CAMECO RESOURCES
CROW BUTTE OPERATION

86 Crow Butte Road
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Crawford, Nebraska 69339-0169 **(308) 665-2341 – FAX**

May 27, 2011

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 8-28 Monitor Well Excursion

Dear Mr. McConnell:

On May 26, 2011 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-28, the single parameter upper control limit (SCL) for conductivity was exceeded as well as the multiple parameter upper control limit (MCL) for alkalinity. As required by License Condition 11.2 of Source Materials License SUA-1534, a second sample was collected within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the SCL for conductivity and the MCL for chloride.

CBO notified Mr. Ronald Burrows of the excursion by voicemail and email at 10:55 a.m. on May 27, 2011 as required in License Condition 9.2. Laboratory results for the sample analysis for SM8-28 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 22, 2010 to May 27, 2011.

CBO believes that this apparent excursion is due to increased groundwater levels caused by the significant amount of precipitation received in the area in recent weeks and is not caused by mining activity. In the week leading up to the excursion, 3-4 inches of rain fell in the area, and an additional .75 inch fell on the evening of May 22, 2011. Additionally, this conclusion is supported by the following indications:

1. Water level in the well has increased approximately 5 feet this spring and is currently within approximately 9 feet of the top of the well casing. (Please note the water level reading on the graph for May 27, 2011 has been impacted by purging the well for sampling purposes). SM8-28 is located in Mine Unit 8 in an area of high groundwater levels. Groundwater quality in this area is under the influence of surface water. SM8-28 also went on excursion during the wet spring weather of 2010 when the water level increased in the

well.

2. The chloride concentration has increased from normal concentrations of 8-10 mg/l to 23 mg/l. If the monitor well were affected by an excursion of mining solutions, it would be expected that the chloride concentration would be much higher due to its high concentration in the lixiviant (which typically contains chloride concentrations in excess of 500 mg/l) and its mobility in the environment.

3. At least 18 other shallow monitor wells located in Mine Units 6, 8, and 10 are also showing increases in water levels, conductivity, and chloride concentrations. 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.

In accordance with License Condition 11.2, CBO will increase the sampling frequency for SM8-28 to weekly until three consecutive weekly samples are below the exceeded UCL. CBO will then continue weekly sampling for an additional three weeks after this goal has been achieved. If the well has not exceeded the UCL, 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

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: Mr. Ronald Burrows – Project Manager
CBO - File
ec: CR – Cheyenne Office

