CAMECO RESOURCES
CROW BUTTE OPERATION

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

(308) 665-2215
(308) 665-2341 – FAX

February 9, 2017

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 2016.

If you have any questions concerning the report, please feel free to call me at (308) 665-2215 ext. 114.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Larry Teahon

Larry Teahon
Manager of Safety, Health, Environment & Quality

cc: Deputy Director, Division of Decommissioning
Uranium Recovery and Waste Programs
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Mail Stop T-8F5
11545 Rockville Pike
Two White Flint North
Rockville, MD 20852-2738

CBO – File

ec: CR – Electronic File

NMSS20

CAMECO RESOURCES
CROW BUTTE OPERATION

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

(308) 665-2215
(308) 665-2341 – FAX

CROW BUTTE URANIUM PROJECT

EXCURSION MONITORING REPORT

for

FOURTH QUARTER, 2016

USNRC Source Materials License SUA 1534

CAMECO RESOURCES
CROW BUTTE OPERATION

86 Crow Butte Road
P.O. Box 169 **(308) 665-2215**
Crawford, Nebraska 69339-0169 **(308) 665-2341 – FAX**

Excursion Monitoring and Corrective Actions

Biweekly excursion monitoring in the shallow aquifer and perimeter monitor wells was continued in Mine Units 2 through 11 during the fourth quarter of 2016. There were no monitor wells on excursion status during the quarter.

Appendix A contains a summary of the weekly excursion indicator parameter values.

Mine Unit 6 and 8 Water Quality Monitoring

In order to get a better understanding of the water chemistry in the English Creek area of Mine Units 6 and 8, Crow Butte implemented the following sampling plan:

1. Collected in Q4-2015, ten isotopic uranium samples from Mine Unit 6 and 8 wellfields that have not undergone restoration (RO) treatment. (Data submitted February 8, 2016).

2. Collected in Q4-2015, seven isotopic uranium samples from Mine Unit 6 and 8 production zone monitor wells that have not been impacted by mining fluids (e.g. no evidence of increasing trends in excursion indicator parameters). (Data submitted February 8, 2016).

3. Collected in Q4-2015, twenty four isotopic uranium samples from Mine Unit 6 and 8 shallow monitoring well wells that have been on excursion or with increasing excursion indicator parameters trends. (Data submitted February 8, 2016).

4. Collected in Q1-2016, seven isotopic uranium samples from Mine Unit 6 and 8 shallow monitoring wells that have not been on excursion and which do not show evidence of increasing or unusual trends in the excursion indicator parameters. (Data submitted May 16, 2016).

5. Collected in Q3-2016, nine excursion parameter water samples from the sediment sampling locations along English Creek. The samples included the headwaters/spring areas, midstream, and downstream along with the downstream impoundments. (Data submitted November 1, 2016).

6. Collected in Q4-2015, four core samples from four different locations within Mine Units 6 and 8. Testing of these samples will be based upon the results of the isotopic uranium sampling. (Data submitted February 8 2016).

7. Collect quarterly uranium samples from twenty four shallow monitor wells within the English Creek area. (Data submitted November 1, 2016).

