

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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

(308) 665-2215
(308) 665-2341 – FAX

June 10, 2014

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Class III UIC Permit NE0122611
May 2014 Monthly Restoration Report

Dear Ms. Link:

Please find enclosed the May 2014 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, and 5. IX treatment continued in Mine Unit 6 with groundwater sweep continuing in portions of Mine Units 4 and 5.

Mine Units 2 and 3 remain in stability monitoring. Preliminary review by the NDEQ staff of the stabilization data submitted by Crow Butte indicates an upward trend for Alkalinity, Chloride, Conductivity, Sulfate, and Total Dissolved Solids in Mine Unit 2. At the request of the NDEQ, Crow Butte will conduct additional quarterly composite samples for these parameters to see if these trends are significant. No additional samples will be collected in Mine Unit 3.

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

A handwritten signature in black ink that reads "Larry Teahon". The signature is written in a cursive, slightly slanted style.

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: Ron Burrows - NRC
CBO - File
cc: CR - Cheyenne
Shar Sapp – Chadron Field Office

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 MAY 2014
 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
 MAY 2014
 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
 MAY 2014
 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 BL-18, CM3-10, P385, P397, P416, P418, P427, P437, P445, P460, I508P, I534P, I537P, I542P, I543P, I544P, I545P, I547P, I548P, I549P, I550P, and I551P.
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:

CM2-4, RES-2i, P392, P410, P430, I538P, I539P, and I540P.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

BL-18, CM2-4, CM3-10, RES 2i, P385, P397, P416, P418, P427, P430, P437, P445, P460, I508P, I534P, I537P, I539P, I542P, I543P, I544P, I545P, I547P, I548P, I549P, I550P, and I551P.

Mine Unit 4 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
BL18	5/6/2014	479.3	0.8	28.5	4.44	2376
	5/13/2014	509.8	0.8	30.2	4.67	
	5/20/2014	444.4	0.8	30.4	4.31	2236
	5/28/2014	491.3	0.8	28.2	4.76	
CM2-4	5/6/2014	364.2	0.0	17.8	0.72	1810
	5/13/2014	364.7	0.1	17.7	0.70	
	5/20/2014	373.7	0.0	18.2	0.73	1793
	5/28/2014	376.2	0.0	17.5	0.74	
CM3-10	5/6/2014	369.1	0.2	18.7	0.79	1807
	5/13/2014	356.2	0.2	20.1	0.82	
	5/20/2014	342.0	0.2	18.2	0.81	1673
	5/28/2014	347.5	0.2	16.7	0.79	
I508P	5/13/2014	758.1	0.2	56.8	6.07	
	5/20/2014	748.7	0.2	56.8	5.71	3615
	5/28/2014	708.6	0.2	53.2	5.69	
I534P	5/6/2014	794.9	0.3	58.7	7.92	3916
	5/20/2014	710.9	0.4	50.5	7.33	3480
	5/28/2014	664.1	0.4	45.8	6.82	
I537P	5/6/2014	819.5	0.0	76.5	5.02	4186
	5/13/2014	825.3	0.0	75.6	5.16	
	5/20/2014	814.1	0.0	76.5	5.26	4046
	5/28/2014	809.2	0.0	73.5	5.42	
I539P	5/20/2014	820.9	0.0	64.5	14.60	4170
	5/28/2014	790.1	0.1	60.6	13.76	
I542P	5/6/2014	749.3	0.4	70.1	5.44	3809
	5/13/2014	707.5	0.4	62.6	5.47	
	5/20/2014	685.8	0.4	59.9	5.48	3356

