

**CAMECO RESOURCES
CROW BUTTE OPERATION**

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May 6, 2024

Electronic Submittal

DOCUMENT CONTROL DESK, DIRECTOR
U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

The enclosed report was provided to NDEE.

Class III UIC Permit NE0122611

April 2024 Monthly Restoration Report

Please find enclosed the Crow Butte Monthly Restoration Reports for Mine Units 2, 3, 4, 5, 6, 7 and 8. Mine Unit 6 first stability was taken in March. The reverse osmosis (RO) units continue to inject permeate and reductant into Mine Units 7 and 8.

Mine Units 2, 3, 4 and 5 remained in stability monitoring.

If you have any questions regarding this submittal, please feel free to contact me at (308) 665-2215, ext. 121.

Sincerely,

Cameco Resources

Crow Butte Operation



Tate Hagman

Restoration Manager

Enclosures: As Stated

cc: Tom Lancaster; Document Control Desk; Deputy Director, Division of Decommissioning – NRC
CBO - File

ec: CR – Electronic File
Kory Winters – NDEE Field Office
Daniel Kroll, UIC/ME Coordinator, NDEE

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 April 2024
 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 Recirculatoin		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 THE MONTH: (Assay results attached)

No in-house samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 April 2024
 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 Recirculatoin		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 THE MONTH: (Assay results attached)

No in-house samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 April 2024
 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	
d. Wellfield Recirculatoin		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 THE MONTH: (Assay results attached)

No in-house samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 April 2024
 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	
d. Wellfield Recirculatoin		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 THE MONTH: (Assay results attached)

No in-house samples were collected during the month.

CROW BUTTE MINE
 MONTHLY RESTORATION REPORT
 April 2024
 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	
d. Wellfield Recirculatoin		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 THE MONTH: (Assay results attached)

No in-house samples were collected during the month.

CROW BUTTE MINE
MONTHLY RESTORATION REPORT
April 2024
Mine Unit 7

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 and RO BL-17 P2144 CM4-14 P2197 CM4-15 P2219 CM4-17 P2316 I1975P P2384 P2037 P2476 P2038 P2523 P2040 P5268 P2103 P5278 P2125
d. Wellfield Recirculatoin		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 THE MONTH: (Assay results attached)

- BL-17 P5278
- CM4-12
- CM4-13
- CM4-15
- CM4-17
- I1971P
- I1975P
- P2037
- P2038
- P2125
- P2316
- P2384
- P2476
- P2523
- P5268

Mine Unit 7 Restoration Data

Well ID	Date	Alk	Ca	Cl	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
BL-17	4/9/2024	351	6.73	73	2.10	260	141	1185	8.07	735	0.01	0.34	1.23
CM4-12	4/9/2024	534	30.20	137	9.43	422	369	2135	7.29	1324	0.06	0.93	0.05
CM4-13	4/9/2024	525	33.05	106	8.55	380	308	1888	7.58	1171	0.02	1.72	0.27
CM4-15	4/9/2024	491	26.77	118	7.96	392	329	1933	7.51	1198	0.00	0.59	0.40
CM4-17	4/9/2024	539	37.41	181	11.48	462	391	2290	7.7	1420	0.04	0.35	-0.01
I1971P	4/9/2024	641	34.29	145	9.28	506	415	2386	7.51	1479	0.01	0.64	0.20
I1975P	4/9/2024	537	22.47	109	7.28	393	290	1900	7.58	1178	0.01	1.62	0.17
P2037	4/9/2024	666	48.46	188	13.96	541	490	2704	7.32	1676	0.09	2.19	0.01
P2038	4/9/2024	667	48.05	190	13.91	538	489	2720	7.46	1686	0.03	2.25	0.01
P2125	4/9/2024	533	21.35	129	6.57	440	375	2126	7.32	1318	0.04	1.64	0.04
P2316	4/9/2024	597	45.29	131	10.47	432	366	2195	7.56	1361	0.01	1.90	0.35
P2384	4/9/2024	483	29.54	135	8.79	405	358	1999	7.86	1239	0.01	2.08	0.32
P2476	4/9/2024	318	14.26	84	3.56	261	178	1235	7.61	766	0.03	0.52	0.50
P2523	4/9/2024	280	7.82	54	2.41	211	121	960	7.51	595	0.00	0.19	0.47
P5268	4/9/2024	398	22.60	108	5.49	328	260	1599	7.67	991	0.01	0.39	0.56
P5278	4/9/2024	452	16.80	87	4.78	336	236	1571	7.83	974	0.01	1.14	0.94

