CAMECO RESOURCES
CROW BUTTE OPERATION

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

(308) 665-2215
(308) 665-2341 – FAX

January 9, 2019

Attn: Document Control Desk, Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Quarterly Excursion Monitoring Report
Source Materials License No. SUA-1534, Docket No. 40-8943

Dear Sir or Madam:

Enclosed please find one copy of the Excursion Monitoring Report for the Crow Butte Uranium Project. The report is provided in accordance with License Condition 11.1(A) of Source Materials License SUA-1534. This report covers the fourth quarter of 2018.

If you have any questions concerning the report, please feel free to call me at (308) 665-2215 ext. 117.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Walter D. Nelson
SHEQ Coordinator

cc: Deputy Director, Division of Decommissioning
Uranium Recovery and Waste Programs
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
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CROW BUTTE URANIUM PROJECT

EXCURSION MONITORING REPORT

for

FOURTH QUARTER, 2018

USNRC Source Materials License SUA 1534

CAMECO RESOURCES
CROW BUTTE OPERATION

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P.O. Box 169 **(308) 665-2215**
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Excursion Monitoring and Corrective Actions

On November 29, 2018, well CM11-11 was placed on excursion status when the results of a confirmation sample exceeded the upper control limits. The well remained on excursion status at the end of the quarter, however, the last weekly sample collected during the quarter (December 26, 2018) was below the excursion criteria.

A summary of the weekly excursion indicator parameters and laboratory reports are included in Appendix A and Appendix B respectively.

Appendix A

Summary of

Weekly Excursion Indicator Parameter Values

Fourth Quarter, 2018

Submitted by:
Crow Butte Resources, Inc.
P.O. Box 169
Crawford, NE 69339

Permit No. SUA-1534

NRC
Excursion Monitoring Report
Quarter 4 of 2018

Submitted to:
Document Control Desk, Director
Office of Nuclear Material Safety & Safeguards
U.S.Nuclear Regulatory Commission
Washington, DC 20555-0001

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
BOW96-001	224	226	225	487	512	500	7.3	8.1	7.6
CM02-005	367	388	377	2106	2210	2164	215	220	217.7
CM02-006	259	264	262	905	944	928	60	63	61
CM02-007	259	266	263	1020	1044	1030	71	75	73.7
CM03-005	302	307	304	1901	1920	1909	185	194	188.9
CM03-006	299	305	301	1894	1910	1899	184	192	187.1
CM04-001	305	315	310	1777	1802	1793	177	183	180.6
CM04-002	311	316	313	1804	1837	1824	181	185	183.1
CM04-003	306	335	313	1750	1837	1812	179	184	181.1
CM04-004	323	338	331	1858	1920	1898	185	188	186.7
CM05-001	316	321	318	1731	1781	1760	162	168	164.8
CM05-002	306	312	308	1796	1822	1808	178	184	180
CM05-003	309	317	313	1794	1818	1808	178	181	179.7
CM05-004	312	317	314	1818	1833	1823	179	184	180.8
CM05-005	306	311	308	1796	1823	1811	178	181	179.2
CM05-006	307	311	309	1795	1826	1816	178	181	179.2
CM05-007	305	310	308	1794	1827	1815	179	180	179.8
CM05-008	310	315	313	1838	1857	1845	179	183	181.2
CM05-009	305	310	307	1815	1840	1830	179	180	179.7
CM05-010	298	302	300	1840	1860	1850	173	179	177.3
CM05-011	311	315	312	1866	1886	1877	179	184	181
CM05-012	297	304	301	1836	1863	1853	181	186	183.3
CM05-013	296	305	300	1846	1864	1855	180	184	181.7
CM05-018	301	309	304	1864	1888	1877	182	189	185.7
CM05-019	301	312	306	1743	1789	1759	163	173	165.9
CM05-020	314	349	332	1907	2091	1999	186	211	197.6
CM05-021	303	308	306	1872	1906	1888	182	186	184
CM05-022	302	307	304	1869	1898	1885	182	187	184