Appendix A

Summary of

Weekly Excursion Indicator Parameter Values

Fourth Quarter, 2016

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

Permit No. SUA-1534

NRC
Excursion Monitoring Report
Quarter 4 of 2016

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	221	223	222	514	523	519	7.5	8.1	7.8
CM02-005	366	401	381	2191	2359	2273	219	235	226.5
CM02-006	270	273	272	1118	1182	1154	83	90	86.7
CM02-007	304	307	305	1329	1418	1369	100	113	105
CM03-005	297	305	300	1945	1963	1952	181	195	186
CM03-006	300	303	301	1939	1945	1942	184	187	185.1
CM04-001	305	312	308	1831	1856	1844	178	183	180.5
CM04-002	304	311	307	1842	1849	1845	179	184	182
CM04-003	303	306	304	1840	1852	1847	178	184	180.8
CM04-004	303	305	304	1846	1857	1851	178	184	179.7
CM05-001	307	309	308	1857	1875	1866	178	181	179.3
CM05-002	303	306	304	1840	1856	1847	177	180	178.5
CM05-003	304	308	306	1841	1850	1844	176	183	179.7
CM05-004	307	309	308	1850	1856	1852	178	184	181.2
CM05-005	303	306	304	1844	1851	1847	177	181	178.8
CM05-006	303	306	304	1839	1852	1846	176	181	178.5
CM05-007	300	305	302	1844	1847	1845	178	182	179.2
CM05-008	304	308	305	1860	1867	1863	177	183	179.3
CM05-009	299	304	302	1862	1869	1867	178	180	178.5
CM05-010	289	295	293	1882	1890	1886	175	177	176.3
CM05-011	302	308	305	1909	1917	1914	178	182	179.7
CM05-012	295	301	298	1876	1902	1893	179	186	181.8
CM05-013	288	291	289	1872	1887	1881	176	181	178.2

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
CM05-018	297	304	300	1900	1920	1908	181	184	182.9
CM05-019	298	303	301	1899	1920	1909	181	184	182.4
CM05-020	302	321	308	1916	2020	1947	183	197	188.1
CM05-021	300	303	302	1908	1917	1912	180	186	183.1
CM05-022	297	302	300	1910	1917	1913	180	186	182.9
CM05-023	294	298	296	1896	1907	1901	178	182	180.4
CM05-024	299	302	300	1922	1930	1926	181	185	183
CM05-025	295	299	296	1922	1930	1926	175	179	176.6
CM05-026	300	303	301	1933	1939	1936	180	186	182.9
CM05-027	303	307	305	1948	1962	1953	185	187	185.9
CM06-001	288	294	292	1850	1864	1857	174	177	175.7
CM06-002	296	300	298	1907	1912	1910	176	182	180
CM06-003	287	293	291	1900	1906	1904	176	182	178.8
CM06-004	297	300	299	1904	1913	1911	176	180	178.5
CM06-005	288	292	291	1948	1957	1953	180	183	181.3
CM06-006	300	304	302	1920	1926	1924	176	183	179.2
CM06-007	281	282	281	1942	1949	1946	176	184	179
CM06-008	292	295	294	1917	1921	1920	176	181	178.2
CM06-009	292	296	294	1911	1926	1918	177	179	178
CM06-010	291	295	293	1915	1934	1922	178	182	179.6
CM06-012	298	303	300	1899	1916	1907	182	186	183.6
CM06-013	299	304	300	1909	1920	1915	181	184	182.4
CM06-014	298	300	299	1910	1923	1915	181	185	183
CM06-015	293	298	295	1910	1929	1920	178	183	180.4
CM06-016A	296	300	298	1906	1914	1910	178	184	180.6
CM06-017	293	296	295	1891	1911	1904	177	180	178.1
CM06-018	298	302	301	1898	1914	1903	178	182	180.4

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
CM06-019	301	307	303	1886	1894	1891	176	182	180
CM06-025	299	301	300	1877	1901	1885	178	185	181.3
CM06-026	298	304	303	1869	1880	1875	177	183	180.1
CM06-028	314	320	318	1806	1819	1814	172	176	174
CM06-029	308	312	310	1870	1880	1874	178	185	180.6
CM06-030	313	317	316	1838	1844	1841	174	178	176.1
CM06-031	315	317	316	1856	1863	1859	177	179	178
CM06-032	314	319	318	1856	1862	1859	175	180	177.7
CM07-010	292	298	296	1879	1892	1885	183	187	185
CM07-011	293	297	295	1892	1910	1902	181	187	184.2
CM07-012	293	294	293	1898	1924	1906	183	187	185.2
CM07-013	290	293	292	1916	1925	1921	182	189	184.7
CM07-014	292	295	294	1922	1932	1927	184	186	185.2
CM07-015	297	300	298	1929	1939	1934	183	189	186.2
CM07-016	297	300	299	1932	1941	1936	182	191	186.3
CM08-001	287	292	289	1917	1933	1928	173	181	177.3
CM08-002	283	297	291	1906	1916	1910	175	183	179
CM08-003	280	288	283	1905	1917	1909	178	183	181
CM08-004	291	297	294	1817	1910	1894	173	183	179.6
CM08-005	280	289	286	1711	1897	1866	161	183	178.5
CM08-006	293	309	297	1800	1905	1888	168	182	179
CM08-007	309	317	312	1898	1935	1916	182	187	184.4
CM08-008	309	311	310	1884	1903	1895	180	185	182.6
CM08-009	313	316	314	1858	1869	1864	175	179	176.9
CM08-010	319	326	323	1863	1892	1880	181	184	182.3
CM08-011	313	316	315	1839	1855	1844	174	179	176.4
CM08-012	314	318	316	1841	1854	1847	173	177	175.4