CROW BUTTE MINE
MONTHLY RESTORATION REPORT
April 2024
Mine Unit 8

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 and RO I2671P P2900 P3277 P3876 I2688P P2908 P3287 P3945 I2791 P2912 P3316 P6108 I3699P P2952 P3356 P6110 P2696 P2965 P3358 P6127 P2698 P2977 P3390 P2700 P3208 P3415 P2724 P3253 P3441 P2825 P3266 P3696 P2897 P3268 P3735
d. Wellfield Recirculatoin		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 THE MONTH: (Assay results attached)

CM6-27	P2825	P3876
CM8-23	P2845	
CM8-24	P2952	
CM8-25	P3208	
I2671P	P3266	
I2674P	P3268	
I2675P	P3277	
I2688P	P3287	
I2697P	P3316	
I2791P	P3356	
I3699P	P3358	
P2696	P3390	
P2698	P3441	
P2700	P3696	
P2724	P3735	

Mine Unit 8 Restoration Data

Well ID	Date	Alk	Ca	Cl	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
CM6-27	4/9/2024	388	13.84	155	4.44	372	294	1810	8.13	1122	0.01	0.11	0.09
CM8-23	4/9/2024	345	13.01	151	3.79	360	297	1723	8.18	1068	0.01	0.02	-0.05
CM8-24	4/9/2024	343	15.35	168	4.41	368	316	1827	8.12	1133	0.02	0.05	-0.06
CM8-25	4/9/2024	319	11.20	136	3.40	333	268	1580	8.29	980	0.02	0.15	-0.04
I2671P	4/9/2024	384	4.91	89	1.72	295	171	1350	8.58	837	0.01	1.85	0.95
I2674P	4/9/2024	327	6.25	88	2.04	275	188	1295	8.34	803	0.01	2.40	0.78
I2675P	4/9/2024	320	5.16	79	1.82	258	162	1198	8.17	743	0.01	1.79	0.53
I2688P	4/9/2024	302	8.09	73	2.52	245	157	1129	8.43	700	0.02	0.92	0.67
I2697P	4/9/2024	336	3.40	78	1.45	273	166	1238	8.53	768	0.00	1.56	1.15
I2791P	4/9/2024	290	9.94	98	2.78	273	212	1307	8.43	810	0.07	0.74	-0.03
I3699P	4/9/2024	567	24.75	201	6.72	515	419	2476	7.84	1535	0.00	3.62	0.24
P2696	4/9/2024	242	6.20	73	1.94	220	158	1037	8.15	643	0.03	1.10	0.18
P2698	4/9/2024	483	13.03	151	4.51	419	314	1982	8.16	1229	0.00	1.70	0.64
P2700	4/9/2024	651	42.49	326	12.70	667	597	3311	7.81	2053	0.01	0.92	0.07
P2724	4/9/2024	412	6.88	115	2.84	344	232	1606	8.3	996	0.00	2.81	1.32
P2825	4/9/2024	332	12.13	95	2.99	273	187	1316	8.16	816	0.02	1.11	0.93
P2845	4/9/2024	374	11.66	120	3.41	325	233	1568	8.19	972	0.00	0.78	1.25
P2952	4/9/2024	493	18.05	164	5.09	435	336	2092	8.22	1297	0.02	3.60	0.19
P3208	4/9/2024	482	16.79	171	4.85	436	340	2120	8.22	1314	0.01	2.34	0.17

Mine Unit 8 Restoration Data

Well ID	Date	Alk	Ca	Cl	Mg	Na	SO4	Cond	pH	TDS	Fe	U	V
P3266	4/9/2024	300	3.38	71	1.32	247	154	1122	8.53	696	0.01	1.38	0.56
P3268	4/9/2024	286	6.40	82	2.24	251	174	1174	8.12	728	0.01	1.48	0.42
P3277	4/9/2024	356	5.66	101	2.18	305	210	1435	8.19	890	0.01	1.70	0.44
P3287	4/9/2024	287	6.97	73	2.30	239	163	1122	8.39	696	0.00	1.07	0.24
P3316	4/9/2024	305	9.39	112	2.69	287	217	1390	8.25	862	0.01	1.09	0.23
P3356	4/9/2024	209	4.84	75	1.46	206	166	998	7.59	619	0.02	0.14	-0.05
P3358	4/9/2024	259	6.31	95	2.02	260	208	1244	7.9	771	0.02	1.65	0.14
P3390	4/9/2024	308	8.02	92	2.33	273	197	1293	8.21	802	0.01	1.30	0.09
P3441	4/9/2024	839	43.72	0	13.73	848	723	4045	8.09	2508	0.01	7.89	0.21
P3696	4/9/2024	360	8.39	103	2.61	301	207	1431	8.22	887	0.02	1.87	0.57
P3735	4/9/2024	864	44.47	0	15.14	897	775	4231	7.84	2623	0.01	8.23	0.37
P3876	4/9/2024	236	3.25	63	1.03	212	141	962	8.12	596	0.01	0.62	0.31