CM05-023	298	305	301	1864	1888	1875	182	185	183.9
CM05-024	301	306	304	1892	1910	1899	182	187	184.4
CM05-025	295	299	297	1880	1908	1891	173	178	175.3
CM05-026	301	305	303	1896	1918	1904	183	188	185.4
CM05-027	303	307	306	1905	1927	1918	186	189	187
CM06-001	294	299	297	1814	1830	1823	177	181	178.3
CM06-002	295	300	299	1863	1884	1872	178	186	181.5
CM06-003	294	298	297	1862	1876	1869	178	181	179.5
CM06-004	297	304	301	1866	1880	1875	176	183	180
CM06-005	287	293	291	1888	1912	1904	179	183	180.5
CM06-006	298	305	301	1882	1893	1886	178	182	179.8
CM06-007	281	285	283	1912	1928	1918	179	182	180.5
CM06-008	290	297	294	1872	1895	1885	177	180	179
CM06-009	286	302	295	1866	1903	1886	176	186	180.3
CM06-010	290	302	296	1880	1917	1896	179	181	180.6
CM06-012	303	308	307	1874	1893	1885	179	188	184.6
CM06-013	302	310	306	1874	1893	1886	180	188	184.3
CM06-014	298	305	302	1877	1895	1885	179	186	183.3
CM06-015	297	303	300	1882	1898	1889	177	184	181.7
CM06-016A	297	304	301	1869	1887	1879	178	184	181.3
CM06-017	303	310	307	1870	1885	1876	181	184	183.3
CM06-018	306	310	308	1854	1882	1868	179	184	181.6
CM06-019	308	311	310	1846	1879	1861	179	184	181.7
CM06-025	305	313	308	1833	1866	1848	182	186	183.1
CM06-026	308	316	310	1831	1856	1842	180	185	182
CM06-028	319	326	322	1763	1795	1780	173	177	174.7
CM06-029	309	316	312	1837	1863	1850	180	185	181.6
CM06-030	316	322	319	1794	1814	1805	175	181	177.6
CM06-031	318	327	321	1814	1835	1824	175	180	177.3
CM06-032	317	324	320	1826	1841	1833	176	180	178.4
CM07-010	296	303	300	1831	1859	1844	186	191	187.5
CM07-011	296	301	298	1857	1871	1864	185	190	187.5
CM07-012	294	301	297	1860	1870	1864	186	192	187.7
CM07-013	291	299	296	1871	1890	1879	184	187	185.3

CM07-014	292	301	297	1886	1904	1898	184	186	185
CM07-015	300	305	302	1891	1911	1899	186	190	187.5
CM07-016	303	329	310	1907	2007	1936	185	205	190.3
CM08-001	287	296	291	1885	1928	1906	177	182	178.9
CM08-002	281	286	283	1869	1904	1884	176	181	178.6
CM08-003	281	290	287	1856	1905	1875	178	183	179.3
CM08-004	291	301	297	1856	1895	1870	179	183	180.7
CM08-005	284	292	289	1848	1881	1862	179	183	181
CM08-006	293	303	299	1859	1893	1870	180	183	181
CM08-007	310	316	313	1855	1898	1874	179	185	183
CM08-008	313	324	320	1864	1898	1882	183	187	184.9
CM08-009	312	320	317	1811	1849	1831	175	178	176.7
CM08-010	315	321	317	1793	1824	1806	173	181	178.1
CM08-011	315	320	318	1791	1831	1810	170	178	175.4
CM08-012	320	326	322	1812	1840	1826	172	180	175.1
CM08-019	317	327	321	1758	1791	1781	170	173	171.3
CM08-020	318	323	320	1765	1781	1777	171	177	173.3
CM08-021	321	326	323	1773	1792	1785	169	174	171.7
CM08-022	318	331	324	1778	1796	1790	170	173	171.7
CM08-026	315	320	318	1775	1794	1787	170	175	173.5
CM08-027	317	327	321	1782	1808	1792	172	176	173.7
CM08-028	321	328	324	1776	1800	1788	172	178	174.1
CM09-008	298	301	300	1756	1786	1769	176	183	179
CM09-009	304	308	306	1745	1763	1756	177	183	179.9
CM09-010	303	306	305	1729	1749	1740	178	184	179.4
CM09-011	301	308	305	1747	1770	1760	179	183	180.3
CM09-012	303	307	305	1765	1781	1770	179	185	181.8
CM09-013	297	302	300	1764	1782	1770	178	182	180
CM09-014	304	307	306	1778	1800	1785	180	185	183
CM09-015	303	305	304	1781	1813	1795	180	183	181.2
CM09-016	302	309	306	1786	1801	1793	181	184	182.7
CM09-017	304	308	306	1789	1806	1796	181	183	181.8
CM09-018	302	306	305	1786	1806	1794	181	184	182.2
CM09-019	301	307	304	1801	1813	1805	181	185	184