Crow Butte Project
Monitor Well Laboratory Report

Sample Date 5/26/2011
Analysis Date 5/26/2011

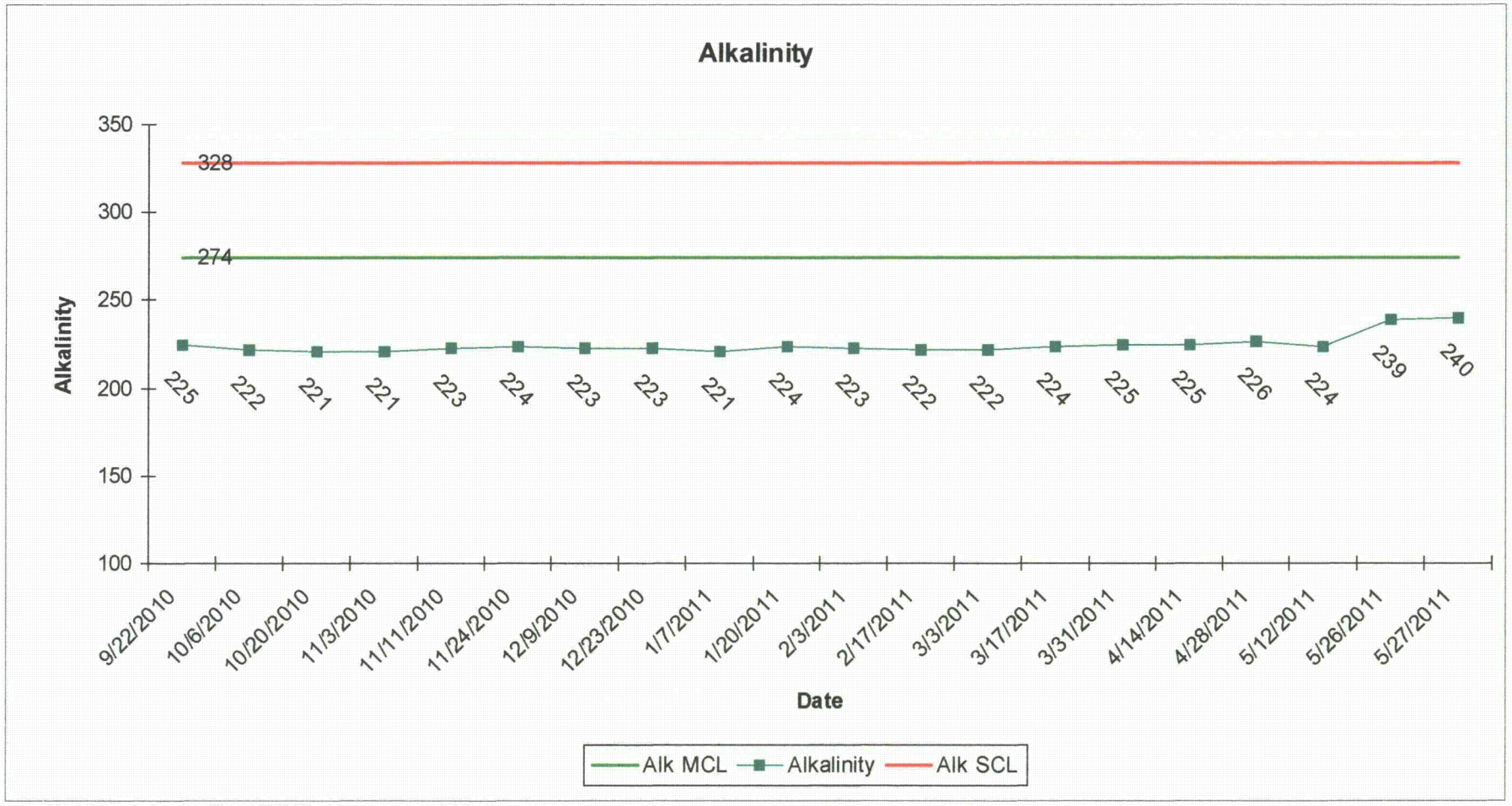
Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µmho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM8-26	**222**	317	264	**560**	720	600	**9.6**	24	20
SM8-27	**228**	353	294	**520**	706	588	**6.3**	22	19
SM8-28	**239**	328	274	940	**801**	667	**20**	24	**20**
SM8-29	**235**	338	282	**590**	763	636	**13**	26	22

Crow Butte Project
Monitor Well Laboratory Report

Sample Date 5/27/2011
Analysis Date 5/27/2011

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µmho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM6-28	295	351	293	770	778	648	15	24	20
SM8-28	240	328	274	960	801	667	23	24	20