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
CM08-019	315	317	316	1815	1825	1821	168	173	170.3
CM08-020	316	318	317	1800	1821	1810	168	171	169.7
CM08-021	314	317	316	1813	1825	1819	170	175	171.8
CM08-022	319	321	320	1816	1829	1824	170	174	171.7
CM08-026	313	317	315	1820	1824	1823	170	176	171.8
CM08-027	310	319	316	1817	1830	1824	169	175	172.1
CM08-028	317	321	319	1816	1825	1821	173	175	174.1
CM09-008	294	297	295	1793	1815	1803	172	178	174.4
CM09-009	302	304	303	1781	1800	1788	174	181	177.4
CM09-010	298	302	300	1769	1777	1772	170	180	176.7
CM09-011	300	303	302	1791	1795	1793	176	183	178.6
CM09-012	301	303	302	1793	1816	1804	178	181	179.5
CM09-013	296	300	298	1796	1815	1804	178	182	180.2
CM09-014	299	303	301	1815	1824	1820	181	184	183.3
CM09-015	300	303	302	1812	1830	1819	177	181	179
CM09-016	302	305	304	1824	1833	1828	181	183	181.8
CM09-017	301	304	303	1826	1832	1828	179	182	180.7
CM09-018	299	301	300	1818	1827	1822	180	182	181.2
CM09-019	298	302	300	1834	1841	1837	182	183	182.3
CM09-020	292	297	294	1852	1863	1856	180	184	182
CM10-001	321	332	325	1863	1899	1879	176	182	179.7
CM10-002	315	320	317	1841	1849	1844	170	178	173.1
CM10-003	314	326	316	1844	1913	1863	176	188	178.7
CM10-004	317	335	324	1864	1934	1891	179	187	182.9
CM10-005	357	361	359	2128	2140	2136	234	244	238
CM10-006	313	318	315	1829	1840	1835	172	175	172.9
CM10-007	317	319	318	1829	1839	1834	170	173	171.1

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
CM10-008	318	324	322	1824	1855	1842	172	174	172.8
CM10-009	314	321	318	1821	1834	1825	170	175	172
CM10-010	343	360	353	1943	2019	1989	186	196	192.2
CM10-011	320	325	323	1823	1859	1840	169	176	171.8
CM10-012	323	330	328	1798	1813	1808	166	170	168.7
CM10-013	339	342	340	1742	1759	1751	161	168	165.3
CM10-014	345	349	347	1710	1723	1717	163	166	164.3
CM10-015	334	338	336	1764	1772	1769	161	165	164
CM10-016	311	315	313	1829	1836	1833	161	164	162.8
CM10-017	325	331	328	1823	1835	1831	163	165	163.8
CM10-020	317	321	319	1810	1822	1815	163	167	165.3
CM10-021	318	322	320	1804	1821	1816	164	170	166.3
CM10-022	320	322	321	1822	1831	1828	164	173	168.2
CM10-023	322	327	324	1826	1834	1830	165	170	167.5
CM10-024	321	329	325	1836	1841	1839	168	170	168.7
CM10-025	320	325	324	1824	1836	1829	166	171	168.7
CM10-026	315	320	319	1809	1823	1815	166	171	168.8
CM10-027	313	320	316	1834	1840	1838	170	177	173.5
CM10-028	313	315	314	1829	1837	1834	169	175	172.3
CM10-029	316	319	317	1830	1836	1833	170	176	172
CM10-030	317	320	319	1831	1835	1833	169	176	171.3
CM10-031	315	318	316	1820	1830	1826	168	172	169.5
CM10-032	313	315	314	1849	1860	1853	163	169	165
CM10-033	323	328	326	1806	1829	1817	162	167	164.5
CM10-034	322	332	326	1802	1818	1807	164	170	167.8
CM11-001	299	302	300	1840	1849	1845	174	179	177
CM11-002A	300	303	302	1837	1850	1845	177	182	179

