

**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 23, 2010

Mr. Keith I McConnell, Deputy Director
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
Mailstop T8-F5
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Source Materials License SUA-1534
Docket No. 40-8943
SM 6-21 and SM8-5 Monitor Well Excursions

Dear Mr. McConnell:

On June 22, 2010 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor wells SM6-21 and SM8-5, the upper control limits (UCL) for conductivity and chloride were exceeded both wells. As required by License Condition 11.2 of Source Materials License SUA-1534, a second sample was collected from each well within 48 hours and analyzed for the three excursion indicator parameters. The results of the second samples also exceeded the UCL for conductivity and chloride.

CBO notified Mr. Ron Burrows of the excursions at 3:00 PM on June 22, 2010 by telephone as required in License Condition 9.2. Laboratory results for the sample analysis for the affected wells are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from October 12, 2009 to June 22, 2010.

CBO believes that the apparent excursions are due to increased groundwater levels caused by the significant amount of precipitation at the facility this spring including 5+ inches of rain during the second week of June. This conclusion is supported by the following indications:

1. The water level in each well has increased steadily throughout the spring, with a marked increase during the last two weeks. Both wells are located in an area of high groundwater near the springs that form the source of English Creek. Groundwater quality in this area is under the influence of surface water.
2. While the excursion indicator parameters in each well have increased, the levels are still significantly lower than the same parameters in mining solution.

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3. Sixteen other shallow monitor wells located in Mine Units 6, 8 and 10 are also showing increases in water levels and one or more of the indicator parameters. These include five wells that went on excursion earlier this spring (SM6-20, SM6-23, SM6-28, SM8-6, and SM8-28). All of these wells are located in close proximity to English Creek. Historical operating data indicates that the excursion parameters are affected by high water levels in the shallow monitor wells located along English Creek.

4. Earlier in the spring, SM6-20 and SM8-6 (both located in close proximity to English Creek) were placed on excursion status. As summer approached and the area began to dry out, the indicator parameters in SM6-20 and SM8-6 began a natural trend back toward normal levels. Then, following the large precipitation event mentioned earlier, the indicator parameters in both wells rose sharply, demonstrating the influence precipitation has on the wells in the English Creek drainage.

In accordance with License Condition 11.2, CBO will increase the sampling frequency for SM6-21 and SM8-5 to weekly until three consecutive weekly samples are below the exceeded UCLs. CBO will continue weekly sampling for an additional three weeks after this goal has been achieved. If the well has not exceeded the UCLs after these samples, it will be returned to normal status.

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: Mr. Ronald Burrows – Project Manager - NRC
Mr. Joe Brister – SHEQ Director – Cheyenne Office
Mr. Jim Stokey – General Manager - CBO
CBO - File