CM09-020	294	302	299	1813	1830	1819	182	186	183.7
CM10-001	316	328	322	1805	1847	1822	173	177	175.1
CM10-002	317	322	319	1793	1835	1816	172	175	173.6
CM10-003	313	320	316	1806	1838	1821	175	182	177.9
CM10-004	319	327	323	1837	1868	1850	176	185	181.1
CM10-005	339	347	343	1940	1996	1966	199	208	202.3
CM10-006	317	323	320	1793	1823	1809	169	175	172.4
CM10-007	316	322	319	1778	1822	1805	168	173	170.7
CM10-008	322	330	325	1798	1818	1811	174	178	176.2
CM10-009	318	324	321	1789	1808	1800	170	176	173.2
CM10-010	368	385	377	1999	2082	2042	197	209	202.3
CM10-011	326	332	328	1772	1796	1783	166	171	168.7
CM10-012	343	355	347	1803	1824	1816	172	178	174.5
CM10-013	354	359	356	1727	1752	1737	167	173	170
CM10-014	352	357	354	1705	1733	1719	166	169	167.5
CM10-015	332	338	335	1745	1772	1757	162	165	164
CM10-016	311	319	316	1793	1820	1805	161	165	163.2
CM10-017	324	331	327	1796	1831	1814	162	166	164.7
CM10-020	322	337	332	1776	1801	1790	165	174	169.9
CM10-021	319	326	322	1774	1796	1786	165	170	167.9
CM10-022	324	331	327	1779	1802	1793	163	171	166.7
CM10-023	324	331	328	1775	1809	1793	163	169	167
CM10-024	326	332	328	1788	1821	1806	168	171	169.4
CM10-025	325	331	327	1783	1807	1798	168	172	169.9
CM10-026	322	325	324	1778	1802	1788	165	171	168.3
CM10-027	318	323	320	1790	1814	1800	170	177	172.6
CM10-028	317	323	319	1787	1799	1794	169	174	171.8
CM10-029	316	325	320	1782	1804	1796	170	173	172
CM10-030	322	326	323	1789	1806	1799	169	173	171.5
CM10-031	316	323	319	1779	1799	1791	168	173	170.3
CM10-032	318	322	320	1812	1830	1819	160	166	162.7
CM10-033	339	346	343	1746	1768	1760	166	168	167
CM10-034	341	350	345	1780	1799	1789	171	180	174.7
CM11-001	299	305	303	1796	1823	1808	178	181	179.3

CM11-002A	299	306	302	1795	1818	1803	179	180	179.7
CM11-003	316	326	321	1852	1884	1868	182	185	183.6
CM11-004	297	306	302	1784	1804	1792	175	178	176.4
CM11-005	299	308	304	1786	1801	1792	177	179	178.1
CM11-006	304	351	329	1787	1947	1880	178	193	185.9
CM11-007	296	306	301	1776	1794	1783	175	179	176.3
CM11-008	301	309	305	1797	1824	1816	178	180	179
CM11-009	293	302	298	1781	1795	1785	172	175	173.4
CM11-010	300	308	304	1772	1806	1793	173	177	175
CM11-011	0	487	375	0	2483	2000	0	233	189.4
CM11-012	301	307	304	1751	1769	1761	173	178	174.6
CM11-013	302	306	304	1745	1771	1756	173	179	176.1
CM11-014	302	308	304	1745	1766	1754	176	180	177.1
CM11-015	278	300	292	1715	1763	1742	174	201	182.4
CM11-016	301	306	304	1727	1750	1740	173	179	175.7
CM11-017	301	308	304	1726	1754	1742	173	179	176.1
CM11-018	307	311	309	1738	1761	1748	176	181	178
CM11-019	301	308	305	1736	1761	1749	173	180	176.4
IJ013P	322	331	325	1270	1307	1286	103	108	105
PR008	323	331	328	1246	1268	1255	94	98	96.5
PR015	288	295	291	1087	1098	1092	81	83	82
SM02-001	189	192	191	508	520	515	14	15	14.2
SM02-002	167	171	169	443	456	451	11	11	11
SM02-003	197	200	198	525	542	536	16	16	16
SM03-001	206	208	207	643	651	649	12	12	12
SM03-002	178	181	180	433	435	434	3.4	3.7	3.6
SM03-003	177	179	178	441	444	443	5.4	5.9	5.7
SM04-001	156	158	157	353	359	356	2.2	3.3	2.7
SM04-002	194	200	197	606	617	612	15	16	15.4
SM04-003	186	188	187	599	605	602	12	13	12.3
SM04-004	207	211	209	605	610	608	13	13	13
SM04-005A	197	199	198	520	527	523	11	12	11.7
SM04-006	268	271	269	623	644	635	14	14	14
SM04-007	178	182	180	501	510	505	17	18	17.9

SM04-008	286	290	288	652	679	665	12	12	12
SM04-009	275	279	276	644	652	648	12	13	12.1
SM04-010A	296	299	297	684	692	690	12	12	12
SM04-011A	287	291	289	668	681	676	11	11	11
SM05-001	232	236	234	573	592	584	12	12	12
SM05-002	192	195	194	428	443	438	5	5.7	5.4
SM05-003	227	228	228	554	578	569	12	12	12
SM05-004	209	212	211	535	551	544	16	16	16
SM05-005	235	238	237	570	593	581	11	12	11.2
SM05-006	208	211	210	547	563	556	13	13	13
SM05-007	212	215	213	543	560	552	9.7	9.9	9.8
SM05-008	207	210	209	530	546	540	12	13	12.3
SM05-009	206	210	207	531	539	535	11	12	11.6
SM05-010	209	213	211	536	542	540	10	11	10.6
SM05-011	215	219	218	555	561	557	10	11	10.9
SM05-012	210	213	211	538	546	543	10	11	10.7
SM05-013	200	203	201	533	539	535	13	13	13
SM05-014	183	186	184	473	478	475	8.4	9.1	8.8
SM05-015	203	207	205	528	534	531	12	12	12
SM05-016	182	185	184	438	446	442	5.4	5.7	5.6
SM05-017	167	171	169	401	408	404	1.5	2.5	2.0
SM05-018	172	175	174	417	425	423	3	3.2	3.1
SM05-019	182	187	185	462	470	467	4.6	5.1	4.8
SM05-020	178	181	179	460	470	466	5.2	5.7	5.4
SM05-021	181	186	183	450	458	454	4.7	5.1	4.9
SM05-022	183	186	184	451	456	453	3.6	4	3.7
SM05-023	182	185	184	449	454	451	3.6	3.8	3.7
SM05-024	172	176	174	427	432	431	5.2	5.5	5.4
SM05-025	172	174	173	445	452	448	6	6.3	6.2
SM06-001	210	214	212	521	530	525	7.2	8.1	7.6
SM06-002	207	210	209	530	538	534	10	11	10.5
SM06-003	202	205	204	520	528	526	9.6	9.9	9.8
SM06-004	207	213	210	509	516	513	8.2	8.5	8.4
SM06-005	214	217	216	503	508	505	7.2	7.5	7.4

