

CAMECO RESOURCES CROW BUTTE OPERATION




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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 6-28 Monitor Well Excursion

United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	CROW BUTTE RESOURCES, INC. (License Renewal for the In Situ Leach Facility, Crawford, Nebraska)
	ASLBP #: 08-867-02-OLA-BD01
	Docket #: 04008943
	Exhibit #: BRD-010I-00-BD01
	Admitted: 9/10/2015
	Rejected:
Other:	Identified: 8/27/2015 Withdrawn: Stricken:

Dear Mr. McConnell:

On May 26, 2011 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-28, 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 MCL for both conductivity and alkalinity.

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 SM6-28 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 6 feet this spring and is currently within approximately 8 feet of the top of the well casing. (Please note on the attached graph the water level from May 27, 2011 has been impacted by purging the well for sampling purposes.) SM6-28 is located in Mine Unit 6 in an area of high groundwater levels. Groundwater quality in this area is under the influence of surface water. SM6-28 also went on excursion during the wet spring weather of 2010 when the water level increased

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in the well.

2. At least 18 other shallow monitor wells located in Mine Units 6, 8, and 10 are also showing increases in water levels, alkalinity, 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.

3. Mine Unit 6 was placed into restoration on October 28, 2010. On this date, injection of lixiviant was permanently halted. Two production wells, P1633 and P1567, remain in operation in Mine Unit 6 to maintain a wellfield bleed.

In accordance with License Condition 11.2, CBO will increase the sampling frequency for SM6-28 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
SHEQ Manager

Enclosures: As Stated

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

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Crow Butte Project
Monitor Well Laboratory Report

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

Well ID	Alkalinity			Conductivity			Chloride		
	(mg/L)	Alk SCL	Alk MCL	(µmho/cm)	Cond SCL	Cond MCL	(mg/L)	Cl SCL	Cl MCL
CM6-25	300	433	361	1930	2952	2460	182	317	264
CM6-26	301	448	373	1920	2952	2460	182	338	282
CM6-28	315	449	374	1860	2894	2412	176	307	256
CM6-29	301	448	373	1920	3024	2520	182	321	268
CM6-30	317	459	383	1880	2952	2460	180	328	274
CM6-31	316	464	386	1900	2851	2376	179	301	251
CM6-32	312	461	384	1910	2981	2484	182	292	244
CM8-24	322	458	382	1860	2971	2484	177	278	232
CM8-25	314	449	374	1860	3355	2796	176	357	298
SM11-16	144	213	178	310	461	384	3.4	23	19
SM11-17	145	210	175	300	432	360	2.9	21	17
SM11-18	142	207	173	300	475	396	1.5	28	23
SM11-19	140	204	170	320	533	444	1.9	35	29
SM11-20	161	235	196	410	590	492	3.4	23	19
SM11-22	183	288	240	500	773	644	8.9	32	27
SM11-23	171	246	205	430	662	552	3.2	32	27
SM11-24	163	233	194	440	619	516	3.6	26	21
SM11-25	160	235	196	410	590	492	2.2	21	18
SM11-26	151	228	190	360	547	456	2.2	22	18
SM6-23	248	314	262	550	691	576	6.6	23	19
SM6-24	222	310	258	510	672	560	7.5	24	20
SM6-25	210	324	270	560	696	580	12	24	20
SM6-26	210	308	257	490	726	605	6.9	24	20
SM6-27	218	317	264	500	677	564	7.1	23	20
SM6-28	297	351	293	780	778	648	15	24	20