Crow Butte Project
Monitor Well Laboratory Report

Sample Date 6/21/2010
Analysis Date 6/21/2010

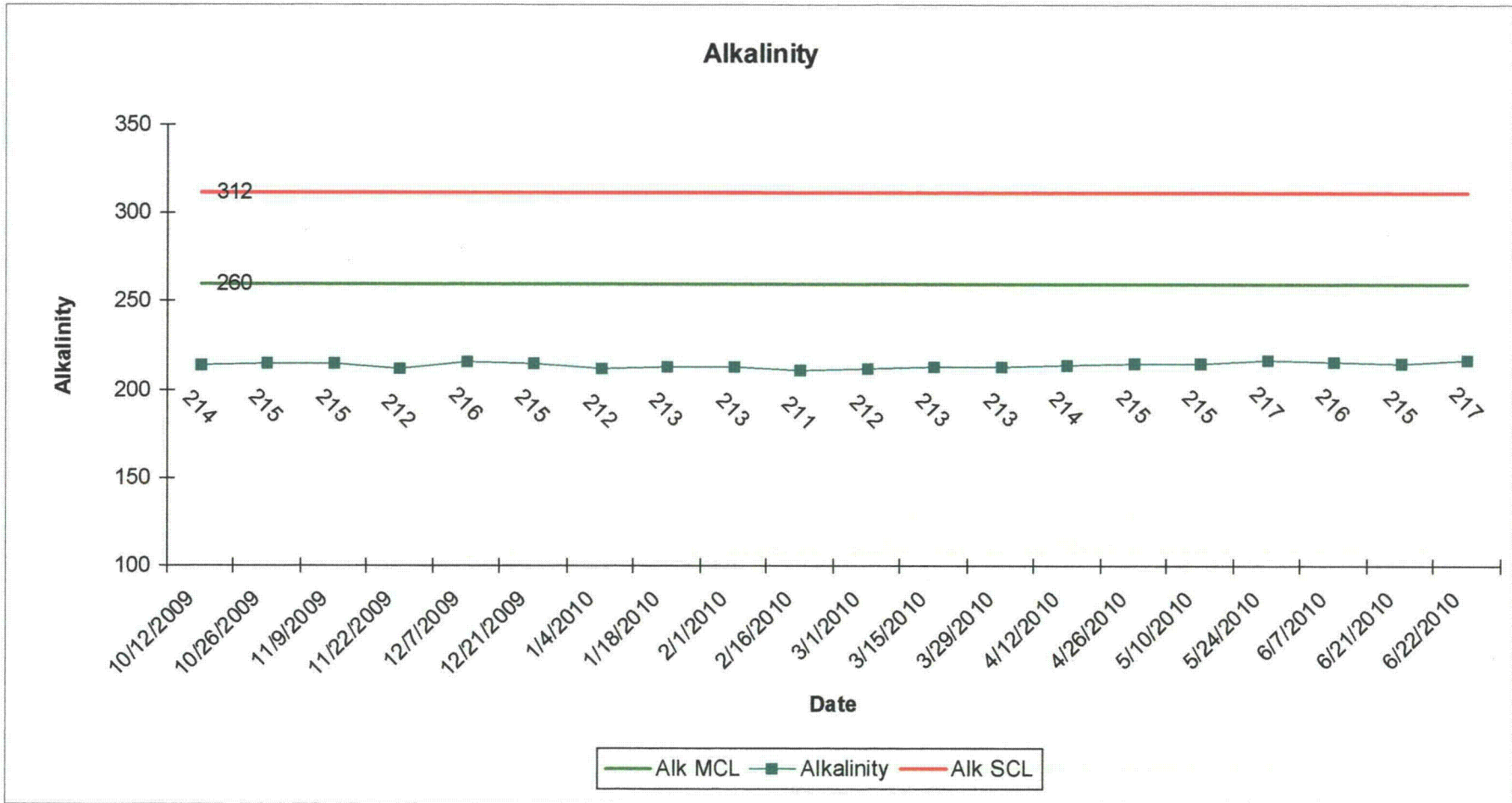
Well ID	Alkalinity			Conductivity			Chloride		
	(mg/L)	Alk SCL	Alk MCL	(µmho/cm)	Cond SCL	Cond MCL	(mg/L)	Cl SCL	Cl MCL
SM5-25	172	264	220	470	724	604	6.7	31	26
SM6-11	218	318	265	510	691	576	9.6	24	20
SM6-12	234	348	290	520	736	613	6.7	23	19
SM6-13	236	360	300	560	768	640	6.4	26	21
SM6-14	201	301	251	560	936	780	13	58	48
SM6-15	201	321	268	550	842	702	12	34	28
SM6-16	208	317	264	450	840	700	3.2	31	26
SM6-18	198	305	254	560	837	697	15	33	27
SM6-19	204	297	247	500	698	582	7.4	27	22
SM6-21	215	312	260	670	713	594	25	25	21
SM6-22	207	310	258	470	674	562	5.7	22	18
SM8-1	232	374	312	530	763	636	5.7	25	21
SM8-2	229	353	294	520	778	648	5	24	20
SM8-3	228	331	276	530	720	600	7.8	24	20
SM8-4	224	323	269	540	819	683	8.5	25	21
SM8-5	255	346	288	710	749	624	20	23	19

