Newmont
NORTH AMERICA

Cripple Creek & Victor Gold Mining Company
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SENT VIA EMAIL

May 6, 2020

Mr. Patrick Lennberg
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining, and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, Colorado 80203

**Re: Division Review No. 2; Notification of Water Quality Analysis Parameter Exceedance February 27, 2020, Cresson Project, Permit No. M-1980-244**

Dear Mr. Lennberg,

On April 10, 2020, Cripple Creek & Victor (CC&V) received the Division of Reclamation, Mining, and Safety (DRMS) second response to a water quality parameter exceedance submitted on February 27, 2020, and request to respond to nine questions regarding the exceedance submission. CC&V hereby submits the following response to submitted questions. Below are DRMS' comments in italics followed by CC&V's responses in bold.

1. *The Division is not aware of any formal notification that the pumping system failed. Did the Operator provide any formal notification, if not why?*

   **CC&V did not report that the pumping system installed within monitoring well CRMW-3B had failed. Per CC&V's mining and reclamation permit (M-1980-244), CC&V is required to report the failure or imminent failure of an environmental protection facility, pond level exceedances, water quality parameter exceedances, etc. CC&V is not aware of a permit or regulatory requirement to report pumping system maintenance.**

2. *What is the nature of the pumping system failure and why is taking so long to fix? If the system is currently operating when did it come back online?*

   **After inspection of the pumping system, it was discovered that the system experienced failure due to scale precipitate within the discharge hose and pump. The observed Bio-fouling during subsequent sample collection was not the cause of the system failure. Pumping resumed in monitoring well CRMW-3B in January, 2020 and continues to date.**

3. *The Operator hypothesized that the spike in manganese was caused by bacterial growth in the well. Did the Operator take samples of the bio-film to characterize and determine the bio-film was the source of the manganese spike? If no sample was taken, what information is the Operator using to support this hypothesis?*

   **No, CC&V did not send a sample off for analysis. Biofouling is a fairly common condition observed at monitoring wells and is routinely identified through field observations. Observations made at CRMW-3B noted a biofilm, slime, an odor on sampling equipment and reduced pump efficiency. These conditions are commonly associated with biofouling.**

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4. *What plans does the Operator have to address the manganese biofouling issue should it become a problem again in the future?*

   **CC&V will continue to monitor the well on a quarterly basis, and should a situation arise where the well experiences further biofouling, CC&V will treat the well again as necessary.**

5. *Is there a concern that the well's integrity and efficiency are decreasing with repeated biofouling?*

   **No, there are no indications that the well integrity or efficiency have been impacted from the biofouling or treatment. CC&V will continue to record well conditions as part of the routine quarterly sampling. Any significant changes in pump efficiency, water quality or other observed conditions will be addressed within standard industry practices and as required by permit. Should the well experience an extended period of inactivity in the future, CC&V will increase the frequency of well inspection.**

6. *Please explain the gaps in sampling from April to August and September to December 2019 notable in the table under the Item No. 3 in the response letter dated April 2, 2020.*

   **Per permit requirements, CC&V is required to sample monitoring well CRMW-3B on a quarterly basis. As presented in the table under item No. 3 in the response letter dated April 2, 2020, sample collection has been completed on a quarterly basis. A sample was collected in August 2019, with a follow-up sample also collected in September. Additionally, CC&V has collected monthly samples to monitor fluoride and manganese concentrations since December 2019.**

7. *The DMRQA is a program whereby laboratories participate in self-monitoring for specific analytes associated with a NPDS permit. Are fluoride and manganese part of Operator's NPDS permit, if so what are the monitoring concentrations for them?*

   **CC&V's quality assurance project plan (QAPP) submitted as part of Technical Revision 119 presents the methods which CC&V uses to ensure a quality sample is collected and submitted for analysis.**

8. *While a single sample sent to the laboratory may indicate an exceedance, even through DMRQA, a follow up sample would verify the exceedance and eliminate potential errors associated with sampling contamination, was this done?*

   **Per permit requirements, CC&V is required to sample monitoring well CRMW-3B on a quarterly basis. As presented in the table under item No. 3 in the response letter dated April 2, 2020, sample collection has been completed on a quarterly basis. A sample was collected in August 2019, with a follow-up sample also collected in September. Additionally, CC&V has collected monthly samples to monitor fluoride and manganese concentrations since December 2019.**
   **Please see the table below for CRMW-3B sample collections since Q1 2019, and the attached graphs for CRMW-3B fluoride & manganese period of record.**

