# UNITED NUCLEAR CORPORATION

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August 22, 2012

Mr. Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
#2 White Flint, Mail Stop T7 E-18
Rockville, MD 20852-2738

RE: First Half – January thru June, 2012
Semi – Annual Ground Water Monitoring Report,
QA/QC Report and Effluent and Environmental Monitoring Report.

Dear Mr. McConnell:

The above reports are submitted, pursuant to our NRC Source Materials License No. SUA-1475, Condition 30C and 12; and Section V.A. 15 of the EPA Administrative Order for the Church Rock Site.

Although not part of the performance monitoring program requirement, Zone 3 wells PB-2, PB-3, PB-4, NBL-2, RW-A, RW-11, NW wells 1 thru 5, MW-6 and MW-7 are also included in this report.

Sincerely,

Max Chischilly Jr.

Max Chischilly Jr.
Radiation Safety Officer

dy
Enclosures

Cc: Mark Jancin, Chester Engineers
Roy Blickwedel, GE
Steve Hill, GE
Earl Dixon, NMED
Eugene Esplain, NNEPA
Yolande Norman, NRC (3 copies)
Katrina Higgins-Coltrain, USEPA Region 6
Jack E. Whitten, NRC Region IV

**QUARTERLY SAMPLING**

**SEMI-ANNUAL GROUND WATER MONITORING REPORT**

**JANUARY TO JUNE OF 2012**

**FIELD DATA SHEET OF**

**FIRST AND SECOND QUARTER**

**CONTROLS**

SW ALLUVIUM

ZONE – 1

ZONE – 3

# GROUND WATER FIELD MONITORING
# WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
## __January_____MONTH_ First____QUARTER, 2012

**SOUTHWEST ALLUVIUM**

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 1/2/2012 | | | | | | |
| 509-D | 1018 | 80.00 | 6949.5 | 6869.50 | 6,650 | 6.53 | 13.2 |
| | 1/3/2012 | | | | | | |
| 624 | 0945 | 51.88 | 6898.7 | 6846.82 | 5,400 | 6.68 | 11.8 |
| | 1/3/2012 | | | | | | |
| 627 | 1652 | 59.40 | 6892.4 | 6833.00 | 5,030 | 7.12 | 10.6 |
| | 1/3/2012 | | | | | | |
| 632 | 1232 | 45.72 | 6903.6 | 6857.88 | 7,160 | 6.59 | 12.0 |
| | 1/2/2012 | | | | | | |
| 801 | 1340 | 52.91 | 6904.3 | 6851.39 | 6,230 | 6.59 | 12.2 |
| | 1/2/2012 | | | | | | |
| 802 | 1300 | 49.15 | 6907.1 | 6857.95 | 7,220 | 6.58 | 13.9 |
| | 1/2/2012 | | | | | | |
| 803 | 1140 | 63.63 | 6922.6 | 6858.97 | 6,730 | 6.54 | 13.3 |
| | 1/2/2012 | | | | | | |
| 808 | 1218 | 51.03 | 6910.7 | 6859.67 | 6,880 | 6.52 | 13.6 |
| | 1/2/2012 | | | | | | |
| GW-1 | 1525 | 62.83 | 6916.5 | 6853.67 | 6,790 | 6.75 | 11.4 |
| | 1/2/2012 | | | | | | |
| GW-2 | 1440 | 57.25 | 6912.9 | 6855.65 | 8,030 | 6.42 | 10.6 |
| | 1/3/2012 | | | | | | |
| GW-3 | 1500 | 54.11 | 6910.0 | 6855.89 | 5,300 | 6.84 | 12.2 |
| | 1/2/2012 | | | | | | |
| EPA-23 | 1100 | 56.66 | 6926.5 | 6869.84 | 4,730 | 6.69 | 13.8 |
| | 1/3/2012 | | | | | | |
| EPA-25 | 1600 | 54.71 | 6903.4 | 6848.69 | 4,730 | 7.02 | 10.7 |
| | 1/3/2012 | | | | | | |
| EPA-28 | 1115 | 64.06 | 6917.9 | 6853.84 | 5,010 | 6.88 | 12.2 |
| EPA-28 DUP. | 1/3/2012 | | | | | | |
| *(QA/QC) | 1150 | 64.42 | 6917.9 | 6853.48 | 4,930 | 6.91 | 12.4 |
| | 1/3/2012 | | | | | | |
| SBL -1 | 1026 | 50.70 | 6896.3 | 6845.60 | 7,230 | 6.52 | 11.4 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | 1/11/2012 | | | | | | |
| 805 | 1300 | 55.25 | 6915.6 | 6860.35 | | | |
| | 1/11/2012 | | | | | | |
| 807 | 1255 | 59.49 | 6923.4 | 6863.91 | | | |
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COMMENTS: _____

# GROUND WATER FIELD MONITORING
# WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
## April_____MONTH_ Second____QUARTER, 2012

**SOUTHWEST ALLUVIUM**

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 4/2/2012 | | | | | | |
| 509-D | 0945 | 79.73 | 6949.5 | 6869.77 | 6,600 | 6.61 | 11.8 |
| | 4/3/2012 | | | | | | |
| 624 | 0856 | 52.00 | 6898.7 | 6846.70 | 5,350 | 6.74 | 11.2 |
| | 4/3/2012 | | | | | | |
| 627 | 1555 | 59.35 | 6892.4 | 6833.05 | 4,610 | 7.01 | 13.0 |
| | 4/2/2012 | | | | | | |
| 632 | 1520 | 45.80 | 6903.6 | 6857.80 | 7,230 | 6.65 | 10.9 |
| | 4/2/2012 | | | | | | |
| 801 | 1305 | 52.93 | 6904.3 | 6851.37 | 6,100 | 6.72 | 12.5 |
| | 4/2/2012 | | | | | | |
| 802 | 1225 | 49.10 | 6907.1 | 6858.00 | 7,220 | 6.69 | 12.2 |
| | 4/2/2012 | | | | | | |
| 803 | 1110 | 63.30 | 6922.6 | 6859.30 | 6,430 | 6.67 | 12.4 |
| | 4/2/2012 | | | | | | |
| 808 | 1145 | 50.70 | 6910.7 | 6860.00 | 6,720 | 6.63 | 13.1 |
| | 4/2/2012 | | | | | | |
| GW-1 | 1435 | 62.81 | 6916.5 | 6853.69 | 6,650 | 6.81 | 11.4 |
| | 4/2/2012 | | | | | | |
| GW-2 | 1350 | 56.94 | 6912.9 | 6855.96 | 8,030 | 6.48 | 11.1 |
| | 4/3/2012 | | | | | | |
| GW-3 | 1325 | 54.20 | 6910.0 | 6855.80 | 5,380 | 6.65 | 12.6 |
| | 4/2/2012 | | | | | | |
| EPA-23 | 1028 | 56.29 | 6926.5 | 6870.21 | 4,600 | 6.86 | 11.7 |
| | 4/3/2012 | | | | | | |
| EPA-25 | 1500 | 54.85 | 6903.4 | 6848.55 | 4,360 | 6.96 | 12.5 |
| | 4/3/2012 | | | | | | |
| EPA-28 | 1020 | 64.20 | 6917.9 | 6853.70 | 4,860 | 6.95 | 11.2 |
| EPA-28 DUP | 4/3/2012 | | | | | | |
| *(QA/QC) | 1100 | 64.60 | 6917.9 | 6853.30 | 4,820 | 6.96 | 11.4 |
| | 4/3/2012 | | | | | | |
| SBL -1 | 0940 | 50.70 | 6896.3 | 6845.60 | 7,160 | 6.71 | 11.6 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | 4/11/2012 | | | | | | |
| 805 | 1225 | 55.30 | 6915.6 | 6860.30 | | | |
| | 4/11/2012 | | | | | | |
| 807 | 1220 | 59.50 | 6923.4 | 6863.90 | | | |
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COMMENTS: _____

# GROUND WATER FIELD MONITORING
# WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
## __January_____MONTH_First_____QUARTER, 2012___

**ZONE 1**

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 1/4/2012 | | | | | | |
| 515-A | 1035 | 104.60 | 7008.8 | 6904.20 | 8,900 | 6.13 | 12.4 |
| | 1/4/2012 | | | | | | |
| 604 | 0925 | 103.90 | 7006.0 | 6902.10 | 6,410 | 5.30 | 12.7 |
| | 1/4/2012 | | | | | | |
| 614 | 1120 | 104.60 | 7012.0 | 6907.40 | 7,950 | 6.59 | 13.2 |
| | 1/10/2012 | | | | | | |
| TWQ-142 | 1330 | 201.30 | 6983.4 | 6782.10 | 1,817 | 8.04 | 12.0 |
| | 1/9/2012 | | | | | | |
| EPA-2 | 1205 | 173.60 | 7019.5 | 6845.90 | 2,890 | 6.89 | 12.1 |
| EPA-2 DUP. | 1/9/2012 | | | | | | |
| *(QA/QC) | 1238 | 174.35 | 7019.5 | 6845.15 | 3,050 | 6.91 | 12.4 |
| | 1/9/2012 | | | | | | |
| EPA-4 | 0945 | 207.14 | 7069.8 | 6862.66 | 4,430 | 6.84 | 11.4 |
| | 1/9/2012 | | | | | | |
| EPA-5 | 1035 | 125.60 | 7011.5 | 6885.90 | 4,330 | 6.14 | 12.6 |
| | 1/9/2012 | | | | | | |
| EPA-7 | 1120 | 115.25 | 7011.7 | 6896.45 | 7,400 | 6.16 | 12.2 |
| Rinseate | 1/4/2012 | | | | | | |
| *(QA/QC) | 1210 | | | | 17 | 7.36 | 14.2 |
| Field Blank | 1/4/2012 | | | | | | |
| (QA/QC) | 1220 | | | | 16 | 7.90 | 13.9 |
| | | | | | | | |
| | | | | | | | |
| | 1/11/2012 | | | | | | |
| TWQ-143 | 1435 | 208.10 | 6989.6 | 6781.50 | | | |
| | 1/9/2012 | | | | | | |
| EPA-8 | 1025 | 215.80 | 7076.4 | 6860.60 | | | |
| | 1/11/2012 | | | | | | |
| 505-A | 1322 | 119.85 | 6963.1 | 6843.25 | | | |
| | 1/11/2012 | | | | | | |
| 502-A | 1345 | 195.55 | 7025.3 | 6829.75 | | | |
| | 1/11/2012 | | | | | | |
| 501-A | 1350 | 212.00 | 7048.0 | 6836.00 | | | |
| | 1/11/2012 | | | | | | |
| 504-A | 1405 | 200.95 | 7001.4 | 6800.45 | | | |
| | 1/11/2012 | | | | | | |
| 412 | 1430 | 185.26 | 6979.4 | 6794.14 | | | |
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COMMENTS: _____

# GROUND WATER FIELD MONITORING
# WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
April_____MONTH_Second_____QUARTER, 2012___

**ZONE 1**

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 4/4/2012 | | | | | | |
| 515-A | 0940 | 104.72 | 7008.8 | 6904.08 | 8,800 | 6.18 | 13.5 |
| | 4/4/2012 | | | | | | |
| 604 | 0850 | 103.63 | 7006.0 | 6902.37 | 6,150 | 5.35 | 12.7 |
| | 4/4/2012 | | | | | | |
| 614 | 1025 | 104.25 | 7012.0 | 6907.75 | 7,580 | 6.52 | 14.9 |
| | 4/10/2012 | | | | | | |
| TWQ-142 | 1108 | 201.35 | 6983.4 | 6782.05 | 1,800 | 7.91 | 16.3 |
| | 4/9/2012 | | | | | | |
| EPA-2 | 1115 | 173.70 | 7019.5 | 6845.80 | 2,930 | 6.80 | 14.3 |
| EPA-2 DUP | 4/9/2012 | | | | | | |
| *(QA/QC) | 1145 | 174.50 | 7019.5 | 6845.00 | 2,980 | 6.79 | 15.0 |
| | 4/9/2012 | | | | | | |
| EPA-4 | 0840 | 207.30 | 7069.8 | 6862.50 | 4,290 | 6.70 | 13.9 |
| | 4/9/2012 | | | | | | |
| EPA-5 | 0936 | 125.75 | 7011.5 | 6885.75 | 4,160 | 5.92 | 15.1 |
| | 4/9/2012 | | | | | | |
| EPA-7 | 1022 | 115.40 | 7011.7 | 6896.30 | 7,130 | 6.07 | 14.5 |
| Rinseate | 4/4/2012 | | | | | | |
| *(QA/QC) | 1112 | | | | 23 | 7.55 | 18.9 |
| Field Blank | 4/4/2012 | | | | | | |
| (QA/QC) | 1200 | | | | 24 | 7.32 | 17.7 |
| | | | | | | | |
| | | | | | | | |
| | 4/11/2012 | | | | | | |
| TWQ-143 | 1505 | 208.10 | 6989.6 | 6781.50 | | | |
| | 4/9/2012 | | | | | | |
| EPA-8 | 0927 | 215.40 | 7076.4 | 6861.00 | | | |
| | 4/11/2012 | | | | | | |
| 505-A | 1255 | 119.72 | 6963.1 | 6843.38 | | | |
| | 4/11/2012 | | | | | | |
| 502-A | 1310 | 195.35 | 7025.3 | 6829.95 | | | |
| | 4/11/2012 | | | | | | |
| 501-A | 1336 | 211.72 | 7048.0 | 6836.28 | | | |
| | 4/11/2012 | | | | | | |
| 504-A | 1420 | 201.15 | 7001.4 | 6800.25 | | | |
| | 4/11/2012 | | | | | | |
| 412 | 1500 | 185.00 | 6979.4 | 6794.40 | | | |

COMMENTS: _____

# GROUND WATER FIELD MONITORING
## WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
## __January_____MONTH First_____QUARTER, 2012___

ZONE - 3

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| 504-B | **No Sample see below 1/9/2012 | | 7001.8 | | | | |
| 517 | 1312 1/3/2012 | 103.80 | 6971.29 | 6867.49 | 4,890 | 3.67 | 12.9 |
| EPA-14 | 1410 1/10/2012 | 121.20 | 6963.88 | 6842.68 | 5,410 | 4.44 | 13.0 |
| 420 | 1150 1/9/2012 | 151.55 | 6982.6 | 6831.05 | 3,510 | 6.71 | 12.1 |
| 711 | 1440 1/9/2012 | 182.31 | 7042.75 | 6860.44 | 4,310 | 4.83 | 11.4 |
| 711 DUP. (QA/QC) | 1548 1/3/2012 | 183.20 | 7042.75 | 6859.55 | 4,300 | 5.06 | 11.0 |
| 613 | 1320 1/9/2012 | 79.40 | 6961.3 | 6881.90 | 9,300 | 2.96 | 12.7 |
| 708 | 1355 1/10/2012 | 154.65 | 7011.73 | 6857.08 | 5,330 | 3.61 | 11.3 |
| *Rinseate* (QA/QC) | 1602 1/10/2012 | | | | 16 | 7.54 | 12.3 |
| Field Blank (QA/QC) | 1730 1/10/2012 | | | | 16 | 7.74 | 11.6 |
| NBL-1 | 1415 1/9/2012 | 187.15 | 6991.96 | 6804.81 | 4,680 | 2.91 | 11.1 |
| EPA-9 | 1026 1/10/2012 | 170.35 | 7076.6 | 6906.25 | | | |
| EPA-13 | 0855 1/11/2012 | 167.55 | 7031.66 | 6864.11 | 6,200 | 6.12 | 10.4 |
| 702 | 1240 1/11/2012 | 82.65 | 6974.2 | 6891.55 | | | |
| 710 | 1340 1/11/2012 | 163.83 | 7016.36 | 6852.53 | | | |
| 712 | 1355 1/11/2012 | 176.65 | 7022.16 | 6845.51 | | | |
| 713 | 1400 1/11/2012 | 167.28 | 7024.19 | 6856.91 | | | |
| 714 | 1325 1/11/2012 | 103.30 | 6962.54 | 6859.24 | | | |
| 701 | 1320 1/11/2012 | 84.70 | 6961.3 | 6876.60 | | | |
| 706 | 1330 1/11/2012 | 114.43 | 6972.12 | 6857.69 | | | |
| 707 | 1335 1/10/2012 | 158.95 | 7005.2 | 6846.25 | | | |
| 717 | 1230 1/10/2012 | 131.15 | 6972.07 | 6840.92 | 5,570 | 4.31 | 13.0 |
| 719 | 0945 1/11/2012 | 168.85 | 7001.48 | 6832.63 | 5,070 | 3.94 | 9.7 |
| 402 | 1415 1/11/2012 | 127.80 | 6968.20 | 6840.40 | | | |
| 446 | 1410 1/11/2012 | 161.84 | 6998.30 | 6836.46 | | | |
| 424 | 1420 | 137.25 | 6972.62 | 6835.37 | | | |

COMMENTS: **No sample was collected due to the very low water volume in well 504-B

# GROUND WATER FIELD MONITORING
# WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
## April_____MONTH Second_____QUARTER, 2012___

ZONE - 3

| WELL NO | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| 504-B | *No Sample see below 4/9/2012 | | 7001.8 | | | | |
| 517 | 1215 4/3/2012 | 103.90 | 6971.29 | 6867.39 | 4,730 | 3.70 | 15.3 |
| EPA-14 | 1230 4/10/2012 | 121.68 | 6963.88 | 6842.20 | 4,960 | 4.34 | 12.9 |
| 420 | 0925 4/9/2012 | 152.05 | 6982.6 | 6830.55 | 3,440 | 6.73 | 13.7 |
| 711 | 1348 4/9/2012 | 182.51 | 7042.75 | 6860.24 | 4,170 | 4.75 | 15.6 |
| 711 DUP (QA/QC) | 1425 4/3/2012 | 183.60 | 7042.75 | 6859.15 | 4,110 | 4.91 | 15.9 |
| 613 | 1150 4/9/2012 | 79.50 | 6961.3 | 6881.80 | 9,340 | 2.87 | 12.3 |
| 708 | 1302 4/10/2012 | 154.90 | 7011.73 | 6856.83 | 4,960 | 3.52 | 15.6 |
| "Rinsate" (QA/QC) | 1520 4/10/2012 | | | | 23 | 7.96 | 21.0 |
| Field Blank (QA/QC) | 1620 4/10/2012 | | | | 24 | 7.69 | 20.0 |
| NBL-1 | 1210 4/9/2012 | 187.61 | 6991.96 | 6804.35 | 4,810 | 2.81 | 16.5 |
| EPA-9 | 0928 4/9/2012 | 170.06 | 7076.6 | 6906.54 | | | |
| EPA-13 | 1502 4/11/2012 | 167.72 | 7031.66 | 6863.94 | 5,900 | 5.95 | 15.9 |
| 702 | 1240 4/11/2012 | 82.63 | 6974.2 | 6891.57 | | | |
| 710 | 1325 4/11/2012 | 163.80 | 7016.36 | 6852.56 | | | |
| 712 | 1406 4/11/2012 | 176.43 | 7022.16 | 6845.73 | | | |
| 713 | 1415 4/11/2012 | 167.10 | 7024.19 | 6857.09 | | | |
| 714 | 1300 4/11/2012 | 103.10 | 6962.54 | 6859.44 | | | |
| 701 | 1250 4/11/2012 | 84.52 | 6961.3 | 6876.78 | | | |
| 706 | 1304 4/11/2012 | 114.40 | 6972.12 | 6857.72 | | | |
| 707 | 1320 4/10/2012 | 159.05 | 7005.2 | 6846.15 | | | |
| 717 | 1010 4/10/2012 | 131.45 | 6972.07 | 6840.62 | 5,300 | 4.25 | 14.2 |
| 719 | 0848 4/11/2012 | 169.05 | 7001.48 | 6832.43 | 5,000 | 5.16 | 14.3 |
| 402 | 1450 4/11/2012 | 127.91 | 6968.20 | 6840.29 | | | |
| 446 | 1426 4/11/2012 | 161.84 | 6998.30 | 6836.46 | | | |
| 424** | 1455 | 136.70 | 6972.62 | 6835.92 | | | |

COMMENTS. *No Sample was collected due to the very low water volume in well 504-B.

** Well 424 is drying up

GROUND WATER FIELD MONITORING
WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
__JANUARY_____MONTH FIRST_____QUARTER, 2012___
***SUPPLEMENTAL***

ZONE - 3

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF. ELEV. | TOP OF WATER ELEV. | FIELD COND. (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 1/11/2012 | | | | | | |
| PB-2 | 0950 | 184.30 | 6989.70 | 6805.40 | 4,790 | 5.74 | 9.2 |
| | 1/10/2012 | | | | | | |
| PB-3 | 1547 | 184.80 | 6990.23 | 6805.43 | 3,650 | 6.57 | 11.8 |
| | 1/10/2012 | | | | | | |
| NBL-2 | 1306 | 161.70 | 6975.61 | 6813.91 | 3,540 | 6.76 | 12.2 |
| | 1/11/2012 | | | | | | |
| RW-A | 1110 | 180.15 | 6983.23 | 6803.08 | 3,940 | 6.39 | 17.5 |
| RW-11 | | | 6983.73 | | | | |
| | 1/11/2012 | | | | | | |
| NW-1 | 1020 | 200.40 | 6997.15 | 6800.90 | 4,300 | 6.61 | 6.2 |
| | 1/11/2012 | | | | | | |
| NW-2 | 1035 | 188.35 | 6989.76 | 6800.61 | 3,760 | 6.55 | 11.3 |
| | 1/11/2012 | | | | | | |
| NW-3 | 1055 | 181.30 | 6985.57 | 6803.95 | 3,760 | 6.77 | 12.3 |
| | 1/11/2012 | | | | | | |
| NW-4 | 1005 | 188.85 | 6990.13 | 6800.86 | 4,380 | 6.28 | 10.5 |
| | 1/11/2012 | | | | | | |
| NW-5 | 1050 | 181.10 | 6985.85 | 6804.37 | 3,370 | 6.94 | 10.7 |
| | 1/11/2012 | | | | | | |
| PB-4 | 1630 | 184.45 | 6990.18 | 6805.73 | NO SAMPLE-SEE BELOW | | |
| | 1/10/2012 | | | | | | |
| MW-6 | 1645 | 189.75 | 6990.94 | 6800.99 | 4,040 | 6.59 | 11.3 |
| | 1/10/2012 | | | | | | |
| MW-7 | 1700 | 187.16 | 6988.82 | 6801.42 | 3850 | 6.75 | 11 |

COMMENTS: No Sample collection for well PB-4 due to pump failure

GROUND WATER FIELD MONITORING
WATER ELEVATIONS, PH, CONDUCTIVITY, AND TEMPERATURE
__April_____MONTH Second_____QUARTER, 2012___
***SUPPLEMENTAL***

ZONE - 3

| WELL NO. | DEPTH SAMPLE DATE | DEPT TO WATER (FT) | REF ELEV. | TOP OF WATER ELEV | FIELD COND (US/CM) | FIELD Ph (UNITS) | FIELD TEMP. ( C) |
|---|---|---|---|---|---|---|---|
| | 4/10/2012 | | | | | | |
| PB-2 | 1402 | 184.37 | 6989.70 | 6805.33 | 4,680 | 5.80 | 17.0 |
| | 4/10/2012 | | | | | | |
| PB-3 | 1300 | 185.25 | 6990.23 | 6804.98 | 3,560 | 6.38 | 15.6 |
| | 4/10/2012 | | | | | | |
| NBL-2 | 1045 | 162.30 | 6975.61 | 6813.31 | 3,520 | 6.67 | 13.7 |
| | 4/10/2012 | | | | | | |
| RW-A | 1425 | **171.57** | 6983.23 | 6811.66 | 3,990 | 6.28 | 12.4 |
| RW-11 | | | 6983.73 | | | | |
| | 4/10/2012 | | | | | | |
| NW-1 | 1253 | 200.60 | 6997.15 | 6796.55 | 4,240 | 6.54 | 21.2 |
| | 4/10/2012 | | | | | | |
| NW-2 | 1428 | 188.50 | 6989.76 | 6801.26 | 3,810 | 6.36 | 17.0 |
| | 4/10/2012 | | | | | | |
| NW-3 | 1450 | 181.91 | 6985.57 | 6803.66 | 3,730 | 6.54 | 13.2 |
| | 4/10/2012 | | | | | | |
| NW-4 | 1315 | 189.1 | 6990.13 | 6801.03 | 4,370 | 5.90 | 11.5 |
| | 4/10/2012 | | | | | | |
| NW-5 | 1440 | 181.71 | 6985.85 | 6804.14 | 3,720 | 6.95 | 12.6 |
| | 4/10/2012 | | | | | | |
| PB-4 | 1322 | 185.00 | 6990.18 | 6805.15 | 5,420 | 2.65 | 17.6 |
| | 4/10/2012 | | | | | | |
| MW-6 | 1400 | 190.30 | 6990.94 | 6800.64 | 3,810 | 6.41 | 14.6 |
| | 4/10/2012 | | | | | | |
| MW-7 | 1420 | 187.50 | 6988.82 | 6801.32 | 3660 | 6.62 | 14.6 |
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COMMENTS: _____

**QUARTERLY SAMPLING**

**SEMI-ANNUAL GROUND WATER MONITORING REPORT**

**JANUARY TO JUNE OF 2012**

**SOUTH WEST ALLUVIUM**

*509-D

624

627

*632

801

802

803

808

*GW-1

*GW-2

*GW-3

*EPA-23

EPA-25

*EPA-28

SBL-1

**LEVELS ONLY**

805

807

***POINT OF COMPLIANCE WELLS**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-001
**Client Sample ID:** 509-D

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 10:18
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 2360 | mg/L | | 5 | | A2320 B | 01/06/12 16:52 / jba |
| Calcium | 916 | mg/L | | 1 | | E200.8 | 01/25/12 22:23 / sml |
| Chloride | 356 | mg/L | D | 4 | | E300.0 | 01/10/12 02:32 / ljl |
| Magnesium | 395 | mg/L | | 1 | | E200.8 | 01/25/12 22:23 / sml |
| Nitrogen, Ammonia as N | 0.99 | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 12:44 / dc |
| Nitrogen, Nitrate+Nitrite as N | 8.9 | mg/L | D | 0.5 | | E353.2 | 01/10/12 13:16 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/25/12 22:23 / sml |
| Sodium | 402 | mg/L | | 1 | | E200.8 | 01/25/12 22:23 / sml |
| Sulfate | 1840 | mg/L | D | 20 | | E300.0 | 01/10/12 02:32 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.81 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:02 / wc |
| Solids, Total Dissolved TDS @ 180 C | 5370 | mg/L | D | 17 | | A2540 C | 01/06/12 14:11 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 16:37 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 17:46 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 17:46 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 19:11 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 17:46 / sml |
| Manganese | 4.02 | mg/L | | 0.01 | | E200.8 | 01/11/12 17:46 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 17:46 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 17:46 / sml |
| Uranium | 0.268 | mg/L | | 0.0003 | | E200.8 | 01/11/12 17:46 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 17:46 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 17:29 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:39 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.8 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | -0.3 | pCi/L | U | | | E909.0 | 01/29/12 09:00 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/29/12 09:00 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 09:00 / eli-cs |
| Radium 226 | 0.77 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.24 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.20 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 1.0 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.98 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 1.6 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-001
**Client Sample ID:** 509-D

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 10:18
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.04 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 4.66 | % | | | | Calculation | 01/31/12 06:43 / kbh |
| Anions | 87.5 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Cations | 96.1 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Solids, Total Dissolved Calculated | 5130 | mg/L | | | | Calculation | 01/31/12 06:43 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 01/31/12 06:43 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 22:44 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/06/12 22:44 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 22:44 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/06/12 22:44 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/06/12 22:44 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 122 | %REC | S | 80-120 | | E624 | 01/06/12 22:44 / jlr |
| Surr: Dibromofluoromethane | 112 | %REC | | 80-120 | | E624 | 01/06/12 22:44 / jlr |
| Surr: p-Bromofluorobenzene | 106 | %REC | | 80-120 | | E624 | 01/06/12 22:44 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/06/12 22:44 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-001
**Client Sample ID:** 509-D

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 09:45
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 2490 | mg/L | | 5 | | A2320 B | 04/09/12 21:48 / jba |
| Calcium | 933 | mg/L | | 1 | | E200.8 | 04/10/12 15:05 / smm |
| Chloride | 346 | mg/L | D | 4 | | E300.0 | 04/10/12 13:49 / ljl |
| Magnesium | 389 | mg/L | | 1 | | E200.8 | 04/10/12 15:05 / smm |
| Nitrogen, Ammonia as N | 1.1 | mg/L | D | 0.1 | | A4500-NH3 G | 04/09/12 15:50 / dc |
| Nitrogen, Nitrate+Nitrite as N | 8.8 | mg/L | D | 0.2 | | E353.2 | 04/11/12 12:49 / dc |
| Potassium | 14 | mg/L | | 1 | | E200.8 | 04/10/12 15:05 / smm |
| Sodium | 399 | mg/L | | 1 | | E200.8 | 04/10/12 15:05 / smm |
| Sulfate | 1870 | mg/L | D | 20 | | E300.0 | 04/10/12 13:49 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.53 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:17 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5510 | mg/L | D | 16 | | A2540 C | 04/06/12 16:57 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 20:30 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 20:30 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/10/12 20:30 / smm |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 20:30 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 20:30 / smm |
| Manganese | 3.92 | mg/L | | 0.01 | | E200.8 | 04/10/12 20:30 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 20:30 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 20:30 / smm |
| Uranium | 0.268 | mg/L | | 0.0003 | | E200.8 | 04/10/12 20:30 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 20:30 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 11:48 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 11:59 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.3 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 04/23/12 03:03 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 04/23/12 03:03 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 04/23/12 03:03 / eli-cs |
| Radium 226 | 0.37 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 226 precision (±) | 0.14 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 228 | 0.55 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.53 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.84 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

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QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-001
**Client Sample ID:** 509-D

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 09:45
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.05 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.08 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 3.33 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 90.1 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 96.3 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 5240 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 16:26 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 16:26 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 16:26 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/10/12 16:26 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/10/12 16:26 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 95.0 | %REC | | 80-120 | | E624 | 04/10/12 16:26 / jlr |
| Surr: Dibromofluoromethane | 126 | %REC | S | 80-120 | | E624 | 04/10/12 16:26 / jlr |
| Surr: p-Bromofluorobenzene | 101 | %REC | | 80-120 | | E624 | 04/10/12 16:26 / jlr |
| Surr: Toluene-d8 | 101 | %REC | | 80-120 | | E624 | 04/10/12 16:26 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 509-D | 509-D | 509-D | 509-D |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-001 | C12010151-001 | C11100288-001 | C11070551-001 |
| Bicarbonate as HCO3 | mg/L | 2490 | 2360 | 2420 | 2550 |
| Calcium | mg/L | 933 | 916 | 918 | 876 |
| Chloride | mg/L | 346 | 356 | 368 | 350 |
| Magnesium | mg/L | 389 | 395 | 434 | 440 |
| Nitrogen, Ammonia as N | mg/L | 1.1 | 0.99 | 2.3 | 4.9 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 8.8 | 8.9 | 8.9 | 9.0 |
| Potassium | mg/L | 14 | 13 | 13 | 13 |
| Sodium | mg/L | 399 | 402 | 430 | 443 |
| Sulfate | mg/L | 1870 | 1840 | 2170 | 2150 |
| pH | s.u. | 6.53 | 6.81 | 7.65 | 6.97 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5510 | 5370 | 5600 | 5600 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | 0.01 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 3.92 | 4.02 | 3.70 | 3.98 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.268 | 0.268 | 0.226 | 0.262 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.006 | 0.005 |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.3 | 0.8 | 0.2 | 0.9 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.3 | 0.3 | 0.4 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.6 | 0.9 |
| Lead 210 | pCi/L | 0.2 | -0.3 | 0.2 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.7 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.2 | 1.1 | 1.3 | 1.9 |
| Radium 226 | pCi/L | 0.37 | 0.77 | 0.30 | 0.12 |
| Radium 226 precision (±) | pCi/L | 0.14 | 0.24 | 0.12 | 0.12 |
| Radium 226 MDC | pCi/L | 0.14 | 0.20 | 0.13 | 0.18 |
| Radium 228 | pCi/L | 0.55 | 1.0 | 1.1 | 0.73 |
| Radium 228 precision (±) | pCi/L | 0.53 | 0.98 | 0.52 | 0.58 |
| Radium 228 MDC | pCi/L | 0.84 | 1.6 | 0.79 | 0.92 |
| Thorium 230 | pCi/L | -0.05 | 0.04 | 0.04 | 0.05 |
| Thorium 230 precision (±) | pCi/L | 0.08 | 0.07 | 0.07 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | 3.33 | 4.66 | 2.51 | 1.50 |
| Anions | meq/L | 90.1 | 87.5 | 95.8 | 97.0 |
| Cations | meq/L | 96.3 | 96.1 | 101 | 99.9 |
| Solids, Total Dissolved Calculated | mg/L | 5240 | 5130 | 5590 | 5590 |
| TDS Balance (0.80 - 1.20) | | 1.05 | 1.05 | 1.00 | 1.00 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-009
**Client Sample ID:** 624

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 09:45
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1400 | mg/L | | 5 | | A2320 B | 01/06/12 18:33 / jba |
| Calcium | 662 | mg/L | | 1 | | E200.8 | 01/17/12 14:34 / sml |
| Chloride | 200 | mg/L | D | 4 | | E300.0 | 01/10/12 05:27 / ljl |
| Magnesium | 400 | mg/L | | 1 | | E200.8 | 01/17/12 14:34 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:04 / dc |
| Nitrogen, Nitrate+Nitrite as N | 75 | mg/L | D | 2 | | E353.2 | 01/10/12 13:46 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 01/17/12 14:34 / sml |
| Sodium | 269 | mg/L | | 1 | | E200.8 | 01/17/12 14:34 / sml |
| Sulfate | 2140 | mg/L | D | 20 | | E300.0 | 01/10/12 05:27 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.75 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:14 / wc |
| Solids, Total Dissolved TDS @ 180 C | 5110 | mg/L | D | 17 | | A2540 C | 01/06/12 14:13 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:30 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:27 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:27 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:21 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:27 / sml |
| Manganese | 0.17 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:27 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:27 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:27 / sml |
| Uranium | 0.0347 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:27 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:21 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 16:36 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:04 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.5 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.07 | pCi/L | U | | | E909.0 | 01/30/12 02:58 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/30/12 02:58 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 02:58 / eli-cs |
| Radium 226 | 0.46 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.16 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.88 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.74 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-009
**Client Sample ID:** 624

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 09:45
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.01 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.426 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 78.4 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 77.8 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 4710 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:46 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:46 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:46 / jlr |
| Chloroform | 2.47 | ug/L | | 0.50 | | E624 | 01/07/12 02:46 / jlr |
| Trihalomethanes, Total | 2.47 | ug/L | | 0.50 | | E624 | 01/07/12 02:46 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 130 | %REC | S | 80-120 | | E624 | 01/07/12 02:46 / jlr |
| Surr: Dibromofluoromethane | 112 | %REC | | 80-120 | | E624 | 01/07/12 02:46 / jlr |
| Surr: p-Bromofluorobenzene | 108 | %REC | | 80-120 | | E624 | 01/07/12 02:46 / jlr |
| Surr: Toluene-d8 | 93.0 | %REC | | 80-120 | | E624 | 01/07/12 02:46 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-010
**Client Sample ID:** 624

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 08:56
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1510 | mg/L | | 5 | | A2320 B | 04/10/12 00:17 / jba |
| Calcium | 696 | mg/L | | 1 | | E200.8 | 04/10/12 16:35 / smm |
| Chloride | 203 | mg/L | D | 4 | | E300.0 | 04/10/12 17:54 / ljl |
| Magnesium | 400 | mg/L | | 1 | | E200.8 | 04/10/12 16:35 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:22 / dc |
| Nitrogen, Nitrate+Nitrite as N | 76 | mg/L | D | 2 | | E353.2 | 04/11/12 13:24 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 04/10/12 16:35 / smm |
| Sodium | 267 | mg/L | | 1 | | E200.8 | 04/10/12 16:35 / smm |
| Sulfate | 2170 | mg/L | D | 20 | | E300.0 | 04/10/12 17:54 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.59 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:51 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5110 | mg/L | D | 20 | | A2540 C | 04/06/12 17:00 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:33 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:33 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:21 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:33 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 21:10 / smm |
| Manganese | 0.19 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:33 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:21 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/14/12 03:33 / smm |
| Uranium | 0.0355 | mg/L | | 0.0003 | | E200.8 | 04/10/12 21:10 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:33 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 13:22 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:25 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.003 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | -0.4 | pCi/L | U | | | E909.0 | 04/29/12 14:47 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 14:47 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 14:47 / eli-cs |
| Radium 226 | 0.39 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 1.4 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.68 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-010
**Client Sample ID:** 624

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 08:56
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.01 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.683 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 80.5 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 79.4 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 4820 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:56 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:56 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:56 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:56 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:56 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 04/12/12 15:56 / jlr |
| Surr: Dibromofluoromethane | 102 | %REC | | 80-120 | | E624 | 04/12/12 15:56 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 04/12/12 15:56 / jlr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 04/12/12 15:56 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 624 | 624 | 624 | 624 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-010 | C12010151-009 | C11100288-010 | C11070551-010 |
| Bicarbonate as HCO3 | mg/L | 1510 | 1400 | 1420 | 1520 |
| Calcium | mg/L | 696 | 662 | 694 | 691 |
| Chloride | mg/L | 203 | 200 | 208 | 200 |
| Magnesium | mg/L | 400 | 400 | 408 | 419 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 76 | 75 | 74 | 78 |
| Potassium | mg/L | 6 | 7 | 6 | 6 |
| Sodium | mg/L | 267 | 269 | 279 | 282 |
| Sulfate | mg/L | 2170 | 2140 | 2240 | 2180 |
| pH | s.u. | 6.59 | 6.75 | 7.49 | 7.15 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5110 | 5110 | 4990 | 5100 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.19 | 0.17 | 0.19 | 0.25 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0355 | 0.0347 | 0.0308 | 0.0351 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.003 | 0.5 | 0.4 | 1 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | -0.4 | 0.07 | 0.04 | -0.04 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.39 | 0.46 | 0.12 | 0.05 |
| Radium 226 precision (±) | pCi/L | 0.14 | 0.16 | 0.09 | 0.1 |
| Radium 226 MDC | pCi/L | 0.14 | 0.15 | 0.13 | 0.16 |
| Radium 228 | pCi/L | 1.4 | 0.88 | 0.71 | 0.95 |
| Radium 228 precision (±) | pCi/L | 0.68 | 0.74 | 0.50 | 0.66 |
| Radium 228 MDC | pCi/L | 1.0 | 1.2 | 0.79 | 1.0 |
| Thorium 230 | pCi/L | 0.01 | 0.01 | 0.008 | 0.02 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.05 | 0.05 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.1 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -0.683 | -0.426 | -0.328 | 0.338 |
| Anions | meq/L | 80.5 | 78.4 | 81.0 | 80.9 |
| Cations | meq/L | 79.4 | 77.8 | 80.5 | 81.4 |
| Solids, Total Dissolved Calculated | mg/L | 4820 | 4710 | 4890 | 4860 |
| TDS Balance (0.80 - 1.20) | | 1.06 | 1.08 | 1.02 | 1.05 |
| Trihalomethanes, Total | ug/L | ND(0.50) | 2.47 | ND(0.50) | ND(0.50) |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-016
**Client Sample ID:** 627

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 16:52
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 552 | mg/L | | 5 | | A2320 B | 01/06/12 19:37 / jba |
| Calcium | 552 | mg/L | | 1 | | E200.8 | 01/17/12 23:51 / sml |
| Chloride | 38 | mg/L | D | 4 | | E300.0 | 01/10/12 17:40 / ljl |
| Magnesium | 238 | mg/L | | 1 | | E200.8 | 01/17/12 23:51 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:22 / dc |
| Nitrogen, Nitrate+Nitrite as N | 94 | mg/L | D | 2 | | E353.2 | 01/10/12 14:11 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 01/17/12 23:51 / sml |
| Sodium | 445 | mg/L | | 1 | | E200.8 | 01/17/12 23:51 / sml |
| Sulfate | 2300 | mg/L | D | 20 | | E300.0 | 01/10/12 17:40 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.07 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:37 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4250 | mg/L | D | 12 | | A2540 C | 01/06/12 15:25 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:54 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:51 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:51 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:33 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:51 / sml |
| Manganese | 0.02 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:33 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:51 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:51 / sml |
| Uranium | 0.0192 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:51 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:33 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 20:16 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:28 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.5 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Lead 210 | 1.2 | pCi/L | U | | | E909.0 | 01/30/12 18:41 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/30/12 18:41 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 01/30/12 18:41 / eli-cs |
| Radium 226 | 0.57 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 precision (±) | 0.19 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 MDC | 0.17 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 228 | -0.1 | pCi/L | U | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 0.96 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.6 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-016
**Client Sample ID:** 627

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 16:52
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.05 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 1.46 | % | | | | Calculation | 01/18/12 10:36 / kbh |
| Anions | 64.8 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Cations | 66.7 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Solids, Total Dissolved Calculated | 4270 | mg/L | | | | Calculation | 01/18/12 10:36 / kbh |
| TDS Balance (0.80 - 1.20) | 1.00 | | | | | Calculation | 01/18/12 10:36 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 22:24 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 22:24 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 22:24 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/09/12 22:24 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/09/12 22:24 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 01/09/12 22:24 / mdr |
| Surr: Dibromofluoromethane | 99.0 | %REC | | 80-120 | | E624 | 01/09/12 22:24 / mdr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/09/12 22:24 / mdr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/09/12 22:24 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-016
**Client Sample ID:** 627

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 15:55
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 589 | mg/L | | 5 | | A2320 B | 04/10/12 01:20 / jba |
| Calcium | 556 | mg/L | | 1 | | E200.8 | 04/18/12 00:00 / smm |
| Chloride | 38 | mg/L | D | 4 | | E300.0 | 04/10/12 19:49 / ljl |
| Magnesium | 213 | mg/L | | 1 | | E200.8 | 04/10/12 18:05 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:42 / dc |
| Nitrogen, Nitrate+Nitrite as N | 91 | mg/L | D | 2 | | E353.2 | 04/11/12 13:49 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 04/10/12 18:05 / smm |
| Sodium | 400 | mg/L | | 1 | | E200.8 | 04/10/12 18:05 / smm |
| Sulfate | 2310 | mg/L | D | 20 | | E300.0 | 04/10/12 19:49 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.91 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 17:07 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4360 | mg/L | D | 11 | | A2540 C | 04/06/12 17:01 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:46 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 15:46 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:46 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 15:46 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:46 / cp |
| Manganese | 0.02 | mg/L | | 0.01 | | E200.8 | 04/12/12 15:46 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:46 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:46 / cp |
| Uranium | 0.0208 | mg/L | | 0.0003 | | E200.8 | 04/12/12 15:46 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:46 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 14:24 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:44 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.2 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 04/25/12 08:13 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 08:13 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 08:13 / eli-cs |
| Radium 226 | 0.06 | pCi/L | U | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 precision (±) | 0.09 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 228 | 0.39 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.65 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-016
**Client Sample ID:** 627