Sample Date 6/22/2010
 Analysis Date 6/22/2010

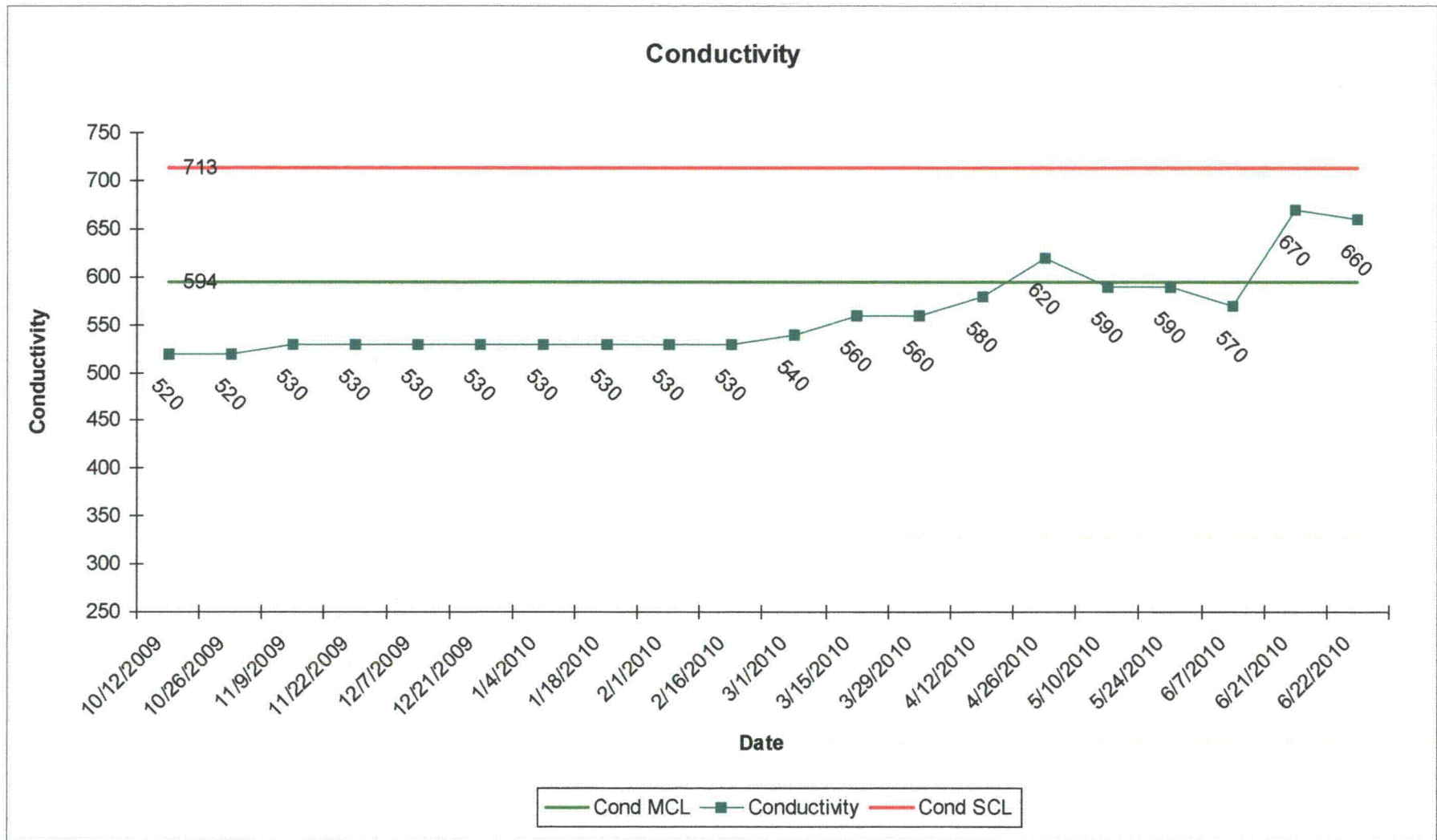
Crow Butte Project Monitor Well Laboratory Report