SM8-28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226
224
239
240
9/22/2010
10/6/2010
10/20/2010
11/3/2010
11/11/2010
11/24/2010
12/9/2010
12/23/2010
1/7/2011
1/20/2011
2/3/2011
2/17/2011
3/3/2011
3/17/2011
3/31/2011
4/14/2011
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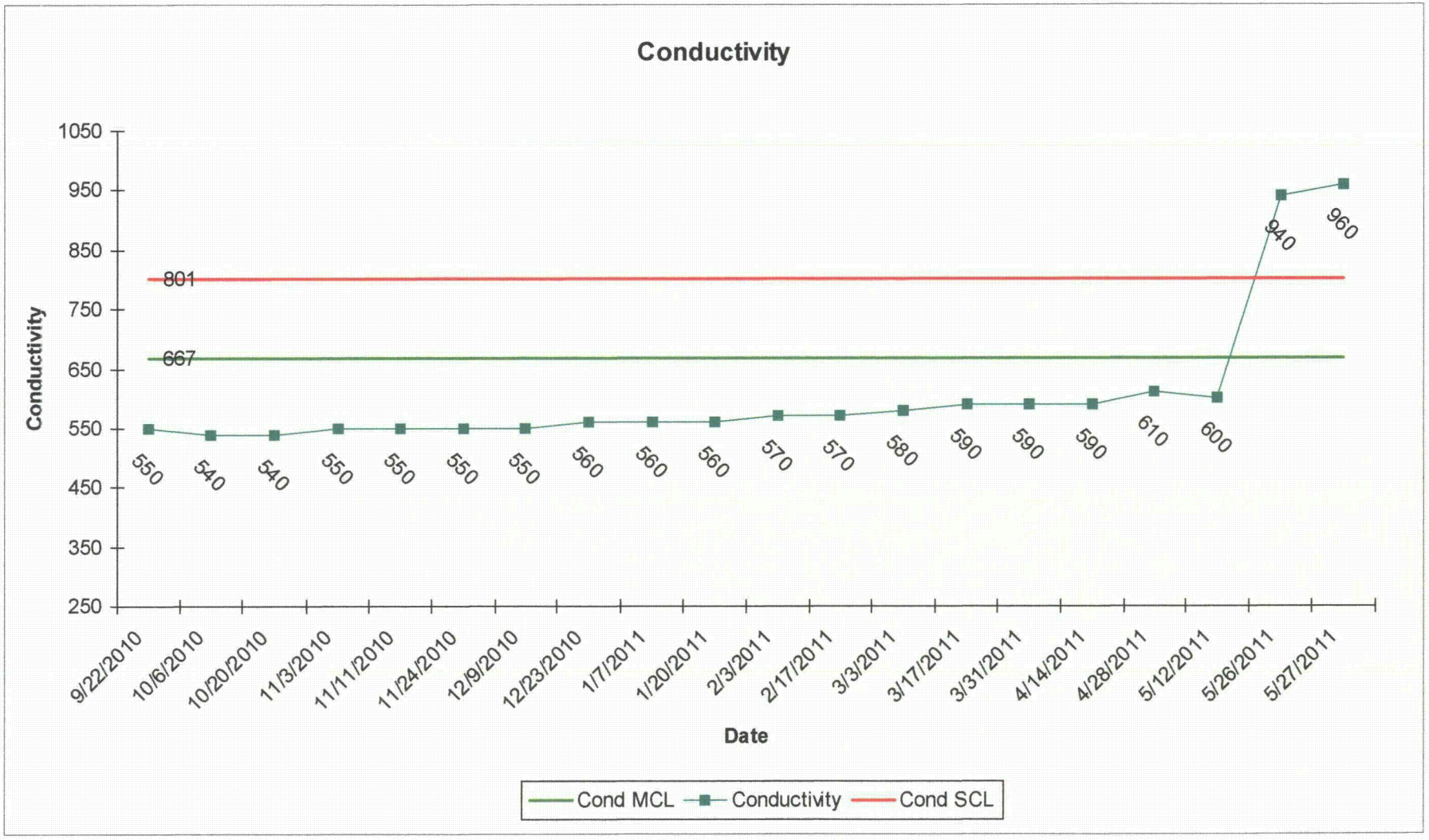
5/12/2011
5/26/2011
5/27/2011
Date
Alk MCL
Alkalinity
Alk SCL

