

**CAMECO RESOURCES  
CROW BUTTE OPERATION**



40-8943

86 Crow Butte Road  
P.O. Box 169  
Crawford, Nebraska 69339-0169

(308) 665-2215  
(308) 665-2341 – FAX

October 12, 2015

**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

Marty Link, Acting Water Quality Division Administrator  
Nebraska Department of Environmental Quality  
PO Box 98922  
Lincoln, Nebraska 68509-8922

Subject: UIC Permit NE0122611  
SM10-21 Monitor Well Excursion

Dear Ms. Link:

On May 27, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM10-21, the single parameter upper control limit (SCL) for chloride was exceeded. As required by Section B.1 of Part II of UIC Permit NE0122611, a second sample was collected within 24 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the SCL for chloride.

In accordance with Section B.1 Part II of the UIC permit, CBO increased the sampling frequency for SM10-21 to weekly. Weekly samples were obtained from May 27, 2015, to July 29, 2015. The samples collected on July 15, 22, and 29, 2015, were below the excursion criteria from Section B.1 of the permit. Based on these results, CBO removed SM10-21 from excursion status. In accordance with the requirements of Section B.1, weekly sampling continued for an additional three weeks. During the stability monitoring period, the excursion parameters were not exceeded and SM10-21 was returned to biweekly sampling status. Attached are copies of the analytical data for each of the three weekly stability monitoring samples and graphs for each parameter covering the period of May 12, 2015 through September 29, 2015.

If you have any questions regarding this submittal, please feel free to contact me at (308) 665-2215, ext. 114.

NM5501



## CROW BUTTE RESOURCES, INC.

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Sincerely,  
Cameco Resources  
Crow Butte Operation

*Larry Teahon*

Larry Teahon  
SHEQ Manager

Enclosures:      As Stated

cc:      CBO – File  
         NRC - Document Control Desk Director,  
         NRC – Deputy Director

cc:      CR – Casper  
         Nancy Harris – NDEQ Program Coordinator  
         Shar Sapp – Chadron Field Office





**Crow Butte Project**  
**Monitor Well Laboratory Report**

Sample Date: 08/05/2015

Analysis Date: 08/05/2015

| Well ID  | Alkalinity<br>(mg/L) | Alk SCL | Alk MCL | Conductivity<br>(µMho/cm) | Cond SCL | Cond MCL | Chloride<br>(mg/L) | Cl SCL | Cl MCL |
|----------|----------------------|---------|---------|---------------------------|----------|----------|--------------------|--------|--------|
| SM05-007 | 214                  | 323     | 269     | 571                       | 932      | 776      | 9.4                | 41     | 34     |
| SM05-008 | 211                  | 312     | 260     | 557                       | 840      | 700      | 12                 | 32     | 27     |
| SM08-017 | 242                  | 331     | 276     | 547                       | 848      | 707      | 7.8                | 24     | 20     |
| SM08-018 | 232                  | 317     | 264     | 533                       | 816      | 680      | 9                  | 25     | 21     |
| SM08-019 | 234                  | 340     | 283     | 534                       | 827      | 689      | 8                  | 25     | 21     |
| SM08-020 | 224                  | 314     | 262     | 537                       | 806      | 672      | 8.2                | 25     | 21     |
| SM08-021 | 233                  | 317     | 264     | 598                       | 706      | 588      | 10                 | 25     | 21     |
| SM08-022 | 241                  | 324     | 270     | 643                       | 829      | 691      | 11                 | 25     | 20     |
| SM08-023 | 226                  | 317     | 264     | 560                       | 808      | 673      | 9.3                | 27     | 23     |
| SM08-024 | 233                  | 317     | 264     | 600                       | 720      | 600      | 11                 | 24     | 20     |
| SM08-025 | 254                  | 324     | 270     | 671                       | 720      | 600      | 14                 | 24     | 20     |
| SM10-021 | 237                  | 360     | 300     | 591                       | 806      | 672      | 23                 | 27     | 23     |
| SM10-030 | 244                  | 359     | 299     | 533                       | 778      | 648      | 7.2                | 25     | 21     |
| SM10-031 | 237                  | 340     | 283     | 530                       | 734      | 612      | 7.1                | 25     | 21     |
| SM10-032 | 239                  | 340     | 283     | 519                       | 734      | 612      | 5.8                | 23     | 20     |