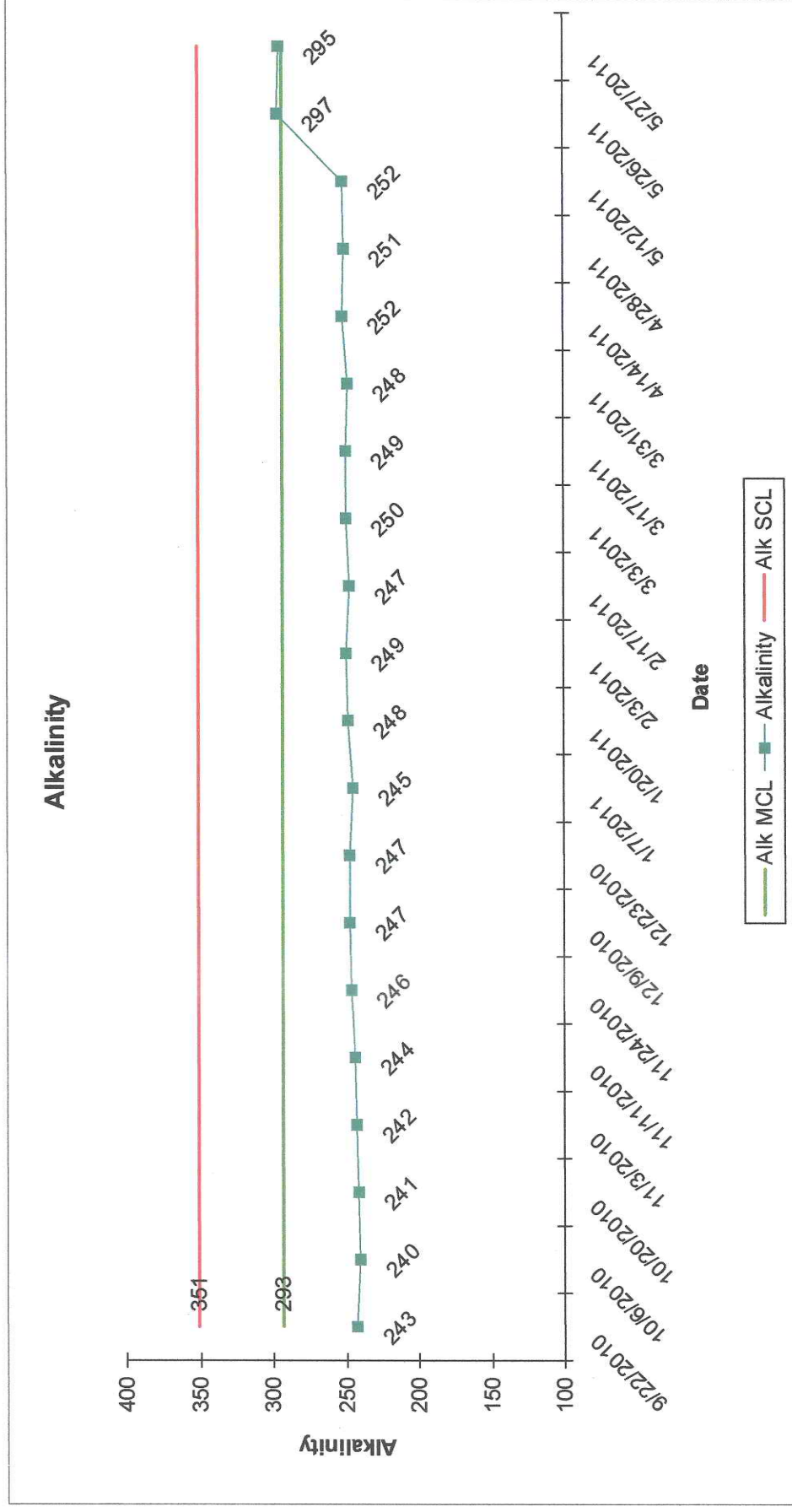
Sample Date 5/27/2011
Analysis Date 5/27/2011