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 15:55
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.005 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.81 | % | | | | Calculation | 04/19/12 06:39 / kbh |
| Anions | 65.1 | meq/L | | | | Calculation | 04/19/12 06:39 / kbh |
| Cations | 62.8 | meq/L | | | | Calculation | 04/19/12 06:39 / kbh |
| Solids, Total Dissolved Calculated | 4220 | mg/L | | | | Calculation | 04/19/12 06:39 / kbh |
| TDS Balance (0.80 - 1.20) | 1.03 | | | | | Calculation | 04/19/12 06:39 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:59 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:59 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:59 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:59 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:59 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 04/12/12 18:59 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 04/12/12 18:59 / jlr |
| Surr: p-Bromofluorobenzene | 92.0 | %REC | | 80-120 | | E624 | 04/12/12 18:59 / jlr |
| Surr: Toluene-d8 | 95.0 | %REC | | 80-120 | | E624 | 04/12/12 18:59 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 627 | 627 | 627 | 627 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-016 | C12010151-016 | C11100288-016 | C11070551-015 |
| Bicarbonate as HCO3 | mg/L | 589 | 552 | 559 | 599 |
| Calcium | mg/L | 556 | 552 | 509 | 538 |
| Chloride | mg/L | 38 | 38 | 39 | 37 |
| Magnesium | mg/L | 213 | 238 | 227 | 239 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 91 | 94 | 96 | 101 |
| Potassium | mg/L | 6 | 7 | 6 | 6 |
| Sodium | mg/L | 400 | 445 | 460 | 490 |
| Sulfate | mg/L | 2310 | 2300 | 2420 | 2350 |
| pH | s.u. | 6.91 | 7.07 | 7.70 | 7.67 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4360 | 4250 | 4260 | 4330 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.02 | 0.02 | 0.02 | 0.02 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0208 | 0.0192 | 0.0184 | 0.0198 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.2 | 0.5 | -0.009 | 0.4 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.2 | 1.2 | 0.9 | 0.7 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.7 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1.3 | 1.2 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 0.06 | 0.57 | 0.15 | 0.16 |
| Radium 226 precision (±) | pCi/L | 0.09 | 0.19 | 0.10 | 0.11 |
| Radium 226 MDC | pCi/L | 0.15 | 0.17 | 0.13 | 0.14 |
| Radium 228 | pCi/L | 0.39 | -0.1 | 0.06 | 0.28 |
| Radium 228 precision (±) | pCi/L | 0.65 | 0.96 | 0.59 | 0.64 |
| Radium 228 MDC | pCi/L | 1.1 | 1.6 | 0.98 | 1.1 |
| Thorium 230 | pCi/L | 0.005 | 0.05 | 0.03 | 0.04 |
| Thorium 230 precision (±) | pCi/L | 0.06 | 0.07 | 0.07 | 0.09 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | -1.81 | 1.46 | -2.50 | 1.13 |
| Anions | meq/L | 65.1 | 64.8 | 67.5 | 66.5 |
| Cations | meq/L | 62.8 | 66.7 | 64.2 | 68.0 |
| Solids, Total Dissolved Calculated | mg/L | 4220 | 4270 | 4380 | 4390 |
| TDS Balance (0.80 - 1.20) | | 1.03 | 1.00 | 0.970 | 0.990 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-013
**Client Sample ID:** 632

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 12:32
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1730 | mg/L | | 5 | | A2320 B | 01/06/12 19:09 / jba |
| Calcium | 660 | mg/L | | 1 | | E200.8 | 01/17/12 23:30 / sml |
| Chloride | 236 | mg/L | D | 10 | | E300.0 | 01/10/12 06:20 / ljl |
| Magnesium | 805 | mg/L | | 1 | | E200.8 | 01/17/12 23:30 / sml |
| Nitrogen, Ammonia as N | 0.44 | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:16 / dc |
| Nitrogen, Nitrate+Nitrite as N | 73 | mg/L | D | 2 | | E353.2 | 01/10/12 13:56 / dc |
| Potassium | 11 | mg/L | | 1 | | E200.8 | 01/17/12 23:30 / sml |
| Sodium | 407 | mg/L | | 1 | | E200.8 | 01/17/12 23:30 / sml |
| Sulfate | 3370 | mg/L | D | 40 | | E300.0 | 01/10/12 06:20 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.67 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:32 / wc |
| Solids, Total Dissolved TDS @ 180 C | 7100 | mg/L | D | 20 | | A2540 C | 01/06/12 14:16 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/13/12 04:34 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:34 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/12/12 17:57 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:34 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 17:57 / sml |
| Manganese | 2.26 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:34 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 17:57 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 17:57 / sml |
| Uranium | 0.0686 | mg/L | | 0.0003 | | E200.8 | 01/12/12 17:57 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 17:57 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 17:05 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:21 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.2 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.7 | pCi/L | U | | | E909.0 | 01/30/12 11:57 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/30/12 11:57 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 11:57 / eli-cs |
| Radium 226 | 1.3 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 precision (±) | 0.21 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 MDC | 0.11 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 228 | 1.5 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 0.71 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-013
**Client Sample ID:** 632

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 12:32
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.09 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 2.98 | % | | | | Calculation | 01/18/12 10:36 / kbh |
| Anions | 110 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Cations | 117 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Solids, Total Dissolved Calculated | 6660 | mg/L | | | | Calculation | 01/18/12 10:36 / kbh |
| TDS Balance (0.80 - 1.20) | 1.07 | | | | | Calculation | 01/18/12 10:36 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:18 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:18 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:18 / mdr |
| Chloroform | 3.41 | ug/L | | 0.50 | | E624 | 01/09/12 16:18 / mdr |
| Trihalomethanes, Total | 3.41 | ug/L | | 0.50 | | E624 | 01/09/12 16:18 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 98.0 | %REC | | 80-120 | | E624 | 01/09/12 16:18 / mdr |
| Surr: Dibromofluoromethane | 100 | %REC | | 80-120 | | E624 | 01/09/12 16:18 / mdr |
| Surr: p-Bromofluorobenzene | 93.0 | %REC | | 80-120 | | E624 | 01/09/12 16:18 / mdr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 01/09/12 16:18 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-009
**Client Sample ID:** 632

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 15:20
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1860 | mg/L | | 5 | | A2320 B | 04/10/12 00:07 / jba |
| Calcium | 622 | mg/L | | 1 | | E200.8 | 04/10/12 16:28 / smm |
| Chloride | 237 | mg/L | D | 4 | | E300.0 | 04/10/12 17:11 / ljl |
| Magnesium | 750 | mg/L | | 1 | | E200.8 | 04/10/12 16:28 / smm |
| Nitrogen, Ammonia as N | 0.60 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:20 / dc |
| Nitrogen, Nitrate+Nitrite as N | 71 | mg/L | D | 2 | | E353.2 | 04/11/12 13:21 / dc |
| Potassium | 10 | mg/L | | 1 | | E200.8 | 04/10/12 16:28 / smm |
| Sodium | 378 | mg/L | | 1 | | E200.8 | 04/10/12 16:28 / smm |
| Sulfate | 3380 | mg/L | D | 20 | | E300.0 | 04/10/12 17:11 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.54 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:49 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7120 | mg/L | D | 19 | | A2540 C | 04/06/12 16:59 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:59 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/13/12 18:37 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 22:59 / smm |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 22:59 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 22:59 / smm |
| Manganese | 2.59 | mg/L | | 0.01 | | E200.8 | 04/12/12 22:59 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:59 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 22:59 / smm |
| Uranium | 0.0756 | mg/L | | 0.0003 | | E200.8 | 04/12/12 22:59 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:59 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 12:27 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:23 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.9 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.3 | pCi/L | U | | | E909.0 | 04/29/12 12:32 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 12:32 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 12:32 / eli-cs |
| Radium 226 | 0.56 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.72 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.64 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-009
**Client Sample ID:** 632

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 15:20
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.05 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.31 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 112 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 109 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 6620 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:20 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:20 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 15:20 / jlr |
| Chloroform | 3.52 | ug/L | | 0.50 | | E624 | 04/12/12 15:20 / jlr |
| Trihalomethanes, Total | 3.52 | ug/L | | 0.50 | | E624 | 04/12/12 15:20 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 04/12/12 15:20 / jlr |
| Surr: Dibromofluoromethane | 95.0 | %REC | | 80-120 | | E624 | 04/12/12 15:20 / jlr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 04/12/12 15:20 / jlr |
| Surr: Toluene-d8 | 93.0 | %REC | | 80-120 | | E624 | 04/12/12 15:20 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 632 | 632 | 632 | 632 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/3/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-009 | C12010151-013 | C11100288-009 | C11070551-016 |
| Bicarbonate as HCO3 | mg/L | 1860 | 1730 | 1790 | 1900 |
| Calcium | mg/L | 622 | 660 | 604 | 630 |
| Chloride | mg/L | 237 | 236 | 235 | 228 |
| Magnesium | mg/L | 750 | 805 | 793 | 837 |
| Nitrogen, Ammonia as N | mg/L | 0.60 | 0.44 | 0.6 | 0.7 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 71 | 73 | 70 | 74 |
| Potassium | mg/L | 10 | 11 | 10 | 10 |
| Sodium | mg/L | 378 | 407 | 406 | 431 |
| Sulfate | mg/L | 3380 | 3370 | 3410 | 3310 |
| pH | s.u. | 6.54 | 6.67 | 7.39 | 7.31 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7120 | 7100 | 7050 | 7000 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 2.59 | 2.26 | 2.64 | 2.79 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0756 | 0.0686 | 0.0742 | 0.0817 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | 0.002 |
| Gross Alpha minus Rn & U | pCi/L | 0.9 | 1.2 | 0.8 | 1.1 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.4 | 0.4 | 0.4 | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.3 | 0.7 | 0.8 | 0.7 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 0.56 | 1.3 | 0.60 | 0.49 |
| Radium 226 precision (±) | pCi/L | 0.15 | 0.21 | 0.16 | 0.15 |
| Radium 226 MDC | pCi/L | 0.14 | 0.11 | 0.13 | 0.13 |
| Radium 228 | pCi/L | 0.72 | 1.5 | 2.0 | 2.2 |
| Radium 228 precision (±) | pCi/L | 0.64 | 0.71 | 0.57 | 0.73 |
| Radium 228 MDC | pCi/L | 1.0 | 1.1 | 0.80 | 1.1 |
| Thorium 230 | pCi/L | 0.05 | 0.03 | 0.02 | 0.07 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.09 | 0.07 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | -1.31 | 2.98 | 0.635 | 3.47 |
| Anions | meq/L | 112 | 110 | 112 | 111 |
| Cations | meq/L | 109 | 117 | 113 | 119 |
| Solids, Total Dissolved Calculated | mg/L | 6620 | 6660 | 6670 | 6710 |
| TDS Balance (0.80 - 1.20) | | 1.08 | 1.07 | 1.06 | 1.04 |
| Trihalomethanes, Total | ug/L | 3.52 | 3.41 | 3.16 | 3.28 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-006
**Client Sample ID:** 801

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 13:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1360 | mg/L | | 5 | | A2320 B | 01/06/12 17:47 / jba |
| Calcium | 567 | mg/L | | 1 | | E200.8 | 01/17/12 14:14 / sml |
| Chloride | 200 | mg/L | D | 4 | | E300.0 | 01/10/12 04:46 / ljl |
| Magnesium | 610 | mg/L | | 1 | | E200.8 | 01/17/12 14:14 / sml |
| Nitrogen, Ammonia as N | 3.2 | mg/L | D | 0.1 | | A4500-NH3 G | 01/09/12 12:54 / dc |
| Nitrogen, Nitrate+Nitrite as N | 11.9 | mg/L | D | 0.5 | | E353.2 | 01/10/12 13:34 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/17/12 14:14 / sml |
| Sodium | 331 | mg/L | | 1 | | E200.8 | 01/17/12 14:14 / sml |
| Sulfate | 3150 | mg/L | D | 20 | | E300.0 | 01/10/12 04:46 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.80 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:09 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6040 | mg/L | D | 17 | | A2540 C | 01/06/12 14:12 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:05 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:18 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:18 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:01 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:18 / sml |
| Manganese | 3.62 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:18 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:18 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:18 / sml |
| Uranium | 0.0375 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:18 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:01 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 15:46 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:56 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.7 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.9 | pCi/L | U | | | E909.0 | 01/29/12 20:14 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/29/12 20:14 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 20:14 / eli-cs |
| Radium 226 | 0.59 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.44 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.57 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 0.92 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-006
**Client Sample ID:** 801

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 13:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.02 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.492 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 94.3 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 93.4 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 5610 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:37 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:37 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:37 / jlr |
| Chloroform | 2.68 | ug/L | | 0.50 | | E624 | 01/07/12 01:37 / jlr |
| Trihalomethanes, Total | 2.68 | ug/L | | 0.50 | | E624 | 01/07/12 01:37 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 128 | %REC | S | 80-120 | | E624 | 01/07/12 01:37 / jlr |
| Surr: Dibromofluoromethane | 110 | %REC | | 80-120 | | E624 | 01/07/12 01:37 / jlr |
| Surr: p-Bromofluorobenzene | 110 | %REC | | 80-120 | | E624 | 01/07/12 01:37 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 01/07/12 01:37 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-006
**Client Sample ID:** 801

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 13:05
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1470 | mg/L | | 5 | | A2320 B | 04/09/12 23:30 / jba |
| Calcium | 576 | mg/L | | 1 | | E200.8 | 04/10/12 16:08 / smm |
| Chloride | 200 | mg/L | D | 4 | | E300.0 | 04/10/12 16:27 / ljl |
| Magnesium | 622 | mg/L | | 1 | | E200.8 | 04/10/12 16:08 / smm |
| Nitrogen, Ammonia as N | 3.2 | mg/L | D | 0.1 | | A4500-NH3 G | 04/09/12 16:14 / dc |
| Nitrogen, Nitrate+Nitrite as N | 14.5 | mg/L | D | 0.5 | | E353.2 | 04/11/12 13:09 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 04/10/12 16:08 / smm |
| Sodium | 332 | mg/L | | 1 | | E200.8 | 04/10/12 16:08 / smm |
| Sulfate | 3180 | mg/L | D | 20 | | E300.0 | 04/10/12 16:27 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.57 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:30 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6220 | mg/L | D | 16 | | A2540 C | 04/06/12 16:58 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:04 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:04 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:03 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:04 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:03 / cp |
| Manganese | 3.76 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:04 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:03 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/14/12 03:04 / smm |
| Uranium | 0.0407 | mg/L | | 0.0003 | | E200.8 | 04/12/12 15:03 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:04 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 12:33 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:17 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.1 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | -0.1 | pCi/L | U | | | E909.0 | 04/29/12 08:03 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 08:03 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 08:03 / eli-cs |
| Radium 226 | 0.40 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.65 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.52 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.82 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-006
**Client Sample ID:** 801

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 13:05
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.04 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.03 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 96.8 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 94.8 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 5730 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 19:31 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 19:31 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 19:31 / jlr |
| Chloroform | 2.76 | ug/L | | 0.50 | | E624 | 04/10/12 19:31 / jlr |
| Trihalomethanes, Total | 2.76 | ug/L | | 0.50 | | E624 | 04/10/12 19:31 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 04/10/12 19:31 / jlr |
| Surr: Dibromofluoromethane | 124 | %REC | S | 80-120 | | E624 | 04/10/12 19:31 / jlr |
| Surr: p-Bromofluorobenzene | 97.0 | %REC | | 80-120 | | E624 | 04/10/12 19:31 / jlr |
| Surr: Toluene-d8 | 103 | %REC | | 80-120 | | E624 | 04/10/12 19:31 / jlr |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 801 | 801 | 801 | 801 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-006 | C12010151-006 | C11100288-006 | C11070551-006 |
| Bicarbonate as HCO3 | mg/L | 1470 | 1360 | 1400 | 1490 |
| Calcium | mg/L | 576 | 567 | 552 | 576 |
| Chloride | mg/L | 200 | 200 | 204 | 198 |
| Magnesium | mg/L | 622 | 610 | 644 | 660 |
| Nitrogen, Ammonia as N | mg/L | 3.2 | 3.2 | 2.8 | 3.4 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 14.5 | 11.9 | 11.2 | 9.7 |
| Potassium | mg/L | 13 | 13 | 12 | 12 |
| Sodium | mg/L | 332 | 331 | 354 | 364 |
| Sulfate | mg/L | 3180 | 3150 | 3290 | 3170 |
| pH | s.u. | 6.57 | 6.80 | 7.19 | 7.23 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6220 | 6040 | 6000 | 6040 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 3.76 | 3.62 | 4.13 | 3.98 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0407 | 0.0375 | 0.0370 | 0.0400 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.1 | 0.7 | 0.8 | 1.0 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.4 | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | -0.1 | 0.9 | 0.4 | -0.8 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.40 | 0.59 | 0.47 | 0.37 |
| Radium 226 precision (±) | pCi/L | 0.14 | 0.15 | 0.14 | 0.16 |
| Radium 226 MDC | pCi/L | 0.14 | 0.12 | 0.13 | 0.18 |
| Radium 228 | pCi/L | 0.65 | 0.44 | 0.66 | 1.2 |
| Radium 228 precision (±) | pCi/L | 0.52 | 0.57 | 0.52 | 0.60 |
| Radium 228 MDC | pCi/L | 0.82 | 0.92 | 0.82 | 0.91 |
| Thorium 230 | pCi/L | -0.04 | 0.02 | 0.01 | 0.02 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.06 | 0.08 | 0.2 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -1.03 | -0.492 | -0.847 | 1.44 |
| Anions | meq/L | 96.8 | 94.3 | 98.1 | 96.7 |
| Cations | meq/L | 94.8 | 93.4 | 96.4 | 99.5 |
| Solids, Total Dissolved Calculated | mg/L | 5730 | 5610 | 5830 | 5790 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.08 | 1.03 | 1.04 |
| Trihalomethanes, Total | ug/L | 2.76 | 2.68 | 2.39 | 2.22 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-005
**Client Sample ID:** 802

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 13:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1840 | mg/L | | 5 | | A2320 B | 01/06/12 17:37 / jba |
| Calcium | 634 | mg/L | | 1 | | E200.8 | 01/17/12 14:07 / sml |
| Chloride | 185 | mg/L | D | 10 | | E300.0 | 01/10/12 04:06 / ljl |
| Magnesium | 907 | mg/L | | 1 | | E200.8 | 01/17/12 14:07 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 12:52 / dc |
| Nitrogen, Nitrate+Nitrite as N | 114 | mg/L | D | 2 | | E353.2 | 01/10/12 13:26 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 01/17/12 14:07 / sml |
| Sodium | 366 | mg/L | | 1 | | E200.8 | 01/17/12 14:07 / sml |
| Sulfate | 3410 | mg/L | D | 40 | | E300.0 | 01/10/12 04:06 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.75 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:07 / wc |
| Solids, Total Dissolved TDS @ 180 C | 7500 | mg/L | D | 20 | | A2540 C | 01/06/12 14:12 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:01 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:15 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:15 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 19:58 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:15 / sml |
| Manganese | 1.20 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:15 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:15 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:15 / sml |
| Uranium | 0.123 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:15 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 19:58 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 15:39 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:54 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.6 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.0 | pCi/L | U | | | E909.0 | 01/29/12 17:59 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/29/12 17:59 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 17:59 / eli-cs |
| Radium 226 | 0.33 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.12 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.48 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.56 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 0.90 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-005
**Client Sample ID:** 802

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 13:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.004 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 3.31 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 115 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 122 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 6930 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:02 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:02 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 01:02 / jlr |
| Chloroform | 18.2 | ug/L | | 0.50 | | E624 | 01/07/12 01:02 / jlr |
| Trihalomethanes, Total | 18.2 | ug/L | | 0.50 | | E624 | 01/07/12 01:02 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 132 | %REC | S | 80-120 | | E624 | 01/07/12 01:02 / jlr |
| Surr: Dibromofluoromethane | 113 | %REC | | 80-120 | | E624 | 01/07/12 01:02 / jlr |
| Surr: p-Bromofluorobenzene | 105 | %REC | | 80-120 | | E624 | 01/07/12 01:02 / jlr |
| Surr: Toluene-d8 | 94.0 | %REC | | 80-120 | | E624 | 01/07/12 01:02 / jlr |

**Report Definitions:**
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MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-005
**Client Sample ID:** 802

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 12:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1990 | mg/L | | 5 | | A2320 B | 04/09/12 23:19 / jba |
| Calcium | 636 | mg/L | | 1 | | E200.8 | 04/10/12 16:01 / smm |
| Chloride | 202 | mg/L | D | 10 | | E300.0 | 04/10/12 16:13 / ljl |
| Magnesium | 858 | mg/L | | 1 | | E200.8 | 04/10/12 16:01 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:08 / dc |
| Nitrogen, Nitrate+Nitrite as N | 116 | mg/L | D | 5 | | E353.2 | 04/11/12 12:59 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 04/10/12 16:01 / smm |
| Sodium | 339 | mg/L | | 1 | | E200.8 | 04/10/12 16:01 / smm |
| Sulfate | 3490 | mg/L | D | 40 | | E300.0 | 04/10/12 16:13 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.56 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:27 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7540 | mg/L | D | 20 | | A2540 C | 04/06/12 16:57 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 02:59 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 02:59 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:00 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 02:59 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 20:39 / smm |
| Manganese | 1.17 | mg/L | | 0.01 | | E200.8 | 04/14/12 02:59 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:00 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/14/12 02:59 / smm |
| Uranium | 0.137 | mg/L | | 0.0003 | | E200.8 | 04/10/12 20:39 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 02:59 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 12:25 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:11 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | -0.2 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | -0.4 | pCi/L | U | | | E909.0 | 04/23/12 07:13 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 04/23/12 07:13 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 04/23/12 07:13 / eli-cs |
| Radium 226 | 0.15 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.10 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.43 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.51 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.82 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

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QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-005
**Client Sample ID:** 802

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 12:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.447 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 118 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 117 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 6990 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:54 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:54 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:54 / jlr |
| Chloroform | 16.8 | ug/L | | 0.50 | | E624 | 04/10/12 18:54 / jlr |
| Trihalomethanes, Total | 16.8 | ug/L | | 0.50 | | E624 | 04/10/12 18:54 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 95.0 | %REC | | 80-120 | | E624 | 04/10/12 18:54 / jlr |
| Surr: Dibromofluoromethane | 107 | %REC | | 80-120 | | E624 | 04/10/12 18:54 / jlr |
| Surr: p-Bromofluorobenzene | 97.0 | %REC | | 80-120 | | E624 | 04/10/12 18:54 / jlr |
| Surr: Toluene-d8 | 102 | %REC | | 80-120 | | E624 | 04/10/12 18:54 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 802 | 802 | 802 | 802 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-005 | C12010151-005 | C11100288-005 | C11070551-005 |
| Bicarbonate as HCO3 | mg/L | 1990 | 1840 | 1900 | 2020 |
| Calcium | mg/L | 636 | 634 | 618 | 632 |
| Chloride | mg/L | 202 | 185 | 185 | 184 |
| Magnesium | mg/L | 858 | 907 | 892 | 926 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 116 | 114 | 107 | 113 |
| Potassium | mg/L | 6 | 7 | 6 | 6 |
| Sodium | mg/L | 339 | 366 | 362 | 378 |
| Sulfate | mg/L | 3490 | 3410 | 3560 | 3560 |
| pH | s.u. | 6.56 | 6.75 | 7.52 | 6.97 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7540 | 7500 | 7470 | 7780 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | 0.2 | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.17 | 1.20 | 1.18 | 1.20 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.137 | 0.123 | 0.119 | 0.132 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.002 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | -0.2 | 0.6 | 0.4 | 0.9 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.9 |
| Lead 210 | pCi/L | -0.4 | 0.0 | -0.2 | -0.04 |
| Lead 210 precision (±) | pCi/L | 0.7 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.2 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.15 | 0.33 | 0.14 | 0.06 |
| Radium 226 precision (±) | pCi/L | 0.10 | 0.12 | 0.10 | 0.10 |
| Radium 226 MDC | pCi/L | 0.14 | 0.12 | 0.14 | 0.16 |
| Radium 228 | pCi/L | 0.43 | 0.48 | 0.50 | 1.6 |
| Radium 228 precision (±) | pCi/L | 0.51 | 0.56 | 0.52 | 0.58 |
| Radium 228 MDC | pCi/L | 0.82 | 0.90 | 0.84 | 0.84 |
| Thorium 230 | pCi/L | 0.03 | -0.004 | -0.007 | 0.07 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.05 | 0.05 | 0.2 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -0.447 | 3.31 | 0.892 | 1.82 |
| Anions | meq/L | 118 | 115 | 118 | 120 |
| Cations | meq/L | 117 | 122 | 120 | 124 |
| Solids, Total Dissolved Calculated | mg/L | 6990 | 6930 | 7050 | 7170 |
| TDS Balance (0.80 - 1.20) | | 1.08 | 1.08 | 1.06 | 1.09 |
| Trihalomethanes, Total | ug/L | 16.8 | 18.2 | 17.2 | 15.9 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-003
**Client Sample ID:** 803

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 11:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1700 | mg/L | | 5 | | A2320 B | 01/06/12 17:13 / jba |
| Calcium | 680 | mg/L | | 1 | | E200.8 | 01/17/12 13:53 / sml |
| Chloride | 171 | mg/L | D | 4 | | E300.0 | 01/10/12 02:59 / ljl |
| Magnesium | 742 | mg/L | | 1 | | E200.8 | 01/17/12 13:53 / sml |
| Nitrogen, Ammonia as N | 3.1 | mg/L | D | 0.1 | | A4500-NH3 G | 01/09/12 12:48 / dc |
| Nitrogen, Nitrate+Nitrite as N | 48 | mg/L | D | 2 | | E353.2 | 01/10/12 13:21 / dc |
| Potassium | 15 | mg/L | | 1 | | E200.8 | 01/17/12 13:53 / sml |
| Sodium | 300 | mg/L | | 1 | | E200.8 | 01/17/12 13:53 / sml |
| Sulfate | 3300 | mg/L | D | 20 | | E300.0 | 01/10/12 02:59 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.70 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:05 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6790 | mg/L | D | 20 | | A2540 C | 01/06/12 14:12 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 16:49 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 17:49 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 17:49 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 19:13 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 17:49 / sml |
| Manganese | 2.01 | mg/L | | 0.01 | | E200.8 | 01/11/12 17:49 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 17:49 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 17:49 / sml |
| Uranium | 0.118 | mg/L | | 0.0003 | | E200.8 | 01/11/12 17:49 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 17:49 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 17:43 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:47 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.5 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 01/29/12 13:30 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/29/12 13:30 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 13:30 / eli-cs |
| Radium 226 | 0.51 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.56 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.59 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 0.95 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-003
**Client Sample ID:** 803

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 11:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.003 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 1.79 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 105 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 109 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 6270 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:53 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:53 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:53 / jlr |
| Chloroform | 9.92 | ug/L | | 0.50 | | E624 | 01/06/12 23:53 / jlr |
| Trihalomethanes, Total | 9.92 | ug/L | | 0.50 | | E624 | 01/06/12 23:53 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 128 | %REC | S | 80-120 | | E624 | 01/06/12 23:53 / jlr |
| Surr: Dibromofluoromethane | 112 | %REC | | 80-120 | | E624 | 01/06/12 23:53 / jlr |
| Surr: p-Bromofluorobenzene | 110 | %REC | | 80-120 | | E624 | 01/06/12 23:53 / jlr |
| Surr: Toluene-d8 | 94.0 | %REC | | 80-120 | | E624 | 01/06/12 23:53 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-003
**Client Sample ID:** 803

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 11:10
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1780 | mg/L | | 5 | | A2320 B | 04/09/12 22:42 / jba |
| Calcium | 701 | mg/L | | 1 | | E200.8 | 04/10/12 15:19 / smm |
| Chloride | 163 | mg/L | D | 4 | | E300.0 | 04/10/12 15:15 / ljl |
| Magnesium | 750 | mg/L | | 1 | | E200.8 | 04/10/12 15:19 / smm |
| Nitrogen, Ammonia as N | 1.57 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 15:54 / dc |
| Nitrogen, Nitrate+Nitrite as N | 41 | mg/L | D | 2 | | E353.2 | 04/11/12 12:54 / dc |
| Potassium | 14 | mg/L | | 1 | | E200.8 | 04/10/12 15:19 / smm |
| Sodium | 288 | mg/L | | 1 | | E200.8 | 04/10/12 15:19 / smm |
| Sulfate | 3420 | mg/L | D | 20 | | E300.0 | 04/10/12 15:15 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.52 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:22 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7000 | mg/L | D | 17 | | A2540 C | 04/09/12 13:53 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 20:33 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 20:33 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 14:54 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 20:33 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 20:33 / smm |
| Manganese | 2.48 | mg/L | | 0.01 | | E200.8 | 04/10/12 20:33 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 05/21/12 16:37 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 20:33 / smm |
| Uranium | 0.111 | mg/L | | 0.0003 | | E200.8 | 04/12/12 14:54 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 20:33 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 12:19 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:07 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.1 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 04/23/12 05:08 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/23/12 05:08 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/23/12 05:08 / eli-cs |
| Radium 226 | 0.27 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.12 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.93 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.53 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.82 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-003
**Client Sample ID:** 803

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 11:10
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.008 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.921 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 108 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 110 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 6400 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:40 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:40 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:40 / jlr |
| Chloroform | 15.6 | ug/L | | 0.50 | | E624 | 04/10/12 17:40 / jlr |
| Trihalomethanes, Total | 15.6 | ug/L | | 0.50 | | E624 | 04/10/12 17:40 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 104 | %REC | | 80-120 | | E624 | 04/10/12 17:40 / jlr |
| Surr: Dibromofluoromethane | 129 | %REC | S | 80-120 | | E624 | 04/10/12 17:40 / jlr |
| Surr: p-Bromofluorobenzene | 106 | %REC | | 80-120 | | E624 | 04/10/12 17:40 / jlr |
| Surr: Toluene-d8 | 106 | %REC | | 80-120 | | E624 | 04/10/12 17:40 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 803 | 803 | 803 | 803 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-003 | C12010151-003 | C11100288-003 | C11070551-003 |
| Bicarbonate as HCO3 | mg/L | 1780 | 1700 | 1750 | 1860 |
| Calcium | mg/L | 701 | 680 | 664 | 670 |
| Chloride | mg/L | 163 | 171 | 166 | 168 |
| Magnesium | mg/L | 750 | 742 | 755 | 756 |
| Nitrogen, Ammonia as N | mg/L | 1.57 | 3.1 | 2.5 | 3.0 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 41 | 48 | 44 | 47 |
| Potassium | mg/L | 14 | 15 | 14 | 14 |
| Sodium | mg/L | 288 | 300 | 301 | 313 |
| Sulfate | mg/L | 3420 | 3300 | 3350 | 3310 |
| pH | s.u. | 6.52 | 6.70 | 6.79 | 7.53 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7000 | 6790 | 6450 | 6530 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 2.48 | 2.01 | 2.12 | 2.22 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.111 | 0.118 | 0.110 | 0.115 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.003 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.1 | 0.5 | 0.08 | 1.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.8 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.5 | 0.5 | 0.5 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.7 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.3 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.27 | 0.51 | 0.08 | 0.05 |
| Radium 226 precision (±) | pCi/L | 0.12 | 0.15 | 0.09 | 0.11 |
| Radium 226 MDC | pCi/L | 0.14 | 0.12 | 0.13 | 0.17 |
| Radium 228 | pCi/L | 0.93 | 0.56 | 1.1 | 0.68 |
| Radium 228 precision (±) | pCi/L | 0.53 | 0.59 | 0.54 | 0.56 |
| Radium 228 MDC | pCi/L | 0.82 | 0.95 | 0.82 | 0.89 |
| Thorium 230 | pCi/L | -0.008 | 0.003 | 0.0006 | -0.01 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.1 | 0.06 | 0.09 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | 0.921 | 1.79 | 1.19 | 1.05 |
| Anions | meq/L | 108 | 105 | 106 | 108 |
| Cations | meq/L | 110 | 109 | 109 | 110 |
| Solids, Total Dissolved Calculated | mg/L | 6400 | 6270 | 6330 | 6380 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.08 | 1.02 | 1.02 |
| Trihalomethanes, Total | ug/L | 15.6 | 9.92 | 9.64 | 8.08 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-004
**Client Sample ID:** 808

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 12:18
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1920 | mg/L | | 5 | | A2320 B | 01/06/12 17:26 / jba |
| Calcium | 761 | mg/L | | 1 | | E200.8 | 01/17/12 14:00 / sml |
| Chloride | 183 | mg/L | D | 4 | | E300.0 | 01/10/12 03:12 / ljl |
| Magnesium | 718 | mg/L | | 1 | | E200.8 | 01/17/12 14:00 / sml |
| Nitrogen, Ammonia as N | 0.14 | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 12:50 / dc |
| Nitrogen, Nitrate+Nitrite as N | 88 | mg/L | D | 2 | | E353.2 | 01/10/12 13:24 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 01/17/12 14:00 / sml |
| Sodium | 336 | mg/L | | 1 | | E200.8 | 01/17/12 14:00 / sml |
| Sulfate | 3020 | mg/L | D | 20 | | E300.0 | 01/10/12 03:12 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.67 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:06 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6790 | mg/L | D | 20 | | A2540 C | 01/06/12 14:12 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 16:57 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:04 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:04 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 19:16 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:04 / sml |
| Manganese | 0.97 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:04 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:04 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:04 / sml |
| Uranium | 0.128 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:04 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 19:16 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 15:32 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:02 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.1 | pCi/L | U | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.1 | pCi/L | U | | | E909.0 | 01/29/12 15:44 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/29/12 15:44 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 15:44 / eli-cs |
| Radium 226 | 0.21 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.10 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.49 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.56 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 0.90 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-004
**Client Sample ID:** 808

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 12:18
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 2.84 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 106 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 112 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 6370 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.07 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 00:28 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 00:28 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 00:28 / jlr |
| Chloroform | 4.28 | ug/L | | 0.50 | | E624 | 01/07/12 00:28 / jlr |
| Trihalomethanes, Total | 4.28 | ug/L | | 0.50 | | E624 | 01/07/12 00:28 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 126 | %REC | S | 80-120 | | E624 | 01/07/12 00:28 / jlr |
| Surr: Dibromofluoromethane | 112 | %REC | | 80-120 | | E624 | 01/07/12 00:28 / jlr |
| Surr: p-Bromofluorobenzene | 100 | %REC | | 80-120 | | E624 | 01/07/12 00:28 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/07/12 00:28 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-004
**Client Sample ID:** 808

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 11:45
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 2070 | mg/L | | 5 | | A2320 B | 04/09/12 23:07 / jba |
| Calcium | 747 | mg/L | | 1 | | E200.8 | 04/10/12 15:26 / smm |
| Chloride | 186 | mg/L | D | 4 | | E300.0 | 04/10/12 15:30 / ljl |
| Magnesium | 686 | mg/L | | 1 | | E200.8 | 04/10/12 15:26 / smm |
| Nitrogen, Ammonia as N | 0.81 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 15:56 / dc |
| Nitrogen, Nitrate+Nitrite as N | 70 | mg/L | D | 2 | | E353.2 | 04/11/12 12:56 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 04/10/12 15:26 / smm |
| Sodium | 324 | mg/L | | 1 | | E200.8 | 04/10/12 15:26 / smm |
| Sulfate | 3130 | mg/L | D | 20 | | E300.0 | 04/10/12 15:30 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.55 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:25 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6890 | mg/L | D | 20 | | A2540 C | 04/06/12 16:57 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 02:54 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 02:54 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 14:57 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 02:54 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 14:57 / cp |
| Manganese | 1.30 | mg/L | | 0.01 | | E200.8 | 04/14/12 02:54 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 14:57 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/14/12 02:54 / smm |
| Uranium | 0.135 | mg/L | | 0.0003 | | E200.8 | 04/12/12 14:57 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 02:54 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 12:17 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:09 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.07 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | 0.008 | pCi/L | U | | | E909.0 | 04/29/12 05:48 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 05:48 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 05:48 / eli-cs |
| Radium 226 | 0.01 | pCi/L | U | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.08 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.45 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.50 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.80 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-004
**Client Sample ID:** 808

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 11:45
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.005 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.427 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 109 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 108 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 6420 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.07 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:17 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:17 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 18:17 / jlr |
| Chloroform | 3.92 | ug/L | | 0.50 | | E624 | 04/10/12 18:17 / jlr |
| Trihalomethanes, Total | 3.92 | ug/L | | 0.50 | | E624 | 04/10/12 18:17 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 95.0 | %REC | | 80-120 | | E624 | 04/10/12 18:17 / jlr |
| Surr: Dibromofluoromethane | 119 | %REC | | 80-120 | | E624 | 04/10/12 18:17 / jlr |
| Surr: p-Bromofluorobenzene | 99.0 | %REC | | 80-120 | | E624 | 04/10/12 18:17 / jlr |
| Surr: Toluene-d8 | 103 | %REC | | 80-120 | | E624 | 04/10/12 18:17 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | 808 | 808 | 808 | 808 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-004 | C12010151-004 | C11100288-004 | C11070551-004 |
| Bicarbonate as HCO3 | mg/L | 2070 | 1920 | 1920 | 2040 |
| Calcium | mg/L | 747 | 761 | 729 | 714 |
| Chloride | mg/L | 186 | 183 | 178 | 179 |
| Magnesium | mg/L | 686 | 718 | 680 | 682 |
| Nitrogen, Ammonia as N | mg/L | 0.81 | 0.14 | 0.6 | 0.4 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 70 | 88 | 83 | 95 |
| Potassium | mg/L | 7 | 6 | 6 | 5 |
| Sodium | mg/L | 324 | 336 | 338 | 341 |
| Sulfate | mg/L | 3130 | 3020 | 3000 | 2960 |
| pH | s.u. | 6.55 | 6.67 | 6.77 | 7.26 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6890 | 6790 | 6550 | 6640 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.30 | 0.97 | 1.20 | 1.06 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.135 | 0.128 | 0.122 | 0.128 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.003 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.07 | 0.1 | 0.04 | 0.1 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.2 | 0.3 | 0.5 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.9 |
| Lead 210 | pCi/L | 0.008 | 0.1 | -0.5 | 0.2 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.01 | 0.21 | 0.15 | -0.08 |
| Radium 226 precision (±) | pCi/L | 0.08 | 0.10 | 0.1 | 0.08 |
| Radium 226 MDC | pCi/L | 0.14 | 0.12 | 0.13 | 0.18 |
| Radium 228 | pCi/L | 0.45 | 0.49 | 0.71 | 0.48 |
| Radium 228 precision (±) | pCi/L | 0.50 | 0.56 | 0.50 | 0.57 |
| Radium 228 MDC | pCi/L | 0.80 | 0.90 | 0.79 | 0.92 |
| Thorium 230 | pCi/L | -0.005 | 0.03 | 0.02 | -0.004 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.1 |
| Thorium 230 precision (±) | pCi/L | 0.06 | 0.07 | 0.06 | 0.06 |
| A/C Balance (± 5) | % | -0.427 | 2.84 | 1.08 | 0.135 |
| Anions | meq/L | 109 | 106 | 105 | 106 |
| Cations | meq/L | 108 | 112 | 107 | 107 |
| Solids, Total Dissolved Calculated | mg/L | 6420 | 6370 | 6270 | 6300 |
| TDS Balance (0.80 - 1.20) | | 1.07 | 1.07 | 1.04 | 1.05 |
| Trihalomethanes, Total | ug/L | 3.92 | 4.28 | 4.16 | 4.52 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-008
**Client Sample ID:** GW-1

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 15:25
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1750 | mg/L | | 5 | | A2320 B | 01/06/12 18:11 / jba |
| Calcium | 672 | mg/L | | 1 | | E200.8 | 01/17/12 14:27 / sml |
| Chloride | 236 | mg/L | D | 4 | | E300.0 | 01/10/12 05:13 / ljl |
| Magnesium | 581 | mg/L | | 1 | | E200.8 | 01/17/12 14:27 / sml |
| Nitrogen, Ammonia as N | 0.58 | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 12:58 / dc |
| Nitrogen, Nitrate+Nitrite as N | 90 | mg/L | D | 2 | | E353.2 | 01/10/12 13:44 / dc |
| Potassium | 8 | mg/L | | 1 | | E200.8 | 01/17/12 14:27 / sml |
| Sodium | 388 | mg/L | | 1 | | E200.8 | 01/17/12 14:27 / sml |
| Sulfate | 2810 | mg/L | D | 20 | | E300.0 | 01/10/12 05:13 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.83 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:12 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6350 | mg/L | D | 20 | | A2540 C | 01/06/12 14:13 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:13 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:24 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:24 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:18 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:24 / sml |
| Manganese | 0.11 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:24 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:24 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:24 / sml |
| Uranium | 0.103 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:24 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:18 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 16:15 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:00 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.3 | pCi/L | U | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.6 | pCi/L | U | | | E909.0 | 01/30/12 00:44 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/30/12 00:44 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 00:44 / eli-cs |
| Radium 226 | 0.36 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.14 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.13 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.86 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.65 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-008
**Client Sample ID:** GW-1

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 15:25
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.008 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.960 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 100 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 98.4 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 5970 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:12 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:12 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 02:12 / jlr |
| Chloroform | 6.52 | ug/L | | 0.50 | | E624 | 01/07/12 02:12 / jlr |
| Trihalomethanes, Total | 6.52 | ug/L | | 0.50 | | E624 | 01/07/12 02:12 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 129 | %REC | S | 80-120 | | E624 | 01/07/12 02:12 / jlr |
| Surr: Dibromofluoromethane | 116 | %REC | | 80-120 | | E624 | 01/07/12 02:12 / jlr |
| Surr: p-Bromofluorobenzene | 98.0 | %REC | | 80-120 | | E624 | 01/07/12 02:12 / jlr |
| Surr: Toluene-d8 | 97.0 | %REC | | 80-120 | | E624 | 01/07/12 02:12 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-008
**Client Sample ID:** GW-1