SM8-28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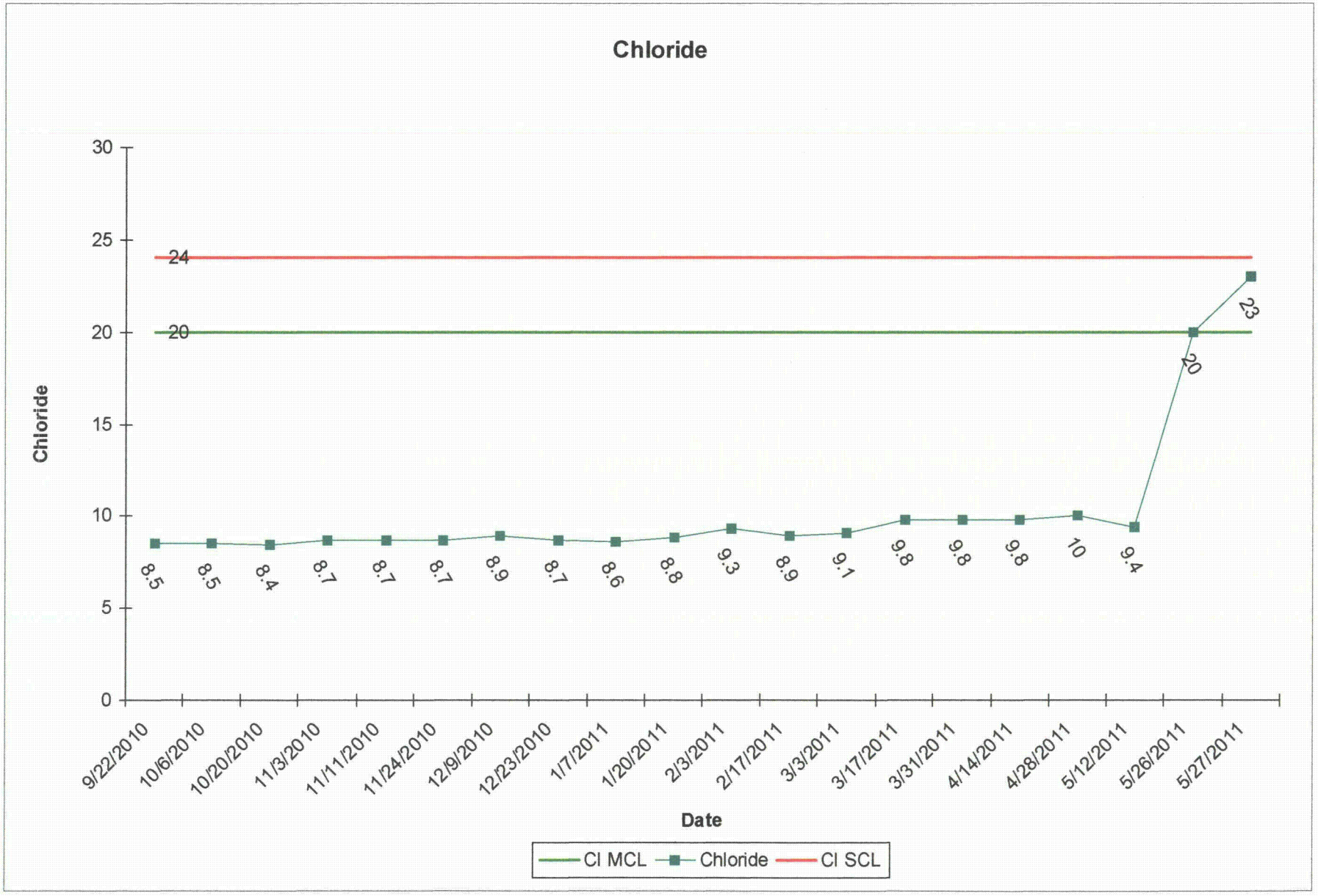
Cond MCL
Conductivity
Cond SCL