SM06-006	223	227	225	456	464	461	3.3	3.7	3.5
SM06-007	224	228	226	481	488	484	6.8	7.2	7.0
SM06-008	208	211	210	484	489	486	8.9	9.1	9.0
SM06-009	221	225	223	468	475	472	5.8	6.1	6.0
SM06-010	203	208	206	482	492	486	8.4	9.1	8.8
SM06-011	213	216	214	506	517	511	12	13	12.4
SM06-012	234	238	236	498	506	502	7.3	7.6	7.4
SM06-013	242	245	244	503	508	506	6	6.5	6.4
SM06-014	204	209	207	531	540	536	12	13	12.9
SM06-015	207	210	208	518	525	522	10	11	10.9
SM06-016	209	212	211	432	440	436	3.9	4.3	4.1
SM06-017	235	239	237	470	477	472	3.9	4.4	4.1
SM06-018	199	202	201	532	541	537	15	16	15.3
SM06-019	207	210	209	477	488	482	9.4	10	9.7
SM06-020	211	213	212	498	521	508	11	12	11.1
SM06-021	219	222	221	518	538	527	12	13	12.1
SM06-022	208	211	210	460	468	464	7.2	7.6	7.4
SM06-023	251	266	259	536	550	542	7.1	8	7.4
SM06-024	240	242	241	527	532	529	7.9	8.3	8.1
SM06-025	217	220	219	522	530	525	12	13	12.1
SM06-026	205	208	207	465	467	466	8	8.4	8.2
SM06-027	226	233	229	497	502	499	7.7	8.1	7.9
SM06-028	274	281	279	636	642	638	11	12	11.1
SM07-001	177	183	179	423	445	432	3.7	4.7	4.1
SM07-002	165	167	167	390	396	393	3.2	3.4	3.3
SM07-003	171	173	172	418	425	423	4.2	4.7	4.4
SM07-004	163	166	165	388	392	390	3.8	4	3.9
SM07-005	168	171	170	413	420	415	4.3	4.5	4.4
SM07-006	154	156	155	360	365	362	4.8	5.3	5
SM07-007	169	171	171	419	424	421	4.5	4.7	4.6
SM07-008	167	171	170	459	467	463	8.4	8.9	8.6
SM07-009	169	171	170	409	413	411	4.2	4.5	4.4
SM07-010	168	171	170	424	428	426	4	4.4	4.1
SM07-011	142	145	144	333	335	334	3.1	3.4	3.2

SM07-012	167	170	169	429	444	434	3.8	4.6	4.1
SM07-013	152	155	153	357	370	362	4	5.1	4.7
SM07-014	136	139	138	323	329	327	3.8	4.1	4.0
SM07-015	141	145	142	318	320	319	3.3	3.6	3.4
SM07-016	140	143	142	320	324	322	2.9	3.2	3.1
SM07-017	174	186	181	383	409	398	3.3	4.2	3.9
SM07-018	139	140	140	325	329	326	2.8	3.2	3.0
SM07-019	142	145	144	337	341	339	3.6	4	3.7
SM07-020	143	149	147	330	338	332	1.5	2.1	1.9
SM07-021	143	146	145	331	332	331	2.4	2.8	2.6
SM07-022	146	150	149	332	336	334	2	2.8	2.5
SM07-023	178	180	179	443	446	445	3.9	4.2	4.1
SM07-024	187	191	188	536	564	556	7.6	8.3	8.0
SM07-025	156	158	157	350	352	351	3.3	3.5	3.4
SM08-001	234	241	236	491	505	496	6.1	6.8	6.6
SM08-002	236	243	241	494	511	505	6.1	6.5	6.3
SM08-003	230	233	231	494	502	497	7.4	7.5	7.4
SM08-004	223	224	224	503	511	506	9.5	10	9.7
SM08-005	246	252	250	542	550	547	8.1	8.8	8.6
SM08-006	243	253	250	547	580	565	8.7	9.8	9.2
SM08-007	246	252	250	554	565	560	9.1	9.3	9.2
SM08-008	241	244	243	501	508	504	6.2	6.5	6.3
SM08-009	240	242	241	506	515	510	6.2	6.9	6.7
SM08-010	239	248	244	539	552	544	8.7	9.2	9.0
SM08-011	234	237	235	520	535	529	8.4	8.8	8.6
SM08-012	243	246	245	548	559	554	8.8	9.1	8.9
SM08-013	229	232	231	522	531	525	10	11	10.1
SM08-014	234	237	235	528	540	534	9	9.3	9.1
SM08-015	223	227	225	518	528	521	8.2	8.6	8.4
SM08-016	230	232	231	541	555	544	8.5	8.7	8.6
SM08-017	243	246	245	549	563	556	8.9	9.2	9.1
SM08-018	234	236	235	529	543	538	10	10	10
SM08-019	239	241	240	531	545	539	8.4	8.8	8.6
SM08-020	226	228	227	525	540	533	8.4	8.7	8.5

