

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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

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

March 23, 2018

**USPS PRIORITY MAIL
SIGNATURE CONFIRMATION**

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

Class III UIC Permit NE0122611
February 2018 Monthly Restoration Report

Dear Ms. Link:

Please find enclosed the February 2018 Monthly Restoration Reports for Mine Units 2, 3, 4, 5 and 6. Because of the Deep Well #1 shut down, the reverse osmosis (RO) units were not operational during the month. Ion exchange (IX) was the only groundwater treatment method used in Mine Units 4, 5, and 6 during the month. Groundwater sweep continued in portions of Mine Units 4, 5, and 6. There was no activity in Mine Unit 3 for the month.

Mine Unit 2 remained in stability monitoring.

If you have any questions regarding this submittal, please feel free to contact me at (308) 665-2215, ext. 117.

Sincerely,
Cameco Resources
Crow Butte Operation

Walter D. Nelson
SHEQ Coordinator

Enclosures: As Stated

cc: Ron Burrows – NRC
CBO - File
cc: CR – Electronic File
Kory Winters – NDEQ Field Office
Amanda Jones – NDEQ Program Coordinator

CROW BUTTE MINE
MONTHLY RESTORATION REPORT

February 2018

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:

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

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4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No wells were sampled during the month.

CROW BUTTE MINE
MONTHLY RESTORATION REPORT

February 2018

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):			

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

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

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4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

No wells were sampled in the mine unit during the month

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CROW BUTTE MINE
MONTHLY RESTORATION REPORT

February 18

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		IX only I536P.
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-10 and P372.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

BL-10 and P372.

Mine Unit 4 Restoration Data

Well Name	Date	Alk	Ca	Cl	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
BL-10	2/14/2018	328.0	11.02	99.0	2.85	304.9	164.1	1343	7.94	833	-0.016	1.959	0.265
P372	2/14/2018	383.0	19.34	142.0	4.98	397.6	258.7	1776	7.47	1101	0.014	6.315	0.108

CROW BUTTE MINE
MONTHLY RESTORATION REPORT

February 2018

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		IX only I688P.
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, P699, and P1002.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

BL5 and P1002.

Mine Unit 5 Restoration Data

Well Name	Date	Alk	Ca	Cl	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
BL5-5	2/14/2018	243	7.25	84	1.58	254.3	154.6	1141	7.99	707.42	-0.006	0.012	0.008
P1002	2/14/2018	354	18.37	190	4.83	461.5	359.8	2092	7.89	1297	-0.017	1.005	0.236

CROW BUTTE MINE
MONTHLY RESTORATION REPORT

February 2018

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		IX only I1285P, P1318, P1355, I1356P, P1584, P1585, I1602P, P1690, P1765, P1800.
d. Wellfield Recirculation		X	
e. Other (explain):		X	

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

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

P1337 and I1423P.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

I1285P, P1337, P1355, I1356P, I1423P, P1584, P1585, I1602P, P1690, P1765 and P1800.

MU6 Restoration Data

Well Name	Date	Alk	Cl	Ca	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
I1285P	2/14/2018	417	132	10.46	2.88	403.4	224.2	1736	8.14	1076	-0.02	2.200	1.071
I1356P	2/14/2018	357	133	14.90	3.98	360.7	219.1	1593	7.67	988	0.02	4.954	0.328
I1423P	2/14/2018	398	223	23.10	5.80	531.7	437.8	2412	7.78	1495	-0.01	3.249	0.418
I1602P	2/14/2018	458	152	10.50	3.31	457.1	263.1	1923	8.15	1192	-0.01	1.733	1.284
P1337	2/14/2018	504	118	13.98	3.80	445.7	228.4	1879	8.00	1165	-0.01	2.834	0.573
P1355	2/14/2018	495	170	18.91	5.33	504.5	304.1	2179	7.79	1351	0.00	3.138	0.527
P1584	2/14/2018	429	130	10.21	3.04	411.7	229.1	1767	8.26	1096	-0.02	2.247	0.757
P1585	2/14/2018	573	175	14.63	5.17	536.5	299.4	2286	7.87	1417	-0.02	2.449	1.249
P1690	2/14/2018	679	287	30.01	11.33	715.5	503.1	3163	7.66	1961	-0.01	4.168	0.178
P1765	2/14/2018	420	112	9.12	2.18	377.6	194.0	1596	8.13	990	-0.01	4.004	0.926
P1800	2/14/2018	524	203	25.49	6.80	541.8	347.5	2386	7.72	1479	-0.01	2.902	0.395