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| Sample Point | Date | Fluoride - Total F (mg/L) | Manganese - Dissolved (mg/L) |
|---|---|---|---|
| CRMW 3B-63 | 3/4/2019 | 2.17 | 0.644 |
| CRMW 3B-63 | 4/30/2019 | 2.17 | 0.955 |
| CRMW 3B-63 | 8/28/2019 | 2.09 | 15.9 |
| CRMW 3B-63 | 9/17/2019 | 2.14 | 30.3 |
| CRMW 3B-63 | 12/9/2019 | 1.94 | 13.3 |
| CRMW 3B-63 | 1/14/2020 | 2.8 | 37.4 |
| CRMW 3B-63 | 2/11/2020 | 5.07 | 11.3 |
| CRMW 3B-63 | 3/17/2020 | 5.02 | 6.26 |
| CRMW 3B-63 | 4/1/2020 | 3.48 | 3.88 |

9. *The operator has stated that fluoride and manganese concentrations in down gradient wells, CRMW-5A, -5B, -5C, and -5D, are not outside previously recorded concentrations. Please provide summary graphs for these wells to show that concentrations are not outside previously recorded concentrations.*

   **Please see the attached graphs for fluoride and manganese concentrations of the CRMW-5 (A-D) wells.**

10. *Comment: The results from the March 2020 event indicates that fluoride is still at or near historical high concentrations and while manganese has decreased it is still above historical averages and concentrations of both constituents are above Table Value Standards.*

    **Continued sample collection demonstrates that the most recent observed fluoride and manganese concentrations at monitoring well CRMW-3B are consistent with historical concentrations (see attached CRMW-3B fluoride & manganese graphs). The data presented demonstrates that the water quality observed from Q3 2019 through Q1 2020 is the result of equipment failure and subsequent bio-fouling. The water quality observed in CRMW-3B from Q3 2019 through Q1 2020 was isolated to CRMW-3B and should not be interpreted as representative of groundwater quality in the area and should not be considered an impact to groundwater quality from CC&V's operations.**

If the Division has any additional questions or inquiries please reach out to Ronald Parratt via email at ronald.parratt@newmont.com or via phone at 719.689.4019, or myself via email at justin.raglin@newmont.com or via phone at 719.689.4042