Mine Unit 4 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
I542P	5/28/2014	631.9	0.4	50.3	5.34	
I543P	5/6/2014	885.4	0.5	74.8	9.47	3923
	5/13/2014	734.0	0.3	72.7	4.19	
	5/20/2014	760.0	0.3	78.1	4.09	3786
	5/28/2014	685.7	0.4	66.9	3.70	
I544P	5/13/2014	775.6	0.4	70.9	6.74	
	5/20/2014	728.1	0.4	65.1	6.48	3634
	5/28/2014	689.6	0.4	62.4	6.22	
I545P	5/6/2014	871.8	0.5	75.2	9.37	4332
	5/13/2014	796.3	0.5	67.7	8.76	
	5/20/2014	756.9	0.5	62.0	8.18	3734
	5/28/2014	710.9	0.5	54.9	7.47	
I547P	5/6/2014	576.4	0.3	48.4	7.86	3007
	5/13/2014	590.5	0.3	50.1	7.83	
	5/20/2014	587.8	0.3	50.7	8.19	2904
	5/28/2014	590.8	0.3	48.5	8.56	
I548P	5/6/2014	602.4	0.3	38.4	2.33	3069
	5/13/2014	605.9	0.3	36.7	2.47	
	5/20/2014	617.1	0.3	38.8	2.53	2944
	5/28/2014	641.5	0.3	38.8	2.38	
I549P	5/6/2014	837.2	0.4	68.3	10.06	4007
	5/13/2014	653.0	0.3	49.3	9.17	
	5/20/2014	581.9	0.3	44.7	8.59	2809
	5/28/2014	630.9	0.4	44.7	8.91	
I550P	5/6/2014	846.4	1.1	69.2	6.60	4191
	5/13/2014	817.1	1.0	63.9	6.48	
	5/20/2014	761.0	1.0	60.6	5.94	3627
	5/28/2014	711.5	1.1	55.7	5.85	

Mine Unit 4 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
I551P	5/6/2014	441.1	0.5	28.1	4.51	2116
	5/13/2014	405.2	0.5	27.1	4.34	
	5/20/2014	406.1	0.5	27.3	4.12	2022
	5/28/2014	417.1	0.5	29.8	3.92	
P385	5/6/2014	285.3	0.2	8.9	2.10	1402
	5/13/2014	315.0	0.2	10.5	2.12	
	5/20/2014	308.6	0.2	10.3	2.00	1457
	5/28/2014	314.0	0.3	10.2	2.08	
P392	5/20/2014	554.5	0.4	38.7	3.84	2864
	5/28/2014	561.3	0.4	38.8	4.13	
P397	5/6/2014	616.5	0.2	45.5	4.23	3195
	5/13/2014	614.0	0.2	41.7	4.41	
	5/20/2014	563.3	0.2	41.0	4.14	2768
	5/28/2014	601.0	0.2	42.9	4.03	
P416	5/13/2014	490.5	0.3	33.6	5.62	
	5/20/2014	445.0	0.3	30.3	4.51	
	5/28/2014	483.9	0.3	32.4	4.70	
P418	5/13/2014	659.3	0.3	48.1	8.76	
	5/20/2014	659.9	0.3	46.6	8.32	3183
	5/28/2014	641.6	0.3	44.2	8.15	
P427	5/6/2014	389.2	0.3	34.0	3.25	1960
	5/13/2014	378.1	0.3	32.3	3.44	
	5/20/2014	401.4	0.3	36.5	3.49	1994
	5/28/2014	424.8	0.3	39.5	3.68	
P430	5/6/2014	315.3	0.4	19.3	2.38	1753
	5/13/2014	329.0	0.4	19.7	2.11	
	5/20/2014	327.4	0.1	20.6	2.05	1595
	5/28/2014	313.6	0.2	18.6	2.13	

Mine Unit 4 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
P437	5/6/2014	321.9	0.4	19.6	2.39	1592
	5/13/2014	321.4	0.4	22.2	2.64	
	5/20/2014	315.0	0.4	20.2	2.45	1544
	5/28/2014	293.3	0.4	16.7	2.63	
P445	5/6/2014	373.6	0.2	19.9	1.19	1829
	5/13/2014	383.8	0.2	21.8	1.32	
	5/20/2014	376.7	0.2	21.5	1.31	1815
	5/28/2014	320.6	0.2	16.1	1.08	
P460	5/6/2014	598.3	0.3	49.7	5.81	2924
	5/13/2014	581.4	0.3	50.1	5.87	
	5/20/2014	586.4	0.3	51.7	5.65	2909
	5/28/2014	581.8	0.3	49.0	5.43	
RES-2i	5/6/2014	170.2	0.0	8.9	0.25	888
	5/13/2014	167.9	0.0	8.7	0.30	
	5/20/2014	172.9	0.0	9.2	0.30	870
	5/28/2014	181.4	0.0	9.5	0.26	

