 14:41 / jlw
A/C Balance	-2.91	%				A1030 E	10/15/21 14:41 / jlw
Anions	98.8	meq/L				A1030 E	10/15/21 14:41 / jlw
Cations	93.2	meq/L				A1030 E	10/15/21 14:41 / jlw
TDS Ratio	1.13	unitless				A1030 E	10/15/21 14:41 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 17:43 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 17:43 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 17:43 / etad
Chloroform	110	ug/L		1.0		E624.1	10/14/21 17:43 / etad
Trihalomethanes, Total	110	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	109	%REC		73-122		E624.1	10/14/21 17:43 / etad
Surr: p-Bromofluorobenzene	88.0	%REC		79-119		E624.1	10/14/21 17:43 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 17:43 / etad

**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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Guideline 8: Sweetwater					
Well ID:		614	614	614	614
Collection Date:		10/4/2021	7/6/2021	4/5/2021	1/4/2021
Receive Date:		10/6/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/19/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100250-001	C21070280-002	C21040387-001	C21010254-001
Bicarbonate as HCO ₃	mg/L	1200	1270	1150	1270
Calcium	mg/L	488	557	544	573
Chloride	mg/L	348	378	395	408
Magnesium	mg/L	558	642	621	629
Potassium	mg/L	13	13	14	14
Sodium	mg/L	400	462	453	473
Sulfate	mg/L	3330	3700	3750	3810
pH	s.u.	6.6	6.6	6.39	6.49
pH Measurement Temp	°C	15.8	13.6	16	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6480	6760	6670	6530
Nitrogen, Ammonia as N	mg/L	72	75	40	39
Nitrogen, Nitrate+Nitrite as N	mg/L	108	106	153	169
Aluminum	mg/L	ND(0.2)	0.03	0.34	ND(0.03)
Arsenic	mg/L	ND(0.003)	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	0.002	0.002	0.003	0.002
Manganese	mg/L	0.863	0.832	0.94	0.988
Molybdenum	mg/L	0.003	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.015	0.014	0.013	0.014
Selenium	mg/L	0.078	0.074	0.071	0.080
Uranium	mg/L	0.0371	0.0449	0.0428	0.0487
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.5	1.1	1.5	-0.07
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.3	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.8	0.9	0.6	0.8
Lead 210	pCi/L	0.5	0.5	0.7	0.2
Lead 210 MDC	pCi/L	1.0	0.9	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.6	0.5	0.5
Radium 226	pCi/L	0.8	0.9	0.7	0.5
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.08
Radium 226 precision (±)	pCi/L	0.2	0.2	0.2	0.08
Radium 228	pCi/L	1.8	2.9	3.3	2.7
Radium 228 MDC	pCi/L	1.5	0.8	1.4	0.9
Radium 228 precision (±)	pCi/L	1.1	0.8	1.2	0.8
Thorium 230	pCi/L	0.05	-0.08	0.02	0.4
Thorium 230 MDC	pCi/L	0.1	0.2	0.1	0.2
Thorium 230 precision (±)	pCi/L	0.06	0.08	0.06	0.1
A/C Balance	%	-2.91	-4.38	-3.31	-4.85
Anions	meq/L	98.8	116	108	112
Cations	meq/L	93.2	106	101	101
Solids, Total Dissolved - Calculated	mg/L	5730	6850	6340	6530
TDS Ratio	unitless	1.13	0.99	1.05	1.00
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	110	64	69	80
Trihalomethanes, Total	ug/L	110	64	69	80

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

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-006
Client Sample ID: TWQ-142

Report Date: 08/13/21
Collection Date: 07/12/21 13:48
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	306	mg/L		5		A2320 B	07/15/21 20:28 / dmb
Chloride	17	mg/L		1		E300.0	07/17/21 13:05 / dmb
Sulfate	709	mg/L	D	2		E300.0	07/17/21 13:05 / dmb
Calcium	69	mg/L		1		E200.7	07/15/21 14:25 / meh
Magnesium	37	mg/L		1		E200.7	07/15/21 14:25 / meh
Potassium	4	mg/L		1		E200.7	07/15/21 14:25 / meh
Sodium	330	mg/L		1		E200.7	07/15/21 14:25 / meh
PHYSICAL PROPERTIES							
pH	7.5	s.u.	H	0.1		A4500-H B	07/15/21 12:54 / pla
pH Measurement Temp	13.3	°C				A4500-H B	07/15/21 12:54 / pla
Solids, Total Dissolved TDS @ 180 C	1370	mg/L	D	20		A2540 C	07/15/21 11:52 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.01		E353.2	07/19/21 13:17 / dmb
Nitrogen, Ammonia as N	0.07	mg/L		0.05		E350.1	07/15/21 13:21 / dmb
METALS, TOTAL							
Aluminum	0.33	mg/L		0.03		E200.8	07/19/21 20:18 / jcg
Arsenic	0.002	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Cobalt	ND	mg/L		0.005		E200.8	07/19/21 20:18 / jcg
Lead	ND	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Manganese	0.082	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Molybdenum	0.006	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Nickel	ND	mg/L		0.005		E200.8	07/19/21 20:18 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/19/21 20:18 / jcg
Uranium	0.0003	mg/L		0.0003		E200.8	07/21/21 15:10 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 20:18 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	0.4	pCi/L	U			E900.1	07/19/21 08:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	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	0.6	pCi/L	U			E909.0	08/08/21 09:06 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	08/08/21 09:06 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/08/21 09:06 / hat
Radium 226	1.1	pCi/L				E903.0	07/26/21 11:57 / plj
Radium 226 precision (±)	0.3	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	0.4	pCi/L	U			RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	0.9	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.4	pCi/L				RA-05	07/19/21 17:28 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-006
Client Sample ID: TWQ-142

Report Date: 08/13/21
Collection Date: 07/12/21 13:48
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.04	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.04	pCi/L				A7500-U C	07/27/21 11:35 / mrt
Thorium 230 MDC	0.07	pCi/L				A7500-U C	07/27/21 11:35 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	1320	mg/L		1.00		A1030 E	07/20/21 09:42 / tif
A/C Balance	1.48	%				A1030 E	07/20/21 09:42 / tif
Anions	20.3	meq/L				A1030 E	07/20/21 09:42 / tif
Cations	20.9	meq/L				A1030 E	07/20/21 09:42 / tif
TDS Ratio	1.04	unitless				A1030 E	07/20/21 09:42 / tif
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 13:56 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 13:56 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 13:56 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 13:56 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tif
Surr: 1,2-Dichloroethane-d4	110	%REC		71-139		E624.1	07/20/21 13:56 / eli-b
Surr: p-Bromofluorobenzene	104	%REC		80-127		E624.1	07/20/21 13:56 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/20/21 13:56 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-008
Client Sample ID: TWQ-142

Report Date: 11/27/21
Collection Date: 10/06/21 09:17
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	308	mg/L		5		A2320 B	10/11/21 20:08 / kjp
Chloride	17	mg/L		1		E300.0	10/13/21 11:50 / dmb
Sulfate	728	mg/L	D	2		E300.0	10/13/21 11:50 / dmb
Calcium	63	mg/L		1		E200.7	10/21/21 20:56 / jcg
Magnesium	34	mg/L		1		E200.7	10/21/21 20:56 / jcg
Potassium	4	mg/L		1		E200.7	10/21/21 20:56 / jcg
Sodium	303	mg/L		1		E200.7	10/21/21 20:56 / jcg
PHYSICAL PROPERTIES							
pH	7.5	s.u.	H	0.1		A4500-H B	10/08/21 13:44 / mnm
pH Measurement Temp	14.3	°C				A4500-H B	10/08/21 13:44 / mnm
Solids, Total Dissolved TDS @ 180 C	1360	mg/L	D	20		A2540 C	10/11/21 12:04 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.01		E353.2	10/12/21 13:49 / nts
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	10/11/21 12:55 / nts
METALS, TOTAL							
Aluminum	0.17	mg/L	D	0.04		E200.8	10/19/21 06:38 / srm
Arsenic	0.004	mg/L		0.001		E200.8	10/19/21 06:38 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 22:41 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:38 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/19/21 06:38 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 22:41 / srm
Manganese	0.073	mg/L	D	0.002		E200.8	10/19/21 06:38 / srm
Molybdenum	0.005	mg/L		0.001		E200.8	10/21/21 22:41 / srm
Nickel	ND	mg/L		0.005		E200.8	10/19/21 06:38 / srm
Selenium	ND	mg/L		0.001		E200.8	10/21/21 22:41 / srm
Uranium	ND	mg/L	D	0.0005		E200.8	10/19/21 06:38 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:38 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.8	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	0.7	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	1	pCi/L	U			E909.0	10/19/21 09:50 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 09:50 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/19/21 09:50 / hat
Radium 226	0.7	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 228	3.7	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 precision (±)	1.0	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 MDC	1.3	pCi/L				RA-05	10/15/21 13:31 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-008
Client Sample ID: TWQ-142

Report Date: 11/27/21
Collection Date: 10/06/21 09:17
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	4.4	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.0	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.3	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.1	pCi/L				A7500-U C	10/27/21 14:31 / sec
Thorium 230 precision (±)	0.05	pCi/L				A7500-U C	10/27/21 14:31 / sec
Thorium 230 MDC	0.07	pCi/L				A7500-U C	10/27/21 14:31 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	1300	mg/L		1.00		A1030 E	10/22/21 14:12 / jlw
A/C Balance	-3.77	%				A1030 E	10/22/21 14:12 / jlw
Anions	20.7	meq/L				A1030 E	10/22/21 14:12 / jlw
Cations	19.2	meq/L				A1030 E	10/22/21 14:12 / jlw
TDS Ratio	1.05	unitless				A1030 E	10/22/21 14:12 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/18/21 15:26 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/18/21 15:26 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/18/21 15:26 / eli-b
Chloroform	0.19	ug/L	J	0.50		E624.1	10/18/21 15:26 / eli-b
Trihalomethanes, Total	ND	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 15:26 / eli-b
Surr: p-Bromofluorobenzene	95.0	%REC		80-127		E624.1	10/18/21 15:26 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	10/18/21 15:26 / eli-b

**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)



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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		TWQ-142	TWQ-142	TWQ-142	TWQ-142
Collection Date:		10/6/2021	7/12/2021	4/13/2021	1/12/2021
Receive Date:		10/7/2021	7/14/2021	4/19/2021	1/15/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-008	C21070550-006	C21040721-004	C21010517-004
Bicarbonate as HCO ₃	mg/L	308	306	309	301
Calcium	mg/L	63	69	65	68
Chloride	mg/L	17	17	17	18
Magnesium	mg/L	34	37	34	33
Potassium	mg/L	4	4	4	4
Sodium	mg/L	303	330	301	335
Sulfate	mg/L	728	709	716	727
pH	s.u.	7.5	7.5	7.46	7.43
pH Measurement Temp	°C	14.3	13.3	15	14
Solids, Total Dissolved TDS @ 180 C	mg/L	1360	1370	1350	1350
Nitrogen, Ammonia as N	mg/L	0.08	0.07	0.12	ND(0.05)
Nitrogen, Nitrate+Nitrite as N	mg/L	0.35	0.42	0.39	0.47
Aluminum	mg/L	0.17	0.33	0.35	0.15
Arsenic	mg/L	0.004	0.002	0.002	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)	ND(0.001)	ND(0.001)
Manganese	mg/L	0.073	0.082	0.056	0.045
Molybdenum	mg/L	0.005	0.006	0.007	0.008
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	ND(0.0005)	0.0003	ND(0.0003)	0.0005
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.8	0.4	0.7	1.2
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.1	0.7	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.7	0.7	0.5	0.6
Lead 210	pCi/L	1	0.6	-0.6	0.3
Lead 210 MDC	pCi/L	1.0	0.8	0.9	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	0.7	1.1	0.2	0.7
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.3	0.2	0.2
Radium 228	pCi/L	3.7	0.4	-0.4	2.4
Radium 228 MDC	pCi/L	1.3	1.4	2.3	0.9
Radium 228 precision (±)	pCi/L	1.0	0.9	1.4	0.8
Thorium 230	pCi/L	0.1	0.04	0.004	0.08
Thorium 230 MDC	pCi/L	0.07	0.07	0.09	0.1
Thorium 230 precision (±)	pCi/L	0.05	0.04	0.05	0.07
A/C Balance	%	-3.77	1.48	-3.18	0.37
Anions	meq/L	20.7	20.3	20.5	20.7
Cations	meq/L	19.2	20.9	19.2	20.8
Solids, Total Dissolved - Calculated	mg/L	1300	1320	1300	1350
TDS Ratio	unitless	1.05	1.04	1.04	1.00
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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-004
Client Sample ID: EPA-2

Report Date: 08/13/21
Collection Date: 07/12/21 12:37
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	254	mg/L		5		A2320 B	07/15/21 20:13 / dmb
Chloride	26	mg/L		1		E300.0	07/17/21 12:27 / dmb
Sulfate	2240	mg/L	D	4		E300.0	07/17/21 12:27 / dmb
Calcium	508	mg/L		1		E200.7	07/15/21 14:02 / meh
Magnesium	248	mg/L		1		E200.7	07/15/21 14:02 / meh
Potassium	9	mg/L		1		E200.7	07/15/21 14:02 / meh
Sodium	240	mg/L	D	3		E200.7	07/15/21 14:02 / meh
PHYSICAL PROPERTIES							
pH	6.9	s.u.	H	0.1		A4500-H B	07/15/21 12:45 / pla
pH Measurement Temp	13.1	°C				A4500-H B	07/15/21 12:45 / pla
Solids, Total Dissolved TDS @ 180 C	3820	mg/L	D	40		A2540 C	07/15/21 11:51 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.26	mg/L		0.01		E353.2	07/19/21 13:12 / dmb
Nitrogen, Ammonia as N	0.19	mg/L		0.05		E350.1	07/15/21 13:18 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/26/21 15:09 / srm
Arsenic	ND	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Cobalt	ND	mg/L		0.005		E200.8	07/19/21 20:09 / jcg
Lead	0.001	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Manganese	2.10	mg/L		0.001		E200.8	07/21/21 15:01 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Nickel	ND	mg/L		0.005		E200.8	07/19/21 20:09 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/19/21 20:09 / jcg
Uranium	0.0013	mg/L	D	0.0005		E200.8	07/21/21 15:01 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 20:09 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	3.0	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	0.3	pCi/L	U			E909.0	07/25/21 01:43 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	07/25/21 01:43 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	07/25/21 01:43 / hat
Radium 226	2.3	pCi/L				E903.0	07/26/21 11:57 / plj
Radium 226 precision (±)	0.5	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	2.5	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	0.9	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.2	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-004
Client Sample ID: EPA-2

Report Date: 08/13/21
Collection Date: 07/12/21 12:37
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.004	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	3390	mg/L		1.00		A1030 E	07/20/21 09:42 / tif
A/C Balance	4.62	%				A1030 E	07/20/21 09:42 / tif
Anions	51.5	meq/L				A1030 E	07/20/21 09:42 / tif
Cations	56.5	meq/L				A1030 E	07/20/21 09:42 / tif
TDS Ratio	1.13	unitless				A1030 E	07/20/21 09:42 / tif
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 13:06 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 13:06 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 13:06 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 13:06 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tif
Surr: 1,2-Dichloroethane-d4	114	%REC		71-139		E624.1	07/20/21 13:06 / eli-b
Surr: p-Bromofluorobenzene	103	%REC		80-127		E624.1	07/20/21 13:06 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/20/21 13:06 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-007
Client Sample ID: EPA-2

Report Date: 11/28/21
Collection Date: 10/08/21 11:30
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	238	mg/L		5		A2320 B	10/15/21 21:44 / kjp
Chloride	29	mg/L		1		E300.0	10/23/21 10:51 / dmb
Sulfate	2510	mg/L	D	4		E300.0	10/23/21 10:51 / dmb
Calcium	480	mg/L		1		E200.7	10/26/21 14:38 / jcg
Magnesium	231	mg/L		1		E200.7	10/26/21 14:38 / jcg
Potassium	8	mg/L		1		E200.7	10/26/21 14:38 / jcg
Sodium	228	mg/L	D	2		E200.7	10/26/21 14:38 / jcg
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	10/13/21 11:03 / mnm
pH Measurement Temp	14.0	°C				A4500-H B	10/13/21 11:03 / mnm
Solids, Total Dissolved TDS @ 180 C	3870	mg/L	D	40		A2540 C	10/13/21 11:12 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.33	mg/L		0.01		E353.2	10/18/21 12:40 / nts
Nitrogen, Ammonia as N	0.25	mg/L		0.05		E350.1	10/19/21 13:15 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/29/21 12:18 / srm
Arsenic	0.002	mg/L		0.001		E200.8	11/04/21 01:54 / jcg
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:31 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 19:11 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 19:11 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 19:11 / srm
Manganese	1.84	mg/L	D	0.002		E200.8	10/21/21 19:11 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 19:11 / srm
Nickel	0.008	mg/L		0.005		E200.8	10/21/21 19:11 / srm
Selenium	ND	mg/L		0.001		E200.8	11/04/21 01:54 / jcg
Uranium	0.0014	mg/L		0.0003		E200.8	10/29/21 12:18 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 19:11 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.7	pCi/L				E900.1	10/22/21 10:47 / amn
Gross Alpha minus Rn & U Precision (±)	0.8	pCi/L				E900.1	10/22/21 10:47 / amn
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 10:47 / amn
Lead 210	0.8	pCi/L	U			E909.0	10/29/21 14:08 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/29/21 14:08 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 14:08 / hat
Radium 226	1.7	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 226 precision (±)	0.4	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 08:52 / amn
Radium 228	4.2	pCi/L				RA-05	10/22/21 12:12 / amn
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/22/21 12:12 / amn
Radium 228 MDC	1	pCi/L				RA-05	10/22/21 12:12 / amn

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
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MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-007
Client Sample ID: EPA-2

Report Date: 11/28/21
Collection Date: 10/08/21 11:30
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	5.9	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	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.009	pCi/L	U			A7500-U C	11/05/21 11:17 / sec
Thorium 230 precision (±)	0.04	pCi/L				A7500-U C	11/05/21 11:17 / sec
Thorium 230 MDC	0.08	pCi/L				A7500-U C	11/05/21 11:17 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3610	mg/L		1.00		A1030 E	10/27/21 16:53 / jlw
A/C Balance	-3.58	%				A1030 E	10/27/21 16:53 / jlw
Anions	57.1	meq/L				A1030 E	10/27/21 16:53 / jlw
Cations	53.1	meq/L				A1030 E	10/27/21 16:53 / jlw
TDS Ratio	1.07	unitless				A1030 E	10/27/21 16:53 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/15/21 21:24 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/15/21 21:24 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/15/21 21:24 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/15/21 21:24 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	11/09/21 11:30 / tif
Surr: 1,2-Dichloroethane-d4	106	%REC		71-139		E624.1	10/15/21 21:24 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	10/15/21 21:24 / eli-b
Surr: Toluene-d8	105	%REC		80-123		E624.1	10/15/21 21:24 / 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)



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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

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 HCO ₃	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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-003
Client Sample ID: EPA-4

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	163	mg/L		5		A2320 B	07/15/21 20:06 / dmb
Chloride	40	mg/L	D	2		E300.0	07/17/21 12:08 / dmb
Sulfate	3110	mg/L	D	8		E300.0	07/17/21 12:08 / dmb
Calcium	538	mg/L		1		E200.7	07/15/21 13:58 / meh
Magnesium	403	mg/L		1		E200.7	07/15/21 13:58 / meh
Potassium	9	mg/L		1		E200.7	07/15/21 13:58 / meh
Sodium	181	mg/L	D	3		E200.7	07/15/21 13:58 / meh
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	07/15/21 12:42 / pla
pH Measurement Temp	13.0	°C				A4500-H B	07/15/21 12:42 / pla
Solids, Total Dissolved TDS @ 180 C	4670	mg/L	D	40		A2540 C	07/15/21 11:51 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.01		E353.2	07/19/21 13:11 / dmb
Nitrogen, Ammonia as N	0.21	mg/L		0.05		E350.1	07/15/21 13:17 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/26/21 15:05 / srm
Arsenic	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Cobalt	ND	mg/L		0.005		E200.8	07/19/21 20:05 / jcg
Lead	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Manganese	3.02	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Nickel	ND	mg/L		0.005		E200.8	07/19/21 20:05 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/19/21 20:05 / jcg
Uranium	0.0003	mg/L		0.0003		E200.8	07/26/21 15:05 / srm
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 20:05 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.1	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	0.02	pCi/L	U			E909.0	07/24/21 22:08 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	07/24/21 22:08 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	07/24/21 22:08 / hat
Radium 226	2.5	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 precision (±)	0.6	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 MDC	0.2	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 228	2.5	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	1	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	07/19/21 17:28 / trs

Report RL - Analyte Reporting Limit
Definitions: 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)
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-003
Client Sample ID: EPA-4

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.005	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.04	pCi/L				A7500-U C	07/27/21 11:35 / mrt
Thorium 230 MDC	0.09	pCi/L				A7500-U C	07/27/21 11:35 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	4370	mg/L		1.00		A1030 E	07/20/21 09:41 / tif
A/C Balance	-0.38	%				A1030 E	07/20/21 09:41 / tif
Anions	68.6	meq/L				A1030 E	07/20/21 09:41 / tif
Cations	68.1	meq/L				A1030 E	07/20/21 09:41 / tif
TDS Ratio	1.07	unitless				A1030 E	07/20/21 09:41 / tif
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 12:40 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 12:40 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 12:40 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 12:40 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tif
Surr: 1,2-Dichloroethane-d4	112	%REC		71-139		E624.1	07/20/21 12:40 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/20/21 12:40 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	07/20/21 12:40 / eli-b

**Report
Definitions:**

RL - Analyte Reporting Limit
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-006
Client Sample ID: EPA-4

Report Date: 11/28/21
Collection Date: 10/08/21 10:17
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	167	mg/L		5		A2320 B	10/15/21 21:37 / kjp
Chloride	42	mg/L	D	2		E300.0	10/23/21 10:32 / dmb
Sulfate	3090	mg/L	D	8		E300.0	10/16/21 11:07 / dmb
Calcium	514	mg/L		1		E200.7	10/26/21 14:34 / jcg
Magnesium	386	mg/L		1		E200.7	10/26/21 14:34 / jcg
Potassium	9	mg/L		1		E200.7	10/26/21 14:34 / jcg
Sodium	175	mg/L	D	2		E200.7	10/26/21 14:34 / jcg
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	10/13/21 11:01 / mnm
pH Measurement Temp	13.6	°C				A4500-H B	10/13/21 11:01 / mnm
Solids, Total Dissolved TDS @ 180 C	4680	mg/L	D	40		A2540 C	10/13/21 11:11 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.30	mg/L		0.01		E353.2	10/18/21 12:39 / nts
Nitrogen, Ammonia as N	0.33	mg/L		0.05		E350.1	10/19/21 13:14 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/29/21 12:13 / srm
Arsenic	ND	mg/L		0.003		E200.8	10/29/21 12:13 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:27 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 12:13 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 19:05 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 19:05 / srm
Manganese	3.27	mg/L	D	0.006		E200.8	11/04/21 01:49 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 19:05 / srm
Nickel	0.008	mg/L		0.005		E200.8	10/21/21 19:05 / srm
Selenium	ND	mg/L		0.001		E200.8	11/04/21 01:49 / jcg
Uranium	0.0003	mg/L		0.0003		E200.8	10/29/21 12:13 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 19:05 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.4	pCi/L				E900.1	10/22/21 10:47 / amm
Gross Alpha minus Rn & U Precision (±)	1	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	0.6	pCi/L	U			E909.0	10/29/21 10:38 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/29/21 10:38 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 10:38 / hat
Radium 226	1.6	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	3.3	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	pCi/L				RA-05	10/22/21 12:12 / amm

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-006
Client Sample ID: EPA-4

Report Date: 11/28/21
Collection Date: 10/08/21 10:17
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	4.9	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.02	pCi/L	U			A7500-U C	11/04/21 13:23 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/04/21 13:23 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 13:23 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4300	mg/L		1.00		A1030 E	10/27/21 16:53 / jlw
A/C Balance	-2.25	%				A1030 E	10/27/21 16:53 / jlw
Anions	68.3	meq/L				A1030 E	10/27/21 16:53 / jlw
Cations	65.3	meq/L				A1030 E	10/27/21 16:53 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/27/21 16:53 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/15/21 20:57 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/15/21 20:57 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/15/21 20:57 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/15/21 20:57 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	107	%REC		71-139		E624.1	10/15/21 20:57 / eli-b
Surr: p-Bromofluorobenzene	104	%REC		80-127		E624.1	10/15/21 20:57 / eli-b
Surr: Toluene-d8	103	%REC		80-123		E624.1	10/15/21 20:57 / eli-b