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 14:35
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1850 | mg/L | | 5 | | A2320 B | 04/09/12 23:55 / jba |
| Calcium | 702 | mg/L | | 1 | | E200.8 | 04/10/12 16:21 / smm |
| Chloride | 228 | mg/L | D | 4 | | E300.0 | 04/10/12 16:56 / ljl |
| Magnesium | 580 | mg/L | | 1 | | E200.8 | 04/10/12 16:21 / smm |
| Nitrogen, Ammonia as N | 0.51 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:18 / dc |
| Nitrogen, Nitrate+Nitrite as N | 91 | mg/L | D | 2 | | E353.2 | 04/11/12 13:19 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 04/10/12 16:21 / smm |
| Sodium | 386 | mg/L | | 1 | | E200.8 | 04/10/12 16:21 / smm |
| Sulfate | 2750 | mg/L | D | 20 | | E300.0 | 04/10/12 16:56 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.66 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:35 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6470 | mg/L | D | 19 | | A2540 C | 04/06/12 16:59 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 21:08 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 21:08 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/10/12 21:08 / smm |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/10/12 21:08 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 21:08 / smm |
| Manganese | 0.11 | mg/L | | 0.01 | | E200.8 | 04/10/12 21:08 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 21:08 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 21:08 / smm |
| Uranium | 0.107 | mg/L | | 0.0003 | | E200.8 | 04/10/12 21:08 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/10/12 21:08 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 12:48 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:21 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.1 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.009 | pCi/L | U | | | E909.0 | 04/23/12 09:18 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/23/12 09:18 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/23/12 09:18 / eli-cs |
| Radium 226 | 0.04 | pCi/L | U | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.08 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 0.77 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.51 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.79 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-008
**Client Sample ID:** GW-1

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 14:35
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.0454 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 99.9 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 99.8 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 5950 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:44 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:44 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:44 / jlr |
| Chloroform | 1.84 | ug/L | | 0.50 | | E624 | 04/10/12 20:44 / jlr |
| Trihalomethanes, Total | 1.84 | ug/L | | 0.50 | | E624 | 04/10/12 20:44 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 04/10/12 20:44 / jlr |
| Surr: Dibromofluoromethane | 109 | %REC | | 80-120 | | E624 | 04/10/12 20:44 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/10/12 20:44 / jlr |
| Surr: Toluene-d8 | 97.0 | %REC | | 80-120 | | E624 | 04/10/12 20:44 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | GW-1 | GW-1 | GW-1 | GW-1 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-008 | C12010151-008 | C11100288-008 | C11070551-008 |
| Bicarbonate as HCO3 | mg/L | 1850 | 1750 | 1830 | 1940 |
| Calcium | mg/L | 702 | 672 | 721 | 749 |
| Chloride | mg/L | 228 | 236 | 232 | 226 |
| Magnesium | mg/L | 580 | 581 | 631 | 710 |
| Nitrogen, Ammonia as N | mg/L | 0.51 | 0.58 | 0.7 | 0.8 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 91 | 90 | 89 | 95 |
| Potassium | mg/L | 7 | 8 | 6 | 7 |
| Sodium | mg/L | 386 | 388 | 419 | 438 |
| Sulfate | mg/L | 2750 | 2810 | 2950 | 3130 |
| pH | s.u. | 6.66 | 6.83 | 7.51 | 7.15 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6470 | 6350 | 6530 | 6890 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.11 | 0.11 | 0.10 | 0.10 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.107 | 0.103 | 0.104 | 0.127 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.003 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.1 | 0.3 | 0.8 | 0.3 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.4 | 0.5 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.9 |
| Lead 210 | pCi/L | 0.009 | 0.6 | 0.4 | -0.6 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.3 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.04 | 0.36 | 0.05 | 0.15 |
| Radium 226 precision (±) | pCi/L | 0.08 | 0.14 | 0.08 | 0.12 |
| Radium 226 MDC | pCi/L | 0.14 | 0.13 | 0.13 | 0.15 |
| Radium 228 | pCi/L | 0.77 | 0.86 | 0.93 | 0.91 |
| Radium 228 precision (±) | pCi/L | 0.51 | 0.65 | 0.52 | 0.60 |
| Radium 228 MDC | pCi/L | 0.79 | 1.0 | 0.79 | 0.94 |
| Thorium 230 | pCi/L | 0.03 | -0.008 | -0.009 | -0.006 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.05 | 0.06 | 0.06 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.1 |
| A/C Balance (± 5) | % | -0.0454 | -0.960 | 0.976 | 2.49 |
| Anions | meq/L | 99.9 | 100 | 104 | 109 |
| Cations | meq/L | 99.8 | 98.4 | 106 | 115 |
| Solids, Total Dissolved Calculated | mg/L | 5950 | 5970 | 6280 | 6620 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.06 | 1.04 | 1.04 |
| Trihalomethanes, Total | ug/L | 1.84 | 6.52 | 2.38 | 2.16 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-007
**Client Sample ID:** GW-2

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 14:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 2030 | mg/L | | 5 | | A2320 B | 01/06/12 18:00 / jba |
| Calcium | 578 | mg/L | | 1 | | E200.8 | 01/17/12 14:21 / sml |
| Chloride | 208 | mg/L | D | 10 | | E300.0 | 01/10/12 05:00 / ljl |
| Magnesium | 1080 | mg/L | | 1 | | E200.8 | 01/17/12 14:21 / sml |
| Nitrogen, Ammonia as N | 0.5 | mg/L | D | 0.1 | | A4500-NH3 G | 01/09/12 13:54 / dc |
| Nitrogen, Nitrate+Nitrite as N | 14.7 | mg/L | D | 0.5 | | E353.2 | 01/10/12 13:41 / dc |
| Potassium | 16 | mg/L | | 1 | | E200.8 | 01/17/12 14:21 / sml |
| Sodium | 376 | mg/L | | 1 | | E200.8 | 01/17/12 14:21 / sml |
| Sulfate | 4580 | mg/L | D | 40 | | E300.0 | 01/10/12 05:00 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.56 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:10 / wc |
| Solids, Total Dissolved TDS @ 180 C | 8580 | mg/L | D | 26 | | A2540 C | 01/06/12 14:13 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:09 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:21 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:21 / sml |
| Cobalt | 0.01 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:03 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:21 / sml |
| Manganese | 1.45 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:21 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:21 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:21 / sml |
| Uranium | 0.0880 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:21 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:03 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 16:08 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:58 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.03 | pCi/L | U | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 01/29/12 22:29 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/29/12 22:29 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 22:29 / eli-cs |
| Radium 226 | 0.45 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.19 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.49 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.90 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 1.5 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
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MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-007
**Client Sample ID:** GW-2

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 14:40
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.1 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.556 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 136 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 134 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 7910 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/11/12 14:56 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/11/12 14:56 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/11/12 14:56 / mdr |
| Chloroform | 6.48 | ug/L | | 0.50 | | E624 | 01/11/12 14:56 / mdr |
| Trihalomethanes, Total | 6.48 | ug/L | | 0.50 | | E624 | 01/11/12 14:56 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 98.0 | %REC | | 80-120 | | E624 | 01/11/12 14:56 / mdr |
| Surr: Dibromofluoromethane | 113 | %REC | | 80-120 | | E624 | 01/11/12 14:56 / mdr |
| Surr: p-Bromofluorobenzene | 94.0 | %REC | | 80-120 | | E624 | 01/11/12 14:56 / mdr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/11/12 14:56 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-007
**Client Sample ID:** GW-2

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 13:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 2200 | mg/L | | 5 | | A2320 B | 04/09/12 23:43 / jba |
| Calcium | 626 | mg/L | | 1 | | E200.8 | 04/10/12 16:14 / smm |
| Chloride | 204 | mg/L | D | 10 | | E300.0 | 04/10/12 16:42 / ljl |
| Magnesium | 1110 | mg/L | | 1 | | E200.8 | 04/10/12 16:14 / smm |
| Nitrogen, Ammonia as N | 0.73 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:16 / dc |
| Nitrogen, Nitrate+Nitrite as N | 16.7 | mg/L | D | 0.5 | | E353.2 | 04/11/12 13:16 / dc |
| Potassium | 16 | mg/L | | 1 | | E200.8 | 04/10/12 16:14 / smm |
| Sodium | 379 | mg/L | | 1 | | E200.8 | 04/10/12 16:14 / smm |
| Sulfate | 4570 | mg/L | D | 40 | | E300.0 | 04/10/12 16:42 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.39 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:33 / ab |
| Solids, Total Dissolved TDS @ 180 C | 8910 | mg/L | D | 20 | | A2540 C | 04/09/12 13:54 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:09 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:09 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:18 / cp |
| Cobalt | 0.01 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:09 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:18 / cp |
| Manganese | 1.59 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:09 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:18 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:18 / cp |
| Uranium | 0.0924 | mg/L | | 0.0003 | | E200.8 | 04/12/12 15:18 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:09 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 12:41 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:19 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.4 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | 0.1 | pCi/L | U | | | E909.0 | 04/29/12 10:17 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 10:17 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 10:17 / eli-cs |
| Radium 226 | 0.25 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 precision (±) | 0.13 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 04/23/12 10:37 / trs |
| Radium 228 | 1.0 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.58 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.89 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-007
**Client Sample ID:** GW-2

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 13:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.08 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.495 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 138 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 139 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 8070 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:07 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:07 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 20:07 / jlr |
| Chloroform | 6.92 | ug/L | | 0.50 | | E624 | 04/10/12 20:07 / jlr |
| Trihalomethanes, Total | 6.92 | ug/L | | 0.50 | | E624 | 04/10/12 20:07 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 102 | %REC | | 80-120 | | E624 | 04/10/12 20:07 / jlr |
| Surr: Dibromofluoromethane | 126 | %REC | S | 80-120 | | E624 | 04/10/12 20:07 / jlr |
| Surr: p-Bromofluorobenzene | 96.0 | %REC | | 80-120 | | E624 | 04/10/12 20:07 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/10/12 20:07 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | GW-2 | GW-2 | GW-2 | GW-2 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-007 | C12010151-007 | C11100288-007 | C11070551-007 |
| Bicarbonate as HCO3 | mg/L | 2200 | 2030 | 2080 | 2250 |
| Calcium | mg/L | 626 | 578 | 613 | 613 |
| Chloride | mg/L | 204 | 208 | 208 | 204 |
| Magnesium | mg/L | 1110 | 1080 | 1130 | 1140 |
| Nitrogen, Ammonia as N | mg/L | 0.73 | 0.5 | 0.4 | 0.3 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 16.7 | 14.7 | 16 | 17 |
| Potassium | mg/L | 16 | 16 | 15 | 15 |
| Sodium | mg/L | 379 | 376 | 397 | 411 |
| Sulfate | mg/L | 4570 | 4580 | 4590 | 4520 |
| pH | s.u. | 6.39 | 6.56 | 7.27 | 7.11 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 8910 | 8580 | 8490 | 8520 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.01 | 0.01 | ND(0.01) | 0.01 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.59 | 1.45 | 1.56 | 1.66 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0924 | 0.0880 | 0.0834 | 0.0930 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.007 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.4 | 0.03 | 0.3 | 0.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.3 | 0.2 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.9 |
| Lead 210 | pCi/L | 0.1 | 0.2 | -0.2 | -1 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.9 |
| Radium 226 | pCi/L | 0.25 | 0.45 | 0.09 | -0.002 |
| Radium 226 precision (±) | pCi/L | 0.13 | 0.19 | 0.1 | 0.09 |
| Radium 226 MDC | pCi/L | 0.15 | 0.19 | 0.15 | 0.16 |
| Radium 228 | pCi/L | 1.0 | 0.49 | 0.99 | 1.6 |
| Radium 228 precision (±) | pCi/L | 0.58 | 0.90 | 0.58 | 0.58 |
| Radium 228 MDC | pCi/L | 0.89 | 1.5 | 0.89 | 0.86 |
| Thorium 230 | pCi/L | 0.03 | 0.1 | -0.008 | 0.004 |
| Thorium 230 precision (±) | pCi/L | 0.08 | 0.1 | 0.05 | 0.06 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.1 |
| A/C Balance (± 5) | % | 0.495 | -0.556 | 1.58 | 1.67 |
| Anions | meq/L | 138 | 136 | 137 | 138 |
| Cations | meq/L | 139 | 134 | 141 | 142 |
| Solids, Total Dissolved Calculated | mg/L | 8070 | 7910 | 8070 | 8100 |
| TDS Balance (0.80 - 1.20) | | 1.10 | 1.08 | 1.05 | 1.05 |
| Trihalomethanes, Total | ug/L | 6.92 | 6.48 | 6.08 | 5.40 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-014
**Client Sample ID:** GW-3

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 15:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1380 | mg/L | | 5 | | A2320 B | 01/06/12 19:20 / jba |
| Calcium | 946 | mg/L | | 1 | | E200.8 | 01/17/12 23:37 / sml |
| Chloride | 167 | mg/L | D | 4 | | E300.0 | 01/10/12 06:34 / ljl |
| Magnesium | 292 | mg/L | | 1 | | E200.8 | 01/17/12 23:37 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:18 / dc |
| Nitrogen, Nitrate+Nitrite as N | 89 | mg/L | D | 2 | | E353.2 | 01/10/12 13:59 / dc |
| Potassium | 10 | mg/L | | 1 | | E200.8 | 01/17/12 23:37 / sml |
| Sodium | 342 | mg/L | | 1 | | E200.8 | 01/17/12 23:37 / sml |
| Sulfate | 2180 | mg/L | D | 20 | | E300.0 | 01/10/12 06:34 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.82 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:34 / wc |
| Solids, Total Dissolved TDS @ 180 C | 5050 | mg/L | D | 17 | | A2540 C | 01/06/12 15:25 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.7 | 01/13/12 04:42 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:42 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/12/12 18:12 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:42 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:12 / sml |
| Manganese | 1.06 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:42 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:12 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:12 / sml |
| Uranium | 0.256 | mg/L | | 0.0003 | | E200.8 | 01/12/12 18:12 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:12 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 20:02 / eli-h |
| Selenium-IV | 0.002 | mg/L | | 0.001 | | A3114 B | 01/09/12 14:25 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.4 | pCi/L | U | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Lead 210 | 0.09 | pCi/L | U | | | E909.0 | 01/30/12 14:12 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/30/12 14:12 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 14:12 / eli-cs |
| Radium 226 | 0.37 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 228 | 0.54 | pCi/L | U | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 0.86 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.4 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-014
**Client Sample ID:** GW-3

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 15:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.004 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.04 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 4.91 | % | | | | Calculation | 01/18/12 10:36 / kbh |
| Anions | 78.3 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Cations | 86.4 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Solids, Total Dissolved Calculated | 4990 | mg/L | | | | Calculation | 01/18/12 10:36 / kbh |
| TDS Balance (0.80 - 1.20) | 1.01 | | | | | Calculation | 01/18/12 10:36 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:55 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:55 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:55 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:55 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/09/12 16:55 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 01/09/12 16:55 / mdr |
| Surr: Dibromofluoromethane | 96.0 | %REC | | 80-120 | | E624 | 01/09/12 16:55 / mdr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/09/12 16:55 / mdr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/09/12 16:55 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-014
**Client Sample ID:** GW-3

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 13:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1640 | mg/L | | 5 | | A2320 B | 04/10/12 01:02 / jba |
| Calcium | 903 | mg/L | | 1 | | E200.8 | 04/10/12 17:51 / smm |
| Chloride | 167 | mg/L | D | 4 | | E300.0 | 04/10/12 19:20 / ljl |
| Magnesium | 270 | mg/L | | 1 | | E200.8 | 04/10/12 17:51 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:30 / dc |
| Nitrogen, Nitrate+Nitrite as N | 88 | mg/L | D | 5 | | E353.2 | 04/11/12 13:34 / dc |
| Potassium | 9 | mg/L | | 1 | | E200.8 | 04/10/12 17:51 / smm |
| Sodium | 315 | mg/L | | 1 | | E200.8 | 04/10/12 17:51 / smm |
| Sulfate | 2210 | mg/L | D | 20 | | E300.0 | 04/10/12 19:20 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.61 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 17:02 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5480 | mg/L | D | 16 | | A2540 C | 04/09/12 13:54 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 23:03 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/13/12 18:40 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 23:03 / smm |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 23:03 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 23:03 / smm |
| Manganese | 1.38 | mg/L | | 0.01 | | E200.8 | 04/12/12 23:03 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 23:03 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 23:03 / smm |
| Uranium | 0.274 | mg/L | | 0.0003 | | E200.8 | 04/12/12 23:03 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 23:03 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 13:53 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:40 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.07 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 04/23/12 15:33 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 04/23/12 15:33 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 04/23/12 15:33 / eli-cs |
| Radium 226 | 0.10 | pCi/L | U | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 precision (±) | 0.1 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 228 | 0.18 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.61 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-014
**Client Sample ID:** GW-3

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 13:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.08 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.09 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.19 | % | | | | Calculation | 04/18/12 07:59 / kbh |
| Anions | 83.2 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Cations | 81.3 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Solids, Total Dissolved Calculated | 5050 | mg/L | | | | Calculation | 04/18/12 07:59 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 04/18/12 07:59 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:46 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:46 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:46 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:46 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:46 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 04/12/12 17:46 / jlr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 04/12/12 17:46 / jlr |
| Surr: p-Bromofluorobenzene | 86.0 | %REC | | 80-120 | | E624 | 04/12/12 17:46 / jlr |
| Surr: Toluene-d8 | 102 | %REC | | 80-120 | | E624 | 04/12/12 17:46 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | GW-3 | GW-3 | GW-3 | GW-3 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-014 | C12010151-014 | C11100288-014 | C11070551-013 |
| Bicarbonate as HCO3 | mg/L | 1640 | 1380 | 1550 | 1620 |
| Calcium | mg/L | 903 | 946 | 896 | 906 |
| Chloride | mg/L | 167 | 167 | 170 | 168 |
| Magnesium | mg/L | 270 | 292 | 276 | 280 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 88 | 89 | 91 | 97 |
| Potassium | mg/L | 9 | 10 | 9 | 9 |
| Sodium | mg/L | 315 | 342 | 344 | 353 |
| Sulfate | mg/L | 2210 | 2180 | 2240 | 2210 |
| pH | s.u. | 6.61 | 6.82 | 7.54 | 6.84 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5480 | 5050 | 5230 | 5310 |
| Aluminum | mg/L | ND(0.1) | 0.2 | 0.4 | 0.2 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | 0.01 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.38 | 1.06 | 1.65 | 1.64 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.274 | 0.256 | 0.220 | 0.236 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.013 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | 0.002 | 0.003 | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.07 | 0.4 | 0.4 | 0.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.5 | 0.09 | -0.3 | 0.1 |
| Lead 210 precision (±) | pCi/L | 0.7 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.2 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.10 | 0.37 | 0.05 | -0.06 |
| Radium 226 precision (±) | pCi/L | 0.1 | 0.15 | 0.08 | 0.06 |
| Radium 226 MDC | pCi/L | 0.14 | 0.15 | 0.13 | 0.14 |
| Radium 228 | pCi/L | 0.18 | 0.54 | 0.69 | 0.43 |
| Radium 228 precision (±) | pCi/L | 0.61 | 0.86 | 0.61 | 0.64 |
| Radium 228 MDC | pCi/L | 1.0 | 1.4 | 0.97 | 1.0 |
| Thorium 230 | pCi/L | 0.08 | -0.004 | 0.02 | 0.009 |
| Thorium 230 precision (±) | pCi/L | 0.09 | 0.04 | 0.07 | 0.06 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.1 | 0.2 | 0.1 |
| A/C Balance (± 5) | % | -1.19 | 4.91 | -0.169 | 0.231 |
| Anions | meq/L | 83.2 | 78.3 | 82.8 | 83.4 |
| Cations | meq/L | 81.3 | 86.4 | 82.5 | 83.8 |
| Solids, Total Dissolved Calculated | mg/L | 5050 | 4990 | 5090 | 5120 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.01 | 1.03 | 1.04 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-002
**Client Sample ID:** EPA-23

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 11:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1160 | mg/L | | 5 | | A2320 B | 01/06/12 17:02 / jba |
| Calcium | 646 | mg/L | | 1 | | E200.8 | 01/17/12 13:46 / sml |
| Chloride | 107 | mg/L | D | 4 | | E300.0 | 01/10/12 02:46 / ljl |
| Magnesium | 384 | mg/L | | 1 | | E200.8 | 01/17/12 13:46 / sml |
| Nitrogen, Ammonia as N | 2.1 | mg/L | D | 0.1 | | A4500-NH3 G | 01/09/12 12:46 / dc |
| Nitrogen, Nitrate+Nitrite as N | 13 | mg/L | D | 1 | | E353.2 | 01/10/12 13:19 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.8 | 01/17/12 13:46 / sml |
| Sodium | 152 | mg/L | | 1 | | E200.8 | 01/17/12 13:46 / sml |
| Sulfate | 2350 | mg/L | D | 20 | | E300.0 | 01/10/12 02:46 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.86 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:03 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4720 | mg/L | D | 12 | | A2540 C | 01/06/12 14:11 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/17/12 05:23 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/17/12 05:23 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/12/12 17:43 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/17/12 05:23 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 17:43 / sml |
| Manganese | 5.78 | mg/L | | 0.01 | | E200.8 | 01/17/12 05:23 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 17:43 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/17/12 05:23 / sml |
| Uranium | 0.0305 | mg/L | | 0.0003 | | E200.8 | 01/12/12 17:43 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 17:43 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 17:36 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 13:45 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.5 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 01/29/12 11:15 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/29/12 11:15 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 11:15 / eli-cs |
| Radium 226 | 0.48 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.18 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | -0.05 | pCi/L | U | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 precision (±) | 0.81 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |
| Radium 228 MDC | 1.4 | pCi/L | | | | RA-05 | 01/31/12 08:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-002
**Client Sample ID:** EPA-23

**Report Date:** 03/02/12
**Collection Date:** 01/02/12 11:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.01 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.571 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 71.7 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 70.9 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 4290 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:18 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:18 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:18 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:18 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/06/12 23:18 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 124 | %REC | S | 80-120 | | E624 | 01/06/12 23:18 / jlr |
| Surr: Dibromofluoromethane | 112 | %REC | | 80-120 | | E624 | 01/06/12 23:18 / jlr |
| Surr: p-Bromofluorobenzene | 99.0 | %REC | | 80-120 | | E624 | 01/06/12 23:18 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/06/12 23:18 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-002
**Client Sample ID:** EPA-23

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 10:28
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1200 | mg/L | | 5 | | A2320 B | 04/09/12 22:21 / jba |
| Calcium | 658 | mg/L | | 1 | | E200.8 | 04/10/12 15:12 / smm |
| Chloride | 99 | mg/L | D | 4 | | E300.0 | 04/10/12 14:32 / ljl |
| Magnesium | 371 | mg/L | | 1 | | E200.8 | 04/10/12 15:12 / smm |
| Nitrogen, Ammonia as N | 0.63 | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 17:28 / dc |
| Nitrogen, Nitrate+Nitrite as N | 0.2 | mg/L | | 0.1 | | E353.2 | 04/11/12 12:51 / dc |
| Potassium | 11 | mg/L | | 1 | | E200.8 | 04/10/12 15:12 / smm |
| Sodium | 141 | mg/L | | 1 | | E200.8 | 04/10/12 15:12 / smm |
| Sulfate | 2340 | mg/L | D | 20 | | E300.0 | 04/10/12 14:32 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.66 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:19 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4670 | mg/L | D | 11 | | A2540 C | 04/09/12 13:53 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:54 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/13/12 18:34 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 22:54 / smm |
| Cobalt | 0.01 | mg/L | | 0.01 | | E200.8 | 04/12/12 22:54 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 22:54 / smm |
| Manganese | 6.15 | mg/L | | 0.01 | | E200.8 | 04/12/12 22:54 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:54 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 19:15 / smm |
| Uranium | 0.0342 | mg/L | | 0.0003 | | E200.8 | 04/12/12 22:54 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 22:54 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 11:56 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:05 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | -0.1 | pCi/L | U | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 12:05 / ep |
| Lead 210 | 0.1 | pCi/L | U | | | E909.0 | 04/29/12 03:33 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 03:33 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 03:33 / eli-cs |
| Radium 226 | 0.24 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 226 precision (±) | 0.13 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 226 MDC | 0.16 | pCi/L | | | | E903.0 | 04/23/12 08:47 / trs |
| Radium 228 | 0.22 | pCi/L | U | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 precision (±) | 0.56 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |
| Radium 228 MDC | 0.92 | pCi/L | | | | RA-05 | 04/16/12 12:44 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-002
**Client Sample ID:** EPA-23

**Report Date:** 05/25/12
**Collection Date:** 04/02/12 10:28
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.004 | pCi/L | U | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:53 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.02 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 71.3 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 69.8 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 4230 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:03 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:03 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:03 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:03 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/10/12 17:03 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 92.0 | %REC | | 80-120 | | E624 | 04/10/12 17:03 / jlr |
| Surr: Dibromofluoromethane | 114 | %REC | | 80-120 | | E624 | 04/10/12 17:03 / jlr |
| Surr: p-Bromofluorobenzene | 98.0 | %REC | | 80-120 | | E624 | 04/10/12 17:03 / jlr |
| Surr: Toluene-d8 | 104 | %REC | | 80-120 | | E624 | 04/10/12 17:03 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | EPA-23 | EPA-23 | EPA-23 | EPA-23 |
|---|---|---|---|---|---|
| Collection Date: | | 4/2/2012 | 1/2/2012 | 10/3/2011 | 7/11/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-002 | C12010151-002 | C11100288-002 | C11070551-002 |
| Bicarbonate as HCO3 | mg/L | 1200 | 1160 | 1150 | 1230 |
| Calcium | mg/L | 658 | 646 | 668 | 664 |
| Chloride | mg/L | 99 | 107 | 99 | 95 |
| Magnesium | mg/L | 371 | 384 | 376 | 382 |
| Nitrogen, Ammonia as N | mg/L | 0.63 | 2.1 | 0.7 | 0.76 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 0.2 | 13 | 0.5 | 0.7 |
| Potassium | mg/L | 11 | 12 | 11 | 11 |
| Sodium | mg/L | 141 | 152 | 146 | 150 |
| Sulfate | mg/L | 2340 | 2350 | 2410 | 2310 |
| pH | s.u. | 6.66 | 6.86 | 7.81 | 7.53 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4670 | 4720 | 4460 | 4450 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.01 | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 6.15 | 5.78 | 5.68 | 5.58 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0342 | 0.0305 | 0.0296 | 0.0299 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | -0.1 | 0.5 | 0.2 | 0.5 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.9 |
| Lead 210 | pCi/L | 0.1 | 0.2 | 0.1 | -0.6 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.24 | 0.48 | 0.15 | 0.18 |
| Radium 226 precision (±) | pCi/L | 0.13 | 0.18 | 0.10 | 0.13 |
| Radium 226 MDC | pCi/L | 0.16 | 0.18 | 0.14 | 0.17 |
| Radium 228 | pCi/L | 0.22 | -0.05 | 0.50 | 0.73 |
| Radium 228 precision (±) | pCi/L | 0.56 | 0.81 | 0.52 | 0.57 |
| Radium 228 MDC | pCi/L | 0.92 | 1.4 | 0.83 | 0.89 |
| Thorium 230 | pCi/L | -0.004 | 0.01 | 0.03 | -0.01 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.06 | 0.08 | 0.2 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.5 |
| A/C Balance (± 5) | % | -1.02 | -0.571 | -0.596 | 0.374 |
| Anions | meq/L | 71.3 | 71.7 | 71.8 | 70.9 |
| Cations | meq/L | 69.8 | 70.9 | 71.0 | 71.4 |
| Solids, Total Dissolved Calculated | mg/L | 4230 | 4290 | 4290 | 4230 |
| TDS Balance (0.80 - 1.20) | | 1.10 | 1.10 | 1.04 | 1.05 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-015
**Client Sample ID:** EPA-25

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 16:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1080 | mg/L | | 5 | | A2320 B | 01/06/12 19:29 / jba |
| Calcium | 793 | mg/L | | 1 | | E200.8 | 01/17/12 23:44 / sml |
| Chloride | 103 | mg/L | D | 4 | | E300.0 | 01/10/12 17:27 / ljl |
| Magnesium | 239 | mg/L | | 1 | | E200.8 | 01/17/12 23:44 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:20 / dc |
| Nitrogen, Nitrate+Nitrite as N | 78 | mg/L | D | 2 | | E353.2 | 01/10/12 14:01 / dc |
| Potassium | 9 | mg/L | | 1 | | E200.8 | 01/17/12 23:44 / sml |
| Sodium | 192 | mg/L | | 1 | | E200.8 | 01/17/12 23:44 / sml |
| Sulfate | 1780 | mg/L | D | 20 | | E300.0 | 01/10/12 17:27 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.00 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:36 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4140 | mg/L | D | 13 | | A2540 C | 01/06/12 15:25 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/13/12 04:47 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:47 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/12/12 18:15 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:47 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:15 / sml |
| Manganese | 0.18 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:47 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:15 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:15 / sml |
| Uranium | 0.120 | mg/L | | 0.0003 | | E200.8 | 01/12/12 18:15 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:15 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 20:09 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:27 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.07 | pCi/L | U | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 21:37 / plj |
| Lead 210 | 0.05 | pCi/L | U | | | E909.0 | 01/30/12 16:27 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/30/12 16:27 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 16:27 / eli-cs |
| Radium 226 | 0.31 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 precision (±) | 0.16 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 02/07/12 02:56 / lbb |
| Radium 228 | -0.5 | pCi/L | U | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 1.0 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.8 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-015
**Client Sample ID:** EPA-25

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 16:00
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.08 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.09 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 3.44 | % | | | | Calculation | 01/18/12 10:36 / kbh |
| Anions | 63.3 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Cations | 67.8 | meq/L | | | | Calculation | 01/18/12 10:36 / kbh |
| Solids, Total Dissolved Calculated | 4020 | mg/L | | | | Calculation | 01/18/12 10:36 / kbh |
| TDS Balance (0.80 - 1.20) | 1.03 | | | | | Calculation | 01/18/12 10:36 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 19:58 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 19:58 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 19:58 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/09/12 19:58 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/09/12 19:58 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 01/09/12 19:58 / mdr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 01/09/12 19:58 / mdr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 01/09/12 19:58 / mdr |
| Surr: Toluene-d8 | 100 | %REC | | 80-120 | | E624 | 01/09/12 19:58 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-015
**Client Sample ID:** EPA-25

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 15:00
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1110 | mg/L | | 5 | | A2320 B | 04/10/12 01:12 / jba |
| Calcium | 756 | mg/L | | 1 | | E200.8 | 04/17/12 23:55 / smm |
| Chloride | 103 | mg/L | D | 4 | | E300.0 | 04/10/12 19:35 / ljl |
| Magnesium | 217 | mg/L | | 1 | | E200.8 | 04/10/12 17:58 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:36 / dc |
| Nitrogen, Nitrate+Nitrite as N | 75 | mg/L | D | 5 | | E353.2 | 04/11/12 13:36 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 04/10/12 17:58 / smm |
| Sodium | 177 | mg/L | | 1 | | E200.8 | 04/10/12 17:58 / smm |
| Sulfate | 1790 | mg/L | D | 20 | | E300.0 | 04/10/12 19:35 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.90 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 17:05 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4170 | mg/L | D | 11 | | A2540 C | 04/06/12 17:01 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.8 | 04/12/12 23:08 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/13/12 18:54 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 23:08 / smm |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 23:08 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 23:08 / smm |
| Manganese | 0.21 | mg/L | | 0.01 | | E200.8 | 04/12/12 23:08 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 23:08 / smm |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 23:08 / smm |
| Uranium | 0.110 | mg/L | | 0.0003 | | E200.8 | 04/12/12 23:08 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 23:08 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 14:16 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:42 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | -0.05 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.2 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 04/23/12 17:38 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/23/12 17:38 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/23/12 17:38 / eli-cs |
| Radium 226 | -0.05 | pCi/L | U | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 precision (±) | 0.08 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 MDC | 0.16 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 228 | 0.63 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.70 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-015
**Client Sample ID:** EPA-25

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 15:00
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.008 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.0300 | % | | | | Calculation | 04/19/12 06:39 / kbh |
| Anions | 63.4 | meq/L | | | | Calculation | 04/19/12 06:39 / kbh |
| Cations | 63.5 | meq/L | | | | Calculation | 04/19/12 06:39 / kbh |
| Solids, Total Dissolved Calculated | 3930 | mg/L | | | | Calculation | 04/19/12 06:39 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 04/19/12 06:39 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:23 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:23 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:23 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:23 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 18:23 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 04/12/12 18:23 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 04/12/12 18:23 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/12/12 18:23 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/12/12 18:23 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | EPA-25 | EPA-25 | EPA-25 | EPA-25 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-015 | C12010151-015 | C11100288-015 | C11070551-014 |
| Bicarbonate as HCO3 | mg/L | 1110 | 1080 | 1110 | 1150 |
| Calcium | mg/L | 756 | 793 | 770 | 742 |
| Chloride | mg/L | 103 | 103 | 106 | 101 |
| Magnesium | mg/L | 217 | 239 | 228 | 231 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 75 | 78 | 80 | 82 |
| Potassium | mg/L | 7 | 9 | 8 | 7 |
| Sodium | mg/L | 177 | 192 | 190 | 188 |
| Sulfate | mg/L | 1790 | 1780 | 1840 | 1780 |
| pH | s.u. | 6.90 | 7.00 | 7.46 | 7.37 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4170 | 4140 | 4120 | 4060 |
| Aluminum | mg/L | 0.2 | ND(0.1) | ND(0.1) | 0.2 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.21 | 0.18 | 0.27 | 0.50 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.110 | 0.120 | 0.113 | 0.117 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.002 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | -0.05 | 0.07 | -0.009 | 0.01 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.2 | 0.2 | 0.3 | 0.5 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.2 | 0.05 | 0.6 | 0.1 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1.3 | 1.1 | 1.3 | 1.7 |
| Radium 226 | pCi/L | -0.05 | 0.31 | -0.09 | 0.04 |
| Radium 226 precision (±) | pCi/L | 0.08 | 0.16 | 0.06 | 0.09 |
| Radium 226 MDC | pCi/L | 0.16 | 0.19 | 0.14 | 0.15 |
| Radium 228 | pCi/L | 0.63 | -0.5 | -0.3 | 0.71 |
| Radium 228 precision (±) | pCi/L | 0.70 | 1.0 | 0.60 | 0.72 |
| Radium 228 MDC | pCi/L | 1.1 | 1.8 | 1.0 | 1.1 |
| Thorium 230 | pCi/L | 0.008 | 0.08 | -0.007 | 0.01 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.09 | 0.05 | 0.06 |
| Thorium 230 MDC | pCi/L | 0.1 | 0.2 | 0.2 | 0.1 |
| A/C Balance (± 5) | % | 0.0300 | 3.44 | 0.524 | 0.423 |
| Anions | meq/L | 63.4 | 63.3 | 65.0 | 63.9 |
| Cations | meq/L | 63.5 | 67.8 | 65.7 | 64.4 |
| Solids, Total Dissolved Calculated | mg/L | 3930 | 4020 | 4050 | 3960 |
| TDS Balance (0.80 - 1.20) | | 1.06 | 1.03 | 1.02 | 1.03 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-011
**Client Sample ID:** EPA-28

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 11:15
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 749 | mg/L | | 5 | | A2320 B | 01/06/12 18:50 / jba |
| Calcium | 536 | mg/L | | 1 | | E200.8 | 01/25/12 22:29 / sml |
| Chloride | 126 | mg/L | D | 4 | | E300.0 | 01/10/12 05:53 / ljl |
| Magnesium | 439 | mg/L | | 1 | | E200.8 | 01/25/12 22:29 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:58 / dc |
| Nitrogen, Nitrate+Nitrite as N | 34 | mg/L | D | 2 | | E353.2 | 01/10/12 13:51 / dc |
| Potassium | 11 | mg/L | | 1 | | E200.8 | 01/25/12 22:29 / sml |
| Sodium | 209 | mg/L | | 1 | | E200.8 | 01/25/12 22:29 / sml |
| Sulfate | 2710 | mg/L | D | 20 | | E300.0 | 01/10/12 05:53 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.95 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:27 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4960 | mg/L | D | 14 | | A2540 C | 01/06/12 14:14 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 17:38 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:45 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:45 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:27 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:45 / sml |
| Manganese | 0.72 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:27 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:45 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:45 / sml |
| Uranium | 0.0498 | mg/L | | 0.0003 | | E200.8 | 01/23/12 20:27 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:27 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 16:50 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:23 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.5 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | 0.6 | pCi/L | U | | | E909.0 | 01/30/12 07:28 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/30/12 07:28 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 07:28 / eli-cs |
| Radium 226 | 0.48 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.16 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 0.74 | pCi/L | U | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 0.87 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.4 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-011
**Client Sample ID:** EPA-28

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 11:15
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.008 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.65 | % | | | | Calculation | 01/31/12 06:43 / kbh |
| Anions | 74.7 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Cations | 72.3 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Solids, Total Dissolved Calculated | 4570 | mg/L | | | | Calculation | 01/31/12 06:43 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 01/31/12 06:43 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:56 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:56 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:56 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:56 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:56 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 132 | %REC | S | 80-120 | | E624 | 01/07/12 03:56 / jlr |
| Surr: Dibromofluoromethane | 115 | %REC | | 80-120 | | E624 | 01/07/12 03:56 / jlr |
| Surr: p-Bromofluorobenzene | 105 | %REC | | 80-120 | | E624 | 01/07/12 03:56 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 01/07/12 03:56 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-012
**Client Sample ID:** EPA-28

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 10:20
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 808 | mg/L | | 5 | | A2320 B | 04/10/12 00:34 / jba |
| Calcium | 558 | mg/L | | 1 | | E200.8 | 04/10/12 17:37 / smm |
| Chloride | 122 | mg/L | D | 4 | | E300.0 | 04/10/12 18:23 / ljl |
| Magnesium | 451 | mg/L | | 1 | | E200.8 | 04/10/12 17:37 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:26 / dc |
| Nitrogen, Nitrate+Nitrite as N | 29 | mg/L | D | 1 | | E353.2 | 04/11/12 13:29 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.8 | 04/10/12 17:37 / smm |
| Sodium | 215 | mg/L | | 1 | | E200.8 | 04/10/12 17:37 / smm |
| Sulfate | 2770 | mg/L | D | 20 | | E300.0 | 04/10/12 18:23 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.79 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:57 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5000 | mg/L | D | 20 | | A2540 C | 04/06/12 17:00 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:43 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:43 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 15:29 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:43 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/10/12 21:16 / smm |
| Manganese | 0.76 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:43 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 15:29 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/14/12 03:43 / smm |
| Uranium | 0.0520 | mg/L | | 0.0003 | | E200.8 | 04/10/12 21:16 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:43 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 13:37 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:32 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.4 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 04/29/12 17:02 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 17:02 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/29/12 17:02 / eli-cs |
| Radium 226 | 0.12 | pCi/L | U | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 precision (±) | 0.10 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 228 | 0.29 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.64 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-012
**Client Sample ID:** EPA-28

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 10:20
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.005 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.18 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 76.4 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 74.6 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 4670 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.07 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:09 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:09 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:09 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:09 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 17:09 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 04/12/12 17:09 / jlr |
| Surr: Dibromofluoromethane | 102 | %REC | | 80-120 | | E624 | 04/12/12 17:09 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 04/12/12 17:09 / jlr |
| Surr: Toluene-d8 | 102 | %REC | | 80-120 | | E624 | 04/12/12 17:09 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | EPA-28 | EPA-28 | EPA-28 | EPA-28 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-012 | C12010151-011 | C11100288-012 | C11070551-011 |
| Bicarbonate as HCO3 | mg/L | 808 | 749 | 771 | 837 |
| Calcium | mg/L | 558 | 536 | 532 | 541 |
| Chloride | mg/L | 122 | 126 | 127 | 124 |
| Magnesium | mg/L | 451 | 439 | 466 | 478 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 29 | 34 | 28 | 32 |
| Potassium | mg/L | 12 | 11 | 11 | 12 |
| Sodium | mg/L | 215 | 209 | 227 | 234 |
| Sulfate | mg/L | 2770 | 2710 | 2890 | 2740 |
| pH | s.u. | 6.79 | 6.95 | 7.59 | 7.23 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5000 | 4960 | 4910 | 4930 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.76 | 0.72 | 0.74 | 0.76 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0520 | 0.0498 | 0.0461 | 0.0512 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.4 | 0.5 | 0.1 | 0.7 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.3 | 0.3 | 0.3 | 0.6 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.2 | 0.6 | 0.9 | -0.4 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.9 |
| Radium 226 | pCi/L | 0.12 | 0.48 | 0.40 | 0.10 |
| Radium 226 precision (±) | pCi/L | 0.10 | 0.16 | 0.14 | 0.10 |
| Radium 226 MDC | pCi/L | 0.15 | 0.15 | 0.13 | 0.14 |
| Radium 228 | pCi/L | 0.29 | 0.74 | 0.89 | 0.45 |
| Radium 228 precision (±) | pCi/L | 0.64 | 0.87 | 0.64 | 0.67 |
| Radium 228 MDC | pCi/L | 1.1 | 1.4 | 1.0 | 1.1 |
| Thorium 230 | pCi/L | 0.005 | -0.008 | 0.02 | 0.05 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.05 | 0.06 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -1.18 | -1.65 | -2.32 | 0.243 |
| Anions | meq/L | 76.4 | 74.7 | 78.7 | 76.5 |
| Cations | meq/L | 74.6 | 72.3 | 75.1 | 76.8 |
| Solids, Total Dissolved Calculated | mg/L | 4670 | 4570 | 4790 | 4700 |
| TDS Balance (0.80 - 1.20) | | 1.07 | 1.09 | 1.03 | 1.05 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-010
**Client Sample ID:** SBL-1

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 10:26
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 419 | mg/L | | 5 | | A2320 B | 01/06/12 18:42 / jba |
| Calcium | 526 | mg/L | | 1 | | E200.8 | 01/17/12 15:09 / sml |
| Chloride | 83 | mg/L | D | 10 | | E300.0 | 01/10/12 05:40 / ljl |
| Magnesium | 1170 | mg/L | | 1 | | E200.8 | 01/17/12 15:09 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | D | 0.1 | | A4500-NH3 G | 01/09/12 13:56 / dc |
| Nitrogen, Nitrate+Nitrite as N | 41 | mg/L | D | 2 | | E353.2 | 01/10/12 13:49 / dc |
| Potassium | 15 | mg/L | | 1 | | E200.8 | 01/17/12 15:09 / sml |
| Sodium | 300 | mg/L | | 1 | | E200.8 | 01/17/12 15:09 / sml |
| Sulfate | 5820 | mg/L | D | 40 | | E300.0 | 01/10/12 05:40 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.97 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:16 / wc |
| Solids, Total Dissolved TDS @ 180 C | 9090 | mg/L | D | 19 | | A2540 C | 01/06/12 14:13 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.3 | mg/L | | 0.1 | | E200.7 | 01/30/12 17:34 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 18:42 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 18:42 / sml |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:24 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:42 / sml |
| Manganese | 3.44 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:24 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:42 / sml |
| Nickel | 0.08 | mg/L | | 0.05 | | E200.8 | 01/11/12 18:42 / sml |
| Uranium | 0.0135 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:42 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:24 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 16:43 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:16 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.6 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 16:50 / plj |
| Lead 210 | -0.09 | pCi/L | U | | | E909.0 | 01/30/12 05:13 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/30/12 05:13 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/30/12 05:13 / eli-cs |
| Radium 226 | 0.46 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 precision (±) | 0.19 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 226 MDC | 0.20 | pCi/L | | | | E903.0 | 02/07/12 01:13 / lbb |
| Radium 228 | 1.2 | pCi/L | U | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 precision (±) | 1.2 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |
| Radium 228 MDC | 1.9 | pCi/L | | | | RA-05 | 01/31/12 10:37 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12010151-010
**Client Sample ID:** SBL-1