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 MAY 2014
 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 BL5-1, BL5-2, I676P, P680, P684, P691, I692P, P699, P701, P734, P751, P765, I796, P837, P1020, P1028, P1032, P1034, P1038, P1039, P1044, P1135, P1149, P1152, P1187, and P1207.
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:

P683, I698, P795, P1002, P1003, and P1156.

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

BL5-1, BL5-2, P676, P680, P683, P684, P691, I692P, P698, P699, P701, P734, P765, P796,
 I795P, P837, P1002, P1020, P1028, P1032, P1034, P1038, P1039, P1044, P1135, P1149,
 P1152, P1156, P1187, and P1207.

Mine Unit 5 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
BL5-1	5/6/2014	431.6	0.0	24.2	0.42	2124
	5/13/2014	417.0	0.0	23.5	0.43	
	5/20/2014	449.7	0.0	26.4	0.46	2044
	5/28/2014	433.9	0.0	24.5	0.43	
BL5-2	5/6/2014	462.5	0.0	29.5	0.83	2292
	5/13/2014	448.0	0.0	28.9	0.88	
	5/20/2014	466.1	0.0	30.5	0.94	2221
	5/28/2014	464.5		29.7	0.92	
I676P	5/6/2014	403.3	0.5	19.7	5.14	2023
	5/13/2014	425.1	0.5	20.3	5.28	
	5/20/2014	435.6	0.5	21.5	5.17	1978
	5/28/2014	411.7	0.5	19.5	5.29	
I692P	5/6/2014	523.2	0.9	27.1	8.03	2607
	5/13/2014	528.8	0.9	26.9	8.94	
	5/20/2014	513.6	1.0	26.2	8.86	2437
	5/28/2014	507.0	1.0	24.1	8.92	
I698P	5/6/2014	482.0	1.4	24.6	2.89	2375
	5/13/2014	469.9	1.3	23.3	2.91	
	5/20/2014	474.0	1.4	24.6	2.86	2299
	5/28/2014	504.4	1.5	24.0	2.94	
I795P	5/6/2014	156.6	0.7	3.9	1.13	760
	5/13/2014	162.0	0.7	4.2	1.30	
	5/28/2014	161.3	0.7	4.1	1.27	
P1002	5/6/2014	405.2	1.0	20.2	0.99	2028
	5/13/2014	411.8	0.9	19.8	1.07	
	5/20/2014	402.2	1.0	20.5	1.04	1968
	5/28/2014	403.0	0.9	19.6	1.06	
P1020	5/6/2014	327.6	6.5	13.1	0.99	1683
	5/13/2014	337.6	5.5	13.3	0.93	
	5/20/2014	358.9	4.8	15.0	1.13	1766
	5/28/2014	347.1	5.2	13.5	1.04	
P1028	5/6/2014	166.2	3.6	5.3	0.67	806
	5/13/2014	144.4	4.0	4.2	0.69	
	5/20/2014	154.2	3.0	5.3	0.63	764