Crow Butte Project

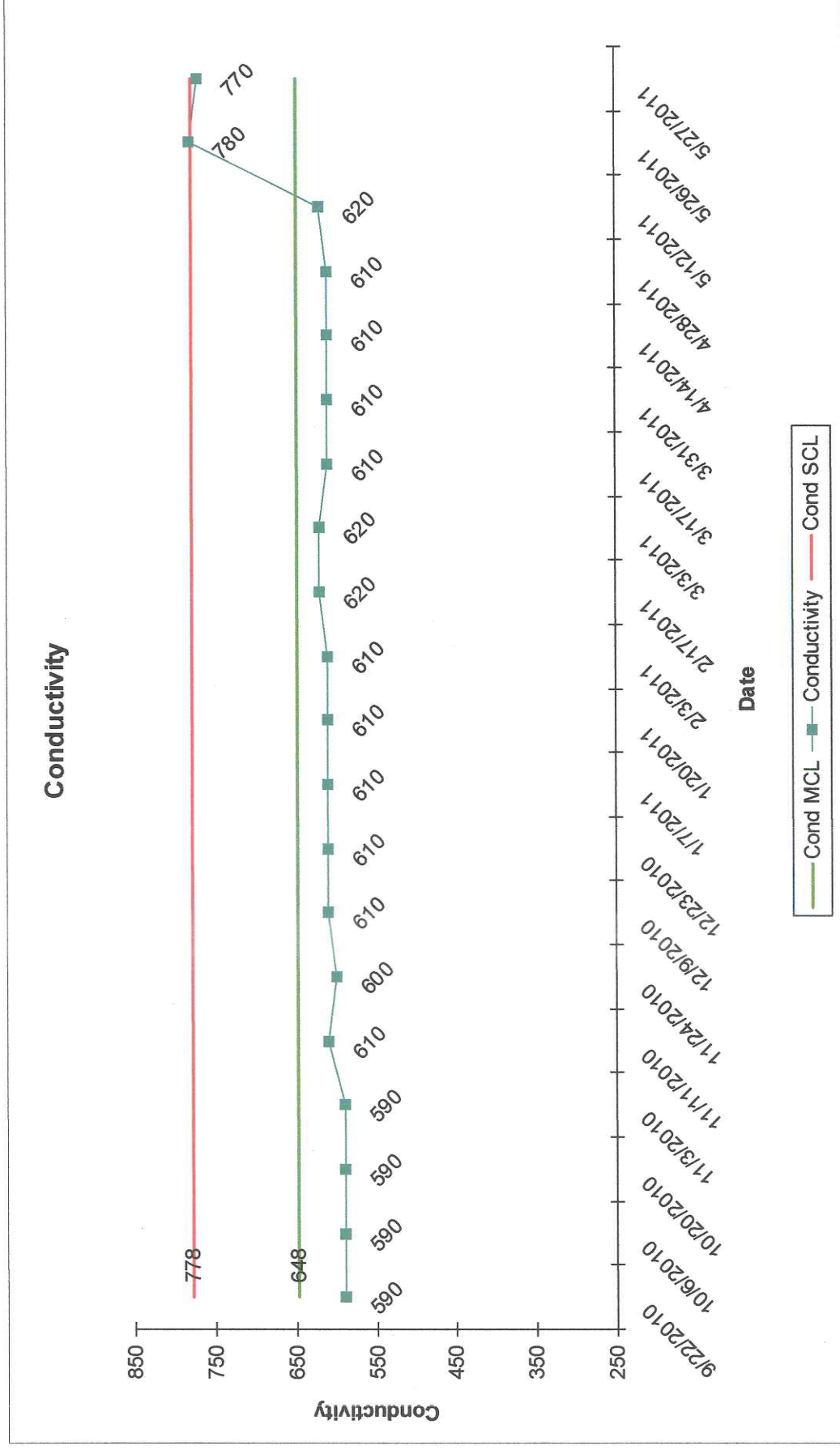
Monitor Well Laboratory Report

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

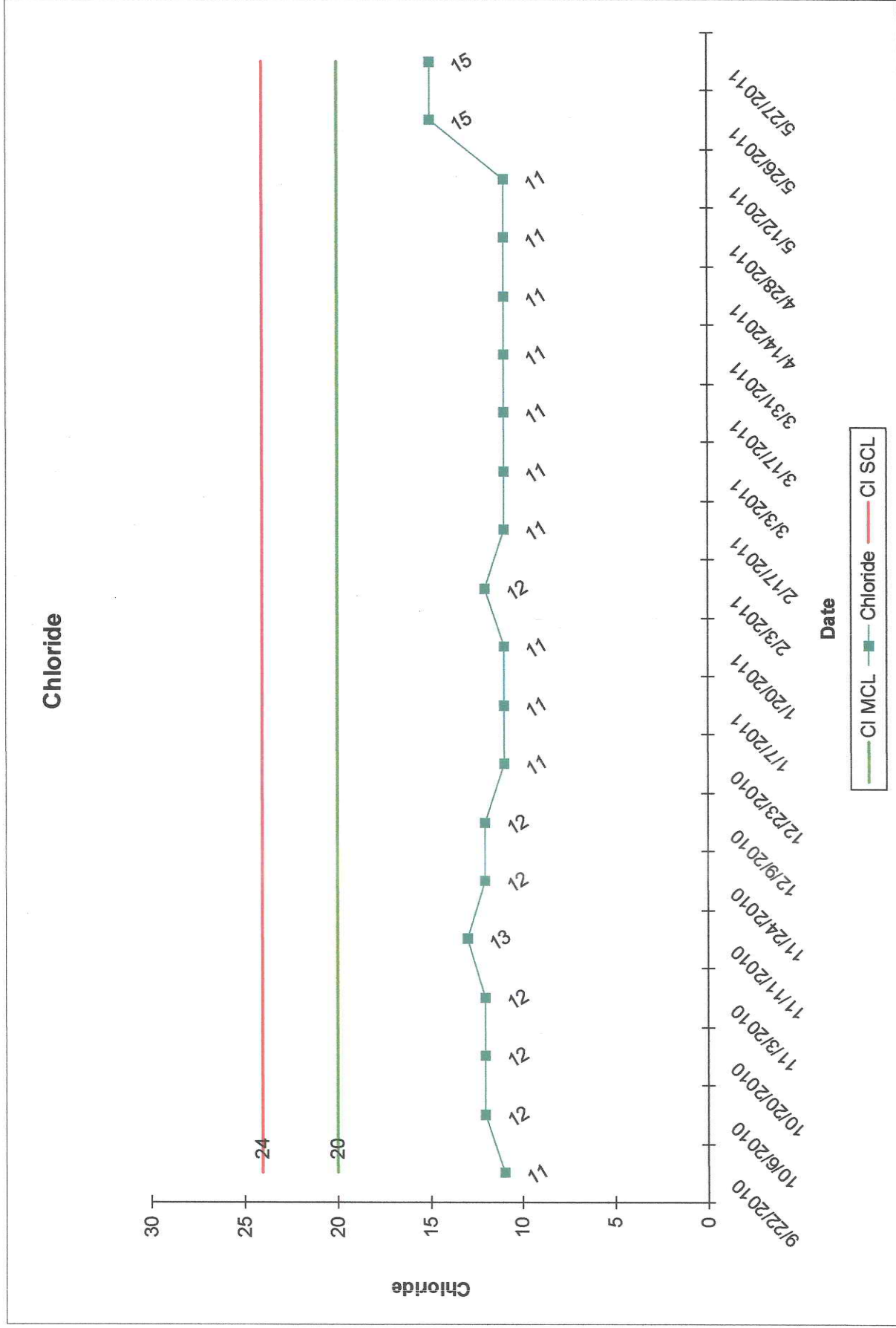
SM6-28



SM6-28



SM6-28



Water Level

Y-axis: Water Level (0 to 16)
X-axis: Date (9/22/2010 to 5/27/2011)

Legend: Water Level (green line with square markers), AvgOfWater Level (red line)

Date	Water Level	AvgOfWater Level
9/22/2010	14.5	13.5
10/6/2010	14.0	13.5
10/20/2010	13.5	13.5
11/3/2010	13.5	13.5
11/17/2010	13.5	13.5
11/24/2010	13.5	13.5
12/9/2010	13.5	13.5
12/23/2010	13.5	13.5
1/7/2011	13.5	13.5
1/20/2011	13.5	13.5
2/3/2011	13.5	13.5
2/17/2011	13.5	13.5
3/3/2011	13.5	13.5
3/17/2011	13.5	13.5
3/31/2011	13.5	13.5
4/14/2011	13.5	13.5
4/28/2011	13.5	13.5
5/12/2011	13.5	13.5
5/26/2011	13.5	13.5
5/27/2011	13.5	13.5