**Report
Definitions:**

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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		EPA-4	EPA-4	EPA-4	EPA-4
Collection Date:		10/8/2021	7/12/2021	4/13/2021	1/12/2021
Receive Date:		10/12/2021	7/14/2021	4/19/2021	1/15/2021
Report Date:		11/28/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100467-006	C21070550-003	C21040721-003	C21010517-003
Bicarbonate as HCO ₃	mg/L	167	163	166	160
Calcium	mg/L	514	538	507	509
Chloride	mg/L	42	40	39	41
Magnesium	mg/L	386	403	384	385
Potassium	mg/L	9	9	8	9
Sodium	mg/L	175	181	168	179
Sulfate	mg/L	3090	3110	3050	3020
pH	s.u.	6.8	6.8	6.78	6.84
pH Measurement Temp	°C	13.6	13.0	15	14
Solids, Total Dissolved TDS @ 180 C	mg/L	4680	4670	4600	4610
Nitrogen, Ammonia as N	mg/L	0.33	0.21	0.23	0.19
Nitrogen, Nitrate+Nitrite as N	mg/L	0.30	0.31	0.34	0.38
Aluminum	mg/L	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
Arsenic	mg/L	ND(0.003)	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)	ND(0.001)	ND(0.001)
Manganese	mg/L	3.27	3.02	3.35	3.38
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
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	0.0003	0.0003	ND(0.0003)	ND(0.0003)
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	2.4	2.1	2.3	1.8
Gross Alpha minus Rn & U MDC	pCi/L	1.1	1.1	0.7	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	1	1.0	0.7	0.7
Lead 210	pCi/L	0.6	0.02	-0.2	0.2
Lead 210 MDC	pCi/L	0.9	0.8	0.9	1
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	1.6	2.5	-0.1	1.9
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.4	0.6	0.1	0.5
Radium 228	pCi/L	3.3	2.5	1.6	2.8
Radium 228 MDC	pCi/L	1	1.2	2.4	0.9
Radium 228 precision (±)	pCi/L	1	1	1.0	0.9
Thorium 230	pCi/L	0.02	0.005	-0.02	0.1
Thorium 230 MDC	pCi/L	0.1	0.09	0.1	0.08
Thorium 230 precision (±)	pCi/L	0.07	0.04	0.07	0.07
A/C Balance	%	-2.25	-0.38	-2.24	-1.23
Anions	meq/L	68.3	68.6	67.4	66.7
Cations	meq/L	65.3	68.1	64.4	65.1
Solids, Total Dissolved - Calculated	mg/L	4300	4370	4240	4220
TDS Ratio	unitless	1.09	1.07	1.08	1.09
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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-002
Client Sample ID: EPA-5

Report Date: 08/13/21
Collection Date: 07/12/21 10:06
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	124	mg/L		5		A2320 B	07/15/21 19:59 / dmb
Chloride	75	mg/L	D	2		E300.0	07/17/21 11:48 / dmb
Sulfate	3370	mg/L	D	8		E300.0	07/17/21 11:48 / dmb
Calcium	480	mg/L		1		E200.7	07/15/21 13:54 / meh
Magnesium	510	mg/L		1		E200.7	07/15/21 13:54 / meh
Potassium	13	mg/L		1		E200.7	07/15/21 13:54 / meh
Sodium	133	mg/L	D	3		E200.7	07/15/21 13:54 / meh
PHYSICAL PROPERTIES							
pH	6.5	s.u.	H	0.1		A4500-H B	07/15/21 12:39 / pla
pH Measurement Temp	12.1	°C				A4500-H B	07/15/21 12:39 / pla
Solids, Total Dissolved TDS @ 180 C	5040	mg/L	D	40		A2540 C	07/15/21 11:51 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	16.6	mg/L	D	0.05		E353.2	07/19/21 13:10 / dmb
Nitrogen, Ammonia as N	19	mg/L	D	1		E350.1	07/15/21 13:16 / dmb
METALS, TOTAL							
Aluminum	0.04	mg/L	D	0.04		E200.8	07/19/21 20:01 / jcg
Arsenic	ND	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Cobalt	0.025	mg/L		0.005		E200.8	07/19/21 20:01 / jcg
Lead	ND	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Manganese	0.321	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Nickel	0.019	mg/L		0.005		E200.8	07/19/21 20:01 / jcg
Selenium	0.002	mg/L		0.001		E200.8	07/19/21 20:01 / jcg
Uranium	0.0127	mg/L	D	0.0005		E200.8	07/21/21 14:52 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 20:01 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	3.5	pCi/L				E900.1	07/19/21 08:07 / amm
Gross Alpha minus Rn & U Precision (±)	1.1	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	0.2	pCi/L	U			E909.0	07/24/21 18:38 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	07/24/21 18:38 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	07/24/21 18:38 / hat
Radium 226	2.4	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 precision (±)	0.5	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 MDC	0.2	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 228	0.4	pCi/L	U			RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.2	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)
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-002
Client Sample ID: EPA-5

Report Date: 08/13/21
Collection Date: 07/12/21 10:06
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.08	pCi/L	U			A7500-U C	07/27/21 11:35 / mrt
Thorium 230 precision (±)	0.09	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	4710	mg/L		1.00		A1030 E	07/20/21 09:41 / tif
A/C Balance	-1.37	%				A1030 E	07/20/21 09:41 / tif
Anions	75.5	meq/L				A1030 E	07/20/21 09:41 / tif
Cations	73.4	meq/L				A1030 E	07/20/21 09:41 / tif
TDS Ratio	1.07	unitless				A1030 E	07/20/21 09:41 / tif
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 12:15 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 12:15 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 12:15 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 12:15 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tif
Surr: 1,2-Dichloroethane-d4	115	%REC		71-139		E624.1	07/20/21 12:15 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/20/21 12:15 / eli-b
Surr: Toluene-d8	99.0	%REC		80-123		E624.1	07/20/21 12:15 / 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: C21100467-005
Client Sample ID: EPA-5

Report Date: 11/28/21
Collection Date: 10/08/21 09:12
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	110	mg/L		5		A2320 B	10/15/21 21:30 / kjp
Chloride	51	mg/L	D	2		E300.0	10/16/21 10:48 / dmb
Sulfate	3280	mg/L	D	8		E300.0	10/16/21 10:48 / dmb
Calcium	447	mg/L		1		E200.7	10/26/21 14:22 / jcg
Magnesium	459	mg/L		1		E200.7	10/26/21 14:22 / jcg
Potassium	12	mg/L		1		E200.7	10/21/21 22:36 / jcg
Sodium	108	mg/L		1		E200.7	10/21/21 22:36 / jcg
PHYSICAL PROPERTIES							
pH	6.4	s.u.	H	0.1		A4500-H B	10/13/21 10:58 / mnm
pH Measurement Temp	13.4	°C				A4500-H B	10/13/21 10:58 / mnm
Solids, Total Dissolved TDS @ 180 C	4820	mg/L	D	40		A2540 C	10/13/21 11:11 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	16.6	mg/L	D	0.1		E353.2	10/18/21 12:38 / nts
Nitrogen, Ammonia as N	21	mg/L	D	1		E350.1	10/19/21 13:13 / nts
METALS, TOTAL							
Aluminum	0.13	mg/L	D	0.04		E200.8	10/21/21 19:00 / srm
Arsenic	ND	mg/L		0.003		E200.8	10/29/21 12:08 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:15 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 19:00 / srm
Cobalt	0.026	mg/L		0.005		E200.8	10/21/21 19:00 / srm
Lead	0.004	mg/L		0.001		E200.8	10/29/21 12:08 / srm
Manganese	0.287	mg/L	D	0.002		E200.8	10/21/21 19:00 / srm
Molybdenum	ND	mg/L		0.001		E200.8	10/21/21 19:00 / srm
Nickel	0.026	mg/L		0.005		E200.8	10/21/21 19:00 / srm
Selenium	ND	mg/L		0.001		E200.8	10/21/21 19:00 / srm
Uranium	0.0088	mg/L	D	0.0005		E200.8	10/21/21 19:00 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 19:00 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	2.4	pCi/L				E900.1	10/22/21 09:07 / ammm
Gross Alpha minus Rn & U Precision (±)	1.0	pCi/L				E900.1	10/22/21 09:07 / ammm
Gross Alpha minus Rn & U MDC	1.1	pCi/L				E900.1	10/22/21 09:07 / ammm
Lead 210	0.3	pCi/L	U			E909.0	10/29/21 07:01 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	10/29/21 07:01 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	10/29/21 07:01 / hat
Radium 226	1.8	pCi/L				E903.0	10/27/21 08:52 / ammm
Radium 226 precision (±)	0.4	pCi/L				E903.0	10/27/21 08:52 / ammm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 08:52 / ammm
Radium 228	1.6	pCi/L				RA-05	10/22/21 12:12 / ammm
Radium 228 precision (±)	0.8	pCi/L				RA-05	10/22/21 12:12 / ammm
Radium 228 MDC	1.0	pCi/L				RA-05	10/22/21 12:12 / ammm

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 1
Lab ID: C21100467-005
Client Sample ID: EPA-5

Report Date: 11/28/21
Collection Date: 10/08/21 09:12
Date Received: 10/12/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	3.4	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	1.0	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.03	pCi/L	U			A7500-U C	11/04/21 13:23 / sec
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	11/04/21 13:23 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	11/04/21 13:23 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4480	mg/L		1.00		A1030 E	10/27/21 17:03 / jlw
A/C Balance	-4.35	%				A1030 E	10/27/21 17:03 / jlw
Anions	72.7	meq/L				A1030 E	10/27/21 17:03 / jlw
Cations	66.6	meq/L				A1030 E	10/27/21 17:03 / jlw
TDS Ratio	1.08	unitless				A1030 E	10/27/21 17:03 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/15/21 20:30 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/15/21 20:30 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/15/21 20:30 / eli-b
Chloroform	0.24	ug/L	J	0.50		E624.1	10/15/21 20:30 / eli-b
Trihalomethanes, Total	0.24	ug/L	J	0.50		E624.1	11/09/21 11:30 / tlf
Surr: 1,2-Dichloroethane-d4	109	%REC		71-139		E624.1	10/15/21 20:30 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	10/15/21 20:30 / eli-b
Surr: Toluene-d8	105	%REC		80-123		E624.1	10/15/21 20:30 / eli-b

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)



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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		EPA-5	EPA-5	EPA-5	EPA-5
Collection Date:		10/7/2021	7/12/2021	4/13/2021	1/12/2021
Receive Date:		10/12/2021	7/14/2021	4/19/2021	1/15/2021
Report Date:		11/28/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100467-005	C21070550-002	C21040721-002	C21010517-002
Bicarbonate as HCO ₃	mg/L	110	124	189	132
Calcium	mg/L	447	480	476	481
Chloride	mg/L	51	75	84	65
Magnesium	mg/L	459	510	527	494
Potassium	mg/L	12	13	12	12
Sodium	mg/L	108	133	139	129
Sulfate	mg/L	3280	3370	3290	3260
pH	s.u.	6.4	6.5	6.34	6.34
pH Measurement Temp	°C	13.4	12.1	15	13
Solids, Total Dissolved TDS @ 180 C	mg/L	4820	5040	5120	4890
Nitrogen, Ammonia as N	mg/L	21	19	18	19
Nitrogen, Nitrate+Nitrite as N	mg/L	16.6	16.6	12.0	19.2
Aluminum	mg/L	0.13	0.04	0.09	0.15
Arsenic	mg/L	ND(0.003)	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	0.026	0.025	0.028	0.032
Lead	mg/L	0.004	ND(0.001)	0.001	0.001
Manganese	mg/L	0.287	0.321	0.406	0.317
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.026	0.019	0.021	0.027
Selenium	mg/L	ND(0.001)	0.002	0.002	0.001
Uranium	mg/L	0.0088	0.0127	0.0171	0.0084
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	2.4	3.5	1.6	2.0
Gross Alpha minus Rn & U MDC	pCi/L	1.1	1.1	0.7	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	1.0	1.1	0.6	0.7
Lead 210	pCi/L	0.3	0.2	-0.5	0.09
Lead 210 MDC	pCi/L	0.9	0.8	0.9	1
Lead 210 precision (±)	pCi/L	0.5	0.5	0.5	0.6
Radium 226	pCi/L	1.8	2.4	0.8	1.5
Radium 226 MDC	pCi/L	0.2	0.2	0.1	0.2
Radium 226 precision (±)	pCi/L	0.4	0.5	0.1	0.4
Radium 228	pCi/L	1.6	0.4	0.3	2.7
Radium 228 MDC	pCi/L	1.0	1.2	1.6	0.9
Radium 228 precision (±)	pCi/L	0.8	0.7	0.9	0.8
Thorium 230	pCi/L	0.03	0.08	0.007	0.4
Thorium 230 MDC	pCi/L	0.1	0.1	0.1	0.08
Thorium 230 precision (±)	pCi/L	0.07	0.09	0.05	0.1
A/C Balance	%	-4.35	-1.37	0	-0.92
Anions	meq/L	72.7	75.5	74.8	73.3
Cations	meq/L	66.6	73.4	74.8	72.0
Solids, Total Dissolved - Calculated	mg/L	4480	4710	4670	4590
TDS Ratio	unitless	1.08	1.07	1.10	1.07
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)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-001
Client Sample ID: EPA-7

Report Date: 08/13/21
Collection Date: 07/12/21 09:12
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	441	mg/L		5		A2320 B	07/15/21 19:53 / dmb
Chloride	249	mg/L	D	2		E300.0	07/28/21 16:45 / dmb
Sulfate	4630	mg/L	D	8		E300.0	07/28/21 16:45 / dmb
Calcium	499	mg/L		1		E200.7	07/15/21 13:50 / meh
Magnesium	886	mg/L		1		E200.7	07/15/21 13:50 / meh
Potassium	11	mg/L		1		E200.7	07/15/21 13:50 / meh
Sodium	343	mg/L	D	3		E200.7	07/15/21 13:50 / meh
PHYSICAL PROPERTIES							
pH	6.2	s.u.	H	0.1		A4500-H B	07/15/21 12:36 / pla
pH Measurement Temp	12.6	°C				A4500-H B	07/15/21 12:36 / pla
Solids, Total Dissolved TDS @ 180 C	7390	mg/L	D	100		A2540 C	07/15/21 11:51 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	91.0	mg/L	D	0.5		E353.2	07/19/21 13:08 / dmb
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/15/21 13:15 / dmb
METALS, TOTAL							
Aluminum	0.40	mg/L	D	0.04		E200.8	07/19/21 19:56 / jcg
Arsenic	ND	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Cadmium	0.001	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Cobalt	0.173	mg/L		0.005		E200.8	07/19/21 19:56 / jcg
Lead	ND	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Manganese	4.74	mg/L	D	0.002		E200.8	07/19/21 19:56 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Nickel	0.204	mg/L		0.005		E200.8	07/19/21 19:56 / jcg
Selenium	0.090	mg/L		0.001		E200.8	07/19/21 19:56 / jcg
Uranium	0.0013	mg/L	D	0.0005		E200.8	07/21/21 14:48 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/19/21 19:56 / jcg
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.8	pCi/L				E900.1	07/19/21 08:07 / amm
Gross Alpha minus Rn & U Precision (±)	0.8	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	0.3	pCi/L	U			E909.0	07/24/21 15:11 / hat
Lead 210 precision (±)	0.5	pCi/L				E909.0	07/24/21 15:11 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	07/24/21 15:11 / hat
Radium 226	2.1	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 precision (±)	0.5	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 226 MDC	0.1	pCi/L				E903.0	07/26/21 10:23 / plj
Radium 228	0.5	pCi/L	U			RA-05	07/19/21 17:28 / trs
Radium 228 precision (±)	0.7	pCi/L				RA-05	07/19/21 17:28 / trs
Radium 228 MDC	1.1	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 1
Lab ID: C21070550-001
Client Sample ID: EPA-7

Report Date: 08/13/21
Collection Date: 07/12/21 09:12
Date Received: 07/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	-0.01	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	7250	mg/L		1.00		A1030 E	07/30/21 12:40 / jlw
A/C Balance	-1.81	%				A1030 E	07/30/21 12:40 / jlw
Anions	117	meq/L				A1030 E	07/30/21 12:40 / jlw
Cations	113	meq/L				A1030 E	07/30/21 12:40 / jlw
TDS Ratio	1.02	unitless				A1030 E	07/30/21 12:40 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 11:50 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 11:50 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 11:50 / eli-b
Chloroform	0.32	ug/L	J	0.50		E624.1	07/20/21 11:50 / eli-b
Trihalomethanes, Total	0.32	ug/L	J	0.50		E624.1	07/23/21 16:42 / tlf
Surr: 1,2-Dichloroethane-d4	110	%REC		71-139		E624.1	07/20/21 11:50 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/20/21 11:50 / eli-b
Surr: Toluene-d8	100	%REC		80-123		E624.1	07/20/21 11:50 / eli-b

**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)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-004
Client Sample ID: EPA-7

Report Date: 11/19/21
Collection Date: 10/04/21 12:35
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	422	mg/L		5		A2320 B	10/08/21 18:30 / kjp
Chloride	238	mg/L	D	2		E300.0	10/09/21 03:54 / dmb
Sulfate	4700	mg/L	D	40		E300.0	10/12/21 18:16 / dmb
Calcium	443	mg/L		1		E200.7	10/13/21 14:24 / jcg
Magnesium	775	mg/L		1		E200.7	10/13/21 14:24 / jcg
Potassium	12	mg/L		1		E200.7	10/13/21 14:24 / jcg
Sodium	295	mg/L	D	3		E200.7	10/13/21 14:24 / jcg
PHYSICAL PROPERTIES							
pH	6.2	s.u.	H	0.1		A4500-H B	10/07/21 11:54 / mnm
pH Measurement Temp	16.7	°C				A4500-H B	10/07/21 11:54 / mnm
Solids, Total Dissolved TDS @ 180 C	7300	mg/L	D	100		A2540 C	10/07/21 10:19 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	83.0	mg/L	D	0.2		E353.2	10/07/21 14:05 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/11/21 11:53 / nts
METALS, TOTAL							
Aluminum	0.23	mg/L	D	0.04		E200.8	10/29/21 17:52 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/18/21 15:42 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/27/21 00:02 / jcg
Cadmium	0.001	mg/L		0.001		E200.8	10/18/21 15:42 / srm
Cobalt	0.202	mg/L		0.005		E200.8	10/18/21 15:42 / srm
Lead	ND	mg/L		0.001		E200.8	10/18/21 15:42 / srm
Manganese	5.40	mg/L	D	0.002		E200.8	10/18/21 15:42 / srm
Molybdenum	ND	mg/L		0.001		E200.8	11/04/21 02:53 / jcg
Nickel	0.228	mg/L		0.005		E200.8	10/18/21 15:42 / srm
Selenium	0.086	mg/L		0.001		E200.8	10/18/21 15:42 / srm
Uranium	0.0013	mg/L	D	0.0005		E200.8	10/29/21 17:52 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:42 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1.1	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	0.4	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	0.5	pCi/L	U			E909.0	10/17/21 16:01 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/17/21 16:01 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/17/21 16:01 / hat
Radium 226	1	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	0.2	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	1.4	pCi/L	U			RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 MDC	1.6	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
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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-004
Client Sample ID: EPA-7

Report Date: 11/19/21
Collection Date: 10/04/21 12:35
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	2.4	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.2	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	0.04	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.06	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	6670	mg/L		1.00		A1030 E	10/15/21 14:42 / jlw
A/C Balance	-5.89	%				A1030 E	10/15/21 14:42 / jlw
Anions	111	meq/L				A1030 E	10/15/21 14:42 / jlw
Cations	99.0	meq/L				A1030 E	10/15/21 14:42 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/15/21 14:42 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 18:45 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 18:45 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 18:45 / etad
Chloroform	1.7	ug/L		1.0		E624.1	10/14/21 18:45 / etad
Trihalomethanes, Total	1.7	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	107	%REC		73-122		E624.1	10/14/21 18:45 / etad
Surr: p-Bromofluorobenzene	88.0	%REC		79-119		E624.1	10/14/21 18:45 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 18:45 / etad

**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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Guideline 8: Sweetwater

Well ID:		EPA-7	EPA-7	EPA-7	EPA-7
Collection Date:		10/4/2021	7/12/2021	4/13/2021	1/12/2021
Receive Date:		10/6/2021	7/14/2021	4/19/2021	1/15/2021
Report Date:		11/19/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100250-004	C21070550-001	C21040721-001	C21010517-001
Bicarbonate as HCO ₃	mg/L	422	441	450	458
Calcium	mg/L	443	499	483	513
Chloride	mg/L	238	249	245	257
Magnesium	mg/L	775	886	842	862
Potassium	mg/L	12	11	10	10
Sodium	mg/L	295	343	326	370
Sulfate	mg/L	4700	4630	4680	4620
pH	s.u.	6.2	6.2	6.01	6.23
pH Measurement Temp	°C	16.7	12.6	15	14
Solids, Total Dissolved TDS @ 180 C	mg/L	7300	7390	7530	7520
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	83.0	91.0	89	95.5
Aluminum	mg/L	0.23	0.40	1.06	1.26
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	0.001	0.001	0.001	0.001
Cobalt	mg/L	0.202	0.173	0.171	0.158
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	5.40	4.74	4.41	4.22
Molybdenum	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.228	0.204	0.204	0.184
Selenium	mg/L	0.086	0.090	0.089	0.097
Uranium	mg/L	0.0013	0.0013	0.0013	0.0014
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	1.1	1.8	1.3	1.7
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.1	0.7	0.8
Gross Alpha minus Rn & U Precision (±)	pCi/L	0.4	0.8	0.5	0.7
Lead 210	pCi/L	0.5	0.3	-0.6	-0.05
Lead 210 MDC	pCi/L	1.0	0.8	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.5	0.5	0.6
Radium 226	pCi/L	1	2.1	0.2	1.1
Radium 226 MDC	pCi/L	0.2	0.1	0.2	0.2
Radium 226 precision (±)	pCi/L	0.2	0.5	0.1	0.3
Radium 228	pCi/L	1.4	0.5	1.1	1.9
Radium 228 MDC	pCi/L	1.6	1.1	2.1	0.8
Radium 228 precision (±)	pCi/L	1.1	0.7	1.0	0.7
Thorium 230	pCi/L	0.04	-0.01	0.05	0.1
Thorium 230 MDC	pCi/L	0.1	0.1	0.08	0.1
Thorium 230 precision (±)	pCi/L	0.06	0.06	0.04	0.08
A/C Balance	%	-5.89	-1.81	-4.51	-2.09
Anions	meq/L	111	117	118	118
Cations	meq/L	99.0	113	108	113
Solids, Total Dissolved - Calculated	mg/L	6670	7250	7200	7280
TDS Ratio	unitless	1.09	1.02	1.05	1.03
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	1.7	ND(0.50)	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	1.7	ND(0.50)	ND(0.50)	ND(0.50)

QUARTERLY SAMPLING
SEMI-ANNUAL GROUND WATER MONITORING REPORT
JULY TO DECEMBER OF 2021

ZONE-3

*517

EPA-14

*711

*613

*708

EPA-13

717

719

LEVELS ONLY

EPA-9

702

710

712

713

714

701

706

707

402

446

424

420

NOTE: *POINT OF COMPLIANCE WELLS
WATER LEVEL ONLY IS IN FIELD DATA SHEET

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-001
Client Sample ID: 517

Report Date: 08/13/21
Collection Date: 07/13/21 09:15
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	650	mg/L				A2310 B	07/23/21 13:27 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/17/21 11:25 / dmb
Chloride	32	mg/L	D	2		E300.0	07/20/21 01:06 / dmb
Sulfate	4480	mg/L	D	8		E300.0	07/20/21 01:06 / dmb
Calcium	464	mg/L	D	3		E200.7	07/19/21 14:58 / meh
Magnesium	616	mg/L		1		E200.7	07/19/21 14:58 / meh
Potassium	12	mg/L	D	2		E200.7	07/19/21 14:58 / meh
Sodium	151	mg/L	D	5		E200.7	07/19/21 14:58 / meh
PHYSICAL PROPERTIES							
pH	3.1	s.u.	H	0.1		A4500-H B	07/16/21 15:33 / pla
pH Measurement Temp	11.7	°C				A4500-H B	07/16/21 15:33 / pla
Solids, Total Dissolved TDS @ 180 C	6420	mg/L	D	40		A2540 C	07/19/21 09:19 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.01	mg/L		0.01		E353.2	07/19/21 14:32 / dmb
Nitrogen, Ammonia as N	5.9	mg/L	D	0.2		E350.1	07/22/21 15:01 / dmb
METALS, TOTAL							
Aluminum	18.6	mg/L	D	0.2		E200.8	07/22/21 21:04 / jcg
Arsenic	0.004	mg/L		0.001		E200.8	07/22/21 01:57 / meh
Beryllium	0.023	mg/L		0.001		E200.8	07/26/21 14:02 / srm
Cadmium	0.004	mg/L		0.001		E200.8	07/22/21 01:57 / meh
Cobalt	0.750	mg/L		0.005		E200.8	07/22/21 01:57 / meh
Lead	0.015	mg/L		0.001		E200.8	07/22/21 01:57 / meh
Manganese	12.4	mg/L	D	0.007		E200.8	07/22/21 21:04 / jcg
Molybdenum	ND	mg/L		0.001		E200.8	07/22/21 01:57 / meh
Nickel	0.677	mg/L		0.005		E200.8	07/22/21 01:57 / meh
Selenium	ND	mg/L		0.001		E200.8	07/22/21 01:57 / meh
Uranium	0.400	mg/L	D	0.0005		E200.8	07/22/21 01:57 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 01:57 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	29.1	pCi/L				E900.1	07/19/21 10:10 / amm
Gross Alpha minus Rn & U Precision (±)	6.0	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	2.3	pCi/L				E909.0	08/08/21 22:41 / hat
Lead 210 precision (±)	0.9	pCi/L				E909.0	08/08/21 22:41 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	08/08/21 22:41 / hat
Radium 226	6.3	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 226 precision (±)	1.3	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	6.0	pCi/L				RA-05	07/27/21 11:36 / trs
Radium 228 precision (±)	1.3	pCi/L				RA-05	07/27/21 11:36 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-001
Client Sample ID: 517

Report Date: 08/13/21
Collection Date: 07/13/21 09:15
Date Received: 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	16.4	pCi/L				A7500-U C	07/28/21 15:36 / mrt
Thorium 230 precision (±)	3.1	pCi/L				A7500-U C	07/28/21 15:36 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/28/21 15:36 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5770	mg/L		1.00		A1030 E	07/23/21 15:14 / jlw
A/C Balance	0	%				A1030 E	07/23/21 15:14 / jlw
Anions	94.2	meq/L				A1030 E	07/23/21 15:14 / jlw
Cations	94.2	meq/L				A1030 E	07/23/21 15:14 / jlw
TDS Ratio	1.11	unitless				A1030 E	07/23/21 15:14 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 14:33 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 14:33 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 14:33 / eli-b
Chloroform	2.7	ug/L		0.50		E624.1	07/20/21 14:33 / eli-b
Trihalomethanes, Total	2.7	ug/L		0.50		E624.1	07/23/21 16:42 / tif
Surr: 1,2-Dichloroethane-d4	117	%REC		71-139		E624.1	07/20/21 14:33 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/20/21 14:33 / eli-b
Surr: Toluene-d8	97.0	%REC		80-123		E624.1	07/20/21 14:33 / 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 & Zone 1
Lab ID: C21100328-001
Client Sample ID: 517

