

CAMECO RESOURCES
CROW BUTTE OPERATION

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June 3, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

ATTN: Document Control Desk, Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Source Materials License SUA-1534
Docket No. 40-8943
Monitor Well Excursion – SM8-5

Attn: Document Control Desk:

On June 3, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-5, exceeded the multiple parameter upper control limit (MCL) for conductivity and chloride. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM8-5 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample also exceeded the excursion control parameters as described above.

CBO notified Mr. Ron Burrows of the excursion by at 10:20 a.m. on June 3, 2015 as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM8-5 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 23, 2014, to June 3, 2015.

CBO believes that the apparent excursion is due to increased groundwater levels caused by 5+ inches of rain and 20" inches of snow received during May. This conclusion is supported by the following indications:

1. The water level has increased steadily throughout the spring, with a marked increase during the last two weeks. The well is located in an area of high groundwater near the springs that form the source of English Creek. Groundwater quality in this area is under

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the influence of surface water.

2. While the excursion indicators have increased significantly, the levels still do not approach the levels found in mining solution.
3. Twenty other shallow monitor wells located in Mine Units 6, 8 and 10 are also showing increases in water levels and one or more of the indicator parameters. In the past two weeks, SM6-23, SM6-28, SM8-6, SM8-28, and SM8-21 were placed on excursion status due to the same circumstances. All of these wells are located in close proximity to English Creek. Historical operating data indicates that the excursion parameters are affected by high water levels in the shallow monitor wells located along English Creek.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM8-5 to weekly until three consecutive weekly samples are below the exceeded UCLs. Also, per the requirements of License Condition 11.12, CBO will test weekly for natural uranium. CBO will continue weekly sampling for an additional three weeks after this goal has been achieved as required by CBO's NDEQ Class III UIC Permit requirements. If the well has not exceeded the UCLs after these samples, it will be returned to normal status.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext 114.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Robert Tiensvold
Mine Manager

Enclosures: As Stated

cc: NRC – Deputy Director
CBO - File
cc: CR – Casper Office



Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 06/02/2015

Analysis Date: 06/02/2015

| Well-ID | Alkalinity (mg/L) | Alk SEL | Alk MCL | Conductivity (µMho/cm) | Cond SEL | Cond MCL | Chloride (mg/L) | Cl SEL | Cl MCL |
|-----------|----------------------|---------|---------|---------------------------|----------|----------|--------------------|--------|--------|
| CM06-009 | 285 | 428 | 356 | 1907 | 2866 | 2388 | 171 | 285 | 238 |
| CM06-010 | 302 | 429 | 358 | 1920 | 2952 | 2460 | 178 | 327 | 272 |
| CM08-001 | 291 | 455 | 379 | 1929 | 3110 | 2592 | 176 | 372 | 310 |
| CM08-002 | 302 | 395 | 329 | 1909 | 3125 | 2604 | 177 | 334 | 278 |
| CM08-003 | 304 | 432 | 360 | 1926 | 3211 | 2676 | 182 | 367 | 306 |
| CM08-004 | 297 | 428 | 356 | 1901 | 3125 | 2604 | 178 | 328 | 274 |
| CM08-005 | 301 | 425 | 354 | 1909 | 3067 | 2556 | 178 | 328 | 274 |
| CM08-006 | 300 | 432 | 360 | 1909 | 3067 | 2556 | 178 | 317 | 264 |
| CM08-007 | 306 | 425 | 354 | 1879 | 3154 | 2628 | 178 | 396 | 330 |
| CM08-008 | 308 | 418 | 348 | 1879 | 3211 | 2676 | 176 | 415 | 346 |
| CM08-009 | 315 | 452 | 377 | 1859 | 3053 | 2544 | 174 | 325 | 271 |
| CM09-008 | 299 | 418 | 348 | 1804 | 2952 | 2460 | 175 | 366 | 305 |
| CM09-009 | 303 | 475 | 396 | 1789 | 2923 | 2436 | 169 | 334 | 278 |
| CM09-010 | 303 | 359 | 299 | 1773 | 2390 | 1992 | 171 | 292 | 244 |
| CM09-011 | 304 | 445 | 371 | 1794 | 2707 | 2256 | 173 | 284 | 236 |
| CM11-012 | 300 | 433 | 361 | 1807 | 2794 | 2328 | 175 | 268 | 223 |
| CM11-013 | 301 | 418 | 348 | 1805 | 2722 | 2268 | 175 | 291 | 242 |
| CM11-014 | 313 | 468 | 390 | 1848 | 3024 | 2520 | 180 | 357 | 298 |
| CM11-015 | 302 | 431 | 359 | 1793 | 2765 | 2304 | 169 | 289 | 241 |
| CM11-016 | 304 | 451 | 376 | 1772 | 2794 | 2328 | 172 | 276 | 230 |
| CM11-017 | 304 | 438 | 365 | 1776 | 2837 | 2364 | 170 | 301 | 251 |
| CM11-018 | 314 | 445 | 371 | 1821 | 2722 | 2268 | 174 | 297 | 247 |
| CM11-019 | 305 | 448 | 373 | 1796 | 2779 | 2316 | 174 | 300 | 250 |
| SM04-001 | 161 | 248 | 206 | 371 | 772 | 643 | 2.8 | 52 | 43 |
| SM04-002 | 193 | 513 | 393 | 640 | 1256 | 1039 | 14 | 127 | 88 |
| SM04-005A | 198 | 367 | 306 | 540 | 1236 | 1030 | 11 | 106 | 88 |
| SM08-001 | 238 | 374 | 312 | 540 | 763 | 636 | 7.2 | 25 | 21 |
| SM08-002 | 238 | 353 | 294 | 531 | 778 | 648 | 5.5 | 24 | 20 |
| SM08-003 | 236 | 331 | 276 | 544 | 720 | 600 | 6.7 | 24 | 20 |
| SM08-004 | 235 | 323 | 269 | 553 | 819 | 683 | 9.6 | 25 | 21 |
| SM08-005 | 268 | 346 | 288 | 685 | 749 | 624 | 21 | 23 | 19 |
| SM08-006 | 250 | 328 | 274 | 766 | 734 | 612 | 23 | 23 | 19 |



Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 06/03/2015

Analysis Date: 06/03/2015

| Well ID | Alkalinity (mg/L) | Alk SCL | Alk MCL | Conductivity (µMho/cm) | Cond SCL | Cond MCL | Chloride (mg/L) | Cl SCL | Cl MCL |
|-----------|----------------------|---------|---------|---------------------------|----------|----------|--------------------|--------|--------|
| CM08-010 | 315 | 441 | 367 | 1833 | 3038 | 2532 | 174 | 315 | 263 |
| CM08-011 | 318 | 446 | 372 | 1830 | 3053 | 2544 | 174 | 325 | 271 |
| CM08-012 | 324 | 461 | 384 | 1859 | 3038 | 2532 | 173 | 305 | 254 |
| CM10-001 | 328 | 469 | 391 | 1868 | 2822 | 2352 | 175 | 305 | 254 |
| CM10-002 | 325 | 474 | 395 | 1861 | 2707 | 2256 | 173 | 262 | 218 |
| CM10-003 | 318 | 474 | 395 | 1863 | 2736 | 2280 | 176 | 266 | 222 |
| CM10-004 | 321 | 468 | 390 | 1849 | 2794 | 2328 | 174 | 288 | 240 |
| CM10-005 | 342 | 464 | 386 | 1963 | 3082 | 2568 | 190 | 389 | 324 |
| CM10-006 | 320 | 482 | 402 | 1839 | 2750 | 2292 | 170 | 281 | 234 |
| CM10-007 | 321 | 482 | 402 | 1838 | 2765 | 2304 | 170 | 278 | 232 |
| CM11-001 | 0 | 438 | 365 | 0 | 2808 | 2340 | 0 | 297 | 247 |
| CM11-002A | 0 | 442 | 368 | 0 | 2794 | 2328 | 0 | 285 | 238 |
| CM11-003 | 0 | 439 | 366 | 0 | 2693 | 2244 | 0 | 272 | 227 |
| CM11-004 | 0 | 464 | 386 | 0 | 2678 | 2232 | 0 | 268 | 223 |
| CM11-005 | 0 | 451 | 376 | 0 | 2664 | 2220 | 0 | 274 | 228 |
| CM11-006 | 0 | 436 | 364 | 0 | 2707 | 2256 | 0 | 269 | 224 |
| CM11-007 | 0 | 432 | 360 | 0 | 2707 | 2256 | 0 | 272 | 227 |
| CM11-008 | 0 | 462 | 385 | 0 | 2678 | 2232 | 0 | 274 | 228 |
| CM11-009 | 0 | 439 | 366 | 0 | 2765 | 2304 | 0 | 276 | 230 |
| CM11-010 | 0 | 436 | 364 | 0 | 2707 | 2256 | 0 | 284 | 236 |
| CM11-011 | 0 | 433 | 361 | 0 | 2736 | 2280 | 0 | 278 | 232 |
| SM04-003 | 0 | 361 | 301 | 0 | 1251 | 1043 | 0 | 38 | 32 |
| SM04-004 | 0 | 266 | 222 | 0 | 1099 | 916 | 0 | 62 | 52 |
| SM08-005 | 270 | 346 | 288 | 691 | 749 | 624 | 21 | 23 | 19 |
| SM08-021 | 260 | 317 | 264 | 661 | 706 | 588 | 11 | 25 | 21 |
| SM10-001 | 290 | 469 | 391 | 707 | 994 | 828 | 14 | 37 | 31 |
| SM10-002 | 232 | 338 | 282 | 537 | 763 | 636 | 8.5 | 24 | 20 |
| SM10-003 | 248 | 386 | 322 | 559 | 821 | 684 | 9.2 | 24 | 20 |
| SM10-004 | 245 | 346 | 288 | 535 | 778 | 648 | 6.8 | 24 | 20 |
| SM10-005 | 242 | 350 | 292 | 531 | 763 | 636 | 6.8 | 23 | 19 |
| SM10-006 | 313 | 501 | 418 | 759 | 1123 | 936 | 14 | 33 | 28 |
| SM10-007 | 295 | 403 | 336 | 716 | 965 | 804 | 14 | 33 | 27 |