Mine Unit 5 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
P1032	5/28/2014	208.8	4.9	6.0	0.49	
P1034	5/6/2014	203.7	3.7	4.5	1.42	996
	5/13/2014	195.9	3.9	4.2	1.33	
	5/20/2014	186.2	3.8	4.1	1.29	887
P1038	5/6/2014	198.6	4.3	5.9	0.52	1030
	5/13/2014	196.7	4.5	5.9	0.55	
	5/20/2014	192.6	4.2	5.9	0.51	983
P1039	5/6/2014	171.1	4.5	3.5	0.69	847
	5/13/2014	165.4	4.4	3.2	0.67	
	5/20/2014	171.0	4.2	3.8	0.65	846
P1044	5/6/2014	259.5	5.3	9.9	0.84	1342
	5/13/2014	268.4	5.1	10.3	1.05	
	5/20/2014	288.7	4.4	12.1	1.03	1419
P1135	5/6/2014	448.3	0.3	22.5	5.38	2280
	5/13/2014	421.8	0.3	20.3	5.12	
	5/20/2014	415.5	0.3	19.7	5.01	2105
	5/28/2014	391.3	0.3	18.1	4.75	
P1149	5/6/2014	261.4	0.6	12.5	2.84	1319
	5/13/2014	301.8	0.7	14.1	2.68	
	5/20/2014	253.8	0.6	11.4	2.59	1312
	5/28/2014	291.8	0.6	12.1	2.66	
P1152	5/6/2014	469.5	0.4	25.8	4.26	2398
	5/13/2014	453.3	0.4	25.0	4.15	
	5/20/2014	453.6	0.4	25.0	4.07	2298
	5/28/2014	458.2	0.4	24.4	4.10	
P1156	5/6/2014	607.3	0.3	37.2	7.13	3070
	5/28/2014	674.2	0.3	45.6	7.23	
P1187	5/6/2014	190.4	0.3	3.2	1.29	943
	5/13/2014	143.2	0.3	2.5	0.74	
	5/20/2014	136.7	0.3	2.3	0.69	698
	5/28/2014	159.4	0.3	2.5	0.42	
P1207	5/6/2014	428.0	1.0	21.5	4.93	2182
	5/13/2014	392.1	1.1	19.3	4.51	
	5/20/2014	369.4	1.2	17.0	4.14	1798
	5/28/2014	321.5	1.3	14.6	4.02	

Mine Unit 5 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
P680	5/6/2014	270.8	2.0	7.4	3.59	1319
	5/13/2014	277.2	1.9	7.2	3.62	
	5/20/2014	273.9	2.0	7.3	3.63	1274
P683	5/6/2014	796.6	0.2	55.9	10.78	3980
	5/13/2014	769.4	0.2	54.5	10.43	
	5/20/2014	756.7	0.2	53.2	10.20	3810
	5/28/2014	745.7	0.2	51.5	10.40	
P684	5/6/2014	722.4	0.3	48.9	6.44	3600
	5/13/2014	693.4	0.3	45.4	6.26	
	5/20/2014	701.5	0.4	42.9	6.04	3610
	5/28/2014	622.5	0.4	42.8	5.34	
P691	5/6/2014	481.9	1.0	31.6	6.20	2439
	5/13/2014	473.3	1.1	31.4	6.00	
	5/20/2014	505.0	1.0	33.7	6.30	2582
	5/28/2014	546.0	0.8	37.8	6.49	
P699	5/6/2014	245.3	2.5	5.0	0.66	1255
	5/13/2014	253.1	2.8	5.1	1.06	
	5/20/2014	236.7	2.9	4.7	0.71	1151
P701	5/6/2014	386.0	3.4	15.3	0.29	1970
	5/13/2014	394.4	3.3	15.3	0.27	
	5/20/2014	394.8	3.3	16.0	0.33	1917
	5/28/2014	406.4	3.3	15.6	0.28	
P734	5/28/2014	540.9	0.6	24.6	10.38	
P765	5/28/2014	171.7	0.3	4.7	0.16	
P796	5/6/2014	475.0	0.1	29.4	1.56	2402
	5/13/2014	489.1	0.1	30.3	1.58	
	5/20/2014	471.6	0.0	28.8	1.52	2403
	5/28/2014	458.0	0.0	26.8	1.35	
P837	5/6/2014	330.2	0.3	17.8	1.32	1649
	5/13/2014	311.0	0.3	17.2	1.26	
	5/20/2014	325.0	0.3	18.4	1.33	1628
	5/28/2014	332.4	0.3	20.0	1.35	

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 MAY 2014
 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 P1283, P1312, P1370, P1497, P1596, P1630, P1633, P1715, P1778, P1794, P1800, and P1865.
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:

4. LIST WELLS SAMPLED DURING MONTH AND ASSAY RESULTS:

P1283, P1312, P1370, P1497, P1596, P1630, P1633, P1715, P1778, P1794, P1800, and P1865.