**Crow Butte Project**  
**Monitor Well Laboratory Report**

Sample Date: 08/12/2015

Analysis Date: 08/12/2015

| Well ID   | Alkalinity<br>(mg/L) | Alk SCL | Alk MCL | Conductivity<br>( $\mu$ Mho/cm) | Cond SCL | Cond MCL | Chloride<br>(mg/L) | Cl SCL | Cl MCL |
|-----------|----------------------|---------|---------|---------------------------------|----------|----------|--------------------|--------|--------|
| SM10-009  | 259                  | 389     | 324     | 569                             | 835      | 696      | 9.4                | 28     | 23     |
| SM10-010  | 248                  | 353     | 294     | 542                             | 792      | 660      | 7.9                | 30     | 25     |
| SM10-011  | 268                  | 373     | 311     | 624                             | 835      | 696      | 11                 | 30     | 25     |
| SM10-012  | 272                  | 415     | 346     | 641                             | 850      | 708      | 12                 | 31     | 26     |
| SM10-013  | 242                  | 350     | 292     | 535                             | 778      | 648      | 8.9                | 30     | 25     |
| SM10-014A | 249                  | 366     | 305     | 571                             | 806      | 672      | 10                 | 29     | 24     |
| SM10-015  | 257                  | 353     | 294     | 579                             | 763      | 636      | 11                 | 28     | 23     |
| SM10-021  | 238                  | 360     | 300     | 592                             | 806      | 672      | 22                 | 27     | 23     |
| SM11-007  | 146                  | 207     | 173     | 309                             | 475      | 396      | 3                  | 26     | 22     |
| SM11-009  | 154                  | 226     | 188     | 311                             | 461      | 384      | 1.2                | 20     | 16     |
| SM11-010  | 160                  | 233     | 194     | 322                             | 478      | 398      | 1.9                | 21     | 18     |
| SM11-011  | 152                  | 236     | 197     | 348                             | 504      | 420      | 3                  | 21     | 17     |
| SM11-012  | 146                  | 219     | 182     | 330                             | 518      | 432      | 2.9                | 27     | 22     |
| SM11-013  | 144                  | 215     | 179     | 297                             | 461      | 384      | 1.8                | 25     | 21     |
| SM11-014  | 141                  | 207     | 173     | 297                             | 475      | 396      | 2.4                | 26     | 21     |
| SM11-015  | 141                  | 203     | 169     | 308                             | 490      | 408      | 2.4                | 31     | 26     |