Sincerely,

Justin Raglin
*S&ER Manager*

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# Attachments

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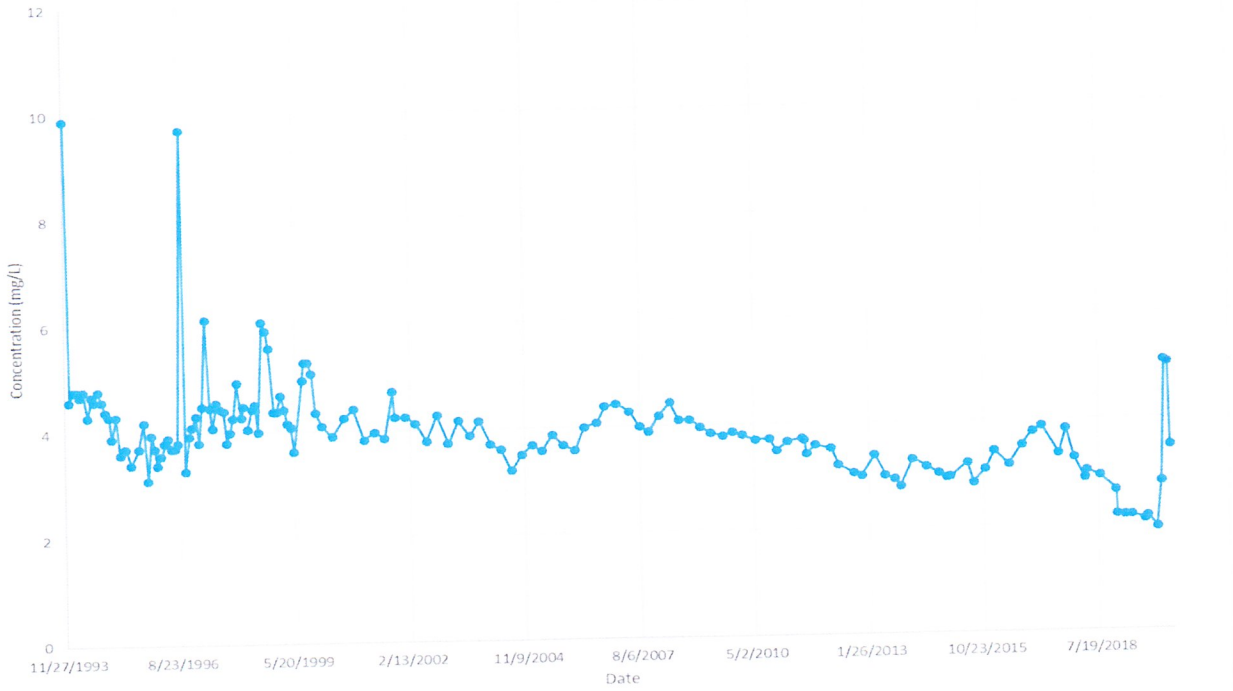
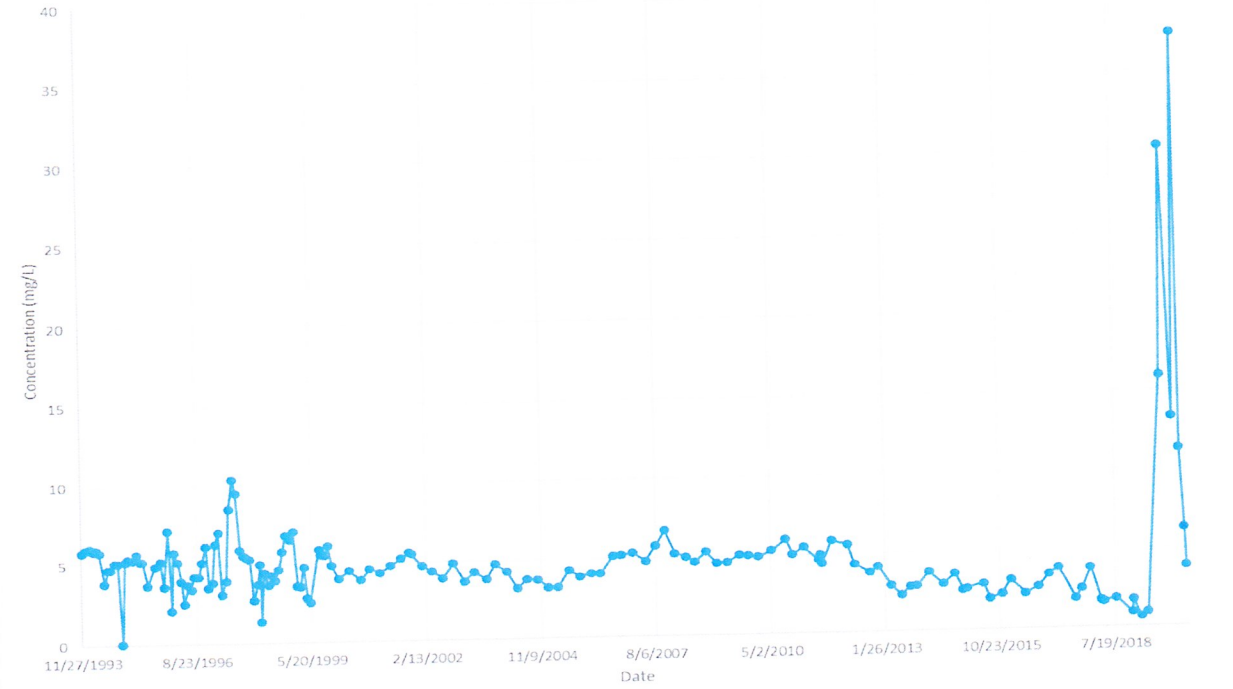
CRMW-3B - Fluoride