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 10:26
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/18/12 09:24 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.911 | % | | | | Calculation | 01/18/12 08:18 / kbh |
| Anions | 133 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Cations | 136 | meq/L | | | | Calculation | 01/18/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 8300 | mg/L | | | | Calculation | 01/18/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 01/18/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:21 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:21 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:21 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:21 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/07/12 03:21 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 126 | %REC | S | 80-120 | | E624 | 01/07/12 03:21 / jlr |
| Surr: Dibromofluoromethane | 113 | %REC | | 80-120 | | E624 | 01/07/12 03:21 / jlr |
| Surr: p-Bromofluorobenzene | 101 | %REC | | 80-120 | | E624 | 01/07/12 03:21 / jlr |
| Surr: Toluene-d8 | 101 | %REC | | 80-120 | | E624 | 01/07/12 03:21 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-011
**Client Sample ID:** SBL-1

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 09:40
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 438 | mg/L | | 5 | | A2320 B | 04/10/12 00:25 / jba |
| Calcium | 534 | mg/L | | 1 | | E200.8 | 04/10/12 17:30 / smm |
| Chloride | 78 | mg/L | D | 10 | | E300.0 | 04/10/12 18:08 / ljl |
| Magnesium | 1130 | mg/L | | 1 | | E200.8 | 04/10/12 17:30 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:24 / dc |
| Nitrogen, Nitrate+Nitrite as N | 42 | mg/L | D | 2 | | E353.2 | 04/11/12 13:26 / dc |
| Potassium | 15 | mg/L | | 1 | | E200.8 | 04/10/12 17:30 / smm |
| Sodium | 287 | mg/L | | 1 | | E200.8 | 04/10/12 17:30 / smm |
| Sulfate | 5810 | mg/L | D | 40 | | E300.0 | 04/10/12 18:08 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.76 | s.u. | H | 0.01 | | A4500-H B | 04/06/12 16:54 / ab |
| Solids, Total Dissolved TDS @ 180 C | 9420 | mg/L | D | 20 | | A2540 C | 04/09/12 13:54 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:38 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/14/12 03:38 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/14/12 03:38 / smm |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:38 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 15:24 / cp |
| Manganese | 3.57 | mg/L | | 0.01 | | E200.8 | 04/14/12 03:38 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:38 / smm |
| Nickel | 0.07 | mg/L | | 0.05 | | E200.8 | 04/14/12 03:38 / smm |
| Uranium | 0.0129 | mg/L | | 0.0003 | | E200.8 | 04/12/12 15:24 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/14/12 03:38 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/26/12 13:29 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:27 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.4 | pCi/L | U | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 13:45 / ep |
| Lead 210 | 0.0 | pCi/L | U | | | E909.0 | 04/23/12 11:23 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 04/23/12 11:23 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 04/23/12 11:23 / eli-cs |
| Radium 226 | 0.39 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 226 MDC | 0.16 | pCi/L | | | | E903.0 | 04/23/12 12:03 / trs |
| Radium 228 | 0.45 | pCi/L | U | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 precision (±) | 0.69 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 04/16/12 14:32 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** SW Alluvium
**Lab ID:** C12040276-011
**Client Sample ID:** SBL-1

**Report Date:** 05/25/12
**Collection Date:** 04/03/12 09:40
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.0006 | pCi/L | U | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/18/12 15:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.0970 | % | | | | Calculation | 04/18/12 07:58 / kbh |
| Anions | 133 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Cations | 133 | meq/L | | | | Calculation | 04/18/12 07:58 / kbh |
| Solids, Total Dissolved Calculated | 8250 | mg/L | | | | Calculation | 04/18/12 07:58 / kbh |
| TDS Balance (0.80 - 1.20) | 1.14 | | | | | Calculation | 04/18/12 07:58 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 16:33 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 16:33 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 16:33 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/12/12 16:33 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/12/12 16:33 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 04/12/12 16:33 / jlr |
| Surr: Dibromofluoromethane | 104 | %REC | | 80-120 | | E624 | 04/12/12 16:33 / jlr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 04/12/12 16:33 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/12/12 16:33 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Alluvium Monitor Wells**

| Well ID: | | SBL-1 | SBL-1 | SBL-1 | SBL-1 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/14/2011 |
| Analyte | RUnits | C12040276-011 | C12010151-010 | C11100288-011 | C11070551-009 |
| Bicarbonate as HCO3 | mg/L | 438 | 419 | 415 | 451 |
| Calcium | mg/L | 534 | 526 | 510 | 515 |
| Chloride | mg/L | 78 | 83 | 77 | 79 |
| Magnesium | mg/L | 1130 | 1170 | 1140 | 1170 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.1) | 0.2 | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 42 | 41 | 41 | 47 |
| Potassium | mg/L | 15 | 15 | 14 | 14 |
| Sodium | mg/L | 287 | 300 | 301 | 308 |
| Sulfate | mg/L | 5810 | 5820 | 5690 | 5910 |
| pH | s.u. | 6.76 | 6.97 | 7.49 | 7.67 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 9420 | 9090 | 8720 | 8960 |
| Aluminum | mg/L | ND(0.1) | 0.3 | 0.1 | 0.6 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.02 | 0.02 | 0.02 | 0.03 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 3.57 | 3.44 | 3.57 | 3.55 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.07 | 0.08 | 0.09 | 0.08 |
| Uranium | mg/L | 0.0129 | 0.0135 | 0.0119 | 0.0138 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 |
| Gross Alpha minus Rn & U | pCi/L | 0.4 | 0.6 | 0.5 | 2.0 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.3 | 0.3 | 0.3 | 0.8 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.0 | -0.09 | 0.6 | 0.2 |
| Lead 210 precision (±) | pCi/L | 0.7 | 0.6 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1.2 | 1.1 | 1.3 | 1.8 |
| Radium 226 | pCi/L | 0.39 | 0.46 | 0.28 | 0.16 |
| Radium 226 precision (±) | pCi/L | 0.15 | 0.19 | 0.14 | 0.12 |
| Radium 226 MDC | pCi/L | 0.16 | 0.20 | 0.16 | 0.17 |
| Radium 228 | pCi/L | 0.45 | 1.2 | 2.1 | 3.1 |
| Radium 228 precision (±) | pCi/L | 0.69 | 1.2 | 0.82 | 0.75 |
| Radium 228 MDC | pCi/L | 1.1 | 1.9 | 1.2 | 1.0 |
| Thorium 230 | pCi/L | 0.0006 | 0.03 | 0.0007 | 0.009 |
| Thorium 230 precision (±) | pCi/L | 0.06 | 0.07 | 0.06 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -0.0970 | 0.911 | 1.03 | 0.133 |
| Anions | meq/L | 133 | 133 | 130 | 135 |
| Cations | meq/L | 133 | 136 | 133 | 136 |
| Solids, Total Dissolved Calculated | mg/L | 8250 | 8300 | 8130 | 8410 |
| TDS Balance (0.80 - 1.20) | | 1.14 | 1.10 | 1.07 | 1.07 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

**QUARTERLY SAMPLING**

**SEMI-ANNUAL GROUND WATER MONITORING REPORT**

**JANUARY TO JUNE OF 2012**

**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

***POINT OF COMPLIANCE WELLS**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-003
**Client Sample ID:** 515-A

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 10:35
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 729 | mg/L | | 5 | | A2320 B | 01/06/12 20:47 / jba |
| Calcium | 533 | mg/L | | 1 | | E200.8 | 01/18/12 01:13 / sml |
| Chloride | 361 | mg/L | D | 10 | | E300.0 | 01/10/12 19:54 / ljl |
| Magnesium | 1290 | mg/L | | 1 | | E200.8 | 01/18/12 01:13 / sml |
| Nitrogen, Ammonia as N | 44 | mg/L | D | 2 | | A4500-NH3 G | 01/09/12 13:48 / dc |
| Nitrogen, Nitrate+Nitrite as N | 42 | mg/L | D | 2 | | E353.2 | 01/10/12 14:34 / dc |
| Potassium | 24 | mg/L | | 1 | | E200.8 | 01/18/12 01:13 / sml |
| Sodium | 642 | mg/L | | 1 | | E200.8 | 01/18/12 01:13 / sml |
| Sulfate | 6030 | mg/L | D | 40 | | E300.0 | 01/10/12 19:54 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.51 | s.u. | H | 0.01 | | A4500-H B | 01/09/12 09:23 / wc |
| Solids, Total Dissolved TDS @ 180 C | 9920 | mg/L | D | 25 | | A2540 C | 01/06/12 15:27 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 1.4 | mg/L | | 0.1 | | E200.7 | 01/13/12 04:55 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.7 | 01/13/12 04:55 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/12/12 18:20 / sml |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:55 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:20 / sml |
| Manganese | 11.1 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:55 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:20 / sml |
| Nickel | 0.09 | mg/L | | 0.05 | | E200.8 | 01/12/12 18:20 / sml |
| Uranium | 0.0094 | mg/L | | 0.0003 | | E200.8 | 01/12/12 18:20 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:20 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 16:53 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:59 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.8 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Lead 210 | 0.09 | pCi/L | U | | | E909.0 | 02/01/12 14:42 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/01/12 14:42 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/01/12 14:42 / eli-cs |
| Radium 226 | 1.3 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 precision (±) | 0.23 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 MDC | 0.16 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 228 | 2.5 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 precision (±) | 1.5 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 MDC | 2.3 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-003
**Client Sample ID:** 515-A

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 10:35
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.0 | pCi/L | U | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 precision (±) | 0.04 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 4.39 | % | | | | Calculation | 01/18/12 10:51 / kbh |
| Anions | 151 | meq/L | | | | Calculation | 01/18/12 10:51 / kbh |
| Cations | 165 | meq/L | | | | Calculation | 01/18/12 10:51 / kbh |
| Solids, Total Dissolved Calculated | 9420 | mg/L | | | | Calculation | 01/18/12 10:51 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 01/18/12 10:51 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 18:08 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 18:08 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 18:08 / mdr |
| Chloroform | 146 | ug/L | | 5.0 | | E624 | 01/09/12 17:31 / mdr |
| Trihalomethanes, Total | 146 | ug/L | | 0.50 | | E624 | 01/09/12 18:08 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 01/09/12 18:08 / mdr |
| Surr: Dibromofluoromethane | 100 | %REC | | 80-120 | | E624 | 01/09/12 18:08 / mdr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/09/12 18:08 / mdr |
| Surr: Toluene-d8 | 100 | %REC | | 80-120 | | E624 | 01/09/12 18:08 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-002
**Client Sample ID:** 515-A

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 09:40
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 818 | mg/L | | 5 | | A2320 B | 04/10/12 01:42 / jba |
| Calcium | 419 | mg/L | | 1 | | E200.8 | 04/14/12 04:46 / smm |
| Chloride | 363 | mg/L | D | 10 | | E300.0 | 04/10/12 21:16 / ljl |
| Magnesium | 1120 | mg/L | | 1 | | E200.8 | 04/14/12 04:46 / smm |
| Nitrogen, Ammonia as N | 36.0 | mg/L | D | 0.5 | | A4500-NH3 G | 04/09/12 16:50 / dc |
| Nitrogen, Nitrate+Nitrite as N | 46 | mg/L | D | 2 | | E353.2 | 04/11/12 14:04 / dc |
| Potassium | 21 | mg/L | | 1 | | E200.8 | 04/10/12 19:00 / smm |
| Sodium | 557 | mg/L | | 1 | | E200.8 | 04/14/12 04:46 / smm |
| Sulfate | 6080 | mg/L | D | 40 | | E300.0 | 04/10/12 21:16 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.13 | s.u. | H | 0.01 | | A4500-H B | 04/09/12 10:20 / ab |
| Solids, Total Dissolved TDS @ 180 C | 10400 | mg/L | D | 25 | | A2540 C | 04/11/12 15:20 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 2.3 | mg/L | | 0.1 | | E200.8 | 04/18/12 10:16 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 05/08/12 13:00 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 14:33 / smm |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.8 | 04/12/12 14:33 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 14:33 / smm |
| Manganese | 10.8 | mg/L | | 0.01 | | E200.8 | 04/12/12 14:33 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 14:33 / smm |
| Nickel | 0.10 | mg/L | | 0.05 | | E200.8 | 04/12/12 14:33 / smm |
| Uranium | 0.0104 | mg/L | | 0.0003 | | E200.8 | 04/12/12 14:33 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 14:33 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 04/17/12 13:19 / eli-h |
| Selenium-IV | 0.002 | mg/L | | 0.001 | | A3114 B | 04/16/12 12:52 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 2.3 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Lead 210 | 0.8 | pCi/L | U | | | E909.0 | 04/22/12 20:48 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 04/22/12 20:48 / eli-cs |
| Lead 210 MDC | 1.2 | pCi/L | | | | E909.0 | 04/22/12 20:48 / eli-cs |
| Radium 226 | 1.2 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 precision (±) | 0.28 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 MDC | 0.22 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 228 | 2.5 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 precision (±) | 1.2 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 MDC | 1.8 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-002
**Client Sample ID:** 515-A

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 09:40
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.03 | pCi/L | U | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 precision (±) | 0.08 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.09 | % | | | | Calculation | 04/18/12 07:59 / kbh |
| Anions | 153 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Cations | 141 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Solids, Total Dissolved Calculated | 9150 | mg/L | | | | Calculation | 04/18/12 07:59 / kbh |
| TDS Balance (0.80 - 1.20) | 1.14 | | | | | Calculation | 04/18/12 07:59 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 20:12 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 20:12 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 20:12 / jlr |
| Chloroform | 124 | ug/L | | 5.0 | | E624 | 04/12/12 19:36 / jlr |
| Trihalomethanes, Total | 124 | ug/L | | 0.50 | | E624 | 04/12/12 20:12 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 99.0 | %REC | | 80-120 | | E624 | 04/12/12 20:12 / jlr |
| Surr: Dibromofluoromethane | 116 | %REC | | 80-120 | | E624 | 04/12/12 20:12 / jlr |
| Surr: p-Bromofluorobenzene | 96.0 | %REC | | 80-120 | | E624 | 04/12/12 20:12 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/12/12 20:12 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | 515-A | 515-A | 515-A | 515-A |
|---|---|---|---|---|---|
| Collection Date: | | 4/4/2012 | 1/4/2012 | 10/5/2011 | 7/13/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/24/2012 | 3/2/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040278-002 | C12010154-003 | C11100297-003 | C11070555-002 |
| Bicarbonate as HCO3 | mg/L | 818 | 729 | 727 | 729 |
| Calcium | mg/L | 419 | 533 | 455 | 480 |
| Chloride | mg/L | 363 | 361 | 360 | 363 |
| Magnesium | mg/L | 1120 | 1290 | 1180 | 1220 |
| Nitrogen, Ammonia as N | mg/L | 36.0 | 44 | 40 | 35 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 46 | 42 | 44 | 44 |
| Potassium | mg/L | 21 | 24 | 20 | 20 |
| Sodium | mg/L | 557 | 642 | 595 | 636 |
| Sulfate | mg/L | 6080 | 6030 | 5990 | 5970 |
| pH | s.u. | 6.13 | 6.51 | 7.37 | 7.54 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 10400 | 9920 | 9740 | 9520 |
| Aluminum | mg/L | 2.3 | 1.4 | 0.1 | 0.8 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.02 | 0.02 | 0.02 | 0.02 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 10.8 | 11.1 | 11.6 | 13.7 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.10 | 0.09 | 0.10 | 0.11 |
| Uranium | mg/L | 0.0104 | 0.0094 | 0.0074 | 0.0081 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 2.3 | 1.8 | 1.6 | 1.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.5 | 0.5 | 0.4 | 0.9 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 1 |
| Lead 210 | pCi/L | 0.8 | 0.09 | -0.4 | 0.5 |
| Lead 210 precision (±) | pCi/L | 0.7 | 0.6 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1.2 | 1.0 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 1.2 | 1.3 | 1.9 | 1.4 |
| Radium 226 precision (±) | pCi/L | 0.28 | 0.23 | 0.25 | 0.27 |
| Radium 226 MDC | pCi/L | 0.22 | 0.16 | 0.10 | 0.20 |
| Radium 228 | pCi/L | 2.5 | 2.5 | 2.2 | 2.5 |
| Radium 228 precision (±) | pCi/L | 1.2 | 1.5 | 0.89 | 1.2 |
| Radium 228 MDC | pCi/L | 1.8 | 2.3 | 1.3 | 1.8 |
| Thorium 230 | pCi/L | 0.03 | 0.0 | 0.01 | 0.1 |
| Thorium 230 precision (±) | pCi/L | 0.08 | 0.04 | 0.06 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.1 | 0.1 | 0.1 |
| A/C Balance (± 5) | % | -4.09 | 4.39 | -0.288 | 1.91 |
| Anions | meq/L | 153 | 151 | 150 | 149 |
| Cations | meq/L | 141 | 165 | 149 | 155 |
| Solids, Total Dissolved Calculated | mg/L | 9150 | 9420 | 9150 | 9240 |
| TDS Balance (0.80 - 1.20) | | 1.14 | 1.05 | 1.06 | 1.03 |
| Trihalomethanes, Total | ug/L | 124 | 146 | 83.6 | 84.4 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-002
**Client Sample ID:** 604

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 09:25
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 18 | mg/L | | 5 | | A2320 B | 01/06/12 20:31 / jba |
| Calcium | 506 | mg/L | | 1 | | E200.8 | 01/18/12 01:07 / sml |
| Chloride | 56 | mg/L | D | 4 | | E300.0 | 01/10/12 19:41 / ljl |
| Magnesium | 842 | mg/L | | 1 | | E200.8 | 01/18/12 01:07 / sml |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 01/09/12 13:26 / dc |
| Nitrogen, Nitrate+Nitrite as N | 69 | mg/L | D | 2 | | E353.2 | 01/10/12 14:26 / dc |
| Potassium | 14 | mg/L | | 1 | | E200.8 | 01/18/12 01:07 / sml |
| Sodium | 321 | mg/L | | 1 | | E200.8 | 01/18/12 01:07 / sml |
| Sulfate | 4440 | mg/L | D | 40 | | E300.0 | 01/11/12 20:42 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.48 | s.u. | H | 0.01 | | A4500-H B | 01/09/12 09:18 / wc |
| Solids, Total Dissolved TDS @ 180 C | 7100 | mg/L | D | 20 | | A2540 C | 01/06/12 15:27 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 2.0 | mg/L | | 0.1 | | E200.7 | 01/30/12 19:07 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 21:02 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 19:35 / sml |
| Cobalt | 0.16 | mg/L | | 0.01 | | E200.8 | 01/11/12 19:35 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 19:35 / sml |
| Manganese | 6.41 | mg/L | | 0.01 | | E200.8 | 01/11/12 19:35 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 19:35 / sml |
| Nickel | 0.24 | mg/L | | 0.05 | | E200.8 | 01/11/12 19:35 / sml |
| Uranium | 0.0005 | mg/L | | 0.0003 | | E200.8 | 01/11/12 19:35 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 21:02 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 16:46 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:57 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.6 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Lead 210 | 1.1 | pCi/L | | | | E909.0 | 02/01/12 12:27 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/01/12 12:27 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/01/12 12:27 / eli-cs |
| Radium 226 | 1.5 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 precision (±) | 0.26 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 228 | 3.6 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 precision (±) | 0.95 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 MDC | 1.3 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-002
**Client Sample ID:** 604

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 09:25
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.02 | pCi/L | U | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 4.63 | % | | | | Calculation | 01/18/12 10:50 / kbh |
| Anions | 99.3 | meq/L | | | | Calculation | 01/18/12 10:50 / kbh |
| Cations | 109 | meq/L | | | | Calculation | 01/18/12 10:50 / kbh |
| Solids, Total Dissolved Calculated | 6500 | mg/L | | | | Calculation | 01/18/12 10:50 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 01/18/12 10:50 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 01:27 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/10/12 01:27 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 01:27 / mdr |
| Chloroform | 2.69 | ug/L | | 0.50 | | E624 | 01/10/12 01:27 / mdr |
| Trihalomethanes, Total | 2.69 | ug/L | | 0.50 | | E624 | 01/10/12 01:27 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 98.0 | %REC | | 80-120 | | E624 | 01/10/12 01:27 / mdr |
| Surr: Dibromofluoromethane | 100 | %REC | | 80-120 | | E624 | 01/10/12 01:27 / mdr |
| Surr: p-Bromofluorobenzene | 92.0 | %REC | | 80-120 | | E624 | 01/10/12 01:27 / mdr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 01/10/12 01:27 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-001
**Client Sample ID:** 604

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 08:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 12 | mg/L | | 5 | | A2320 B | 04/10/12 01:33 / jba |
| Calcium | 410 | mg/L | | 1 | | E200.8 | 04/14/12 04:41 / smm |
| Chloride | 56 | mg/L | D | 10 | | E300.0 | 04/10/12 20:33 / ljl |
| Magnesium | 733 | mg/L | | 1 | | E200.8 | 04/14/12 04:41 / smm |
| Nitrogen, Ammonia as N | ND | mg/L | | 0.05 | | A4500-NH3 G | 04/09/12 16:48 / dc |
| Nitrogen, Nitrate+Nitrite as N | 71 | mg/L | D | 2 | | E353.2 | 04/11/12 14:01 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 04/10/12 18:25 / smm |
| Sodium | 290 | mg/L | | 1 | | E200.8 | 04/10/12 18:25 / smm |
| Sulfate | 4630 | mg/L | D | 40 | | E300.0 | 04/10/12 20:33 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.46 | s.u. | H | 0.01 | | A4500-H B | 04/09/12 10:17 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7140 | mg/L | D | 16 | | A2540 C | 04/11/12 15:20 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 1.8 | mg/L | | 0.1 | | E200.8 | 04/12/12 16:04 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 16:04 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 16:04 / cp |
| Cobalt | 0.17 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:04 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 16:04 / cp |
| Manganese | 6.75 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:04 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:04 / cp |
| Nickel | 0.26 | mg/L | | 0.05 | | E200.8 | 04/12/12 16:04 / cp |
| Uranium | ND | mg/L | | 0.0003 | | E200.8 | 04/12/12 16:04 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:04 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 04/17/12 13:11 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:50 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 2.8 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.6 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 04/22/12 18:43 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/22/12 18:43 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/22/12 18:43 / eli-cs |
| Radium 226 | 1.5 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 precision (±) | 0.24 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 228 | 3.5 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 precision (±) | 0.84 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-001
**Client Sample ID:** 604

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 08:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.004 | pCi/L | U | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.50 | % | | | | Calculation | 04/18/12 07:59 / kbh |
| Anions | 103 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Cations | 93.7 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Solids, Total Dissolved Calculated | 6430 | mg/L | | | | Calculation | 04/18/12 07:59 / kbh |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 04/18/12 07:59 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/13/12 01:04 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/13/12 01:04 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/13/12 01:04 / jlr |
| Chloroform | 1.08 | ug/L | | 0.50 | | E624 | 04/13/12 01:04 / jlr |
| Trihalomethanes, Total | 1.08 | ug/L | | 0.50 | | E624 | 04/13/12 01:04 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 04/13/12 01:04 / jlr |
| Surr: Dibromofluoromethane | 107 | %REC | | 80-120 | | E624 | 04/13/12 01:04 / jlr |
| Surr: p-Bromofluorobenzene | 92.0 | %REC | | 80-120 | | E624 | 04/13/12 01:04 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/13/12 01:04 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | 604 | 604 | 604 | 604 |
|---|---|---|---|---|---|
| Collection Date: | | 4/4/2012 | 1/4/2012 | 10/5/2011 | 7/13/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/24/2012 | 3/2/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040278-001 | C12010154-002 | C11100297-002 | C11070555-001 |
| Bicarbonate as HCO3 | mg/L | 12 | 18 | 17 | 17 |
| Calcium | mg/L | 410 | 506 | 440 | 456 |
| Chloride | mg/L | 56 | 56 | 57 | 55 |
| Magnesium | mg/L | 733 | 842 | 786 | 825 |
| Nitrogen, Ammonia as N | mg/L | ND(0.05) | ND(0.05) | ND(0.1) | ND(0.1) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 71 | 69 | 70 | 69 |
| Potassium | mg/L | 13 | 14 | 12 | 12 |
| Sodium | mg/L | 290 | 321 | 306 | 324 |
| Sulfate | mg/L | 4630 | 4440 | 4590 | 4690 |
| pH | s.u. | 5.46 | 5.48 | 5.62 | 5.39 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7140 | 7100 | 6980 | 6990 |
| Aluminum | mg/L | 1.8 | 2.0 | 1.2 | 2.3 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.17 | 0.16 | 0.17 | 0.19 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 6.75 | 6.41 | 7.03 | 7.60 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.26 | 0.24 | 0.23 | 0.28 |
| Uranium | mg/L | ND(0.0003) | 0.0005 | 0.0004 | 0.0007 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.001) | ND(0.001) | 0.003 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 2.8 | 1.6 | 1.6 | 1.7 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.6 | 0.5 | 0.4 | 0.9 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 1 |
| Lead 210 | pCi/L | 0.5 | 1.1 | -0.8 | 0.007 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 1.5 | 1.5 | 1.6 | 0.96 |
| Radium 226 precision (±) | pCi/L | 0.24 | 0.26 | 0.22 | 0.20 |
| Radium 226 MDC | pCi/L | 0.14 | 0.18 | 0.09 | 0.16 |
| Radium 228 | pCi/L | 3.5 | 3.6 | 6.3 | 4.1 |
| Radium 228 precision (±) | pCi/L | 0.84 | 0.95 | 0.85 | 0.94 |
| Radium 228 MDC | pCi/L | 1.2 | 1.3 | 0.98 | 1.3 |
| Thorium 230 | pCi/L | -0.004 | 0.02 | 0.07 | 0.07 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.1 | 0.1 | 0.09 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | -4.50 | 4.63 | -1.07 | 0.419 |
| Anions | meq/L | 103 | 99.3 | 102 | 104 |
| Cations | meq/L | 93.7 | 109 | 100 | 105 |
| Solids, Total Dissolved Calculated | mg/L | 6430 | 6500 | 6540 | 6690 |
| TDS Balance (0.80 - 1.20) | | 1.11 | 1.09 | 1.07 | 1.04 |
| Trihalomethanes, Total | ug/L | 1.08 | 2.69 | 5.24 | 1.98 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-001
**Client Sample ID:** 614

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 11:20
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1170 | mg/L | | 5 | | A2320 B | 01/06/12 20:16 / jba |
| Calcium | 550 | mg/L | | 1 | | E200.8 | 01/25/12 22:36 / sml |
| Chloride | 264 | mg/L | D | 10 | | E300.0 | 01/10/12 19:00 / ljl |
| Magnesium | 671 | mg/L | | 1 | | E200.8 | 01/25/12 22:36 / sml |
| Nitrogen, Ammonia as N | 137 | mg/L | D | 2 | | A4500-NH3 G | 01/09/12 13:24 / dc |
| Nitrogen, Nitrate+Nitrite as N | 137 | mg/L | D | 5 | | E353.2 | 01/10/12 16:31 / dc |
| Potassium | 14 | mg/L | | 1 | | E200.8 | 01/25/12 22:36 / sml |
| Sodium | 449 | mg/L | | 1 | | E200.8 | 01/25/12 22:36 / sml |
| Sulfate | 3630 | mg/L | D | 40 | | E300.0 | 01/10/12 19:00 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.87 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:46 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6980 | mg/L | D | 19 | | A2540 C | 01/06/12 15:27 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.7 | 01/30/12 18:06 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/23/12 20:59 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/11/12 19:32 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/11/12 19:32 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 19:32 / sml |
| Manganese | 0.43 | mg/L | | 0.01 | | E200.8 | 01/11/12 19:32 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 19:32 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 19:32 / sml |
| Uranium | 0.0469 | mg/L | | 0.0003 | | E200.8 | 01/11/12 19:32 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:59 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 16:25 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:55 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.7 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 15:50 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 02/01/12 10:12 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/01/12 10:12 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/01/12 10:12 / eli-cs |
| Radium 226 | 0.46 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 precision (±) | 0.13 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 MDC | 0.13 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 228 | 4.1 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 precision (±) | 0.94 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 MDC | 1.3 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010154-001
**Client Sample ID:** 614

**Report Date:** 03/02/12
**Collection Date:** 01/04/12 11:20
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.004 | pCi/L | U | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 precision (±) | 0.04 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.260 | % | | | | Calculation | 01/31/12 06:43 / kbh |
| Anions | 112 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Cations | 112 | meq/L | | | | Calculation | 01/31/12 06:43 / kbh |
| Solids, Total Dissolved Calculated | 6780 | mg/L | | | | Calculation | 01/31/12 06:43 / kbh |
| TDS Balance (0.80 - 1.20) | 1.03 | | | | | Calculation | 01/31/12 06:43 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:50 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:50 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:50 / mdr |
| Chloroform | 135 | ug/L | | 5.0 | | E624 | 01/12/12 02:21 / mdr |
| Trihalomethanes, Total | 135 | ug/L | | 0.50 | | E624 | 01/10/12 00:50 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 97.0 | %REC | | 80-120 | | E624 | 01/10/12 00:50 / mdr |
| Surr: Dibromofluoromethane | 100 | %REC | | 80-120 | | E624 | 01/10/12 00:50 / mdr |
| Surr: p-Bromofluorobenzene | 94.0 | %REC | | 80-120 | | E624 | 01/10/12 00:50 / mdr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 01/10/12 00:50 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-003
**Client Sample ID:** 614

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 10:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 1190 | mg/L | | 5 | | A2320 B | 04/10/12 01:52 / jba |
| Calcium | 492 | mg/L | | 1 | | E200.8 | 04/14/12 04:51 / smm |
| Chloride | 261 | mg/L | D | 10 | | E300.0 | 04/10/12 21:30 / ljl |
| Magnesium | 641 | mg/L | | 1 | | E200.8 | 04/14/12 04:51 / smm |
| Nitrogen, Ammonia as N | 138 | mg/L | D | 2 | | A4500-NH3 G | 04/09/12 16:52 / dc |
| Nitrogen, Nitrate+Nitrite as N | 144 | mg/L | D | 5 | | E353.2 | 04/11/12 14:06 / dc |
| Potassium | 17 | mg/L | | 1 | | E200.8 | 04/10/12 19:35 / smm |
| Sodium | 448 | mg/L | | 1 | | E200.8 | 04/10/12 19:35 / smm |
| Sulfate | 3610 | mg/L | D | 40 | | E300.0 | 04/10/12 21:30 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.70 | s.u. | H | 0.01 | | A4500-H B | 04/09/12 10:22 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7500 | mg/L | D | 20 | | A2540 C | 04/09/12 13:51 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:07 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 16:07 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/12/12 16:07 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/12/12 16:07 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 16:07 / cp |
| Manganese | 0.61 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:07 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:07 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 16:07 / cp |
| Uranium | 0.0463 | mg/L | | 0.0003 | | E200.8 | 04/12/12 16:07 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:07 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 04/17/12 13:41 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:58 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.3 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Lead 210 | -0.1 | pCi/L | U | | | E909.0 | 04/29/12 01:18 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/29/12 01:18 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 04/29/12 01:18 / eli-cs |
| Radium 226 | 0.85 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 precision (±) | 0.17 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 228 | 3.3 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 precision (±) | 0.73 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |
| Radium 228 MDC | 0.97 | pCi/L | | | | RA-05 | 04/16/12 16:20 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040278-003
**Client Sample ID:** 614

**Report Date:** 05/24/12
**Collection Date:** 04/04/12 10:25
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.04 | pCi/L | U | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -2.43 | % | | | | Calculation | 04/18/12 07:59 / kbh |
| Anions | 112 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Cations | 107 | meq/L | | | | Calculation | 04/18/12 07:59 / kbh |
| Solids, Total Dissolved Calculated | 6730 | mg/L | | | | Calculation | 04/18/12 07:59 / kbh |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 04/18/12 07:59 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/16/12 20:25 / jk |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/16/12 20:25 / jk |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/16/12 20:25 / jk |
| Chloroform | 48.4 | ug/L | | 5.0 | | E624 | 04/16/12 19:50 / jk |
| Trihalomethanes, Total | 48.4 | ug/L | | 0.50 | | E624 | 04/16/12 20:25 / jk |
| Surr: 1,2-Dichlorobenzene-d4 | 105 | %REC | | 80-120 | | E624 | 04/16/12 20:25 / jk |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 04/16/12 20:25 / jk |
| Surr: p-Bromofluorobenzene | 120 | %REC | | 80-120 | | E624 | 04/16/12 20:25 / jk |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 04/16/12 20:25 / jk |
| - The sample was received in the laboratory with a pH > 2. The pH was 6. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | 614 | 614 | 614 | 614 |
|---|---|---|---|---|---|
| Collection Date: | | 4/4/2012 | 1/4/2012 | 10/5/2011 | 7/13/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/24/2012 | 3/2/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040278-003 | C12010154-001 | C11100297-001 | C11070555-003 |
| Bicarbonate as HCO3 | mg/L | 1190 | 1170 | 1220 | 1270 |
| Calcium | mg/L | 492 | 550 | 556 | 577 |
| Chloride | mg/L | 261 | 264 | 278 | 283 |
| Magnesium | mg/L | 641 | 671 | 700 | 720 |
| Nitrogen, Ammonia as N | mg/L | 138 | 137 | 131 | 110 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 144 | 137 | 129 | 130 |
| Potassium | mg/L | 17 | 14 | 15 | 15 |
| Sodium | mg/L | 448 | 449 | 488 | 510 |
| Sulfate | mg/L | 3610 | 3630 | 3620 | 3570 |
| pH | s.u. | 6.70 | 6.87 | 7.02 | 7.25 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7500 | 6980 | 7040 | 7060 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | 0.6 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.61 | 0.43 | 0.77 | 0.75 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0463 | 0.0469 | 0.0455 | 0.0493 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | 0.001 | 0.001 |
| Gross Alpha minus Rn & U | pCi/L | 1.3 | 0.7 | 0.8 | 1.5 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.4 | 0.4 | 0.3 | 0.8 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 1 |
| Lead 210 | pCi/L | -0.1 | 0.5 | -0.8 | 0.2 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.6 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1.1 | 1.0 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 0.85 | 0.46 | 0.83 | 0.46 |
| Radium 226 precision (±) | pCi/L | 0.17 | 0.13 | 0.16 | 0.15 |
| Radium 226 MDC | pCi/L | 0.12 | 0.13 | 0.09 | 0.15 |
| Radium 228 | pCi/L | 3.3 | 4.1 | 4.0 | 4.2 |
| Radium 228 precision (±) | pCi/L | 0.73 | 0.94 | 0.77 | 0.90 |
| Radium 228 MDC | pCi/L | 0.97 | 1.3 | 0.98 | 1.2 |
| Thorium 230 | pCi/L | 0.04 | -0.004 | 0.06 | 0.06 |
| Thorium 230 precision (±) | pCi/L | 0.1 | 0.04 | 0.1 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.3 | 0.1 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -2.43 | 0.260 | 1.21 | 2.35 |
| Anions | meq/L | 112 | 112 | 114 | 113 |
| Cations | meq/L | 107 | 112 | 116 | 118 |
| Solids, Total Dissolved Calculated | mg/L | 6730 | 6780 | 6920 | 6940 |
| TDS Balance (0.80 - 1.20) | | 1.11 | 1.03 | 1.02 | 1.02 |
| Trihalomethanes, Total | ug/L | 48.4 | 135 | 49.2 | 32.7 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-006
**Client Sample ID:** TWQ-142

**Report Date:** 03/02/12
**Collection Date:** 01/10/12 13:30
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 269 | mg/L | | 5 | | A2320 B | 01/17/12 15:59 / jba |
| Calcium | 57 | mg/L | | 1 | | E200.8 | 01/26/12 05:38 / sml |
| Chloride | 17 | mg/L | | 1 | | E300.0 | 01/18/12 04:25 / ljl |
| Magnesium | 26 | mg/L | | 1 | | E200.8 | 01/26/12 05:38 / sml |
| Nitrogen, Ammonia as N | 0.39 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 16:47 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/16/12 13:17 / dc |
| Potassium | 4 | mg/L | | 1 | | E200.8 | 01/26/12 05:38 / sml |
| Sodium | 308 | mg/L | | 1 | | E200.8 | 01/26/12 05:38 / sml |
| Sulfate | 672 | mg/L | D | 4 | | E300.0 | 01/18/12 04:25 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.14 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:11 / wc |
| Solids, Total Dissolved TDS @ 180 C | 1240 | mg/L | | 10 | | A2540 C | 01/16/12 08:33 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:12 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 16:12 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 16:12 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 16:12 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:12 / sml |
| Manganese | 0.02 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:12 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:12 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:12 / sml |
| Uranium | ND | mg/L | | 0.0003 | | E200.8 | 01/19/12 16:12 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:12 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/30/12 15:32 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:33 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.3 | pCi/L | U | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 02/02/12 08:42 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 08:42 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/02/12 08:42 / eli-cs |
| Radium 226 | 0.80 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 precision (±) | 0.21 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 228 | 1.8 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 precision (±) | 1.1 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 MDC | 1.6 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-006
**Client Sample ID:** TWQ-142

**Report Date:** 03/02/12
**Collection Date:** 01/10/12 13:30
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.06 | pCi/L | U | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 precision (±) | 0.08 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.816 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 18.9 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 18.5 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 1230 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.01 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 21:25 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/13/12 21:25 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 21:25 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/13/12 21:25 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/13/12 21:25 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 01/13/12 21:25 / mdr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 01/13/12 21:25 / mdr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 01/13/12 21:25 / mdr |
| Surr: Toluene-d8 | 100 | %REC | | 80-120 | | E624 | 01/13/12 21:25 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-006
**Client Sample ID:** TWQ-142

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 11:08
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 283 | mg/L | | 5 | | A2320 B | 04/13/12 20:27 / jba |
| Calcium | 52 | mg/L | | 1 | | E200.7 | 04/19/12 16:39 / eli-h |
| Chloride | 16 | mg/L | | 1 | | E300.0 | 04/14/12 00:50 / wc |
| Magnesium | 26 | mg/L | | 1 | | E200.7 | 04/19/12 16:39 / eli-h |
| Nitrogen, Ammonia as N | 0.45 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:35 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/13/12 14:28 / dc |
| Potassium | 4 | mg/L | | 1 | | E200.7 | 04/19/12 16:39 / eli-h |
| Sodium | 312 | mg/L | | 1 | | E200.7 | 04/19/12 16:39 / eli-h |
| Sulfate | 658 | mg/L | D | 4 | | E300.0 | 04/14/12 00:50 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.34 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:08 / ab |
| Solids, Total Dissolved TDS @ 180 C | 1260 | mg/L | | 10 | | A2540 C | 04/13/12 14:47 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.1 | mg/L | | 0.1 | | E200.8 | 04/18/12 21:03 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/19/12 17:15 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 13:51 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 13:51 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 13:51 / cp |
| Manganese | 0.02 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:03 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 13:51 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 13:51 / cp |
| Uranium | ND | mg/L | | 0.0003 | | E200.8 | 04/18/12 21:03 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 13:51 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 14:42 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:21 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.7 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Lead 210 | 0.1 | pCi/L | U | | | E909.0 | 04/26/12 19:38 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 19:38 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 19:38 / eli-cs |
| Radium 226 | 0.66 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 precision (±) | 0.22 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 MDC | 0.21 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 228 | 0.07 | pCi/L | U | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 precision (±) | 0.95 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 MDC | 1.6 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |

**Report Definitions:**

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QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-006
**Client Sample ID:** TWQ-142

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 11:08
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.04 | pCi/L | U | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 precision (±) | 0.07 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.05 | % | | | | Calculation | 05/07/12 08:02 / kbh |
| Anions | 18.8 | meq/L | | | | Calculation | 05/07/12 08:02 / kbh |
| Cations | 18.4 | meq/L | | | | Calculation | 05/07/12 08:02 / kbh |
| Solids, Total Dissolved Calculated | 1220 | mg/L | | | | Calculation | 05/07/12 08:02 / kbh |
| TDS Balance (0.80 - 1.20) | 1.03 | | | | | Calculation | 05/07/12 08:02 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 00:29 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/20/12 00:29 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 00:29 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/20/12 00:29 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/20/12 00:29 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 89.0 | %REC | | 80-120 | | E624 | 04/20/12 00:29 / jlr |
| Surr: Dibromofluoromethane | 98.0 | %REC | | 80-120 | | E624 | 04/20/12 00:29 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 04/20/12 00:29 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/20/12 00:29 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 6.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**
**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | TWQ-142 | TWQ-142 | TWQ-142 | TWQ-142 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/16/2011 |
| Analyte | RUnits | C12040734-006 | C12010434-006 | C11100570-006 | C11070805-005 |
| Bicarbonate as HCO3 | mg/L | 283 | 269 | 266 | 288 |
| Calcium | mg/L | 52 | 57 | 51 | 51 |
| Chloride | mg/L | 16 | 17 | 17 | 17 |
| Magnesium | mg/L | 26 | 26 | 26 | 25 |
| Nitrogen, Ammonia as N | mg/L | 0.45 | 0.39 | 0.4 | 0.5 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Potassium | mg/L | 4 | 4 | 4 | 4 |
| Sodium | mg/L | 312 | 308 | 332 | 337 |
| Sulfate | mg/L | 658 | 672 | 684 | 665 |
| pH | s.u. | 7.34 | 7.14 | 8.01 | 7.98 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 1260 | 1240 | 1220 | 1220 |
| Aluminum | mg/L | 0.1 | ND(0.1) | 0.1 | 0.1 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 0.02 | 0.02 | 0.02 | 0.02 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | ND(0.0003) | ND(0.0003) | ND(0.0003) | ND(0.0003) |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.7 | 0.3 | 1 | 1.1 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.4 | 0.3 | 0.8 | 0.4 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 1.0 | 0.4 |
| Lead 210 | pCi/L | 0.1 | 0.2 | 0.7 | -0.7 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.7 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.2 | 1.4 |
| Radium 226 | pCi/L | 0.66 | 0.80 | 0.78 | 0.53 |
| Radium 226 precision (±) | pCi/L | 0.22 | 0.21 | 0.21 | 0.20 |
| Radium 226 MDC | pCi/L | 0.21 | 0.19 | 0.20 | 0.20 |
| Radium 228 | pCi/L | 0.07 | 1.8 | 1.1 | 1.1 |
| Radium 228 precision (±) | pCi/L | 0.95 | 1.1 | 0.74 | 0.99 |
| Radium 228 MDC | pCi/L | 1.6 | 1.6 | 1.2 | 1.6 |
| Thorium 230 | pCi/L | 0.04 | 0.06 | -0.007 | 0.04 |
| Thorium 230 precision (±) | pCi/L | 0.07 | 0.08 | 0.06 | 0.07 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.1 | 0.2 |
| A/C Balance (± 5) | % | -1.05 | -0.816 | 0.246 | 0.935 |
| Anions | meq/L | 18.8 | 18.9 | 19.1 | 19.1 |
| Cations | meq/L | 18.4 | 18.5 | 19.2 | 19.4 |
| Solids, Total Dissolved Calculated | mg/L | 1220 | 1230 | 1250 | 1260 |
| TDS Balance (0.80 - 1.20) | | 1.03 | 1.01 | 0.980 | 0.970 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-004
**Client Sample ID:** EPA-2