SM08-021	228	230	229	525	541	533	8.5	9.3	8.8
SM08-022	240	242	241	565	584	575	8.7	9.1	8.9
SM08-023	227	230	228	520	533	528	8.5	8.8	8.7
SM08-024	226	232	229	524	539	531	9.1	9.4	9.2
SM08-025	250	252	251	595	613	605	10	11	10.3
SM08-026	225	233	230	515	523	518	8.8	9.3	9.0
SM08-027	228	237	234	495	506	500	6.8	7.3	7.0
SM08-028	236	246	242	526	564	542	7.1	7.7	7.3
SM08-029	259	263	261	612	628	616	12	12	12
SM08-030	194	198	197	436	441	439	11	11	11
SM08-031	233	237	235	499	504	502	6.2	6.9	6.6
SM09-001	169	172	171	400	411	407	3.6	4	3.8
SM09-002	160	165	163	367	376	371	3.3	3.5	3.4
SM09-003	163	165	164	364	372	368	1.4	3.4	3.0
SM09-004	147	150	149	354	358	356	4.1	4.4	4.2
SM09-005	144	145	144	302	310	307	2.1	3.1	2.7
SM09-006	142	145	144	295	299	297	1.6	2.3	2.0
SM09-007	162	165	164	386	388	387	3.5	3.7	3.6
SM09-008	162	165	164	380	384	383	2.5	3	2.8
SM09-009	152	155	154	358	361	360	3.2	3.4	3.3
SM09-010	146	149	148	336	339	338	2.6	2.9	2.8
SM09-011	147	150	149	343	345	344	2.7	3	2.8
SM09-012	161	164	163	378	382	381	2.6	2.8	2.7
SM09-013	145	147	146	329	331	330	3	3.3	3.1
SM09-014	141	143	142	311	313	312	1.7	2.3	2
SM09-015	141	144	143	312	315	314	1.6	2.1	1.9
SM09-016	142	144	143	293	296	295	1.2	1.8	1.6
SM09-017	141	143	143	312	316	314	2.8	3.2	3.1
SM09-018	142	145	144	307	311	310	1.3	1.8	1.6
SM09-019	136	139	138	301	304	303	2.7	3.1	2.8
SM09-020	139	143	141	305	308	306	1.6	2.4	2.0
SM10-001	299	312	307	693	721	707	14	14	14
SM10-002	230	235	233	519	528	523	8.3	8.5	8.4
SM10-003	248	251	250	538	547	542	7.7	8.3	8.1

SM10-004	238	241	240	515	522	519	7.1	7.4	7.2
SM10-005	238	242	240	511	521	517	6.8	7.1	6.9
SM10-006	328	353	344	732	771	754	13	14	13.3
SM10-007	305	321	314	693	717	705	13	14	13.6
SM10-008	264	293	278	599	666	631	11	15	12.9
SM10-009	239	245	242	519	544	530	8.3	8.8	8.5
SM10-010	237	240	239	519	529	524	8	8.3	8.2
SM10-011	250	260	255	572	592	581	10	11	10.1
SM10-012	266	274	270	607	623	615	11	11	11
SM10-013	237	241	239	530	540	535	9.1	9.4	9.2
SM10-014A	247	255	251	565	573	569	9.9	10	10.0
SM10-015	241	243	242	535	542	538	9.1	9.4	9.3
SM10-016	249	253	251	568	575	571	12	12	12
SM10-017	244	247	246	541	548	544	11	11	11
SM10-018	240	242	241	527	532	529	8.7	9.4	9.1
SM10-019	250	253	251	549	559	555	9.2	9.9	9.5
SM10-020	235	238	237	553	563	558	17	19	18
SM10-021	240	243	242	570	575	573	17	18	17.7
SM10-022	242	245	243	537	546	541	11	11	11
SM10-023	236	239	238	539	550	545	14	15	14.9
SM10-024	229	233	231	523	530	525	9.9	11	10.7
SM10-025	226	233	229	516	525	521	10	11	10.9
SM10-026	246	249	248	561	572	569	14	15	14.9
SM10-027	246	263	254	539	579	555	9.1	10	9.7
SM10-028A	234	261	248	580	620	602	25	26	25.4
SM10-029A	254	267	260	567	591	578	12	13	12.7
SM10-030	241	243	242	515	530	521	7.2	7.5	7.4
SM10-031	240	242	241	524	538	532	7.5	7.8	7.7
SM10-032	241	243	242	512	526	519	6.3	7.2	6.8
SM11-001	163	165	164	395	401	398	5.1	5.4	5.3
SM11-002	140	143	142	311	316	313	3.1	3.5	3.4
SM11-003	143	146	145	313	320	317	2	2.3	2.2
SM11-004	140	143	141	297	303	300	1.2	2.3	1.9
SM11-005	139	142	140	309	314	312	3.8	4.2	3.9