Mine Unit 6 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
P1283	5/6/2014	1029.0	1.3	53.3	19.90	4940
	5/13/2014	1028.0	1.2	52.4	20.70	
	5/20/2014	1010.0	1.2	53.8	20.28	4910
	5/28/2014	1031.0	1.2	52.4	21.01	
P1312	5/6/2014	975.3	1.0	60.6	14.22	4750
	5/13/2014	955.7	1.0	58.5	14.23	
	5/20/2014	1003.0	1.1	60.4	14.55	4830
	5/28/2014	1037.0	1.1	61.8	15.20	
P1370	5/6/2014	1019.0	0.8	56.9	9.12	4810
	5/13/2014	1103.0	0.9	59.0	9.20	
	5/20/2014	996.5	0.8	55.4	9.08	4880
	5/28/2014	995.8	0.8	54.5	9.28	
P1497	5/6/2014	956.9	0.1	77.6	37.66	4710
	5/13/2014	989.7	0.1	79.6	39.88	
	5/20/2014	947.3	0.1	78.7	37.91	4710
	5/28/2014	975.6	0.1	79.9	38.44	
P1596	5/6/2014	976.0	1.2	56.3	13.08	4810
	5/13/2014	986.8	1.2	56.7	12.53	
	5/20/2014	995.3	1.2	57.4	12.99	4800
	5/28/2014	1237.0	1.6	67.4	13.41	
P1630	5/6/2014	1152.0	1.5	35.6	8.70	5380
	5/13/2014	948.4	1.6	39.7	7.78	
	5/20/2014	914.6	1.4	38.2	7.77	4420
	5/28/2014	989.8	1.5	41.5	8.01	
P1633	5/6/2014	1117.0	1.2	43.0	15.50	5380
	5/13/2014	876.4	1.0	43.7	11.96	
	5/20/2014	893.4	1.0	44.7	12.12	4270
	5/28/2014	880.1	1.0	41.8	12.27	
P1715	5/6/2014	1035.0	1.3	51.6	17.23	4980
	5/13/2014	1058.0	1.3	50.9	17.08	

Mine Unit 6 Restoration Data

Well Name	Date	Na (ppm)	V (ppm)	Ca (ppm)	U (ppm)	Cond (umohs/l)
P1715	5/20/2014	1041.0	1.3	51.8	16.95	4490
	5/28/2014	1054.0	1.3	52.0	16.81	
P1778	5/6/2014	1029.0	0.8	59.9	8.88	4980
	5/13/2014	1041.0	0.8	58.4	8.85	
	5/20/2014	1053.0	0.9	60.1	9.00	5110
	5/28/2014	1057.0	0.9	60.8	9.48	
P1794	5/6/2014	1007.0	1.3	49.5	9.05	4870
	5/13/2014	925.3	1.2	42.6	8.32	
	5/20/2014	926.7	1.2	50.8	7.94	4480
	5/28/2014	928.1	1.2	48.6	8.38	
P1800	5/6/2014	972.9	0.6	70.4	9.23	4880
	5/13/2014	994.4	0.6	72.1	9.10	
	5/20/2014	980.7	0.6	73.4	9.31	4880
	5/28/2014	992.0	0.7	71.3	9.45	
P1865	5/6/2014	830.1	1.4	43.2	11.75	4110
	5/13/2014	839.7	1.5	42.6	11.88	
	5/20/2014	846.4	1.4	44.7	11.80	4130
	5/28/2014	855.6	1.4	44.0	12.02	