

CAMECO RESOURCES CROW BUTTE OPERATION




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May 25, 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 6-20 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-010H-00-BD01 |
| | Admitted: 9/10/2015 |
| | Rejected: |
| Other: | Identified: 8/27/2015 Withdrawn: Stricken: |

Dear Mr. McConnell:

On May 23, 2011 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-20, the single parameter upper control limits (SCL) for conductivity and chloride were exceeded. 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 also exceeded the SCL for conductivity and chloride.

CBO notified Mr. Ronald Burrows of the excursion by voicemail and email at 3:50 PM on May 24, 2011 as required in License Condition 9.2. Laboratory results for the sample analysis for SM6-20 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 13, 2010 to May 24, 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 4 feet this spring and is currently within approximately 20 feet of the top of the well casing. SM6-20 is located in Mine Unit 6 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. SM6-20 also went on excursion during the wet spring weather of 2009 and 2010 when the water level climbed to 21 feet.

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2. The chloride concentration has increased from normal concentrations of 7-10 mg/l to 35 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. 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.
4. A number of 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 SM6-20 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

Sample Date 5/23/2011
Analysis Date 5/23/2011

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 |
| SM5-15 | 206 | 311 | 259 | 550 | 973 | 811 | 13 | 60 | 50 |
| SM5-16 | 184 | 285 | 238 | 460 | 732 | 610 | 5.7 | 30 | 25 |
| SM5-17 | 169 | 264 | 220 | 420 | 694 | 578 | 2.1 | 27 | 23 |
| SM5-18 | 175 | 259 | 216 | 450 | 707 | 589 | 3.2 | 31 | 26 |
| SM5-19 | 187 | 285 | 238 | 490 | 757 | 631 | 5 | 27 | 22 |
| SM5-20 | 179 | 268 | 223 | 490 | 750 | 625 | 5.3 | 32 | 27 |
| SM5-21 | 180 | 284 | 236 | 470 | 755 | 629 | 4.6 | 29 | 24 |
| SM5-22 | 185 | 278 | 232 | 470 | 773 | 644 | 3.5 | 33 | 28 |
| SM5-23 | 183 | 287 | 239 | 470 | 753 | 628 | 3.2 | 28 | 24 |
| SM5-24 | 173 | 264 | 220 | 450 | 700 | 583 | 5.7 | 28 | 24 |
| SM5-25 | 175 | 264 | 220 | 480 | 724 | 604 | 6.4 | 31 | 26 |
| SM5-9 | 208 | 314 | 262 | 570 | 870 | 726 | 11 | 36 | 30 |
| SM6-11 | 215 | 318 | 265 | 510 | 691 | 576 | 8.6 | 24 | 20 |
| SM6-12 | 236 | 348 | 290 | 520 | 736 | 613 | 5.6 | 23 | 19 |
| SM6-13 | 239 | 360 | 300 | 560 | 768 | 640 | 6.3 | 26 | 21 |
| SM6-14 | 203 | 301 | 251 | 560 | 936 | 780 | 13 | 58 | 48 |
| SM6-15 | 205 | 321 | 268 | 550 | 842 | 702 | 12 | 34 | 28 |
| SM6-16 | 211 | 317 | 264 | 460 | 840 | 700 | 3.3 | 31 | 26 |
| SM6-18 | 200 | 305 | 254 | 570 | 837 | 697 | 15 | 33 | 27 |
| SM6-19 | 207 | 297 | 247 | 490 | 698 | 582 | 6.9 | 27 | 22 |
| SM6-20 | 235 | 323 | 269 | 760 | 717 | 598 | 34 | 26 | 22 |
| SM6-21 | 215 | 312 | 260 | 640 | 713 | 594 | 17 | 25 | 21 |
| SM6-22 | 210 | 310 | 258 | 480 | 674 | 562 | 5.6 | 22 | 18 |