CRMW-3B - Manganese



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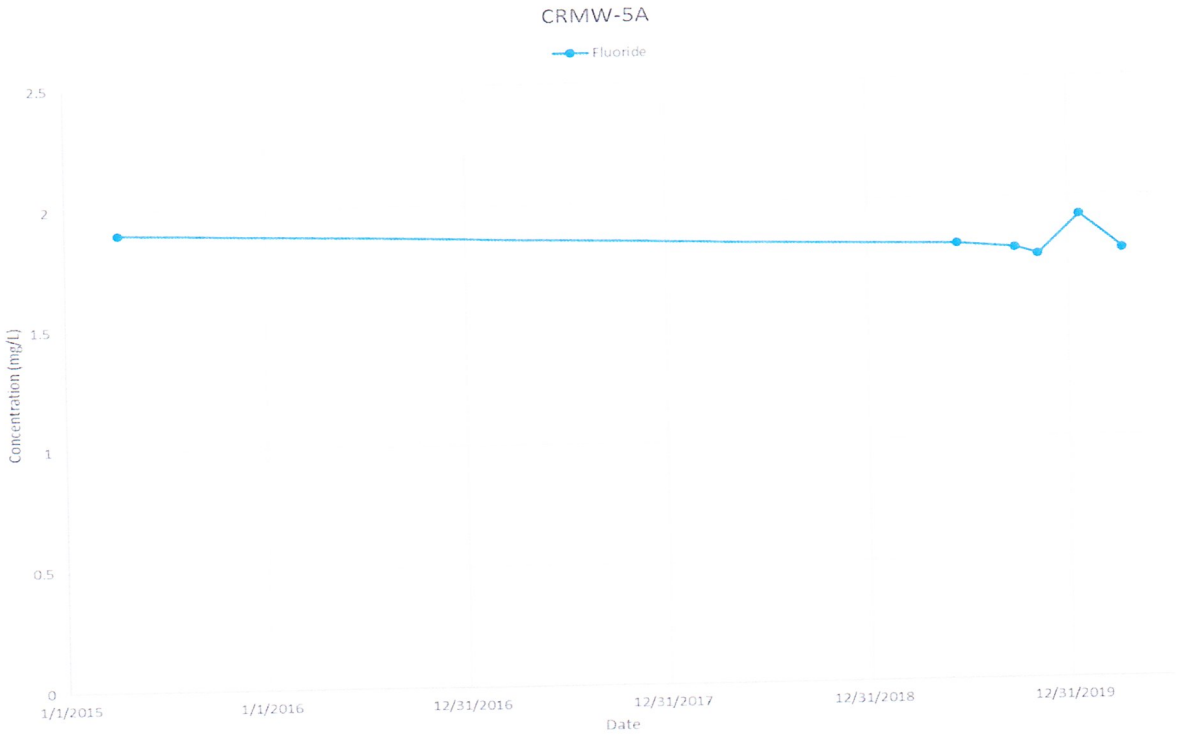


