

CAMECO RESOURCES
CROW BUTTE OPERATION

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July 10, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Subject: Source Materials License SUA-1534
Docket No. 40-8943
Monitor Well Excursion – SM8-21

Attn: Document Control Desk:

On May 28, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-21, exceeded the multiple parameter upper control limit (MCL) for alkalinity and the single parameter upper control limit (SCL) for conductivity. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM8-21 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample also exceeded the excursion control parameters as described above.

As a result, SM8-21 was placed on excursion status and the sampling schedule was increased to weekly. The samples collected on June 3, 10, and 17, 2015, were all below the excursion indicator parameters described in License Condition 11.5 and SM8-21 was removed from excursion status. As required by the Nebraska Department of Environmental Quality (NDEQ) UIC Permit NE0122611, CBO continued weekly sampling for an additional three weeks. The samples collected on June 24 and July 1, 2015, were below the excursion indicator parameters. However, the sample collected on July 9, 2015, exceeded the MCL for alkalinity and the SCL for conductivity. As required by License Condition 11.5, a second sample was collected within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the MCL for both alkalinity and conductivity. CBO notified Mr. Ron Burrows by voicemail of the excursion at 10:30 a.m. on July 9, 2015 as required by License Conditions

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Document Control Desk Director
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11.5 and 11.6. Laboratory results for the sample analysis of SM8-21 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from December 23, 2014, to July 9, 2015.

CBO believes that the prior apparent excursion was due to increased groundwater levels caused by an abnormally high amount of precipitation received during the months of April and May. In early June the excursion parameters started to go down and as a result the well went off excursion status on June 17, 2015. Due to a high precipitation event that occurred on July 2, 2015 (local reports of 2"-3") this well has returned to excursion status.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM8-21 to weekly until three consecutive weekly samples are below the exceeded UCLs. Also, per the requirements of License Condition 11.12, CBO will test weekly for natural uranium. CBO will continue weekly sampling for an additional three weeks after this goal has been achieved as required by CBO's NDEQ Class III UIC Permit requirements. If the well has not exceeded the UCLs after these samples, it will be returned to biweekly sampling.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext 114.

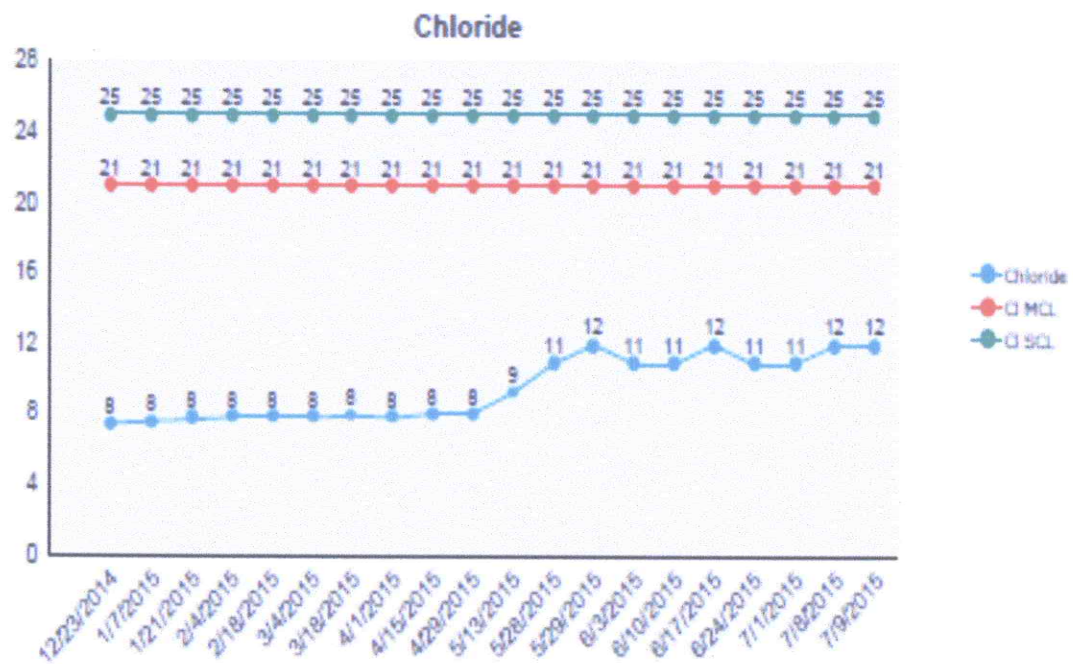
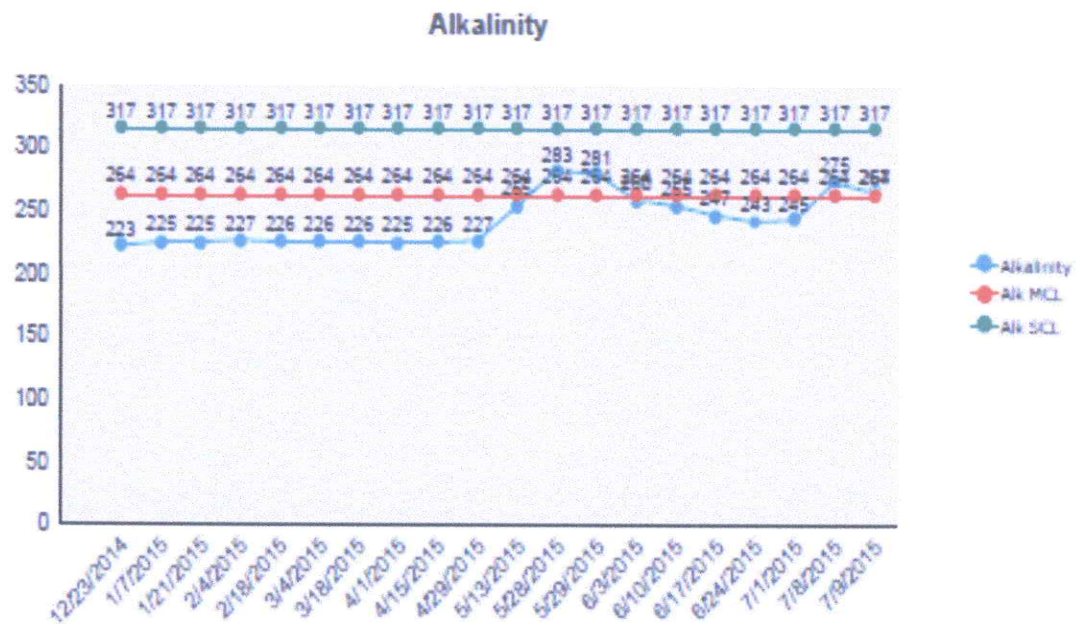
Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