SM11-006	142	145	144	308	315	312	3.2	3.8	3.4
SM11-007	142	145	144	297	303	299	2.5	2.9	2.8
SM11-009	151	155	153	299	303	301	1	1.5	1.2
SM11-010	156	159	158	311	314	312	1.7	2.3	2.1
SM11-011	148	150	149	337	342	339	3.1	3.4	3.2
SM11-012	145	147	146	322	325	324	3.1	3.6	3.4
SM11-013	141	144	143	288	292	289	1.2	1.8	1.4
SM11-014	136	140	139	284	290	287	1.6	2.2	1.9
SM11-015	137	140	139	298	302	300	2.1	2.8	2.3
SM11-016	143	148	145	294	298	295	2.3	2.6	2.5
SM11-017	142	145	144	286	290	288	2.5	2.9	2.8
SM11-018	139	142	141	297	301	299	4.4	4.9	4.7
SM11-019	141	144	143	304	310	306	1.4	2	1.7
SM11-020	162	165	163	395	400	397	5.2	5.8	5.6
SM11-022	168	171	169	447	453	450	6.9	7.1	7
SM11-023	167	171	170	394	398	396	5.1	5.5	5.2
SM11-024	156	159	157	392	400	395	4.6	5.5	5.1
SM11-025	160	162	162	398	401	400	3.2	3.6	3.4
SM11-026	149	152	151	331	348	344	2.2	3.1	2.8

Appendix B

Monitor Well Laboratory Reports

Fourth Quarter, 2018

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 12/26/2018

Analysis Date: 12/26/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM03-005	304	433	361	1901	2814	2345	194	318	265
CM03-006	303	441	367	1896	2799	2333	192	300	250
CM05-018	307	441	367	1875	2916	2430	187	315	263
CM05-019	308	425	354	1789	2916	2430	173	320	266
CM05-020	346	445	371	2040	2929	2441	208	310	258
CM05-021	306	441	367	1880	2910	2425	186	275	229
CM05-022	307	435	362	1877	2903	2419	187	302	252
CM05-023	304	433	361	1869	2916	2430	185	317	264
CM05-024	305	383	319	1892	2887	2406	184	317	264
CM05-025	297	438	365	1889	2982	2485	174	314	262
CM05-026	305	433	361	1896	2900	2417	188	302	252
CM05-027	306	445	371	1905	2974	2478	187	320	266
CM06-012	308	436	364	1886	2794	2328	185	279	233
CM06-013	306	446	372	1886	2866	2388	188	285	238
CM06-014	298	436	364	1879	2909	2424	184	297	247
CM06-015	303	444	370	1898	2779	2316	184	287	239
CM06-016A	302	418	348	1881	3082	2568	183	338	282
CM06-017	308	442	368	1882	2779	2316	184	275	229
CM06-018	308	442	368	1875	2909	2424	184	302	252
CM06-019	310	452	377	1865	2880	2400	184	295	246
CM11-011	422	433	361	2225	2736	2280	210	278	232
SM05-009	207	314	262	531	870	726	12	36	30
SM05-010	210	324	270	536	901	751	10	36	30
SM05-011	219	341	284	555	942	785	11	41	34
SM05-012	212	327	272	541	920	767	11	43	36
SM05-013	202	314	262	533	880	733	13	39	32
SM05-014	186	304	253	474	854	712	9.1	31	26
SM05-015	206	311	259	530	973	811	12	60	50
SM05-016	185	285	238	438	732	610	5.5	30	25
SM05-017	169	264	220	401	694	578	1.5	27	23
SM05-018	175	259	216	417	707	589	3.2	31	26
SM05-019	187	285	238	466	757	631	4.8	27	22