Well ID	Alkalinity			Conductivity			Chloride		
	(mg/L)	Alk SCL	Alk MCL	(µmho/cm)	Cond SCL	Cond MCL	(mg/L)	Cl SCL	Cl MCL
SM5-1	229	363	302	610	1032	860	13	57	47
SM5-2	188	287	239	460	714	595	5.7	27	22
SM5-3	226	351	293	600	1048	874	12	81	68
SM5-4	206	327	272	570	973	811	19	66	55
SM5-5	234	367	306	610	1041	868	11	65	54
SM5-6	211	324	270	590	922	768	13	47	39
SM5-7	211	323	269	580	932	776	9.9	41	34
SM5-8	206	312	260	560	840	700	12	32	27
SM6-20	233	323	269	890	717	598	53	26	22
SM6-21	217	312	260	660	713	594	24	25	21
SM8-10	229	331	276	640	749	624	11	24	20
SM8-11	221	323	269	560	792	660	7.6	24	20
SM8-12	230	323	269	580	834	695	8.2	25	20
SM8-13	223	328	274	550	880	733	12	31	26
SM8-14	220	325	271	600	720	600	16	24	20
SM8-15	216	305	254	530	789	658	7.8	35	29
SM8-16	220	331	276	540	828	690	8.5	24	20
SM8-5	259	346	288	720	749	624	20	23	19
SM8-6	237	328	274	950	734	612	23	23	19
SM8-7	236	348	290	670	763	636	12	23	19
SM8-8	233	340	283	510	864	720	5.3	24	20
SM8-9	235	353	294	510	886	738	5	23	19