**Crow Butte Project**  
**Monitor Well Laboratory Report**

Sample Date: 08/19/2015

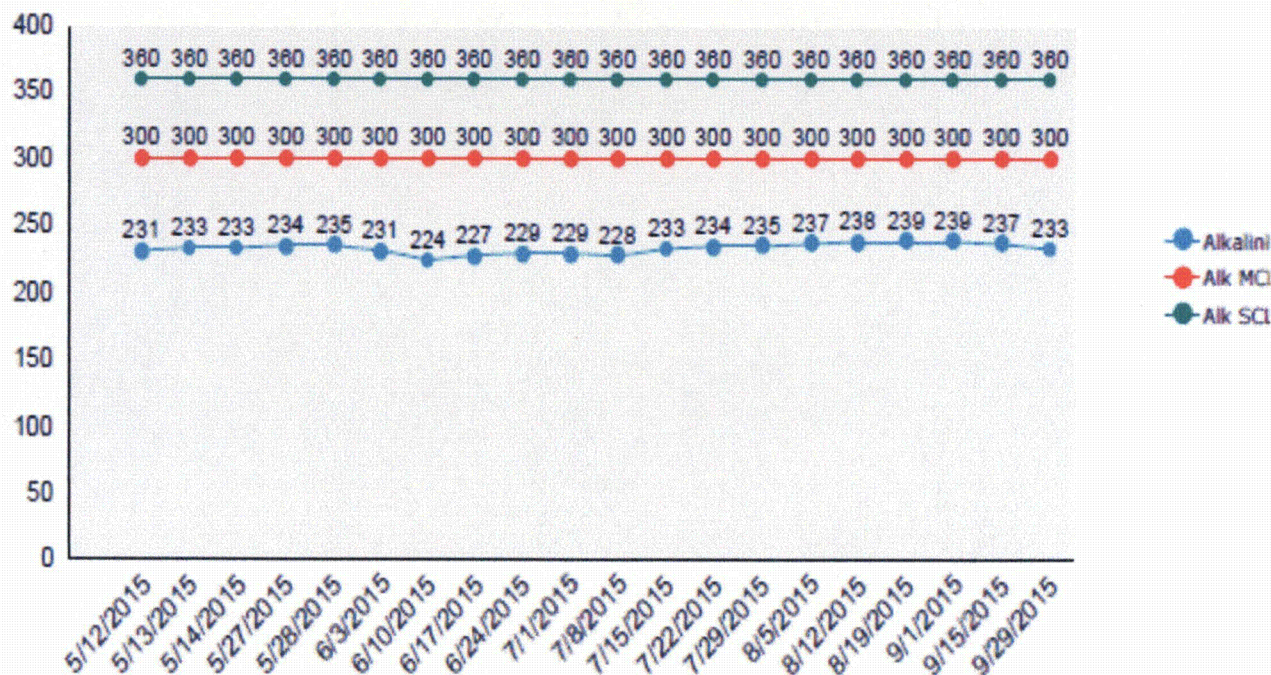
Analysis Date: 08/19/2015

| Well ID  | Alkalinity<br>(mg/L) | Alk SCL | Alk MCL | Conductivity<br>(µMho/cm) | Cond SCL | Cond MCL | Chloride<br>(mg/L) | Cl SCL | Cl MCL |
|----------|----------------------|---------|---------|---------------------------|----------|----------|--------------------|--------|--------|
| SM05-007 | 216                  | 323     | 269     | 571                       | 932      | 776      | 9.5                | 41     | 34     |
| SM05-008 | 210                  | 312     | 260     | 558                       | 840      | 700      | 12                 | 32     | 27     |
| SM08-017 | 244                  | 331     | 276     | 549                       | 848      | 707      | 7.9                | 24     | 20     |
| SM08-018 | 233                  | 317     | 264     | 535                       | 816      | 680      | 8.8                | 25     | 21     |
| SM08-019 | 236                  | 340     | 283     | 536                       | 827      | 689      | 7.9                | 25     | 21     |
| SM08-020 | 226                  | 314     | 262     | 544                       | 806      | 672      | 8.5                | 25     | 21     |
| SM08-021 | 233                  | 317     | 264     | 593                       | 706      | 588      | 9.8                | 25     | 21     |
| SM08-022 | 242                  | 324     | 270     | 641                       | 829      | 691      | 11                 | 25     | 20     |
| SM08-023 | 228                  | 317     | 264     | 564                       | 808      | 672      | 9.3                | 27     | 22     |
| SM08-024 | 234                  | 317     | 264     | 591                       | 720      | 600      | 10                 | 24     | 20     |
| SM08-025 | 251                  | 324     | 270     | 660                       | 720      | 600      | 13                 | 24     | 20     |
| SM10-021 | 239                  | 360     | 300     | 588                       | 806      | 672      | 21                 | 27     | 23     |
| SM10-030 | 245                  | 359     | 299     | 532                       | 778      | 648      | 6.7                | 25     | 21     |
| SM10-031 | 239                  | 340     | 283     | 533                       | 734      | 612      | 7.3                | 25     | 21     |
| SM10-032 | 240                  | 340     | 283     | 521                       | 734      | 612      | 6.1                | 23     | 20     |



SM10-021

Alkalinity



Chloride