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
CM11-003	307	323	311	1854	1912	1872	176	193	182.1
CM11-004	299	305	301	1825	1835	1830	173	180	176.1
CM11-005	297	303	300	1825	1833	1828	173	179	177
CM11-006	309	335	324	1850	1939	1906	177	189	183
CM11-007	296	302	298	1809	1818	1812	170	177	174.1
CM11-008	297	304	301	1825	1846	1839	173	181	177
CM11-009	291	295	293	1820	1826	1824	168	175	172.7
CM11-010	294	303	298	1822	1855	1831	171	176	174.4
CM11-011	308	313	310	1844	1866	1856	170	179	176
CM11-012	296	299	298	1786	1799	1792	170	175	172.4
CM11-013	299	302	301	1797	1805	1799	174	180	176.4
CM11-014	299	302	300	1788	1797	1793	173	180	177.4
CM11-015	296	302	299	1782	1788	1785	171	176	173.6
CM11-016	300	302	301	1766	1772	1770	174	177	175.3
CM11-017	299	302	301	1768	1778	1775	170	179	174
CM11-018	302	315	310	1795	1827	1814	174	180	177.3
CM11-019	300	304	302	1786	1794	1789	174	181	176.6
IJ013P	296	316	307	1299	1436	1372	106	124	117.3
PR008	244	250	248	946	1042	997	71	82	75.7
PR015	266	273	268	1109	1140	1123	76	78	77
SM02-001	190	194	192	530	538	535	14	15	14.2
SM02-002	167	170	168	462	470	467	11	11	11
SM02-003	197	200	198	551	561	557	16	17	16.2
SM03-001	206	209	208	674	685	677	12	14	13.5
SM03-002	178	181	179	448	455	451	3.2	3.8	3.6
SM03-003	176	179	177	458	465	461	5.5	5.8	5.7
SM04-001	154	159	157	364	372	368	2.6	2.9	2.8

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM04-002	189	192	191	632	649	641	12	14	13.6
SM04-003	185	188	186	623	627	625	12	12	12
SM04-004	207	211	208	622	631	627	12	13	12.9
SM04-005A	195	197	197	536	544	540	11	11	11
SM04-006	266	269	268	652	663	659	14	14	14
SM04-007	181	185	183	521	533	527	17	18	17.3
SM04-008	287	291	289	683	702	696	12	12	12
SM04-009	284	288	285	679	696	687	12	12	12
SM04-010A	296	298	297	714	730	720	12	12	12
SM04-011A	290	294	292	705	718	710	11	11	11
SM05-001	231	235	233	601	611	608	12	12	12
SM05-002	191	194	192	447	457	453	5.6	5.8	5.7
SM05-003	225	229	226	586	595	592	12	12	12
SM05-004	209	213	210	563	570	566	16	17	16.2
SM05-005	235	239	236	598	607	603	11	11	11
SM05-006	208	212	210	571	582	578	13	13	13
SM05-007	211	216	214	567	580	575	9.4	9.8	9.6
SM05-008	208	208	208	557	564	561	12	12	12
SM05-009	205	208	206	549	557	551	11	11	11
SM05-010	206	211	208	552	560	555	10	11	10.1
SM05-011	215	217	216	571	580	575	10	11	10.7
SM05-012	207	210	209	554	563	558	10	10	10
SM05-013	198	201	200	546	555	550	11	13	12
SM05-014	180	183	181	484	491	486	8.3	8.8	8.5
SM05-015	203	205	204	544	556	549	12	12	12
SM05-016	182	184	183	453	461	455	5.3	5.6	5.4
SM05-017	166	168	167	414	422	417	2.1	2.5	2.3