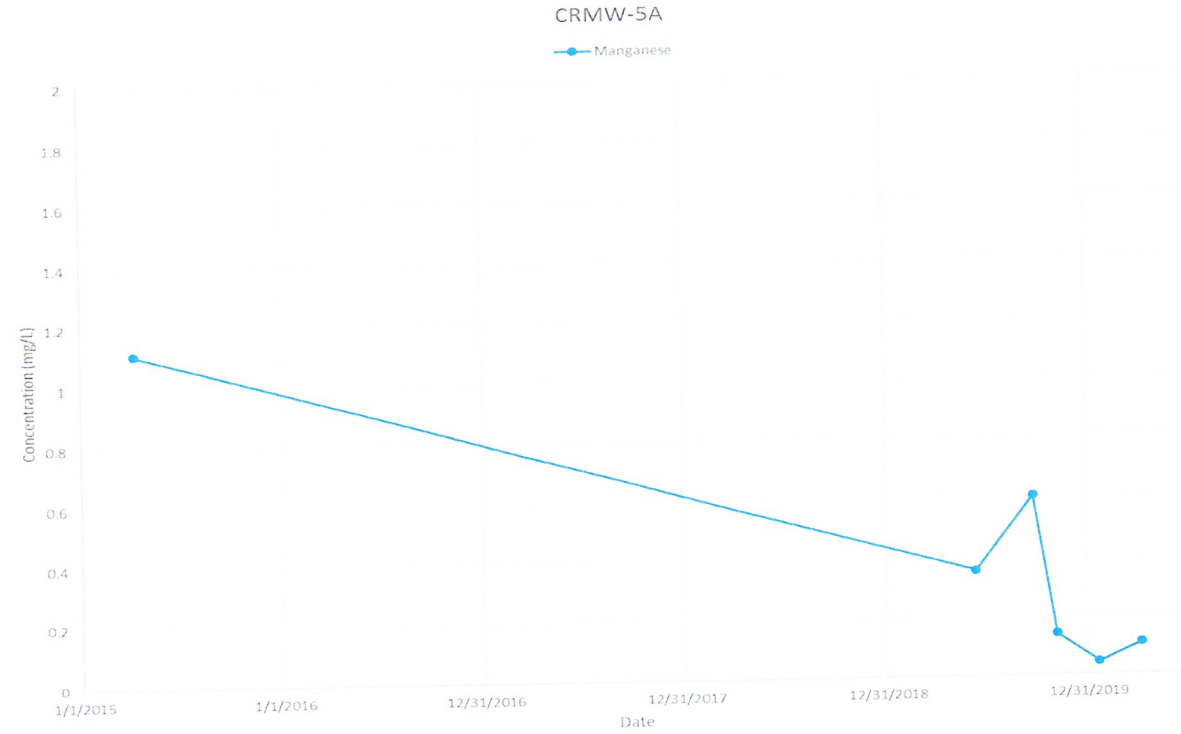

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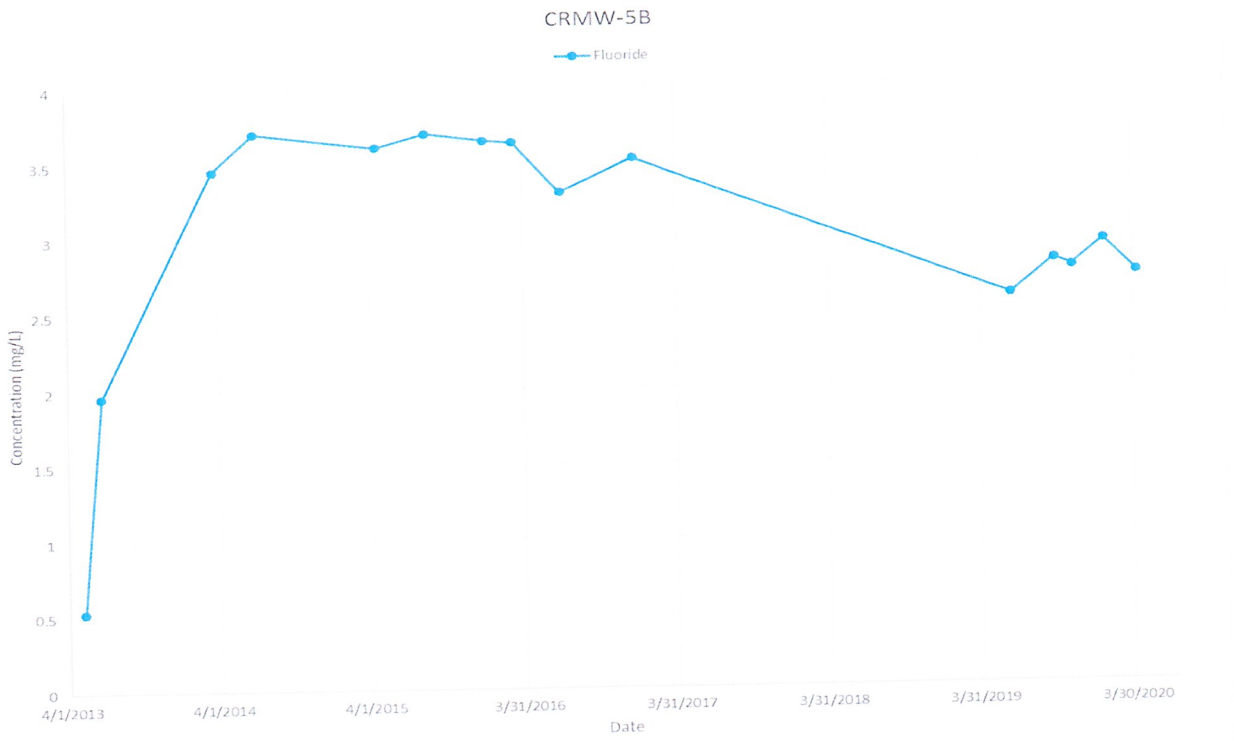