Report Date: 11/27/21
Collection Date: 10/05/21 08:43
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	670	mg/L				A2310 B	10/15/21 15:40 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/11/21 19:34 / kjp
Chloride	31	mg/L	D	2		E300.0	10/13/21 08:19 / dmb
Sulfate	4340	mg/L	D	8		E300.0	10/13/21 08:19 / dmb
Calcium	453	mg/L		1		E200.7	10/29/21 11:37 / jcg
Magnesium	629	mg/L		1		E200.7	10/29/21 11:37 / jcg
Potassium	10	mg/L		1		E200.7	11/01/21 23:06 / jcg
Sodium	151	mg/L		1		E200.7	11/01/21 23:06 / jcg
PHYSICAL PROPERTIES							
pH	3.0	s.u.	H	0.1		A4500-H B	10/08/21 13:22 / mnm
pH Measurement Temp	14.1	°C				A4500-H B	10/08/21 13:22 / mnm
Solids, Total Dissolved TDS @ 180 C	6280	mg/L	D	40		A2540 C	10/11/21 08:32 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	10/12/21 11:52 / nts
Nitrogen, Ammonia as N	5.9	mg/L	D	0.5		E350.1	10/11/21 12:40 / nts
METALS, TOTAL							
Aluminum	22.1	mg/L	D	0.2		E200.8	10/26/21 22:31 / srm
Arsenic	0.005	mg/L		0.001		E200.8	10/19/21 05:34 / srm
Beryllium	0.022	mg/L		0.001		E200.8	10/19/21 05:34 / srm
Cadmium	0.005	mg/L		0.001		E200.8	10/19/21 05:34 / srm
Cobalt	0.775	mg/L		0.005		E200.8	10/19/21 05:34 / srm
Lead	0.013	mg/L		0.001		E200.8	10/19/21 05:34 / srm
Manganese	12.7	mg/L	D	0.006		E200.8	10/21/21 20:41 / srm
Molybdenum	0.001	mg/L		0.001		E200.8	10/19/21 05:34 / srm
Nickel	0.673	mg/L		0.005		E200.8	10/19/21 05:34 / srm
Selenium	ND	mg/L	D	0.002		E200.8	10/23/21 05:04 / srm
Uranium	0.430	mg/L	D	0.0005		E200.8	10/19/21 05:34 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 05:34 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	28.2	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	5.7	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	1.4	pCi/L				E909.0	10/18/21 11:20 / hat
Lead 210 precision (±)	0.8	pCi/L				E909.0	10/18/21 11:20 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/18/21 11:20 / hat
Radium 226	7.5	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 226 precision (±)	1.5	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 228	8.4	pCi/L				RA-05	10/15/21 11:57 / trs
Radium 228 precision (±)	1.7	pCi/L				RA-05	10/15/21 11:57 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-001
Client Sample ID: 517

Report Date: 11/27/21
Collection Date: 10/05/21 08:43
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1	pCi/L				RA-05	10/15/21 11:57 / trs
Radium 226 + Radium 228	15.8	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	2.3	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	14.2	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 precision (±)	2.7	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	5610	mg/L		1.00		A1030 E	11/02/21 15:28 / jlw
A/C Balance	1.86	%				A1030 E	11/02/21 15:28 / jlw
Anions	91.5	meq/L				A1030 E	11/02/21 15:28 / jlw
Cations	94.9	meq/L				A1030 E	11/02/21 15:28 / jlw
TDS Ratio	1.12	unitless				A1030 E	11/02/21 15:28 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 13:48 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 13:48 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 13:48 / etad
Chloroform	4.1	ug/L		1.0		E624.1	10/15/21 13:48 / etad
Trihalomethanes, Total	4.1	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/15/21 13:48 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		79-119		E624.1	10/15/21 13:48 / etad
Surr: Toluene-d8	99.0	%REC		80-120		E624.1	10/15/21 13:48 / 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:		517	517	517	517
Collection Date:		10/5/2021	7/13/2021	4/12/2021	1/11/2021
Receive Date:		10/7/2021	7/15/2021	4/14/2021	1/14/2021
Report Date:		11/19/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-001	C21070606-001	C21040618-001	C21010503-001
Anions	meq/L	91.5	94.2	97.8	90.3
Cations	meq/L	94.9	94.2	95.6	82.7
Solids, Total Dissolved - Calculated	mg/L	5610	5770	5890	5450
TDS Ratio	unitless	1.12	1.11	1.06	1.15
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	4.1	2.7	2.7	3.3
Trihalomethanes, Total	ug/L	4.1	2.7	2.7	3.3
Acidity, Total as CaCO ₃	mg/L	670	650	760	
Bicarbonate as HCO ₃	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	453	464	433	420
Chloride	mg/L	31	32	58	32
Magnesium	mg/L	629	616	623	562
Potassium	mg/L	10	12	12	11
Sodium	mg/L	151	151	157	139
Sulfate	mg/L	4340	4480	4610	4270
pH	s.u.	3.0	3.1	2.96	3.13
pH Measurement Temp	°C	14.1	11.7	14	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6280	6420	6230	6270
Nitrogen, Ammonia as N	mg/L	5.9	5.9	5.5	6.2
Nitrogen, Nitrate+Nitrite as N	mg/L	0.06	0.01	0.05	0.03
Aluminum	mg/L	22.1	18.6	21.5	21.0
Arsenic	mg/L	0.005	0.004	0.003	0.003
Beryllium	mg/L	0.022	0.023	0.020	0.018
Cadmium	mg/L	0.005	0.004	0.005	0.005
Cobalt	mg/L	0.775	0.750	0.774	0.840
Lead	mg/L	0.013	0.015	0.012	0.010
Manganese	mg/L	12.7	12.4	12.7	13.9
Molybdenum	mg/L	0.001	ND(0.001)	ND(0.001)	ND(0.001)
Nickel	mg/L	0.673	0.677	0.711	0.767
Selenium	mg/L	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.430	0.400	0.370	0.364
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	28.2	29.1	37.3	23.5
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.3	0.8	1.3
Gross Alpha minus Rn & U Precision (±)	pCi/L	5.7	6.0	7.4	4.9
Lead 210	pCi/L	1.4	2.3	0.5	1.1
Lead 210 MDC	pCi/L	1.1	0.9	1.0	1.1
Lead 210 precision (±)	pCi/L	0.8	0.9	0.6	0.8
Radium 226	pCi/L	7.5	6.3	4.9	6.8
Radium 226 MDC	pCi/L	0.2	0.2	0.08	0.2
Radium 226 precision (±)	pCi/L	1.5	1.3	1	1.3
Radium 228	pCi/L	8.4	6.0	12.4	13.5
Radium 228 MDC	pCi/L	1	0.9	1.1	1.0
Radium 228 precision (±)	pCi/L	1.7	1.3	2.4	2.6
Thorium 230	pCi/L	14.2	16.4	12.9	4.9
Thorium 230 MDC	pCi/L	0.6	0.2	0.2	0.2
Thorium 230 precision (±)	pCi/L	2.7	3.1	2.4	0.9
A/C Balance	%	1.86	0	-1.13	-4.41

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-004
Client Sample ID: EPA-14

Report Date: 08/13/21
Collection Date: 07/05/21 11:25
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	111	mg/L		5		A2320 B	07/08/21 17:10 / kjp
Chloride	47	mg/L		1		E300.0	07/09/21 21:21 / dmb
Sulfate	2470	mg/L	D	4		E300.0	07/09/21 21:21 / dmb
Calcium	506	mg/L		1		E200.7	07/08/21 12:36 / meh
Magnesium	290	mg/L		1		E200.7	07/08/21 12:36 / meh
Potassium	9	mg/L		1		E200.7	07/08/21 12:36 / meh
Sodium	146	mg/L	D	3		E200.7	07/08/21 12:36 / meh
PHYSICAL PROPERTIES							
pH	5.9	s.u.	H	0.1		A4500-H B	07/08/21 14:53 / pla
pH Measurement Temp	16.1	°C				A4500-H B	07/08/21 14:53 / pla
Solids, Total Dissolved TDS @ 180 C	3770	mg/L	D	40		A2540 C	07/09/21 13:40 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.01		E353.2	07/12/21 14:34 / dmb
Nitrogen, Ammonia as N	7.6	mg/L	D	0.5		E350.1	07/09/21 10:31 / dmb
METALS, TOTAL							
Aluminum	2.64	mg/L	D	0.04		E200.8	07/15/21 21:26 / jcg
Arsenic	0.001	mg/L		0.001		E200.8	07/15/21 21:26 / jcg
Beryllium	0.004	mg/L		0.001		E200.8	07/21/21 22:51 / meh
Cadmium	0.002	mg/L		0.001		E200.8	07/15/21 21:26 / jcg
Cobalt	0.250	mg/L		0.005		E200.8	07/15/21 21:26 / jcg
Lead	0.006	mg/L		0.001		E200.8	07/15/21 21:26 / jcg
Manganese	4.56	mg/L	D	0.002		E200.8	07/15/21 21:26 / jcg
Molybdenum	0.030	mg/L		0.001		E200.8	07/15/21 21:26 / jcg
Nickel	0.188	mg/L		0.005		E200.8	07/15/21 21:26 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/15/21 21:26 / jcg
Uranium	0.0362	mg/L	D	0.0005		E200.8	07/15/21 21:26 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/21/21 22:51 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	5.9	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	1.7	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	1.4	pCi/L				E909.0	07/15/21 11:52 / hat
Lead 210 precision (±)	0.8	pCi/L				E909.0	07/15/21 11:52 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/15/21 11:52 / hat
Radium 226	5.6	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 precision (±)	1.1	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	6.2	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	1.4	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 MDC	1	pCi/L				RA-05	07/12/21 13:50 / trs

Report RL - Analyte Reporting Limit
Definitions: 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 3 & Zone 1
Lab ID: C21070218-004
Client Sample ID: EPA-14

Report Date: 08/13/21
Collection Date: 07/05/21 11:25
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.1	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	3520	mg/L		1.00		A1030 E	07/15/21 15:33 / jlw
A/C Balance	1.46	%				A1030 E	07/15/21 15:33 / jlw
Anions	54.6	meq/L				A1030 E	07/15/21 15:33 / jlw
Cations	56.2	meq/L				A1030 E	07/15/21 15:33 / jlw
TDS Ratio	1.07	unitless				A1030 E	07/15/21 15:33 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 11:07 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 11:07 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 11:07 / etad
Chloroform	ND	ug/L		1.0		E624.1	07/15/21 11:07 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	99.0	%REC		73-122		E624.1	07/15/21 11:07 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/15/21 11:07 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/15/21 11:07 / etad

**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: C21100250-006
Client Sample ID: EPA-14

Report Date: 11/19/21
Collection Date: 10/04/21 14:11
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	102	mg/L		5		A2320 B	10/08/21 18:40 / kjp
Chloride	45	mg/L		1		E300.0	10/09/21 04:33 / dmb
Sulfate	2420	mg/L	D	4		E300.0	10/09/21 04:33 / dmb
Calcium	443	mg/L		1		E200.7	10/13/21 14:40 / jcg
Magnesium	236	mg/L		1		E200.7	10/13/21 14:40 / jcg
Potassium	10	mg/L		1		E200.7	10/13/21 14:40 / jcg
Sodium	124	mg/L	D	3		E200.7	10/13/21 14:40 / jcg
PHYSICAL PROPERTIES							
pH	6.0	s.u.	H	0.1		A4500-H B	10/07/21 12:03 / mnm
pH Measurement Temp	16.3	°C				A4500-H B	10/07/21 12:03 / mnm
Solids, Total Dissolved TDS @ 180 C	3710	mg/L	D	40		A2540 C	10/07/21 10:21 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.01		E353.2	10/07/21 14:07 / nts
Nitrogen, Ammonia as N	6.6	mg/L	D	0.5		E350.1	10/11/21 11:55 / nts
METALS, TOTAL							
Aluminum	1.14	mg/L	D	0.05		E200.7	10/27/21 00:19 / jcg
Arsenic	ND	mg/L		0.001		E200.8	10/18/21 15:51 / srm
Beryllium	0.002	mg/L		0.001		E200.7	10/27/21 00:19 / jcg
Cadmium	0.002	mg/L		0.001		E200.8	10/18/21 15:51 / srm
Cobalt	0.240	mg/L		0.005		E200.8	10/18/21 15:51 / srm
Lead	0.003	mg/L		0.001		E200.8	10/18/21 15:51 / srm
Manganese	4.35	mg/L		0.001		E200.8	10/18/21 15:51 / srm
Molybdenum	0.030	mg/L		0.001		E200.8	11/04/21 03:17 / jcg
Nickel	0.173	mg/L		0.005		E200.8	10/18/21 15:51 / srm
Selenium	ND	mg/L		0.001		E200.8	10/18/21 15:51 / srm
Uranium	0.0332	mg/L	D	0.0005		E200.8	10/18/21 15:51 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:51 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	8.5	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	2.0	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	0.8	pCi/L	U			E909.0	10/17/21 22:40 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/17/21 22:40 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/17/21 22:40 / hat
Radium 226	4.1	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	0.9	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	4.8	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.4	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 MDC	1.7	pCi/L				RA-05	10/15/21 12:59 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-006
Client Sample ID: EPA-14

Report Date: 11/19/21
Collection Date: 10/04/21 14:11
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	8.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.6	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.7	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.09	pCi/L	U			A7500-U C	10/30/21 09:48 / sec
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	10/30/21 09:48 / sec
Thorium 230 MDC	0.4	pCi/L				A7500-U C	10/30/21 09:48 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3330	mg/L		1.00		A1030 E	10/15/21 14:42 / jlw
A/C Balance	-5.58	%				A1030 E	10/15/21 14:42 / jlw
Anions	53.3	meq/L				A1030 E	10/15/21 14:42 / jlw
Cations	47.6	meq/L				A1030 E	10/15/21 14:42 / jlw
TDS Ratio	1.11	unitless				A1030 E	10/15/21 14:42 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 19:27 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 19:27 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 19:27 / etad
Chloroform	0.89	ug/L	J	1.0		E624.1	10/14/21 19:27 / etad
Trihalomethanes, Total	0.89	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	109	%REC		73-122		E624.1	10/14/21 19:27 / etad
Surr: p-Bromofluorobenzene	88.0	%REC		79-119		E624.1	10/14/21 19:27 / etad
Surr: Toluene-d8	91.0	%REC		80-120		E624.1	10/14/21 19:27 / 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)



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Guideline 8: Sweetwater					
Well ID:		EPA-14	EPA-14	EPA-14	EPA-14
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	C21100250-006	C21070218-004	C21040386-003	C21010234-003
Bicarbonate as HCO ₃	mg/L	102	111	88	99
Calcium	mg/L	443	506	512	482
Chloride	mg/L	45	47	48	48
Magnesium	mg/L	236	290	320	269
Potassium	mg/L	10	9	10	9
Sodium	mg/L	124	146	157	145
Sulfate	mg/L	2420	2470	2570	2520
pH	s.u.	6.0	5.9	5.71	5.86
pH Measurement Temp	°C	16.3	16.1	16	12
Solids, Total Dissolved TDS @ 180 C	mg/L	3710	3770	3880	3780
Nitrogen, Ammonia as N	mg/L	6.6	7.6	8.9	10
Nitrogen, Nitrate+Nitrite as N	mg/L	0.13	0.12	0.19	0.08
Aluminum	mg/L	1.14	2.64	6.97	2.30
Arsenic	mg/L	ND(0.001)	0.001	0.001	0.001
Beryllium	mg/L	0.002	0.004	0.010	0.005
Cadmium	mg/L	0.002	0.002	0.003	0.003
Cobalt	mg/L	0.240	0.250	0.284	0.278
Lead	mg/L	0.003	0.006	0.013	0.008
Manganese	mg/L	4.35	4.56	5.58	5.23
Molybdenum	mg/L	0.030	0.030	0.045	0.032
Nickel	mg/L	0.173	0.188	0.233	0.231
Selenium	mg/L	ND(0.001)	ND(0.001)	0.001	ND(0.001)
Uranium	mg/L	0.0332	0.0362	0.0809	0.0411
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	8.5	5.9	11.1	5.8
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	2.0	1.7	2.5	1.6
Lead 210	pCi/L	0.8	1.4	3.2	0.7
Lead 210 MDC	pCi/L	1.0	1	1	0.9
Lead 210 precision (±)	pCi/L	0.6	0.8	1.1	0.6
Radium 226	pCi/L	4.1	5.6	2.2	4.2
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	0.9	1.1	0.5	0.9
Radium 228	pCi/L	4.8	6.2	2.4	5.4
Radium 228 MDC	pCi/L	1.7	1	1.5	0.9
Radium 228 precision (±)	pCi/L	1.4	1.4	0.9	1.2
Thorium 230	pCi/L	0.09	0.1	-0.01	0.2
Thorium 230 MDC	pCi/L	0.4	0.2	0.07	0.09
Thorium 230 precision (±)	pCi/L	0.2	0.1	0.03	0.08
A/C Balance	%	-5.58	1.46	2.84	-1.83
Anions	meq/L	53.3	54.6	56.3	55.5
Cations	meq/L	47.6	56.2	59.6	53.5
Solids, Total Dissolved - Calculated	mg/L	3330	3520	3660	3530
TDS Ratio	unitless	1.11	1.07	1.06	1.07
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	ND(1.0)	ND(1.0)	ND(1.0)	ND
Trihalomethanes, Total	ug/L	0.89	ND(0.50)	ND(1.0)	ND

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

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-001
Client Sample ID: 711

Report Date: 08/13/21
Collection Date: 07/06/21 12:33
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	650	mg/L				A2310 B	07/14/21 12:58 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/12/21 12:29 / kjp
Chloride	28	mg/L	D	2		E300.0	07/12/21 18:44 / dmb
Sulfate	4150	mg/L	D	8		E300.0	07/12/21 18:44 / dmb
Calcium	435	mg/L		1		E200.7	07/09/21 11:34 / meh
Magnesium	537	mg/L		1		E200.7	07/09/21 11:34 / meh
Potassium	10	mg/L		1		E200.7	07/09/21 11:34 / meh
Sodium	114	mg/L	D	3		E200.7	07/09/21 11:34 / meh
PHYSICAL PROPERTIES							
pH	3.2	s.u.	H	0.1		A4500-H B	07/09/21 12:05 / pla
pH Measurement Temp	11.8	°C				A4500-H B	07/09/21 12:05 / pla
Solids, Total Dissolved TDS @ 180 C	5860	mg/L	D	40		A2540 C	07/09/21 13:46 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	07/12/21 14:51 / dmb
Nitrogen, Ammonia as N	1.25	mg/L		0.05		E350.1	07/09/21 10:44 / dmb
METALS, TOTAL							
Aluminum	61.0	mg/L	D	0.4		E200.8	07/22/21 15:59 / jcg
Arsenic	0.009	mg/L		0.001		E200.8	07/15/21 22:31 / jcg
Beryllium	0.068	mg/L	D	0.002		E200.8	07/22/21 15:59 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/15/21 22:31 / jcg
Cobalt	1.06	mg/L		0.005		E200.8	07/22/21 00:47 / meh
Lead	0.009	mg/L		0.001		E200.8	07/15/21 22:31 / jcg
Manganese	11.1	mg/L	D	0.007		E200.8	07/22/21 00:47 / meh
Molybdenum	0.023	mg/L		0.001		E200.8	07/15/21 22:31 / jcg
Nickel	1.25	mg/L		0.005		E200.8	07/15/21 22:31 / jcg
Selenium	0.001	mg/L		0.001		E200.8	07/15/21 22:31 / jcg
Uranium	0.736	mg/L	D	0.0005		E200.8	07/15/21 22:31 / jcg
Vanadium	ND	mg/L	D	0.02		E200.8	07/22/21 00:47 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	7.4	pCi/L				E900.1	07/23/21 19:10 / amn
Gross Alpha minus Rn & U Precision (±)	1.6	pCi/L				E900.1	07/23/21 19:10 / amn
Gross Alpha minus Rn & U MDC	0.6	pCi/L				E900.1	07/23/21 19:10 / amn
Lead 210	1.0	pCi/L				E909.0	07/15/21 21:47 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	07/15/21 21:47 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/15/21 21:47 / hat
Radium 226	10.9	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 226 precision (±)	2.1	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 228	9.4	pCi/L				RA-05	07/16/21 11:55 / amn
Radium 228 precision (±)	1.8	pCi/L				RA-05	07/16/21 11:55 / amn

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-001
Client Sample ID: 711

Report Date: 08/13/21
Collection Date: 07/06/21 12:33
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	0.8	pCi/L				RA-05	07/16/21 11:55 / amn
Thorium 230	0.5	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.1	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5280	mg/L		1.00		A1030 E	07/15/21 15:34 / jlw
A/C Balance	-1.93	%				A1030 E	07/15/21 15:34 / jlw
Anions	87.5	meq/L				A1030 E	07/15/21 15:34 / jlw
Cations	84.2	meq/L				A1030 E	07/15/21 15:34 / jlw
TDS Ratio	1.11	unitless				A1030 E	07/15/21 15:34 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/11/21 12:28 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/11/21 12:28 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/11/21 12:28 / eli-b
Chloroform	5.7	ug/L		0.50		E624.1	07/11/21 12:28 / eli-b
Trihalomethanes, Total	5.7	ug/L		0.50		E624.1	07/16/21 17:50 / tif
Surr: 1,2-Dichloroethane-d4	116	%REC		71-139		E624.1	07/11/21 12:28 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		80-127		E624.1	07/11/21 12:28 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624.1	07/11/21 12:28 / 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: C21100328-003
Client Sample ID: 711

Report Date: 11/27/21
Collection Date: 10/05/21 11:05
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	625	mg/L				A2310 B	10/15/21 15:47 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/11/21 19:40 / kjp
Chloride	29	mg/L	D	2		E300.0	10/13/21 08:58 / dmb
Sulfate	4470	mg/L	D	8		E300.0	10/13/21 08:58 / dmb
Calcium	437	mg/L		1		E200.7	10/22/21 10:34 / jcg
Magnesium	503	mg/L		1		E200.7	10/22/21 10:34 / jcg
Potassium	10	mg/L		1		E200.7	10/22/21 10:34 / jcg
Sodium	120	mg/L		1		E200.7	10/22/21 10:34 / jcg
PHYSICAL PROPERTIES							
pH	3.4	s.u.	H	0.1		A4500-H B	10/08/21 13:27 / mnm
pH Measurement Temp	13.8	°C				A4500-H B	10/08/21 13:27 / mnm
Solids, Total Dissolved TDS @ 180 C	5910	mg/L	D	40		A2540 C	10/11/21 11:55 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/12/21 13:41 / nts
Nitrogen, Ammonia as N	1.28	mg/L		0.05		E350.1	10/11/21 12:44 / nts
METALS, TOTAL							
Aluminum	84.0	mg/L	D	0.5		E200.8	10/26/21 22:54 / srm
Arsenic	0.005	mg/L		0.001		E200.8	10/19/21 05:59 / srm
Beryllium	0.069	mg/L		0.001		E200.8	10/19/21 05:59 / srm
Cadmium	0.001	mg/L		0.001		E200.8	10/19/21 05:59 / srm
Cobalt	1.08	mg/L		0.005		E200.8	10/19/21 05:59 / srm
Lead	0.007	mg/L		0.001		E200.8	10/19/21 05:59 / srm
Manganese	11.7	mg/L	D	0.007		E200.8	10/21/21 22:08 / srm
Molybdenum	0.005	mg/L		0.001		E200.8	10/19/21 05:59 / srm
Nickel	1.25	mg/L		0.005		E200.8	10/19/21 05:59 / srm
Selenium	ND	mg/L		0.001		E200.8	10/21/21 22:13 / srm
Uranium	0.797	mg/L	D	0.0005		E200.8	10/19/21 05:59 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 05:59 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	18.4	pCi/L				E900.1	10/15/21 10:56 / amn
Gross Alpha minus Rn & U Precision (±)	3.8	pCi/L				E900.1	10/15/21 10:56 / amn
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 10:56 / amn
Lead 210	1.6	pCi/L				E909.0	10/18/21 17:43 / hat
Lead 210 precision (±)	0.8	pCi/L				E909.0	10/18/21 17:43 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/18/21 17:43 / hat
Radium 226	8.2	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 226 precision (±)	1.6	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 228	11.0	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 228 precision (±)	2.2	pCi/L				RA-05	10/15/21 11:58 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-003
Client Sample ID: 711