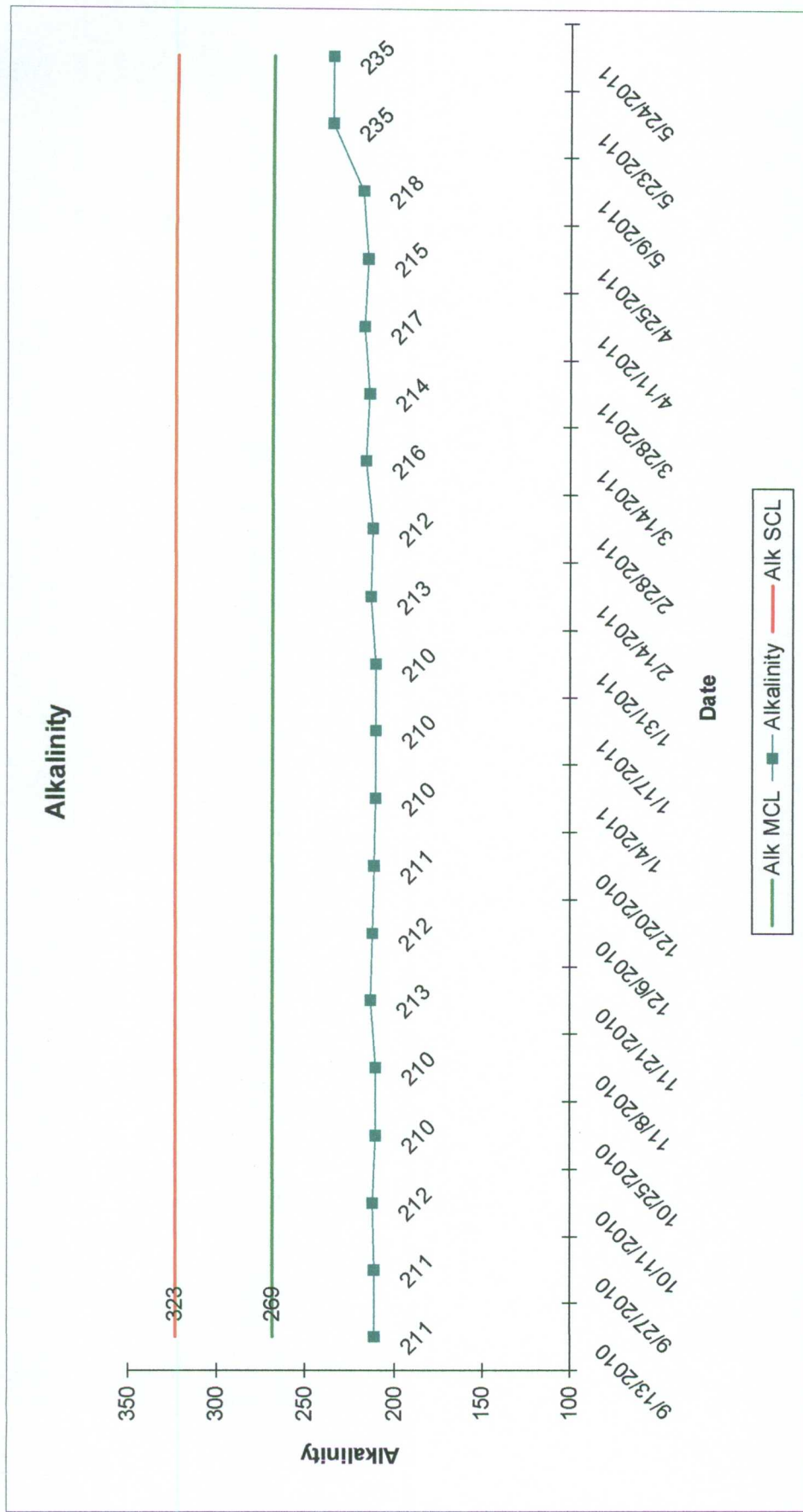
Sample Date
Analysis Date

5/24/2011
5/24/2011

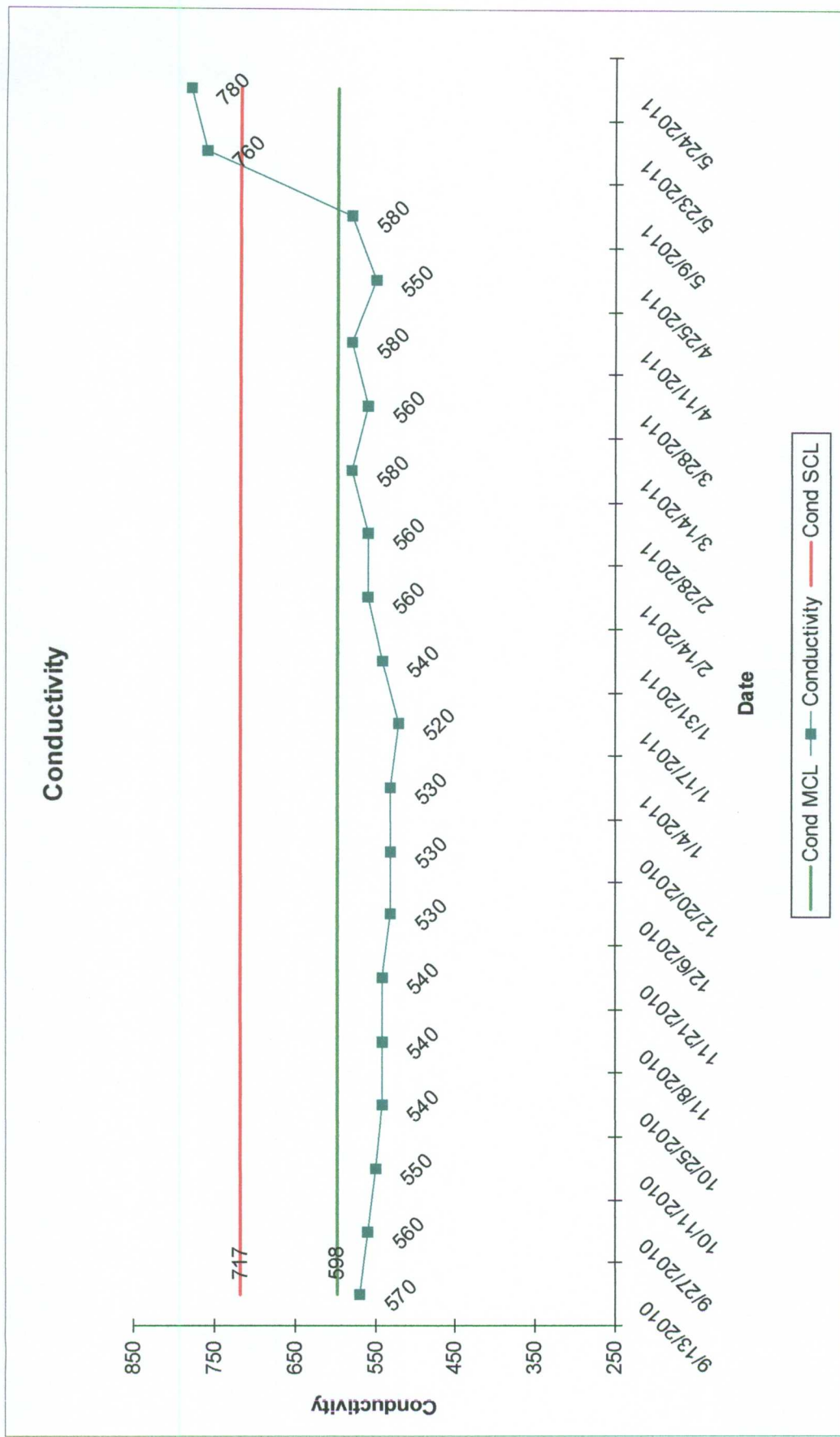
Crow Butte Project Monitor Well Laboratory Report

| Well ID | Alkalinity | | | Conductivity | | | Chloride | | |
|---------|------------|---------|---------|--------------|----------|----------|----------|--------|--------|
| | (mg/L) | Alk SCL | Alk MCL | (µmho/cm) | Cond SCL | Cond MCL | (mg/L) | Cl SCL | Cl MCL |
| SM11-3 | 148 | 210 | 175 | 340 | 490 | 408 | 1.7 | 20 | 17 |
| SM11-4 | 142 | 200 | 167 | 310 | 446 | 372 | 1.3 | 20 | 17 |
| SM11-5 | 144 | 204 | 170 | 330 | 475 | 396 | 1.7 | 20 | 17 |
| SM11-6 | 144 | 207 | 173 | 330 | 490 | 408 | 3.2 | 25 | 21 |
| SM4-1 | 159 | 248 | 206 | 370 | 772 | 643 | 2.4 | 52 | 43 |
| SM4-2 | 196 | 513 | 393 | 660 | 1256 | 1039 | 13 | 127 | 88 |
| SM4-5A | 199 | 367 | 306 | 550 | 1236 | 1030 | 11 | 106 | 88 |
| SM6-20 | 235 | 323 | 269 | 780 | 717 | 598 | 35 | 26 | 22 |
| SM8-1 | 234 | 374 | 312 | 530 | 763 | 636 | 6 | 25 | 21 |