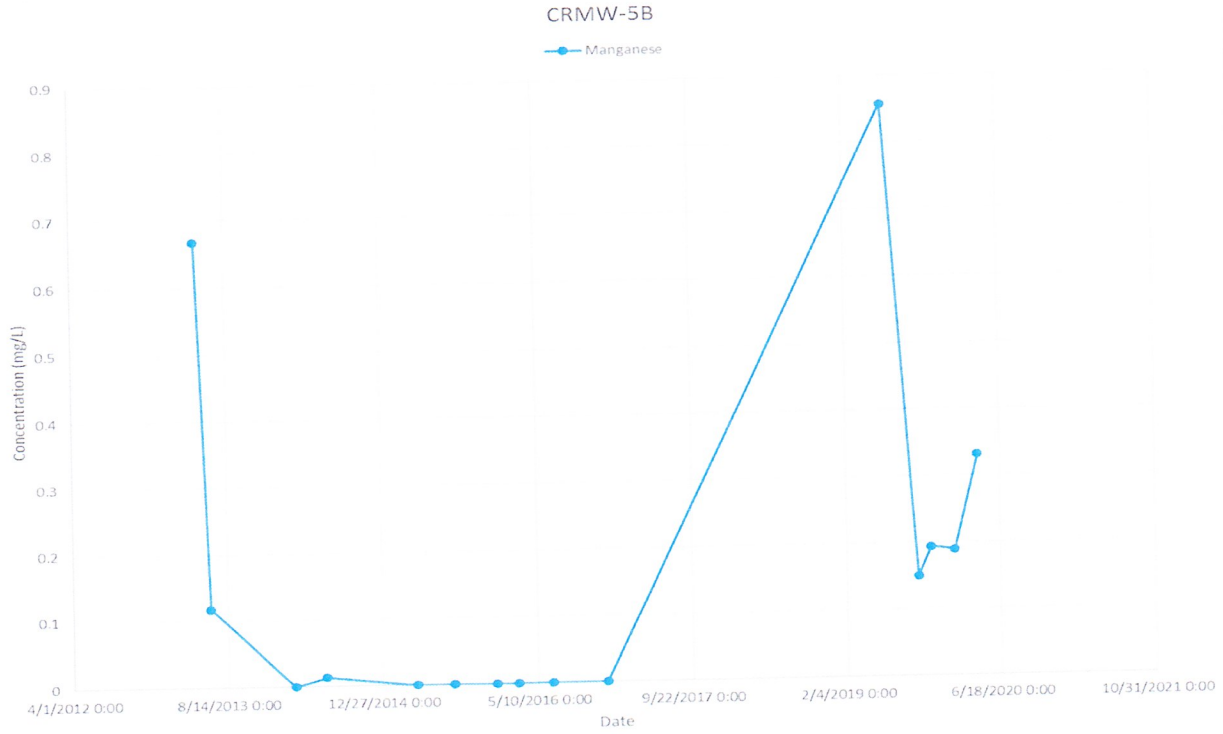

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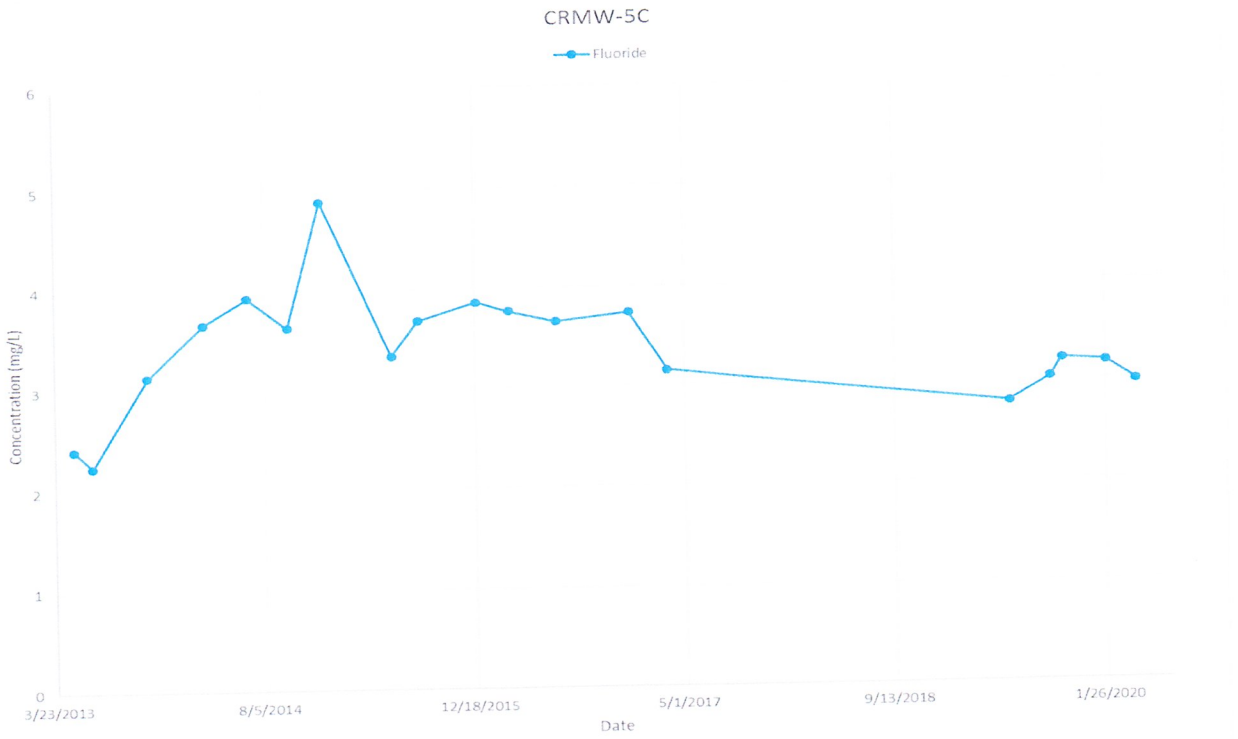