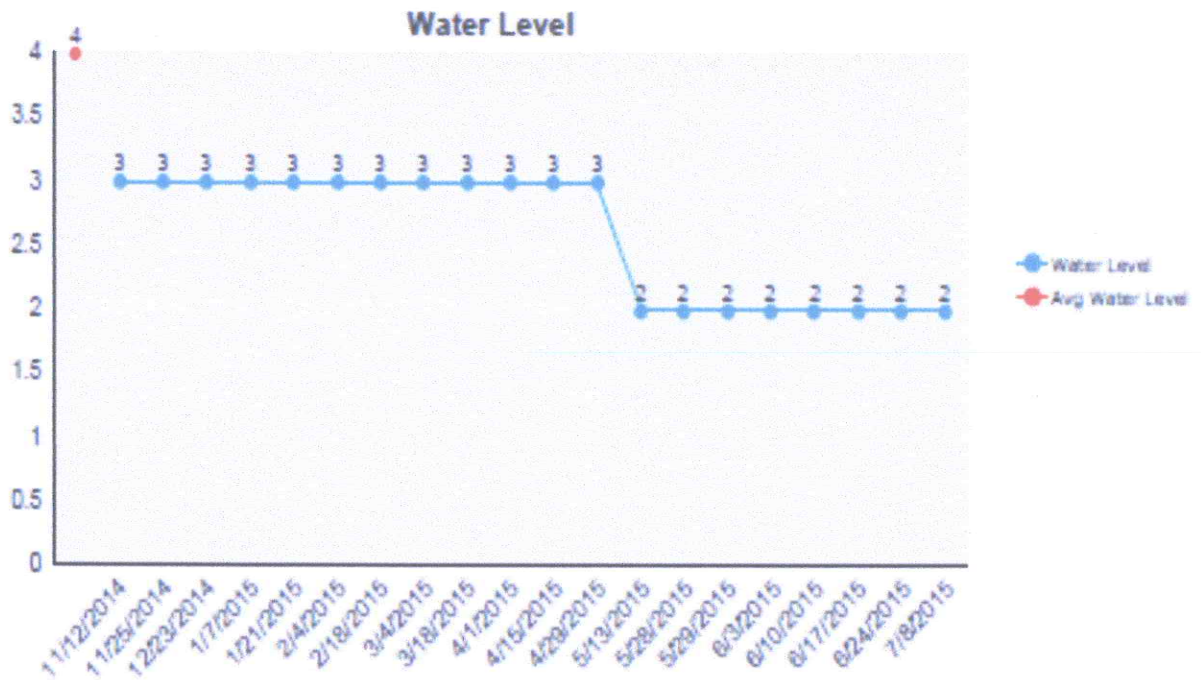
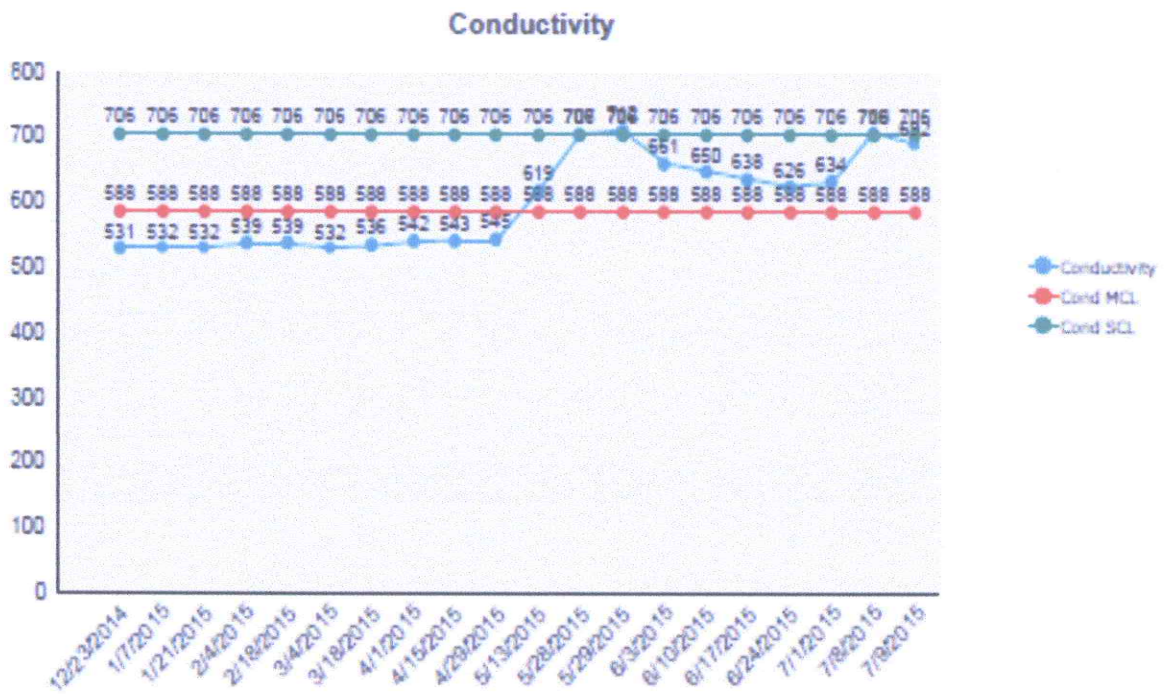
Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: NRC – Deputy Director
CBO - File
ec: CR – Casper Office