WD

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 12/19/2018

Analysis Date: 12/19/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
BOW96-001	225	314	262	498	791	659	7.5	24	20
CM05-001	318	462	385	1755	2884	2404	168	304	253
CM05-002	309	448	373	1803	2860	2383	184	297	247
CM05-003	309	449	374	1806	2949	2458	180	324	270
CM05-004	313	454	378	1821	2896	2413	181	305	254
CM05-005	309	455	379	1802	2880	2400	179	297	247
CM05-006	307	458	382	1818	2844	2370	181	292	244
CM05-007	309	433	361	1812	2870	2392	180	288	240
CM05-008	311	448	373	1838	2876	2396	181	289	241
CM05-009	306	433	361	1825	2864	2387	179	289	241
CM05-010	298	403	336	1849	2943	2453	178	333	277
CM05-011	312	438	365	1876	2897	2414	181	307	256
CM08-019	318	461	384	1758	2909	2424	172	278	232
CM08-020	319	467	389	1765	3038	2532	177	305	254
CM08-021	321	449	374	1773	2952	2460	174	261	217
CM08-022	321	461	384	1778	2966	2472	173	266	222
CM08-026	318	467	389	1775	2650	2208	175	266	222
CM10-028	319	461	384	1787	2736	2280	174	265	221
CM10-029	317	461	384	1782	2808	2340	173	281	234
CM10-030	322	454	378	1789	2678	2232	173	253	211
CM10-031	319	446	372	1779	2678	2232	171	253	211
CM11-011	442	433	361	2333	2736	2280	216	278	232
SM02-001	191	305	254	520	865	721	14	56	47
SM02-002	171	314	262	455	1210	1008	11	63	53
SM02-003	200	344	287	542	969	808	16	37	31
SM04-006	271	361	301	643	1103	919	14	34	28
SM04-008	286	389	324	669	1109	924	12	27	23
SM05-001	236	363	302	589	1032	860	12	57	47
SM05-002	195	287	239	443	714	595	5.5	27	22
SM05-003	228	351	293	576	1048	874	12	81	68
SM05-004	212	327	272	551	973	811	16	66	55
SM05-005	238	367	306	593	1041	868	12	65	54

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 12/12/2018

Analysis Date: 12/12/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM08-010	316	441	367	1796	3038	2532	180	315	263
CM08-011	319	446	372	1800	3053	2544	176	325	271
CM08-012	324	461	384	1820	3038	2532	174	305	254
CM10-001	321	469	391	1805	2822	2352	176	305	254
CM10-002	321	474	395	1807	2707	2256	174	262	218
CM10-003	317	474	395	1810	2736	2280	175	266	222
CM10-004	325	468	390	1837	2794	2328	184	288	240
CM10-005	345	464	386	1941	3082	2568	201	389	324
CM10-006	323	482	402	1805	2750	2292	173	281	234
CM10-007	318	482	402	1785	2765	2304	170	278	232
CM11-001	305	438	365	1805	2808	2340	181	297	247
CM11-002A	303	442	368	1797	2794	2328	180	285	238
CM11-003	323	439	366	1865	2693	2244	184	272	227
CM11-004	303	464	386	1787	2678	2232	176	268	223
CM11-005	305	451	376	1786	2664	2220	177	274	228
CM11-006	351	436	364	1947	2707	2256	193	269	224
CM11-007	303	432	360	1781	2707	2256	177	272	227
CM11-008	308	462	385	1824	2678	2232	180	274	228
CM11-009	301	439	366	1785	2765	2304	174	276	230
CM11-010	305	436	364	1786	2707	2256	175	284	236
CM11-011	456	433	361	2415	2736	2280	224	278	232
SM04-003	186	361	301	599	1251	1043	12	38	32
SM04-004	210	266	222	607	1099	916	13	62	52
SM10-001	312	469	391	715	994	828	14	37	31
SM10-002	235	338	282	527	763	636	8.3	24	20
SM10-003	248	386	322	541	821	684	8.2	24	20
SM10-004	241	346	288	519	778	648	7.2	24	20
SM10-005	241	350	292	515	763	636	6.9	23	19
SM10-006	353	501	418	770	1123	936	14	33	28
SM10-007	318	403	336	717	965	804	14	33	27
SM10-008	291	403	336	662	907	756	14	31	26
SM10-009	240	389	324	525	835	696	8.4	28	23

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 12/05/2018

Analysis Date: 12/05/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
BOW96-001	225	314	262	502	791	659	7.6	24	20
CM05-001	316	462	385	1731	2884	2404	163	304	253
CM05-002	312	448	373	1796	2860	2383	178	297	247
CM05-003	317	449	374	1794	2949	2458	181	324	270
CM05-004	317	454	378	1818	2896	2413	181	305	254
CM05-005	308	455	379	1796	2880	2400	179	297	247
CM05-006	311	458	382	1795	2844	2370	179	292	244
CM05-007	310	433	361	1794	2870	2392	180	288	240
CM05-008	315	448	373	1843	2876	2396	182	289	241
CM05-009	310	433	361	1815	2864	2387	180	289	241
CM05-010	302	403	336	1840	2943	2453	179	333	277
CM05-011	315	438	365	1866	2897	2414	180	307	256
CM08-019	327	461	384	1791	2909	2424	172	278	232
CM08-020	322	467	389	1781	3038	2532	173	305	254
CM08-021	325	449	374	1790	2952	2460	173	261	217
CM08-022	331	461	384	1791	2966	2472	173	266	222
CM08-026	320	467	389	1789	2650	2208	174	266	222
CM10-028	323	461	384	1794	2736	2280	174	265	221
CM10-029	325	461	384	1789	2808	2340	173	281	234
CM10-030	326	454	378	1800	2678	2232	173	253	211
CM10-031	323	446	372	1790	2678	2232	173	253	211
CM11-011	487	433	361	2483	2736	2280	233	278	232
SM02-001	191	305	254	515	865	721	14	56	47
SM02-002	169	314	262	454	1210	1008	11	63	53
SM02-003	198	344	287	537	969	808	16	37	31
SM04-006	269	361	301	638	1103	919	14	34	28
SM04-008	288	389	324	667	1109	924	12	27	23
SM05-001	235	363	302	584	1032	860	12	57	47
SM05-002	195	287	239	440	714	595	5.4	27	22
SM05-003	228	351	293	571	1048	874	12	81	68
SM05-004	212	327	272	545	973	811	16	66	55
SM05-005	238	367	306	582	1041	868	11	65	54

