

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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

**(308) 665-2215
(308) 665-2341 - FAX**

December 20, 2016

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Marty Link, Water Quality Division Administrator
Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

Class III UIC Permit NE0122611
November 2016 Monthly Restoration Report

Dear Ms. Link:

Please find enclosed the November 2016 Monthly Restoration Reports for Mine Units 2, 3, 4, 5 and 6. The reverse osmosis (RO) units continue to inject permeate and reductant into Mine Units 4, 5, and 6 with groundwater sweep continuing in portions of the three mine units.

Mine Units 2 and 3 remain in stability monitoring.

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

Sincerely,
Cameco Resources
Crow Butte Operation

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: ~~Ron Burrows - NRC~~
CBO - File
ec: CR - Electronic File
Nancy Harris - NDEQ Program Coordinator
Kory Winters - NDEQ Field Office

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 NOVEMBER 2016
 MINE UNIT 2

1. RESTORATION ACTIVITY DURING MONTH:

| | YES | NO | |
|----------------------------|-----|----|---|
| a. Groundwater Transfer | | X | (if yes, complete part 2) |
| b. Groundwater Sweep | | X | (if yes, complete part 3) |
| c. Groundwater Treatment | | X | |
| d. Wellfield Recirculation | | X | |
| e. Other (explain): | X | | The Mine Unit is in Stability Monitoring. |

2. LIST WELLS USED IN GROUNDWATER TRANSFER DURING THE MONTH:

3. LIST WELLS USED IN GROUNDWATER SWEEP DURING THE MONTH:

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 NOVEMBER 2016
 MINE UNIT 3

1. RESTORATION ACTIVITY DURING MONTH:

| | YES | NO | |
|----------------------------|-----|----|---|
| a. Groundwater Transfer | | X | (if yes, complete part 2) |
| b. Groundwater Sweep | | X | (if yes, complete part 3) |
| c. Groundwater Treatment | | X | |
| d. Wellfield Recirculation | | X | |
| e. Other (explain): | X | | The Mine Unit is in Stability Monitoring. |

2. LIST WELLS USED IN GROUNDWATER TRANSFER DURING THE MONTH:

3. LIST WELLS USED IN GROUNDWATER SWEEP DURING THE MONTH:

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 NOVEMBER 2016
 MINE UNIT 4

1. RESTORATION ACTIVITY DURING MONTH:

| | YES | NO | |
|----------------------------|-----|----|--|
| a. Groundwater Transfer | | X | (if yes, complete part 2) |
| b. Groundwater Sweep | X | | (if yes, complete part 3) |
| c. Groundwater Treatment | X | | RO and Reductant I536P, I539P, and I546P. |
| d. Wellfield Recirculation | | X | |
| e. Other (explain): | | | |

2. LIST WELLS USED IN GROUNDWATER TRANSFER DURING THE MONTH:

3. LIST WELLS USED IN GROUNDWATER SWEEP DURING THE MONTH:

BL-8, BL-9, BL-10, BL-19, CM1-7, CM2-4, P372, P392, P410, I535P, I543P, I544P, I545P, P6023, P6024, and P6029.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 NOVEMBER 2016
 MINE UNIT 5

1. RESTORATION ACTIVITY DURING MONTH:

| | YES | NO | |
|----------------------------|-----|----|---------------------------------------|
| a. Groundwater Transfer | | X | (if yes, complete part 2) |
| b. Groundwater Sweep | X | | (if yes, complete part 3) |
| c. Groundwater Treatment | X | | RO and Reductant I685P, and P1117. |
| d. Wellfield Recirculation | | X | |
| e. Other (explain): | | X | |

2. LIST WELLS USED IN GROUNDWATER TRANSFER DURING THE MONTH:

3. LIST WELLS USED IN GROUNDWATER SWEEP DURING THE MONTH:
 BL5-3, BL5-5, P683, I693P, P694, P699, I698P, P849, and P1156.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

CM5-11 and CM5-19.

Mine Unit 5 Restoration Data

| Well Name | Date | Alk | Ca | Cl | Mg | Na | SO4 | Cond | pH | TDS | Fe | U | V |
|-----------|------------|-----|-------|-----|------|-------|-------|------|----|------|----|-------|-------|
| CM5-11 | 11/15/2016 | 305 | 14.56 | 179 | 0.00 | 383.0 | 374.4 | 1914 | | 1181 | | 0.022 | 0.014 |
| CM5-19 | 11/15/2016 | 302 | 16.83 | 184 | 0.00 | 380.2 | 377.5 | 1910 | | 1179 | | 0.022 | 0.017 |

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 NOVEMBER 2016
 MINE UNIT 6

1. RESTORATION ACTIVITY DURING MONTH:

| | YES | NO | |
|----------------------------|-----|----|---|
| a. Groundwater Transfer | | X | (if yes, complete part 2) |
| b. Groundwater Sweep | | X | (if yes, complete part 3) |
| c. Groundwater Treatment | X | | RO and Reductant P1399, P1467, P1598, P1624, and P1868. |
| d. Wellfield Recirculation | | X | |
| e. Other (explain): | | X | |

2. LIST WELLS USED IN GROUNDWATER TRANSFER DURING THE MONTH:

3. LIST WELLS USED IN GROUNDWATER SWEEP DURING THE MONTH:

P1273, P1288, P1314, P1315, P1402, P1404, P1426, P1440, P1449, P1461, P1476, P1494, P1506, P1532, P1582, P1611, P1704, P1721 and, P1765.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No samples were collected during the month.