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM05-018	173	175	173	433	442	436	3.1	3.3	3.2
SM05-019	183	185	184	477	488	485	4.5	5	4.8
SM05-020	176	180	179	470	492	485	5.1	5.5	5.3
SM05-021	177	179	178	457	465	460	4.7	5.1	4.9
SM05-022	182	185	184	465	471	467	3.5	3.7	3.6
SM05-023	181	183	182	460	469	463	3.4	3.7	3.6
SM05-024	173	175	174	443	450	446	5.1	5.7	5.4
SM05-025	172	174	173	462	473	466	6.2	6.5	6.3
SM06-001	211	212	212	536	547	542	7.8	8.3	8
SM06-002	206	208	207	546	557	551	10	11	10.7
SM06-003	202	205	203	538	547	544	9.8	11	10.3
SM06-004	207	211	209	528	536	530	8.3	8.6	8.4
SM06-005	214	216	215	518	527	522	7.2	7.6	7.4
SM06-006	223	225	224	473	480	477	3.2	3.5	3.4
SM06-007	225	227	226	494	501	498	6.3	6.7	6.6
SM06-008	206	209	208	499	508	502	7.9	8.6	8.2
SM06-009	221	223	222	485	493	489	5.7	6.1	5.9
SM06-010	204	207	205	494	506	500	8.5	9	8.6
SM06-011	211	215	213	522	535	528	12	12	12
SM06-012	233	237	235	517	531	521	6.5	7.3	7
SM06-013	239	242	241	518	535	524	6.2	6.5	6.4
SM06-014	203	207	205	546	561	552	12	13	12.3
SM06-015	205	207	206	534	545	539	11	11	11
SM06-016	209	211	210	444	454	448	3.5	3.8	3.7
SM06-017	235	237	236	484	493	489	3.7	4	3.9
SM06-018	198	201	200	546	563	553	14	15	14.7
SM06-019	206	208	207	493	504	498	8.7	9.1	8.9

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM06-020	212	214	213	540	559	554	12	13	12.4
SM06-021	217	220	219	553	570	562	13	14	13.1
SM06-022	208	211	210	472	485	478	6.7	7	6.8
SM06-023	249	250	250	540	549	544	6.4	6.8	6.6
SM06-024	236	238	237	544	553	550	8.8	9.4	9.1
SM06-025	216	218	217	548	557	553	12	13	12.7
SM06-026	206	206	206	472	480	476	7.4	7.7	7.5
SM06-027	223	224	224	502	513	507	7.4	8.1	7.5
SM06-028	278	280	279	685	699	693	13	15	14.1
SM07-001	171	179	174	426	434	430	3.2	3.5	3.4
SM07-002	165	168	166	400	409	405	3.3	3.7	3.4
SM07-003	170	172	171	430	443	438	4.4	5	4.7
SM07-004	164	168	166	400	407	404	3.5	3.8	3.7
SM07-005	168	172	170	421	428	424	3.2	4.3	3.7
SM07-006	154	157	155	364	371	367	4.2	4.6	4.4
SM07-007	169	173	171	432	440	435	4.3	4.5	4.5
SM07-008	168	173	170	475	486	482	8.1	8.7	8.3
SM07-009	168	172	169	420	427	423	4	4.6	4.2
SM07-010	168	172	169	440	445	442	3.9	4.1	4.0
SM07-011	143	146	144	343	349	345	3	3.3	3.1
SM07-012	167	170	168	441	447	444	4.2	4.5	4.4
SM07-013	151	156	153	366	375	370	4.9	5.2	5.1
SM07-014	137	140	138	331	338	334	2.8	3.1	3
SM07-015	142	145	143	333	339	335	3.1	4.2	3.5
SM07-016	140	143	141	330	337	334	3.1	3.2	3.2
SM07-017	171	182	178	384	410	403	3.1	3.5	3.3
SM07-018	139	140	140	334	341	337	2.7	3.1	2.9