SM8-28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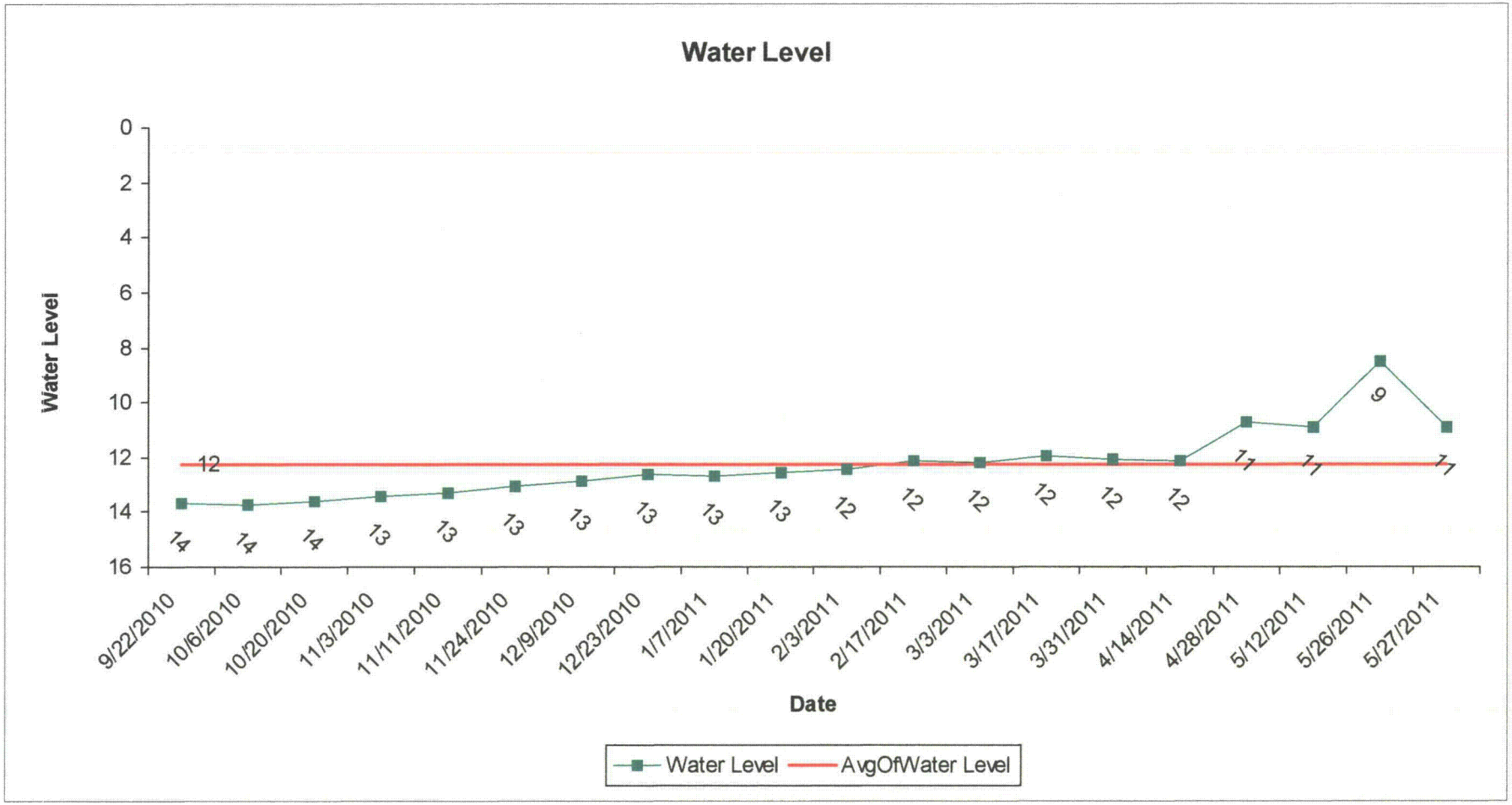
5/27/2011
Date
Cl MCL
Chloride
Cl SCL

SM8-28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Date
Water Level
AvgOfWater Level