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 12:05
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 286 | mg/L | | 5 | | A2320 B | 01/17/12 15:51 / jba |
| Calcium | 345 | mg/L | | 1 | | E200.8 | 01/26/12 05:04 / sml |
| Chloride | 21 | mg/L | D | 2 | | E300.0 | 01/18/12 03:32 / ljl |
| Magnesium | 143 | mg/L | | 1 | | E200.8 | 01/26/12 05:04 / sml |
| Nitrogen, Ammonia as N | 0.35 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 16:43 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/16/12 13:12 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 01/26/12 05:04 / sml |
| Sodium | 184 | mg/L | | 1 | | E200.8 | 01/26/12 05:04 / sml |
| Sulfate | 1720 | mg/L | D | 8 | | E300.0 | 01/18/12 03:32 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.77 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:05 / wc |
| Solids, Total Dissolved TDS @ 180 C | 2850 | mg/L | | 10 | | A2540 C | 01/16/12 08:33 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:06 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 16:06 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 16:06 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 16:06 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:06 / sml |
| Manganese | 1.18 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:06 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:06 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:06 / sml |
| Uranium | 0.0020 | mg/L | | 0.0003 | | E200.8 | 01/19/12 16:06 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:06 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/30/12 15:03 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:28 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.1 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 0.4 | pCi/L | U | | | E909.0 | 02/02/12 04:12 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 04:12 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 02/02/12 04:12 / eli-cs |
| Radium 226 | 1.4 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 precision (±) | 0.24 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 MDC | 0.17 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 228 | 1.3 | pCi/L | U | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 precision (±) | 1.9 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 MDC | 3.0 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-004
**Client Sample ID:** EPA-2

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 12:05
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.04 | pCi/L | U | | | E908.0 | 02/01/12 09:24 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 02/01/12 09:24 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 02/01/12 09:24 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -5.02 | % | | | | Calculation | 02/07/12 08:18 / kbh |
| Anions | 41.1 | meq/L | | | | Calculation | 02/07/12 08:18 / kbh |
| Cations | 37.2 | meq/L | | | | Calculation | 02/07/12 08:18 / kbh |
| Solids, Total Dissolved Calculated | 2590 | mg/L | | | | Calculation | 02/07/12 08:18 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 02/07/12 08:18 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 16:32 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/13/12 16:32 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 16:32 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/13/12 16:32 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/13/12 16:32 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 92.0 | %REC | | 80-120 | | E624 | 01/13/12 16:32 / mdr |
| Surr: Dibromofluoromethane | 104 | %REC | | 80-120 | | E624 | 01/13/12 16:32 / mdr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 01/13/12 16:32 / mdr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/13/12 16:32 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-004
**Client Sample ID:** EPA-2

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 11:15
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 305 | mg/L | | 5 | | A2320 B | 04/13/12 20:10 / jba |
| Calcium | 349 | mg/L | | 1 | | E200.7 | 05/08/12 10:06 / eli-h |
| Chloride | 22 | mg/L | D | 2 | | E300.0 | 04/14/12 00:22 / wc |
| Magnesium | 162 | mg/L | | 1 | | E200.7 | 05/08/12 10:06 / eli-h |
| Nitrogen, Ammonia as N | 0.43 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:27 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/13/12 14:23 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.7 | 05/08/12 10:06 / eli-h |
| Sodium | 201 | mg/L | | 1 | | E200.7 | 05/08/12 10:06 / eli-h |
| Sulfate | 1790 | mg/L | D | 8 | | E300.0 | 04/14/12 00:22 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.88 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:03 / ab |
| Solids, Total Dissolved TDS @ 180 C | 2960 | mg/L | | 10 | | A2540 C | 04/13/12 14:47 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 16:31 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:37 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 12:37 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:37 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:37 / cp |
| Manganese | 1.90 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:37 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:37 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:37 / cp |
| Uranium | 0.0025 | mg/L | | 0.0003 | | E200.8 | 04/17/12 12:37 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:37 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 14:09 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:17 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.3 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Lead 210 | 0.3 | pCi/L | U | | | E909.0 | 04/26/12 15:28 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 15:28 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 15:28 / eli-cs |
| Radium 226 | 1.1 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 precision (±) | 0.25 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 MDC | 0.20 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 228 | 2.7 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 precision (±) | 1.0 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 MDC | 1.5 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-004
**Client Sample ID:** EPA-2

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 11:15
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.008 | pCi/L | U | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -3.80 | % | | | | Calculation | 05/14/12 07:32 / kbh |
| Anions | 42.8 | meq/L | | | | Calculation | 05/14/12 07:32 / kbh |
| Cations | 39.7 | meq/L | | | | Calculation | 05/14/12 07:32 / kbh |
| Solids, Total Dissolved Calculated | 2710 | mg/L | | | | Calculation | 05/14/12 07:32 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 05/14/12 07:32 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 23:16 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 23:16 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 23:16 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 23:16 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 23:16 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 04/19/12 23:16 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 04/19/12 23:16 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/19/12 23:16 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 23:16 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 6.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | EPA-2 | EPA-2 | EPA-2 | EPA-2 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/16/2011 |
| Analyte | RUnits | C12040734-004 | C12010434-004 | C11100570-004 | C11070805-003 |
| Bicarbonate as HCO3 | mg/L | 305 | 286 | 285 | 312 |
| Calcium | mg/L | 349 | 345 | 384 | 370 |
| Chloride | mg/L | 22 | 21 | 21 | 20 |
| Magnesium | mg/L | 162 | 143 | 169 | 162 |
| Nitrogen, Ammonia as N | mg/L | 0.43 | 0.35 | 0.4 | 0.5 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Potassium | mg/L | 6 | 6 | 7 | 7 |
| Sodium | mg/L | 201 | 184 | 206 | 212 |
| Sulfate | mg/L | 1790 | 1720 | 1790 | 1650 |
| pH | s.u. | 6.88 | 6.77 | 7.51 | 7.74 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 2960 | 2850 | 2840 | 2830 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | 0.2 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.90 | 1.18 | 0.90 | 1.40 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0025 | 0.0020 | 0.0014 | 0.0018 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 1.3 | 1.1 | 2.4 | 1.5 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.5 | 0.4 | 0.9 | 0.4 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 1.0 | 0.4 |
| Lead 210 | pCi/L | 0.3 | 0.4 | 0.9 | -0.5 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1 | 1.2 | 1.3 |
| Radium 226 | pCi/L | 1.1 | 1.4 | 1.2 | 1.1 |
| Radium 226 precision (±) | pCi/L | 0.25 | 0.24 | 0.21 | 0.23 |
| Radium 226 MDC | pCi/L | 0.20 | 0.17 | 0.16 | 0.16 |
| Radium 228 | pCi/L | 2.7 | 1.3 | 2.4 | 3.0 |
| Radium 228 precision (±) | pCi/L | 1.0 | 1.9 | 0.67 | 0.89 |
| Radium 228 MDC | pCi/L | 1.5 | 3.0 | 0.92 | 1.3 |
| Thorium 230 | pCi/L | 0.008 | 0.04 | 0.0007 | 0.04 |
| Thorium 230 precision (±) | pCi/L | 0.06 | 0.1 | 0.06 | 0.08 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.3 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | -3.80 | -5.02 | -0.341 | 1.42 |
| Anions | meq/L | 42.8 | 41.1 | 42.6 | 40.1 |
| Cations | meq/L | 39.7 | 37.2 | 42.3 | 41.2 |
| Solids, Total Dissolved Calculated | mg/L | 2710 | 2590 | 2720 | 2610 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.10 | 1.04 | 1.08 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-001
**Client Sample ID:** EPA-4

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 09:45
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 148 | mg/L | | 5 | | A2320 B | 01/17/12 15:05 / jba |
| Calcium | 586 | mg/L | | 1 | | E200.8 | 01/26/12 13:50 / sml |
| Chloride | 36 | mg/L | D | 4 | | E300.0 | 01/18/12 02:51 / ljl |
| Magnesium | 353 | mg/L | | 1 | | E200.8 | 01/26/12 04:44 / sml |
| Nitrogen, Ammonia as N | 0.68 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 16:33 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/16/12 13:04 / dc |
| Potassium | 8 | mg/L | | 1 | | E200.8 | 01/26/12 04:44 / sml |
| Sodium | 174 | mg/L | | 1 | | E200.8 | 01/26/12 04:44 / sml |
| Sulfate | 2930 | mg/L | D | 20 | | E300.0 | 01/18/12 02:51 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.59 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 15:57 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4430 | mg/L | D | 11 | | A2540 C | 01/16/12 08:31 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:45 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 15:45 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 15:45 / sml |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 15:45 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 15:45 / sml |
| Manganese | 2.73 | mg/L | | 0.01 | | E200.8 | 01/19/12 15:45 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:45 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 15:45 / sml |
| Uranium | 0.0004 | mg/L | | 0.0003 | | E200.8 | 01/19/12 15:45 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:45 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/26/12 15:11 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:22 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.2 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 0.6 | pCi/L | U | | | E909.0 | 02/01/12 21:27 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/01/12 21:27 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/01/12 21:27 / eli-cs |
| Radium 226 | 1.3 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 226 precision (±) | 0.21 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 228 | 1.2 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 precision (±) | 0.66 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-001
**Client Sample ID:** EPA-4

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 09:45
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.1 | pCi/L | U | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 1.29 | % | | | | Calculation | 01/31/12 06:44 / kbh |
| Anions | 64.4 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Cations | 66.1 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Solids, Total Dissolved Calculated | 4190 | mg/L | | | | Calculation | 01/31/12 06:44 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 01/31/12 06:44 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/18/12 16:54 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/18/12 16:54 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/18/12 16:54 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/18/12 16:54 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/18/12 16:54 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 104 | %REC | | 80-120 | | E624 | 01/18/12 16:54 / jlr |
| Surr: Dibromofluoromethane | 107 | %REC | | 80-120 | | E624 | 01/18/12 16:54 / jlr |
| Surr: p-Bromofluorobenzene | 87.0 | %REC | | 80-120 | | E624 | 01/18/12 16:54 / jlr |
| Surr: Toluene-d8 | 94.0 | %REC | | 80-120 | | E624 | 01/18/12 16:54 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-001
**Client Sample ID:** EPA-4

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 08:40
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 167 | mg/L | | 5 | | A2320 B | 04/13/12 19:31 / jba |
| Calcium | 523 | mg/L | | 1 | | E200.7 | 04/19/12 16:11 / eli-h |
| Chloride | 34 | mg/L | D | 4 | | E300.0 | 04/13/12 23:38 / wc |
| Magnesium | 374 | mg/L | | 1 | | E200.7 | 04/19/12 16:11 / eli-h |
| Nitrogen, Ammonia as N | 0.75 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 12:57 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/13/12 14:03 / dc |
| Potassium | 8 | mg/L | | 1 | | E200.7 | 04/19/12 16:11 / eli-h |
| Sodium | 179 | mg/L | | 1 | | E200.7 | 04/19/12 16:11 / eli-h |
| Sulfate | 2740 | mg/L | D | 20 | | E300.0 | 04/13/12 23:38 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.79 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 13:51 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4450 | mg/L | D | 11 | | A2540 C | 04/13/12 14:46 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 16:11 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:28 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 12:28 / cp |
| Cobalt | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:28 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:28 / cp |
| Manganese | 3.62 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:28 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:28 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:28 / cp |
| Uranium | 0.0005 | mg/L | | 0.0003 | | E200.8 | 04/17/12 12:28 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:28 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 13:24 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:12 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.3 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Lead 210 | 0.2 | pCi/L | U | | | E909.0 | 04/26/12 09:13 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 09:13 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 09:13 / eli-cs |
| Radium 226 | 1.4 | pCi/L | | | | E903.0 | 05/02/12 06:38 / lbb |
| Radium 226 precision (±) | 0.25 | pCi/L | | | | E903.0 | 05/02/12 06:38 / lbb |
| Radium 226 MDC | 0.17 | pCi/L | | | | E903.0 | 05/02/12 06:38 / lbb |
| Radium 228 | 3.7 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 precision (±) | 0.91 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-001
**Client Sample ID:** EPA-4

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 08:40
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.1 | pCi/L | U | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 precision (±) | 0.2 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 3.36 | % | | | | Calculation | 05/24/12 14:45 / sdw |
| Anions | 60.7 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Cations | 64.9 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Solids, Total Dissolved Calculated | 3970 | mg/L | | | | Calculation | 05/24/12 14:45 / sdw |
| TDS Balance (0.80 - 1.20) | 1.12 | | | | | Calculation | 05/24/12 14:45 / sdw |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 21:27 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 21:27 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 21:27 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 21:27 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 21:27 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 92.0 | %REC | | 80-120 | | E624 | 04/19/12 21:27 / jlr |
| Surr: Dibromofluoromethane | 109 | %REC | | 80-120 | | E624 | 04/19/12 21:27 / jlr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 04/19/12 21:27 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 21:27 / jlr |
| - The sample was received in the laboratory with a pH > 2. The pH was 6. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | EPA-4 | EPA-4 | EPA-4 | EPA-4 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 7/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/16/2011 |
| Analyte | RUnits | C12040734-001 | C12010434-001 | C11100570-001 | C11070805-001 |
| Bicarbonate as HCO3 | mg/L | 167 | 148 | 145 | 160 |
| Calcium | mg/L | 523 | 586 | 578 | 560 |
| Chloride | mg/L | 34 | 36 | 37 | 35 |
| Magnesium | mg/L | 374 | 353 | 375 | 368 |
| Nitrogen, Ammonia as N | mg/L | 0.75 | 0.68 | 0.9 | 0.8 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Potassium | mg/L | 8 | 8 | 9 | 9 |
| Sodium | mg/L | 179 | 174 | 187 | 188 |
| Sulfate | mg/L | 2740 | 2930 | 3070 | 2870 |
| pH | s.u. | 6.79 | 6.59 | 7.38 | 7.51 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4450 | 4430 | 4390 | 4330 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | 0.5 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 3.62 | 2.73 | 2.56 | 2.94 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0005 | 0.0004 | 0.0004 | 0.0004 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 1.3 | 1.2 | 2.1 | 1.1 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.5 | 0.4 | 0.9 | 0.4 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 1.0 | 0.4 |
| Lead 210 | pCi/L | 0.2 | 0.6 | 0.9 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.7 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.2 | 1.3 |
| Radium 226 | pCi/L | 1.4 | 1.3 | 1.5 | 0.99 |
| Radium 226 precision (±) | pCi/L | 0.25 | 0.21 | 0.24 | 0.21 |
| Radium 226 MDC | pCi/L | 0.17 | 0.14 | 0.17 | 0.16 |
| Radium 228 | pCi/L | 3.7 | 1.2 | 2.5 | 2.9 |
| Radium 228 precision (±) | pCi/L | 0.91 | 0.66 | 0.70 | 0.85 |
| Radium 228 MDC | pCi/L | 1.2 | 1.0 | 0.97 | 1.2 |
| Thorium 230 | pCi/L | 0.1 | 0.1 | 0.04 | 0.04 |
| Thorium 230 precision (±) | pCi/L | 0.2 | 0.1 | 0.08 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.3 | 0.3 | 0.2 | 0.2 |
| A/C Balance (± 5) | % | 3.36 | 1.29 | 0.626 | 2.54 |
| Anions | meq/L | 60.7 | 64.4 | 67.3 | 63.4 |
| Cations | meq/L | 64.9 | 66.1 | 68.1 | 66.7 |
| Solids, Total Dissolved Calculated | mg/L | 3970 | 4190 | 4330 | 4130 |
| TDS Balance (0.80 - 1.20) | | 1.12 | 1.06 | 1.01 | 1.05 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-002
**Client Sample ID:** EPA-5

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 10:35
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 61 | mg/L | | 5 | | A2320 B | 01/17/12 15:14 / jba |
| Calcium | 442 | mg/L | | 1 | | E200.8 | 01/26/12 04:51 / sml |
| Chloride | 39 | mg/L | D | 4 | | E300.0 | 01/18/12 03:05 / ljl |
| Magnesium | 426 | mg/L | | 1 | | E200.8 | 01/26/12 04:51 / sml |
| Nitrogen, Ammonia as N | 4.2 | mg/L | D | 0.1 | | A4500-NH3 G | 01/13/12 16:39 / dc |
| Nitrogen, Nitrate+Nitrite as N | 1.0 | mg/L | | 0.1 | | E353.2 | 01/16/12 13:07 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 01/26/12 04:51 / sml |
| Sodium | 98 | mg/L | | 1 | | E200.8 | 01/26/12 04:51 / sml |
| Sulfate | 3150 | mg/L | D | 20 | | E300.0 | 01/18/12 03:05 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.89 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:00 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4760 | mg/L | D | 11 | | A2540 C | 01/16/12 08:32 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:48 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 15:48 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 15:48 / sml |
| Cobalt | 0.03 | mg/L | | 0.01 | | E200.8 | 01/19/12 15:48 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 15:48 / sml |
| Manganese | 1.14 | mg/L | | 0.01 | | E200.8 | 01/19/12 15:48 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:48 / sml |
| Nickel | 0.05 | mg/L | | 0.05 | | E200.8 | 01/19/12 15:48 / sml |
| Uranium | 0.0010 | mg/L | | 0.0003 | | E200.8 | 01/19/12 15:48 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 15:48 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/30/12 14:49 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:24 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 1.6 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 0.3 | pCi/L | U | | | E909.0 | 02/01/12 23:42 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/01/12 23:42 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 02/01/12 23:42 / eli-cs |
| Radium 226 | 1.6 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 226 precision (±) | 0.23 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 02/10/12 09:34 / lbb |
| Radium 228 | 0.97 | pCi/L | U | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 precision (±) | 0.75 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-002
**Client Sample ID:** EPA-5

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 10:35
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.02 | pCi/L | U | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.60 | % | | | | Calculation | 01/31/12 06:44 / kbh |
| Anions | 67.7 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Cations | 61.8 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Solids, Total Dissolved Calculated | 4210 | mg/L | | | | Calculation | 01/31/12 06:44 / kbh |
| TDS Balance (0.80 - 1.20) | 1.14 | | | | | Calculation | 01/31/12 06:44 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:19 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:19 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:19 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:19 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:19 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 01/13/12 15:19 / mdr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 01/13/12 15:19 / mdr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 01/13/12 15:19 / mdr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 01/13/12 15:19 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-002
**Client Sample ID:** EPA-5

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 09:36
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 64 | mg/L | | 5 | | A2320 B | 04/13/12 19:46 / jba |
| Calcium | 451 | mg/L | | 1 | | E200.7 | 04/19/12 16:15 / eli-h |
| Chloride | 38 | mg/L | D | 4 | | E300.0 | 04/13/12 23:53 / wc |
| Magnesium | 490 | mg/L | | 1 | | E200.7 | 04/19/12 16:15 / eli-h |
| Nitrogen, Ammonia as N | 3.9 | mg/L | D | 0.1 | | A4500-NH3 G | 04/16/12 12:59 / dc |
| Nitrogen, Nitrate+Nitrite as N | 4.0 | mg/L | D | 0.2 | | E353.2 | 04/13/12 14:06 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.7 | 04/19/12 16:15 / eli-h |
| Sodium | 107 | mg/L | | 1 | | E200.7 | 04/19/12 16:15 / eli-h |
| Sulfate | 3130 | mg/L | D | 20 | | E300.0 | 04/13/12 23:53 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.91 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 13:57 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4770 | mg/L | D | 11 | | A2540 C | 04/13/12 14:46 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 16:14 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:31 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 12:31 / cp |
| Cobalt | 0.04 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:31 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:31 / cp |
| Manganese | 1.15 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:31 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:31 / cp |
| Nickel | 0.05 | mg/L | | 0.05 | | E200.8 | 04/17/12 12:31 / cp |
| Uranium | 0.0007 | mg/L | | 0.0003 | | E200.8 | 04/17/12 12:31 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:31 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 13:53 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:13 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 2.1 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Lead 210 | 0.1 | pCi/L | U | | | E909.0 | 04/26/12 11:18 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 11:18 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 11:18 / eli-cs |
| Radium 226 | 1.5 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 precision (±) | 0.28 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 228 | 2.5 | pCi/L | | | | RA-05 | 04/26/12 13:51 / plj |
| Radium 228 precision (±) | 0.86 | pCi/L | | | | RA-05 | 04/26/12 13:51 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 04/26/12 13:51 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-002
**Client Sample ID:** EPA-5

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 09:36
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.001 | pCi/L | U | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.264 | % | | | | Calculation | 05/24/12 14:45 / sdw |
| Anions | 67.6 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Cations | 67.9 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Solids, Total Dissolved Calculated | 4290 | mg/L | | | | Calculation | 05/24/12 14:45 / sdw |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 05/24/12 14:45 / sdw |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:03 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:03 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:03 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:03 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:03 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 04/19/12 22:03 / jlr |
| Surr: Dibromofluoromethane | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 22:03 / jlr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 04/19/12 22:03 / jlr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 04/19/12 22:03 / jlr |
| - The sample was received in the laboratory with a pH > 2. The pH was 6. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | EPA-5 | EPA-5 | EPA-5 | EPA-5 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/16/2011 |
| Analyte | RUnits | C12040734-002 | C12010434-002 | C11100570-002 | C11070805-002 |
| Bicarbonate as HCO3 | mg/L | 64 | 61 | 65 | 62 |
| Calcium | mg/L | 451 | 442 | 476 | 469 |
| Chloride | mg/L | 38 | 39 | 40 | 40 |
| Magnesium | mg/L | 490 | 426 | 493 | 486 |
| Nitrogen, Ammonia as N | mg/L | 3.9 | 4.2 | 3.8 | 6.7 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 4.0 | 1.0 | 6.9 | 7.2 |
| Potassium | mg/L | 6 | 6 | 7 | 7 |
| Sodium | mg/L | 107 | 98 | 115 | 112 |
| Sulfate | mg/L | 3130 | 3150 | 3280 | 3160 |
| pH | s.u. | 5.91 | 5.89 | 6.43 | 7.25 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4770 | 4760 | 4670 | 4680 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | 0.3 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.04 | 0.03 | 0.03 | 0.03 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.15 | 1.14 | 1.19 | 1.20 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.05 | 0.05 | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0007 | 0.0010 | 0.0007 | 0.0019 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.012 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 2.1 | 1.6 | 2.1 | 2.2 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.5 | 0.5 | 0.9 | 0.5 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 1.0 | 0.4 |
| Lead 210 | pCi/L | 0.1 | 0.3 | 0.4 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.7 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1 | 1.2 | 1.4 |
| Radium 226 | pCi/L | 1.5 | 1.6 | 2.0 | 1.8 |
| Radium 226 precision (±) | pCi/L | 0.28 | 0.23 | 0.27 | 0.28 |
| Radium 226 MDC | pCi/L | 0.18 | 0.14 | 0.16 | 0.16 |
| Radium 228 | pCi/L | 2.5 | 0.97 | 2.6 | 3.6 |
| Radium 228 precision (±) | pCi/L | 0.86 | 0.75 | 0.69 | 0.90 |
| Radium 228 MDC | pCi/L | 1.2 | 1.2 | 0.95 | 1.2 |
| Thorium 230 | pCi/L | 0.001 | 0.02 | 0.07 | 0.05 |
| Thorium 230 precision (±) | pCi/L | 0.1 | 0.1 | 0.09 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.3 | 0.3 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | 0.264 | -4.60 | -1.05 | -0.254 |
| Anions | meq/L | 67.6 | 67.7 | 71.3 | 68.8 |
| Cations | meq/L | 67.9 | 61.8 | 69.8 | 68.4 |
| Solids, Total Dissolved Calculated | mg/L | 4290 | 4210 | 4490 | 4370 |
| TDS Balance (0.80 - 1.20) | | 1.11 | 1.14 | 1.04 | 1.07 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-003
**Client Sample ID:** EPA-7

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 11:20
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 584 | mg/L | | 5 | | A2320 B | 01/17/12 15:22 / jba |
| Calcium | 490 | mg/L | | 1 | | E200.8 | 01/26/12 04:57 / sml |
| Chloride | 218 | mg/L | D | 10 | | E300.0 | 01/18/12 03:18 / ljl |
| Magnesium | 874 | mg/L | | 1 | | E200.8 | 01/26/12 04:57 / sml |
| Nitrogen, Ammonia as N | 0.14 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 16:41 / dc |
| Nitrogen, Nitrate+Nitrite as N | 126 | mg/L | D | 5 | | E353.2 | 01/16/12 14:32 / dc |
| Potassium | 7 | mg/L | | 1 | | E200.8 | 01/26/12 04:57 / sml |
| Sodium | 343 | mg/L | | 1 | | E200.8 | 01/26/12 04:57 / sml |
| Sulfate | 4610 | mg/L | D | 40 | | E300.0 | 01/18/12 03:18 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.27 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:03 / wc |
| Solids, Total Dissolved TDS @ 180 C | 8010 | mg/L | D | 20 | | A2540 C | 01/16/12 08:33 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.8 | 01/19/12 16:03 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 16:03 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 16:03 / sml |
| Cobalt | 0.03 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:03 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:03 / sml |
| Manganese | 2.38 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:03 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:03 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:03 / sml |
| Uranium | 0.0018 | mg/L | | 0.0003 | | E200.8 | 02/17/12 12:34 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:03 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/30/12 14:56 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:26 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.3 | pCi/L | U | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 0.3 | pCi/L | U | | | E909.0 | 02/02/12 01:57 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 01:57 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/02/12 01:57 / eli-cs |
| Radium 226 | 0.53 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 precision (±) | 0.15 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 02/10/12 11:22 / lbb |
| Radium 228 | 1.4 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 precision (±) | 0.71 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 02/24/12 08:56 / lbb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12010434-003
**Client Sample ID:** EPA-7

**Report Date:** 03/02/12
**Collection Date:** 01/09/12 11:20
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.009 | pCi/L | U | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/26/12 09:19 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -3.99 | % | | | | Calculation | 01/31/12 06:44 / kbh |
| Anions | 121 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Cations | 111 | meq/L | | | | Calculation | 01/31/12 06:44 / kbh |
| Solids, Total Dissolved Calculated | 7390 | mg/L | | | | Calculation | 01/31/12 06:44 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/31/12 06:44 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:56 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:56 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:56 / mdr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:56 / mdr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/13/12 15:56 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 92.0 | %REC | | 80-120 | | E624 | 01/13/12 15:56 / mdr |
| Surr: Dibromofluoromethane | 98.0 | %REC | | 80-120 | | E624 | 01/13/12 15:56 / mdr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 01/13/12 15:56 / mdr |
| Surr: Toluene-d8 | 102 | %REC | | 80-120 | | E624 | 01/13/12 15:56 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-003
**Client Sample ID:** EPA-7

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 10:22
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 630 | mg/L | | 5 | | A2320 B | 04/13/12 20:02 / jba |
| Calcium | 453 | mg/L | | 1 | | E200.7 | 04/19/12 16:19 / eli-h |
| Chloride | 218 | mg/L | D | 10 | | E300.0 | 04/14/12 00:07 / wc |
| Magnesium | 939 | mg/L | | 1 | | E200.7 | 04/19/12 16:19 / eli-h |
| Nitrogen, Ammonia as N | 0.15 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:01 / dc |
| Nitrogen, Nitrate+Nitrite as N | 133 | mg/L | D | 5 | | E353.2 | 04/13/12 14:16 / dc |
| Potassium | 8 | mg/L | | 1 | | E200.7 | 04/19/12 16:19 / eli-h |
| Sodium | 361 | mg/L | | 1 | | E200.7 | 04/19/12 16:19 / eli-h |
| Sulfate | 4440 | mg/L | D | 40 | | E300.0 | 04/14/12 00:07 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.22 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:00 / ab |
| Solids, Total Dissolved TDS @ 180 C | 8210 | mg/L | D | 14 | | A2540 C | 04/13/12 14:46 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.8 | 04/18/12 16:29 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:34 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 12:34 / cp |
| Cobalt | 0.03 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:34 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:34 / cp |
| Manganese | 2.56 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:34 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:34 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:34 / cp |
| Uranium | 0.0021 | mg/L | | 0.0003 | | E200.8 | 04/17/12 12:34 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:34 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 14:01 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:15 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 0.4 | pCi/L | U | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.3 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 12:26 / ep |
| Lead 210 | 0.08 | pCi/L | U | | | E909.0 | 04/26/12 13:23 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 13:23 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 13:23 / eli-cs |
| Radium 226 | 0.55 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 precision (±) | 0.18 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/02/12 08:11 / lbb |
| Radium 228 | 0.52 | pCi/L | U | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 precision (±) | 0.83 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |
| Radium 228 MDC | 1.4 | pCi/L | | | | RA-05 | 04/26/12 15:40 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-1
**Lab ID:** C12040734-003
**Client Sample ID:** EPA-7

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 10:22
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.01 | pCi/L | U | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/26/12 08:54 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.11 | % | | | | Calculation | 05/24/12 14:45 / sdw |
| Anions | 118 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Cations | 116 | meq/L | | | | Calculation | 05/24/12 14:45 / sdw |
| Solids, Total Dissolved Calculated | 7320 | mg/L | | | | Calculation | 05/24/12 14:45 / sdw |
| TDS Balance (0.80 - 1.20) | 1.12 | | | | | Calculation | 05/24/12 14:45 / sdw |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:40 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:40 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 22:40 / jlr |
| Chloroform | 0.64 | ug/L | | 0.50 | | E624 | 04/19/12 22:40 / jlr |
| Trihalomethanes, Total | 0.64 | ug/L | | 0.50 | | E624 | 04/19/12 22:40 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 97.0 | %REC | | 80-120 | | E624 | 04/19/12 22:40 / jlr |
| Surr: Dibromofluoromethane | 116 | %REC | | 80-120 | | E624 | 04/19/12 22:40 / jlr |
| Surr: p-Bromofluorobenzene | 94.0 | %REC | | 80-120 | | E624 | 04/19/12 22:40 / jlr |
| Surr: Toluene-d8 | 102 | %REC | | 80-120 | | E624 | 04/19/12 22:40 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 7.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 1 Monitor Wells**

| Well ID: | | EPA-7 | EPA-7 | EPA-7 | EPA-7 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/2/2012 | 11/30/2011 | 9/16/2011 |
| Analyte | RUnits | C12040734-003 | C12010434-003 | C11100570-003 | C11070805-006 |
| Bicarbonate as HCO3 | mg/L | 630 | 584 | 589 | 631 |
| Calcium | mg/L | 453 | 490 | 513 | 494 |
| Chloride | mg/L | 218 | 218 | 218 | 213 |
| Magnesium | mg/L | 939 | 874 | 1000 | 981 |
| Nitrogen, Ammonia as N | mg/L | 0.15 | 0.14 | ND(0.2) | 0.3 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 133 | 126 | 129 | 128 |
| Potassium | mg/L | 8 | 7 | 9 | 8 |
| Sodium | mg/L | 361 | 343 | 382 | 390 |
| Sulfate | mg/L | 4440 | 4610 | 4710 | 4690 |
| pH | s.u. | 6.22 | 6.27 | 7.49 | 7.52 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 8210 | 8010 | 7990 | 8290 |
| Aluminum | mg/L | 0.2 | 0.2 | 0.2 | 0.1 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.03 | 0.03 | 0.03 | 0.03 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 2.56 | 2.38 | 2.66 | 2.78 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.0021 | 0.0018 | 0.0019 | 0.0016 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 0.4 | 0.3 | 0.7 | 0.6 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.3 | 0.3 | 0.7 | 0.3 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 1.0 | 0.4 |
| Lead 210 | pCi/L | 0.08 | 0.3 | 0.9 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.2 | 1.4 |
| Radium 226 | pCi/L | 0.55 | 0.53 | 0.42 | 0.31 |
| Radium 226 precision (±) | pCi/L | 0.18 | 0.15 | 0.15 | 0.14 |
| Radium 226 MDC | pCi/L | 0.18 | 0.14 | 0.16 | 0.16 |
| Radium 228 | pCi/L | 0.52 | 1.4 | 1.3 | 1.1 |
| Radium 228 precision (±) | pCi/L | 0.83 | 0.71 | 0.63 | 0.77 |
| Radium 228 MDC | pCi/L | 1.4 | 1.1 | 0.96 | 1.2 |
| Thorium 230 | pCi/L | -0.01 | 0.009 | 0.04 | 0.06 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.06 | 0.07 | 0.09 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.2 | 0.1 | 0.2 |
| A/C Balance (± 5) | % | -1.11 | -3.99 | 0.769 | -0.209 |
| Anions | meq/L | 118 | 121 | 123 | 123 |
| Cations | meq/L | 116 | 111 | 125 | 123 |
| Solids, Total Dissolved Calculated | mg/L | 7320 | 7390 | 7700 | 7660 |
| TDS Balance (0.80 - 1.20) | | 1.12 | 1.08 | 1.04 | 1.08 |
| Trihalomethanes, Total | ug/L | 0.64 | ND(0.50) | ND(0.50) | ND(0.50) |

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

**QUARTERLY SAMPLING**

**SEMI-ANNUAL GROUND WATER MONITORING REPORT**

**JANUARY TO JUNE OF 2012**

**ZONE-3**

504-B (NO SAMPLE)

*517

EPA-14

420

*711

*613

*708

NBL-1

EPA-13

717

719

**LEVELS ONLY**

EPA-9

702

710

712

713

714

701

706

707

402

446

424

***POINT OF COMPLIANCE WELLS**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-001
**Client Sample ID:** 517

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 13:12
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 16:03 / jba |
| Calcium | 475 | mg/L | | 1 | | E200.8 | 01/26/12 06:13 / sml |
| Chloride | 42 | mg/L | D | 4 | | E300.0 | 01/18/12 05:19 / ljl |
| Magnesium | 463 | mg/L | | 1 | | E200.8 | 01/26/12 06:13 / sml |
| Nitrogen, Ammonia as N | 10.9 | mg/L | D | 0.5 | | A4500-NH3 G | 01/13/12 16:49 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 01/17/12 14:12 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/26/12 06:13 / sml |
| Sodium | 146 | mg/L | | 1 | | E200.8 | 01/26/12 06:13 / sml |
| Sulfate | 3770 | mg/L | D | 20 | | E300.0 | 01/18/12 05:19 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.07 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:26 / wc |
| Solids, Total Dissolved TDS @ 180 C | 5350 | mg/L | D | 14 | | A2540 C | 01/16/12 08:34 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 10.8 | mg/L | | 0.1 | | E200.8 | 01/19/12 16:15 / sml |
| Beryllium | 0.01 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:15 / sml |
| Cadmium | 0.010 | mg/L | | 0.005 | | E200.8 | 01/19/12 16:15 / sml |
| Cobalt | 0.92 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:15 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 16:15 / sml |
| Manganese | 11.2 | mg/L | | 0.01 | | E200.8 | 01/19/12 16:15 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:15 / sml |
| Nickel | 1.01 | mg/L | | 0.05 | | E200.8 | 01/19/12 16:15 / sml |
| Uranium | 0.117 | mg/L | | 0.0003 | | E200.8 | 01/19/12 16:15 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 16:15 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 18:02 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:41 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 13.7 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.3 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 23:33 / ep |
| Lead 210 | 2.3 | pCi/L | | | | E909.0 | 02/02/12 10:57 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 10:57 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/02/12 10:57 / eli-cs |
| Radium 226 | 5.1 | pCi/L | | | | E903.0 | 02/09/12 13:25 / lbb |
| Radium 226 precision (±) | 0.30 | pCi/L | | | | E903.0 | 02/09/12 13:25 / lbb |
| Radium 226 MDC | 0.11 | pCi/L | | | | E903.0 | 02/09/12 13:25 / lbb |
| Radium 228 | 12 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 1.1 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-001
**Client Sample ID:** 517

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 13:12
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 3.0 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 precision (±) | 0.6 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.03 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 79.7 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 78.1 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 4950 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 13:56 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 13:56 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 13:56 / jlr |
| Chloroform | 3.84 | ug/L | | 0.50 | | E624 | 01/17/12 13:56 / jlr |
| Trihalomethanes, Total | 3.84 | ug/L | | 0.50 | | E624 | 01/17/12 13:56 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 106 | %REC | | 80-120 | | E624 | 01/17/12 13:56 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 01/17/12 13:56 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/17/12 13:56 / jlr |
| Surr: Toluene-d8 | 92.0 | %REC | | 80-120 | | E624 | 01/17/12 13:56 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-001
**Client Sample ID:** 517

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 12:15
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 20:30 / jba |
| Calcium | 435 | mg/L | | 1 | | E200.7 | 05/14/12 11:06 / eli-h |
| Chloride | 49 | mg/L | D | 20 | | E300.0 | 04/18/12 15:12 / wc |
| Magnesium | 479 | mg/L | | 1 | | E200.7 | 05/14/12 11:06 / eli-h |
| Nitrogen, Ammonia as N | 10.8 | mg/L | D | 0.2 | | A4500-NH3 G | 04/16/12 13:37 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 04/13/12 16:12 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.7 | 05/14/12 11:06 / eli-h |
| Sodium | 147 | mg/L | | 1 | | E200.7 | 05/14/12 11:06 / eli-h |
| Sulfate | 3980 | mg/L | D | 80 | | E300.0 | 04/18/12 15:12 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.25 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:19 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5580 | mg/L | D | 14 | | A2540 C | 04/13/12 16:11 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 10.9 | mg/L | | 0.1 | | E200.8 | 04/18/12 16:37 / cp |
| Beryllium | 0.01 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:53 / cp |
| Cadmium | 0.011 | mg/L | | 0.005 | | E200.8 | 04/17/12 12:53 / cp |
| Cobalt | 0.98 | mg/L | | 0.01 | | E200.8 | 04/18/12 16:37 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:53 / cp |
| Manganese | 11.9 | mg/L | | 0.01 | | E200.8 | 04/18/12 16:37 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:53 / cp |
| Nickel | 1.04 | mg/L | | 0.05 | | E200.8 | 04/17/12 12:53 / cp |
| Uranium | 0.107 | mg/L | | 0.0003 | | E200.8 | 04/18/12 16:37 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:53 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 15:05 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:27 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 12.4 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.2 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Lead 210 | 1.7 | pCi/L | | | | E909.0 | 04/25/12 10:18 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 10:18 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 10:18 / eli-cs |
| Radium 226 | 7.3 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 precision (±) | 0.58 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 228 | 14 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.2 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-001
**Client Sample ID:** 517

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 12:15
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 4.0 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 precision (±) | 1.2 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 MDC | 0.7 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.14 | % | | | | Calculation | 05/16/12 07:50 / kbh |
| Anions | 84.3 | meq/L | | | | Calculation | 05/16/12 07:50 / kbh |
| Cations | 77.6 | meq/L | | | | Calculation | 05/16/12 07:50 / kbh |
| Solids, Total Dissolved Calculated | 5140 | mg/L | | | | Calculation | 05/16/12 07:50 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 05/16/12 07:50 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:05 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:05 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:05 / jlr |
| Chloroform | 4.80 | ug/L | | 0.50 | | E624 | 04/20/12 01:05 / jlr |
| Trihalomethanes, Total | 4.80 | ug/L | | 0.50 | | E624 | 04/20/12 01:05 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 93.0 | %REC | | 80-120 | | E624 | 04/20/12 01:05 / jlr |
| Surr: Dibromofluoromethane | 105 | %REC | | 80-120 | | E624 | 04/20/12 01:05 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 04/20/12 01:05 / jlr |
| Surr: Toluene-d8 | 95.0 | %REC | | 80-120 | | E624 | 04/20/12 01:05 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 4.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 517 | 517 | 517 | 517 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-001 | C12010437-001 | C11100573-001 | C11070807-001 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 435 | 475 | 450 | 454 |
| Chloride | mg/L | 49 | 42 | 43 | 42 |
| Magnesium | mg/L | 479 | 463 | 459 | 458 |
| Nitrogen, Ammonia as N | mg/L | 10.8 | 10.9 | 10.5 | 10.5 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.5) | ND(0.5) | ND(0.2) | ND(0.5) |
| Potassium | mg/L | 12 | 13 | 12 | 12 |
| Sodium | mg/L | 147 | 146 | 151 | 151 |
| Sulfate | mg/L | 3980 | 3770 | 3960 | 3720 |
| pH | s.u. | 3.25 | 3.07 | 3.14 | 3.21 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5580 | 5350 | 5120 | 5240 |
| Aluminum | mg/L | 10.9 | 10.8 | 9.3 | 9.7 |
| Beryllium | mg/L | 0.01 | 0.01 | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | 0.011 | 0.010 | 0.012 | 0.009 |
| Cobalt | mg/L | 0.98 | 0.92 | 0.89 | 0.94 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 11.9 | 11.2 | 10.9 | 11.1 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 1.04 | 1.01 | 0.98 | 0.98 |
| Uranium | mg/L | 0.107 | 0.117 | 0.0841 | 0.0932 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 12.4 | 13.7 | 13.8 | 12.6 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.2 | 1.3 | 1.1 | 1.1 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 1.7 | 2.3 | 1.3 | -0.2 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.3 | 1.4 |
| Radium 226 | pCi/L | 7.3 | 5.1 | 6.3 | 9.5 |
| Radium 226 precision (±) | pCi/L | 0.58 | 0.30 | 0.48 | 0.73 |
| Radium 226 MDC | pCi/L | 0.18 | 0.11 | 0.14 | 0.23 |
| Radium 228 | pCi/L | 14 | 12 | 12 | 12 |
| Radium 228 precision (±) | pCi/L | 1.2 | 1.1 | 1.0 | 0.92 |
| Radium 228 MDC | pCi/L | 1.1 | 1.1 | 0.95 | 0.81 |
| Thorium 230 | pCi/L | 4.0 | 3.0 | 2.4 | 1.9 |
| Thorium 230 precision (±) | pCi/L | 1.2 | 0.6 | 0.5 | 0.5 |
| Thorium 230 MDC | pCi/L | 0.7 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -4.14 | -1.03 | -4.96 | -1.82 |
| Anions | meq/L | 84.3 | 79.7 | 83.7 | 78.7 |
| Cations | meq/L | 77.6 | 78.1 | 75.8 | 75.9 |
| Solids, Total Dissolved Calculated | mg/L | 5140 | 4950 | 5110 | 4870 |
| TDS Balance (0.80 - 1.20) | | 1.09 | 1.08 | 1.00 | 1.08 |
| Trihalomethanes, Total | ug/L | 4.80 | 3.84 | 1.30 | 1.80 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010153-002
**Client Sample ID:** EPA-14