Report Date: 11/27/21
Collection Date: 10/05/21 11:05
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 226 + Radium 228	19.2	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	2.7	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.7	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5570	mg/L		1.00		A1030 E	10/28/21 17:07 / jlw
A/C Balance	-1.68	%				A1030 E	10/28/21 17:07 / jlw
Anions	94.1	meq/L				A1030 E	10/28/21 17:07 / jlw
Cations	91.0	meq/L				A1030 E	10/28/21 17:07 / jlw
TDS Ratio	1.06	unitless				A1030 E	10/28/21 17:07 / jlw
Cation/Anion Balance includes selected metals							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 14:31 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 14:31 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 14:31 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 14:31 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	97.0	%REC		73-122		E624.1	10/15/21 14:31 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		79-119		E624.1	10/15/21 14:31 / etad
Surr: Toluene-d8	99.0	%REC		80-120		E624.1	10/15/21 14:31 / 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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		711	711	711	711
Collection Date:		10/5/2021	7/6/2021	4/6/2021	1/5/2021
Receive Date:		10/7/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-003	C21070279-001	C21040386-005	C21010234-005
Acidity, Total as CaCO ₃	mg/L	625	650	685	510
Bicarbonate as HCO ₃	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	437	435	468	435
Chloride	mg/L	29	28	27	28
Magnesium	mg/L	503	537	548	515
Potassium	mg/L	10	10	12	11
Sodium	mg/L	120	114	127	115
Sulfate	mg/L	4470	4150	4120	4080
pH	s.u.	3.4	3.2	3.55	3.20
pH Measurement Temp	°C	13.8	11.8	8	13
Solids, Total Dissolved TDS @ 180 C	mg/L	5910	5860	5860	5650
Nitrogen, Ammonia as N	mg/L	1.28	1.25	1.32	1.34
Nitrogen, Nitrate+Nitrite as N	mg/L	0.02	0.06	ND(0.01)	ND(0.01)
Aluminum	mg/L	84.0	61.0	60.2	55
Arsenic	mg/L	0.005	0.009	0.005	0.013
Beryllium	mg/L	0.069	0.068	0.07	0.062
Cadmium	mg/L	0.001	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	1.08	1.06	0.928	1.00
Lead	mg/L	0.007	0.009	0.010	0.006
Manganese	mg/L	11.7	11.1	11.2	10.6
Molybdenum	mg/L	0.005	0.023	0.008	0.039
Nickel	mg/L	1.25	1.25	1.22	1.30
Selenium	mg/L	ND(0.001)	0.001	ND(0.001)	ND(0.001)
Uranium	mg/L	0.797	0.736	0.695	0.695
Vanadium	mg/L	ND(0.01)	ND(0.02)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	18.4	7.4	18.4	13.4
Gross Alpha minus Rn & U MDC	pCi/L	0.9	0.6	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	3.8	1.6	3.9	3.0
Lead 210	pCi/L	1.6	1.0	0.7	1.0
Lead 210 MDC	pCi/L	1.1	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.8	0.7	0.5	0.6
Radium 226	pCi/L	8.2	10.9	7.9	8.2
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	1.6	2.1	1.6	1.6
Radium 228	pCi/L	11.0	9.4	7.4	9.0
Radium 228 MDC	pCi/L	1	0.8	1.6	0.9
Radium 228 precision (±)	pCi/L	2.2	1.8	1.6	1.8
Thorium 230	pCi/L	0.7	0.5	0.4	0.5
Thorium 230 MDC	pCi/L	0.2	0.1	0.1	0.2
Thorium 230 precision (±)	pCi/L	0.2	0.1	0.1	0.2
A/C Balance	%	-1.68	-1.93	0.71	-3.68
Anions	meq/L	94.1	87.5	86.8	85.8
Cations	meq/L	91.0	84.2	88.1	79.7
Solids, Total Dissolved - Calculated	mg/L	5570	5280	5310	5180
TDS Ratio	unitless	1.06	1.11	1.10	1.09
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	5.7	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	5.7	ND(0.50)	ND(0.50)

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-001
Client Sample ID: 613

Report Date: 08/13/21
Collection Date: 07/05/21 09:14
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	3330	mg/L				A2310 B	07/14/21 12:10 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/08/21 16:57 / kjp
Chloride	122	mg/L	D	5		E300.0	07/09/21 20:23 / dmb
Sulfate	8630	mg/L	D	20		E300.0	07/09/21 20:23 / dmb
Calcium	429	mg/L		1		E200.7	07/08/21 12:24 / meh
Magnesium	735	mg/L		1		E200.7	07/08/21 12:24 / meh
Potassium	2	mg/L		1		E200.7	07/08/21 12:24 / meh
Sodium	226	mg/L	D	3		E200.7	07/08/21 12:24 / meh
PHYSICAL PROPERTIES							
pH	3.0	s.u.	H	0.1		A4500-H B	07/08/21 14:44 / pla
pH Measurement Temp	15.8	°C				A4500-H B	07/08/21 14:44 / pla
Solids, Total Dissolved TDS @ 180 C	10800	mg/L	D	100		A2540 C	07/09/21 13:39 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.22	mg/L		0.01		E353.2	07/12/21 14:30 / dmb
Nitrogen, Ammonia as N	130	mg/L	D	5		E350.1	07/09/21 10:27 / dmb
METALS, TOTAL							
Aluminum	463	mg/L	D	20		E200.8	07/21/21 22:20 / meh
Arsenic	0.011	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Beryllium	0.108	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Cadmium	0.038	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Cobalt	1.9	mg/L	D	0.1		E200.8	07/21/21 22:20 / meh
Lead	0.004	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Manganese	41.8	mg/L	D	0.7		E200.8	07/21/21 22:20 / meh
Molybdenum	0.014	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Nickel	1.50	mg/L		0.005		E200.8	07/15/21 20:55 / jcg
Selenium	0.020	mg/L		0.001		E200.8	07/15/21 20:55 / jcg
Uranium	0.476	mg/L	D	0.0005		E200.8	07/15/21 20:55 / jcg
Vanadium	0.5	mg/L	D	0.1		E200.8	07/21/21 22:24 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	34.8	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	7.1	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	1.2	pCi/L				E909.0	07/15/21 02:58 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	07/15/21 02:58 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/15/21 02:58 / hat
Radium 226	5.9	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 precision (±)	1.2	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	0.2	pCi/L	U			RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	0.6	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
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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-001
Client Sample ID: 613

Report Date: 08/13/21
Collection Date: 07/05/21 09:14
Date Received: 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	440	pCi/L				A7500-U C	07/16/21 12:26 / mrt
Thorium 230 precision (±)	83.5	pCi/L				A7500-U C	07/16/21 12:26 / mrt
Thorium 230 MDC	12.2	pCi/L				A7500-U C	07/16/21 12:26 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	10200	mg/L		1.00		A1030 E	07/15/21 15:32 / jlw
A/C Balance	-4.69	%				A1030 E	07/15/21 15:32 / jlw
Anions	184	meq/L				A1030 E	07/15/21 15:32 / jlw
Cations	168	meq/L				A1030 E	07/15/21 15:32 / jlw
TDS Ratio	1.06	unitless				A1030 E	07/15/21 15:32 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 10:00 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 10:00 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 10:00 / etad
Chloroform	66	ug/L		1.0		E624.1	07/15/21 10:00 / etad
Trihalomethanes, Total	66	ug/L		0.50		E624.1	07/16/21 17:50 / tif
Surr: 1,2-Dichloroethane-d4	103	%REC		73-122		E624.1	07/15/21 10:00 / etad
Surr: p-Bromofluorobenzene	101	%REC		79-119		E624.1	07/15/21 10:00 / etad
Surr: Toluene-d8	103	%REC		80-120		E624.1	07/15/21 10:00 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-005
Client Sample ID: 613

Report Date: 11/19/21
Collection Date: 10/04/21 13:28
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	3340	mg/L				A2310 B	10/15/21 15:27 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/08/21 18:34 / kjp
Chloride	112	mg/L	D	5		E300.0	10/09/21 04:14 / dmb
Sulfate	8290	mg/L	D	20		E300.0	10/09/21 04:14 / dmb
Calcium	389	mg/L		1		E200.7	10/13/21 14:28 / jcg
Magnesium	637	mg/L		1		E200.7	10/13/21 14:28 / jcg
Potassium	3	mg/L		1		E200.7	10/13/21 14:28 / jcg
Sodium	200	mg/L	D	3		E200.7	10/13/21 14:28 / jcg
PHYSICAL PROPERTIES							
pH	3.0	s.u.	H	0.1		A4500-H B	10/07/21 12:00 / mnm
pH Measurement Temp	16.0	°C				A4500-H B	10/07/21 12:00 / mnm
Solids, Total Dissolved TDS @ 180 C	10500	mg/L	D	100		A2540 C	10/07/21 10:21 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	1.18	mg/L		0.01		E353.2	10/07/21 14:06 / nts
Nitrogen, Ammonia as N	125	mg/L	D	5		E350.1	10/11/21 11:54 / nts
METALS, TOTAL							
Aluminum	474	mg/L	D	20		E200.8	11/09/21 16:01 / srm
Arsenic	0.010	mg/L		0.001		E200.8	10/18/21 15:46 / srm
Beryllium	0.142	mg/L		0.001		E200.7	10/27/21 00:06 / jcg
Cadmium	0.041	mg/L		0.001		E200.8	10/18/21 15:46 / srm
Cobalt	1.77	mg/L		0.005		E200.8	10/18/21 15:46 / srm
Lead	0.012	mg/L		0.001		E200.8	10/18/21 15:46 / srm
Manganese	40.7	mg/L	D	0.01		E200.8	10/29/21 17:57 / srm
Molybdenum	0.008	mg/L		0.001		E200.8	11/04/21 02:57 / jcg
Nickel	1.61	mg/L		0.005		E200.8	10/18/21 15:46 / srm
Selenium	0.019	mg/L		0.001		E200.8	10/18/21 15:46 / srm
Uranium	0.537	mg/L	D	0.0005		E200.8	10/18/21 15:46 / srm
Vanadium	0.47	mg/L		0.01		E200.8	10/18/21 15:46 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	29.7	pCi/L				E900.1	10/15/21 09:13 / amn
Gross Alpha minus Rn & U Precision (±)	6.0	pCi/L				E900.1	10/15/21 09:13 / amn
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 09:13 / amn
Lead 210	1.1	pCi/L				E909.0	10/17/21 19:26 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/17/21 19:26 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/17/21 19:26 / hat
Radium 226	6.0	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 226 precision (±)	1.2	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 226 MDC	0.3	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 228	0.1	pCi/L	U			RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	1.1	pCi/L				RA-05	10/15/21 12:59 / trs

Report RL - Analyte Reporting Limit
Definitions: 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)
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-005
Client Sample ID: 613

Report Date: 11/19/21
Collection Date: 10/04/21 13:28
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.8	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 226 + Radium 228	6.1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.6	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	476	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 precision (±)	90.3	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 MDC	4.1	pCi/L				A7500-U C	10/28/21 15:34 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	9650	mg/L		1.00		A1030 E	10/18/21 08:58 / jlw
A/C Balance	-6.07	%				A1030 E	10/18/21 08:58 / jlw
Anions	176	meq/L				A1030 E	10/18/21 08:58 / jlw
Cations	156	meq/L				A1030 E	10/18/21 08:58 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/18/21 08:58 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 19:06 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 19:06 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 19:06 / etad
Chloroform	61	ug/L		1.0		E624.1	10/14/21 19:06 / etad
Trihalomethanes, Total	61	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	109	%REC		73-122		E624.1	10/14/21 19:06 / etad
Surr: p-Bromofluorobenzene	86.0	%REC		79-119		E624.1	10/14/21 19:06 / etad
Surr: Toluene-d8	93.0	%REC		80-120		E624.1	10/14/21 19:06 / 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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Guideline 8: Sweetwater					
Well ID:		613	613	613	613
Collection Date:		10/4/2021	7/5/2021	4/5/2021	1/4/2021
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	C21100250-005	C21070218-001	C21040387-004	C21010254-004
Acidity, Total as CaCO ₃	mg/L	3340	3330	3540	3290
Bicarbonate as HCO ₃	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	389	429	424	418
Chloride	mg/L	112	122	124	127
Magnesium	mg/L	637	735	716	686
Potassium	mg/L	3	2	3	2
Sodium	mg/L	200	226	221	216
Sulfate	mg/L	8290	8630	8760	8700
pH	s.u.	3.0	3.0	2.91	2.98
pH Measurement Temp	°C	16.0	15.8	17	14
Solids, Total Dissolved @ 180 C	mg/L	10500	10800	10600	10500
Nitrogen, Ammonia as N	mg/L	125	130	131	137
Nitrogen, Nitrate+Nitrite as N	mg/L	1.18	1.22	1.23	1.33
Aluminum	mg/L	474	463	497	509
Arsenic	mg/L	0.010	0.011	0.009	0.013
Beryllium	mg/L	0.142	0.108	0.107	0.123
Cadmium	mg/L	0.041	0.038	0.042	0.044
Cobalt	mg/L	1.77	1.9	1.65	1.78
Lead	mg/L	0.012	0.004	0.004	0.004
Manganese	mg/L	40.7	41.8	43.2	45
Molybdenum	mg/L	0.008	0.014	0.012	0.013
Nickel	mg/L	1.61	1.50	1.70	1.78
Selenium	mg/L	0.019	0.020	0.017	0.018
Uranium	mg/L	0.537	0.476	0.561	0.588
Vanadium	mg/L	0.47	0.5	0.42	0.54
Gross Alpha minus Rn & U	pCi/L	29.7	34.8	27.1	27.9
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	6.0	7.1	5.6	5.7
Lead 210	pCi/L	1.1	1.2	0.7	1.2
Lead 210 MDC	pCi/L	1.1	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.7	0.7	0.5	0.7
Radium 226	pCi/L	6.0	5.9	6.7	5.0
Radium 226 MDC	pCi/L	0.3	0.2	0.2	0.08
Radium 226 precision (±)	pCi/L	1.2	1.2	1.3	1
Radium 228	pCi/L	0.1	0.2	0.6	0.9
Radium 228 MDC	pCi/L	1.8	1.0	2.0	0.9
Radium 228 precision (±)	pCi/L	1.1	0.6	1.2	0.6
Thorium 230	pCi/L	476	440	497	483
Thorium 230 MDC	pCi/L	4.1	12.2	11.8	5.2
Thorium 230 precision (±)	pCi/L	90.3	83.5	94.5	91.6
A/C Balance	%	-6.07	-4.69	-4.67	6.74
Anions	meq/L	176	184	187	186
Cations	meq/L	156	168	170	212
Solids, Total Dissolved - Calculated	mg/L	9650	10200	10300	10200
TDS Ratio	unitless	1.09	1.06	1.03	1.03
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	61	66	53	62
Trihalomethanes, Total	ug/L	61	66	53	62

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

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-005
Client Sample ID: 708

Report Date: 08/13/21
Collection Date: 07/05/21 12:10
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	820	mg/L				A2310 B	07/14/21 12:38 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/08/21 17:14 / kjp
Chloride	28	mg/L	D	2		E300.0	07/09/21 21:40 / dmb
Sulfate	4260	mg/L	D	8		E300.0	07/09/21 21:40 / dmb
Calcium	446	mg/L		1		E200.7	07/08/21 12:48 / meh
Magnesium	598	mg/L		1		E200.7	07/08/21 12:48 / meh
Potassium	13	mg/L		1		E200.7	07/08/21 12:48 / meh
Sodium	125	mg/L	D	3		E200.7	07/08/21 12:48 / meh
PHYSICAL PROPERTIES							
pH	3.7	s.u.	H	0.1		A4500-H B	07/08/21 15:07 / pla
pH Measurement Temp	17.3	°C				A4500-H B	07/08/21 15:07 / pla
Solids, Total Dissolved TDS @ 180 C	6250	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 14:35 / dmb
Nitrogen, Ammonia as N	0.79	mg/L		0.05		E350.1	07/09/21 10:32 / dmb
METALS, TOTAL							
Aluminum	25.5	mg/L	D	0.2		E200.8	07/21/21 22:55 / meh
Arsenic	0.003	mg/L		0.001		E200.8	07/15/21 21:30 / jcg
Beryllium	0.045	mg/L		0.001		E200.8	07/21/21 22:55 / meh
Cadmium	ND	mg/L		0.001		E200.8	07/15/21 21:30 / jcg
Cobalt	0.445	mg/L		0.005		E200.8	07/15/21 21:30 / jcg
Lead	0.006	mg/L		0.001		E200.8	07/15/21 21:30 / jcg
Manganese	13.1	mg/L	D	0.007		E200.8	07/21/21 22:55 / meh
Molybdenum	0.008	mg/L		0.001		E200.8	07/15/21 21:30 / jcg
Nickel	0.473	mg/L		0.005		E200.8	07/15/21 21:30 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/15/21 21:30 / jcg
Uranium	0.0742	mg/L	D	0.0005		E200.8	07/15/21 21:30 / jcg
Vanadium	ND	mg/L	D	0.02		E200.8	07/21/21 22:55 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	17.4	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	3.8	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	1.0	pCi/L				E909.0	07/15/21 14:57 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	07/15/21 14:57 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/15/21 14:57 / hat
Radium 226	8.9	pCi/L				E903.0	07/19/21 14:29 / amm
Radium 226 precision (±)	1.7	pCi/L				E903.0	07/19/21 14:29 / amm
Radium 226 MDC	0.1	pCi/L				E903.0	07/19/21 14:29 / amm
Radium 228	5.1	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	1.2	pCi/L				RA-05	07/12/21 13:50 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-005
Client Sample ID: 708

Report Date: 08/13/21
Collection Date: 07/05/21 12:10
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1	pCi/L				RA-05	07/12/21 13:50 / trs
Thorium 230	0.07	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.09	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5480	mg/L		1.00		A1030 E	07/15/21 15:33 / jlw
A/C Balance	1.96	%				A1030 E	07/15/21 15:33 / jlw
Anions	90.1	meq/L				A1030 E	07/15/21 15:33 / jlw
Cations	93.7	meq/L				A1030 E	07/15/21 15:33 / jlw
TDS Ratio	1.14	unitless				A1030 E	07/15/21 15:33 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 11:29 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 11:29 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 11:29 / etad
Chloroform	ND	ug/L		1.0		E624.1	07/15/21 11:29 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	101	%REC		73-122		E624.1	07/15/21 11:29 / etad
Surr: p-Bromofluorobenzene	100	%REC		79-119		E624.1	07/15/21 11:29 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/15/21 11:29 / etad

**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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-002
Client Sample ID: 708

Report Date: 11/27/21
Collection Date: 10/05/21 10:10
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	770	mg/L				A2310 B	10/15/21 15:43 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/11/21 19:37 / kjp
Chloride	27	mg/L	D	2		E300.0	10/13/21 08:39 / dmb
Sulfate	4400	mg/L	D	8		E300.0	10/13/21 08:39 / dmb
Calcium	463	mg/L		1		E200.7	10/22/21 10:22 / jcg
Magnesium	551	mg/L		1		E200.7	10/22/21 10:22 / jcg
Potassium	14	mg/L		1		E200.7	10/22/21 10:22 / jcg
Sodium	131	mg/L		1		E200.7	10/22/21 10:22 / jcg
PHYSICAL PROPERTIES							
pH	3.6	s.u.	H	0.1		A4500-H B	10/08/21 13:24 / mnm
pH Measurement Temp	13.8	°C				A4500-H B	10/08/21 13:24 / mnm
Solids, Total Dissolved TDS @ 180 C	6210	mg/L	D	40		A2540 C	10/11/21 08:32 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/12/21 11:53 / nts
Nitrogen, Ammonia as N	0.84	mg/L		0.05		E350.1	10/11/21 12:41 / nts
METALS, TOTAL							
Aluminum	26.0	mg/L	D	0.2		E200.8	10/26/21 22:49 / srm
Arsenic	0.006	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Beryllium	0.043	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Cobalt	0.485	mg/L		0.005		E200.8	10/19/21 05:54 / srm
Lead	0.010	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Manganese	12.8	mg/L	D	0.006		E200.8	10/21/21 21:57 / srm
Molybdenum	0.015	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Nickel	0.495	mg/L		0.005		E200.8	10/19/21 05:54 / srm
Selenium	ND	mg/L		0.001		E200.8	10/19/21 05:54 / srm
Uranium	0.0753	mg/L	D	0.0005		E200.8	10/19/21 05:54 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 05:54 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	15.9	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	3.4	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	1	pCi/L	U			E909.0	10/18/21 14:28 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/18/21 14:28 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/18/21 14:28 / hat
Radium 226	7.4	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 226 precision (±)	1.5	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 09:03 / amm
Radium 228	4.9	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 228 precision (±)	1.2	pCi/L				RA-05	10/15/21 11:58 / 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-002
Client Sample ID: 708

Report Date: 11/27/21
Collection Date: 10/05/21 10:10
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 226 + Radium 228	12.3	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	-0.09	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.3	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.6	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5630	mg/L		1.00		A1030 E	10/25/21 16:13 / jlw
A/C Balance	-1.62	%				A1030 E	10/25/21 16:13 / jlw
Anions	92.9	meq/L				A1030 E	10/25/21 16:13 / jlw
Cations	89.9	meq/L				A1030 E	10/25/21 16:13 / jlw
TDS Ratio	1.10	unitless				A1030 E	10/25/21 16:13 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 14:10 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 14:10 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 14:10 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 14:10 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/15/21 14:10 / etad
Surr: p-Bromofluorobenzene	94.0	%REC		79-119		E624.1	10/15/21 14:10 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/15/21 14:10 / etad

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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		708	708	708	708
Collection Date:		10/5/2021	7/5/2021	4/6/2021	1/5/2021
Receive Date:		10/7/2021	7/7/2021	4/9/2021	1/7/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-002	C21070218-005	C21040386-004	C21010234-004
Acidity, Total as CaCO ₃	mg/L	770	820	790	760
Bicarbonate as HCO ₃	mg/L	ND(5)	ND(5)	ND(5)	ND(5)
Calcium	mg/L	463	446	436	415
Chloride	mg/L	27	28	28	29
Magnesium	mg/L	551	598	568	530
Potassium	mg/L	14	13	15	14
Sodium	mg/L	131	125	129	118
Sulfate	mg/L	4400	4260	4220	4310
pH	s.u.	3.6	3.7	3.67	3.59
pH Measurement Temp	°C	13.8	17.3	16	13
Solids, Total Dissolved TDS @ 180 C	mg/L	6210	6250	6270	6130
Nitrogen, Ammonia as N	mg/L	0.84	0.79	0.86	0.88
Nitrogen, Nitrate+Nitrite as N	mg/L	ND(0.01)	0.04	ND(0.01)	ND(0.01)
Aluminum	mg/L	26.0	25.5	29.1	30
Arsenic	mg/L	0.006	0.003	0.003	0.018
Beryllium	mg/L	0.043	0.045	0.05	0.047
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	0.485	0.445	0.454	0.467
Lead	mg/L	0.010	0.006	0.009	0.009
Manganese	mg/L	12.8	13.1	13.3	12.0
Molybdenum	mg/L	0.015	0.008	0.007	0.042
Nickel	mg/L	0.495	0.473	0.508	0.531
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0753	0.0742	0.0808	0.0902
Vanadium	mg/L	ND(0.01)	ND(0.02)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	15.9	17.4	17.6	13.3
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	3.4	3.8	3.8	3.0
Lead 210	pCi/L	1	1.0	1.1	0.8
Lead 210 MDC	pCi/L	1.0	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.7	0.6	0.6
Radium 226	pCi/L	7.4	8.9	6.3	10.1
Radium 226 MDC	pCi/L	0.2	0.1	0.1	0.2
Radium 226 precision (±)	pCi/L	1.5	1.7	1.2	2.0
Radium 228	pCi/L	4.9	5.1	3.8	4.7
Radium 228 MDC	pCi/L	1	1	1.3	0.8
Radium 228 precision (±)	pCi/L	1.2	1.2	1.3	1.1
Thorium 230	pCi/L	-0.09	0.07	0.1	1.1
Thorium 230 MDC	pCi/L	0.6	0.2	0.3	0.3
Thorium 230 precision (±)	pCi/L	0.3	0.09	0.1	0.2
A/C Balance	%	-1.62	1.96	0.58	-3.06
Anions	meq/L	92.9	90.1	89.2	90.5
Cations	meq/L	89.9	93.7	90.3	85.1
Solids, Total Dissolved - Calculated	mg/L	5630	5480	5410	5410
TDS Ratio	unitless	1.10	1.14	1.16	1.13
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	ND(1.0)	ND(1.0)	ND(1.0)	ND
Trihalomethanes, Total	ug/L	ND(0.50)	ND(0.50)	ND(1.0)	ND

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-002
Client Sample ID: EPA-13

Report Date: 08/13/21
Collection Date: 07/06/21 13:55
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	58	mg/L		5		A2320 B	07/12/21 12:36 / kjp
Chloride	45	mg/L	D	2		E300.0	07/12/21 19:03 / dmb
Sulfate	5470	mg/L	D	8		E300.0	07/12/21 19:03 / dmb
Calcium	429	mg/L		1		E200.7	07/09/21 11:38 / meh
Magnesium	991	mg/L		1		E200.7	07/09/21 11:38 / meh
Potassium	14	mg/L		1		E200.7	07/09/21 11:38 / meh
Sodium	179	mg/L	D	3		E200.7	07/09/21 11:38 / meh
PHYSICAL PROPERTIES							
pH	6.0	s.u.	H	0.1		A4500-H B	07/09/21 12:08 / pla
pH Measurement Temp	12.7	°C				A4500-H B	07/09/21 12:08 / pla
Solids, Total Dissolved TDS @ 180 C	7840	mg/L	D	100		A2540 C	07/09/21 13:46 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.08	mg/L		0.01		E353.2	07/12/21 14:52 / dmb
Nitrogen, Ammonia as N	0.07	mg/L		0.05		E350.1	07/09/21 10:45 / dmb
METALS, TOTAL							
Aluminum	0.05	mg/L	D	0.04		E200.8	07/22/21 00:51 / meh
Arsenic	0.449	mg/L		0.001		E200.8	07/15/21 22:35 / jcg
Beryllium	0.001	mg/L		0.001		E200.8	07/22/21 16:03 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/15/21 22:35 / jcg
Cobalt	0.123	mg/L		0.005		E200.8	07/22/21 00:51 / meh
Lead	ND	mg/L		0.001		E200.8	07/15/21 22:35 / jcg
Manganese	6.27	mg/L	D	0.002		E200.8	07/15/21 22:35 / jcg
Molybdenum	0.360	mg/L		0.001		E200.8	07/15/21 22:35 / jcg
Nickel	0.280	mg/L		0.005		E200.8	07/15/21 22:35 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/15/21 22:35 / jcg
Uranium	0.0080	mg/L	D	0.0005		E200.8	07/15/21 22:35 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 00:51 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	8.3	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	2.1	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	0.7	pCi/L	U			E909.0	07/16/21 01:00 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/16/21 01:00 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/16/21 01:00 / hat
Radium 226	6.7	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 precision (±)	1.4	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 MDC	0.3	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 228	5.3	pCi/L				RA-05	07/16/21 11:56 / amm
Radium 228 precision (±)	1.2	pCi/L				RA-05	07/16/21 11:56 / amm
Radium 228 MDC	1.0	pCi/L				RA-05	07/16/21 11:56 / 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-002
Client Sample ID: EPA-13