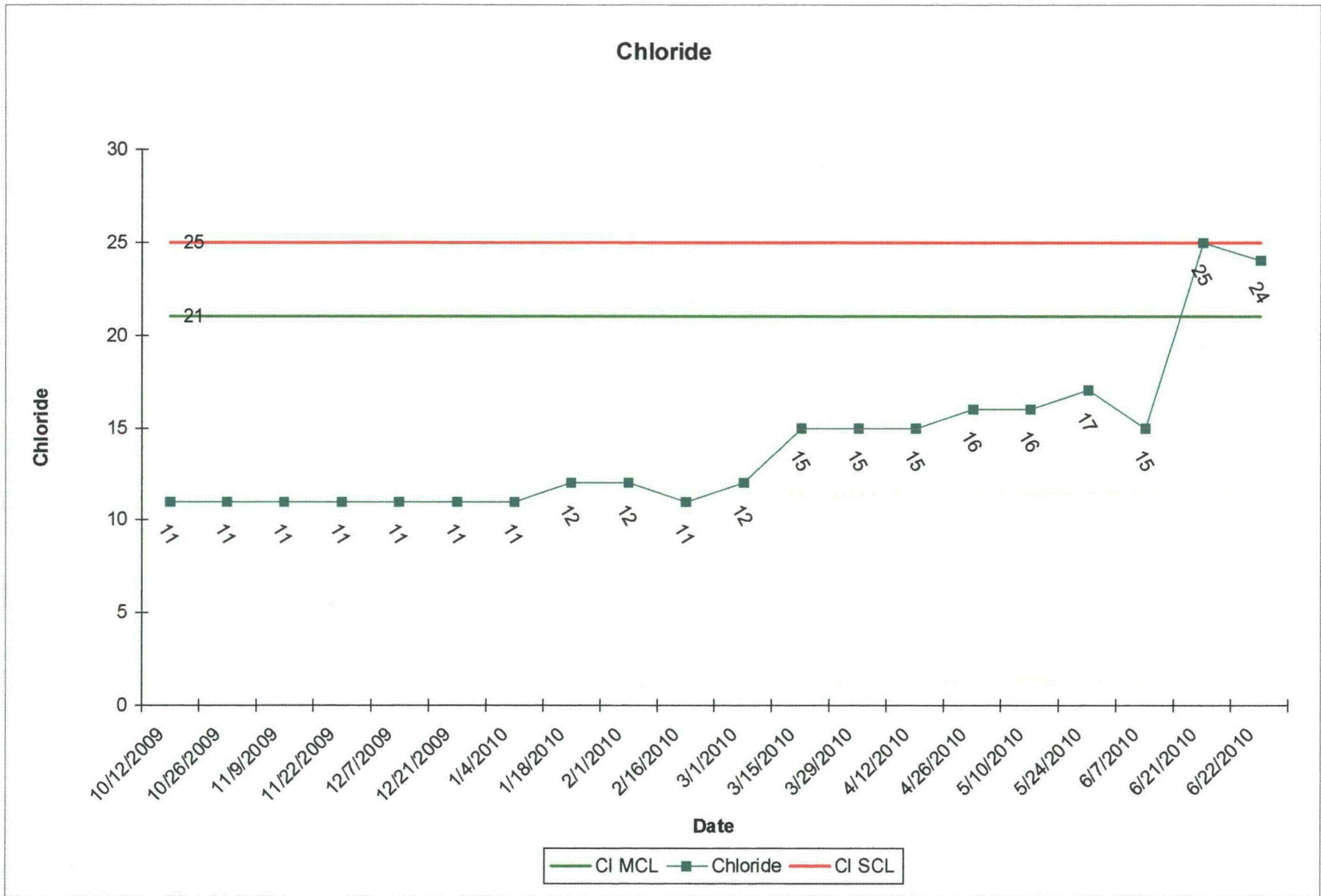
SM6-21



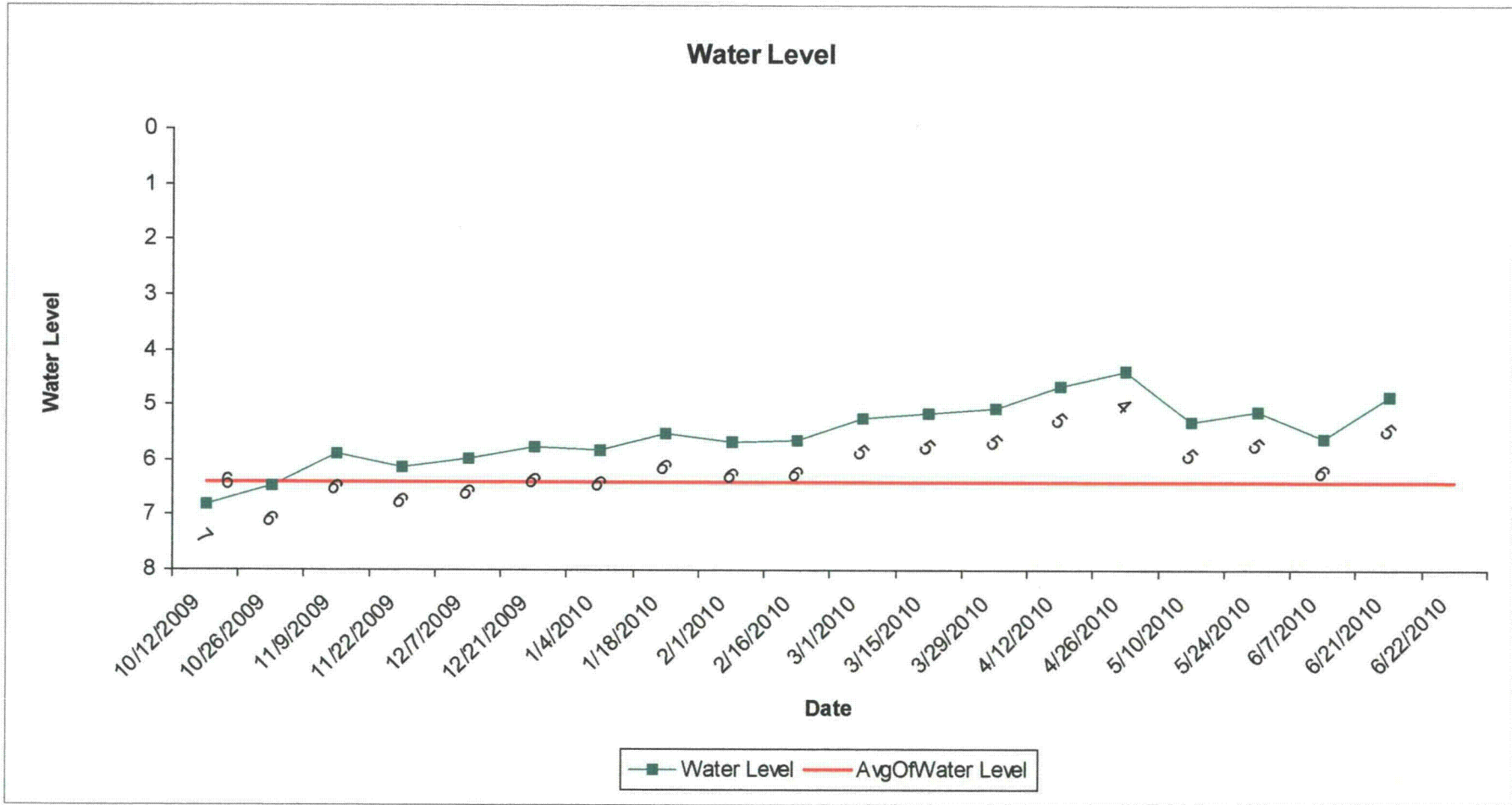