SM08-021







Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/09/2015

Analysis Date: 07/09/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM08-021	267	317	264	692	706	588	12	25	21
SM09-006	143	216	180	305	461	384	2.2	22	19
SM09-007	165	239	199	397	590	492	3.1	25	21
SM09-008	165	230	192	392	701	584	2.3	106	88
SM09-009	155	235	196	370	634	528	3.4	50	42
SM09-010	148	216	180	345	533	444	2.5	24	20
SM09-011	150	230	192	354	518	432	2.9	21	17
SM09-012	164	238	198	393	605	504	2.6	29	24
SM09-013	145	222	185	339	518	432	3	24	20
SM09-014	142	233	194	321	518	432	1.9	21	18
SM09-015	142	225	187	318	490	408	1.8	22	18
SM09-016	147	216	180	309	461	384	1.3	20	17
SM09-017	145	209	174	327	533	444	3.6	31	26
SM09-018	146	210	175	328	490	408	2.1	22	18
SM09-019	139	209	174	312	461	384	2.5	23	19
SM09-020	142	210	175	320	475	396	2.9	22	19



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/08/2015

Analysis Date: 07/08/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	215	323	269	575	932	776	9.4	41	34
SM05-008	209	312	260	562	840	700	12	32	27
SM08-017	238	331	276	542	848	707	7.7	24	20
SM08-018	232	317	264	536	816	680	8.9	25	21
SM08-019	232	340	283	536	827	689	7.9	25	21
SM08-020	223	314	262	534	806	672	8	25	21
SM08-021	275	317	264	710	706	588	12	25	21
SM08-022	238	324	270	652	829	691	11	25	20
SM08-023	230	317	264	569	808	673	9.2	27	23
SM08-024	231	317	264	615	720	600	11	24	20
SM08-025	260	324	270	698	720	600	14	24	20
SM10-021	228	360	300	627	806	672	34	27	23
SM10-030	247	359	299	543	778	648	6.8	25	21
SM10-031	237	340	283	536	734	612	7.2	25	21
SM10-032	239	340	283	527	734	612	6	23	20



WN

Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/01/2015

Analysis Date: 07/01/2015

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	315	441	367	1840	3038	2532	174	315	263
CM08-011	318	446	372	1844	3053	2544	172	325	271
CM08-012	323	461	384	1857	3038	2532	173	305	254
CM10-001	329	469	391	1869	2822	2352	175	305	254
CM10-002	324	474	395	1855	2707	2256	174	262	218
CM10-003	320	474	395	1856	2736	2280	176	266	222
CM10-004	319	468	390	1851	2794	2328	174	288	240
CM10-005	341	464	386	1946	3082	2568	188	389	324
CM10-006	321	482	402	1836	2750	2292	170	281	234
CM10-007	321	482	402	1834	2765	2304	171	278	232
CM11-001	304	438	365	1849	2808	2340	177	297	247
CM11-002A	310	442	368	1861	2794	2328	177	285	238
CM11-003	319	439	366	1890	2693	2244	181	272	227
CM11-004	302	464	386	1829	2678	2232	173	268	223
CM11-005	305	451	376	1820	2664	2220	175	274	228
CM11-006	339	436	364	1936	2707	2256	183	269	224
CM11-007	302	432	360	1811	2707	2256	171	272	227
CM11-008	308	462	385	1849	2678	2232	177	274	228
CM11-009	300	439	366	1840	2765	2304	172	276	230
CM11-010	298	436	364	1825	2707	2256	172	284	236
CM11-011	311	433	361	1869	2736	2280	178	278	232
SM04-003	191	361	301	630	1251	1043	12	38	32
SM04-004	211	266	222	626	1099	916	12	62	52
SM08-021	245	317	264	634	706	588	11	25	21
SM10-001	287	469	391	693	994	828	13	37	31
SM10-002	232	338	282	528	763	636	7.8	24	20
SM10-003	252	386	322	561	821	684	8	24	20
SM10-004	242	346	288	528	778	648	6.7	24	20
SM10-005	246	350	292	535	763	636	6.8	23	19
SM10-006	297	501	418	709	1123	936	14	33	28
SM10-007	290	403	336	699	965	804	14	33	27
SM10-008	282	403	336	650	907	756	13	31	26



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 06/24/2015

Analysis Date: 06/24/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	214	323	269	570	932	776	9.5	41	34
SM05-008	211	312	260	558	840	700	12	32	27
SM08-017	239	331	276	541	848	707	7.5	24	20
SM08-018	231	317	264	532	816	680	9.1	25	21
SM08-019	232	340	283	537	827	689	7.8	25	21
SM08-020	221	314	262	524	806	672	7.7	25	21
SM08-021	243	317	264	626	706	588	11	25	21
SM08-022	237	324	270	649	829	691	11	25	20
SM08-023	225	317	264	554	808	673	8.9	27	23
SM08-024	231	317	264	615	720	600	11	24	20
SM08-025	246	324	270	678	720	600	14	24	20
SM10-021	229	360	300	631	806	672	35	27	23
SM10-030	248	359	299	543	778	648	6.9	25	21
SM10-031	237	340	283	537	734	612	6.8	25	21
SM10-032	240	340	283	527	734	612	6.1	23	20