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 11/29/2018

Analysis Date: 11/29/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM06-025	313	433	361	1851	2952	2460	186	317	264
CM06-026	311	448	373	1845	2952	2460	185	338	282
CM06-028	326	449	374	1782	2894	2412	177	307	256
CM06-029	316	448	373	1856	3024	2520	185	321	268
CM06-030	319	459	383	1809	2952	2460	178	328	274
CM06-031	327	464	386	1824	2851	2376	179	301	251
CM06-032	324	461	384	1836	2981	2484	180	292	244
CM08-027	327	475	396	1797	2794	2328	174	314	262
CM08-028	328	480	400	1790	2650	2208	174	264	220
CM11-011	482	433	361	2445	2736	2280	228	278	232
SM06-023	262	314	262	544	691	576	7.5	23	19
SM06-024	242	310	258	528	672	560	8.3	24	20
SM06-025	220	324	270	523	696	580	12	24	20
SM06-026	207	308	257	466	726	605	8.4	24	20
SM06-027	229	317	264	499	677	564	7.9	23	20
SM06-028	281	351	293	637	778	648	11	24	20
SM08-026	231	317	264	516	720	600	9.2	24	20
SM08-027	235	353	294	500	706	588	7	22	19
SM08-028	242	328	274	540	801	667	7.1	24	20
SM08-029	262	338	282	612	763	636	12	26	22
SM08-030	198	284	236	439	672	560	11	38	32
SM08-031	236	350	292	502	750	625	6.8	28	23
SM11-016	145	213	178	294	461	384	2.5	23	19
SM11-017	144	210	175	287	432	360	2.7	21	17
SM11-018	141	207	173	299	475	396	4.8	28	23
SM11-019	143	204	170	305	533	444	2	35	29
SM11-020	164	235	196	398	590	492	5.7	23	19
SM11-022	171	288	240	451	773	644	7	32	27
SM11-023	170	246	205	395	662	552	5.1	32	27
SM11-024	157	233	194	392	619	516	5.2	26	21
SM11-025	162	235	196	399	590	492	3.4	21	18
SM11-026	151	228	190	345	547	456	2.9	22	18

Cameco

Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 11/28/2018

Analysis Date: 11/28/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM08-010	318	441	367	1793	3038	2532	180	315	263
CM08-011	315	446	372	1791	3053	2544	177	325	271
CM08-012	320	461	384	1812	3038	2532	177	305	254
CM10-001	328	469	391	1807	2822	2352	177	305	254
CM10-002	318	474	395	1793	2707	2256	173	262	218
CM10-003	316	474	395	1806	2736	2280	178	266	222
CM10-004	327	468	390	1846	2794	2328	185	288	240
CM10-005	340	464	386	1940	3082	2568	201	389	324
CM10-006	321	482	402	1793	2750	2292	173	281	234
CM10-007	320	482	402	1778	2765	2304	171	278	232
CM11-001	305	438	365	1812	2808	2340	178	297	247
CM11-002A	306	442	368	1809	2794	2328	179	285	238
CM11-003	326	439	366	1871	2693	2244	184	272	227
CM11-004	306	464	386	1794	2678	2232	178	268	223
CM11-005	308	451	376	1796	2664	2220	179	274	228
CM11-006	334	436	364	1890	2707	2256	188	269	224
CM11-007	306	432	360	1779	2707	2256	177	272	227
CM11-008	309	462	385	1824	2678	2232	180	274	228
CM11-009	302	439	366	1786	2765	2304	175	276	230
CM11-010	308	436	364	1794	2707	2256	177	284	236
CM11-011	482	433	361	2462	2736	2280	229	278	232
SM04-003	187	361	301	600	1251	1043	12	38	32
SM04-004	208	266	222	605	1099	916	13	62	52
SM10-001	311	469	391	711	994	828	14	37	31
SM10-002	234	338	282	526	763	636	8.5	24	20
SM10-003	249	386	322	542	821	684	8.3	24	20
SM10-004	239	346	288	517	778	648	7.3	24	20
SM10-005	242	350	292	511	763	636	7	23	19
SM10-006	352	501	418	771	1123	936	13	33	28
SM10-007	317	403	336	712	965	804	14	33	27
SM10-008	281	403	336	633	907	756	13	31	26
SM10-009	240	389	324	519	835	696	8.3	28	23