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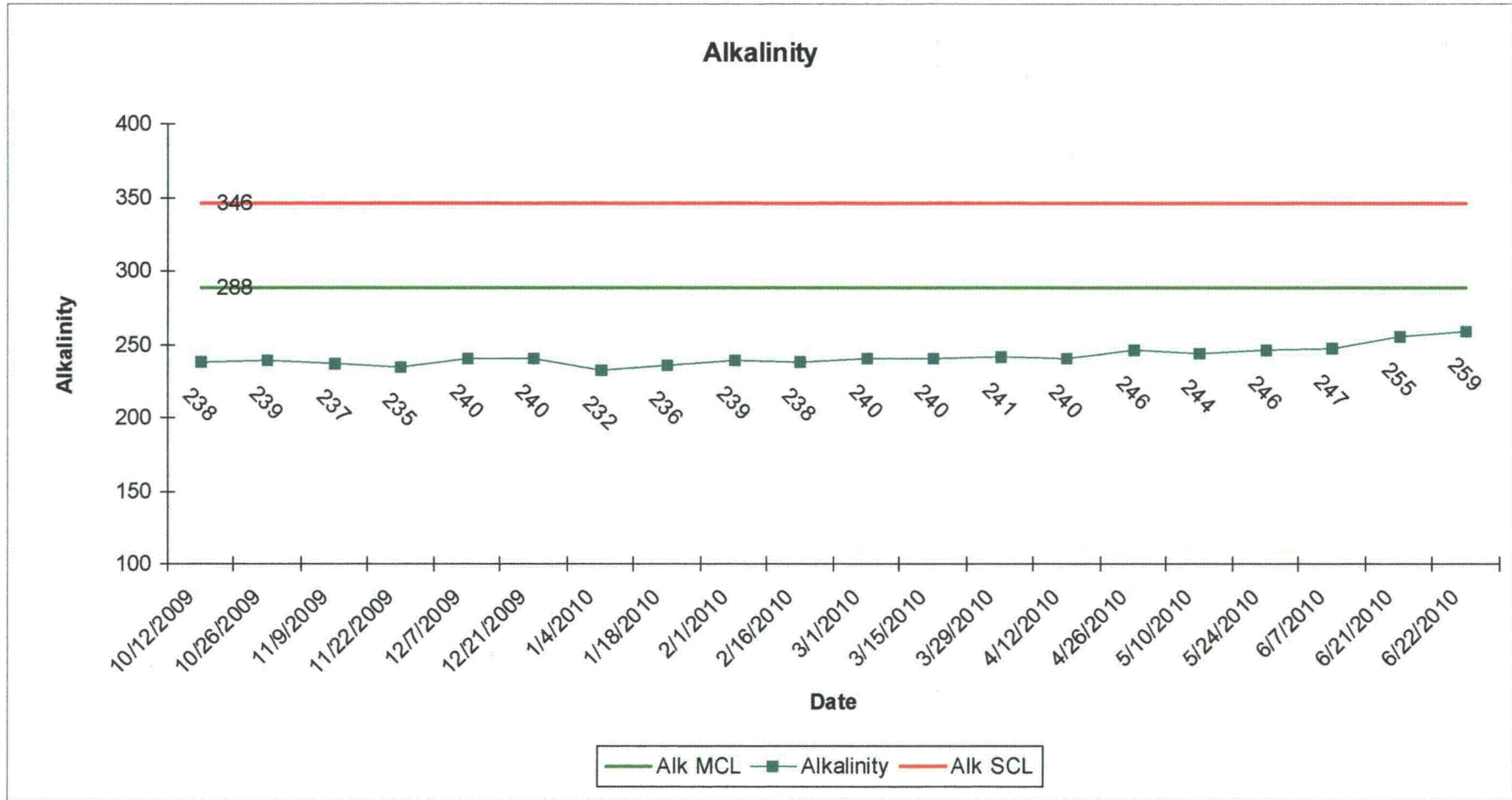