Report Date: 08/13/21
Collection Date: 07/06/21 13:55
Date Received: 07/08/21
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	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	7160	mg/L		1.00		A1030 E	07/15/21 15:34 / jlw
A/C Balance	-2.26	%				A1030 E	07/15/21 15:34 / jlw
Anions	116	meq/L				A1030 E	07/15/21 15:34 / jlw
Cations	111	meq/L				A1030 E	07/15/21 15:34 / jlw
TDS Ratio	1.09	unitless				A1030 E	07/15/21 15:34 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/11/21 12:56 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/11/21 12:56 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/11/21 12:56 / eli-b
Chloroform	1.2	ug/L		0.50		E624.1	07/11/21 12:56 / eli-b
Trihalomethanes, Total	1.2	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	119	%REC		71-139		E624.1	07/11/21 12:56 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/11/21 12:56 / eli-b
Surr: Toluene-d8	93.0	%REC		80-123		E624.1	07/11/21 12:56 / 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: C21100250-009
Client Sample ID: EPA-13

Report Date: 11/19/21
Collection Date: 10/04/21 16:33
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	54	mg/L		5		A2320 B	10/18/21 11:24 / kjp
Chloride	45	mg/L	D	2		E300.0	10/09/21 05:30 / dmb
Sulfate	5540	mg/L	D	8		E300.0	10/18/21 15:57 / dmb
Calcium	418	mg/L	D	30		E200.7	10/18/21 18:12 / jcg
Magnesium	913	mg/L		1		E200.7	10/18/21 18:12 / jcg
Potassium	16	mg/L	D	6		E200.7	10/22/21 10:09 / jcg
Sodium	190	mg/L	D	50		E200.7	10/18/21 18:12 / jcg
PHYSICAL PROPERTIES							
pH	6.1	s.u.	H	0.1		A4500-H B	10/07/21 12:11 / mnm
pH Measurement Temp	16.4	°C				A4500-H B	10/07/21 12:11 / mnm
Solids, Total Dissolved TDS @ 180 C	7650	mg/L	D	100		A2540 C	10/07/21 10:23 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.11	mg/L		0.01		E353.2	10/07/21 14:11 / nts
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/11/21 12:01 / nts
METALS, TOTAL							
Aluminum	ND	mg/L	D	0.09		E200.8	11/04/21 17:59 / srm
Arsenic	0.488	mg/L		0.001		E200.8	10/18/21 16:33 / srm
Beryllium	0.001	mg/L		0.001		E200.8	11/04/21 17:59 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/18/21 16:33 / srm
Cobalt	0.132	mg/L		0.005		E200.8	10/18/21 16:33 / srm
Lead	ND	mg/L		0.001		E200.8	10/18/21 16:33 / srm
Manganese	6.90	mg/L	D	0.002		E200.8	10/18/21 16:33 / srm
Molybdenum	0.348	mg/L		0.001		E200.8	11/04/21 03:32 / jcg
Nickel	0.326	mg/L		0.005		E200.8	10/18/21 16:33 / srm
Selenium	ND	mg/L		0.001		E200.8	10/18/21 16:33 / srm
Uranium	0.0079	mg/L	D	0.0005		E200.8	10/29/21 18:35 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 16:33 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	10.9	pCi/L				E900.1	10/15/21 09:13 / amm
Gross Alpha minus Rn & U Precision (±)	2.4	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	1.2	pCi/L				E909.0	10/18/21 08:10 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/18/21 08:10 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/18/21 08:10 / hat
Radium 226	5.5	pCi/L				E903.0	10/20/21 10:43 / amm
Radium 226 precision (±)	1.1	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	3.0	pCi/L				RA-05	10/15/21 13:10 / trs
Radium 228 precision (±)	1.2	pCi/L				RA-05	10/15/21 13:10 / trs
Radium 228 MDC	1.6	pCi/L				RA-05	10/15/21 13:10 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-009
Client Sample ID: EPA-13

Report Date: 11/19/21
Collection Date: 10/04/21 16:33
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	8.5	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	1.7	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	0.2	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	7150	mg/L		1.00		A1030 E	10/25/21 16:21 / jlw
A/C Balance	-5.78	%				A1030 E	10/25/21 16:21 / jlw
Anions	117	meq/L				A1030 E	10/25/21 16:21 / jlw
Cations	105	meq/L				A1030 E	10/25/21 16:21 / jlw
TDS Ratio	1.07	unitless				A1030 E	10/25/21 16:21 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 20:30 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 20:30 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 20:30 / etad
Chloroform	0.32	ug/L	J	1.0		E624.1	10/14/21 20:30 / etad
Trihalomethanes, Total	0.32	ug/L	J	0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	108	%REC		73-122		E624.1	10/14/21 20:30 / etad
Surr: p-Bromofluorobenzene	86.0	%REC		79-119		E624.1	10/14/21 20:30 / etad
Surr: Toluene-d8	92.0	%REC		80-120		E624.1	10/14/21 20:30 / 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)



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Guideline 8: Sweetwater					
Well ID:		EPA-13	EPA-13	EPA-13	EPA-13
Collection Date:		10/4/2021	7/6/2021	4/6/2021	1/5/2021
Receive Date:		10/6/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/19/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100250-009	C21070279-002	C21040386-006	C21010234-006
Bicarbonate as HCO ₃	mg/L	54	58	45	49
Calcium	mg/L	418	429	414	435
Chloride	mg/L	45	45	45	46
Magnesium	mg/L	913	991	938	993
Potassium	mg/L	16	14	15	15
Sodium	mg/L	190	179	171	181
Sulfate	mg/L	5540	5470	5460	5460
pH	s.u.	6.1	6.0	6.18	6.12
pH Measurement Temp	°C	16.4	12.7	9	13
Solids, Total Dissolved TDS @ 180 C	mg/L	7650	7840	7770	7600
Nitrogen, Ammonia as N	mg/L	ND(0.05)	0.07	0.07	ND(0.05)
Nitrogen, Nitrate+Nitrite as N	mg/L	0.11	0.08	0.06	0.05
Aluminum	mg/L	ND(0.09)	0.05	0.06	0.07
Arsenic	mg/L	0.488	0.449	0.319	0.544
Beryllium	mg/L	0.001	0.001	0.002	0.002
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	0.132	0.123	0.128	0.147
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	6.90	6.27	6.77	7.48
Molybdenum	mg/L	0.348	0.360	0.293	0.308
Nickel	mg/L	0.326	0.280	0.331	0.384
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0079	0.0080	0.0072	0.0093
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	10.9	8.3	7.7	8.6
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	2.4	2.1	1.9	2.1
Lead 210	pCi/L	1.2	0.7	0.6	1.1
Lead 210 MDC	pCi/L	1.1	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.7	0.6	0.5	0.7
Radium 226	pCi/L	5.5	6.7	4.5	5.9
Radium 226 MDC	pCi/L	0.2	0.3	0.2	0.2
Radium 226 precision (±)	pCi/L	1.1	1.4	0.9	1.2
Radium 228	pCi/L	3.0	5.3	5.2	6.4
Radium 228 MDC	pCi/L	1.6	1.0	1.4	0.9
Radium 228 precision (±)	pCi/L	1.2	1.2	1.3	1.4
Thorium 230	pCi/L	0.2	0.03	0.08	0.6
Thorium 230 MDC	pCi/L	0.1	0.2	0.2	0.2
Thorium 230 precision (±)	pCi/L	0.1	0.08	0.1	0.2
A/C Balance	%	-5.78	-2.26	-4.55	-1.83
Anions	meq/L	117	116	116	116
Cations	meq/L	105	111	106	112
Solids, Total Dissolved - Calculated	mg/L	7150	7160	7070	7160
TDS Ratio	unitless	1.07	1.09	1.10	1.06
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	1.2	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	1.2	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.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-002
Client Sample ID: 717

Report Date: 08/13/21
Collection Date: 07/05/21 10:16
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	1160	mg/L				A2310 B	07/14/21 12:18 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/08/21 17:01 / kjp
Chloride	43	mg/L	D	2		E300.0	07/09/21 20:43 / dmb
Sulfate	4260	mg/L	D	8		E300.0	07/09/21 20:43 / dmb
Calcium	455	mg/L		1		E200.7	07/08/21 12:28 / meh
Magnesium	414	mg/L		1		E200.7	07/08/21 12:28 / meh
Potassium	7	mg/L		1		E200.7	07/08/21 12:28 / meh
Sodium	141	mg/L	D	3		E200.7	07/08/21 12:28 / meh
PHYSICAL PROPERTIES							
pH	3.4	s.u.	H	0.1		A4500-H B	07/08/21 14:47 / pla
pH Measurement Temp	15.5	°C				A4500-H B	07/08/21 14:47 / pla
Solids, Total Dissolved TDS @ 180 C	5950	mg/L	D	40		A2540 C	07/09/21 13:39 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	07/12/21 14:31 / dmb
Nitrogen, Ammonia as N	14	mg/L	D	1		E350.1	07/09/21 10:28 / dmb
METALS, TOTAL							
Aluminum	156	mg/L	D	2		E200.8	07/21/21 22:29 / meh
Arsenic	0.009	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Beryllium	0.122	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Cadmium	0.011	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Cobalt	0.87	mg/L	D	0.01		E200.8	07/21/21 22:29 / meh
Lead	0.028	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Manganese	12.0	mg/L	D	0.07		E200.8	07/21/21 22:29 / meh
Molybdenum	ND	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Nickel	0.876	mg/L		0.005		E200.8	07/15/21 20:59 / jcg
Selenium	0.007	mg/L		0.001		E200.8	07/15/21 20:59 / jcg
Uranium	0.555	mg/L	D	0.0005		E200.8	07/15/21 20:59 / jcg
Vanadium	ND	mg/L	D	0.2		E200.8	07/21/21 22:29 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	26.8	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	5.6	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	2.0	pCi/L				E909.0	07/15/21 06:09 / hat
Lead 210 precision (±)	0.9	pCi/L				E909.0	07/15/21 06:09 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	07/15/21 06:09 / hat
Radium 226	13.9	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 precision (±)	2.6	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 226 MDC	0.1	pCi/L				E903.0	07/19/21 09:35 / amm
Radium 228	14.5	pCi/L				RA-05	07/12/21 13:50 / trs
Radium 228 precision (±)	2.7	pCi/L				RA-05	07/12/21 13:50 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3 & Zone 1
Lab ID: C21070218-002
Client Sample ID: 717

Report Date: 08/13/21
Collection Date: 07/05/21 10:16
Date Received: 07/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	0.9	pCi/L				RA-05	07/12/21 13:50 / trs
Thorium 230	0.8	pCi/L	U			A7500-U C	07/16/21 12:26 / mrt
Thorium 230 precision (±)	0.8	pCi/L				A7500-U C	07/16/21 12:26 / mrt
Thorium 230 MDC	1.3	pCi/L				A7500-U C	07/16/21 12:26 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5330	mg/L		1.00		A1030 E	07/15/21 15:32 / jlw
A/C Balance	-1.67	%				A1030 E	07/15/21 15:32 / jlw
Anions	90.3	meq/L				A1030 E	07/15/21 15:32 / jlw
Cations	87.4	meq/L				A1030 E	07/15/21 15:32 / jlw
TDS Ratio	1.12	unitless				A1030 E	07/15/21 15:32 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	07/15/21 10:22 / etad
Bromoform	ND	ug/L		2.0		E624.1	07/15/21 10:22 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	07/15/21 10:22 / etad
Chloroform	0.53	ug/L	J	1.0		E624.1	07/15/21 10:22 / etad
Trihalomethanes, Total	0.53	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	103	%REC		73-122		E624.1	07/15/21 10:22 / etad
Surr: p-Bromofluorobenzene	102	%REC		79-119		E624.1	07/15/21 10:22 / etad
Surr: Toluene-d8	104	%REC		80-120		E624.1	07/15/21 10:22 / 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: C21100250-007
Client Sample ID: 717

Report Date: 11/19/21
Collection Date: 10/04/21 14:52
Date Received: 10/06/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	1240	mg/L				A2310 B	10/15/21 15:34 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/08/21 18:49 / kjp
Chloride	41	mg/L	D	2		E300.0	10/09/21 04:52 / dmb
Sulfate	4380	mg/L	D	8		E300.0	10/09/21 04:52 / dmb
Calcium	406	mg/L		1		E200.7	10/13/21 14:57 / jcg
Magnesium	361	mg/L		1		E200.7	10/13/21 14:57 / jcg
Potassium	9	mg/L		1		E200.7	10/13/21 14:57 / jcg
Sodium	126	mg/L	D	3		E200.7	10/13/21 14:57 / jcg
PHYSICAL PROPERTIES							
pH	3.4	s.u.	H	0.1		A4500-H B	10/07/21 12:06 / mnm
pH Measurement Temp	16.1	°C				A4500-H B	10/07/21 12:06 / mnm
Solids, Total Dissolved TDS @ 180 C	5790	mg/L	D	40		A2540 C	10/07/21 10:22 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	10/07/21 14:08 / nts
Nitrogen, Ammonia as N	15	mg/L	D	1		E350.1	10/11/21 11:57 / nts
METALS, TOTAL							
Aluminum	161	mg/L	D	0.05		E200.7	10/27/21 00:23 / jcg
Arsenic	0.008	mg/L		0.001		E200.8	10/18/21 15:56 / srm
Beryllium	0.131	mg/L		0.001		E200.7	10/27/21 00:23 / jcg
Cadmium	0.012	mg/L		0.001		E200.8	10/18/21 15:56 / srm
Cobalt	0.870	mg/L		0.005		E200.8	10/18/21 15:56 / srm
Lead	0.030	mg/L		0.001		E200.8	10/18/21 15:56 / srm
Manganese	13.1	mg/L	D	0.007		E200.8	10/29/21 18:13 / srm
Molybdenum	ND	mg/L		0.001		E200.8	11/04/21 03:22 / jcg
Nickel	0.911	mg/L		0.005		E200.8	10/18/21 15:56 / srm
Selenium	0.006	mg/L		0.001		E200.8	10/18/21 15:56 / srm
Uranium	0.591	mg/L	D	0.0005		E200.8	10/18/21 15:56 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/18/21 15:56 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	28.0	pCi/L				E900.1	10/15/21 09:13 / amn
Gross Alpha minus Rn & U Precision (±)	5.7	pCi/L				E900.1	10/15/21 09:13 / amn
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 09:13 / amn
Lead 210	1.1	pCi/L				E909.0	10/18/21 01:58 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/18/21 01:58 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/18/21 01:58 / hat
Radium 226	11.7	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 226 precision (±)	2.3	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:43 / amn
Radium 228	16.5	pCi/L				RA-05	10/15/21 12:59 / trs
Radium 228 precision (±)	3.3	pCi/L				RA-05	10/15/21 12:59 / trs

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit
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MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Zone 1 & Zone 3
Lab ID: C21100250-007
Client Sample ID: 717

Report Date: 11/19/21
Collection Date: 10/04/21 14:52
Date Received: 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	28.2	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	4.0	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	2.0	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 precision (±)	0.4	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 MDC	0.4	pCi/L				A7500-U C	10/28/21 15:34 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5330	mg/L		1.00		A1030 E	10/18/21 08:58 / jlw
A/C Balance	-6.47	%				A1030 E	10/18/21 08:58 / jlw
Anions	92.7	meq/L				A1030 E	10/18/21 08:58 / jlw
Cations	81.4	meq/L				A1030 E	10/18/21 08:58 / jlw
TDS Ratio	1.09	unitless				A1030 E	10/18/21 08:58 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/14/21 19:48 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/14/21 19:48 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/14/21 19:48 / etad
Chloroform	1.1	ug/L		1.0		E624.1	10/14/21 19:48 / etad
Trihalomethanes, Total	1.1	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 19:48 / etad
Surr: p-Bromofluorobenzene	87.0	%REC		79-119		E624.1	10/14/21 19:48 / etad
Surr: Toluene-d8	92.0	%REC		80-120		E624.1	10/14/21 19:48 / 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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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 CaCO ₃	mg/L	1240	1160	1300	1320
Bicarbonate as HCO ₃	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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-002
Client Sample ID: 719

Report Date: 08/13/21
Collection Date: 07/13/21 09:48
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	11	mg/L		5		A2320 B	07/17/21 11:30 / dmb
Chloride	30	mg/L	D	2		E300.0	07/20/21 01:25 / dmb
Sulfate	4510	mg/L	D	8		E300.0	07/20/21 01:25 / dmb
Calcium	495	mg/L	D	3		E200.7	07/19/21 15:02 / meh
Magnesium	726	mg/L		1		E200.7	07/19/21 15:02 / meh
Potassium	12	mg/L	D	2		E200.7	07/19/21 15:02 / meh
Sodium	151	mg/L	D	5		E200.7	07/19/21 15:02 / meh
PHYSICAL PROPERTIES							
pH	5.6	s.u.	H	0.1		A4500-H B	07/16/21 15:36 / pla
pH Measurement Temp	12.0	°C				A4500-H B	07/16/21 15:36 / pla
Solids, Total Dissolved TDS @ 180 C	6420	mg/L	D	40		A2540 C	07/19/21 09:19 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	07/19/21 14:33 / dmb
Nitrogen, Ammonia as N	0.42	mg/L		0.05		E350.1	07/22/21 15:03 / dmb
METALS, TOTAL							
Aluminum	4.10	mg/L	D	0.04		E200.8	07/22/21 02:02 / meh
Arsenic	0.003	mg/L		0.001		E200.8	07/22/21 02:02 / meh
Beryllium	0.005	mg/L		0.001		E200.8	07/26/21 14:07 / srm
Cadmium	ND	mg/L		0.001		E200.8	07/22/21 02:02 / meh
Cobalt	0.188	mg/L		0.005		E200.8	07/22/21 02:02 / meh
Lead	0.002	mg/L		0.001		E200.8	07/22/21 02:02 / meh
Manganese	5.57	mg/L	D	0.01		E200.7	07/20/21 19:15 / meh
Molybdenum	0.340	mg/L		0.001		E200.8	07/22/21 02:02 / meh
Nickel	0.290	mg/L		0.005		E200.8	07/22/21 02:02 / meh
Selenium	ND	mg/L		0.001		E200.8	07/22/21 02:02 / meh
Uranium	0.105	mg/L	D	0.0005		E200.8	07/22/21 02:02 / meh
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 02:02 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	10.6	pCi/L				E900.1	07/19/21 10:10 / amm
Gross Alpha minus Rn & U Precision (±)	2.6	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	1.4	pCi/L				E909.0	08/09/21 01:22 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	08/09/21 01:22 / hat
Lead 210 MDC	0.8	pCi/L				E909.0	08/09/21 01:22 / hat
Radium 226	6.0	pCi/L				E903.0	08/02/21 07:40 / trs
Radium 226 precision (±)	1.2	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	9.4	pCi/L				RA-05	07/27/21 11:36 / trs
Radium 228 precision (±)	1.9	pCi/L				RA-05	07/27/21 11:36 / trs
Radium 228 MDC	0.9	pCi/L				RA-05	07/27/21 11:36 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-002
Client Sample ID: 719

Report Date: 08/13/21
Collection Date: 07/13/21 09:48
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	2.6	pCi/L				A7500-U C	07/28/21 15:36 / mrt
Thorium 230 precision (±)	0.5	pCi/L				A7500-U C	07/28/21 15:36 / mrt
Thorium 230 MDC	0.2	pCi/L				A7500-U C	07/28/21 15:36 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5930	mg/L		1.00		A1030 E	07/22/21 10:05 / tlf
A/C Balance	-1.93	%				A1030 E	07/22/21 10:05 / tlf
Anions	94.9	meq/L				A1030 E	07/22/21 10:05 / tlf
Cations	91.3	meq/L				A1030 E	07/22/21 10:05 / tlf
TDS Ratio	1.08	unitless				A1030 E	07/22/21 10:05 / tlf
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/20/21 14:58 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/20/21 14:58 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/20/21 14:58 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/20/21 14:58 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/23/21 16:42 / tlf
Surr: 1,2-Dichloroethane-d4	115	%REC		71-139		E624.1	07/20/21 14:58 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/20/21 14:58 / eli-b
Surr: Toluene-d8	98.0	%REC		80-123		E624.1	07/20/21 14:58 / 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: C21100328-004
Client Sample ID: 719

Report Date: 11/27/21
Collection Date: 10/05/21 12:26
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	13	mg/L		5		A2320 B	10/11/21 19:45 / kjp
Chloride	30	mg/L	D	2		E300.0	10/13/21 09:17 / dmb
Sulfate	4590	mg/L	D	8		E300.0	10/13/21 09:17 / dmb
Calcium	436	mg/L		1		E200.7	10/21/21 20:40 / jcg
Magnesium	726	mg/L		1		E200.7	10/29/21 11:53 / jcg
Potassium	11	mg/L		1		E200.7	10/21/21 20:40 / jcg
Sodium	138	mg/L		1		E200.7	10/21/21 20:40 / jcg
PHYSICAL PROPERTIES							
pH	5.5	s.u.	H	0.1		A4500-H B	10/08/21 13:30 / mnm
pH Measurement Temp	13.9	°C				A4500-H B	10/08/21 13:30 / mnm
Solids, Total Dissolved TDS @ 180 C	6170	mg/L	D	40		A2540 C	10/11/21 12:01 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	10/12/21 13:44 / nts
Nitrogen, Ammonia as N	0.36	mg/L		0.05		E350.1	10/11/21 12:46 / nts
METALS, TOTAL							
Aluminum	3.17	mg/L	D	0.04		E200.8	10/19/21 06:04 / srm
Arsenic	0.005	mg/L		0.001		E200.8	10/19/21 06:04 / srm
Beryllium	0.004	mg/L		0.001		E200.8	10/19/21 06:04 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:04 / srm
Cobalt	0.188	mg/L		0.005		E200.8	10/19/21 06:04 / srm
Lead	0.001	mg/L		0.001		E200.8	10/19/21 06:04 / srm
Manganese	5.38	mg/L	D	0.002		E200.8	10/19/21 06:04 / srm
Molybdenum	0.547	mg/L		0.001		E200.8	10/19/21 06:04 / srm
Nickel	0.277	mg/L		0.005		E200.8	10/19/21 06:04 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 05:45 / srm
Uranium	0.0910	mg/L	D	0.0005		E200.8	10/19/21 06:04 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:04 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	7.8	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	1.8	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	1	pCi/L	U			E909.0	10/18/21 20:47 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/18/21 20:47 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/18/21 20:47 / hat
Radium 226	3.5	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 precision (±)	0.7	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 228	9.6	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 228 precision (±)	1.9	pCi/L				RA-05	10/15/21 11:58 / trs
Radium 228 MDC	0.9	pCi/L				RA-05	10/15/21 11:58 / 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-004
Client Sample ID: 719

Report Date: 11/27/21
Collection Date: 10/05/21 12:26
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	13.1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	2.0	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	0.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.6	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	10/28/21 15:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5960	mg/L		1.00		A1030 E	11/01/21 15:34 / jlw
A/C Balance	-4.84	%				A1030 E	11/01/21 15:34 / jlw
Anions	96.7	meq/L				A1030 E	11/01/21 15:34 / jlw
Cations	87.8	meq/L				A1030 E	11/01/21 15:34 / jlw
TDS Ratio	1.04	unitless				A1030 E	11/01/21 15:34 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 14:53 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 14:53 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 14:53 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 14:53 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	94.0	%REC		73-122		E624.1	10/15/21 14:53 / etad
Surr: p-Bromofluorobenzene	96.0	%REC		79-119		E624.1	10/15/21 14:53 / etad
Surr: Toluene-d8	101	%REC		80-120		E624.1	10/15/21 14:53 / 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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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		719	719	719	719
Collection Date:		10/5/2021	7/13/2021	4/12/2021	1/11/2021
Receive Date:		10/7/2021	7/15/2021	4/14/2021	1/14/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-004	C21070606-002	C21040618-002	C21010503-002
Cations	meq/L	87.8	91.3	89.0	91.1
Solids, Total Dissolved - Calculated	mg/L	5960	5930	6030	5850
TDS Ratio	unitless	1.04	1.08	1.03	1.06
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	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)
Bicarbonate as HCO3	mg/L	13	11	13	9
Calcium	mg/L	436	495	459	480
Chloride	mg/L	30	30	34	31
Magnesium	mg/L	726	726	721	728
Potassium	mg/L	11	12	13	14
Sodium	mg/L	138	151	148	156
Sulfate	mg/L	4590	4510	4650	4430
pH	s.u.	5.5	5.6	5.55	5.43
pH Measurement Temp	°C	13.9	12.0	14	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6170	6420	6190	6220
Nitrogen, Ammonia as N	mg/L	0.36	0.42	0.39	0.38
Nitrogen, Nitrate+Nitrite as N	mg/L	0.05	0.04	0.04	ND(0.01)
Aluminum	mg/L	3.17	4.10	4.13	5.31
Arsenic	mg/L	0.005	0.003	0.002	0.004
Beryllium	mg/L	0.004	0.005	0.005	0.005
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	0.188	0.188	0.192	0.208
Lead	mg/L	0.001	0.002	ND(0.001)	0.002
Manganese	mg/L	5.38	5.57	5.42	5.63
Molybdenum	mg/L	0.547	0.340	0.300	0.351
Nickel	mg/L	0.277	0.290	0.301	0.311
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0910	0.105	0.111	0.132
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	7.8	10.6	12.7	10.8
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.3	0.8	1.3
Gross Alpha minus Rn & U Precision (±)	pCi/L	1.8	2.6	2.8	2.6
Lead 210	pCi/L	1	1.4	0.2	1.1
Lead 210 MDC	pCi/L	1.0	0.8	1.0	1.1
Lead 210 precision (±)	pCi/L	0.6	0.7	0.6	0.8
Radium 226	pCi/L	3.5	6.0	4.0	4.4
Radium 226 MDC	pCi/L	0.2	0.2	0.1	0.2
Radium 226 precision (±)	pCi/L	0.7	1.2	0.8	0.9
Radium 228	pCi/L	9.6	9.4	11.6	12.3
Radium 228 MDC	pCi/L	0.9	0.9	1.2	1.0
Radium 228 precision (±)	pCi/L	1.9	1.9	2.4	2.5
Thorium 230	pCi/L	0.6	2.6	0.6	0.5
Thorium 230 MDC	pCi/L	0.2	0.2	0.1	0.1
Thorium 230 precision (±)	pCi/L	0.2	0.5	0.1	0.1
A/C Balance	%	-4.84	-1.93	-4.78	-1.25
Anions	meq/L	96.7	94.9	98.0	93.4