| SM8-10 | 232 | 331 | 276 | 590 | 749 | 624 | 8.7 | 24 | 20 |
| SM8-11 | 226 | 323 | 269 | 560 | 792 | 660 | 8 | 24 | 20 |
| SM8-12 | 230 | 323 | 269 | 570 | 834 | 695 | 8.1 | 25 | 20 |
| SM8-13 | 223 | 328 | 274 | 550 | 880 | 733 | 11 | 31 | 26 |
| SM8-14 | 223 | 325 | 271 | 560 | 720 | 600 | 11 | 24 | 20 |
| SM8-15 | 219 | 305 | 254 | 530 | 789 | 658 | 7.8 | 35 | 29 |
| SM8-16 | 220 | 331 | 276 | 530 | 828 | 690 | 7.9 | 24 | 20 |
| SM8-2 | 237 | 353 | 294 | 530 | 778 | 648 | 5.3 | 24 | 20 |
| SM8-3 | 225 | 331 | 276 | 510 | 720 | 600 | 5.9 | 24 | 20 |
| SM8-4 | 223 | 323 | 269 | 520 | 819 | 683 | 7.8 | 25 | 21 |
| SM8-5 | 242 | 346 | 288 | 650 | 749 | 624 | 12 | 23 | 19 |
| SM8-6 | 236 | 328 | 274 | 860 | 734 | 612 | 16 | 23 | 19 |
| SM8-7 | 240 | 348 | 290 | 620 | 763 | 636 | 9.3 | 23 | 19 |
| SM8-8 | 237 | 340 | 283 | 520 | 864 | 720 | 5.1 | 24 | 20 |
| SM8-9 | 236 | 353 | 294 | 530 | 886 | 738 | 6 | 23 | 19 |
| SM9-1 | 173 | 255 | 212 | 440 | 648 | 540 | 5.4 | 31 | 26 |