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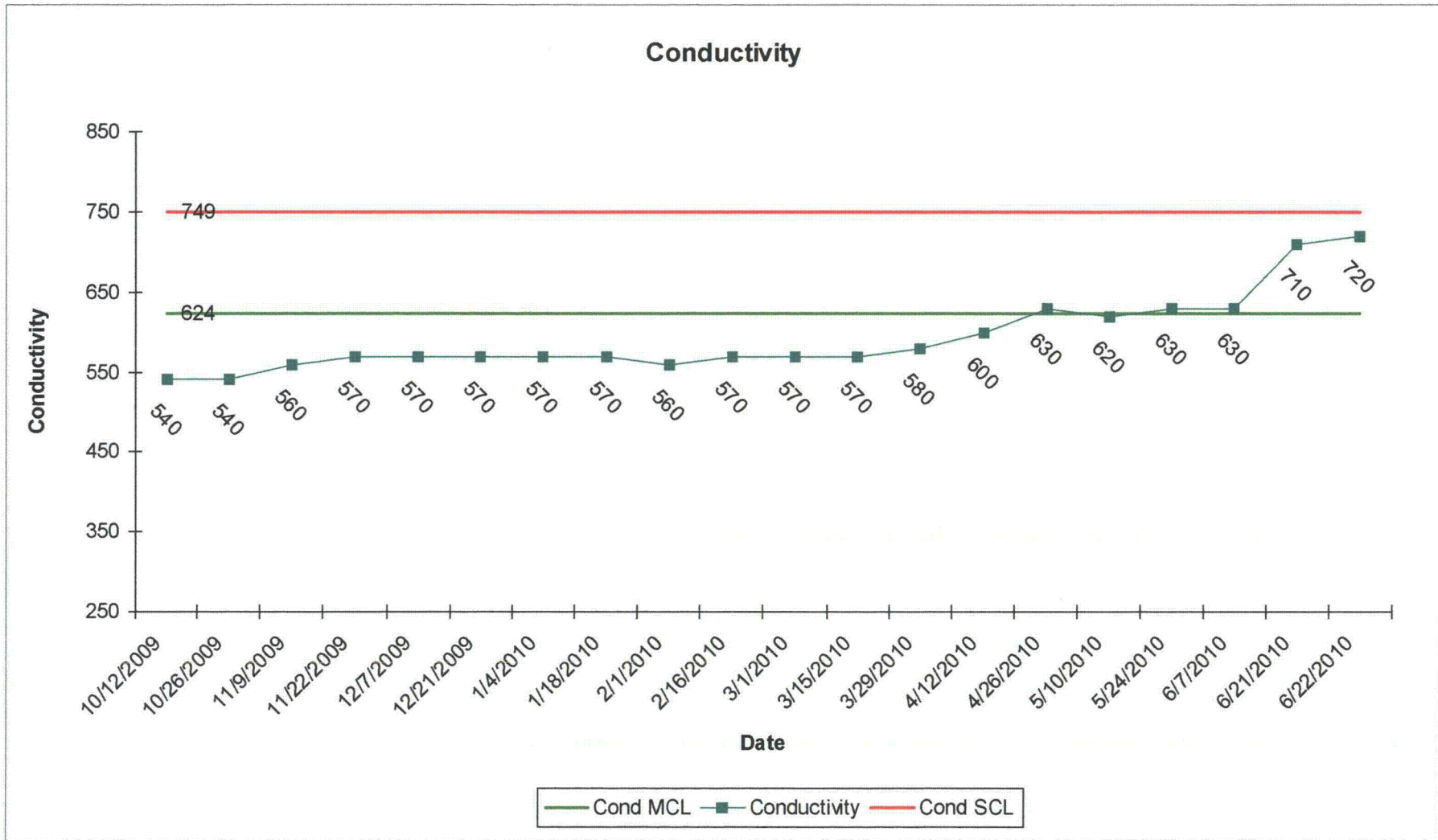
SM6-21