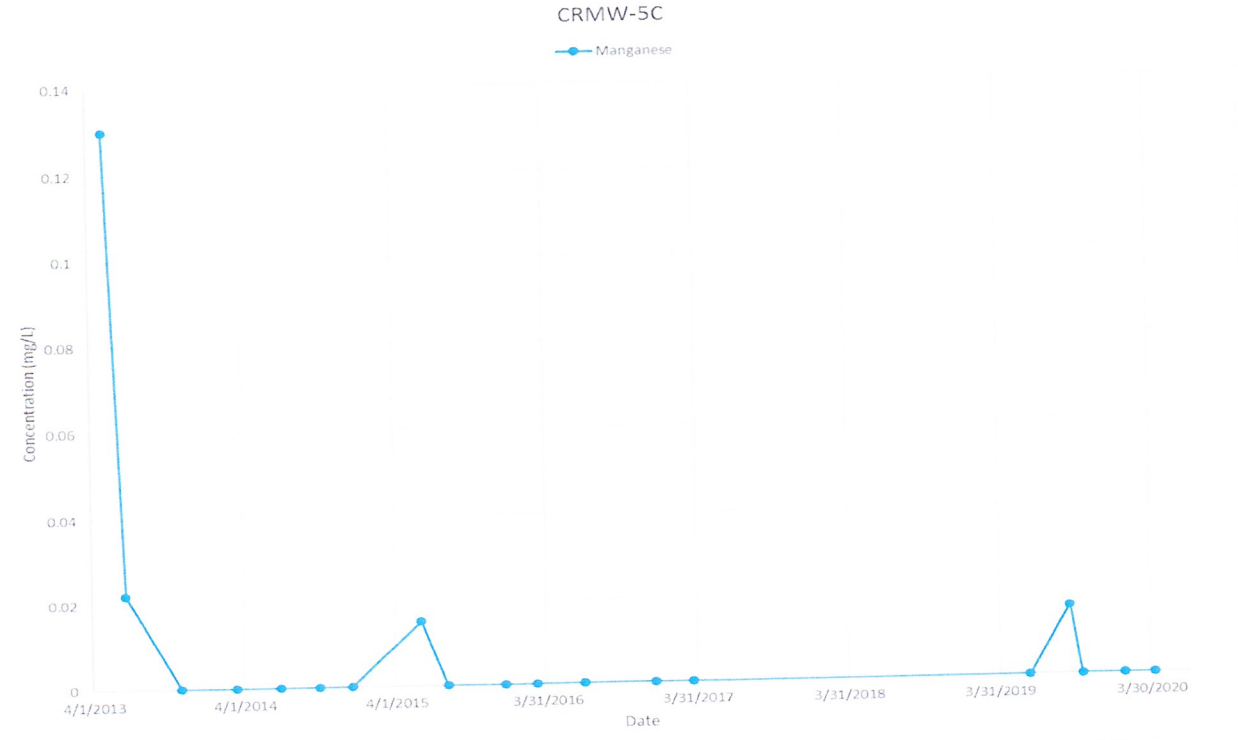

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