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM07-019	143	146	144	349	355	351	3.3	3.8	3.5
SM07-020	145	149	147	341	348	344	1.1	2.6	2
SM07-021	144	146	145	340	347	344	2.3	2.6	2.5
SM07-022	147	150	148	342	349	345	2.3	2.9	2.6
SM07-023	176	180	178	452	464	457	3.8	4.2	4.0
SM07-024	187	191	188	581	595	587	8.3	8.5	8.4
SM07-025	156	157	157	358	365	362	1.5	3.3	2.8
SM08-001	233	236	234	507	513	510	6.2	6.6	6.3
SM08-002	239	241	240	522	529	525	6.1	6.4	6.2
SM08-003	231	233	232	512	519	515	6.9	7.2	7.1
SM08-004	223	223	223	520	529	523	9.3	9.7	9.5
SM08-005	246	249	248	561	575	568	8.4	8.8	8.6
SM08-006	244	251	248	570	605	590	9.4	10	9.7
SM08-007	248	251	249	580	597	590	9.4	9.9	9.6
SM08-008	239	241	240	512	523	519	5.8	6.2	6.0
SM08-009	239	240	240	513	524	518	5.8	6.3	6.0
SM08-010	237	239	238	560	570	565	8.8	9.4	9.0
SM08-011	231	232	232	548	559	554	8.6	8.9	8.7
SM08-012	240	243	241	574	585	579	9	9.4	9.2
SM08-013	228	229	228	545	557	551	11	12	11.3
SM08-014	229	232	231	560	570	566	10	11	10.9
SM08-015	223	224	223	540	549	545	8.2	9	8.6
SM08-016	225	227	226	557	571	566	8.6	9.1	8.8
SM08-017	238	241	239	553	565	561	8.5	8.7	8.6
SM08-018	228	231	229	538	548	544	9.6	9.7	9.6
SM08-019	234	237	235	552	564	561	9.1	9.7	9.5
SM08-020	224	228	225	553	559	556	8.7	9	8.8

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM08-021	225	228	226	558	563	560	8.9	9.2	9.1
SM08-022	232	237	234	587	601	594	8.9	9.6	9.2
SM08-023	224	226	225	549	556	553	8.7	9.2	9.0
SM08-024	226	228	227	556	564	560	9.3	9.7	9.5
SM08-025	242	246	243	618	627	624	11	12	11.2
SM08-026	226	228	227	534	543	538	8.9	9.3	9.1
SM08-027	227	228	227	501	509	505	6.2	6.5	6.3
SM08-028	233	235	234	546	573	558	7	7.3	7.1
SM08-029	255	256	256	636	658	648	13	14	13.9
SM08-030	194	196	195	447	454	450	10	11	10.9
SM08-031	230	232	231	510	521	514	6.5	7	6.8
SM09-001	169	171	170	418	425	421	3.4	3.7	3.6
SM09-002	161	164	162	379	394	387	3.3	3.6	3.5
SM09-003	161	162	161	382	389	386	3	3.2	3.1
SM09-004	147	149	148	369	375	372	4.7	5.1	4.9
SM09-005	142	146	144	310	323	317	2.2	2.9	2.6
SM09-006	141	144	143	306	313	309	2	2.8	2.6
SM09-007	163	164	164	396	406	402	3.4	3.5	3.5
SM09-008	163	164	164	391	399	395	1.9	2.4	2.2
SM09-009	153	154	153	369	375	373	2.8	3.5	3.3
SM09-010	146	147	147	342	351	348	1.5	2.5	2.2
SM09-011	148	149	149	353	360	357	2.5	3	2.8
SM09-012	162	164	163	392	400	396	2.1	2.8	2.6
SM09-013	143	145	144	333	341	338	3.3	3.5	3.4
SM09-014	139	141	140	318	327	323	1.6	2.2	1.9
SM09-015	139	140	139	313	323	318	2	2.2	2.1
SM09-016	141	144	143	301	310	306	1.2	1.9	1.5