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 14:10
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/06/12 20:06 / jba |
| Calcium | 514 | mg/L | | 1 | | E200.8 | 01/18/12 00:04 / sml |
| Chloride | 60 | mg/L | D | 4 | | E300.0 | 01/10/12 18:20 / ljl |
| Magnesium | 566 | mg/L | | 1 | | E200.8 | 01/18/12 00:04 / sml |
| Nitrogen, Ammonia as N | 36.0 | mg/L | D | 0.5 | | A4500-NH3 G | 01/13/12 16:25 / dc |
| Nitrogen, Nitrate+Nitrite as N | 21 | mg/L | D | 1 | | E353.2 | 01/10/12 14:21 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/18/12 00:04 / sml |
| Sodium | 177 | mg/L | | 1 | | E200.8 | 01/18/12 00:04 / sml |
| Sulfate | 4470 | mg/L | D | 40 | | E300.0 | 01/11/12 20:02 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 4.20 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:42 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6240 | mg/L | D | 17 | | A2540 C | 01/06/12 15:27 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 97.3 | mg/L | | 0.1 | | E200.7 | 01/30/12 18:02 / cp |
| Beryllium | 0.10 | mg/L | | 0.01 | | E200.8 | 01/11/12 18:54 / sml |
| Cadmium | 0.010 | mg/L | | 0.005 | | E200.8 | 01/11/12 18:54 / sml |
| Cobalt | 0.92 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:36 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/11/12 18:54 / sml |
| Manganese | 17.3 | mg/L | | 0.01 | | E200.8 | 01/23/12 20:36 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/11/12 18:54 / sml |
| Nickel | 0.83 | mg/L | | 0.05 | | E200.8 | 01/11/12 18:54 / sml |
| Uranium | 0.0145 | mg/L | | 0.0003 | | E200.8 | 01/11/12 18:54 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/23/12 20:36 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 16:17 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:53 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 7.5 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Lead 210 | 1.4 | pCi/L | | | | E909.0 | 01/29/12 06:45 / eli-cs |
| Lead 210 precision (±) | 0.7 | pCi/L | | | | E909.0 | 01/29/12 06:45 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 06:45 / eli-cs |
| Radium 226 | 8.2 | pCi/L | | | | E903.0 | 02/08/12 22:53 / lbb |
| Radium 226 precision (±) | 0.54 | pCi/L | | | | E903.0 | 02/08/12 22:53 / lbb |
| Radium 226 MDC | 0.15 | pCi/L | | | | E903.0 | 02/08/12 22:53 / lbb |
| Radium 228 | 18 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 precision (±) | 1.4 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 MDC | 1.3 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010153-002
**Client Sample ID:** EPA-14

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 14:10
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | -0.05 | pCi/L | U | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 precision (±) | 0.3 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| Thorium 230 MDC | 1.1 | pCi/L | | | | E908.0 | 01/26/12 09:18 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.368 | % | | | | Calculation | 01/18/12 10:49 / kbh |
| Anions | 96.3 | meq/L | | | | Calculation | 01/18/12 10:49 / kbh |
| Cations | 95.6 | meq/L | | | | Calculation | 01/18/12 10:49 / kbh |
| Solids, Total Dissolved Calculated | 5890 | mg/L | | | | Calculation | 01/18/12 10:49 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 01/18/12 10:49 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:14 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:14 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/10/12 00:14 / mdr |
| Chloroform | 1.22 | ug/L | | 0.50 | | E624 | 01/10/12 00:14 / mdr |
| Trihalomethanes, Total | 1.22 | ug/L | | 0.50 | | E624 | 01/10/12 00:14 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 01/10/12 00:14 / mdr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 01/10/12 00:14 / mdr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/10/12 00:14 / mdr |
| Surr: Toluene-d8 | 100 | %REC | | 80-120 | | E624 | 01/10/12 00:14 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040277-002
**Client Sample ID:** EPA-14

**Report Date:** 05/22/12
**Collection Date:** 04/03/12 12:30
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/10/12 01:27 / jba |
| Calcium | 483 | mg/L | | 1 | | E200.8 | 04/20/12 17:21 / smm |
| Chloride | 57 | mg/L | D | 4 | | E300.0 | 04/20/12 19:29 / wc |
| Magnesium | 481 | mg/L | | 1 | | E200.8 | 04/20/12 17:21 / smm |
| Nitrogen, Ammonia as N | 30 | mg/L | D | 1 | | A4500-NH3 G | 04/09/12 16:46 / dc |
| Nitrogen, Nitrate+Nitrite as N | 18 | mg/L | D | 1 | | E353.2 | 04/11/12 13:59 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.8 | 04/20/12 17:21 / smm |
| Sodium | 169 | mg/L | | 1 | | E200.8 | 04/10/12 18:18 / smm |
| Sulfate | 4330 | mg/L | D | 40 | | E300.0 | 04/11/12 23:38 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 4.26 | s.u. | H | 0.01 | | A4500-H B | 04/09/12 10:12 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5930 | mg/L | D | 14 | | A2540 C | 04/09/12 08:42 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 84.4 | mg/L | | 0.1 | | E200.8 | 04/12/12 16:01 / cp |
| Beryllium | 0.09 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:01 / cp |
| Cadmium | 0.010 | mg/L | | 0.005 | | E200.8 | 04/12/12 16:01 / cp |
| Cobalt | 0.85 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:01 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 16:01 / cp |
| Manganese | 16.7 | mg/L | | 0.01 | | E200.8 | 04/12/12 16:01 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:01 / cp |
| Nickel | 0.82 | mg/L | | 0.05 | | E200.8 | 04/12/12 16:01 / cp |
| Uranium | 0.0124 | mg/L | | 0.0003 | | E200.8 | 04/12/12 16:01 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 16:01 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 04/17/12 13:04 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:48 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 13.5 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.2 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Lead 210 | 1.6 | pCi/L | | | | E909.0 | 04/17/12 15:56 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/17/12 15:56 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/17/12 15:56 / eli-cs |
| Radium 226 | 6.8 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 precision (±) | 0.47 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 MDC | 0.13 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 228 | 16 | pCi/L | | | | RA-05 | 04/16/12 15:49 / plj |
| Radium 228 precision (±) | 1.1 | pCi/L | | | | RA-05 | 04/16/12 15:49 / plj |
| Radium 228 MDC | 0.96 | pCi/L | | | | RA-05 | 04/16/12 15:49 / plj |

**Report Definitions:**

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QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040277-002
**Client Sample ID:** EPA-14

**Report Date:** 05/22/12
**Collection Date:** 04/03/12 12:30
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.07 | pCi/L | U | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 precision (±) | 0.5 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| Thorium 230 MDC | 1.4 | pCi/L | | | | E908.0 | 04/25/12 08:40 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -5.77 | % | | | | Calculation | 04/25/12 10:04 / kbh |
| Anions | 93.2 | meq/L | | | | Calculation | 04/25/12 10:04 / kbh |
| Cations | 83.1 | meq/L | | | | Calculation | 04/25/12 10:04 / kbh |
| Solids, Total Dissolved Calculated | 5650 | mg/L | | | | Calculation | 04/25/12 10:04 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 04/25/12 10:04 / kbh |
| - The Anion / Cation balance was confirmed by re-analysis. | | | | | | | |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/13/12 00:28 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/13/12 00:28 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/13/12 00:28 / jlr |
| Chloroform | 1.02 | ug/L | | 0.50 | | E624 | 04/13/12 00:28 / jlr |
| Trihalomethanes, Total | 1.02 | ug/L | | 0.50 | | E624 | 04/13/12 00:28 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 04/13/12 00:28 / jlr |
| Surr: Dibromofluoromethane | 101 | %REC | | 80-120 | | E624 | 04/13/12 00:28 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/13/12 00:28 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/13/12 00:28 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | EPA-14 | EPA-14 | EPA-14 | EPA-14 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/22/2012 | 3/2/2012 | 11/29/2011 | 9/16/2011 |
| Analyte | RUnits | C12040277-002 | C12010153-002 | C11100299-001 | C11070557-002 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 483 | 514 | 477 | 496 |
| Chloride | mg/L | 57 | 60 | 67 | 68 |
| Magnesium | mg/L | 481 | 566 | 568 | 592 |
| Nitrogen, Ammonia as N | mg/L | 30 | 36.0 | 42.3 | 47 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 18 | 21 | 25 | 28 |
| Potassium | mg/L | 12 | 13 | 11 | 11 |
| Sodium | mg/L | 169 | 177 | 176 | 188 |
| Sulfate | mg/L | 4330 | 4470 | 4950 | 4880 |
| pH | s.u. | 4.26 | 4.20 | 4.40 | 4.20 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5930 | 6240 | 6180 | 6610 |
| Aluminum | mg/L | 84.4 | 97.3 | 116 | 138 |
| Beryllium | mg/L | 0.09 | 0.10 | 0.11 | 0.12 |
| Cadmium | mg/L | 0.010 | 0.010 | 0.010 | 0.009 |
| Cobalt | mg/L | 0.85 | 0.92 | 0.96 | 0.90 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 16.7 | 17.3 | 18.4 | 19.2 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.82 | 0.83 | 0.84 | 0.83 |
| Uranium | mg/L | 0.0124 | 0.0145 | 0.0156 | 0.0181 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 13.5 | 7.5 | 7.8 | 32.4 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.2 | 0.8 | 0.9 | 2.5 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 1.6 | 1.4 | 2.2 | 2.2 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.7 | 0.8 | 1.1 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 6.8 | 8.2 | 6.4 | 6.1 |
| Radium 226 precision (±) | pCi/L | 0.47 | 0.54 | 0.44 | 0.46 |
| Radium 226 MDC | pCi/L | 0.13 | 0.15 | 0.09 | 0.16 |
| Radium 228 | pCi/L | 16 | 18 | 1.4 | 14 |
| Radium 228 precision (±) | pCi/L | 1.1 | 1.4 | 0.80 | 1.3 |
| Radium 228 MDC | pCi/L | 0.96 | 1.3 | 1.2 | 1.3 |
| Thorium 230 | pCi/L | 0.07 | -0.05 | 0.5 | 0.5 |
| Thorium 230 precision (±) | pCi/L | 0.5 | 0.3 | 0.3 | 1.7 |
| Thorium 230 MDC | pCi/L | 1.4 | 1.1 | 0.5 | 3.4 |
| A/C Balance (± 5) | % | -5.77 | -0.368 | -4.62 | -1.95 |
| Anions | meq/L | 93.2 | 96.3 | 107 | 106 |
| Cations | meq/L | 83.1 | 95.6 | 97.9 | 102 |
| Solids, Total Dissolved Calculated | mg/L | 5650 | 5890 | 6430 | 6430 |
| TDS Balance (0.80 - 1.20) | | 1.05 | 1.06 | 0.960 | 1.03 |
| Trihalomethanes, Total | ug/L | 1.02 | 1.22 | 1.30 | 1.02 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-007
**Client Sample ID:** 420

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 11:50
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 477 | mg/L | | 5 | | A2320 B | 01/17/12 16:35 / jba |
| Calcium | 700 | mg/L | | 1 | | E200.8 | 01/26/12 13:57 / sml |
| Chloride | 50 | mg/L | D | 2 | | E300.0 | 01/18/12 06:39 / ljl |
| Magnesium | 128 | mg/L | | 1 | | E200.8 | 01/26/12 06:54 / sml |
| Nitrogen, Ammonia as N | 0.09 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 17:37 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/20/12 17:06 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.8 | 01/26/12 06:54 / sml |
| Sodium | 135 | mg/L | | 1 | | E200.8 | 01/26/12 06:54 / sml |
| Sulfate | 1980 | mg/L | D | 8 | | E300.0 | 01/18/12 06:39 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.51 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:42 / wc |
| Solids, Total Dissolved TDS @ 180 C | 3430 | mg/L | | 10 | | A2540 C | 01/16/12 08:38 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.1 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:18 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 17:18 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:18 / sml |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:18 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:18 / sml |
| Manganese | 1.50 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:18 / sml |
| Molybdenum | 1.2 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:18 / sml |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:18 / sml |
| Uranium | 0.406 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:18 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:18 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | 0.010 | mg/L | | 0.001 | | E1632AM | 01/23/12 18:59 / eli-h |
| Selenium-IV | 0.002 | mg/L | | 0.001 | | A3114 B | 01/19/12 15:00 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 5.3 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 0.8 | pCi/L | U | | | E909.0 | 02/08/12 18:54 / eli-cs |
| Lead 210 precision (±) | 0.5 | pCi/L | | | | E909.0 | 02/08/12 18:54 / eli-cs |
| Lead 210 MDC | 0.9 | pCi/L | | | | E909.0 | 02/08/12 18:54 / eli-cs |
| Radium 226 | 4.7 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.31 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.12 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 6.2 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 0.99 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-007
**Client Sample ID:** 420

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 11:50
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.04 | pCi/L | U | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 precision (±) | 0.06 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | 0.945 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 50.5 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 51.5 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 3250 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | 0.80 | ug/L | | 0.50 | | E624 | 01/17/12 17:25 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 17:25 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 17:25 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 17:25 / jlr |
| Trihalomethanes, Total | 0.80 | ug/L | | 0.50 | | E624 | 01/17/12 17:25 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 104 | %REC | | 80-120 | | E624 | 01/17/12 17:25 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 01/17/12 17:25 / jlr |
| Surr: p-Bromofluorobenzene | 86.0 | %REC | | 80-120 | | E624 | 01/17/12 17:25 / jlr |
| Surr: Toluene-d8 | 91.0 | %REC | | 80-120 | | E624 | 01/17/12 17:25 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-007
**Client Sample ID:** 420

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 09:25
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 483 | mg/L | | 5 | | A2320 B | 04/13/12 21:09 / jba |
| Calcium | 643 | mg/L | | 1 | | E200.7 | 04/19/12 15:32 / eli-h |
| Chloride | 50 | mg/L | D | 2 | | E300.0 | 04/17/12 01:04 / wc |
| Magnesium | 137 | mg/L | | 1 | | E200.7 | 04/19/12 15:32 / eli-h |
| Nitrogen, Ammonia as N | 0.08 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:49 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/19/12 15:05 / dc |
| Potassium | 6 | mg/L | | 1 | | E200.7 | 04/19/12 15:32 / eli-h |
| Sodium | 141 | mg/L | | 1 | | E200.7 | 04/19/12 15:32 / eli-h |
| Sulfate | 1960 | mg/L | D | 8 | | E300.0 | 04/17/12 01:04 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.93 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:45 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3510 | mg/L | | 10 | | A2540 C | 04/13/12 16:13 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.6 | mg/L | | 0.1 | | E200.8 | 04/18/12 21:35 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/19/12 17:23 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 14:11 / cp |
| Cobalt | 0.02 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:35 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 14:11 / cp |
| Manganese | 1.21 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:35 / smm |
| Molybdenum | 1.0 | mg/L | | 0.1 | | E200.8 | 04/17/12 14:11 / cp |
| Nickel | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 14:11 / cp |
| Uranium | 0.390 | mg/L | | 0.0003 | | E200.8 | 04/18/12 21:35 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 21:35 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 05/02/12 13:33 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:42 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 4.7 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Lead 210 | 0.9 | pCi/L | U | | | E909.0 | 04/25/12 22:48 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 22:48 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 22:48 / eli-cs |
| Radium 226 | 5.3 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 precision (±) | 0.50 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 228 | 8.4 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.0 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-007
**Client Sample ID:** 420

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 09:25
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.01 | pCi/L | U | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 precision (±) | 0.05 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 MDC | 0.1 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.405 | % | | | | Calculation | 05/09/12 06:35 / kbh |
| Anions | 50.1 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Cations | 49.6 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Solids, Total Dissolved Calculated | 3190 | mg/L | | | | Calculation | 05/09/12 06:35 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 05/09/12 06:35 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 02:30 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 02:30 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 02:30 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 02:30 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 02:30 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 04/19/12 02:30 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 04/19/12 02:30 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/19/12 02:30 / jlr |
| Surr: Toluene-d8 | 94.0 | %REC | | 80-120 | | E624 | 04/19/12 02:30 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 6.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 420 | 420 | 420 | 420 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-007 | C12010437-007 | C11100573-008 | C11070807-007 |
| Bicarbonate as HCO3 | mg/L | 483 | 477 | 481 | 500 |
| Calcium | mg/L | 643 | 700 | 670 | 664 |
| Chloride | mg/L | 50 | 50 | 54 | 53 |
| Magnesium | mg/L | 137 | 128 | 140 | 137 |
| Nitrogen, Ammonia as N | mg/L | 0.08 | 0.09 | ND(0.2) | ND(0.2) |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | ND(0.1) | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 6 | 6 | 7 | 7 |
| Sodium | mg/L | 141 | 135 | 151 | 151 |
| Sulfate | mg/L | 1960 | 1980 | 2070 | 1980 |
| pH | s.u. | 6.93 | 6.51 | 7.55 | 7.77 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3510 | 3430 | 3410 | 3340 |
| Aluminum | mg/L | 0.6 | 0.1 | 0.2 | 0.3 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.02 | 0.02 | 0.01 | 0.02 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 1.21 | 1.50 | 1.50 | 1.71 |
| Molybdenum | mg/L | 1.0 | 1.2 | 0.7 | 0.8 |
| Nickel | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Uranium | mg/L | 0.390 | 0.406 | 0.354 | 0.400 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | 0.010 | ND(0.001) | 0.003 |
| Selenium-IV | mg/L | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 4.7 | 5.3 | 5.9 | 4.5 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.8 | 0.8 | 0.8 | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 0.9 | 0.8 | 0.2 | -0.4 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.5 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 0.9 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 5.3 | 4.7 | 4.9 | 4.8 |
| Radium 226 precision (±) | pCi/L | 0.50 | 0.31 | 0.44 | 0.50 |
| Radium 226 MDC | pCi/L | 0.18 | 0.12 | 0.15 | 0.21 |
| Radium 228 | pCi/L | 8.4 | 6.2 | 6.8 | 5.9 |
| Radium 228 precision (±) | pCi/L | 1.0 | 0.99 | 0.89 | 0.76 |
| Radium 228 MDC | pCi/L | 1.1 | 1.2 | 1.0 | 0.85 |
| Thorium 230 | pCi/L | 0.01 | 0.04 | 0.1 | 0.05 |
| Thorium 230 precision (±) | pCi/L | 0.05 | 0.06 | 0.08 | 0.09 |
| Thorium 230 MDC | pCi/L | 0.1 | 0.1 | 0.1 | 0.2 |
| A/C Balance (± 5) | % | -0.405 | 0.945 | -0.720 | 0.144 |
| Anions | meq/L | 50.1 | 50.5 | 52.4 | 51.0 |
| Cations | meq/L | 49.6 | 51.5 | 51.6 | 51.1 |
| Solids, Total Dissolved Calculated | mg/L | 3190 | 3250 | 3340 | 3260 |
| TDS Balance (0.80 - 1.20) | | 1.10 | 1.06 | 1.02 | 1.02 |
| Trihalomethanes, Total | ug/L | ND(0.50) | 0.80 | ND(0.50) | ND(0.50) |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-003
**Client Sample ID:** 711

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 14:40
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 16:11 / jba |
| Calcium | 485 | mg/L | | 1 | | E200.8 | 01/26/12 06:27 / sml |
| Chloride | 17 | mg/L | D | 4 | | E300.0 | 01/18/12 05:46 / ljl |
| Magnesium | 422 | mg/L | | 1 | | E200.8 | 01/26/12 06:27 / sml |
| Nitrogen, Ammonia as N | 0.34 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 16:53 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/20/12 16:56 / dc |
| Potassium | 10 | mg/L | | 1 | | E200.8 | 01/26/12 06:27 / sml |
| Sodium | 95 | mg/L | | 1 | | E200.8 | 01/26/12 06:27 / sml |
| Sulfate | 3400 | mg/L | D | 20 | | E300.0 | 01/18/12 05:46 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.27 | s.u. | H | 0.01 | | A4500-H B | 02/07/12 14:33 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4730 | mg/L | D | 11 | | A2540 C | 01/16/12 08:37 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:07 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 17:07 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:07 / sml |
| Cobalt | 0.33 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:07 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:07 / sml |
| Manganese | 5.36 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:07 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:07 / sml |
| Nickel | 0.29 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:07 / sml |
| Uranium | 0.0185 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:07 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:07 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | 0.004 | mg/L | | 0.001 | | E1632AM | 01/23/12 18:30 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:52 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 5.0 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 0.7 | pCi/L | U | | | E909.0 | 02/02/12 15:28 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 15:28 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/02/12 15:28 / eli-cs |
| Radium 226 | 3.1 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.22 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.09 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 6.4 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 0.81 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 0.91 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-003
**Client Sample ID:** 711

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 14:40
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.07 | pCi/L | U | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 precision (±) | 0.2 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 MDC | 0.4 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.43 | % | | | | Calculation | 02/09/12 09:37 / kbh |
| Anions | 71.4 | meq/L | | | | Calculation | 02/09/12 09:37 / kbh |
| Cations | 69.4 | meq/L | | | | Calculation | 02/09/12 09:37 / kbh |
| Solids, Total Dissolved Calculated | 4440 | mg/L | | | | Calculation | 02/09/12 09:37 / kbh |
| TDS Balance (0.80 - 1.20) | 1.03 | | | | | Calculation | 02/09/12 09:37 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 15:06 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 15:06 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 15:06 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 15:06 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/17/12 15:06 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 102 | %REC | | 80-120 | | E624 | 01/17/12 15:06 / jlr |
| Surr: Dibromofluoromethane | 104 | %REC | | 80-120 | | E624 | 01/17/12 15:06 / jlr |
| Surr: p-Bromofluorobenzene | 85.0 | %REC | | 80-120 | | E624 | 01/17/12 15:06 / jlr |
| Surr: Toluene-d8 | 95.0 | %REC | | 80-120 | | E624 | 01/17/12 15:06 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-003
**Client Sample ID:** 711

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 13:48
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 20:38 / jba |
| Calcium | 450 | mg/L | | 1 | | E200.7 | 05/14/12 11:29 / eli-h |
| Chloride | 18 | mg/L | D | 4 | | E300.0 | 04/17/12 00:06 / wc |
| Magnesium | 449 | mg/L | | 1 | | E200.7 | 05/14/12 11:29 / eli-h |
| Nitrogen, Ammonia as N | 0.39 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:41 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.2 | | E353.2 | 04/19/12 13:50 / dc |
| Potassium | 10 | mg/L | | 1 | | E200.7 | 05/14/12 11:29 / eli-h |
| Sodium | 97 | mg/L | | 1 | | E200.7 | 05/14/12 11:29 / eli-h |
| Sulfate | 3650 | mg/L | D | 20 | | E300.0 | 04/17/12 00:06 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.25 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:34 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4860 | mg/L | D | 11 | | A2540 C | 04/13/12 16:12 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.2 | mg/L | | 0.1 | | E200.8 | 04/18/12 16:48 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 12:56 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 12:56 / cp |
| Cobalt | 0.29 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:56 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 12:56 / cp |
| Manganese | 5.36 | mg/L | | 0.01 | | E200.8 | 04/17/12 12:56 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:56 / cp |
| Nickel | 0.26 | mg/L | | 0.05 | | E200.8 | 04/17/12 12:56 / cp |
| Uranium | 0.0203 | mg/L | | 0.0003 | | E200.8 | 04/17/12 12:56 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 12:56 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 15:41 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:35 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 4.6 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Lead 210 | 0.3 | pCi/L | U | | | E909.0 | 04/25/12 14:28 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 14:28 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 14:28 / eli-cs |
| Radium 226 | 4.6 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 precision (±) | 0.45 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 MDC | 0.17 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 228 | 7.7 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 0.93 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.0 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-003
**Client Sample ID:** 711

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 13:48
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.1 | pCi/L | U | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 precision (±) | 0.2 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -6.11 | % | | | | Calculation | 05/16/12 07:54 / kbh |
| Anions | 76.5 | meq/L | | | | Calculation | 05/16/12 07:54 / kbh |
| Cations | 67.7 | meq/L | | | | Calculation | 05/16/12 07:54 / kbh |
| Solids, Total Dissolved Calculated | 4680 | mg/L | | | | Calculation | 05/16/12 07:54 / kbh |
| TDS Balance (0.80 - 1.20) | 1.04 | | | | | Calculation | 05/16/12 07:54 / kbh |
| - The Anion / Cation balance was confirmed by re-analysis. | | | | | | | |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 05:57 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/20/12 05:57 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 05:57 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/20/12 05:57 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/20/12 05:57 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 94.0 | %REC | | 80-120 | | E624 | 04/20/12 05:57 / jlr |
| Surr: Dibromofluoromethane | 100 | %REC | | 80-120 | | E624 | 04/20/12 05:57 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/20/12 05:57 / jlr |
| Surr: Toluene-d8 | 99.0 | %REC | | 80-120 | | E624 | 04/20/12 05:57 / jlr |
| - The sample was received in the laboratory with a pH > 2. The pH was 4. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 711 | 711 | 711 | 711 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/19/2012 | 10/11/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-003 | C12010437-003 | C11100573-006 | C11070807-003 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 450 | 485 | 480 | 457 |
| Chloride | mg/L | 18 | 17 | 17 | 16 |
| Magnesium | mg/L | 449 | 422 | 449 | 428 |
| Nitrogen, Ammonia as N | mg/L | 0.39 | 0.34 | 0.4 | 0.4 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.2) | ND(0.1) | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 10 | 10 | 11 | 10 |
| Sodium | mg/L | 97 | 95 | 101 | 98 |
| Sulfate | mg/L | 3650 | 3400 | 3490 | 3380 |
| pH | s.u. | 3.25 | 3.27 | 4.26 | 4.55 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4860 | 4730 | 4840 | 4770 |
| Aluminum | mg/L | 0.2 | 0.2 | 0.5 | 0.3 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.29 | 0.33 | ND(0.01) | 0.25 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 5.36 | 5.36 | 4.71 | 4.16 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | 0.1 | 0.1 |
| Nickel | mg/L | 0.26 | 0.29 | 0.27 | 0.27 |
| Uranium | mg/L | 0.0203 | 0.0185 | 0.0163 | 0.0130 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | 0.004 | 0.037 | ND(0.01) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 4.6 | 5.0 | 4.9 | 4.9 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.8 | 0.8 | 0.7 | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 0.3 | 0.7 | -0.1 | -0.7 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 4.6 | 3.1 | 4.0 | 4.5 |
| Radium 226 precision (±) | pCi/L | 0.45 | 0.22 | 0.38 | 0.48 |
| Radium 226 MDC | pCi/L | 0.17 | 0.09 | 0.13 | 0.20 |
| Radium 228 | pCi/L | 7.7 | 6.4 | 6.3 | 6.9 |
| Radium 228 precision (±) | pCi/L | 0.93 | 0.81 | 0.81 | 0.77 |
| Radium 228 MDC | pCi/L | 1.0 | 0.91 | 0.91 | 0.82 |
| Thorium 230 | pCi/L | 0.1 | 0.07 | 0.04 | 0.03 |
| Thorium 230 precision (±) | pCi/L | 0.2 | 0.2 | 0.2 | 0.2 |
| Thorium 230 MDC | pCi/L | 0.2 | 0.4 | 0.3 | 0.5 |
| A/C Balance (± 5) | % | -6.11 | -1.43 | -2.15 | -2.82 |
| Anions | meq/L | 76.5 | 71.4 | 73.1 | 70.8 |
| Cations | meq/L | 67.7 | 69.4 | 70.0 | 66.9 |
| Solids, Total Dissolved Calculated | mg/L | 4680 | 4440 | 4550 | 4400 |
| TDS Balance (0.80 - 1.20) | | 1.04 | 1.03 | 1.06 | 1.08 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010153-001
**Client Sample ID:** 613

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 13:20
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/06/12 19:41 / jba |
| Calcium | 467 | mg/L | | 1 | | E200.8 | 01/17/12 23:58 / sml |
| Chloride | 137 | mg/L | D | 10 | | E300.0 | 01/10/12 18:07 / ljl |
| Magnesium | 714 | mg/L | | 1 | | E200.8 | 01/17/12 23:58 / sml |
| Nitrogen, Ammonia as N | 199 | mg/L | D | 5 | | A4500-NH3 G | 01/09/12 13:40 / dc |
| Nitrogen, Nitrate+Nitrite as N | 4.5 | mg/L | D | 0.5 | | E353.2 | 01/10/12 14:19 / dc |
| Potassium | 2 | mg/L | | 1 | | E200.8 | 01/17/12 23:58 / sml |
| Sodium | 262 | mg/L | | 1 | | E200.8 | 01/17/12 23:58 / sml |
| Sulfate | 9270 | mg/L | D | 40 | | E300.0 | 01/10/12 18:07 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.03 | s.u. | H | 0.01 | | A4500-H B | 01/06/12 16:41 / wc |
| Solids, Total Dissolved TDS @ 180 C | 12100 | mg/L | D | 24 | | A2540 C | 01/06/12 15:25 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 590 | mg/L | | 0.1 | | E200.7 | 01/13/12 04:51 / cp |
| Beryllium | 0.18 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:51 / cp |
| Cadmium | 0.036 | mg/L | | 0.005 | | E200.8 | 01/12/12 18:17 / sml |
| Cobalt | 1.92 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:51 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/12/12 18:17 / sml |
| Manganese | 53.9 | mg/L | | 0.01 | | E200.7 | 01/13/12 04:51 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/12/12 18:17 / sml |
| Nickel | 1.60 | mg/L | | 0.05 | | E200.8 | 01/12/12 18:17 / sml |
| Uranium | 0.979 | mg/L | | 0.0003 | | E200.8 | 01/12/12 18:17 / sml |
| Vanadium | 1.8 | mg/L | | 0.1 | | E200.8 | 01/12/12 18:17 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/19/12 16:10 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/09/12 14:46 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 28.4 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Gross Alpha minus Rn & U Precision (±) | 1.6 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 01/31/12 21:38 / plj |
| Lead 210 | 0.7 | pCi/L | U | | | E909.0 | 01/29/12 04:31 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 01/29/12 04:31 / eli-cs |
| Lead 210 MDC | 1.1 | pCi/L | | | | E909.0 | 01/29/12 04:31 / eli-cs |
| Radium 226 | 27 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 precision (±) | 1.0 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 226 MDC | 0.17 | pCi/L | | | | E903.0 | 02/15/12 12:09 / lbb |
| Radium 228 | 0.62 | pCi/L | U | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 precision (±) | 1.4 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |
| Radium 228 MDC | 2.3 | pCi/L | | | | RA-05 | 01/25/12 13:47 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010153-001
**Client Sample ID:** 613

**Report Date:** 03/02/12
**Collection Date:** 01/03/12 13:20
**DateReceived:** 01/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 971 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 precision (±) | 188 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 MDC | 19.8 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.210 | % | | | | Calculation | 01/18/12 10:49 / kbh |
| Anions | 197 | meq/L | | | | Calculation | 01/18/12 10:49 / kbh |
| Cations | 196 | meq/L | | | | Calculation | 01/18/12 10:49 / kbh |
| Solids, Total Dissolved Calculated | 10900 | mg/L | | | | Calculation | 01/18/12 10:49 / kbh |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 01/18/12 10:49 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 23:37 / mdr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/09/12 23:37 / mdr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/09/12 23:37 / mdr |
| Chloroform | 106 | ug/L | | 5.0 | | E624 | 01/09/12 23:01 / mdr |
| Trihalomethanes, Total | 106 | ug/L | | 0.50 | | E624 | 01/09/12 23:37 / mdr |
| Surr: 1,2-Dichlorobenzene-d4 | 102 | %REC | | 80-120 | | E624 | 01/09/12 23:37 / mdr |
| Surr: Dibromofluoromethane | 109 | %REC | | 80-120 | | E624 | 01/09/12 23:37 / mdr |
| Surr: p-Bromofluorobenzene | 95.0 | %REC | | 80-120 | | E624 | 01/09/12 23:37 / mdr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 01/09/12 23:37 / mdr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040277-001
**Client Sample ID:** 613

**Report Date:** 05/22/12
**Collection Date:** 04/03/12 11:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/10/12 01:24 / jba |
| Calcium | 430 | mg/L | | 1 | | E200.8 | 04/10/12 18:12 / smm |
| Chloride | 136 | mg/L | D | 10 | | E300.0 | 04/10/12 20:04 / ljl |
| Magnesium | 639 | mg/L | | 1 | | E200.8 | 04/14/12 04:12 / smm |
| Nitrogen, Ammonia as N | 166 | mg/L | D | 10 | | A4500-NH3 G | 04/09/12 16:44 / dc |
| Nitrogen, Nitrate+Nitrite as N | 5.3 | mg/L | D | 0.5 | | E353.2 | 04/11/12 13:56 / dc |
| Potassium | ND | mg/L | | 1 | | E200.8 | 04/10/12 18:12 / smm |
| Sodium | 207 | mg/L | | 1 | | E200.8 | 04/10/12 18:12 / smm |
| Sulfate | 9200 | mg/L | D | 40 | | E300.0 | 04/10/12 20:04 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 2.99 | s.u. | H | 0.01 | | A4500-H B | 04/09/12 10:09 / ab |
| Solids, Total Dissolved TDS @ 180 C | 12200 | mg/L | D | 24 | | A2540 C | 04/09/12 08:42 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 604 | mg/L | | 0.1 | | E200.8 | 04/18/12 10:11 / smm |
| Beryllium | 0.18 | mg/L | | 0.01 | | E200.8 | 05/08/12 12:57 / smm |
| Cadmium | 0.034 | mg/L | | 0.005 | | E200.8 | 04/12/12 14:28 / smm |
| Cobalt | 1.87 | mg/L | | 0.01 | | E200.8 | 04/12/12 14:28 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/12/12 14:28 / smm |
| Manganese | 53.8 | mg/L | | 0.01 | | E200.8 | 04/12/12 14:28 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/12/12 14:28 / smm |
| Nickel | 1.90 | mg/L | | 0.05 | | E200.8 | 04/12/12 14:28 / smm |
| Uranium | 1.03 | mg/L | | 0.0003 | | E200.8 | 04/12/12 14:28 / smm |
| Vanadium | 2.0 | mg/L | | 0.1 | | E200.8 | 04/12/12 14:28 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 04/17/12 12:57 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 12:46 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 29.0 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.7 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 04/17/12 17:33 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 04/17/12 13:41 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 04/17/12 13:41 / eli-cs |
| Lead 210 MDC | 1 | pCi/L | | | | E909.0 | 04/17/12 13:41 / eli-cs |
| Radium 226 | 3.6 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 precision (±) | 0.56 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 226 MDC | 0.32 | pCi/L | | | | E903.0 | 04/23/12 08:33 / trs |
| Radium 228 | 2.3 | pCi/L | U | | | RA-05 | 04/16/12 15:49 / plj |
| Radium 228 precision (±) | 1.5 | pCi/L | | | | RA-05 | 04/16/12 15:49 / plj |
| Radium 228 MDC | 2.4 | pCi/L | | | | RA-05 | 04/16/12 15:49 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040277-001
**Client Sample ID:** 613

**Report Date:** 05/22/12
**Collection Date:** 04/03/12 11:50
**DateReceived:** 04/06/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 805 | pCi/L | | | | E908.0 | 04/20/12 14:46 / dmf |
| Thorium 230 precision (±) | 144 | pCi/L | | | | E908.0 | 04/20/12 14:46 / dmf |
| Thorium 230 MDC | 16.4 | pCi/L | | | | E908.0 | 04/20/12 14:46 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.68 | % | | | | Calculation | 05/22/12 15:06 / sdw |
| Anions | 196 | meq/L | | | | Calculation | 05/22/12 15:06 / sdw |
| Cations | 178 | meq/L | | | | Calculation | 05/22/12 15:06 / sdw |
| Solids, Total Dissolved Calculated | 10800 | mg/L | | | | Calculation | 05/22/12 15:06 / sdw |
| TDS Balance (0.80 - 1.20) | 1.13 | | | | | Calculation | 05/22/12 15:06 / sdw |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 23:51 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/12/12 23:51 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/12/12 23:51 / jlr |
| Chloroform | 73.6 | ug/L | | 5.0 | | E624 | 04/10/12 21:21 / jlr |
| Trihalomethanes, Total | 73.6 | ug/L | | 0.50 | | E624 | 04/12/12 23:51 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 90.0 | %REC | | 80-120 | | E624 | 04/12/12 23:51 / jlr |
| Surr: Dibromofluoromethane | 107 | %REC | | 80-120 | | E624 | 04/12/12 23:51 / jlr |
| Surr: p-Bromofluorobenzene | 89.0 | %REC | | 80-120 | | E624 | 04/12/12 23:51 / jlr |
| Surr: Toluene-d8 | 101 | %REC | | 80-120 | | E624 | 04/12/12 23:51 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 613 | 613 | 613 | 613 |
|---|---|---|---|---|---|
| Collection Date: | | 4/3/2012 | 1/3/2012 | 10/4/2011 | 7/12/2011 |
| Receive Date: | | 4/6/2012 | 1/6/2012 | 10/7/2011 | 7/15/2011 |
| Report Date: | | 5/22/2012 | 3/2/2012 | 11/29/2011 | 9/16/2011 |
| Analyte | RUnits | C12040277-001 | C12010153-001 | C11100299-002 | C11070557-001 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 430 | 467 | 420 | 423 |
| Chloride | mg/L | 136 | 137 | 135 | 140 |
| Magnesium | mg/L | 639 | 714 | 682 | 706 |
| Nitrogen, Ammonia as N | mg/L | 166 | 199 | 208 | 179 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 5.3 | 4.5 | 5.2 | 2.2 |
| Potassium | mg/L | ND(1) | 2 | ND(1) | ND(1) |
| Sodium | mg/L | 207 | 262 | 256 | 273 |
| Sulfate | mg/L | 9200 | 9270 | 9300 | 9140 |
| pH | s.u. | 2.99 | 3.03 | 3.14 | 3.12 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 12200 | 12100 | 11600 | 11700 |
| Aluminum | mg/L | 604 | 590 | 582 | 624 |
| Beryllium | mg/L | 0.18 | 0.18 | 0.18 | 0.17 |
| Cadmium | mg/L | 0.034 | 0.036 | 0.033 | 0.034 |
| Cobalt | mg/L | 1.87 | 1.92 | 1.86 | 1.90 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 53.8 | 53.9 | 53.1 | 51.4 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 1.90 | 1.60 | 1.76 | 1.82 |
| Uranium | mg/L | 1.03 | 0.979 | 0.942 | 1.02 |
| Vanadium | mg/L | 2.0 | 1.8 | 1.9 | 2.0 |
| Arsenic-III | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 |
| Gross Alpha minus Rn & U | pCi/L | 29.0 | 28.4 | 33.1 | 77.0 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.7 | 1.6 | 1.7 | 3.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.4 | 0.4 | 0.4 | 0.8 |
| Lead 210 | pCi/L | 0.5 | 0.7 | 1.9 | 0.7 |
| Lead 210 precision (±) | pCi/L | 0.6 | 0.6 | 0.8 | 1.0 |
| Lead 210 MDC | pCi/L | 1 | 1.1 | 1.3 | 1.7 |
| Radium 226 | pCi/L | 3.6 | 27 | 8.9 | 5.0 |
| Radium 226 precision (±) | pCi/L | 0.56 | 1.0 | 0.54 | 0.47 |
| Radium 226 MDC | pCi/L | 0.32 | 0.17 | 0.10 | 0.20 |
| Radium 228 | pCi/L | 2.3 | 0.62 | 1.2 | 0.39 |
| Radium 228 precision (±) | pCi/L | 1.5 | 1.4 | 0.85 | 1.2 |
| Radium 228 MDC | pCi/L | 2.4 | 2.3 | 1.3 | 2.0 |
| Thorium 230 | pCi/L | 805 | 971 | 710 | 942 |
| Thorium 230 MDC | pCi/L | 16.4 | 19.8 | 4.6 | 2.5 |
| Thorium 230 precision (±) | pCi/L | 144 | 188 | 71.5 | 148 |
| A/C Balance (± 5) | % | -4.68 | -0.210 | -2.24 | 0.0813 |
| Anions | meq/L | 196 | 197 | 199 | 195 |
| Cations | meq/L | 178 | 196 | 190 | 196 |
| Solids, Total Dissolved Calculated | mg/L | 10800 | 10900 | 11000 | 10900 |
| TDS Balance (0.80 - 1.20) | | 1.13 | 1.11 | 1.05 | 1.07 |
| Trihalomethanes, Total | ug/L | 73.6 | 106 | 122 | 86.4 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-002
**Client Sample ID:** 708

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 13:55
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 16:07 / jba |
| Calcium | 455 | mg/L | | 1 | | E200.8 | 01/26/12 06:20 / sml |
| Chloride | 30 | mg/L | D | 4 | | E300.0 | 01/18/12 05:32 / ljl |
| Magnesium | 543 | mg/L | | 1 | | E200.8 | 01/26/12 06:20 / sml |
| Nitrogen, Ammonia as N | 1.4 | mg/L | D | 0.1 | | A4500-NH3 G | 01/13/12 16:51 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 01/17/12 14:19 / dc |
| Potassium | 15 | mg/L | | 1 | | E200.8 | 01/26/12 06:20 / sml |
| Sodium | 120 | mg/L | | 1 | | E200.8 | 01/26/12 06:20 / sml |
| Sulfate | 4640 | mg/L | D | 40 | | E300.0 | 01/19/12 23:46 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 2.98 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:29 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6380 | mg/L | D | 16 | | A2540 C | 01/16/12 08:37 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 26.4 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:04 / sml |
| Beryllium | 0.03 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:04 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:04 / sml |
| Cobalt | 0.59 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:04 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:04 / sml |
| Manganese | 13.2 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:04 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:04 / sml |
| Nickel | 0.66 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:04 / sml |
| Uranium | 0.0890 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:04 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:04 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 18:09 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:43 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 13.0 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.2 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 1.6 | pCi/L | | | | E909.0 | 02/02/12 13:13 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/02/12 13:13 / eli-cs |
| Lead 210 MDC | 1.0 | pCi/L | | | | E909.0 | 02/02/12 13:13 / eli-cs |
| Radium 226 | 6.8 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.32 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.09 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 5.6 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 0.80 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 0.95 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-002
**Client Sample ID:** 708