SEMI-ANNUAL GROUND WATER MONITORING REPORT
SUPPLEMENTAL QUARTERLY/ MONTHLY SAMPLING
JULY TO DECEMBER OF 2021

ZONE-3

NBL-2
RW-A
NW-3
NW-4
NW-5
MW-7
RW-11(OCTOBER ONLY)
SW-1B
SW-3B

LEVELS ONLY

PB-2 (DRY)
PB-3 (DRY)
PB-4
MW-6
IW-A
NW-1
NW-2
MW-2 (October only)
MW-3 (October only)
703 (October only)
709 (October only)
715 (October only)
716 (October only)
718 (October only)
RW-16 (October only)
RW-17 (October only)
Z3M-1 (October only)
Z3M-2 (October only)

NOTE: WATER LEVEL ONLY IS IN FIELD DATA SHEET



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-008
Client Sample ID: NBL-2

Report Date: 08/13/21
Collection Date: 07/14/21 10:05
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	296	mg/L		5		A2320 B	07/17/21 12:06 / dmb
Chloride	39	mg/L		1		E300.0	07/20/21 04:37 / dmb
PHYSICAL PROPERTIES							
pH	7.1	s.u.	H	0.1		A4500-H B	07/16/21 15:56 / pla
pH Measurement Temp	13.1	°C				A4500-H B	07/16/21 15:56 / pla
Solids, Total Dissolved TDS @ 180 C	3660	mg/L	D	40		A2540 C	07/19/21 09:22 / kjp

**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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-009
Client Sample ID: NBL-2

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	335	mg/L		5		A2320 B	10/11/21 20:37 / kjp
Chloride	37	mg/L		1		E300.0	10/13/21 12:09 / dmb
Sulfate	2160	mg/L	D	4		E300.0	10/13/21 12:09 / dmb
Calcium	604	mg/L		1		E200.7	10/29/21 12:14 / jcg
Magnesium	170	mg/L		1		E200.7	10/21/21 21:08 / jcg
Potassium	7	mg/L		1		E200.7	10/21/21 21:08 / jcg
Sodium	132	mg/L		1		E200.7	10/21/21 21:08 / jcg
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	10/08/21 13:47 / mnm
pH Measurement Temp	14.5	°C				A4500-H B	10/08/21 13:47 / mnm
Solids, Total Dissolved TDS @ 180 C	3630	mg/L	D	40		A2540 C	10/11/21 12:04 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	10/12/21 13:50 / nts
Nitrogen, Ammonia as N	0.05	mg/L		0.05		E350.1	10/11/21 12:56 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/21/21 22:46 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/19/21 06:42 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 22:46 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:42 / srm
Cobalt	0.039	mg/L		0.005		E200.8	10/19/21 06:42 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 22:46 / srm
Manganese	2.24	mg/L		0.001		E200.8	10/19/21 06:42 / srm
Molybdenum	0.148	mg/L		0.001		E200.8	10/21/21 22:46 / srm
Nickel	0.043	mg/L		0.005		E200.8	10/19/21 06:42 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 06:04 / srm
Uranium	0.183	mg/L	D	0.0005		E200.8	10/19/21 06:42 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:42 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	12.3	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	2.7	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	0.4	pCi/L	U			E909.0	10/19/21 13:05 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 13:05 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/19/21 13:05 / hat
Radium 226	4.8	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 precision (±)	1	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 228	12.3	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 precision (±)	2.4	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 MDC	1.3	pCi/L				RA-05	10/15/21 13:31 / 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-009
Client Sample ID: NBL-2

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	17.0	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	2.6	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.3	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.2	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 precision (±)	0.09	pCi/L				A7500-U C	10/28/21 15:34 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	10/28/21 15:34 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3290	mg/L		1.00		A1030 E	11/01/21 15:35 / jlw
A/C Balance	-1.40	%				A1030 E	11/01/21 15:35 / jlw
Anions	51.5	meq/L				A1030 E	11/01/21 15:35 / jlw
Cations	50.1	meq/L				A1030 E	11/01/21 15:35 / jlw
TDS Ratio	1.10	unitless				A1030 E	11/01/21 15:35 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/18/21 15:52 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/18/21 15:52 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/18/21 15:52 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/18/21 15:52 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	102	%REC		71-139		E624.1	10/18/21 15:52 / eli-b
Surr: p-Bromofluorobenzene	97.0	%REC		80-127		E624.1	10/18/21 15:52 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624.1	10/18/21 15:52 / eli-b

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		NBL-2	NBL-2	NBL-2	NBL-2
Collection Date:		10/6/2021	4/14/2021	1/13/2021	10/7/2020
Receive Date:		10/7/2021	4/19/2021	1/15/2021	10/8/2020
Report Date:		11/4/2021	5/20/2021	2/24/2021	12/18/2020
Analyte	Units	C21100328-009	C21040721-007	C21010517-008	C20100431-008
Bicarbonate as HCO ₃	mg/L	335	312	294	302
Calcium	mg/L	604			602
Chloride	mg/L	37	39	41	41
Magnesium	mg/L	170			166
Potassium	mg/L	7			8
Sodium	mg/L	132			144
Sulfate	mg/L	2160			2210
pH	s.u.	6.7	6.89	7.24	6.95
pH Measurement Temp	°C	14.5	17	14	18
Solids, Total Dissolved TDS @ 180 C	mg/L	3630	3610	3540	3620
Nitrogen, Ammonia as N	mg/L	0.05			ND(0.05)
Nitrogen, Nitrate+Nitrite as N	mg/L	0.05			0.11
Aluminum	mg/L	ND(0.03)			ND(0.03)
Arsenic	mg/L	ND(0.001)			ND(0.001)
Beryllium	mg/L	ND(0.001)			ND(0.002)
Cadmium	mg/L	ND(0.001)			ND(0.001)
Cobalt	mg/L	0.039			0.027
Lead	mg/L	ND(0.001)			ND(0.001)
Manganese	mg/L	2.24			1.19
Molybdenum	mg/L	0.148			0.103
Nickel	mg/L	0.043			0.042
Selenium	mg/L	ND(0.001)			ND(0.001)
Uranium	mg/L	0.183			0.223
Vanadium	mg/L	ND(0.01)			ND(0.01)
Gross Alpha minus Rn & U	pCi/L	12.3			9.0
Gross Alpha minus Rn & U MDC	pCi/L	0.9			0.9
Gross Alpha minus Rn & U Precision (±)	pCi/L	2.7			2.1
Lead 210	pCi/L	0.4			0.6
Lead 210 MDC	pCi/L	1.0			1.1
Lead 210 precision (±)	pCi/L	0.6			0.7
Radium 226	pCi/L	4.8			4.5
Radium 226 MDC	pCi/L	0.2			0.2
Radium 226 precision (±)	pCi/L	1			0.9
Radium 228	pCi/L	12.3			8.3
Radium 228 MDC	pCi/L	1.3			0.9
Radium 228 precision (±)	pCi/L	2.4			1.7
Thorium 230	pCi/L	0.2			0.09
Thorium 230 MDC	pCi/L	0.1			0.1
Thorium 230 precision (±)	pCi/L	0.09			0.07
A/C Balance	%	-1.40			-2.01
Anions	meq/L	51.5			52.2
Cations	meq/L	50.1			50.2
Solids, Total Dissolved - Calculated	mg/L	3290			3320
TDS Ratio	unitless	1.10			1.09
Bromodichloromethane	ug/L	ND(0.50)			ND(0.50)
Bromoform	ug/L	ND(0.50)			ND(0.50)
Chlorodibromomethane	ug/L	ND(0.50)			ND(0.50)
Chloroform	ug/L	ND(0.50)			ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)			ND(0.50)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-005
Client Sample ID: RW-A

Report Date: 08/13/21
Collection Date: 07/13/21 13:25
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	175	mg/L				A2310 B	07/23/21 13:30 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/17/21 11:47 / dmb
Chloride	28	mg/L	D	2		E300.0	07/20/21 03:39 / dmb
PHYSICAL PROPERTIES							
pH	3.7	s.u.	H	0.1		A4500-H B	07/16/21 15:47 / pla
pH Measurement Temp	12.8	°C				A4500-H B	07/16/21 15:47 / pla
Solids, Total Dissolved TDS @ 180 C	6100	mg/L	D	40		A2540 C	07/19/21 09:21 / kjp

**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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-007
Client Sample ID: RW-A

Report Date: 12/03/21
Collection Date: 10/12/21 12:20
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	32	mg/L		5		A2320 B	10/16/21 01:10 / kjp
Chloride	28	mg/L	D	2		E300.0	10/17/21 00:33 / dmb
Sulfate	4380	mg/L	D	8		E300.0	10/17/21 00:33 / dmb
Calcium	498	mg/L		1		E200.7	10/26/21 16:56 / jcg
Magnesium	599	mg/L		1		E200.7	10/26/21 16:56 / jcg
Potassium	12	mg/L		1		E200.7	10/26/21 16:56 / jcg
Sodium	153	mg/L	D	2		E200.7	10/26/21 16:56 / jcg
PHYSICAL PROPERTIES							
pH	5.7	s.u.	H	0.1		A4500-H B	10/15/21 09:49 / mnm
pH Measurement Temp	12.8	°C				A4500-H B	10/15/21 09:49 / mnm
Solids, Total Dissolved TDS @ 180 C	6270	mg/L	D	40		A2540 C	10/15/21 09:52 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	10/18/21 13:13 / nts
Nitrogen, Ammonia as N	0.54	mg/L		0.05		E350.1	10/19/21 13:33 / nts
METALS, TOTAL							
Aluminum	0.33	mg/L	D	0.09		E200.8	10/29/21 15:15 / srm
Arsenic	0.004	mg/L		0.001		E200.8	10/29/21 15:15 / srm
Beryllium	0.003	mg/L		0.001		E200.7	10/26/21 22:16 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:15 / srm
Cobalt	0.433	mg/L		0.005		E200.8	10/29/21 15:15 / srm
Lead	ND	mg/L		0.001		E200.8	10/29/21 15:15 / srm
Manganese	7.04	mg/L	D	0.004		E200.8	10/29/21 15:15 / srm
Molybdenum	0.045	mg/L	D	0.003		E200.8	10/29/21 15:15 / srm
Nickel	0.53	mg/L	D	0.05		E200.7	10/26/21 22:16 / jcg
Selenium	ND	mg/L		0.001		E200.8	10/29/21 15:15 / srm
Uranium	0.007	mg/L	D	0.001		E200.8	10/29/21 15:15 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:15 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	33.7	pCi/L				E900.1	10/22/21 09:37 / ammm
Gross Alpha minus Rn & U Precision (±)	6.8	pCi/L				E900.1	10/22/21 09:37 / ammm
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 09:37 / ammm
Lead 210	1.0	pCi/L				E909.0	10/30/21 17:30 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/30/21 17:30 / hat
Lead 210 MDC	1	pCi/L				E909.0	10/30/21 17:30 / hat
Radium 226	23.3	pCi/L				E903.0	10/27/21 11:06 / ammm
Radium 226 precision (±)	4.5	pCi/L				E903.0	10/27/21 11:06 / ammm
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:06 / ammm
Radium 228	20.1	pCi/L				RA-05	10/22/21 13:48 / ammm
Radium 228 precision (±)	3.7	pCi/L				RA-05	10/22/21 13:48 / ammm
Radium 228 MDC	1.2	pCi/L				RA-05	10/22/21 13:48 / ammm

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-007
Client Sample ID: RW-A

Report Date: 12/03/21
Collection Date: 10/12/21 12:20
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	43.4	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	5.8	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	0.2	pCi/L				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	0.1	pCi/L				A7500-U C	11/04/21 13:21 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5690	mg/L		1.00		A1030 E	10/27/21 17:06 / jlw
A/C Balance	-3.53	%				A1030 E	10/27/21 17:06 / jlw
Anions	92.6	meq/L				A1030 E	10/27/21 17:06 / jlw
Cations	86.3	meq/L				A1030 E	10/27/21 17:06 / jlw
TDS Ratio	1.10	unitless				A1030 E	10/27/21 17:06 / jlw
Cation/Anion Balance includes selected metals							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 14:11 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 14:11 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 14:11 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 14:11 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/22/21 14:11 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/22/21 14:11 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/22/21 14:11 / 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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CASPER, WY

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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		RW-A	RW-A	RW-A	RW-A
Collection Date:		10/12/2021	7/13/2021	4/14/2021	1/13/2021
Receive Date:		10/14/2021	7/18/2021	4/19/2021	1/15/2021
Report Date:		12/3/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100526-007	C21070606-005	C21040721-008	C21010517-009
Acidity, Total as CaCO ₃	mg/L		175	180	
Bicarbonate as HCO ₃	mg/L	32	ND(5)	ND(5)	10
Calcium	mg/L	498			
Chloride	mg/L	28	28	27	30
Magnesium	mg/L	599			
Potassium	mg/L	12			
Sodium	mg/L	153			
Sulfate	mg/L	4380			
pH	s.u.	5.7	3.7	3.22	5.28
pH Measurement Temp	°C	12.8	12.8	17	14
Solids, Total Dissolved TDS @ 180 C	mg/L	6270	6100	5930	6070
Nitrogen, Ammonia as N	mg/L	0.54			
Nitrogen, Nitrate+Nitrite as N	mg/L	0.05			
Aluminum	mg/L	0.33			
Arsenic	mg/L	0.004			
Beryllium	mg/L	0.003			
Cadmium	mg/L	ND(0.001)			
Cobalt	mg/L	0.433			
Lead	mg/L	ND(0.001)			
Manganese	mg/L	7.04			
Molybdenum	mg/L	0.045			
Nickel	mg/L	0.53			
Selenium	mg/L	ND(0.001)			
Uranium	mg/L	0.007			
Vanadium	mg/L	ND(0.01)			
Gross Alpha minus Rn & U	pCi/L	33.7			
Gross Alpha minus Rn & U MDC	pCi/L	0.7			
Gross Alpha minus Rn & U Precision (±)	pCi/L	6.8			
Lead 210	pCi/L	1.0			
Lead 210 MDC	pCi/L	1			
Lead 210 precision (±)	pCi/L	0.7			
Radium 226	pCi/L	23.3			
Radium 226 MDC	pCi/L	0.2			
Radium 226 precision (±)	pCi/L	4.5			
Radium 228	pCi/L	20.1			
Radium 228 MDC	pCi/L	1.2			
Radium 228 precision (±)	pCi/L	3.7			
Thorium 230 MDC	pCi/L	0.1			
Thorium 230 precision (±)	pCi/L	0.09			
A/C Balance	%	-3.53			
Anions	meq/L	92.6			
TDS Ratio	unitless	1.10			
1,2-Dichloroethane-d4	ug/L	9.8			
Bromodichloromethane	ug/L	ND(1.0)			
Bromoform	ug/L	ND(2.0)			
Chlorodibromomethane	ug/L	ND(1.0)			
Chloroform	ug/L	ND(1.0)			
Trihalomethanes, Total	ug/L	ND(0.50)			

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-004
Client Sample ID: NW-3

Report Date: 08/13/21
Collection Date: 07/07/21 10:10
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	342	mg/L		5		A2320 B	07/12/21 12:46 / kjp
Chloride	37	mg/L	D	2		E300.0	07/12/21 19:41 / dmb
Sulfate	3120	mg/L	D	8		E300.0	07/12/21 19:41 / dmb
Calcium	621	mg/L		1		E200.7	07/09/21 11:46 / meh
Magnesium	353	mg/L		1		E200.7	07/09/21 11:46 / meh
Potassium	9	mg/L		1		E200.7	07/09/21 11:46 / meh
Sodium	149	mg/L	D	3		E200.7	07/09/21 11:46 / meh
PHYSICAL PROPERTIES							
pH	6.8	s.u.	H	0.1		A4500-H B	07/09/21 12:14 / pla
pH Measurement Temp	12.6	°C				A4500-H B	07/09/21 12:14 / pla
Solids, Total Dissolved TDS @ 180 C	4900	mg/L	D	40		A2540 C	07/09/21 13:47 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	07/12/21 14:54 / dmb
Nitrogen, Ammonia as N	0.49	mg/L		0.05		E350.1	07/09/21 10:47 / dmb
METALS, TOTAL							
Aluminum	0.22	mg/L	D	0.04		E200.8	07/22/21 01:00 / meh
Arsenic	7.15	mg/L		0.001		E200.8	07/15/21 22:44 / jcg
Beryllium	ND	mg/L		0.001		E200.8	07/22/21 16:12 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/15/21 22:44 / jcg
Cobalt	0.046	mg/L		0.005		E200.8	07/22/21 01:00 / meh
Lead	ND	mg/L		0.001		E200.8	07/15/21 22:44 / jcg
Manganese	4.70	mg/L	D	0.002		E200.8	07/15/21 22:44 / jcg
Molybdenum	0.264	mg/L		0.001		E200.8	07/15/21 22:44 / jcg
Nickel	0.007	mg/L		0.005		E200.8	07/15/21 22:44 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/15/21 22:44 / jcg
Uranium	0.0768	mg/L	D	0.0005		E200.8	07/15/21 22:44 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 01:00 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	20.9	pCi/L				E900.1	07/16/21 12:01 / amn
Gross Alpha minus Rn & U Precision (±)	4.5	pCi/L				E900.1	07/16/21 12:01 / amn
Gross Alpha minus Rn & U MDC	1.4	pCi/L				E900.1	07/16/21 12:01 / amn
Lead 210	0.7	pCi/L	U			E909.0	07/16/21 07:54 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/16/21 07:54 / hat
Lead 210 MDC	1	pCi/L				E909.0	07/16/21 07:54 / hat
Radium 226	17.8	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 226 precision (±)	3.4	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	07/21/21 09:54 / amn
Radium 228	11.9	pCi/L				RA-05	07/16/21 11:56 / amn
Radium 228 precision (±)	2.3	pCi/L				RA-05	07/16/21 11:56 / amn
Radium 228 MDC	0.9	pCi/L				RA-05	07/16/21 11:56 / amn

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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-004
Client Sample ID: NW-3

Report Date: 08/13/21
Collection Date: 07/07/21 10:10
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Thorium 230	0.07	pCi/L	U			A7500-U C	07/15/21 16:55 / mrt
Thorium 230 precision (±)	0.07	pCi/L				A7500-U C	07/15/21 16:55 / mrt
Thorium 230 MDC	0.1	pCi/L				A7500-U C	07/15/21 16:55 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	4460	mg/L		1.00		A1030 E	07/15/21 15:35 / jlw
A/C Balance	-3.50	%				A1030 E	07/15/21 15:35 / jlw
Anions	71.6	meq/L				A1030 E	07/15/21 15:35 / jlw
Cations	66.8	meq/L				A1030 E	07/15/21 15:35 / jlw
TDS Ratio	1.10	unitless				A1030 E	07/15/21 15:35 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/11/21 13:51 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/11/21 13:51 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/11/21 13:51 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	07/11/21 13:51 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	07/16/21 17:50 / tlf
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/11/21 13:51 / eli-b
Surr: p-Bromofluorobenzene	106	%REC		80-127		E624.1	07/11/21 13:51 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	07/11/21 13:51 / eli-b

**Report
Definitions:**

RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)

MCL - Maximum Contaminant Level
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-007
Client Sample ID: NW-3

Report Date: 11/27/21
Collection Date: 10/05/21 15:00
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	271	mg/L		5		A2320 B	10/11/21 20:01 / kjp
Chloride	36	mg/L	D	2		E300.0	10/13/21 10:52 / dmb
Sulfate	3160	mg/L	D	8		E300.0	10/13/21 10:52 / dmb
Calcium	608	mg/L		1		E200.7	10/21/21 20:52 / jcg
Magnesium	357	mg/L		1		E200.7	10/21/21 20:52 / jcg
Potassium	10	mg/L		1		E200.7	10/21/21 20:52 / jcg
Sodium	151	mg/L		1		E200.7	10/21/21 20:52 / jcg
PHYSICAL PROPERTIES							
pH	6.7	s.u.	H	0.1		A4500-H B	10/08/21 13:39 / mnm
pH Measurement Temp	14.2	°C				A4500-H B	10/08/21 13:39 / mnm
Solids, Total Dissolved TDS @ 180 C	4810	mg/L	D	40		A2540 C	10/11/21 12:03 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	10/12/21 13:48 / nts
Nitrogen, Ammonia as N	0.61	mg/L		0.05		E350.1	10/11/21 12:52 / nts
METALS, TOTAL							
Aluminum	0.20	mg/L	D	0.04		E200.8	10/19/21 06:33 / srm
Arsenic	6.17	mg/L		0.001		E200.8	10/19/21 06:33 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 22:35 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:33 / srm
Cobalt	0.027	mg/L		0.005		E200.8	10/19/21 06:33 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 22:35 / srm
Manganese	4.99	mg/L	D	0.002		E200.8	10/19/21 06:33 / srm
Molybdenum	0.342	mg/L		0.001		E200.8	10/21/21 22:35 / srm
Nickel	ND	mg/L		0.005		E200.8	10/19/21 06:33 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 05:59 / srm
Uranium	0.0761	mg/L	D	0.0005		E200.8	10/19/21 06:33 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:33 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	23.1	pCi/L				E900.1	10/15/21 10:56 / amn
Gross Alpha minus Rn & U Precision (±)	4.7	pCi/L				E900.1	10/15/21 10:56 / amn
Gross Alpha minus Rn & U MDC	0.9	pCi/L				E900.1	10/15/21 10:56 / amn
Lead 210	1	pCi/L	U			E909.0	10/19/21 06:35 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 06:35 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/19/21 06:35 / hat
Radium 226	14.6	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 226 precision (±)	2.8	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amn
Radium 228	18.3	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 precision (±)	3.5	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 MDC	1.1	pCi/L				RA-05	10/15/21 13:31 / trs

Report Definitions:
RL - Analyte Reporting Limit
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D - Reporting Limit (RL) increased due to sample matrix
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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-007
Client Sample ID: NW-3

Report Date: 11/27/21
Collection Date: 10/05/21 15:00
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	32.9	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	4.5	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.1	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.03	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.03	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.05	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	4450	mg/L		1.00		A1030 E	10/22/21 14:12 / jlw
A/C Balance	-3.33	%				A1030 E	10/22/21 14:12 / jlw
Anions	71.2	meq/L				A1030 E	10/22/21 14:12 / jlw
Cations	66.6	meq/L				A1030 E	10/22/21 14:12 / jlw
TDS Ratio	1.08	unitless				A1030 E	10/22/21 14:12 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/18/21 15:01 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/18/21 15:01 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/18/21 15:01 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/18/21 15:01 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	100	%REC		71-139		E624.1	10/18/21 15:01 / eli-b
Surr: p-Bromofluorobenzene	96.0	%REC		80-127		E624.1	10/18/21 15:01 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	10/18/21 15:01 / eli-b

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)

MCL - Maximum Contaminant Level
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PO Box 247, Casper, WY 82602-0247 • 2393 Salt Creek Hwy (82601)

United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		NW-3	NW-3	NW-3	NW-3
Collection Date:		10/5/2021	7/7/2021	4/7/2021	1/6/2021
Receive Date:		10/7/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-007	C21070279-004	C21040386-008	C21010234-008
Bicarbonate as HCO ₃	mg/L	271	342	333	365
Calcium	mg/L	608	621	633	620
Chloride	mg/L	36	37	37	38
Magnesium	mg/L	357	353	345	343
Potassium	mg/L	10	9	10	10
Sodium	mg/L	151	149	154	153
Sulfate	mg/L	3160	3120	3050	3120
pH	s.u.	6.7	6.8	6.74	6.88
pH Measurement Temp	°C	14.2	12.6	9	13
Solids, Total Dissolved TDS @ 180 C	mg/L	4810	4900	4880	4790
Nitrogen, Ammonia as N	mg/L	0.61	0.49	0.48	0.58
Nitrogen, Nitrate+Nitrite as N	mg/L	0.03	0.03	0.01	ND(0.01)
Aluminum	mg/L	0.20	0.22	0.12	0.15
Arsenic	mg/L	6.17	7.15	7.06	8.43
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	0.027	0.046	0.022	0.036
Lead	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	4.99	4.70	4.63	5.59
Molybdenum	mg/L	0.342	0.264	0.221	0.273
Nickel	mg/L	ND(0.005)	0.007	ND(0.005)	ND(0.005)
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0761	0.0768	0.0812	0.0963
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	23.1	20.9	20.2	33.6
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	4.7	4.5	4.3	6.8
Lead 210	pCi/L	1	0.7	1.2	0.7
Lead 210 MDC	pCi/L	1.0	1	0.9	0.9
Lead 210 precision (±)	pCi/L	0.6	0.6	0.7	0.6
Radium 226	pCi/L	14.6	17.8	14.3	22.8
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.2
Radium 226 precision (±)	pCi/L	2.8	3.4	2.7	4.3
Radium 228	pCi/L	18.3	11.9	8.2	12.7
Radium 228 MDC	pCi/L	1.1	0.9	1.0	0.8
Radium 228 precision (±)	pCi/L	3.5	2.3	1.7	2.4
Thorium 230	pCi/L	0.03	0.07	0.1	0.4
Thorium 230 MDC	pCi/L	0.05	0.1	0.1	0.1
Thorium 230 precision (±)	pCi/L	0.03	0.07	0.07	0.1
A/C Balance	%	-3.33	-3.50	-2.24	-4.31
Anions	meq/L	71.2	71.6	70.1	72.1
Cations	meq/L	66.6	66.8	67.0	66.1
Solids, Total Dissolved - Calculated	mg/L	4450	4460	4400	4470
TDS Ratio	unitless	1.08	1.10	1.11	1.07
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.