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM09-017	140	142	141	320	328	325	1.1	3.4	2.8
SM09-018	144	146	145	321	332	328	1.6	2.1	1.9
SM09-019	137	139	138	306	315	311	1.6	2.9	2.5
SM09-020	139	141	140	315	320	318	2.4	2.9	2.7
SM10-001	289	293	291	705	722	716	14	16	15
SM10-002	220	225	223	519	527	523	7.6	8.5	7.9
SM10-003	250	258	256	565	575	570	7.3	7.9	7.5
SM10-004	236	239	238	528	537	534	6.7	7.5	6.9
SM10-005	238	240	239	529	538	533	6.6	7.2	6.8
SM10-006	287	300	294	682	714	701	12	13	12.3
SM10-007	279	283	280	674	685	679	13	13	13
SM10-008	250	254	251	585	610	595	10	11	10.3
SM10-009	239	247	242	537	555	546	7.9	8.3	8.1
SM10-010	238	240	239	533	543	540	7.7	8.4	7.9
SM10-011	237	242	239	560	573	569	9	9.6	9.2
SM10-012	250	254	252	598	608	603	10	11	10.3
SM10-013	230	235	233	538	549	543	8.5	9.4	8.8
SM10-014A	240	244	242	567	577	573	9.4	10	9.6
SM10-015	239	242	240	545	556	551	8.8	9.4	9.0
SM10-016	253	255	254	585	593	589	11	12	11.2
SM10-017	246	250	247	561	567	563	10	11	10.2
SM10-018	239	243	241	541	547	544	8.5	8.8	8.6
SM10-019	249	252	250	570	573	571	9.2	10	9.5
SM10-020	234	237	235	582	587	584	20	21	20.2
SM10-021	236	239	238	602	610	607	21	22	21.8
SM10-022	240	243	242	552	561	558	11	11	11
SM10-023	234	240	236	565	569	568	16	16	16

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM10-024	226	231	228	549	571	564	12	15	14.3
SM10-025	225	228	227	536	542	539	11	11	11
SM10-026	244	247	246	580	588	584	15	15	15
SM10-027	239	266	255	549	603	575	9.8	10	10.0
SM10-028A	232	235	233	614	628	620	28	28	28
SM10-029A	265	272	267	606	620	611	12	13	12.2
SM10-030	235	238	236	529	539	536	7.3	7.7	7.4
SM10-031	236	239	237	542	555	550	7.8	8.3	8.1
SM10-032	236	239	237	528	542	537	7	7.7	7.2
SM11-001	162	163	163	407	416	411	5.2	5.4	5.3
SM11-002	140	142	141	321	329	325	3.6	3.9	3.7
SM11-003	143	144	144	320	328	323	1.9	2.6	2.4
SM11-004	139	141	140	307	314	310	2	2.2	2.1
SM11-005	138	140	140	318	325	321	2.8	3.9	3.2
SM11-006	142	144	144	322	329	325	3.5	4.5	3.8
SM11-007	142	148	144	302	313	308	2	3.2	2.8
SM11-009	150	154	152	308	315	311	1	1.8	1.3
SM11-010	156	158	157	319	324	321	1	2.2	1.6
SM11-011	149	150	150	345	353	349	2.7	3.2	2.9
SM11-012	144	145	145	331	338	334	2.4	4.5	3.8
SM11-013	141	143	142	295	301	297	1.8	2.4	1.9
SM11-014	137	139	138	294	301	297	1.9	2.5	2.2
SM11-015	138	140	139	308	312	309	2.3	3	2.7
SM11-016	143	144	144	296	299	297	1.7	2.3	1.9
SM11-017	143	143	143	293	297	295	2.8	3.1	2.9
SM11-018	140	141	140	300	304	303	3.6	4.5	4.0
SM11-019	141	142	141	313	316	314	1.4	2.2	1.8

Well ID	Alkalinity			Conductivity			Chloride		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
SM11-020	162	163	162	401	414	406	4.9	5.7	5.2
SM11-022	167	172	169	457	472	463	6.9	7.7	7.2
SM11-023	166	168	167	410	419	414	6.9	8.1	7.5
SM11-024	156	157	156	398	409	403	3.4	4.7	4.1
SM11-025	160	161	160	405	411	409	2.7	3.1	2.9
SM11-026	148	154	150	345	375	354	2.1	3.5	2.7