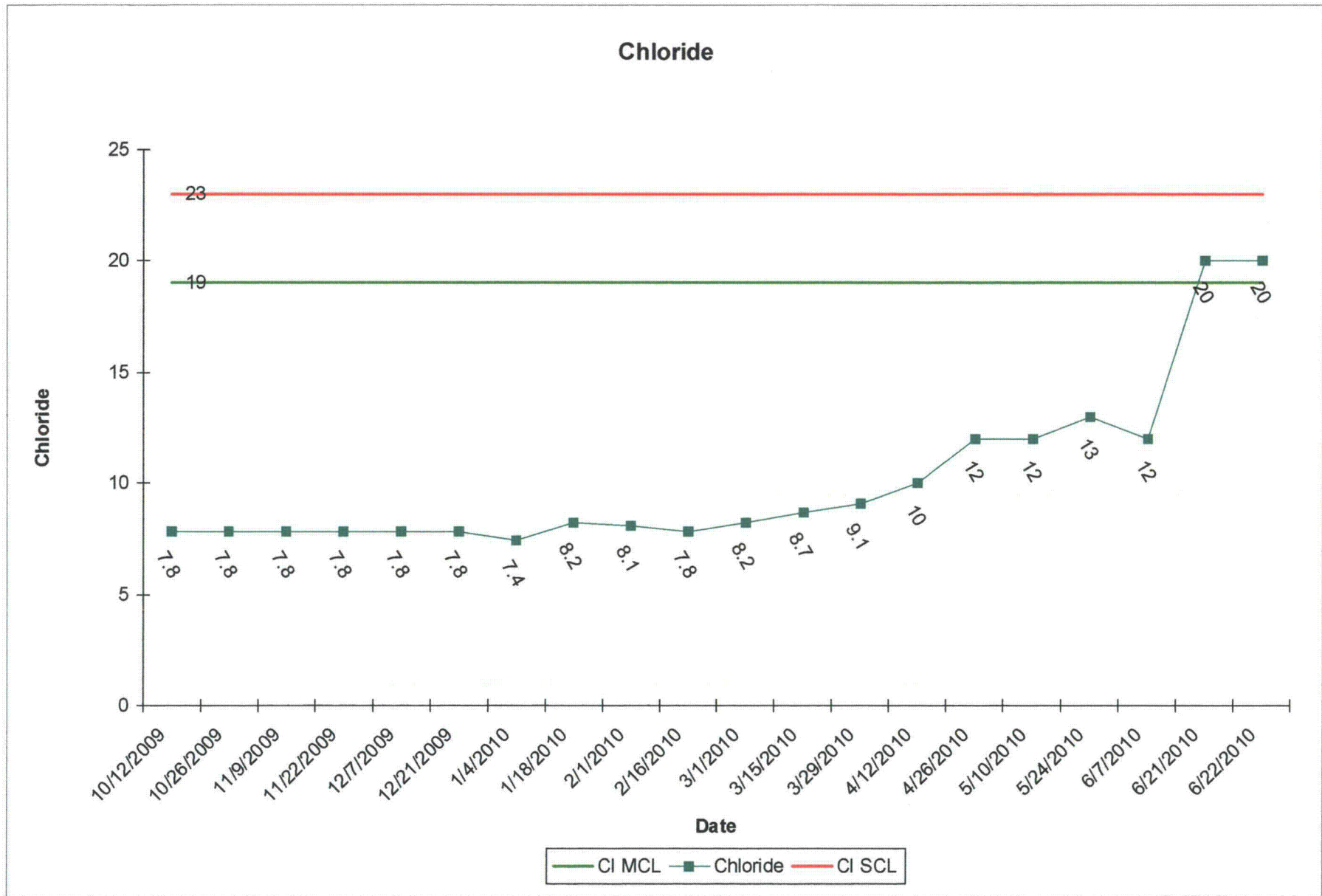
SM8-5



SM8-5



SM8-5



SM8-5