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-006
Client Sample ID: NW-4

Report Date: 08/13/21
Collection Date: 07/13/21 14:01
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	8	mg/L		5		A2320 B	07/17/21 11:52 / dmb
Chloride	19	mg/L	D	2		E300.0	07/20/21 03:58 / dmb
PHYSICAL PROPERTIES							
pH	5.7	s.u.	H	0.1		A4500-H B	07/16/21 15:50 / pla
pH Measurement Temp	12.9	°C				A4500-H B	07/16/21 15:50 / pla
Solids, Total Dissolved TDS @ 180 C	4420	mg/L	D	40		A2540 C	07/19/21 09:21 / kjp

**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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-009
Client Sample ID: NW-4

Report Date: 12/03/21
Collection Date: 10/12/21 13:00
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	12	mg/L		5		A2320 B	10/16/21 01:51 / kjp
Chloride	18	mg/L	D	2		E300.0	10/17/21 02:28 / dmb
PHYSICAL PROPERTIES							
pH	5.8	s.u.	H	0.1		A4500-H B	10/15/21 10:03 / mnm
pH Measurement Temp	14.2	°C				A4500-H B	10/15/21 10:03 / mnm
Solids, Total Dissolved TDS @ 180 C	4420	mg/L	D	40		A2540 C	10/15/21 09:53 / mnm

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



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United Nuclear Corp					
Guideline 8: Sweetwater					
Well ID:		NW-4	NW-4	NW-4	NW-4
Collection Date:		10/12/2021	7/13/2021	4/14/2021	1/13/2021
Receive Date:		10/14/2021	7/15/2021	4/19/2021	1/15/2021
Report Date:		12/3/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100526-009	C21070606-006	C21040721-009	C21010517-010
Bicarbonate as HCO ₃	mg/L	12	8	11	10
Chloride	mg/L	18	19	18	19
pH	s.u.	5.8	5.7	5.80	5.83
pH Measurement Temp	°C	14.2	12.9	16	15
Solids, Total Dissolved TDS @ 180 C	mg/L	4420	4420	4310	4370



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC - Zone 3
Lab ID: C21070606-007
Client Sample ID: NW-5

Report Date: 08/13/21
Collection Date: 07/13/21 14:29
Date Received: 07/15/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	40	mg/L		5		A2320 B	07/17/21 11:58 / dmb
Chloride	28	mg/L	D	2		E300.0	07/20/21 04:17 / dmb
PHYSICAL PROPERTIES							
pH	5.7	s.u.	H	0.1		A4500-H B	07/16/21 15:53 / pla
pH Measurement Temp	13.0	°C				A4500-H B	07/16/21 15:53 / pla
Solids, Total Dissolved TDS @ 180 C	5820	mg/L	D	40		A2540 C	07/19/21 09:21 / kjp

**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

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-006
Client Sample ID: NW-5

Report Date: 11/27/21
Collection Date: 10/05/21 15:30
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	76	mg/L		5		A2320 B	10/11/21 19:55 / kjp
Chloride	28	mg/L	D	2		E300.0	10/13/21 09:55 / dmb
Sulfate	4230	mg/L	D	8		E300.0	10/13/21 09:55 / dmb
Calcium	463	mg/L		1		E200.7	10/21/21 20:48 / jcg
Magnesium	598	mg/L		1		E200.7	10/29/21 12:10 / jcg
Potassium	11	mg/L		1		E200.7	10/21/21 20:48 / jcg
Sodium	153	mg/L		1		E200.7	10/21/21 20:48 / jcg
PHYSICAL PROPERTIES							
pH	6.0	s.u.	H	0.1		A4500-H B	10/08/21 13:36 / mnm
pH Measurement Temp	14.0	°C				A4500-H B	10/08/21 13:36 / mnm
Solids, Total Dissolved TDS @ 180 C	5740	mg/L	D	40		A2540 C	10/11/21 12:03 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	10/12/21 13:47 / nts
Nitrogen, Ammonia as N	0.54	mg/L		0.05		E350.1	10/11/21 12:48 / nts
METALS, TOTAL							
Aluminum	0.27	mg/L	D	0.04		E200.8	10/19/21 06:28 / srm
Arsenic	0.012	mg/L		0.001		E200.8	10/19/21 06:28 / srm
Beryllium	ND	mg/L		0.001		E200.8	10/21/21 22:30 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:28 / srm
Cobalt	0.352	mg/L		0.005		E200.8	10/19/21 06:28 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 22:30 / srm
Manganese	6.28	mg/L	D	0.002		E200.8	10/19/21 06:28 / srm
Molybdenum	0.234	mg/L		0.001		E200.8	10/21/21 22:30 / srm
Nickel	0.601	mg/L		0.005		E200.8	10/19/21 06:28 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 05:55 / srm
Uranium	0.0052	mg/L	D	0.0005		E200.8	10/19/21 06:28 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:28 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	17.2	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	3.6	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	0.9	pCi/L	U			E909.0	10/19/21 03:18 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 03:18 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/19/21 03:18 / hat
Radium 226	9.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 precision (±)	1.8	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 228	17.0	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 precision (±)	3.2	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 MDC	1.2	pCi/L				RA-05	10/15/21 13:31 / 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-006
Client Sample ID: NW-5

Report Date: 11/27/21
Collection Date: 10/05/21 15:30
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	26.2	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	3.7	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.07	pCi/L	U			A7500-U C	10/26/21 15:30 / sec
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	10/26/21 15:30 / sec
Thorium 230 MDC	0.1	pCi/L				A7500-U C	10/26/21 15:30 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5550	mg/L		1.00		A1030 E	11/01/21 15:50 / jlw
A/C Balance	-4.29	%				A1030 E	11/01/21 15:50 / jlw
Anions	90.1	meq/L				A1030 E	11/01/21 15:50 / jlw
Cations	82.7	meq/L				A1030 E	11/01/21 15:50 / jlw
TDS Ratio	1.03	unitless				A1030 E	11/01/21 15:50 / jlw
Cation/Anion Balance includes selected metals							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 15:37 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 15:37 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 15:37 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 15:37 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	98.0	%REC		73-122		E624.1	10/15/21 15:37 / etad
Surr: p-Bromofluorobenzene	96.0	%REC		79-119		E624.1	10/15/21 15:37 / etad
Surr: Toluene-d8	99.0	%REC		80-120		E624.1	10/15/21 15:37 / etad

**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:					
Collection Date:					
Receive Date:					
Report Date:					
Analyte	Units	C21100328-006	C21010517-011	C20100712-003	C19100743-010
Bicarbonate as HCO ₃	mg/L	76	12	31	ND(5)
Calcium	mg/L	463		482	540
Chloride	mg/L	28	28	29	28
Magnesium	mg/L	598		557	557
Potassium	mg/L	11		11	12
Sodium	mg/L	153		146	160
Sulfate	mg/L	4230		4030	3980
pH	s.u.	6.0	5.18	5.60	4.30
pH Measurement Temp	°C	14.0	15	14	21
Solids, Total Dissolved TDS @ 180 C	mg/L	5740	5730	5800	5650
Nitrogen, Ammonia as N	mg/L	0.54		0.60	0.60
Nitrogen, Nitrate+Nitrite as N	mg/L	0.03		ND(0.01)	ND(0.01)
Aluminum	mg/L	0.27		4.8	9.4
Arsenic	mg/L	0.012		0.062	0.133
Beryllium	mg/L	ND(0.001)		0.002	0.003
Cadmium	mg/L	ND(0.001)		ND(0.001)	ND(0.001)
Cobalt	mg/L	0.352		0.391	0.44
Lead	mg/L	ND(0.001)		ND(0.001)	0.009
Manganese	mg/L	6.28		6.58	6.78
Molybdenum	mg/L	0.234		0.178	0.23
Nickel	mg/L	0.601		0.470	0.451
Selenium	mg/L	ND(0.001)		ND(0.001)	ND(0.001)
Uranium	mg/L	0.0052		0.0212	0.042
Vanadium	mg/L	ND(0.01)		ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	17.2		19.6	28.6
Gross Alpha minus Rn & U MDC	pCi/L	0.9		0.9	0.5
Gross Alpha minus Rn & U Precision (±)	pCi/L	3.6		4.1	5.8
Lead 210	pCi/L	0.9		0.02	2.9
Lead 210 MDC	pCi/L	1.0		0.8	1.2
Lead 210 precision (±)	pCi/L	0.6		0.5	1.1
Radium 226	pCi/L	9.2		11.7	15.0
Radium 226 MDC	pCi/L	0.2		0.2	0.1
Radium 226 precision (±)	pCi/L	1.8		2.2	2.9
Radium 228	pCi/L	17.0		19.0	9.3
Radium 228 MDC	pCi/L	1.2		1.1	2.2
Radium 228 precision (±)	pCi/L	3.2		3.6	2.2
Thorium 230	pCi/L	0.07		0.5	0.6
Thorium 230 MDC	pCi/L	0.1		0.2	0.2
Thorium 230 precision (±)	pCi/L	0.08		0.2	0.3
A/C Balance	%	-4.29		-5.41	-0.02
Anions	meq/L	90.1		85.3	83.7
Cations	meq/L	82.7		76.5	83.6
Solids, Total Dissolved - Calculated	mg/L	5550		5270	5300
TDS Ratio	unitless	1.03		1.10	1.06
1,2-Dichloroethane-d4	ug/L	9.8		11	10
Bromodichloromethane	ug/L	ND(1.0)		ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)		ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)		ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)		ND(0.50)	ND(0.50)
p-Bromofluorobenzene	ug/L	9.6		12	9.7
Toluene-d8	ug/L	9.9		11	9.3
Trihalomethanes, Total	ug/L	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.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3
Lab ID: C21070279-003
Client Sample ID: MW-7

Report Date: 08/13/21
Collection Date: 07/07/21 09:02
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	300	mg/L				A2310 B	07/14/21 13:02 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	07/12/21 12:40 / kjp
Chloride	34	mg/L	D	2		E300.0	07/12/21 19:22 / dmb
Sulfate	3850	mg/L	D	8		E300.0	07/12/21 19:22 / dmb
Calcium	457	mg/L		1		E200.7	07/09/21 11:42 / meh
Magnesium	532	mg/L		1		E200.7	07/09/21 11:42 / meh
Potassium	10	mg/L		1		E200.7	07/09/21 11:42 / meh
Sodium	149	mg/L	D	3		E200.7	07/09/21 11:42 / meh
PHYSICAL PROPERTIES							
pH	3.4	s.u.	H	0.1		A4500-H B	07/09/21 12:11 / pla
pH Measurement Temp	12.8	°C				A4500-H B	07/09/21 12:11 / pla
Solids, Total Dissolved TDS @ 180 C	5650	mg/L	D	40		A2540 C	07/09/21 13:47 / pla
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	07/12/21 14:53 / dmb
Nitrogen, Ammonia as N	0.79	mg/L		0.05		E350.1	07/09/21 10:46 / dmb
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	07/22/21 16:08 / jcg
Arsenic	0.065	mg/L		0.001		E200.8	07/15/21 22:40 / jcg
Beryllium	0.002	mg/L		0.001		E200.8	07/22/21 16:08 / jcg
Cadmium	ND	mg/L		0.001		E200.8	07/15/21 22:40 / jcg
Cobalt	0.611	mg/L		0.005		E200.8	07/22/21 00:55 / meh
Lead	0.014	mg/L		0.001		E200.8	07/15/21 22:40 / jcg
Manganese	7.39	mg/L	D	0.002		E200.8	07/15/21 22:40 / jcg
Molybdenum	0.015	mg/L		0.001		E200.8	07/15/21 22:40 / jcg
Nickel	0.575	mg/L		0.005		E200.8	07/15/21 22:40 / jcg
Selenium	ND	mg/L		0.001		E200.8	07/15/21 22:40 / jcg
Uranium	0.0193	mg/L	D	0.0005		E200.8	07/15/21 22:40 / jcg
Vanadium	ND	mg/L		0.01		E200.8	07/22/21 00:55 / meh
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	17.2	pCi/L				E900.1	07/16/21 12:01 / amm
Gross Alpha minus Rn & U Precision (±)	3.8	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	0.2	pCi/L	U			E909.0	07/16/21 04:20 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	07/16/21 04:20 / hat
Lead 210 MDC	0.9	pCi/L				E909.0	07/16/21 04:20 / hat
Radium 226	10.7	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 precision (±)	2.1	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 226 MDC	0.3	pCi/L				E903.0	07/21/21 09:54 / amm
Radium 228	8.9	pCi/L				RA-05	07/16/21 11:56 / amm
Radium 228 precision (±)	1.8	pCi/L				RA-05	07/16/21 11:56 / amm

Report Definitions:
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QCL - Quality Control Limit
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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
Lab ID: C21070279-003
Client Sample ID: MW-7

Report Date: 08/13/21
Collection Date: 07/07/21 09:02
Date Received: 07/08/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	0.9	pCi/L				RA-05	07/16/21 11:56 / amm
Thorium 230	-0.02	pCi/L	U			A7500-U C	07/16/21 12:26 / mrt
Thorium 230 precision (±)	0.2	pCi/L				A7500-U C	07/16/21 12:26 / mrt
Thorium 230 MDC	0.5	pCi/L				A7500-U C	07/16/21 12:26 / mrt
DATA QUALITY							
Solids, Total Dissolved - Calculated	5030	mg/L		1.00		A1030 E	07/15/21 15:34 / jlw
A/C Balance	-1.12	%				A1030 E	07/15/21 15:34 / jlw
Anions	81.1	meq/L				A1030 E	07/15/21 15:34 / jlw
Cations	79.3	meq/L				A1030 E	07/15/21 15:34 / jlw
TDS Ratio	1.12	unitless				A1030 E	07/15/21 15:34 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	07/11/21 13:23 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	07/11/21 13:23 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	07/11/21 13:23 / eli-b
Chloroform	1.3	ug/L		0.50		E624.1	07/11/21 13:23 / eli-b
Trihalomethanes, Total	1.3	ug/L		0.50		E624.1	07/16/21 17:50 / tif
Surr: 1,2-Dichloroethane-d4	120	%REC		71-139		E624.1	07/11/21 13:23 / eli-b
Surr: p-Bromofluorobenzene	107	%REC		80-127		E624.1	07/11/21 13:23 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624.1	07/11/21 13:23 / 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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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-005
Client Sample ID: MW-7

Report Date: 11/27/21
Collection Date: 10/05/21 13:45
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Acidity, Total as CaCO ₃	340	mg/L				A2310 B	10/15/21 15:50 / dmb
Bicarbonate as HCO ₃	ND	mg/L		5		A2320 B	10/11/21 19:49 / kjp
Chloride	30	mg/L	D	2		E300.0	10/13/21 09:36 / dmb
Sulfate	4110	mg/L	D	8		E300.0	10/13/21 09:36 / dmb
Calcium	424	mg/L		1		E200.7	10/21/21 20:44 / jcg
Magnesium	541	mg/L		1		E200.7	10/29/21 12:06 / jcg
Potassium	11	mg/L		1		E200.7	10/21/21 20:44 / jcg
Sodium	145	mg/L		1		E200.7	10/21/21 20:44 / jcg
PHYSICAL PROPERTIES							
pH	3.2	s.u.	H	0.1		A4500-H B	10/08/21 13:33 / mnm
pH Measurement Temp	13.9	°C				A4500-H B	10/08/21 13:33 / mnm
Solids, Total Dissolved TDS @ 180 C	5610	mg/L	D	40		A2540 C	10/11/21 12:02 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	10/12/21 13:46 / nts
Nitrogen, Ammonia as N	0.86	mg/L		0.05		E350.1	10/11/21 12:47 / nts
METALS, TOTAL							
Aluminum	0.05	mg/L	D	0.04		E200.8	10/19/21 06:08 / srm
Arsenic	0.046	mg/L		0.001		E200.8	10/19/21 06:08 / srm
Beryllium	0.003	mg/L		0.001		E200.8	10/19/21 06:08 / srm
Cadmium	ND	mg/L		0.001		E200.8	10/19/21 06:08 / srm
Cobalt	0.692	mg/L		0.005		E200.8	10/19/21 06:08 / srm
Lead	0.019	mg/L		0.001		E200.8	10/19/21 06:08 / srm
Manganese	8.14	mg/L	D	0.002		E200.8	10/19/21 06:08 / srm
Molybdenum	0.010	mg/L		0.001		E200.8	10/19/21 06:08 / srm
Nickel	0.687	mg/L		0.005		E200.8	10/19/21 06:08 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 05:50 / srm
Uranium	0.0143	mg/L	D	0.0005		E200.8	10/19/21 06:08 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/19/21 06:08 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	21.1	pCi/L				E900.1	10/15/21 10:56 / amm
Gross Alpha minus Rn & U Precision (±)	4.4	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	0.9	pCi/L	U			E909.0	10/19/21 00:02 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/19/21 00:02 / hat
Lead 210 MDC	1.0	pCi/L				E909.0	10/19/21 00:02 / hat
Radium 226	9.8	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 precision (±)	1.9	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 226 MDC	0.2	pCi/L				E903.0	10/20/21 10:47 / amm
Radium 228	15.2	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 228 precision (±)	3.0	pCi/L				RA-05	10/15/21 13:31 / trs

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-Zone 3 & Zone 1
Lab ID: C21100328-005
Client Sample ID: MW-7

Report Date: 11/27/21
Collection Date: 10/05/21 13:45
Date Received: 10/07/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 228 MDC	1.2	pCi/L				RA-05	10/15/21 13:31 / trs
Radium 226 + Radium 228	25.0	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 precision (±)	3.5	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L				A7500-RA	10/20/21 17:02 / dmf
Thorium 230	0.1	pCi/L	U			A7500-U C	10/28/21 15:33 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	10/28/21 15:33 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	10/28/21 15:33 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	5310	mg/L		1.00		A1030 E	11/01/21 15:34 / jlw
A/C Balance	-4.37	%				A1030 E	11/01/21 15:34 / jlw
Anions	86.3	meq/L				A1030 E	11/01/21 15:34 / jlw
Cations	79.1	meq/L				A1030 E	11/01/21 15:34 / jlw
TDS Ratio	1.06	unitless				A1030 E	11/01/21 15:34 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/15/21 15:15 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/15/21 15:15 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/15/21 15:15 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/15/21 15:15 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	96.0	%REC		73-122		E624.1	10/15/21 15:15 / etad
Surr: p-Bromofluorobenzene	95.0	%REC		79-119		E624.1	10/15/21 15:15 / etad
Surr: Toluene-d8	100	%REC		80-120		E624.1	10/15/21 15:15 / etad

**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:		MW-7	MW-7	MW-7	MW-7
Collection Date:		10/5/2021	7/6/2021	4/7/2021	1/6/2021
Receive Date:		10/7/2021	7/8/2021	4/9/2021	1/7/2021
Report Date:		11/4/2021	8/13/2021	5/20/2021	2/24/2021
Analyte	Units	C21100328-005	C21070279-003	C21040386-007	C21010234-007
Acidity, Total as CaCO ₃	mg/L	340	300	210	
Bicarbonate as HCO ₃	mg/L	ND(5)	ND(5)	ND(5)	5
Calcium	mg/L	424	457	455	453
Chloride	mg/L	30	34	29	31
Magnesium	mg/L	541	532	502	477
Potassium	mg/L	11	10	12	11
Sodium	mg/L	145	149	151	148
Sulfate	mg/L	4110	3850	3690	3600
pH	s.u.	3.2	3.4	3.91	5.28
pH Measurement Temp	°C	13.9	12.8	9	13
Solids, Total Dissolved TDS @ 180 C	mg/L	5610	5650	5410	5070
Nitrogen, Ammonia as N	mg/L	0.86	0.79	0.86	0.36
Nitrogen, Nitrate+Nitrite as N	mg/L	0.04	0.05	0.05	0.40
Aluminum	mg/L	0.05	ND(0.03)	0.08	ND(0.03)
Arsenic	mg/L	0.046	0.065	0.015	0.072
Beryllium	mg/L	0.003	0.002	0.005	0.006
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	0.692	0.611	0.530	0.563
Lead	mg/L	0.019	0.014	0.001	ND(0.001)
Manganese	mg/L	8.14	7.39	7.29	7.52
Molybdenum	mg/L	0.010	0.015	0.004	0.014
Nickel	mg/L	0.687	0.575	0.601	0.669
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Uranium	mg/L	0.0143	0.0193	0.0748	0.0361
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Gross Alpha minus Rn & U	pCi/L	21.1	17.2	13.3	13.7
Gross Alpha minus Rn & U MDC	pCi/L	0.9	1.4	0.9	1.2
Gross Alpha minus Rn & U Precision (±)	pCi/L	4.4	3.8	3.0	3.0
Lead 210	pCi/L	0.9	0.2	0.5	0.6
Lead 210 MDC	pCi/L	1.0	0.9	0.8	0.9
Lead 210 precision (±)	pCi/L	0.6	0.6	0.5	0.5
Radium 226	pCi/L	9.8	10.7	7.6	8.0
Radium 226 MDC	pCi/L	0.2	0.3	0.2	0.2
Radium 226 precision (±)	pCi/L	1.9	2.1	1.5	1.6
Radium 228	pCi/L	15.2	8.9	8.3	7.2
Radium 228 MDC	pCi/L	1.2	0.9	1.5	0.9
Radium 228 precision (±)	pCi/L	3.0	1.8	1.8	1.5
Thorium 230	pCi/L	0.1	-0.02	0.1	0.5
Thorium 230 MDC	pCi/L	0.2	0.5	0.1	0.1
Thorium 230 precision (±)	pCi/L	0.1	0.2	0.07	0.1
A/C Balance	%	-4.37	-1.12	-4.52	-4.59
Anions	meq/L	86.3	81.1	77.6	76.0
Cations	meq/L	79.1	79.3	70.9	69.3
Solids, Total Dissolved - Calculated	mg/L	5310	5030	4840	4730
TDS Ratio	unitless	1.06	1.12	1.12	1.07
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chloroform	ug/L	ND(1.0)	1.3	ND(0.50)	ND(0.50)
Trihalomethanes, Total	ug/L	ND(0.50)	1.3	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 & Zone 3
Lab ID: C21100526-008
Client Sample ID: RW-11

Report Date: 12/03/21
Collection Date: 10/13/21 11:53
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	121	mg/L		5		A2320 B	10/16/21 01:38 / kjp
Chloride	33	mg/L	D	2		E300.0	10/17/21 01:30 / dmb
Sulfate	3430	mg/L	D	8		E300.0	10/17/21 01:30 / dmb
Calcium	519	mg/L		1		E200.7	10/26/21 17:00 / jcg
Magnesium	409	mg/L		1		E200.7	10/26/21 17:00 / jcg
Potassium	11	mg/L		1		E200.7	10/26/21 17:00 / jcg
Sodium	135	mg/L	D	2		E200.7	10/26/21 17:00 / jcg
PHYSICAL PROPERTIES							
pH	6.1	s.u.	H	0.1		A4500-H B	10/15/21 09:52 / mnm
pH Measurement Temp	13.3	°C				A4500-H B	10/15/21 09:52 / mnm
Solids, Total Dissolved TDS @ 180 C	4920	mg/L	D	40		A2540 C	10/15/21 09:53 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.01		E353.2	10/18/21 13:14 / nts
Nitrogen, Ammonia as N	3.6	mg/L	D	0.2		E350.1	10/19/21 13:34 / nts
METALS, TOTAL							
Aluminum	0.63	mg/L	D	0.05		E200.7	10/26/21 22:21 / jcg
Arsenic	0.052	mg/L		0.001		E200.8	10/29/21 15:21 / srm
Beryllium	0.003	mg/L		0.001		E200.7	10/26/21 22:21 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/29/21 15:21 / srm
Cobalt	0.407	mg/L		0.005		E200.8	10/29/21 15:21 / srm
Lead	0.009	mg/L		0.001		E200.8	10/29/21 15:21 / srm
Manganese	6.08	mg/L	D	0.004		E200.8	10/29/21 15:21 / srm
Molybdenum	1.11	mg/L	D	0.05		E200.7	10/26/21 22:21 / jcg
Nickel	0.53	mg/L	D	0.05		E200.7	10/26/21 22:21 / jcg
Selenium	ND	mg/L		0.001		E200.8	10/29/21 15:21 / srm
Uranium	0.117	mg/L	D	0.001		E200.8	10/29/21 15:21 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/29/21 15:21 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	31.5	pCi/L				E900.1	10/22/21 09:37 / amn
Gross Alpha minus Rn & U Precision (±)	6.3	pCi/L				E900.1	10/22/21 09:37 / amn
Gross Alpha minus Rn & U MDC	0.7	pCi/L				E900.1	10/22/21 09:37 / amn
Lead 210	3.0	pCi/L				E909.0	10/29/21 19:49 / hat
Lead 210 precision (±)	1.2	pCi/L				E909.0	10/29/21 19:49 / hat
Lead 210 MDC	1.3	pCi/L				E909.0	10/29/21 19:49 / hat
Radium 226	20.0	pCi/L				E903.0	10/27/21 11:06 / amn
Radium 226 precision (±)	3.8	pCi/L				E903.0	10/27/21 11:06 / amn
Radium 226 MDC	0.2	pCi/L				E903.0	10/27/21 11:06 / amn
Radium 228	19.2	pCi/L				RA-05	10/22/21 13:48 / amn
Radium 228 precision (±)	3.6	pCi/L				RA-05	10/22/21 13:48 / amn
Radium 228 MDC	1.3	pCi/L				RA-05	10/22/21 13:48 / amn