**Report Date:** 03/05/12
**Collection Date:** 01/09/12 13:55
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.5 | pCi/L | U | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 precision (±) | 0.8 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 MDC | 1.8 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.47 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 97.4 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 89.1 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 5850 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.09 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 14:31 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 14:31 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 14:31 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 14:31 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/17/12 14:31 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 105 | %REC | | 80-120 | | E624 | 01/17/12 14:31 / jlr |
| Surr: Dibromofluoromethane | 105 | %REC | | 80-120 | | E624 | 01/17/12 14:31 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/17/12 14:31 / jlr |
| Surr: Toluene-d8 | 95.0 | %REC | | 80-120 | | E624 | 01/17/12 14:31 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-002
**Client Sample ID:** 708

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 13:02
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 20:34 / jba |
| Calcium | 419 | mg/L | | 1 | | E200.7 | 04/19/12 15:12 / eli-h |
| Chloride | 51 | mg/L | D | 4 | | E300.0 | 04/16/12 23:52 / wc |
| Magnesium | 579 | mg/L | | 1 | | E200.7 | 04/19/12 15:12 / eli-h |
| Nitrogen, Ammonia as N | 1.60 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:39 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 04/13/12 16:15 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.7 | 04/19/12 15:12 / eli-h |
| Sodium | 117 | mg/L | | 1 | | E200.7 | 04/19/12 15:12 / eli-h |
| Sulfate | 4530 | mg/L | D | 40 | | E300.0 | 04/18/12 16:10 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.03 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:32 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6420 | mg/L | D | 17 | | A2540 C | 04/13/12 16:12 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 34.6 | mg/L | | 0.1 | | E200.8 | 04/18/12 21:26 / smm |
| Beryllium | 0.04 | mg/L | | 0.01 | | E200.8 | 04/19/12 17:18 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 14:05 / cp |
| Cobalt | 0.54 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:26 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 14:05 / cp |
| Manganese | 12.0 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:26 / smm |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 14:05 / cp |
| Nickel | 0.72 | mg/L | | 0.05 | | E200.8 | 04/17/12 14:05 / cp |
| Uranium | 0.0864 | mg/L | | 0.0003 | | E200.8 | 04/18/12 21:26 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 21:26 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 15:13 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:29 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 13.7 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.3 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Lead 210 | 1.5 | pCi/L | | | | E909.0 | 04/25/12 12:23 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 12:23 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 12:23 / eli-cs |
| Radium 226 | 9.8 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 precision (±) | 0.69 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 228 | 4.7 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 0.91 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-002
**Client Sample ID:** 708

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 13:02
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 1.2 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 precision (±) | 0.8 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 MDC | 1.1 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -4.37 | % | | | | Calculation | 05/09/12 06:35 / kbh |
| Anions | 99.0 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Cations | 90.7 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Solids, Total Dissolved Calculated | 5820 | mg/L | | | | Calculation | 05/09/12 06:35 / kbh |
| TDS Balance (0.80 - 1.20) | 1.10 | | | | | Calculation | 05/09/12 06:35 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:42 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:42 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:42 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:42 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/20/12 01:42 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 04/20/12 01:42 / jlr |
| Surr: Dibromofluoromethane | 104 | %REC | | 80-120 | | E624 | 04/20/12 01:42 / jlr |
| Surr: p-Bromofluorobenzene | 91.0 | %REC | | 80-120 | | E624 | 04/20/12 01:42 / jlr |
| Surr: Toluene-d8 | 94.0 | %REC | | 80-120 | | E624 | 04/20/12 01:42 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 3.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 708 | 708 | 708 | 708 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/9/2012 | 10/10/2011 | 7/18/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-002 | C12010437-002 | C11100573-002 | C11070807-002 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 419 | 455 | 427 | 432 |
| Chloride | mg/L | 51 | 30 | 30 | 28 |
| Magnesium | mg/L | 579 | 543 | 578 | 552 |
| Nitrogen, Ammonia as N | mg/L | 1.60 | 1.4 | 1.0 | 1.3 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 13 | 15 | 14 | 14 |
| Sodium | mg/L | 117 | 120 | 124 | 122 |
| Sulfate | mg/L | 4530 | 4640 | 4700 | 4570 |
| pH | s.u. | 3.03 | 2.98 | 3.14 | 3.11 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6420 | 6380 | 5910 | 5800 |
| Aluminum | mg/L | 34.6 | 26.4 | 35.0 | 27.0 |
| Beryllium | mg/L | 0.04 | 0.03 | 0.04 | 0.03 |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.54 | 0.59 | 0.55 | 0.56 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 12.0 | 13.2 | 13.0 | 12.9 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.72 | 0.66 | 0.67 | 0.67 |
| Uranium | mg/L | 0.0864 | 0.0890 | 0.0863 | 0.0798 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 13.7 | 13.0 | 12.4 | 10.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.3 | 1.2 | 1.1 | 1 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 1.5 | 1.6 | -0.1 | 0.02 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 1.0 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 9.8 | 6.8 | 7.9 | 9.2 |
| Radium 226 precision (±) | pCi/L | 0.69 | 0.32 | 0.54 | 0.69 |
| Radium 226 MDC | pCi/L | 0.19 | 0.09 | 0.14 | 0.21 |
| Radium 228 | pCi/L | 4.7 | 5.6 | 4.0 | 4.2 |
| Radium 228 precision (±) | pCi/L | 0.91 | 0.80 | 0.75 | 0.70 |
| Radium 228 MDC | pCi/L | 1.2 | 0.95 | 0.96 | 0.85 |
| Thorium 230 | pCi/L | 1.2 | 0.5 | 0.6 | 0.8 |
| Thorium 230 precision (±) | pCi/L | 0.8 | 0.8 | 0.7 | 1 |
| Thorium 230 MDC | pCi/L | 1.1 | 1.8 | 1.1 | 1.5 |
| A/C Balance (± 5) | % | -4.37 | -4.47 | -4.61 | -4.34 |
| Anions | meq/L | 99.0 | 97.4 | 99.2 | 96.4 |
| Cations | meq/L | 90.7 | 89.1 | 90.4 | 88.4 |
| Solids, Total Dissolved Calculated | mg/L | 5820 | 5850 | 5930 | 5780 |
| TDS Balance (0.80 - 1.20) | | 1.10 | 1.09 | 1.00 | 1.00 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-009
**Client Sample ID:** NBL-1

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 14:15
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 17:04 / jba |
| Calcium | 586 | mg/L | | 1 | | E200.8 | 01/26/12 07:08 / sml |
| Chloride | 33 | mg/L | D | 10 | | E300.0 | 01/20/12 01:08 / ljl |
| Magnesium | 319 | mg/L | | 1 | | E200.8 | 01/26/12 07:08 / sml |
| Nitrogen, Ammonia as N | 2.8 | mg/L | D | 0.1 | | A4500-NH3 G | 01/13/12 17:41 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 01/17/12 14:37 / dc |
| Potassium | 11 | mg/L | | 1 | | E200.8 | 01/26/12 07:08 / sml |
| Sodium | 130 | mg/L | | 1 | | E200.8 | 01/26/12 07:08 / sml |
| Sulfate | 3350 | mg/L | D | 40 | | E300.0 | 01/20/12 01:08 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 2.93 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:56 / wc |
| Solids, Total Dissolved TDS @ 180 C | 4320 | mg/L | D | 12 | | A2540 C | 01/16/12 08:39 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 5.9 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:24 / sml |
| Beryllium | 0.03 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:24 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:24 / sml |
| Cobalt | 0.91 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:24 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:24 / sml |
| Manganese | 7.47 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:24 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:24 / sml |
| Nickel | 0.97 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:24 / sml |
| Uranium | 0.0568 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:24 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:24 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | 0.028 | mg/L | | 0.001 | | E1632AM | 01/26/12 14:49 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 15:04 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 20.8 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.5 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 1.6 | pCi/L | | | | E909.0 | 02/08/12 23:23 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/08/12 23:23 / eli-cs |
| Lead 210 MDC | 0.9 | pCi/L | | | | E909.0 | 02/08/12 23:23 / eli-cs |
| Radium 226 | 17 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.51 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.1 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 17 | pCi/L | | | | RA-05 | 02/02/12 12:30 / plj |
| Radium 228 precision (±) | 1.4 | pCi/L | | | | RA-05 | 02/02/12 12:30 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 02/02/12 12:30 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-009
**Client Sample ID:** NBL-1

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 14:15
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 3.0 | pCi/L | | | | E908.0 | 01/25/12 18:19 / dmf |
| Thorium 230 precision (±) | 0.7 | pCi/L | | | | E908.0 | 01/25/12 18:19 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 01/25/12 18:19 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -2.18 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 70.7 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 67.7 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 4480 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 0.960 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 22:02 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 22:02 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 22:02 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 22:02 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/17/12 22:02 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 100 | %REC | | 80-120 | | E624 | 01/17/12 22:02 / jlr |
| Surr: Dibromofluoromethane | 108 | %REC | | 80-120 | | E624 | 01/17/12 22:02 / jlr |
| Surr: p-Bromofluorobenzene | 83.0 | %REC | | 80-120 | | E624 | 01/17/12 22:02 / jlr |
| Surr: Toluene-d8 | 97.0 | %REC | | 80-120 | | E624 | 01/17/12 22:02 / jlr |

**Report Definitions:**
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QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-009
**Client Sample ID:** NBL-1

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 12:10
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 21:16 / jba |
| Calcium | 504 | mg/L | | 1 | | E200.7 | 04/19/12 15:48 / eli-h |
| Chloride | 30 | mg/L | D | 4 | | E300.0 | 04/17/12 02:30 / wc |
| Magnesium | 365 | mg/L | | 1 | | E200.7 | 04/19/12 15:48 / eli-h |
| Nitrogen, Ammonia as N | 2.16 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 14:57 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | D | 0.5 | | E353.2 | 04/13/12 16:32 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.7 | 04/19/12 15:48 / eli-h |
| Sodium | 130 | mg/L | | 1 | | E200.7 | 04/19/12 15:48 / eli-h |
| Sulfate | 3500 | mg/L | D | 20 | | E300.0 | 04/17/12 02:30 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 2.80 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:50 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5020 | mg/L | D | 12 | | A2540 C | 04/13/12 16:13 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 13.3 | mg/L | | 0.1 | | E200.8 | 04/18/12 21:53 / smm |
| Beryllium | 0.03 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:53 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 14:13 / cp |
| Cobalt | 0.79 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:53 / smm |
| Lead | 0.11 | mg/L | | 0.05 | | E200.8 | 04/17/12 14:13 / cp |
| Manganese | 6.28 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:53 / smm |
| Molybdenum | 0.5 | mg/L | | 0.1 | | E200.8 | 04/17/12 14:13 / cp |
| Nickel | 1.00 | mg/L | | 0.05 | | E200.8 | 04/17/12 14:13 / cp |
| Uranium | 0.0717 | mg/L | | 0.0003 | | E200.8 | 04/18/12 21:53 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 21:53 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | 0.03 | mg/L | D | 0.01 | | E1632AM | 05/02/12 14:36 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:50 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 22.7 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.6 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Lead 210 | 9.8 | pCi/L | | | | E909.0 | 04/26/12 02:58 / eli-cs |
| Lead 210 precision (±) | 0.9 | pCi/L | | | | E909.0 | 04/26/12 02:58 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 02:58 / eli-cs |
| Radium 226 | 23 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 precision (±) | 1.1 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 228 | 21 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.4 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**
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QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-009
**Client Sample ID:** NBL-1

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 12:10
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 4.6 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 precision (±) | 1.0 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 MDC | 0.3 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -1.12 | % | | | | Calculation | 05/09/12 06:35 / kbh |
| Anions | 74.5 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Cations | 72.8 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Solids, Total Dissolved Calculated | 4650 | mg/L | | | | Calculation | 05/09/12 06:35 / kbh |
| TDS Balance (0.80 - 1.20) | 1.08 | | | | | Calculation | 05/09/12 06:35 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:43 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:43 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:43 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:43 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:43 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 03:43 / jlr |
| Surr: Dibromofluoromethane | 105 | %REC | | 80-120 | | E624 | 04/19/12 03:43 / jlr |
| Surr: p-Bromofluorobenzene | 94.0 | %REC | | 80-120 | | E624 | 04/19/12 03:43 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 03:43 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 4.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NBL-1 | NBL-1 | NBL-1 | NBL-1 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-009 | C12010437-009 | C11100573-010 | C11070807-009 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 504 | 586 | 585 | 585 |
| Chloride | mg/L | 30 | 33 | 32 | 32 |
| Magnesium | mg/L | 365 | 319 | 316 | 297 |
| Nitrogen, Ammonia as N | mg/L | 2.16 | 2.8 | 3.1 | 3.6 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 12 | 11 | 11 | 11 |
| Sodium | mg/L | 130 | 130 | 138 | 136 |
| Sulfate | mg/L | 3500 | 3350 | 3340 | 3090 |
| pH | s.u. | 2.80 | 2.93 | 3.03 | 3.33 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5020 | 4320 | 4170 | 4180 |
| Aluminum | mg/L | 13.3 | 5.9 | 5.9 | 4.6 |
| Beryllium | mg/L | 0.03 | 0.03 | 0.01 | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.79 | 0.91 | 0.72 | 0.64 |
| Lead | mg/L | 0.11 | ND(0.05) | 0.05 | ND(0.05) |
| Manganese | mg/L | 6.28 | 7.47 | 6.96 | 6.31 |
| Molybdenum | mg/L | 0.5 | ND(0.1) | ND(0.1) | 0.2 |
| Nickel | mg/L | 1.00 | 0.97 | 0.85 | 0.73 |
| Uranium | mg/L | 0.0717 | 0.0568 | 0.0379 | 0.0568 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | 0.03 | 0.028 | ND(0.001) | 0.122 |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 22.7 | 20.8 | 14.0 | 16.5 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.6 | 1.5 | 1.1 | 1.2 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 9.8 | 1.6 | 1.7 | -0.3 |
| Lead 210 precision (±) | pCi/L | 0.9 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 0.9 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 23 | 17 | 15 | 16 |
| Radium 226 precision (±) | pCi/L | 1.1 | 0.51 | 0.71 | 0.90 |
| Radium 226 MDC | pCi/L | 0.19 | 0.1 | 0.13 | 0.20 |
| Radium 228 | pCi/L | 21 | 17 | 17 | 15 |
| Radium 228 precision (±) | pCi/L | 1.4 | 1.4 | 1.1 | 1.1 |
| Radium 228 MDC | pCi/L | 1.2 | 1.2 | 0.95 | 1.0 |
| Thorium 230 | pCi/L | 4.6 | 3.0 | 0.5 | 0.3 |
| Thorium 230 precision (±) | pCi/L | 1.0 | 0.7 | 0.3 | 0.3 |
| Thorium 230 MDC | pCi/L | 0.3 | 0.3 | 0.3 | 0.4 |
| A/C Balance (± 5) | % | -1.12 | -2.18 | -2.69 | -0.914 |
| Anions | meq/L | 74.5 | 70.7 | 70.4 | 65.3 |
| Cations | meq/L | 72.8 | 67.7 | 66.7 | 64.1 |
| Solids, Total Dissolved Calculated | mg/L | 4650 | 4480 | 4460 | 4190 |
| TDS Balance (0.80 - 1.20) | | 1.08 | 0.960 | 0.930 | 1.00 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-005
**Client Sample ID:** EPA-13

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 08:55
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 51 | mg/L | | 5 | | A2320 B | 01/17/12 16:23 / jba |
| Calcium | 500 | mg/L | | 1 | | E200.8 | 01/26/12 06:41 / sml |
| Chloride | 41 | mg/L | D | 4 | | E300.0 | 01/18/12 06:13 / ljl |
| Magnesium | 790 | mg/L | | 1 | | E200.8 | 01/26/12 06:41 / sml |
| Nitrogen, Ammonia as N | 0.26 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 17:29 / dc |
| Nitrogen, Nitrate+Nitrite as N | 0.2 | mg/L | | 0.1 | | E353.2 | 01/20/12 17:01 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/26/12 06:41 / sml |
| Sodium | 151 | mg/L | | 1 | | E200.8 | 01/26/12 06:41 / sml |
| Sulfate | 4850 | mg/L | D | 40 | | E300.0 | 01/20/12 00:02 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.12 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:37 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6780 | mg/L | D | 17 | | A2540 C | 01/16/12 08:38 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:13 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 17:13 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:13 / sml |
| Cobalt | 0.09 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:13 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:13 / sml |
| Manganese | 7.18 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:13 / sml |
| Molybdenum | 0.2 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:13 / sml |
| Nickel | 0.22 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:13 / sml |
| Uranium | 0.0118 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:13 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:13 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | 0.019 | mg/L | | 0.001 | | E1632AM | 01/23/12 18:44 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 01/19/12 14:56 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 6.6 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.9 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 0.5 | pCi/L | U | | | E909.0 | 02/08/12 14:24 / eli-cs |
| Lead 210 precision (±) | 0.5 | pCi/L | | | | E909.0 | 02/08/12 14:24 / eli-cs |
| Lead 210 MDC | 0.9 | pCi/L | | | | E909.0 | 02/08/12 14:24 / eli-cs |
| Radium 226 | 5.1 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.35 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.14 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 7.6 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 1.2 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 1.4 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-005
**Client Sample ID:** EPA-13

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 08:55
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.02 | pCi/L | U | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 precision (±) | 0.2 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 MDC | 0.5 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -3.05 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 103 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 97.0 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 6400 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.06 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:15 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:15 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:15 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:15 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:15 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 104 | %REC | | 80-120 | | E624 | 01/17/12 16:15 / jlr |
| Surr: Dibromofluoromethane | 106 | %REC | | 80-120 | | E624 | 01/17/12 16:15 / jlr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 01/17/12 16:15 / jlr |
| Surr: Toluene-d8 | 36.0 | %REC | S | 80-120 | | E624 | 01/17/12 16:15 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-005
**Client Sample ID:** EPA-13

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 15:02
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 58 | mg/L | | 5 | | A2320 B | 04/13/12 20:50 / jba |
| Calcium | 466 | mg/L | | 1 | | E200.7 | 04/19/12 15:24 / eli-h |
| Chloride | 42 | mg/L | D | 4 | | E300.0 | 04/17/12 00:35 / wc |
| Magnesium | 862 | mg/L | | 1 | | E200.7 | 04/19/12 15:24 / eli-h |
| Nitrogen, Ammonia as N | 0.26 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:45 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/23/12 10:57 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.7 | 04/19/12 15:24 / eli-h |
| Sodium | 153 | mg/L | | 1 | | E200.7 | 04/19/12 15:24 / eli-h |
| Sulfate | 4770 | mg/L | D | 40 | | E300.0 | 04/18/12 16:53 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.12 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:40 / ab |
| Solids, Total Dissolved TDS @ 180 C | 7110 | mg/L | D | 16 | | A2540 C | 04/13/12 16:12 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 17:05 / cp |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/17/12 13:01 / cp |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 13:01 / cp |
| Cobalt | 0.08 | mg/L | | 0.01 | | E200.8 | 04/17/12 13:01 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 13:01 / cp |
| Manganese | 7.46 | mg/L | | 0.01 | | E200.8 | 04/17/12 13:01 / cp |
| Molybdenum | 0.2 | mg/L | | 0.1 | | E200.8 | 04/17/12 13:01 / cp |
| Nickel | 0.21 | mg/L | | 0.05 | | E200.8 | 04/17/12 13:01 / cp |
| Uranium | 0.0174 | mg/L | | 0.0003 | | E200.8 | 04/17/12 13:01 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 13:01 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 15:56 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:39 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 6.7 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.9 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 15:44 / ep |
| Lead 210 | 1.9 | pCi/L | | | | E909.0 | 04/25/12 18:38 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 18:38 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 18:38 / eli-cs |
| Radium 226 | 6.9 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 precision (±) | 0.57 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 228 | 8.7 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.0 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-005
**Client Sample ID:** EPA-13

**Report Date:** 05/25/12
**Collection Date:** 04/09/12 15:02
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.05 | pCi/L | U | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 precision (±) | 0.2 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 MDC | 0.4 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.0623 | % | | | | Calculation | 05/09/12 06:35 / kbh |
| Anions | 101 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Cations | 101 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Solids, Total Dissolved Calculated | 6360 | mg/L | | | | Calculation | 05/09/12 06:35 / kbh |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 05/09/12 06:35 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:17 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:17 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:17 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:17 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:17 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 01:17 / jlr |
| Surr: Dibromofluoromethane | 102 | %REC | | 80-120 | | E624 | 04/19/12 01:17 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 04/19/12 01:17 / jlr |
| Surr: Toluene-d8 | 96.0 | %REC | | 80-120 | | E624 | 04/19/12 01:17 / jlr |
| - The sample was received in the laboratory with a pH > 2. The pH was 5. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | EPA-13 | EPA-13 | EPA-13 | EPA-13 |
|---|---|---|---|---|---|
| Collection Date: | | 4/9/2012 | 1/10/2012 | 10/10/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-005 | C12010437-005 | C11100573-003 | C11070807-005 |
| Bicarbonate as HCO3 | mg/L | 58 | 51 | 44 | 50 |
| Calcium | mg/L | 466 | 500 | 486 | 476 |
| Chloride | mg/L | 42 | 41 | 43 | 42 |
| Magnesium | mg/L | 862 | 790 | 839 | 807 |
| Nitrogen, Ammonia as N | mg/L | 0.26 | 0.26 | 0.3 | 0.3 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | 0.2 | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 13 | 13 | 14 | 13 |
| Sodium | mg/L | 153 | 151 | 162 | 161 |
| Sulfate | mg/L | 4770 | 4850 | 4940 | 4950 |
| pH | s.u. | 6.12 | 6.12 | 7.08 | 7.38 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 7110 | 6780 | 6700 | 6710 |
| Aluminum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.08 | 0.09 | 0.07 | 0.07 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 7.46 | 7.18 | 7.00 | 5.90 |
| Molybdenum | mg/L | 0.2 | 0.2 | 0.1 | 0.2 |
| Nickel | mg/L | 0.21 | 0.22 | 0.20 | 0.22 |
| Uranium | mg/L | 0.0174 | 0.0118 | 0.0100 | 0.0111 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | 0.019 | 0.029 | ND(0.01) |
| Selenium-IV | mg/L | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 6.7 | 6.6 | 5.1 | 4.8 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.9 | 0.9 | 0.7 | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 1.9 | 0.5 | 0.4 | -0.6 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.5 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 0.9 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 6.9 | 5.1 | 5.3 | 5.9 |
| Radium 226 precision (±) | pCi/L | 0.57 | 0.35 | 0.45 | 0.54 |
| Radium 226 MDC | pCi/L | 0.18 | 0.14 | 0.14 | 0.20 |
| Radium 228 | pCi/L | 8.7 | 7.6 | 7.1 | 7.8 |
| Radium 228 precision (±) | pCi/L | 1.0 | 1.2 | 0.89 | 0.80 |
| Radium 228 MDC | pCi/L | 1.1 | 1.4 | 1.0 | 0.82 |
| Thorium 230 | pCi/L | 0.05 | 0.02 | 0.05 | 0.03 |
| Thorium 230 precision (±) | pCi/L | 0.2 | 0.2 | 0.2 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.4 | 0.5 | 0.5 | 0.3 |
| A/C Balance (± 5) | % | -0.0623 | -3.05 | -2.18 | -3.73 |
| Anions | meq/L | 101 | 103 | 105 | 105 |
| Cations | meq/L | 101 | 97.0 | 101 | 97.5 |
| Solids, Total Dissolved Calculated | mg/L | 6360 | 6400 | 6540 | 6500 |
| TDS Balance (0.80 - 1.20) | | 1.11 | 1.06 | 1.02 | 1.03 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-008
**Client Sample ID:** 717

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 12:30
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 16:39 / jba |
| Calcium | 456 | mg/L | | 1 | | E200.7 | 01/31/12 19:16 / cp |
| Chloride | 68 | mg/L | D | 4 | | E300.0 | 01/18/12 06:53 / ljl |
| Magnesium | 499 | mg/L | | 1 | | E200.7 | 01/31/12 19:16 / cp |
| Nitrogen, Ammonia as N | 65 | mg/L | D | 2 | | A4500-NH3 G | 01/13/12 17:39 / dc |
| Nitrogen, Nitrate+Nitrite as N | 30 | mg/L | D | 2 | | E353.2 | 01/17/12 14:34 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.7 | 01/31/12 19:16 / cp |
| Sodium | 174 | mg/L | | 1 | | E200.7 | 01/31/12 19:16 / cp |
| Sulfate | 4650 | mg/L | D | 40 | | E300.0 | 01/20/12 00:19 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 4.14 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:54 / wc |
| Solids, Total Dissolved TDS @ 180 C | 6310 | mg/L | D | 17 | | A2540 C | 01/16/12 08:38 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 124 | mg/L | | 0.1 | | E200.7 | 01/31/12 22:47 / cp |
| Beryllium | 0.11 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:21 / sml |
| Cadmium | 0.015 | mg/L | | 0.005 | | E200.8 | 01/19/12 17:21 / sml |
| Cobalt | 1.07 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:21 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:21 / sml |
| Manganese | 22.3 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:21 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:21 / sml |
| Nickel | 0.91 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:21 / sml |
| Uranium | 0.0348 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:21 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:21 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/26/12 14:42 / eli-h |
| Selenium-IV | 0.002 | mg/L | | 0.001 | | A3114 B | 01/19/12 15:02 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 22.1 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.6 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 2.7 | pCi/L | | | | E909.0 | 02/08/12 21:09 / eli-cs |
| Lead 210 precision (±) | 0.6 | pCi/L | | | | E909.0 | 02/08/12 21:09 / eli-cs |
| Lead 210 MDC | 0.9 | pCi/L | | | | E909.0 | 02/08/12 21:09 / eli-cs |
| Radium 226 | 12 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.56 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.16 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 21 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 1.7 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 1.6 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-008
**Client Sample ID:** 717

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 12:30
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.1 | pCi/L | U | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 precision (±) | 0.5 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| Thorium 230 MDC | 1.3 | pCi/L | | | | E908.0 | 01/25/12 18:18 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -5.89 | % | | | | Calculation | 02/15/12 14:56 / kbh |
| Anions | 102 | meq/L | | | | Calculation | 02/15/12 14:56 / kbh |
| Cations | 91.0 | meq/L | | | | Calculation | 02/15/12 14:56 / kbh |
| Solids, Total Dissolved Calculated | 6040 | mg/L | | | | Calculation | 02/15/12 14:56 / kbh |
| TDS Balance (0.80 - 1.20) | 1.04 | | | | | Calculation | 02/15/12 14:56 / kbh |
| - The Anion / Cation balance was confirmed by re-analysis. | | | | | | | |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 18:34 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 18:34 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 18:34 / jlr |
| Chloroform | 2.88 | ug/L | | 0.50 | | E624 | 01/17/12 18:34 / jlr |
| Trihalomethanes, Total | 2.88 | ug/L | | 0.50 | | E624 | 01/17/12 18:34 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 107 | %REC | | 80-120 | | E624 | 01/17/12 18:34 / jlr |
| Surr: Dibromofluoromethane | 108 | %REC | | 80-120 | | E624 | 01/17/12 18:34 / jlr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 01/17/12 18:34 / jlr |
| Surr: Toluene-d8 | 92.0 | %REC | | 80-120 | | E624 | 01/17/12 18:34 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-008
**Client Sample ID:** 717

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 10:10
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 21:12 / jba |
| Calcium | 438 | mg/L | | 1 | | E200.7 | 05/14/12 11:33 / eli-h |
| Chloride | 66 | mg/L | D | 4 | | E300.0 | 04/17/12 01:47 / wc |
| Magnesium | 500 | mg/L | | 1 | | E200.7 | 05/14/12 11:33 / eli-h |
| Nitrogen, Ammonia as N | 62 | mg/L | D | 2 | | A4500-NH3 G | 04/16/12 14:51 / dc |
| Nitrogen, Nitrate+Nitrite as N | 31 | mg/L | D | 1 | | E353.2 | 04/13/12 16:30 / dc |
| Potassium | 12 | mg/L | | 1 | | E200.7 | 05/14/12 11:33 / eli-h |
| Sodium | 170 | mg/L | | 1 | | E200.7 | 05/14/12 11:33 / eli-h |
| Sulfate | 4570 | mg/L | D | 40 | | E300.0 | 04/18/12 17:22 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 4.12 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:48 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6240 | mg/L | D | 14 | | A2540 C | 04/13/12 16:13 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 130 | mg/L | | 0.1 | | E200.8 | 04/18/12 17:08 / cp |
| Beryllium | 0.10 | mg/L | | 0.01 | | E200.8 | 04/17/12 13:12 / cp |
| Cadmium | 0.016 | mg/L | | 0.005 | | E200.8 | 04/17/12 13:12 / cp |
| Cobalt | 1.00 | mg/L | | 0.01 | | E200.8 | 04/17/12 13:12 / cp |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 13:12 / cp |
| Manganese | 22.4 | mg/L | | 0.01 | | E200.8 | 04/17/12 13:12 / cp |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 13:12 / cp |
| Nickel | 0.86 | mg/L | | 0.05 | | E200.8 | 04/17/12 13:12 / cp |
| Uranium | 0.0247 | mg/L | | 0.0003 | | E200.8 | 04/17/12 13:12 / cp |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/17/12 13:12 / cp |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 05/02/12 13:41 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:44 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 21.5 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U Precision (±) | 1.6 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Lead 210 | 3.4 | pCi/L | | | | E909.0 | 04/26/12 00:53 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/26/12 00:53 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/26/12 00:53 / eli-cs |
| Radium 226 | 15 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 precision (±) | 0.84 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 226 MDC | 0.19 | pCi/L | | | | E903.0 | 05/07/12 11:53 / lbb |
| Radium 228 | 30 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.6 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.2 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**

RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-008
**Client Sample ID:** 717

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 10:10
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.2 | pCi/L | U | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 precision (±) | 0.4 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| Thorium 230 MDC | 0.7 | pCi/L | | | | E908.0 | 04/30/12 09:26 / dmf |
| - See Case Narrative regarding Th230 analysis. | | | | | | | |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -6.72 | % | | | | Calculation | 05/25/12 13:05 / kbh |
| Anions | 103 | meq/L | | | | Calculation | 05/25/12 13:05 / kbh |
| Cations | 89.7 | meq/L | | | | Calculation | 05/25/12 13:05 / kbh |
| Solids, Total Dissolved Calculated | 5950 | mg/L | | | | Calculation | 05/25/12 13:05 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 05/25/12 13:05 / kbh |
| - The Anion / Cation balance was confirmed by re-analysis. | | | | | | | |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:06 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:06 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 03:06 / jlr |
| Chloroform | 2.01 | ug/L | | 0.50 | | E624 | 04/19/12 03:06 / jlr |
| Trihalomethanes, Total | 2.01 | ug/L | | 0.50 | | E624 | 04/19/12 03:06 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 91.0 | %REC | | 80-120 | | E624 | 04/19/12 03:06 / jlr |
| Surr: Dibromofluoromethane | 104 | %REC | | 80-120 | | E624 | 04/19/12 03:06 / jlr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 04/19/12 03:06 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/19/12 03:06 / jlr |
| - The sample was received in the laboratory with a pH > 2. The pH was 4. | | | | | | | |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 717 | 717 | 717 | 717 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-008 | C12010437-008 | C11100573-009 | C11070807-008 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 438 | 456 | 460 | 470 |
| Chloride | mg/L | 66 | 68 | 71 | 66 |
| Magnesium | mg/L | 500 | 499 | 516 | 532 |
| Nitrogen, Ammonia as N | mg/L | 62 | 65 | 61 | 56 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | 31 | 30 | 32 | 27 |
| Potassium | mg/L | 12 | 13 | 13 | 13 |
| Sodium | mg/L | 170 | 174 | 184 | 182 |
| Sulfate | mg/L | 4570 | 4650 | 4720 | 4900 |
| pH | s.u. | 4.12 | 4.14 | 4.39 | 4.21 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6240 | 6310 | 6200 | 6140 |
| Aluminum | mg/L | 130 | 124 | 125 | 126 |
| Beryllium | mg/L | 0.10 | 0.11 | 0.10 | 0.09 |
| Cadmium | mg/L | 0.016 | 0.015 | 0.015 | 0.018 |
| Cobalt | mg/L | 1.00 | 1.07 | 0.96 | 0.98 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 22.4 | 22.3 | 21.2 | 20.2 |
| Molybdenum | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.86 | 0.91 | 0.89 | 0.92 |
| Uranium | mg/L | 0.0247 | 0.0348 | 0.0261 | 0.188 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | 0.004 | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 21.5 | 22.1 | 18.8 | 19.4 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 1.6 | 1.6 | 1.3 | 1.3 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 3.4 | 2.7 | 2.3 | 1.2 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.6 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 0.9 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 15 | 12 | 13 | 15 |
| Radium 226 precision (±) | pCi/L | 0.84 | 0.56 | 0.71 | 0.86 |
| Radium 226 MDC | pCi/L | 0.19 | 0.16 | 0.14 | 0.20 |
| Radium 228 | pCi/L | 30 | 21 | 22 | 24 |
| Radium 228 precision (±) | pCi/L | 1.6 | 1.7 | 1.3 | 1.2 |
| Radium 228 MDC | pCi/L | 1.2 | 1.6 | 0.99 | 0.83 |
| Thorium 230 | pCi/L | 0.2 | 0.1 | 1.4 | 1.5 |
| Thorium 230 precision (±) | pCi/L | 0.4 | 0.5 | 0.9 | 1.2 |
| Thorium 230 MDC | pCi/L | 0.7 | 1.3 | 1 | 1.6 |
| A/C Balance (± 5) | % | -6.72 | -5.89 | -4.45 | -5.86 |
| Anions | meq/L | 103 | 102 | 103 | 106 |
| Cations | meq/L | 89.7 | 91.0 | 94.1 | 94.4 |
| Solids, Total Dissolved Calculated | mg/L | 5950 | 6040 | 6150 | 6330 |
| TDS Balance (0.80 - 1.20) | | 1.05 | 1.04 | 1.01 | 0.970 |
| Trihalomethanes, Total | ug/L | 2.01 | 2.88 | 4.16 | 4.52 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-006
**Client Sample ID:** 719

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 09:45
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 01/17/12 16:26 / jba |
| Calcium | 497 | mg/L | | 1 | | E200.8 | 01/26/12 06:48 / sml |
| Chloride | 30 | mg/L | D | 4 | | E300.0 | 01/18/12 06:26 / ljl |
| Magnesium | 588 | mg/L | | 1 | | E200.8 | 01/26/12 06:48 / sml |
| Nitrogen, Ammonia as N | 0.76 | mg/L | | 0.05 | | A4500-NH3 G | 01/13/12 17:35 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 01/20/12 17:03 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.8 | 01/26/12 06:48 / sml |
| Sodium | 135 | mg/L | | 1 | | E200.8 | 01/26/12 06:48 / sml |
| Sulfate | 3970 | mg/L | D | 20 | | E300.0 | 01/18/12 06:26 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.90 | s.u. | H | 0.01 | | A4500-H B | 01/13/12 16:39 / wc |
| Solids, Total Dissolved TDS @ 180 C | 5490 | mg/L | D | 15 | | A2540 C | 01/16/12 08:38 / wc |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.3 | mg/L | | 0.1 | | E200.8 | 01/19/12 17:15 / sml |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 01/19/12 17:15 / sml |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 01/19/12 17:15 / sml |
| Cobalt | 0.38 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:15 / sml |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 01/19/12 17:15 / sml |
| Manganese | 5.68 | mg/L | | 0.01 | | E200.8 | 01/19/12 17:15 / sml |
| Molybdenum | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:15 / sml |
| Nickel | 0.46 | mg/L | | 0.05 | | E200.8 | 01/19/12 17:15 / sml |
| Uranium | 0.0067 | mg/L | | 0.0003 | | E200.8 | 01/19/12 17:15 / sml |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 01/19/12 17:15 / sml |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | | 0.001 | | E1632AM | 01/23/12 18:52 / eli-h |
| Selenium-IV | 0.001 | mg/L | | 0.001 | | A3114 B | 01/19/12 14:58 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 5.0 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.8 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Gross Alpha minus Rn & U MDC | 0.4 | pCi/L | | | | E900.1 | 02/01/12 01:36 / ep |
| Lead 210 | 0.01 | pCi/L | U | | | E909.0 | 02/08/12 16:39 / eli-cs |
| Lead 210 precision (±) | 0.5 | pCi/L | | | | E909.0 | 02/08/12 16:39 / eli-cs |
| Lead 210 MDC | 0.9 | pCi/L | | | | E909.0 | 02/08/12 16:39 / eli-cs |
| Radium 226 | 3.3 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 precision (±) | 0.24 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 226 MDC | 0.11 | pCi/L | | | | E903.0 | 02/09/12 13:21 / lbb |
| Radium 228 | 11 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 precision (±) | 1.1 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 02/02/12 10:23 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010437-006
**Client Sample ID:** 719

**Report Date:** 03/05/12
**Collection Date:** 01/10/12 09:45
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.07 | pCi/L | U | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 precision (±) | 0.1 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| Thorium 230 MDC | 0.2 | pCi/L | | | | E908.0 | 01/27/12 08:35 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -2.13 | % | | | | Calculation | 01/31/12 06:45 / kbh |
| Anions | 83.6 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Cations | 80.1 | meq/L | | | | Calculation | 01/31/12 06:45 / kbh |
| Solids, Total Dissolved Calculated | 5250 | mg/L | | | | Calculation | 01/31/12 06:45 / kbh |
| TDS Balance (0.80 - 1.20) | 1.05 | | | | | Calculation | 01/31/12 06:45 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:50 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:50 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:50 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:50 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 01/17/12 16:50 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 104 | %REC | | 80-120 | | E624 | 01/17/12 16:50 / jlr |
| Surr: Dibromofluoromethane | 109 | %REC | | 80-120 | | E624 | 01/17/12 16:50 / jlr |
| Surr: p-Bromofluorobenzene | 90.0 | %REC | | 80-120 | | E624 | 01/17/12 16:50 / jlr |
| Surr: Toluene-d8 | 91.0 | %REC | | 80-120 | | E624 | 01/17/12 16:50 / jlr |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-006
**Client Sample ID:** 719

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 08:48
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 21:01 / jba |
| Calcium | 481 | mg/L | | 1 | | E200.7 | 04/19/12 15:28 / eli-h |
| Chloride | 31 | mg/L | D | 4 | | E300.0 | 04/17/12 00:49 / wc |
| Magnesium | 664 | mg/L | | 1 | | E200.7 | 04/19/12 15:28 / eli-h |
| Nitrogen, Ammonia as N | 0.81 | mg/L | | 0.05 | | A4500-NH3 G | 04/16/12 13:47 / dc |
| Nitrogen, Nitrate+Nitrite as N | ND | mg/L | | 0.1 | | E353.2 | 04/19/12 14:58 / dc |
| Potassium | 13 | mg/L | | 1 | | E200.7 | 04/19/12 15:28 / eli-h |
| Sodium | 138 | mg/L | | 1 | | E200.7 | 04/19/12 15:28 / eli-h |
| Sulfate | 4010 | mg/L | D | 40 | | E300.0 | 04/18/12 17:08 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 3.97 | s.u. | H | 0.01 | | A4500-H B | 04/13/12 14:42 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5990 | mg/L | D | 14 | | A2540 C | 04/13/12 16:13 / ab |
| **METALS - TOTAL** | | | | | | | |
| Aluminum | 0.3 | mg/L | | 0.1 | | E200.8 | 04/18/12 21:30 / smm |
| Beryllium | ND | mg/L | | 0.01 | | E200.8 | 04/19/12 17:20 / smm |
| Cadmium | ND | mg/L | | 0.005 | | E200.8 | 04/17/12 14:08 / cp |
| Cobalt | 0.25 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:30 / smm |
| Lead | ND | mg/L | | 0.05 | | E200.8 | 04/17/12 14:08 / cp |
| Manganese | 5.16 | mg/L | | 0.01 | | E200.8 | 04/18/12 21:30 / smm |
| Molybdenum | 0.3 | mg/L | | 0.1 | | E200.8 | 04/17/12 14:08 / cp |
| Nickel | 0.34 | mg/L | | 0.05 | | E200.8 | 04/17/12 14:08 / cp |
| Uranium | 0.0048 | mg/L | | 0.0003 | | E200.8 | 04/18/12 21:30 / smm |
| Vanadium | ND | mg/L | | 0.1 | | E200.8 | 04/18/12 21:30 / smm |
| **METALS - SPECIATED** | | | | | | | |
| Arsenic-III | ND | mg/L | D | 0.01 | | E1632AM | 04/30/12 16:04 / eli-h |
| Selenium-IV | ND | mg/L | | 0.001 | | A3114 B | 04/16/12 13:40 / rdw |
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Gross Alpha minus Rn & U | 4.1 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U Precision (±) | 0.7 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Gross Alpha minus Rn & U MDC | 0.5 | pCi/L | | | | E900.1 | 05/02/12 17:16 / ep |
| Lead 210 | 0.9 | pCi/L | U | | | E909.0 | 04/25/12 20:43 / eli-cs |
| Lead 210 precision (±) | 0.8 | pCi/L | | | | E909.0 | 04/25/12 20:43 / eli-cs |
| Lead 210 MDC | 1.3 | pCi/L | | | | E909.0 | 04/25/12 20:43 / eli-cs |
| Radium 226 | 4.3 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 precision (±) | 0.44 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 226 MDC | 0.18 | pCi/L | | | | E903.0 | 05/07/12 10:18 / lbb |
| Radium 228 | 9.7 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 precision (±) | 1.0 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |
| Radium 228 MDC | 1.1 | pCi/L | | | | RA-05 | 05/01/12 11:45 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040738-006
**Client Sample ID:** 719