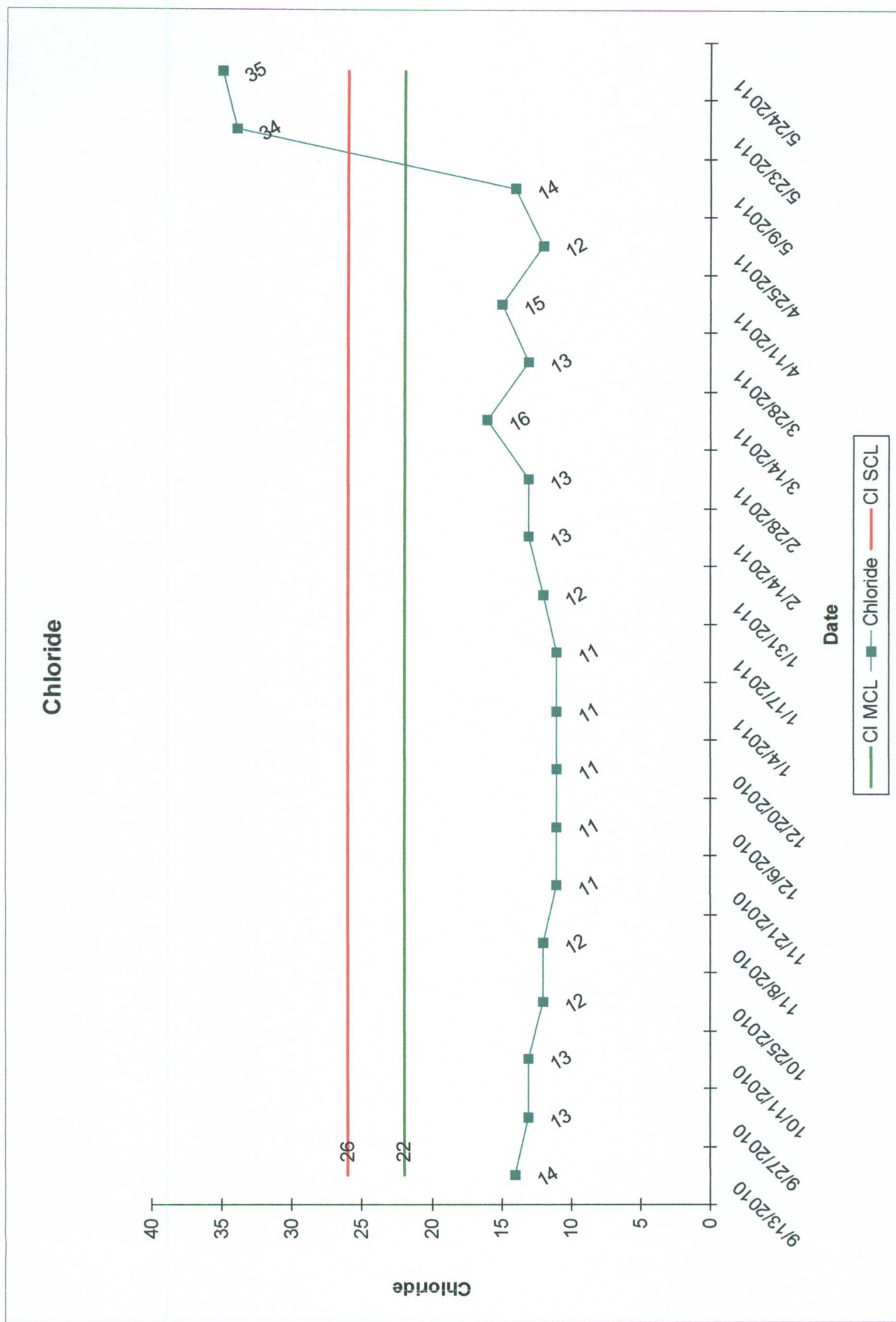
SM6-20



SM6-20



SM6-20



SM6-20