Report RL - Analyte Reporting Limit
Definitions: 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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC-SW Alluvium & Zone 3
Lab ID: C21100526-008
Client Sample ID: RW-11

Report Date: 12/03/21
Collection Date: 10/13/21 11:53
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	39.3	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 precision (±)	5.3	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Radium 226 + Radium 228 MDC	1.4	pCi/L				A7500-RA	10/28/21 13:47 / dmf
Thorium 230	0.1	pCi/L	U			A7500-U C	11/04/21 13:21 / sec
Thorium 230 precision (±)	0.08	pCi/L				A7500-U C	11/04/21 13:21 / sec
Thorium 230 MDC	0.1	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 17:07 / jlw
A/C Balance	-4.91	%				A1030 E	10/27/21 17:07 / jlw
Anions	74.3	meq/L				A1030 E	10/27/21 17:07 / jlw
Cations	67.3	meq/L				A1030 E	10/27/21 17:07 / jlw
TDS Ratio	1.07	unitless				A1030 E	10/27/21 17:07 / jlw
Cation/Anion Balance includes selected metals							
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		1.0		E624.1	10/22/21 14:32 / etad
Bromoform	ND	ug/L		2.0		E624.1	10/22/21 14:32 / etad
Chlorodibromomethane	ND	ug/L		1.0		E624.1	10/22/21 14:32 / etad
Chloroform	ND	ug/L		1.0		E624.1	10/22/21 14:32 / etad
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	96.0	%REC		73-122		E624.1	10/22/21 14:32 / etad
Surr: p-Bromofluorobenzene	93.0	%REC		79-119		E624.1	10/22/21 14:32 / etad
Surr: Toluene-d8	102	%REC		80-120		E624.1	10/22/21 14:32 / etad

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:		RW-11	RW-11	RW-11	RW-11
Collection Date:		10/13/2021	10/13/2021	10/8/2021	10/10/2018
Receive Date:		10/14/2021	10/15/2021	10/16/2021	10/12/2021
Report Date:		12/3/2021	12/04/202	11/20/2019	12/5/2018
Analyte	Units	C21100526-008	C20100712-001	C19100743-002	C18100522-010
Bicarbonate as HCO ₃	mg/L	121	103	117	132
Calcium	mg/L	519	537	545	553
Chloride	mg/L	33	34	32	33
Magnesium	mg/L	409	557	522	525
Potassium	mg/L	11	13	12	13
Sodium	mg/L	135	143	144	148
Sulfate	mg/L	3430	3800	3630	3700
pH	s.u.	6.1	6.06	6.18	6.27
pH Measurement Temp	°C	13.3	14	21	21
Solids, Total Dissolved TDS @ 180 C	mg/L	4920	5500	5280	5350
Nitrogen, Ammonia as N	mg/L	3.6	1.95	4.3	2.9
Nitrogen, Nitrate+Nitrite as N	mg/L	0.12	ND(0.01)	ND(0.01)	ND(0.01)
Aluminum	mg/L	0.63	0.03	ND(0.03)	ND(0.03)
Arsenic	mg/L	0.052	0.005	0.002	
Beryllium	mg/L	0.003	ND(0.001)	ND(0.001)	0.001
Cadmium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Cobalt	mg/L	0.407	0.322	0.353	0.356
Lead	mg/L	0.009	ND(0.001)	ND(0.001)	ND(0.001)
Manganese	mg/L	6.08	5.96	6.34	6.22
Molybdenum	mg/L	1.11	0.173	0.163	0.132
Nickel	mg/L	0.53	0.360	0.348	0.357
Selenium	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	
Uranium	mg/L	0.117	0.0518	0.0530	0.0635
Vanadium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
A/C Balance	%	-4.91	-1.49	-0.83	-1.56
Anions	meq/L	74.3	81.7	78.3	80.2
Cations	meq/L	67.3	79.3	77.0	77.8
Solids, Total Dissolved - Calculated	mg/L	4590	5130	5000	5100
TDS Ratio	unitless	1.07	1.07	1.06	1.06
Gross Alpha minus Rn & U	pCi/L	31.5	17.6	17.0	11.5
Gross Alpha minus Rn & U MDC	pCi/L	0.7	0.9	0.6	0.5
Gross Alpha minus Rn & U Precision (±)	pCi/L	6.3	3.7	3.6	2.5
Lead 210	pCi/L	3.0	-0.06	0.7	1.1
Lead 210 MDC	pCi/L	1.3	0.8	1.0	1.1
Lead 210 precision (±)	pCi/L	1.2	0.5	0.6	0.7
Radium 226	pCi/L	20.0	9.5	10.9	8.0
Radium 226 MDC	pCi/L	0.2	0.2	0.2	0.1
Radium 226 precision (±)	pCi/L	3.8	1.8	2.2	1.6
Radium 228	pCi/L	19.2	19.0	15.3	15.4
Radium 228 MDC	pCi/L	1.3	1.1	2.2	1.6
Radium 228 precision (±)	pCi/L	3.6	3.6	3.2	3.0
Thorium 230	pCi/L	0.1	0.08	-0.01	0.02
Thorium 230 MDC	pCi/L	0.1	0.1	0.2	0.2
Thorium 230 precision (±)	pCi/L	0.08	0.09	0.09	0.08
1,2-Dichloroethane-d4	ug/L	9.6	11	11	11
Bromodichloromethane	ug/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)
Bromoform	ug/L	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)
Chlorodibromomethane	ug/L	ND(1.0)	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- Sentinel Wells
Lab ID: C21100534-001
Client Sample ID: SW-3B

Report Date: 12/03/21
Collection Date: 10/12/21 15:00
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	245	mg/L		5		A2320 B	10/18/21 11:47 / kjp
Chloride	9	mg/L		1		E300.0	10/18/21 23:37 / dmb
Sulfate	382	mg/L	D	2		E300.0	10/18/21 23:37 / dmb
Calcium	25	mg/L		1		E200.7	10/26/21 17:46 / jcg
Magnesium	13	mg/L		1		E200.7	10/26/21 17:46 / jcg
Potassium	3	mg/L		1		E200.7	10/26/21 17:46 / jcg
Sodium	219	mg/L		1		E200.7	10/26/21 17:46 / jcg
PHYSICAL PROPERTIES							
pH	8.0	s.u.	H	0.1		A4500-H B	10/15/21 10:52 / mnm
pH Measurement Temp	14.6	°C				A4500-H B	10/15/21 10:52 / mnm
Solids, Total Dissolved TDS @ 180 C	798	mg/L		10		A2540 C	10/15/21 10:09 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	10/18/21 13:36 / nts
Nitrogen, Ammonia as N	0.22	mg/L		0.05		E350.1	10/19/21 13:52 / nts
METALS, TOTAL							
Aluminum	ND	mg/L		0.03		E200.8	10/21/21 20:09 / srm
Arsenic	ND	mg/L		0.001		E200.8	10/23/21 17:24 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 20:56 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 20:09 / srm
Cobalt	ND	mg/L		0.005		E200.8	10/21/21 20:09 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 20:09 / srm
Manganese	0.047	mg/L		0.001		E200.8	10/21/21 20:09 / srm
Molybdenum	0.004	mg/L		0.001		E200.8	10/23/21 17:24 / srm
Nickel	ND	mg/L		0.005		E200.8	10/21/21 20:09 / srm
Selenium	ND	mg/L		0.001		E200.8	10/21/21 20:09 / srm
Uranium	0.0005	mg/L		0.0003		E200.8	10/23/21 17:24 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 20:09 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	1	pCi/L				E900.1	10/22/21 11:17 / amm
Gross Alpha minus Rn & U Precision (±)	0.6	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	0.2	pCi/L	U			E909.0	10/30/21 20:47 / hat
Lead 210 precision (±)	0.7	pCi/L				E909.0	10/30/21 20:47 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/30/21 20:47 / hat
Radium 226	0.4	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 226 precision (±)	0.2	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	-0.8	pCi/L	U			RA-05	10/25/21 16:13 / trs
Radium 228 precision (±)	1.2	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 228 MDC	2.0	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



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Sentinel Wells
Lab ID: C21100534-001
Client Sample ID: SW-3B

Report Date: 12/03/21
Collection Date: 10/12/21 15:00
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	-0.4	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	0.09	pCi/L	U			A7500-U C	11/04/21 06:56 / sec
Thorium 230 precision (±)	0.1	pCi/L				A7500-U C	11/04/21 06:56 / sec
Thorium 230 MDC	0.2	pCi/L				A7500-U C	11/04/21 06:56 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	791	mg/L		1.00		A1030 E	10/27/21 16:59 / jlw
A/C Balance	-1.37	%				A1030 E	10/27/21 16:59 / jlw
Anions	12.2	meq/L				A1030 E	10/27/21 16:59 / jlw
Cations	11.9	meq/L				A1030 E	10/27/21 16:59 / jlw
TDS Ratio	1.01	unitless				A1030 E	10/27/21 16:59 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 15:32 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 15:32 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 15:32 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 15:32 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tlf
Surr: 1,2-Dichloroethane-d4	102	%REC		71-139		E624.1	10/20/21 15:32 / eli-b
Surr: p-Bromofluorobenzene	96.0	%REC		80-127		E624.1	10/20/21 15:32 / eli-b
Surr: Toluene-d8	95.0	%REC		80-123		E624.1	10/20/21 15:32 / eli-b

**Report
Definitions:**

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Sentinel Wells
Lab ID: C21100534-002
Client Sample ID: SW-1B

Report Date: 12/03/21
Collection Date: 10/12/21 15:40
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Bicarbonate as HCO ₃	436	mg/L		5		A2320 B	10/18/21 11:54 / kjp
Chloride	28	mg/L		1		E300.0	10/18/21 23:57 / dmb
Sulfate	2140	mg/L	D	4		E300.0	10/18/21 23:57 / dmb
Calcium	549	mg/L	D	3		E200.7	11/01/21 23:39 / jcg
Magnesium	192	mg/L		1		E200.7	10/26/21 17:51 / jcg
Potassium	7	mg/L		1		E200.7	10/26/21 17:51 / jcg
Sodium	165	mg/L	D	5		E200.7	11/01/21 23:39 / jcg
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	10/15/21 10:55 / mnm
pH Measurement Temp	15.0	°C				A4500-H B	10/15/21 10:55 / mnm
Solids, Total Dissolved TDS @ 180 C	3510	mg/L	D	40		A2540 C	10/15/21 10:10 / mnm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.07	mg/L		0.01		E353.2	10/18/21 13:37 / nts
Nitrogen, Ammonia as N	1.70	mg/L		0.05		E350.1	10/19/21 13:56 / nts
METALS, TOTAL							
Aluminum	0.56	mg/L	D	0.04		E200.8	11/07/21 19:27 / srm
Arsenic	0.001	mg/L		0.001		E200.8	10/23/21 17:29 / srm
Beryllium	ND	mg/L		0.001		E200.7	10/26/21 21:01 / jcg
Cadmium	ND	mg/L		0.001		E200.8	10/21/21 20:14 / srm
Cobalt	0.009	mg/L		0.005		E200.8	10/21/21 20:14 / srm
Lead	ND	mg/L		0.001		E200.8	10/21/21 20:14 / srm
Manganese	3.32	mg/L		0.001		E200.8	10/23/21 17:29 / srm
Molybdenum	0.027	mg/L		0.001		E200.8	10/21/21 20:14 / srm
Nickel	ND	mg/L		0.005		E200.8	10/21/21 20:14 / srm
Selenium	ND	mg/L		0.001		E200.8	10/23/21 17:29 / srm
Uranium	0.0005	mg/L		0.0003		E200.8	10/23/21 17:29 / srm
Vanadium	ND	mg/L		0.01		E200.8	10/21/21 20:14 / srm
RADIONUCLIDES, TOTAL							
Gross Alpha minus Rn & U	5.0	pCi/L				E900.1	10/22/21 11:17 / amm
Gross Alpha minus Rn & U Precision (±)	1.3	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	-0.2	pCi/L	U			E909.0	10/31/21 00:00 / hat
Lead 210 precision (±)	0.6	pCi/L				E909.0	10/31/21 00:00 / hat
Lead 210 MDC	1.1	pCi/L				E909.0	10/31/21 00:00 / hat
Radium 226	2.5	pCi/L				E903.0	11/01/21 12:25 / amm
Radium 226 precision (±)	0.5	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	2.4	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 228 precision (±)	1.3	pCi/L				RA-05	10/25/21 16:13 / trs
Radium 228 MDC	1.8	pCi/L				RA-05	10/25/21 16:13 / trs

**Report
Definitions:**

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: United Nuclear Corporation
Project: UNC- Sentinel Wells
Lab ID: C21100534-002
Client Sample ID: SW-1B

Report Date: 12/03/21
Collection Date: 10/12/21 15:40
Date Received: 10/14/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES, TOTAL							
Radium 226 + Radium 228	4.8	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 precision (±)	1.4	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Radium 226 + Radium 228 MDC	1.9	pCi/L				A7500-RA	11/03/21 13:13 / dmf
Thorium 230	0.02	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	0.2	pCi/L				A7500-U C	11/04/21 06:56 / sec
DATA QUALITY							
Solids, Total Dissolved - Calculated	3330	mg/L		1.00		A1030 E	11/02/21 15:29 / jlw
A/C Balance	-1.79	%				A1030 E	11/02/21 15:29 / jlw
Anions	52.6	meq/L				A1030 E	11/02/21 15:29 / jlw
Cations	50.7	meq/L				A1030 E	11/02/21 15:29 / jlw
TDS Ratio	1.05	unitless				A1030 E	11/02/21 15:29 / jlw
VOLATILE ORGANIC COMPOUNDS							
Bromodichloromethane	ND	ug/L		0.50		E624.1	10/20/21 16:22 / eli-b
Bromoform	ND	ug/L		0.50		E624.1	10/20/21 16:22 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E624.1	10/20/21 16:22 / eli-b
Chloroform	ND	ug/L		0.50		E624.1	10/20/21 16:22 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50		E624.1	10/27/21 14:51 / tif
Surr: 1,2-Dichloroethane-d4	98.0	%REC		71-139		E624.1	10/20/21 16:22 / eli-b
Surr: p-Bromofluorobenzene	98.0	%REC		80-127		E624.1	10/20/21 16:22 / eli-b
Surr: Toluene-d8	96.0	%REC		80-123		E624.1	10/20/21 16:22 / eli-b

**Report
Definitions:**

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MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

**SEMI-ANNUAL
ENVIRONMENTAL MONITORING REPORT
JULY TO DECEMBER OF 2021**

AVAILABLE MONITORING DATA

- **ENVIRONMENTAL INSPECTION REPORT (continued this procedure to show and maintain the integrity of the tailings area).**

ENVIRONMENTAL INSPECTION REPORTS

ENVIRONMENTAL INSPECTION

DATE: 7-27-21

TIME START: 0925

INSPECTOR: Map Churchill J.

TIME END: 1140

TAILINGS AREA:	OKAY	PROBLEM	COMMENTS
1. Fences	<u>✓</u>	<u>✓</u>	<u>See below</u>
2. Air Monitors	<u>—</u>	<u>NA</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u>—</u>	<u>—</u>
4. Locked Gates	<u>✓</u>	<u>—</u>	<u>—</u>

ACTION TAKEN: Small perimeter fenceline opening in arroya near SW end gate area
due to rain runoff, maintenance workers are informed and will repair
fence by end of week (repaired on 7-28-21).

(Domestic)
OTHER COMMENT: Water is currently being discharged into both North
and South Evaporation Ponds. North Pond wet sediment/water depth
is 1.15', South Pond is 1.21' and both ponds bottom liner areas are
fully covered with water.

Weekly Evaporation pond inspection

Month:	July	Date:	7/5/2021	Inspected by:	A. Garoutte	
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.17	Domestic well GPM:	48.89	Flow	North pond/South pond	
Liner Inspected	yes	Comments:				

Weekly Evaporation pond inspection

Month:	July	Date:	7/14/2021	Inspected by:	A. Garoutte	
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.17	Domestic well GPM:	47.55	Flow	North pond/South pond	
Liner Inspected		Comments:				

Weekly Evaporation pond inspection

Month:	July	Date:	7/19/2021	Inspected by:	A. Garoutte	
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.18	Domestic well GPM:	46.8	Flow	North pond/South pond	
Liner Inspected		Comments:				

Weekly Evaporation pond inspection

Month:	July	Date:	7/27/2021	Inspected by:	A. Garoutte	
North pond water level:		1.15'	South Pond water level:		1.21'	
Extraction wells GPM:	0.14	Domestic well GPM:	46.5	Flow	North pond/South pond	
Liner Inspected	yes	Comments:				

ENVIRONMENTAL INSPECTION

DATE: 8-19-21

TIME START: 1425

INSPECTOR: May Chischley J.

TIME END: 1530

TAILINGS AREA:

	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u> </u>	<u> </u>
2. Air Monitors	<u>-</u>	<u>NA -</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u> </u>	<u> </u>
4. Locked Gates	<u>✓</u>	<u> </u>	<u> </u>

ACTION TAKEN: OR OTHER COMMENT: Domestic water is currently being
discharged into both North and South Evaporation Ponds (bottom
liner areas are fully covered with water).

Weekly Evaporation pond inspection

Month:	August	Date:	8/2/21	Inspected by:	M. Chischilly Jr.	tz
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	45.58	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	August	Date:	8/13/21	Inspected by:	M. Chischilly Jr.	tz
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	44.51	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	August	Date:	8/19/21	Inspected by:	M. Chischilly Jr.	tz
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.20	Domestic well GPM:	43.97	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				
Readings during the week of 8/23/21 by F. Gillreath are:						
1) Extraction wells GPM = 0.21 2) Domestic Well GPM = 43.50						

Weekly Evaporation pond inspection

Month:	Aug./Sept.	Date:	9/3/21	Inspected by:	M. Chischilly Jr.	tz
North pond water level:	1.48'	South Pond water level:	1.38'			
Extraction wells GPM:	0.21	Domestic well GPM:	42.90	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

ENVIRONMENTAL INSPECTION

DATE: 9-28-21

TIME START: 1028

INSPECTOR: Waf Churchill J.

TIME END: 1306

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u> </u>	<u> </u>
2. Air Monitors	<u>—</u>	<u>NA —</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u> </u>	<u> </u>
4. Locked Gates	<u>✓</u>	<u> </u>	<u> </u>

ACTION TAKEN: OR OTHER COMMENTS: Domestic water well pump is currently
shut off since the week of 9-7-21 and only extraction wells are discharging
into North Pond. North Pond wet sediment/water depth is 1.03', South Pond
is 1.10' and both ponds bottom liner areas are fully covered with water.

Weekly Evaporation pond inspection

Month:	September	Date:	9/10/21	Inspected by:	M. Chischilly Jr.	W
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	OFF	Flow	North pond/South pond	
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	September	Date:	9/17/21	Inspected by:	M. Chischilly Jr.	W
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	OFF	Flow	North pond/South pond	
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	September	Date:	9/24/21	Inspected by:	M. Chischilly Jr.	W
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	OFF	Flow	North pond/South pond	
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	September	Date:	9/28/21	Inspected by:	M. Chischilly Jr.	W
North pond water level:	1.03'	South Pond water level:	1.10'			
Extraction wells GPM:	0.21	Domestic well GPM:	OFF	Flow	North pond/South pond	
Liner Inspected	Yes	Comments:				

ENVIRONMENTAL INSPECTION

DATE: 10-27-21

TIME START: 1048

INSPECTOR: Max Churchill J.

TIME END: 1325

TAILINGS AREA:

	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u> </u>	<u> </u>
2. Air Monitors	<u>-</u>	<u>NA</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u> </u>	<u> </u>
4. Locked Gates	<u>✓</u>	<u> </u>	<u> </u>

ACTION TAKEN: OR OTHER COMMENTS: Only Zone 3 extraction wells are
discharging into North Pond. North Pond wet sediment/water depth
is 1.35', South Pond is 1.17' and both ponds bottom liner areas
are about fully covered with water.

Weekly Evaporation pond inspection

Month:	October	Date:	10/6/21	Inspected by:	M. Chischilly Jr.	MC
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.18	Domestic well GPM:	OFF	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	October	Date:	10/15/21	Inspected by:	M. Chischilly Jr.	MC
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.20	Domestic well GPM:	OFF	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	October	Date:	10/22/21	Inspected by:	M. Chischilly Jr.	MC
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	OFF	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	October	Date:	10-27-21	Inspected by:	M. Chischilly Jr.	MC
North pond water level:	1.35'	South Pond water level:	1.17'			
Extraction wells GPM:	0.22	Domestic well GPM:	OFF	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

ENVIRONMENTAL INSPECTION

DATE: 11-24-21

TIME START: 0852

INSPECTOR: Map Chischelly Jr.

TIME END: 1052

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u> </u>	<u> </u>
2. Air Monitors	<u>-</u>	<u>NA</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u> </u>	<u> </u>
4. Locked Gates	<u>✓</u>	<u> </u>	<u> </u>

ACTION TAKEN: OR OTHER COMMENTS: Only Zone 3 extraction wells are
discharging into North Pond and domestic water well pump is shutoff.
North Pond wet sediment/water depth is 1.0', South Pond is 0.94' and
both ponds bottom liner areas are about fully covered with water.

Weekly Evaporation pond inspection

Month:	November	Date:	11-3-21	Inspected by:	M. Chischilly Jr.	re
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	0 (OFF)	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	November	Date:	11-11-21	Inspected by:	M. Chischilly Jr.	re
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.21	Domestic well GPM:	0 (OFF)	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	November	Date:	11-18-21	Inspected by:	M. Chischilly Jr.	re
North pond water level:		South Pond water level:				
Extraction wells GPM:	0.32	Domestic well GPM:	0 (OFF)	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:	November	Date:	11-24-21	Inspected by:	M. Chischilly Jr.	re
North pond water level:	1.0'	South Pond water level:	0.94'			
Extraction wells GPM:	0.33	Domestic well GPM:	0 (OFF)	Flow		North pond/South pond
Liner Inspected	Yes	Comments:				

ENVIRONMENTAL INSPECTION

DATE: 12-30-21

TIME START: 0934

INSPECTOR: Max Chischilly Jr.

TIME END: 1123

TAILINGS AREA:

	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u> </u>	<u> </u>
2. Air Monitors	<u>-</u>	<u>NA -</u>	<u>Under RWP</u>
3. Radiation Warning Signs	<u>✓</u>	<u> </u>	<u> </u>
4. Locked Gates	<u>✓</u>	<u> </u>	<u> </u>

ACTION TAKEN: OR OTHER COMMENT: Domestic water well pump was turned
back on 12-10-21 and water is currently being discharged into both
North and South Evaporation Ponds (bottom liner areas are about
fully covered with water). North Pond wet sediment/water depth is
1.21', South Pond is 1.37'.

Weekly Evaporation pond inspection

Month: <i>December</i>	Date: <i>12-3-21</i>	Inspected by: <i>M. Chischilly Jr.</i>	<i>nc</i>
North pond water level:		South Pond water level:	
Extraction wells GPM: <i>0.14</i>	Domestic well GPM: <i>0 (OFF)</i>	Flow	North pond/South pond
Liner Inspected	<i>Yes</i>	Comments:	

Weekly Evaporation pond inspection

Month: <i>December</i>	Date: <i>12-10-21</i>	Inspected by: <i>M. Chischilly Jr.</i>	<i>nc</i>
North pond water level:		South Pond water level:	
Extraction wells GPM: <i>0.18</i>	Domestic well GPM: <i>0 (OFF)</i>	Flow	North pond/South pond
Liner Inspected	<i>Yes</i>	Comments:	
<i>Light snow overnite and moderate wind today.</i>			

Weekly Evaporation pond inspection

Month: <i>December</i>	Date: <i>12-16-21</i>	Inspected by: <i>M. Chischilly Jr.</i>	<i>nc</i>
North pond water level:		South Pond water level:	
Extraction wells GPM: <i>0.17</i>	Domestic well GPM:	Flow	North pond/South pond
Liner Inspected	<i>Yes</i>	Comments:	
<i>Domestic water well pump is turned back on 12-10-21</i>			

Weekly Evaporation pond inspection

Month: <i>December</i>	Date: <i>12-23-21</i>	Inspected by: <i>M. Chischilly Jr.</i>	<i>nc</i>
North pond water level:		South Pond water level:	
Extraction wells GPM: <i>0.12</i>	Domestic well GPM: <i>33.28</i>	Flow	North pond/South pond
Liner Inspected	<i>Yes</i>	Comments:	<i>Pond water is partially frozen.</i>

Weekly Evaporation pond inspection

Month:	December	Date:	12-30-21	Inspected by:	M. Chischilly Jr.	TC
North pond water level:	1.21'	South Pond water level:	1.37'			
Extraction wells GPM:	0.18	Domestic well GPM:	31.65	Flow	North pond/South pond	
Liner Inspected	Yes	Comments:				

Weekly Evaporation pond inspection

Month:		Date:		Inspected by:		
North pond water level:		South Pond water level:				
Extraction wells GPM:		Domestic well GPM:		Flow	North pond/South pond	
Liner Inspected		Comments:				

Weekly Evaporation pond inspection

Month:		Date:		Inspected by:		
North pond water level:		South Pond water level:				
Extraction wells GPM:		Domestic well GPM:		Flow	North pond/South pond	
Liner Inspected		Comments:				

Weekly Evaporation pond inspection

Month:		Date:		Inspected by:		
North pond water level:		South Pond water level:				
Extraction wells GPM:		Domestic well GPM:		Flow	North pond/South pond	
Liner Inspected		Comments:				