WD



Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 06/17/2015

Analysis Date: 06/17/2015

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	314	441	367	1834	3038	2532	175	315	263
CM08-011	319	446	372	1831	3053	2544	174	325	271
CM08-012	326	461	384	1855	3038	2532	175	305	254
CM10-001	331	469	391	1866	2822	2352	176	305	254
CM10-002	328	474	395	1857	2707	2256	175	262	218
CM10-003	318	474	395	1865	2736	2280	179	266	222
CM10-004	321	468	390	1852	2794	2328	176	288	240
CM10-005	345	464	386	1959	3082	2568	192	389	324
CM10-006	320	482	402	1835	2750	2292	171	281	234
CM10-007	320	482	402	1835	2765	2304	170	278	232
CM11-001	304	438	365	1846	2808	2340	177	297	247
CM11-002A	309	442	368	1852	2794	2328	178	285	238
CM11-003	318	439	366	1885	2693	2244	183	272	227
CM11-004	304	464	386	1833	2678	2232	175	268	223
CM11-005	305	451	376	1821	2664	2220	173	274	228
CM11-006	342	436	364	1946	2707	2256	184	269	224
CM11-007	303	432	360	1814	2707	2256	172	272	227
CM11-008	311	462	385	1857	2678	2232	179	274	228
CM11-009	300	439	366	1820	2765	2304	172	276	230
CM11-010	299	436	364	1824	2707	2256	171	284	236
CM11-011	298	433	361	1834	2736	2280	172	278	232
SM04-003	193	361	301	630	1251	1043	12	38	32
SM04-004	210	266	222	630	1099	916	12	62	52
SM08-021	247	317	264	638	706	588	12	25	21
SM10-001	283	469	391	688	994	828	14	37	31
SM10-002	230	338	282	528	763	636	7.9	24	20
SM10-003	250	386	322	563	821	684	9	24	20
SM10-004	243	346	288	534	778	648	6.7	24	20
SM10-005	244	350	292	537	763	636	6.8	23	19
SM10-006	286	501	418	686	1123	936	13	33	28
SM10-007	287	403	336	699	965	804	14	33	27
SM10-008	289	403	336	669	907	756	13	31	26



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 06/10/2015

Analysis Date: 06/10/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	214	323	269	568	932	776	9.6	41	34
SM05-008	210	312	260	556	840	700	12	32	27
SM08-017	238	331	276	540	848	707	7.6	24	20
SM08-018	230	317	264	528	816	680	8.9	25	21
SM08-019	231	340	283	533	827	689	8	25	21
SM08-020	221	314	262	520	806	672	7.6	25	21
SM08-021	255	317	264	650	706	588	11	25	21
SM08-022	235	324	270	628	829	691	10	25	20
SM08-023	229	317	264	556	808	673	8.6	27	23
SM08-024	227	317	264	602	720	600	11	24	20
SM08-025	247	324	270	688	720	600	13	24	20
SM10-021	224	360	300	658	806	672	42	27	23
SM10-030	242	359	299	534	778	648	6.9	25	21
SM10-031	234	340	283	529	734	612	7	25	21
SM10-032	238	340	283	526	734	612	6.3	23	20



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Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 06/03/2015

Analysis Date: 06/03/2015

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	315	441	367	1833	3038	2532	174	315	263
CM08-011	318	446	372	1830	3053	2544	174	325	271
CM08-012	324	461	384	1859	3038	2532	173	305	254
CM10-001	328	469	391	1868	2822	2352	175	305	254
CM10-002	325	474	395	1861	2707	2256	173	262	218
CM10-003	318	474	395	1863	2736	2280	176	266	222
CM10-004	321	468	390	1849	2794	2328	174	288	240
CM10-005	342	464	386	1963	3082	2568	190	389	324
CM10-006	320	482	402	1839	2750	2292	170	281	234
CM10-007	321	482	402	1838	2765	2304	170	278	232
CM11-001	303	438	365	1844	2808	2340	174	297	247
CM11-002A	310	442	368	1865	2794	2328	179	285	238
CM11-003	312	439	366	1863	2693	2244	180	272	227
CM11-004	303	464	386	1826	2678	2232	173	268	223
CM11-005	303	451	376	1824	2664	2220	174	274	228
CM11-006	329	436	364	1896	2707	2256	180	269	224
CM11-007	300	432	360	1814	2707	2256	173	272	227
CM11-008	309	462	385	1851	2678	2232	177	274	228
CM11-009	296	439	366	1822	2765	2304	173	276	230
CM11-010	298	436	364	1821	2707	2256	174	284	236
CM11-011	299	433	361	1824	2736	2280	172	278	232
SM04-003	193	361	301	630	1251	1043	12	38	32
SM04-004	211	266	222	629	1099	916	12	62	52
SM08-005	270	346	288	691	749	624	21	23	19
SM08-021	260	317	264	661	706	588	11	25	21
SM10-001	290	469	391	707	994	828	14	37	31
SM10-002	232	338	282	537	763	636	8.5	24	20
SM10-003	248	386	322	559	821	684	9.2	24	20
SM10-004	245	346	288	535	778	648	6.8	24	20
SM10-005	242	350	292	531	763	636	6.8	23	19
SM10-006	313	501	418	759	1123	936	14	33	28
SM10-007	295	403	336	716	965	804	14	33	27