**Report Date:** 05/25/12
**Collection Date:** 04/10/12 08:48
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES - TOTAL** | | | | | | | |
| Thorium 230 | 0.9 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 precision (±) | 0.4 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| Thorium 230 MDC | 0.4 | pCi/L | | | | E908.0 | 05/08/12 09:00 / dmf |
| **DATA QUALITY** | | | | | | | |
| A/C Balance (± 5) | -0.260 | % | | | | Calculation | 05/09/12 06:35 / kbh |
| Anions | 86.0 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Cations | 85.5 | meq/L | | | | Calculation | 05/09/12 06:35 / kbh |
| Solids, Total Dissolved Calculated | 5340 | mg/L | | | | Calculation | 05/09/12 06:35 / kbh |
| TDS Balance (0.80 - 1.20) | 1.11 | | | | | Calculation | 05/09/12 06:35 / kbh |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Bromodichloromethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:53 / jlr |
| Bromoform | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:53 / jlr |
| Chlorodibromomethane | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:53 / jlr |
| Chloroform | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:53 / jlr |
| Trihalomethanes, Total | ND | ug/L | | 0.50 | | E624 | 04/19/12 01:53 / jlr |
| Surr: 1,2-Dichlorobenzene-d4 | 92.0 | %REC | | 80-120 | | E624 | 04/19/12 01:53 / jlr |
| Surr: Dibromofluoromethane | 99.0 | %REC | | 80-120 | | E624 | 04/19/12 01:53 / jlr |
| Surr: p-Bromofluorobenzene | 88.0 | %REC | | 80-120 | | E624 | 04/19/12 01:53 / jlr |
| Surr: Toluene-d8 | 98.0 | %REC | | 80-120 | | E624 | 04/19/12 01:53 / jlr |

- The sample was received in the laboratory with a pH > 2. The pH was 5.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | 719 | 719 | 719 | 719 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/25/2012 | 3/5/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040738-006 | C12010437-006 | C11100573-005 | C11070807-006 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | 481 | 497 | 474 | 480 |
| Chloride | mg/L | 31 | 30 | 31 | 30 |
| Magnesium | mg/L | 664 | 588 | 610 | 598 |
| Nitrogen, Ammonia as N | mg/L | 0.81 | 0.76 | 1.2 | 0.9 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | ND(0.1) | ND(0.1) | ND(0.5) | ND(0.5) |
| Potassium | mg/L | 13 | 13 | 14 | 14 |
| Sodium | mg/L | 138 | 135 | 145 | 145 |
| Sulfate | mg/L | 4010 | 3970 | 3960 | 3900 |
| pH | s.u. | 3.97 | 3.90 | 4.14 | 3.92 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5990 | 5490 | 5530 | 5520 |
| Aluminum | mg/L | 0.3 | 0.3 | 0.3 | 0.4 |
| Beryllium | mg/L | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) |
| Cadmium | mg/L | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| Cobalt | mg/L | 0.25 | 0.38 | 0.36 | 0.40 |
| Lead | mg/L | ND(0.05) | ND(0.05) | ND(0.05) | ND(0.05) |
| Manganese | mg/L | 5.16 | 5.68 | 5.56 | 5.50 |
| Molybdenum | mg/L | 0.3 | ND(0.1) | ND(0.1) | ND(0.1) |
| Nickel | mg/L | 0.34 | 0.46 | 0.45 | 0.53 |
| Uranium | mg/L | 0.0048 | 0.0067 | 0.0058 | 0.0059 |
| Vanadium | mg/L | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| Arsenic-III | mg/L | ND(0.01) | ND(0.001) | ND(0.001) | ND(0.001) |
| Selenium-IV | mg/L | ND(0.001) | 0.001 | ND(0.001) | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | 4.1 | 5.0 | 3.9 | 6.0 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | 0.7 | 0.8 | 0.6 | 0.8 |
| Gross Alpha minus Rn & U MDC | pCi/L | 0.5 | 0.4 | 0.4 | 0.3 |
| Lead 210 | pCi/L | 0.9 | 0.01 | -0.3 | -0.6 |
| Lead 210 precision (±) | pCi/L | 0.8 | 0.5 | 0.8 | 0.8 |
| Lead 210 MDC | pCi/L | 1.3 | 0.9 | 1.3 | 1.3 |
| Radium 226 | pCi/L | 4.3 | 3.3 | 4.9 | 5.2 |
| Radium 226 precision (±) | pCi/L | 0.44 | 0.24 | 0.44 | 0.51 |
| Radium 226 MDC | pCi/L | 0.18 | 0.11 | 0.14 | 0.20 |
| Radium 228 | pCi/L | 9.7 | 11 | 12 | 14 |
| Radium 228 precision (±) | pCi/L | 1.0 | 1.1 | 1.1 | 0.97 |
| Radium 228 MDC | pCi/L | 1.1 | 1.1 | 1.0 | 0.81 |
| Thorium 230 | pCi/L | 0.9 | 0.07 | 0.04 | 0.06 |
| Thorium 230 precision (±) | pCi/L | 0.4 | 0.1 | 0.09 | 0.1 |
| Thorium 230 MDC | pCi/L | 0.4 | 0.2 | 0.2 | 0.3 |
| A/C Balance (± 5) | % | -0.260 | -2.13 | -1.11 | -0.975 |
| Anions | meq/L | 86.0 | 83.6 | 83.3 | 82.0 |
| Cations | meq/L | 85.5 | 80.1 | 81.5 | 80.4 |
| Solids, Total Dissolved Calculated | mg/L | 5340 | 5250 | 5250 | 5180 |
| TDS Balance (0.80 - 1.20) | | 1.11 | 1.05 | 1.05 | 1.07 |
| 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 purposes only. Laboratory approved data is contained within the attached database reports.**

# SEMI-ANNUAL GROUND WATER MONITORING REPORT

# SUPPLEMENTAL QUARTERLY/ MONTHLY SAMPLING

# JANUARY TO JUNE OF 2012

## ZONE-3

PB-2

PB-3

PB-4 (No Sample in January)

NBL-2

RW-A

NW-1

NW-2

NW-3

NW-4

NW-5

MW-6

MW-7

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-005
**Client Sample ID:** PB-2

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 09:50
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 55 | mg/L | | 5 | | A2320 B | 01/17/12 18:06 / jba |
| Chloride | 30 | mg/L | D | 4 | | E300.0 | 01/20/12 03:36 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.95 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:43 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 5280 | mg/L | D | 12 | | A2540 C | 01/18/12 09:13 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-011
**Client Sample ID:** PB-2

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:02
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 76 | mg/L | | 5 | | A2320 B | 04/13/12 23:25 / jba |
| Chloride | 29 | mg/L | D | 4 | | E300.0 | 04/17/12 10:25 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 5.93 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 10:01 / ab |
| Solids, Total Dissolved TDS @ 180 C | 5320 | mg/L | D | 12 | | A2540 C | 04/16/12 13:28 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | PB-2 | PB-2 | PB-2 | PB-2 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-011 | C12010443-005 | C11100573-011 | C11070807-022 |
| Bicarbonate as HCO3 | mg/L | 76 | 55 | 46 | 43 |
| Calcium | mg/L | | | 551 | |
| Chloride | mg/L | 29 | 30 | 30 | 29 |
| Magnesium | mg/L | | | 485 | |
| Nitrogen, Ammonia as N | mg/L | | | 1.0 | |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | ND(0.5) | |
| Potassium | mg/L | | | 12 | |
| Sodium | mg/L | | | 151 | |
| Sulfate | mg/L | | | 3830 | |
| pH | s.u. | 5.93 | 5.95 | 6.73 | 5.79 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 5320 | 5280 | 5200 | 5200 |
| Aluminum | mg/L | | | 7.1 | |
| Beryllium | mg/L | | | ND(0.01) | |
| Cadmium | mg/L | | | ND(0.005) | |
| Cobalt | mg/L | | | 0.52 | |
| Lead | mg/L | | | ND(0.05) | |
| Manganese | mg/L | | | 6.30 | |
| Molybdenum | mg/L | | | 0.5 | |
| Nickel | mg/L | | | 0.66 | |
| Uranium | mg/L | | | 0.0632 | |
| Vanadium | mg/L | | | ND(0.1) | |
| Arsenic-III | mg/L | | | 0.005 | |
| Selenium-IV | mg/L | | | ND(0.001) | |
| Gross Alpha minus Rn & U | pCi/L | | | 15.6 | |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | 1.2 | |
| Gross Alpha minus Rn & U MDC | pCi/L | | | 0.4 | |
| Lead 210 | pCi/L | | | 0.7 | |
| Lead 210 precision (±) | pCi/L | | | 0.8 | |
| Lead 210 MDC | pCi/L | | | 1.3 | |
| Radium 226 | pCi/L | | | 15 | |
| Radium 226 precision (±) | pCi/L | | | 0.70 | |
| Radium 226 MDC | pCi/L | | | 0.13 | |
| Radium 228 | pCi/L | | | 15 | |
| Radium 228 precision (±) | pCi/L | | | 1.2 | |
| Radium 228 MDC | pCi/L | | | 1.1 | |
| Thorium 230 | pCi/L | | | 1.8 | |
| Thorium 230 precision (±) | pCi/L | | | 0.6 | |
| Thorium 230 MDC | pCi/L | | | 0.4 | |
| A/C Balance (± 5) | % | | | -4.52 | |
| Anions | meq/L | | | 81.4 | |
| Cations | meq/L | | | 74.4 | |
| Solids, Total Dissolved Calculated | mg/L | | | 5120 | |
| TDS Balance (0.80 - 1.20) | | | | 1.02 | |
| Trihalomethanes, Total | ug/L | | | ND(0.50) | |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-002
**Client Sample ID:** PB-3

**Report Date:** 03/01/12
**Collection Date:** 01/10/12 15:47
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 211 | mg/L | | 5 | | A2320 B | 01/17/12 17:43 / jba |
| Chloride | 28 | mg/L | D | 2 | | E300.0 | 01/20/12 02:47 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.61 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:32 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3640 | mg/L | | 10 | | A2540 C | 01/16/12 08:40 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-002
**Client Sample ID:** PB-3

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 13:00
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 229 | mg/L | | 5 | | A2320 B | 04/13/12 21:42 / jba |
| Chloride | 27 | mg/L | D | 2 | | E300.0 | 04/17/12 03:28 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.64 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:33 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3760 | mg/L | | 10 | | A2540 C | 04/13/12 16:15 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | PB-3 | PB-3 | PB-3 | PB-3 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-002 | C12010443-002 | C11100573-014 | C11070807-015 |
| Bicarbonate as HCO3 | mg/L | 229 | 211 | 237 | 253 |
| Calcium | mg/L | | | 508 | |
| Chloride | mg/L | 27 | 28 | 28 | 28 |
| Magnesium | mg/L | | | 232 | |
| Nitrogen, Ammonia as N | mg/L | | | 0.9 | |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | ND(0.5) | |
| Potassium | mg/L | | | 10 | |
| Sodium | mg/L | | | 127 | |
| Sulfate | mg/L | | | 2330 | |
| pH | s.u. | 6.64 | 7.61 | 7.60 | 7.83 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3760 | 3640 | 3490 | 3530 |
| Aluminum | mg/L | | | 0.1 | |
| Beryllium | mg/L | | | ND(0.01) | |
| Cadmium | mg/L | | | ND(0.005) | |
| Cobalt | mg/L | | | 0.09 | |
| Lead | mg/L | | | ND(0.05) | |
| Manganese | mg/L | | | 4.07 | |
| Molybdenum | mg/L | | | 0.4 | |
| Nickel | mg/L | | | 0.13 | |
| Uranium | mg/L | | | 0.192 | |
| Vanadium | mg/L | | | ND(0.1) | |
| Arsenic-III | mg/L | | | 0.003 | |
| Selenium-IV | mg/L | | | ND(0.001) | |
| Gross Alpha minus Rn & U | pCi/L | | | 7.1 | |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | 0.8 | |
| Gross Alpha minus Rn & U MDC | pCi/L | | | 0.4 | |
| Lead 210 | pCi/L | | | 0.06 | |
| Lead 210 precision (±) | pCi/L | | | 0.8 | |
| Lead 210 MDC | pCi/L | | | 1.3 | |
| Radium 226 | pCi/L | | | 7.0 | |
| Radium 226 precision (±) | pCi/L | | | 0.48 | |
| Radium 226 MDC | pCi/L | | | 0.13 | |
| Radium 228 | pCi/L | | | 4.6 | |
| Radium 228 precision (±) | pCi/L | | | 0.90 | |
| Radium 228 MDC | pCi/L | | | 1.2 | |
| Thorium 230 | pCi/L | | | 0.2 | |
| Thorium 230 precision (±) | pCi/L | | | 0.2 | |
| Thorium 230 MDC | pCi/L | | | 0.3 | |
| A/C Balance (± 5) | % | | | -2.91 | |
| Anions | meq/L | | | 53.2 | |
| Cations | meq/L | | | 50.2 | |
| Solids, Total Dissolved Calculated | mg/L | | | 3370 | |
| TDS Balance (0.80 - 1.20) | | | | 1.04 | |
| Trihalomethanes, Total | ug/L | | | ND(0.50) | |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-003
**Client Sample ID:** PB-4

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 13:22
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | ND | mg/L | | 5 | | A2320 B | 04/13/12 21:46 / jba |
| Chloride | 30 | mg/L | D | 4 | | E300.0 | 04/17/12 03:42 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 2.64 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:36 / ab |
| Solids, Total Dissolved TDS @ 180 C | 6020 | mg/L | D | 14 | | A2540 C | 04/13/12 16:15 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | PB-4 | PB-4 | PB-4 | PB-4 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 10/11/2011 | 7/19/2011 | 4/13/2011 |
| Receive Date: | | 4/13/2012 | 10/14/2011 | 7/22/2011 | 4/15/2011 |
| Report Date: | | 5/24/2012 | 11/30/2011 | 9/19/2011 | 5/24/2011 |
| Analyte | RUnits | C12040742-003 | C11100573-015 | C11070807-016 | C11040513-003 |
| Bicarbonate as HCO3 | mg/L | ND(5) | ND(5) | ND(5) | ND(5) |
| Calcium | mg/L | | 507 | | |
| Chloride | mg/L | 30 | 31 | 28 | 29 |
| Magnesium | mg/L | | 375 | | |
| Nitrogen, Ammonia as N | mg/L | | 0.6 | | |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | ND(0.5) | | |
| Potassium | mg/L | | 12 | | |
| Sodium | mg/L | | 141 | | |
| Sulfate | mg/L | | 5440 | | |
| pH | s.u. | 2.64 | 2.79 | 2.81 | 2.83 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 6020 | 6630 | 5270 | 5740 |
| Aluminum | mg/L | | 29.2 | | |
| Beryllium | mg/L | | ND(0.01) | | |
| Cadmium | mg/L | | ND(0.005) | | |
| Cobalt | mg/L | | 0.65 | | |
| Lead | mg/L | | 0.63 | | |
| Manganese | mg/L | | 6.06 | | |
| Molybdenum | mg/L | | 0.5 | | |
| Nickel | mg/L | | 0.91 | | |
| Uranium | mg/L | | 0.239 | | |
| Vanadium | mg/L | | ND(0.1) | | |
| Arsenic-III | mg/L | | 0.007 | | |
| Selenium-IV | mg/L | | 0.002 | | |
| Gross Alpha minus Rn & U | pCi/L | | 31.3 | | |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | 1.7 | | |
| Gross Alpha minus Rn & U MDC | pCi/L | | 0.4 | | |
| Lead 210 | pCi/L | | 12.7 | | |
| Lead 210 precision (±) | pCi/L | | 0.9 | | |
| Lead 210 MDC | pCi/L | | 1.2 | | |
| Radium 226 | pCi/L | | 13 | | |
| Radium 226 precision (±) | pCi/L | | 0.67 | | |
| Radium 226 MDC | pCi/L | | 0.14 | | |
| Radium 228 | pCi/L | | 9.5 | | |
| Radium 228 precision (±) | pCi/L | | 1.1 | | |
| Radium 228 MDC | pCi/L | | 1.3 | | |
| Thorium 230 | pCi/L | | 25.7 | | |
| Thorium 230 precision (±) | pCi/L | | 4.7 | | |
| Thorium 230 MDC | pCi/L | | 0.5 | | |
| A/C Balance (± 5) | % | | -8.98 | | |
| Anions | meq/L | | 114 | | |
| Cations | meq/L | | 95.4 | | |
| Solids, Total Dissolved Calculated | mg/L | | 6590 | | |
| TDS Balance (0.80 - 1.20) | | | 1.01 | | |
| Trihalomethanes, Total | ug/L | | ND(0.50) | | |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-001
**Client Sample ID:** NBL-2

**Report Date:** 03/01/12
**Collection Date:** 01/10/12 13:06
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 391 | mg/L | | 5 | | A2320 B | 01/17/12 17:35 / jba |
| Chloride | 52 | mg/L | D | 2 | | E300.0 | 01/20/12 02:30 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.44 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:28 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3580 | mg/L | | 10 | | A2540 C | 01/16/12 08:39 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-001
**Client Sample ID:** NBL-2

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 10:45
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 381 | mg/L | | 5 | | A2320 B | 04/13/12 21:35 / jba |
| Chloride | 49 | mg/L | D | 2 | | E300.0 | 04/17/12 03:14 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.71 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:30 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3610 | mg/L | | 10 | | A2540 C | 04/13/12 16:14 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NBL-2 | NBL-2 | NBL-2 | NBL-2 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/10/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-001 | C12010443-001 | C11100573-004 | C11070807-014 |
| Bicarbonate as HCO3 | mg/L | 381 | 391 | 386 | 407 |
| Calcium | mg/L | | | 609 | |
| Chloride | mg/L | 49 | 52 | 53 | 51 |
| Magnesium | mg/L | | | 181 | |
| Nitrogen, Ammonia as N | mg/L | | | ND(0.2) | |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | 12 | |
| Potassium | mg/L | | | 8 | |
| Sodium | mg/L | | | 154 | |
| Sulfate | mg/L | | | 2160 | |
| pH | s.u. | 6.71 | 7.44 | 7.56 | 7.69 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3610 | 3580 | 3470 | 3500 |
| Aluminum | mg/L | | | ND(0.1) | |
| Beryllium | mg/L | | | ND(0.01) | |
| Cadmium | mg/L | | | ND(0.005) | |
| Cobalt | mg/L | | | 0.04 | |
| Lead | mg/L | | | ND(0.05) | |
| Manganese | mg/L | | | 1.50 | |
| Molybdenum | mg/L | | | 0.1 | |
| Nickel | mg/L | | | ND(0.05) | |
| Uranium | mg/L | | | 0.167 | |
| Vanadium | mg/L | | | ND(0.1) | |
| Arsenic-III | mg/L | | | 0.004 | |
| Selenium-IV | mg/L | | | ND(0.001) | |
| Gross Alpha minus Rn & U | pCi/L | | | 5.5 | |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | 0.7 | |
| Gross Alpha minus Rn & U MDC | pCi/L | | | 0.4 | |
| Lead 210 | pCi/L | | | -0.6 | |
| Lead 210 precision (±) | pCi/L | | | 0.8 | |
| Lead 210 MDC | pCi/L | | | 1.3 | |
| Radium 226 | pCi/L | | | 5.6 | |
| Radium 226 precision (±) | pCi/L | | | 0.54 | |
| Radium 226 MDC | pCi/L | | | 0.20 | |
| Radium 228 | pCi/L | | | 8.2 | |
| Radium 228 precision (±) | pCi/L | | | 1.2 | |
| Radium 228 MDC | pCi/L | | | 1.4 | |
| Thorium 230 | pCi/L | | | 0.09 | |
| Thorium 230 precision (±) | pCi/L | | | 0.08 | |
| Thorium 230 MDC | pCi/L | | | 0.1 | |
| A/C Balance (± 5) | % | | | -1.52 | |
| Anions | meq/L | | | 53.8 | |
| Cations | meq/L | | | 52.2 | |
| Solids, Total Dissolved Calculated | mg/L | | | 3430 | |
| TDS Balance (0.80 - 1.20) | | | | 1.01 | |
| Trihalomethanes, Total | ug/L | | | ND(0.50) | |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-011
**Client Sample ID:** RW-A

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 11:10
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 221 | mg/L | | 5 | | A2320 B | 01/17/12 19:00 / jba |
| Chloride | 36 | mg/L | D | 2 | | E300.0 | 01/20/12 06:20 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.94 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 12:07 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 4200 | mg/L | | 10 | | A2540 C | 01/18/12 09:14 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-012
**Client Sample ID:** RW-A

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:25
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 229 | mg/L | | 5 | | A2320 B | 04/13/12 23:33 / jba |
| Chloride | 36 | mg/L | D | 4 | | E300.0 | 04/17/12 10:40 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.42 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 10:03 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4320 | mg/L | D | 11 | | A2540 C | 04/16/12 13:28 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | RW-A | RW-A | RW-A | RW-A |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/30/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-012 | C12010443-011 | C11100573-012 | C11070807-023 |
| Bicarbonate as HCO3 | mg/L | 229 | 221 | 220 | 238 |
| Calcium | mg/L | | | 560 | |
| Chloride | mg/L | 36 | 36 | 39 | 37 |
| Magnesium | mg/L | | | 301 | |
| Nitrogen, Ammonia as N | mg/L | | | 2.8 | |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | ND(0.5) | |
| Potassium | mg/L | | | 10 | |
| Sodium | mg/L | | | 142 | |
| Sulfate | mg/L | | | 2830 | |
| pH | s.u. | 6.42 | 6.94 | 7.58 | 7.60 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4320 | 4200 | 4100 | 4080 |
| Aluminum | mg/L | | | ND(0.1) | |
| Beryllium | mg/L | | | ND(0.01) | |
| Cadmium | mg/L | | | ND(0.005) | |
| Cobalt | mg/L | | | 0.25 | |
| Lead | mg/L | | | ND(0.05) | |
| Manganese | mg/L | | | 5.10 | |
| Molybdenum | mg/L | | | 0.2 | |
| Nickel | mg/L | | | 0.27 | |
| Uranium | mg/L | | | 0.105 | |
| Vanadium | mg/L | | | ND(0.1) | |
| Arsenic-III | mg/L | | | ND(0.001) | |
| Selenium-IV | mg/L | | | ND(0.001) | |
| Gross Alpha minus Rn & U | pCi/L | | | 13.6 | |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | 1.1 | |
| Gross Alpha minus Rn & U MDC | pCi/L | | | 0.4 | |
| Lead 210 | pCi/L | | | 0.4 | |
| Lead 210 precision (±) | pCi/L | | | 0.8 | |
| Lead 210 MDC | pCi/L | | | 1.3 | |
| Radium 226 | pCi/L | | | 13 | |
| Radium 226 precision (±) | pCi/L | | | 0.65 | |
| Radium 226 MDC | pCi/L | | | 0.13 | |
| Radium 228 | pCi/L | | | 15 | |
| Radium 228 precision (±) | pCi/L | | | 1.2 | |
| Radium 228 MDC | pCi/L | | | 1.2 | |
| Thorium 230 | pCi/L | | | 0.008 | |
| Thorium 230 precision (±) | pCi/L | | | 0.06 | |
| Thorium 230 MDC | pCi/L | | | 0.1 | |
| A/C Balance (± 5) | % | | | -3.55 | |
| Anions | meq/L | | | 63.7 | |
| Cations | meq/L | | | 59.4 | |
| Solids, Total Dissolved Calculated | mg/L | | | 4010 | |
| TDS Balance (0.80 - 1.20) | | | | 1.02 | |
| Trihalomethanes, Total | ug/L | | | ND(0.50) | |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-007
**Client Sample ID:** NW-1

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 10:20
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 124 | mg/L | | 5 | | A2320 B | 01/17/12 18:21 / jba |
| Chloride | 24 | mg/L | D | 4 | | E300.0 | 01/20/12 04:09 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.29 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:49 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 4600 | mg/L | D | 11 | | A2540 C | 01/18/12 09:14 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-006
**Client Sample ID:** NW-1

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 12:53
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 125 | mg/L | | 5 | | A2320 B | 04/13/12 22:46 / jba |
| Chloride | 25 | mg/L | D | 4 | | E300.0 | 04/17/12 04:26 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.73 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:44 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4680 | mg/L | D | 11 | | A2540 C | 04/13/12 16:16 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NW-1 | NW-1 | NW-1 | NW-1 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-006 | C12010443-007 | C11100576-007 | C11070807-020 |
| Bicarbonate as HCO3 | mg/L | 125 | 124 | 246 | 128 |
| Chloride | mg/L | 25 | 24 | 36 | 25 |
| pH | s.u. | 6.73 | 7.29 | 6.99 | 6.67 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4680 | 4600 | 4090 | 4630 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-008
**Client Sample ID:** NW-2

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 10:35
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 323 | mg/L | | 5 | | A2320 B | 01/17/12 18:28 / jba |
| Chloride | 40 | mg/L | D | 2 | | E300.0 | 01/20/12 04:58 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.31 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:53 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3900 | mg/L | | 10 | | A2540 C | 01/16/12 08:44 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-008
**Client Sample ID:** NW-2

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:28
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 331 | mg/L | | 5 | | A2320 B | 04/13/12 23:01 / jba |
| Chloride | 40 | mg/L | D | 2 | | E300.0 | 04/17/12 09:42 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.52 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:49 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4000 | mg/L | | 10 | | A2540 C | 04/13/12 16:16 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NW-2 | NW-2 | NW-2 | NW-2 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-008 | C12010443-008 | C11100576-005 | C11070807-019 |
| Bicarbonate as HCO3 | mg/L | 331 | 323 | 337 | 378 |
| Chloride | mg/L | 40 | 40 | 43 | 42 |
| pH | s.u. | 6.52 | 7.31 | 7.54 | 7.53 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4000 | 3900 | 3690 | 3660 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-010
**Client Sample ID:** NW-3

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 10:55
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 379 | mg/L | | 5 | | A2320 B | 01/17/12 18:53 / jba |
| Chloride | 42 | mg/L | D | 2 | | E300.0 | 01/20/12 06:04 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.60 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 12:03 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3860 | mg/L | | 10 | | A2540 C | 01/16/12 08:45 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-010
**Client Sample ID:** NW-3

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:50
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 390 | mg/L | | 5 | | A2320 B | 04/13/12 23:18 / jba |
| Chloride | 40 | mg/L | D | 2 | | E300.0 | 04/17/12 10:11 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.82 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:58 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3880 | mg/L | | 10 | | A2540 C | 04/16/12 13:28 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NW-3 | NW-3 | NW-3 | NW-3 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-010 | C12010443-010 | C11100576-002 | C11070807-017 |
| Bicarbonate as HCO3 | mg/L | 390 | 379 | 375 | 426 |
| Chloride | mg/L | 40 | 42 | 47 | 50 |
| pH | s.u. | 6.82 | 7.60 | 7.31 | 7.28 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3880 | 3860 | 3750 | 3760 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-006
**Client Sample ID:** NW-4

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 10:05
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 137 | mg/L | | 5 | | A2320 B | 01/17/12 18:13 / jba |
| Chloride | 28 | mg/L | D | 4 | | E300.0 | 01/20/12 03:52 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.73 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:45 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 4730 | mg/L | D | 11 | | A2540 C | 01/18/12 09:13 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-007
**Client Sample ID:** NW-4

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 13:15
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 146 | mg/L | | 5 | | A2320 B | 04/13/12 22:53 / jba |
| Chloride | 28 | mg/L | D | 4 | | E300.0 | 04/17/12 08:59 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.27 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:46 / ab |
| Solids, Total Dissolved TDS @ 180 C | 4860 | mg/L | D | 11 | | A2540 C | 04/13/12 16:16 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NW-4 | NW-4 | NW-4 | NW-4 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-007 | C12010443-006 | C11100576-006 | C11070807-021 |
| Bicarbonate as HCO3 | mg/L | 146 | 137 | 150 | 148 |
| Chloride | mg/L | 28 | 28 | 29 | 29 |
| pH | s.u. | 6.27 | 6.73 | 7.17 | 7.17 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 4860 | 4730 | 4470 | 4420 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-009
**Client Sample ID:** NW-5

**Report Date:** 03/01/12
**Collection Date:** 01/11/12 10:50
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 475 | mg/L | | 5 | | A2320 B | 01/17/12 18:45 / jba |
| Chloride | 47 | mg/L | D | 2 | | E300.0 | 01/20/12 05:47 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.61 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:56 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3380 | mg/L | | 10 | | A2540 C | 01/16/12 08:44 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-009
**Client Sample ID:** NW-5

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:40
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 511 | mg/L | | 5 | | A2320 B | 04/13/12 23:10 / jba |
| Chloride | 49 | mg/L | D | 2 | | E300.0 | 04/17/12 09:57 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.08 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:55 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3830 | mg/L | | 10 | | A2540 C | 04/16/12 13:27 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | NW-5 | NW-5 | NW-5 | NW-5 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/11/2012 | 10/11/2011 | 7/20/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-009 | C12010443-009 | C11100576-001 | C11070807-018 |
| Bicarbonate as HCO3 | mg/L | 511 | 475 | 545 | 580 |
| Chloride | mg/L | 49 | 47 | 59 | 56 |
| pH | s.u. | 7.08 | 7.61 | 7.53 | 7.79 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3830 | 3380 | 3660 | 3580 |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-003
**Client Sample ID:** MW-6

**Report Date:** 03/01/12
**Collection Date:** 01/10/12 16:45
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 206 | mg/L | | 5 | | A2320 B | 01/17/12 17:51 / jba |
| Chloride | 37 | mg/L | D | 2 | | E300.0 | 01/20/12 03:03 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.04 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:36 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3920 | mg/L | | 10 | | A2540 C | 01/16/12 08:41 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-004
**Client Sample ID:** MW-6

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:00
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 235 | mg/L | | 5 | | A2320 B | 04/13/12 22:14 / jba |
| Chloride | 38 | mg/L | D | 2 | | E300.0 | 04/17/12 03:57 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.45 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:38 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3970 | mg/L | | 10 | | A2540 C | 04/13/12 16:15 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | MW-6 | MW-6 | MW-6 | MW-6 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-004 | C12010443-003 | C11100576-003 | C11070807-010 |
| Bicarbonate as HCO3 | mg/L | 235 | 206 | 191 | 225 |
| Calcium | mg/L | | | | 458 |
| Chloride | mg/L | 38 | 37 | 32 | 35 |
| Magnesium | mg/L | | | | 328 |
| Nitrogen, Ammonia as N | mg/L | | | | 0.35 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | | ND(0.5) |
| Potassium | mg/L | | | | 10 |
| Sodium | mg/L | | | | 184 |
| Sulfate | mg/L | | | | 2610 |
| pH | s.u. | 6.45 | 7.04 | 7.49 | 7.29 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3970 | 3920 | 4130 | 3970 |
| Aluminum | mg/L | | | | 0.1 |
| Beryllium | mg/L | | | | ND(0.01) |
| Cadmium | mg/L | | | | ND(0.005) |
| Cobalt | mg/L | | | | 0.11 |
| Lead | mg/L | | | | ND(0.05) |
| Manganese | mg/L | | | | 3.49 |
| Molybdenum | mg/L | | | | 5.5 |
| Nickel | mg/L | | | | 0.16 |
| Uranium | mg/L | | | | 0.0882 |
| Vanadium | mg/L | | | | ND(0.1) |
| Arsenic-III | mg/L | | | | 0.005 |
| Selenium-IV | mg/L | | | | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | | | | 1.6 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | | 0.4 |
| Gross Alpha minus Rn & U MDC | pCi/L | | | | 0.3 |
| Lead 210 | pCi/L | | | | -0.5 |
| Lead 210 precision (±) | pCi/L | | | | 0.8 |
| Lead 210 MDC | pCi/L | | | | 1.3 |
| Radium 226 | pCi/L | | | | 1.4 |
| Radium 226 precision (±) | pCi/L | | | | 0.29 |
| Radium 226 MDC | pCi/L | | | | 0.20 |
| Radium 228 | pCi/L | | | | 2.0 |
| Radium 228 precision (±) | pCi/L | | | | 0.58 |
| Radium 228 MDC | pCi/L | | | | 0.82 |
| Thorium 230 | pCi/L | | | | 0.01 |
| Thorium 230 precision (±) | pCi/L | | | | 0.09 |
| Thorium 230 MDC | pCi/L | | | | 0.2 |
| A/C Balance (± 5) | % | | | | -0.839 |
| Anions | meq/L | | | | 59.1 |
| Cations | meq/L | | | | 58.1 |
| Solids, Total Dissolved Calculated | mg/L | | | | 3770 |
| TDS Balance (0.80 - 1.20) | | | | | 1.05 |
| Trihalomethanes, Total | ug/L | | | | ND(0.50) |

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

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12010443-004
**Client Sample ID:** MW-7

**Report Date:** 03/01/12
**Collection Date:** 01/10/12 17:00
**DateReceived:** 01/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 445 | mg/L | | 5 | | A2320 B | 01/17/12 17:59 / jba |
| Chloride | 49 | mg/L | D | 2 | | E300.0 | 01/20/12 03:19 / ljl |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 7.17 | s.u. | H | 0.01 | | A4500-H B | 01/27/12 11:39 / ljl |
| Solids, Total Dissolved TDS @ 180 C | 3670 | mg/L | | 10 | | A2540 C | 01/16/12 08:41 / wc |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** United Nuclear Corporation
**Project:** Zone-3
**Lab ID:** C12040742-005
**Client Sample ID:** MW-7

**Report Date:** 05/24/12
**Collection Date:** 04/10/12 14:20
**DateReceived:** 04/13/12
**Matrix:** Aqueous

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **MAJOR IONS** | | | | | | | |
| Bicarbonate as HCO3 | 409 | mg/L | | 5 | | A2320 B | 04/13/12 22:30 / jba |
| Chloride | 43 | mg/L | D | 2 | | E300.0 | 04/17/12 04:11 / wc |
| **PHYSICAL PROPERTIES** | | | | | | | |
| pH | 6.71 | s.u. | H | 0.01 | | A4500-H B | 04/16/12 09:41 / ab |
| Solids, Total Dissolved TDS @ 180 C | 3800 | mg/L | | 10 | | A2540 C | 04/13/12 16:15 / ab |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

**UNC Mining and Milling ChurchRock Operations**

**GroundWater Monitoring Summary: Zone 3 Monitor Wells**

| Well ID: | | MW-7 | MW-7 | MW-7 | MW-7 |
|---|---|---|---|---|---|
| Collection Date: | | 4/10/2012 | 1/10/2012 | 10/11/2011 | 7/19/2011 |
| Receive Date: | | 4/13/2012 | 1/13/2012 | 10/14/2011 | 7/22/2011 |
| Report Date: | | 5/24/2012 | 3/1/2012 | 11/29/2011 | 9/19/2011 |
| Analyte | RUnits | C12040742-005 | C12010443-004 | C11100576-004 | C11070807-011 |
| Bicarbonate as HCO3 | mg/L | 409 | 445 | 459 | 542 |
| Calcium | mg/L | | | | 640 |
| Chloride | mg/L | 43 | 49 | 53 | 52 |
| Magnesium | mg/L | | | | 167 |
| Nitrogen, Ammonia as N | mg/L | | | | 0.45 |
| Nitrogen, Nitrate+Nitrite as N | mg/L | | | | ND(0.5) |
| Potassium | mg/L | | | | 6 |
| Sodium | mg/L | | | | 155 |
| Sulfate | mg/L | | | | 2030 |
| pH | s.u. | 6.71 | 7.17 | 7.44 | 7.68 |
| Solids, Total Dissolved TDS @ 180 C | mg/L | 3800 | 3670 | 3650 | 3660 |
| Aluminum | mg/L | | | | ND(0.1) |
| Beryllium | mg/L | | | | ND(0.01) |
| Cadmium | mg/L | | | | ND(0.005) |
| Cobalt | mg/L | | | | 0.03 |
| Lead | mg/L | | | | ND(0.05) |
| Manganese | mg/L | | | | 2.51 |
| Molybdenum | mg/L | | | | 0.8 |
| Nickel | mg/L | | | | 0.06 |
| Uranium | mg/L | | | | 0.162 |
| Vanadium | mg/L | | | | ND(0.1) |
| Arsenic-III | mg/L | | | | 0.044 |
| Selenium-IV | mg/L | | | | ND(0.001) |
| Gross Alpha minus Rn & U | pCi/L | | | | 5.2 |
| Gross Alpha minus Rn & U Precision (±) | pCi/L | | | | 0.7 |
| Gross Alpha minus Rn & U MDC | pCi/L | | | | 0.3 |
| Lead 210 | pCi/L | | | | -0.5 |
| Lead 210 precision (±) | pCi/L | | | | 0.8 |
| Lead 210 MDC | pCi/L | | | | 1.3 |
| Radium 226 | pCi/L | | | | 7.0 |
| Radium 226 precision (±) | pCi/L | | | | 0.60 |
| Radium 226 MDC | pCi/L | | | | 0.21 |
| Radium 228 | pCi/L | | | | 6.1 |
| Radium 228 precision (±) | pCi/L | | | | 0.89 |
| Radium 228 MDC | pCi/L | | | | 1.0 |
| Thorium 230 | pCi/L | | | | 0.03 |
| Thorium 230 precision (±) | pCi/L | | | | 0.08 |
| Thorium 230 MDC | pCi/L | | | | 0.2 |
| A/C Balance (± 5) | % | | | | -0.00173 |
| Anions | meq/L | | | | 52.6 |
| Cations | meq/L | | | | 52.6 |
| Solids, Total Dissolved Calculated | mg/L | | | | 3330 |
| TDS Balance (0.80 - 1.20) | | | | | 1.10 |
| Trihalomethanes, Total | ug/L | | | | ND(0.50) |

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

**SEMI-ANNUAL**

**EFFLUENT AND ENVIRONMENTAL MONITORING REPORT**

**JANUARY TO JUNE OF 2012**

## AVAILABLE MONITORING DATA

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

- **GROUND WATER RESULT (GW-3 water well reported in accordance to Regulatory Guide 4.14 format).**

# ENVIRONMENTAL INSPECTION REPORTS

# ENVIRONMENTAL INSPECTION

DATE: 1-30-12 TIME START: 1030

INSPECTOR: Maf Chambley Jr. TIME END: 1205

| TAILINGS AREA: | OKAY | PROBLEM | COMMENTS |
|---|---|---|---|
| 1. Fences | ✓ | | |
| 2. Air Monitors | — NA | — | Not Applicable - Only under RWP |
| 3. Radiation Warning Signs | ✓ | | |
| 4. Locked Gates | ✓ | | |

ACTION TAKEN: One bull and one cow are in Sec. 36 outside of tailings area (Sec. 2) near east entrance locked gate. Informed maintenance crew and livestock were chased out the same day.

# ENVIRONMENTAL INSPECTION

DATE: 2-29-12 TIME START: 0920

INSPECTOR: Mary Chudley J. TIME END: 1020

| TAILINGS AREA: | OKAY | PROBLEM | COMMENTS |
|---|---|---|---|
| 1. Fences | ✓ | | |
| 2. Air Monitors | — NA | — | Not applicable - Only under RWP |
| 3. Radiation Warning Signs | ✓ | | |
| 4. Locked Gates | ✓ | | |

ACTION TAKEN:

# ENVIRONMENTAL INSPECTION

DATE: 3-30-12 TIME START: 1117

INSPECTOR: Mal Chumbley Jr. TIME END: 1230

| TAILINGS AREA: | OKAY | PROBLEM | COMMENTS |
|---|---|---|---|
| 1. Fences | ✓ | | |
| 2. Air Monitors | — NA | — | Not applicable - Only Under RWP |
| 3. Radiation Warning Signs | ✓ | | |
| 4. Locked Gates | ✓ | | |

ACTION TAKEN:

# ENVIRONMENTAL INSPECTION

DATE: 4-26-12 TIME START: 1107

INSPECTOR: Mark Churchilly Jr TIME END: 1208

| TAILINGS AREA: | OKAY | PROBLEM | COMMENTS |
|---|---|---|---|
| 1. Fences | ✓ | | |
| 2. Air Monitors | – NA – | | Not Applicable - Only under RWP |
| 3. Radiation Warning Signs | ✓ | | |
| 4. Locked Gates | ✓ | | |

ACTION TAKEN:

# ENVIRONMENTAL INSPECTION

DATE: 5-22-12 TIME START: 1030

INSPECTOR: Mayo Chisholm Jr. TIME END: 1150

| TAILINGS AREA: | OKAY | PROBLEM | COMMENTS |
|---|---|---|---|
| 1. Fences | ✓ | | |
| 2. Air Monitors | -NA- | | Not Applicable - Only Under RWP |
| 3. Radiation Warning Signs | ✓ | | |
| 4. Locked Gates | ✓ | | |

ACTION TAKEN:

# ENVIRONMENTAL INSPECTION

DATE: 6-28-12 TIME START: 1038

INSPECTOR: Mac Chadbourn Jr. TIME END: 1150

| TAILINGS AREA: | OKAY | | PROBLEM | COMMENTS |
|---|---|---|---|---|
| 1. Fences | ✓ | | | |
| 2. Air Monitors | — | NA | — | Not Applicable - Only under RWP |
| 3. Radiation Warning Signs | ✓ | | | |
| 4. Locked Gates | ✓ | | | |

ACTION TAKEN:

# GROUNDWATER RESULTS

## QUARTERLY LIQUID SAMPLES

| Date/Qr. | Location | Type | Radionuclide | Concentration Mg/l | Concentration µci/ml | Error Est. µci/ml | LLD µci/ml |
|---|---|---|---|---|---|---|---|
| 1/3/2012 | GW-3 | Ground | U-Nat (dissolved) or total | | 1.73E-07 | | 2.00E-10 |
| 1st-Qr. | | Water Well | | | | | |
| | | | Th-230 (dissolved) or total | | -4.00E-12 | 4.00E-11 | 2.00E-10 |
| | | | Ra-266 (dissolved) or total | | 3.70E-10 | 1.50E-10 | 2.00E-10 |
| | | | Pb-210 (dissolved) or total | | 9.00E-11 | 6.00E-10 | 1.00E-09 |
| | | | Po-210 (dissolved) or total | | | | 1.00E-09 |

UNC Field Data:
PH (STD. Units) = 6.84
Cond. (µ MHOS) = 5,300
Water Depth (Ft.) = 54.11
Temp. (°C) = 12.2

COMMENTS:

## QUARTERLY LIQUID SAMPLES

| Date/Qr. | Location | Type | Radionuclide | Concentration Mg/l | Concentration µci/ml | Error Est. µci/ml | LLD µci/ml |
|---|---|---|---|---|---|---|---|
| 4/3/2012 | GW-3 | Ground | U-Nat (dissolved) or total | | 1.85E-07 | | 2.00E-10 |
| 2nd-Qr. | | Water Well | | | | | |
| | | | Th-230 (dissolved) or total | | 8.00E-11 | 9.00E-11 | 2.00E-10 |
| | | | Ra-266 (dissolved) or total | | 1.00E-10 | 1.00E-10 | 2.00E-10 |
| | | | Pb-210 (dissolved) or total | | 5.00E-10 | 7.00E-10 | 1.00E-09 |
| | | | Po-210 (dissolved) or total | | | | 1.00E-09 |

UNC Field Data:
PH (STD. Units) = 6.65
Cond. (µ MHOS) = 5,380
Water Depth (Ft.) = 54.20
Temp. (°C) = 12.6

COMMENTS: