

November 3, 2021

Ms. Hillary Young, P.E.  
Chief Engineer  
Land Protection Division  
Oklahoma Department of Environmental Quality  
707 N. Robinson  
P.O. Box 1677  
Oklahoma City, OK 73162

Re: Initial Report to Monitor Progress of Semi-Annual CMA Sampling at Landfill CCR Unit  
Western Farmers Electric Cooperative (WFEC) - Hugo Power Station, Fort Towson, Oklahoma

Dear Ms. Young:

Enclosed, please find a copy of the above referenced report. The DEQ has approved a minimum two-year sample and evaluation period to establish the effectiveness of enhanced dewatering combined with monitored natural attenuation as a corrective measure alternative for molybdenum exceedances associated with WFEC'S Landfill CCR Unit. This report monitors progress of semi-annual sampling conducted to date. A copy of this report will be placed in the facility's operating record and on the facility's publicly accessible internet web-site.

Please notify me at 405-247-4298 or at [k\\_fletcher@wfec.com](mailto:k_fletcher@wfec.com) if you have any questions.

Sincerely,

  
Kent Fletcher  
Environmental Coordinator

cc: Gerald Butcher and John McCreight / Western Farmers Electric Cooperative  
Chris Schaefer and Bert Smith / Altamira-US, LLC

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*Proudly serving the following members in Oklahoma and New Mexico:*

Alfalfa Electric Cooperative • Altus Air Force Base • Canadian Valley Electric Cooperative • Central Valley Electric Cooperative •  
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Kiamichi Electric Cooperative • Lea County Electric Cooperative • Northfork Electric Cooperative • Northwestern Electric Cooperative •  
Oklahoma Electric Cooperative • Red River Valley Rural Electric Association • Roosevelt County Electric Cooperative •  
Rural Electric Cooperative • Southeastern Electric Cooperative • Southwest Rural Electric Association

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Re: Initial Report to Monitor Progress of Semi-Annual CMA Sampling at Landfill CCR Unit  
Western Farmers Electric Cooperative – Hugo Power Station, Fort Towson, Oklahoma

Dear Ms. Young:

Assessment Monitoring at Western Farmers Electric Cooperative's (WFEC's) Hugo Power Station (HPS) has indicated molybdenum at statistically significant levels (SSLs) above both established site-specific and EPA alternative groundwater protection standards (GWPSs) in 4 of 10 downgradient monitoring wells associated with its Landfill Coal Combustion Residuals (CCR) Unit. Laboratory testing has been provided to the Oklahoma Department of Environmental Quality (ODEQ) that shows the molybdenum adsorbs to the native rock material and does not leach from the native rock to groundwater. Furthermore, hydrogeologic characterization performed shows very slow groundwater movement with limited transport of molybdenum that has not, and probably will not, leave the HPS site property boundary at concentrations exceeding the GWPSs. A preliminary risk evaluation was performed indicating the groundwater constituents do not pose a hazard to potential on-site or off-site human or ecological receptors.

An Assessment of Corrective Measures Report was submitted to ODEQ on October 27, 2020. Based on evaluations included in the Assessment of Corrective Measures Report, source control via enhanced dewatering combined with monitored natural attenuation (MNA) was proposed as a corrective measure alternative for the molybdenum. A minimum of two years of semi-annual sampling of monitoring wells downgradient of the CCR landfill was proposed to establish the effectiveness of this alternative prior to selection of a final remedy. The Assessment of Corrective Measures Report and the two-year sample and evaluation period were approved by ODEQ on December 29, 2020, contingent upon submittal of semi-annual reports to ODEQ to monitor progress. This submittal constitutes the initial semi-annual report.

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### ACTIVITIES COMPLETED (FIRST HALF OF 2021)

- 1) Dewatering of the Landfill CCR Unit was initiated in March 2020 and continues as water accumulates in the landfill following rainfall events. Standing water that accumulates in the Landfill CCR unit following rainfall is pumped from the north side of the CCR Unit as practicable and conveyed to impoundment FO8 which is allowed under OPDES permit (OK0035327) to accept landfill stormwater. The Landfill CCR Unit does not contain sufficient standing water to pump during periods of little or no rainfall. Conversely, several consecutive days of pumping may be required to remove standing water from the Landfill CCR Unit after large rainfall events. To date, 992 hours of pumping have been conducted to prevent standing water from accumulating in the Landfill CCR Unit. WFEC is currently evaluating methods to maintain/improve stormwater run-on controls to limit surface water entering into the Landfill CCR Unit.
- 2) The initial semi-annual sampling of select monitoring wells as contained in the approved Assessment of Corrective Measures Report was conducted in March/April 2021. Wells sampled include the 4 wells where molybdenum had been identified at SSLs above the GWPS (MW-15A, MW-16, MW-18, and MW-19S), and monitoring wells MW-5S, MW-7S, MW-15B, MW-17, MW-22A, MW-22B, CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B. The approximate locations of monitoring wells sampled are shown on the figure in **Attachment A**.
- 3) Each of these wells was purged prior to sampling. Purging was accomplished using dedicated submersible pumps (MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-17, MW-18, MW-19S, and MW-22A), dedicated peristaltic pumps (CM-1A, CM-1B, and CM-2) and dedicated bailers (MW-15B, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B). Field readings of temperature, pH, and conductivity were maintained during purging of the wells. Purging was continued until water was sufficiently clear and field readings stabilized (where using submersible and peristaltic pumps) or until a well was purged dry (when bailing).
- 4) Groundwater samples were collected after purging. The groundwater samples were collected using dedicated submersible pumps, dedicated peristaltic pumps, or dedicated bailers and placed directly into appropriately preserved laboratory-prepared containers. The samples were labeled as to sample location, placed under chain-of-custody control, packed in ice, and shipped to ALS Environmental Laboratories (Oklahoma Certification 2020-165).

- 5) Each of the wells was sampled and the samples analyzed for parameters listed in the approved Assessment of Corrective Measures Report. Sampling parameters included molybdenum, dissolved molybdenum, and CCR Appendix III parameters (boron, chloride, pH, TDS, calcium, fluoride, and sulfate). Additionally, wells were monitored for indicator parameters to evaluate monitored natural attenuation (MNA). These indicator parameters included oxidation reduction potential (ORP), pH, specific conductance, total dissolved solids, nitrate, sulfide, total and dissolved iron, total and dissolved ferrous iron (Fe(II)), total and dissolved ferric iron (Fe(III)), dissolved oxygen (DO), and alkalinity. Samples for TDS, sulfide, nitrate, alkalinity, and all of the iron species were analyzed at the laboratory. The ORP and DO for each well were measured in the field. Specific conductance and pH for each well were both measured in the field and analyzed at the laboratory.

### EVALUATION OF DATA

Laboratory reports from the March/April 2021 sampling are included in **Attachment B**. A running and updated tabulation of data to include results from the March/April 2021 sampling is contained in **Attachment C**. Oxidation-reduction reactions typically dictate molybdenum mobilization with molybdenum increasing in concentration as a result of reducing conditions, pH-induced desorption/dissolution, and microbial dissimilatory processes. Mineral coprecipitation/re-adsorption reactions typically dictate molybdenum immobilization. The data from the March/April 2021 sampling was compared to previously available data and evaluated to discern changes in molybdenum concentration and changes in the subsurface environment over time and distance. The following observations are made from this evaluation:

- 1) The March/April 2021 sampling was the tenth sampling event for molybdenum (dating to August 2017) at monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-18, and MW-19S; the ninth sampling event for molybdenum (dating to August 2017) at monitoring well MW-22A; and the third sampling event for molybdenum (dating to July 2020) at monitoring wells MW-15B, MW-22B, CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B. From March/April 2021 sampling, molybdenum was identified at SSLs above GWPSs at GW-15A, MW-16, MW-18, and MW-19S. Reported molybdenum concentrations at these wells in decreasing order were 0.398 mg/L at MW-19S (east of the southern cell of the Landfill CCR Unit), 0.195 mg/L at MW18 (east of the southern cell of the Landfill CCR Unit), 0.168 mg/L at MW-15A (north of the northern Landfill CCR Unit), and 0.166 mg/L at MW-16 (east of the northern Landfill CCR Unit). Molybdenum concentrations attenuate significantly with distance from the CCR Landfill. These wells had historically seen molybdenum levels above the GWPSs, and no new exceedances of the GWPSs were identified in any of the other wells.

- 2) A chart showing changes in molybdenum concentration over sampling history for each of the monitoring wells evaluated is included in **Attachment D**. These charts include a line of best fit generated by the Excel Trend Function using the least squares method. In most cases, the molybdenum concentration in site monitoring wells appears to have gone down slightly over the sampling history. The only exceptions are at monitoring wells CM-3B and CM-5B, which have only been sample three times for molybdenum. At these wells, the reported molybdenum concentrations for March/April 2021 sampling are similar but slightly higher than those from the previous two sampling events. Analyses to evaluate possible statistical trends from the molybdenum data, such as a combination of the Mann-Kendall test and Sen's Slope Estimator, have not been completed as of this report and no conclusions can be definitively drawn on trends based on only three data points.
- MW-5S: Molybdenum concentrations over the past two sampling events (0.00244 mg/L in October 2020 and 0.00234 mg/L in March /April 2021) were at the lowest levels reported to date for this well. Over the sampling history, the molybdenum concentration at this well appears to have steadily decreased from 0.00737 mg/L in August 2017 to current levels. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
  - MW-7S: Molybdenum concentration from March/April 2021 sampling (0.000755 mg/L) was the lowest level reported to date for this well. Over the sampling history, the molybdenum concentration at this well has decreased from 0.00171 mg/L in August 2017 to current levels. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
  - MW-14A: Molybdenum was not observed over the past two sampling events (October 2020 and March/April 2021) for this well at concentrations above the Method Detection Level (<0.0006 mg/L). Over the sampling history, the molybdenum at this well has decreased from 0.00223 mg/L in August 2017 to <0.0006 mg/L. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
  - MW-15A: Molybdenum concentrations over the past two sampling events (0.167 mg/L in October 2020 and 0.168 mg/L in March 2021) were at the lowest levels reported to date for this well. The highest molybdenum concentrations over the sampling history are 0.269 mg/L in June 2020 and 0.255 mg/L in August 2017.

Prior to October 2019 sampling, molybdenum concentrations were typically greater than 0.2 mg/L at this well. Molybdenum concentrations reported since that time have been below 0.2 mg/L with exception of that reported from June 2020 sampling. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).

- MW-15B: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at MW-15B (0.0109 mg/L in July 2020, 0.00876 mg/L in October 2020, and 0.00571 mg/L in March/April 2021).
- MW-16: Molybdenum concentrations over the past two sampling events (0.149 mg/L in October 2020 and 0.166 mg/L in March 2021) are on the low end of those typically reported at this well. The highest molybdenum concentration to date for this well (0.193 mg/L) occurred in April 2019. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
- MW-17: Molybdenum is typically not observed at concentrations above the laboratory reporting level (<0.0006 mg/L) at this well. Molybdenum concentration was above the laboratory reporting level during the March/April 2021 sampling event. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
- MW-18: Molybdenum concentrations over the past two sampling events (0.18 mg/L and 0.195 mg/L) are on the low end of those previously reported at this well. Over the sampling history, the molybdenum concentration at this well appears to have steadily decreased from 0.39 mg/L in August 2017 to current levels. Concentrations greater than 0.3 mg/L have not been observed since April 2019. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
- MW-19S: Molybdenum concentrations over the past two sampling events (0.367 mg/L in October 2020 and 0.398 mg/L in March 2021) are on the low end of those previously reported at this well. Although a line of best fit over the sampling period indicates a slightly positive slope, current reported molybdenum concentrations are lower than those reported prior to October 2019. The highest molybdenum concentration to date for this well (0.482 mg/L) occurred in January 2019.

- MW-22A: Molybdenum is typically not observed at concentrations above the laboratory reporting level (<0.0006 mg/L) at this well. Molybdenum concentrations were below the laboratory reporting level during both of the last two sampling events. A line of best fit over the sampling period indicates a negative slope (apparent downward trend).
- MW-22B: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at MW-22B (0.00878 mg/L in July 2020, 0.00866 mg/L in October 202, and 0.00753 in March/April 2021).
- CM-1A: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at CM-1A (0.00878 mg/L in July 2020, 0.00198 mg/L in October 2020, and 0.00132 in March/April 2021).
- CM-1B: To date, this well has only been sampled three times for molybdenum. Reported molybdenum concentrations through three sampling events are 0.0133 mg/L in July 2020, 0.0144 mg/L in October 2020, and 0.0113 mg/L in March/April 2021.
- CM-2: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at CM-2 (0.00209 mg/L in July 2020, 0.00203 mg/L in October 2020, and 0.00161 mg/L in March/April 2021).
- CM-3A: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at CM-3A (0.0457 mg/L in July 2020, 0.222 mg/L in October 2020, and 0.0153 mg/L in March/April 2021).
- CM-3B: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events are 0.0327 mg/L in August 2020, 0.0318 mg/L in October 2020, and to 0.0353 mg/L in March/April 2021. Reported molybdenum concentrations from March/April 2021 sampling are slightly higher than those previously reported at this well.

- CM-4A: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events are 0.0269 mg/L in July 2020, 0.0271 mg/L in October 2020, and 0.0212 in March/April 2021.
  - CM-4B: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events have continually decreased at CM-4B (0.0307 mg/L in July 2020, 0.0306 mg/L in October 2020, and 0.0303 in March/April 2021).
  - CM-5A: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events are 0.0205 mg/L in July 2020, 0.011 mg/L in October 2020, and 0.0182 mg/L in March/April 2021.
  - CM-5B: To date, this well has only been sampled three times for molybdenum. Molybdenum concentrations through three sampling events are 0.04 mg/L in July 2020, 0.0394 mg/L in October 2020, and 0.0536 mg/L in March/April 2021. Reported molybdenum concentrations from March/April 2021 sampling are slightly higher than those previously reported at this well.
- 3) The monitoring wells were sampled for CCR Appendix III parameters (boron, chloride, pH, TDS, calcium, fluoride, and sulfate). The March/April 2021 sampling was the tenth sampling event for these compounds when sampled concurrently with molybdenum (dating to August 2017) at monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-18, and MW-19S; the ninth sampling event for these compounds when sampled concurrently with molybdenum (dating to August 2017) at monitoring well MW-22A; and the third sampling event for these compounds when sampled concurrently with molybdenum (dating to July 2020) at monitoring wells MW-15B, MW-22B, CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B. Because of limited water availability, field pH and/or lab pH could not be obtained during all sampling events at some of the wells (CM-1B, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B). Also, limited water availability at CM-1B precluded sampling of this well for pH, TDS, fluoride, and sulfate in March/April 2021. Charts comparing changes in concentration over time for CCR Appendix III parameters to changes in molybdenum concentration for each of the monitoring wells evaluated are included in **Attachment E**.



- In several wells, data to date suggests possible correlations between changes in boron and calcium concentrations when compared to changes in molybdenum concentrations. In general, the monitoring wells with the highest concentrations for molybdenum appear to exhibit higher concentrations of boron and lower concentrations of calcium than do wells with lower concentrations of molybdenum.
  - Data to date does not appear to suggest an overall correlation between changes in chloride, TDS, fluoride, or sulfate concentrations when compared to changes in molybdenum concentrations.
  - Data to date does not appear to suggest an overall correlation between changes in pH (neither field measured or laboratory reported) and changes in molybdenum concentrations. However, monitoring wells exhibiting the highest concentrations for molybdenum exhibit higher pH than do wells with lower concentrations of molybdenum. Reported pH at monitoring wells MW-18 and MW-19S are consistently above 10 pH Standard Units.
- 4) The monitoring wells were sampled for indicator parameters for MNA including ORP (field measured), DO (field measured), specific conductance (field measured and laboratory reported), nitrate, sulfide, and alkalinity. For ORP, DO, and specific conductance at monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-18, MW-19S, and MW-22A the March/April 2021 sampling was the tenth sampling event concurrent with sampling for molybdenum (dating to August 2017). For nitrate at monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-18, MW-19S, and MW-22A the March/April 2021 sampling was the seventh sampling event concurrent with sampling for molybdenum (dating to October 2018). For alkalinity at monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-18, MW-19S, and MW-22A the March/April 2021 sampling was either the fourth or fifth sampling event concurrent with sampling for molybdenum (dating to August 2017). For the other parameters at MW-15B, MW-22B, CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B, the March/April 2021 sampling event was the third sampling concurrent with sampling for molybdenum (dating to July 2020). Because of limited water availability samples for ORP, DO, specific conductance, nitrate, sulfide, and/or alkalinity could not be obtained during all sampling events at some of the wells (CM-1B, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, and CM-5B).

Charts comparing changes in concentration over time for these parameters to changes in molybdenum concentration for each of the monitoring wells evaluated are included in **Attachment F**.

- In several wells, data to date suggests possible correlations between changes in DO when compared to changes in molybdenum concentrations.
  - Data to date does not appear to suggest an overall correlation between changes in ORP and changes in molybdenum concentrations. However, monitoring wells exhibiting the highest concentrations for molybdenum appear to be more often associated negative ORP (under reducing conditions) and wells away from the Landfill CCR Unit appear to be more often associated with positive ORP.
  - Data to date does not appear to suggest an overall correlation between changes in nitrate and changes in molybdenum concentrations. In general, wells distant from the landfill CCR Unit to the east have much higher nitrate concentrations than wells proximate to the landfill CCR Unit.
  - Data to date does not appear to suggest an overall correlation between changes in sulfide and changes in molybdenum concentrations. Sulfide has been detected periodically in several of the monitoring wells, but is generally below laboratory reporting levels (1 mg/L). The only well in which sulfide was detected from March/April 2021 sampling was CM-5A. Sulfide can be indicative of reducing conditions.
  - Data to date does not appear to suggest an overall correlation between changes in specific conductance or alkalinity and changes in molybdenum concentrations.
- 5) The wells were sampled for total and dissolved iron, total and dissolved ferrous iron (Fe(II)), and total and dissolved ferric iron (Fe(III)) to facilitate future evaluation of MNA. The March/April 2021 sampling was the third sampling event for total iron, dissolved iron, and total ferrous iron (dating to July 2020). Because of limited water availability samples for ferrous iron could not be obtained during all sampling events at some of the wells. The March/April 2021 sampling was the first sampling event for dissolved ferrous iron and total and dissolved ferric iron. Limited water availability at CM-3B in March/April 2021 precluded sampling of ferric iron at this well.

A chart showing changes in iron concentrations over time for each of the monitoring wells evaluated is included in **Attachment G**. Observations from March/April 2021 sampling of iron are as follows:

- No iron (total or dissolved forms) was observed in samples collected from MW-18 or MW-19S (the wells with the highest molybdenum concentrations).
- Less than 10% of iron reported in samples collected from MW-5S, MW-15B, MW-17, MW-22B, CM-1B, CM-3B, CM-4A, CM-4B, and CM-5A was in dissolved form (indicating that the iron may be predominantly insoluble or associated with sediment entrained in these samples). For samples collected from MW-7S, MW-14A, MW-15A, MW-16, MW-22A, CM-1A, CM-2, CM-3A, and CM-3B, more than 10% of the iron identified was in dissolved form, indicating that iron is partly soluble at these locations.
- Ferrous iron was identified in both total and dissolved forms at MW-14A, MW-15A, MW-15B, MW-17, MW-22B, CM-1B, CM-3A, CM-3B, CM-4A, CM-4B, and CM-5B. Dissolved ferrous iron is indicative of reducing conditions.
- Ferric iron was identified at MW-14A, MW-15A, MW-15B, MW-16, MW-17, MW-22A, MW-22B, CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, and CM-5B. Of these, ferric iron was only identified in dissolved form for samples collected from MW-14A, MW-15A, MW-22A, and CM-3.

#### CONCLUSIONS/RECOMMENDATIONS

Based on evaluations included in the ODEQ approved Assessment of Corrective Measures Report, source control via enhanced dewatering combined with monitored natural attenuation was proposed as a corrective measure alternative for the molybdenum. A minimum of two years of semi-annual sampling of monitoring wells downgradient of the CCR landfill was proposed to establish the effectiveness of this alternative prior to selection of a final remedy. Dewatering of the Landfill CCR Unit was initiated in March 2020 and continues as water accumulates in the landfill following rainfall events. To date, 992 hours of pumping have been conducted to prevent standing water from accumulating in the Landfill CCR Unit.

The initial semi-annual sampling of select monitoring wells as contained in the approved Assessment of Corrective Measures Report was conducted in March/April 2021. Wells sampled included MW-15A, MW-16, MW-18, and MW-19S, MW-5S, MW-7S, MW-15B, MW-17, MW-22A, MW-22B, CA-1A, CA-1B, CA-2A, CA-2B, CA-3A, CA-3B, CA-4A, CA-4B, and CA-5.

Samples were collected from each of these wells for analysis of molybdenum. These wells were also sampled for (and/or measured in the field) parameters to facilitate future evaluation of MNA. Conclusions from this sampling are:

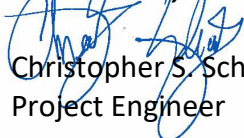
- 1) Molybdenum was identified at SSLs above GWPSs at four wells proximal to the Landfill CCR Unit (GW-15A, MW-16, MW-18, and MW-19S). This is consistent with previous sampling.
- 2) A comparison of March/April 2021 data to historic data suggests that molybdenum concentrations have gone down over the sampling history for most of the wells sampled (including MW-15A, MW-16, MW-18, and MW-19S).
- 3) It remains evident that molybdenum concentrations attenuate significantly with increased distance from the CCR Landfill.
- 4) A comparison of March/April 2021 data to historic data suggests possible correlations between changes in boron, calcium, and DO concentrations when compared to changes in molybdenum concentrations.
- 5) No new exceedances of the GWPSs were identified in any of the other wells during this latest sampling event.

It is recommended that WFEC continue with its two-year semi-annual sampling as per the approved Assessment of Corrective Measures Report. The next semi-annual sampling event is scheduled to occur in October 2021. It is recommended that the data be reviewed and evaluated to identify potential trends, correlations, and/or other information that could aid in determining the fate of molybdenum in the subsurface environment and that a summary report be submitted to ODEQ following evaluation of the data. It is also recommended that WFEC continue with its dewatering of the Landfill CCR Unit as per the approved Assessment of Corrective Measures Report.

If you have any questions, please feel free to contact me at (405) 701-5058 or at [chris.schaefer@altamira-us.com](mailto:chris.schaefer@altamira-us.com).

Sincerely,

**Altamira-US, LLC.**

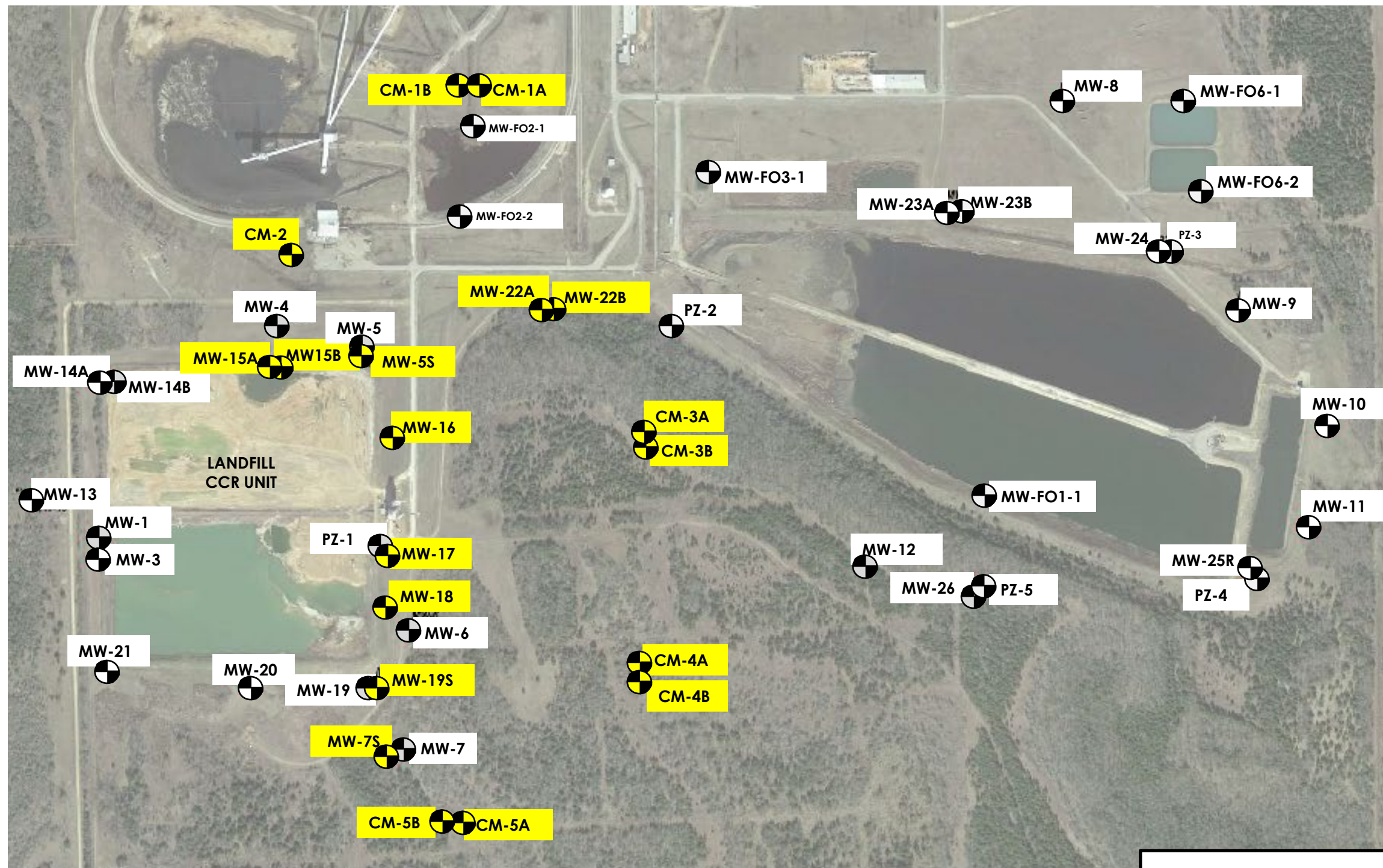


Christopher S. Schaefer, P.E.  
Project Engineer

cc: Gerald Butcher and John McCreight / Western Farmers Electric Cooperation  
Chris Schaefer and Bert Smith / Altamira-US, LLC

# **ATTACHMENT A**

MONITORING WELL LOCATION MAP



**PROJECT**  
WESTERN FARMERS ELECTRIC COOPERATIVE

**LOCATION**  
HUGO POWER STATION (HPS)

**PREPARED FOR**  
WESTERN FARMERS ELECTRIC COOPERATIVE

**DRAWING TITLE**  
ATTACHMENT A  
LOCATIONS OF MONITORING WELLS SAMPLED TO MONITOR PROPOSED CORRECTIVE MEASURES ALTERNATIVE


Project No.	WFEE160019
Drawn By	CSS
Checked By	BS
Date:	9/7/21
Scale	1" - 500' (Approximate)
Issued For.	Western Farmers Elect. Coop.
Figure No.	


 **ALTAMIRA**


525 Central Park Drive  
Suite 500  
Oklahoma City, OK 73105  
Phone 405.842.1066 Fax 405.843.4687

Base Map: AERIAL PHOTOGRAPH DATED FEBRUARY 1, 2015, GEOREFERENCED SCREEN CAPTURE FROM GOOGLE EARTH PRO

## ATTACHMENT A – LOCATIONS OF MONITORING WELLS SAMPLED TO MONITOR PROPOSED CORRECTIVE MEASURES ALTERNATIVE

 Location of monitoring wells sampled semi-annually to monitor proposed corrective measures alternative of source control via enhanced dewatering combined with monitored natural attenuation (Approximate)

 Location of other site monitoring wells/piezometers (Approximate)

  
One inch approximately 500 ft

## ATTACHMENT B

### ANALYTICAL REPORTS (MARCH/APRIL 2021 SAMPLING)

- Included is a condensed report for monitoring wells MW-5S, MW-7S, MW-14A, MW-15A, MW-16, MW-17, MW-18, MW-19S, and MW-22A such to contain only those parameters sampled to evaluate monitored natural attenuation. The laboratory provided analytical report for these wells (which also contained monitoring wells and parameters associated with assessment monitoring) was provided in a previous submittal (Notification of Apparent Exceedances from March/April 2021 Assessment Monitoring, June 23, 2021)
- Included is the laboratory provided analytical report for monitoring wells sampled to evaluate monitored natural attenuation outside of assessment monitoring CM-1A, CM-1B, CM-2, CM-3A, CM-3B, CM-4A, CM-4B, CM-5A, CM-5B, MW-15B, MW-22B).

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-5S</b>	<b>Lab ID: HS21040023-08</b>
<b>Sample Date:</b>	<b>4/1/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	1,770	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	7.90 H	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	22.8 H	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	1,140	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	23.9	mg/L	1	MDL	0.200	0.500
Fluoride	1.24	mg/L	1	MDL	0.0500	0.100
Nitrogen, Nitrate (As N)	0.631	mg/L	1	MDL	0.0300	0.100
Sulfate	477	mg/L	10	MDL	2.00	5.00
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	405	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	405	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	2.04	mg/L	10	MDL	0.110	0.200
Sodium	312	mg/L	10	MDL	0.140	2.00
Potassium	3.25	mg/L	1	MDL	0.0180	0.200
Magnesium	4.53	mg/L	1	MDL	0.0100	0.200
Molybdenum	0.00234 J	mg/L	1	MDL	0.000600	0.00500
Iron	0.0170 J	mg/L	1	MDL	0.0120	0.200
Calcium	33.4	mg/L	1	MDL	0.0340	0.500
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	0.00287 J	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<0.0120	mg/L	1	MDL	0.0120	0.200



<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-7S</b>	<b>Lab ID: HS21040023-05</b>
<b>Sample Date:</b>	<b>3/30/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>2,380</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>7.32 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>23.3 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>2,060</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>20.5</b>	mg/L	2	MDL	0.400	1.00
Fluoride	<b>0.444</b>	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	<b>1,200</b>	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<b>180</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>180</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>0.677</b>	mg/L	1	MDL	0.0110	0.0200
Sodium	<b>230</b>	mg/L	20	MDL	0.280	4.00
Potassium	<b>4.06</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>16.9</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.000755 J</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<b>0.0145 J</b>	mg/L	1	MDL	0.0120	0.200
Calcium	<b>254</b>	mg/L	20	MDL	0.680	10.0
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.000846 J</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<b>0.0154 J</b>	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>DUP 2</b>	<b>Lab ID: HS21040023-04</b>
<b>Sample Date:</b>	<b>3/30/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	2,380	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	7.53 H	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	24.2 H	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	2,000	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	19.4	mg/L	2	MDL	0.400	1.00
Fluoride	0.415	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	1,190	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	177	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	177	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	0.0234 J	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	0.681	mg/L	1	MDL	0.0110	0.0200
Sodium	197	mg/L	20	MDL	0.280	4.00
Potassium	4.18	mg/L	1	MDL	0.0180	0.200
Magnesium	17.4	mg/L	1	MDL	0.0100	0.200
Molybdenum	0.000763 J	mg/L	1	MDL	0.000600	0.00500
Iron	0.0156 J	mg/L	1	MDL	0.0120	0.200
Calcium	219	mg/L	20	MDL	0.680	10.0
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	0.000941 J	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	0.0234 J	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-14A</b>	<b>Lab ID: HS21040023-02</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	3,260	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	7.70 H	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	20.9 H	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	2,680	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	14.3	mg/L	2	MDL	0.400	1.00
Fluoride	0.284	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	1,680	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	332	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	332	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	0.0550	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	0.0340 J	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	0.107	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	0.116	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	0.839	mg/L	1	MDL	0.0110	0.0200
Sodium	413	mg/L	20	MDL	0.280	4.00
Potassium	7.87	mg/L	1	MDL	0.0180	0.200
Magnesium	25.9	mg/L	1	MDL	0.0100	0.200
Molybdenum	<0.000600	mg/L	1	MDL	0.000600	0.00500
Iron	0.162 J	mg/L	1	MDL	0.0120	0.200
Calcium	298	mg/L	20	MDL	0.680	10.0
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	0.00165 J	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	0.150 J	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-15A</b>	<b>Lab ID: HS21040023-01</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>3,400</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>7.93 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>24.0 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>2,420</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>27.3</b>	mg/L	2	MDL	0.400	1.00
Fluoride	<b>1.13</b>	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<b>1.14</b>	mg/L	2	MDL	0.0600	0.200
Sulfate	<b>1,590</b>	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<b>196</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>196</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<b>0.0540</b>	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<b>0.0320 J</b>	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<b>0.101</b>	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>3.35</b>	mg/L	20	MDL	0.220	0.400
Sodium	<b>594</b>	mg/L	20	MDL	0.280	4.00
Potassium	<b>5.47</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>10.9</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.168</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<b>0.0492 J</b>	mg/L	1	MDL	0.0120	0.200
Calcium	<b>78.6</b>	mg/L	1	MDL	0.0340	0.500
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.159</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<b>0.133 J</b>	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-16</b>	<b>Lab ID: HS21040023-09</b>
<b>Sample Date:</b>	<b>4/1/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>2,420</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>7.83 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>20.9 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>1,790</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>14.4</b>	mg/L	2	MDL	0.400	1.00
Fluoride	<b>0.916</b>	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<b>0.687</b>	mg/L	2	MDL	0.0600	0.200
Sulfate	<b>1,070</b>	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<b>228</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>228</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<b>0.0536</b>	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>1.57</b>	mg/L	10	MDL	0.110	0.200
Sodium	<b>325</b>	mg/L	10	MDL	0.140	2.00
Potassium	<b>3.12</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>7.65</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.166</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<b>0.0536 J</b>	mg/L	1	MDL	0.0120	0.200
Calcium	<b>140</b>	mg/L	10	MDL	0.340	5.00
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.180</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<b>0.0140 J</b>	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-17</b>	<b>Lab ID: HS21040023-10</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	2,460	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	7.34 H	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	22.7 H	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	2,200	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	4.06	mg/L	2.00	MDL	0.4	1
Fluoride	0.412	mg/L	2.00	MDL	0.1	0.2
Nitrogen, Nitrate (As N)	<0.0300	mg/L	2.00	MDL	0.06	0.2
Sulfate	1,310	mg/L	50.00	MDL	10	25
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	269	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	269	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	0.0541	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	0.539	mg/L	1	MDL	0.0110	0.0200
Sodium	28.2	mg/L	1	MDL	0.0140	0.200
Potassium	4.19	mg/L	1	MDL	0.0180	0.200
Magnesium	29.3	mg/L	1	MDL	0.0100	0.200
Molybdenum	0.000950 J	mg/L	1	MDL	0.000600	0.00500
Iron	0.0541 J	mg/L	1	MDL	0.0120	0.200
Calcium	467	mg/L	10	MDL	0.340	5.00
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	0.00292 J	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<0.0120	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-18</b>	<b>Lab ID: HS21040023-11</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>2,090</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>10.5 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>20.0 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>1,260</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>4.20</b>	mg/L	1.00	MDL	0.2	0.5
Fluoride	<b>1.71</b>	mg/L	1.00	MDL	0.05	0.1
Nitrogen, Nitrate (As N)	<0.0300	mg/L	1.00	MDL	0.03	0.1
Sulfate	<b>904</b>	mg/L	20.00	MDL	4	10
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<b>46.8</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<b>18.7</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>65.5</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>4.32</b>	mg/L	10	MDL	0.110	0.200
Sodium	<b>324</b>	mg/L	10	MDL	0.140	2.00
Potassium	<b>13.6</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>0.426</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.195</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<0.0120	mg/L	1	MDL	0.0120	0.200
Calcium	<b>19.3</b>	mg/L	10	MDL	0.340	5.00
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.215</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<0.0120	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-19S</b>	<b>Lab ID: HS21040023-12</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>3,500</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>10.8 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>20.1 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>2,360</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>13.7</b>	mg/L	2	MDL	0.400	1.00
Fluoride	<b>1.46</b>	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	<b>1,560</b>	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<b>63.8</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<b>71.6</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>135</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>6.86</b>	mg/L	10	MDL	0.110	0.200
Sodium	<b>639</b>	mg/L	10	MDL	0.140	2.00
Potassium	<b>33.9</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>0.0773 J</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.398</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<0.0120	mg/L	1	MDL	0.0120	0.200
Calcium	<b>42.3</b>	mg/L	10	MDL	0.340	5.00
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.457</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<0.0120	mg/L	1	MDL	0.0120	0.200



<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>DUP 3</b>	<b>Lab ID: HS21040023-13</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	<b>3,540</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	<b>10.6 H</b>	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	<b>22.7 H</b>	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	<b>2,310</b>	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	<b>14.0</b>	mg/L	2	MDL	0.400	1.00
Fluoride	<b>1.54</b>	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	<b>1,560</b>	mg/L	20	MDL	4.00	10.0
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<b>69.0</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<b>64.4</b>	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	<b>133</b>	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	<b>8.41</b>	mg/L	20	MDL	0.220	0.400
Sodium	<b>545</b>	mg/L	20	MDL	0.280	4.00
Potassium	<b>29.0</b>	mg/L	1	MDL	0.0180	0.200
Magnesium	<b>0.0681 J</b>	mg/L	1	MDL	0.0100	0.200
Molybdenum	<b>0.351</b>	mg/L	1	MDL	0.000600	0.00500
Iron	<0.0120	mg/L	1	MDL	0.0120	0.200
Calcium	<b>35.3</b>	mg/L	20	MDL	0.680	10.0
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<b>0.398</b>	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	<0.0120	mg/L	1	MDL	0.0120	0.200

<b>Client:</b>	<b>Altamira</b>	<b>ANALYTICAL REPORT</b>
<b>Project:</b>	<b>WFEC / MNA Program</b>	<b>Work Order: HS21040023</b>

<b>Sample ID:</b>	<b>MW-22A</b>	<b>Lab ID: HS21040074-01</b>
<b>Sample Date:</b>	<b>3/31/2021</b>	<b>Matrix: Water</b>

ANALYTE	RESULT	UNITS	DILUTION	RESULT		
				REPORTED	MDL	RL
<b>Analysis : SPECIFIC CONDUCTIVITY by SM2540C</b>				<b>Method: M2540C</b>		
Specific Conductivity	3,450	mg/L	1	MDL	5.00	5.00
<b>Analysis : SULFIDE by SM500 S2-F</b>				<b>Method: SM4500 S2-F</b>		
Sulfide	<1.00	mg/L	1	MDL	1.00	1.00
<b>Analysis : pH by SM4500H+ B</b>				<b>Method: SM4500H+ B</b>		
pH	7.21 H	pH Units	1	MDL	0.100	0.100
Temp Deg C @pH	20.9 H	°C	1	MDL	0	0
<b>Analysis : DISSOLVED SOLIDS by SM2540C</b>				<b>Method: M2540C</b>		
Total Dissolved Solids (Residue, Filterable)	3,040	mg/L	1	MDL	5.00	10.0
<b>Analysis : ANIONS by E300.0</b>				<b>Method: E300</b>		
Chloride	2.17	mg/L	2	MDL	0.400	1.00
Fluoride	0.249	mg/L	2	MDL	0.100	0.200
Nitrogen, Nitrate (As N)	<0.0600	mg/L	2	MDL	0.0600	0.200
Sulfate	2,020	mg/L	200	MDL	40.0	100
<b>Analysis : ALKALINITY by SM2320B</b>				<b>Method: SM2320B</b>		
Alkalinity, Bicarbonate (As CaCO3)	232	mg/L	1	MDL	5.00	5.00
Alkalinity, Carbonate (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Hydroxide (As CaCO3)	<5.00	mg/L	1	MDL	5.00	5.00
Alkalinity, Total (As CaCO3)	232	mg/L	1	MDL	5.00	5.00
<b>Analysis : FERROUS IRON by SM3500 FE B</b>				<b>Method: SM3500FED</b>		
Ferrous Iron	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERROUS IRON by SM3500 FE D</b>				<b>Method: SM3500FED (dissolved)</b>		
Ferrous Iron, Dissolved	<0.0200	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED</b>		
Iron, Ferric	0.0536	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : FERRIC IRON-BY CALCULATION by SM3500FED</b>				<b>Method: SM3500FED (dissolved)</b>		
Iron, Ferric, Dissolved	0.0206 J	mg/L	1	MDL	0.0200	0.0500
<b>Analysis : ICP-MS METALS by SW6020A</b>				<b>Method: SW6020</b>		
Boron	1.60	mg/L	10	MDL	0.110	0.200
Sodium	147	mg/L	1	MDL	0.0140	0.200
Potassium	15.2	mg/L	1	MDL	0.0180	0.200
Magnesium	95.0	mg/L	1	MDL	0.0100	0.200
Molybdenum	<0.000600	mg/L	1	MDL	0.000600	0.00500
Iron	0.0536 J	mg/L	1	MDL	0.0120	0.200
Calcium	529	mg/L	10	MDL	0.340	5.00
<b>Analysis : DISSOLVED METALS by SW6020A</b>				<b>Method: SW6020 (dissolved)</b>		
Molybdenum, Dissolved	<0.000600	mg/L	1	MDL	0.000600	0.00500
Iron, Dissolved	0.0206 J	mg/L	1	MDL	0.0120	0.200

Acronyms & Qualifiers

- H : Analyzed outside of holding time. pH is an immediate test.
- MDL : Method Detection Limit.
- RL : Reporting Limit.



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May 24, 2021

Bert Smith  
Altamira  
525 central park Dr  
Suite 500  
Oklahoma City, OK 73013

Work Order: **HS21040014**

Laboratory Results for: **WFEC/ MNA Monitoring Program**

Dear Bert Smith,

ALS Environmental received 11 sample(s) on Apr 01, 2021 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: JUMOKE.LAWAL  
RJ Modashia  
Project Manager

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**Work Order:** HS21040014

**SAMPLE SUMMARY**

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21040014-01	MW-22B	Water		31-Mar-2021 12:35	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-02	CM-4A	Water		30-Mar-2021 18:38	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-03	CM-4B	Water		30-Mar-2021 18:22	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-04	CM-5A	Water		30-Mar-2021 16:11	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-05	CM-5B	Water		30-Mar-2021 16:28	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-06	CM-3A	Water		30-Mar-2021 19:08	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-07	MW-15B	Water		31-Mar-2021 12:05	01-Apr-2021 11:50	<input type="checkbox"/>
HS21040014-08	CM-1A	Water		01-Apr-2021 12:42	02-Apr-2021 10:30	<input type="checkbox"/>
HS21040014-09	CM-2	Water		01-Apr-2021 11:29	02-Apr-2021 10:30	<input type="checkbox"/>
HS21040014-10	CM-1B	Water		01-Apr-2021 16:02	03-Apr-2021 10:10	<input type="checkbox"/>
HS21040014-11	CM-3B	Water		02-Apr-2021 12:15	03-Apr-2021 10:10	<input type="checkbox"/>

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**Work Order:** HS21040014

**CASE NARRATIVE**

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**Work Order Comments**

- REV01 - Dilution Factor Corrected for sample ID CM-1A & CM-2 (HS21040014-08 & HS21040014-09) for Anions

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**Work Order Comments**

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.  
The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

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**Metals by Method SW6020A**

**Batch ID: 164478**

**Sample ID: HS21040001-01MS**

- MS/MSD and DUPs are for an unrelated sample

**Batch ID: 164619**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**Wet Chemistry by Method SM3500FED**

**Batch ID: R380870**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Batch ID: R380889**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Batch ID: R380890**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Batch ID: R380888**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Batch ID: R380869**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Batch ID: R380847**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**Wet Chemistry by Method E300**

**Batch ID: R381211**

**Sample ID: CM-1A (HS21040014-08)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: CM-2 (HS21040014-09)**

- Sample ran at 2X due to high concentration of Sulfate

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**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**Work Order:** HS21040014

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**CASE NARRATIVE**

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**WetChemistry by Method SM2320B**

**Batch ID: R381229,R381355,R381433**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**WetChemistry by Method M2510 B**

**Batch ID: R381204**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**WetChemistry by Method SM4500H+ B**

**Batch ID: R381021,R381481,R381654**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**WetChemistry by Method M2540C**

**Batch ID: R381071,R381207,R381287,R381299**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**WetChemistry by Method SM4500 S2-F**

**Batch ID: R380885**

**Sample ID: CM-3A (HS21040014-06)**

- Sample matrix.

**Sample ID: CM-4B (HS21040014-03)**

- Sample matrix.

**Sample ID: CM-5A (HS21040014-04)**

- Sample matrix.

**Sample ID: CM-5B (HS21040014-05)**

- Sample matrix.

**Sample ID: MW-15B (HS21040014-07)**

- Sample matrix.

**Batch ID: R381323**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

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**WetChemistry by Method E300**

**Batch ID: R381678**

**Sample ID: CM-3B (HS21040014-11)**

- Sample ran at 2X due to high concentration of Sulfate

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**Work Order:** HS21040014

**CASE NARRATIVE**

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**WetChemistry by Method E300**

**Batch ID: R381136**

**Sample ID: CM-3A (HS21040014-06)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: CM-4A (HS21040014-02)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: CM-4B (HS21040014-03)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: CM-5A (HS21040014-04)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: CM-5B (HS21040014-05)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: MW-15B (HS21040014-07)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: MW-22B (HS21040014-01)**

- Sample ran at 2X due to high concentration of Sulfate

**Sample ID: HS21040023-05MS**

- MS and MSD are for an unrelated sample

**Batch ID: R381581**

**Sample ID: HS21040704-01MS**

- MS and MSD are for an unrelated sample (Nitrogen, Nitrate (As N))

**Batch ID: R381211**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
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Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: MW-22B  
 Collection Date: 31-Mar-2021 12:35

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-01  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	3.23		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	3.14		0.110	0.200	mg/L	10	13-Apr-2021 23:43
Calcium	75.8		0.340	5.00	mg/L	10	13-Apr-2021 23:43
Iron	4.19		0.0120	0.200	mg/L	1	14-Apr-2021 13:59
Magnesium	23.4		0.100	2.00	mg/L	10	13-Apr-2021 23:43
Molybdenum	0.00753		0.000600	0.00500	mg/L	1	14-Apr-2021 13:59
Potassium	8.79		0.0180	0.200	mg/L	1	14-Apr-2021 13:59
Sodium	846		0.140	2.00	mg/L	10	13-Apr-2021 23:43
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	U		0.0120	0.200	mg/L	1	15-Apr-2021 00:53
Molybdenum	0.00841		0.000600	0.00500	mg/L	1	15-Apr-2021 00:53
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	57.8		0.400	1.00	mg/L	2	01-Apr-2021 18:48
Fluoride	1.46		0.100	0.200	mg/L	2	01-Apr-2021 18:48
Nitrogen, Nitrate (As N)	1.03		0.0600	0.200	mg/L	2	01-Apr-2021 18:48
Sulfate	2,080		40.0	100	mg/L	200	14-Apr-2021 13:34
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	4,460		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,280		5.00	10.0	mg/L	1	07-Apr-2021 17:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	364		5.00	5.00	mg/L	1	12-Apr-2021 18:59
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	12-Apr-2021 18:59
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	12-Apr-2021 18:59
Alkalinity, Total (As CaCO3)	364		5.00	5.00	mg/L	1	12-Apr-2021 18:59
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	0.957		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.530		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	U		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.75	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	20.9	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1



Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-4A  
 Collection Date: 30-Mar-2021 18:38

**ANALYTICAL REPORT**

WorkOrder:HS21040014  
 Lab ID:HS21040014-02  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED		Analyst: JHD			
Ferric Iron	6.98		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)		Analyst: JHD			
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A		Prep:SW3010A / 12-Apr-2021		Analyst: JC	
Boron	3.24		0.110	0.200	mg/L	10	13-Apr-2021 23:45
Calcium	59.1		0.340	5.00	mg/L	10	13-Apr-2021 23:45
Iron	7.67		0.0120	0.200	mg/L	1	14-Apr-2021 14:01
Magnesium	13.5		0.100	2.00	mg/L	10	13-Apr-2021 23:45
Molybdenum	0.0212		0.000600	0.00500	mg/L	1	14-Apr-2021 14:01
Potassium	8.26		0.0180	0.200	mg/L	1	14-Apr-2021 14:01
Sodium	580		0.140	2.00	mg/L	10	13-Apr-2021 23:45
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)		Prep:SW3010A / 14-Apr-2021		Analyst: JHD	
Iron	0.0149	J	0.0120	0.200	mg/L	1	15-Apr-2021 00:55
Molybdenum	0.0255		0.000600	0.00500	mg/L	1	15-Apr-2021 00:55
<b>ANIONS BY E300.0</b>		Method:E300		Analyst: YP			
Chloride	109		0.400	1.00	mg/L	2	01-Apr-2021 16:03
Fluoride	0.947		0.100	0.200	mg/L	2	01-Apr-2021 16:03
Nitrogen, Nitrate (As N)	20.0		0.0600	0.200	mg/L	2	01-Apr-2021 16:03
Sulfate	1,300		4.00	10.0	mg/L	20	14-Apr-2021 20:38
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B		Analyst: MZD			
Specific Conductivity	3,630		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C		Analyst: KAH			
Total Dissolved Solids (Residue, Filterable)	2,660		5.00	10.0	mg/L	1	06-Apr-2021 16:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B		Analyst: TH			
Alkalinity, Bicarbonate (As CaCO3)	510		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Total (As CaCO3)	510		5.00	5.00	mg/L	1	08-Apr-2021 17:45
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED		Analyst: MZD			
Ferrous Iron	0.690		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)		Analyst: MZD			
Ferrous Iron, Dissolved	0.278		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F		Analyst: KVL			
Sulfide	U		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B		Analyst: JAC			
pH	7.64	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	20.7	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-4B  
 Collection Date: 30-Mar-2021 18:22

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-03  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	1.03		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	3.63		0.110	0.200	mg/L	10	13-Apr-2021 23:47
Calcium	42.1		0.340	5.00	mg/L	10	13-Apr-2021 23:47
Iron	2.19		0.0120	0.200	mg/L	1	14-Apr-2021 14:03
Magnesium	13.0		0.100	2.00	mg/L	10	13-Apr-2021 23:47
Molybdenum	0.0303		0.000600	0.00500	mg/L	1	14-Apr-2021 14:03
Potassium	7.46		0.0180	0.200	mg/L	1	14-Apr-2021 14:03
Sodium	769		0.140	2.00	mg/L	10	13-Apr-2021 23:47
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0156	J	0.0120	0.200	mg/L	1	15-Apr-2021 00:57
Molybdenum	0.0344		0.000600	0.00500	mg/L	1	15-Apr-2021 00:57
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	119		0.400	1.00	mg/L	2	01-Apr-2021 15:44
Fluoride	1.40		0.100	0.200	mg/L	2	01-Apr-2021 15:44
Nitrogen, Nitrate (As N)	17.8		0.0600	0.200	mg/L	2	01-Apr-2021 15:44
Sulfate	1,620		4.00	10.0	mg/L	20	14-Apr-2021 20:56
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	4,160		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,040		5.00	10.0	mg/L	1	06-Apr-2021 16:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	448		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Total (As CaCO3)	448		5.00	5.00	mg/L	1	08-Apr-2021 17:45
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	1.16		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.406		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	U		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.84	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	21.5	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-5A  
 Collection Date: 30-Mar-2021 16:11

**ANALYTICAL REPORT**

WorkOrder:HS21040014  
 Lab ID:HS21040014-04  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	1.21		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	4.97		0.110	0.200	mg/L	10	13-Apr-2021 23:49
Calcium	102		0.340	5.00	mg/L	10	13-Apr-2021 23:49
Iron	3.27		0.0120	0.200	mg/L	1	14-Apr-2021 14:07
Magnesium	26.0		0.100	2.00	mg/L	10	13-Apr-2021 23:49
Molybdenum	0.0182		0.000600	0.00500	mg/L	1	14-Apr-2021 14:07
Potassium	10.4		0.0180	0.200	mg/L	1	14-Apr-2021 14:07
Sodium	761		0.140	2.00	mg/L	10	13-Apr-2021 23:49
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0799	J	0.0120	0.200	mg/L	1	15-Apr-2021 00:59
Molybdenum	0.0192		0.000600	0.00500	mg/L	1	15-Apr-2021 00:59
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	154		0.400	1.00	mg/L	2	01-Apr-2021 14:30
Fluoride	0.667		0.100	0.200	mg/L	2	01-Apr-2021 14:30
Nitrogen, Nitrate (As N)	27.2		0.0600	0.200	mg/L	2	01-Apr-2021 14:30
Sulfate	1,540		4.00	10.0	mg/L	20	01-Apr-2021 20:02
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	4,180		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,260		5.00	10.0	mg/L	1	06-Apr-2021 16:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	445		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Total (As CaCO3)	445		5.00	5.00	mg/L	1	08-Apr-2021 17:45
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	2.06		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.673		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	1.36		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.46	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	20.8	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-5B  
 Collection Date: 30-Mar-2021 16:28

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-05  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	0.470		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved		U	0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	3.86		0.110	0.200	mg/L	10	13-Apr-2021 23:51
Calcium	46.0		0.340	5.00	mg/L	10	13-Apr-2021 23:51
Iron	1.73		0.0120	0.200	mg/L	1	14-Apr-2021 14:09
Magnesium	14.0		0.100	2.00	mg/L	10	13-Apr-2021 23:51
Molybdenum	0.0536		0.000600	0.00500	mg/L	1	14-Apr-2021 14:09
Potassium	8.00		0.0180	0.200	mg/L	1	14-Apr-2021 14:09
Sodium	671		0.140	2.00	mg/L	10	13-Apr-2021 23:51
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0214	J	0.0120	0.200	mg/L	1	15-Apr-2021 01:01
Molybdenum	0.0594		0.000600	0.00500	mg/L	1	15-Apr-2021 01:01
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	145		0.400	1.00	mg/L	2	01-Apr-2021 14:49
Fluoride	1.15		0.100	0.200	mg/L	2	01-Apr-2021 14:49
Nitrogen, Nitrate (As N)	58.0	H	0.600	2.00	mg/L	20	01-Apr-2021 20:20
Sulfate	1,330		4.00	10.0	mg/L	20	01-Apr-2021 20:20
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	4,130		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,120		5.00	10.0	mg/L	1	06-Apr-2021 16:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	486		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Carbonate (As CaCO3)		U	5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Hydroxide (As CaCO3)		U	5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Total (As CaCO3)	486		5.00	5.00	mg/L	1	08-Apr-2021 17:45
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	1.26		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.206		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide		U	1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.67	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	21.1	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-3A  
 Collection Date: 30-Mar-2021 19:08

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-06  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	0.313		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	2.82		0.110	0.200	mg/L	10	13-Apr-2021 23:53
Calcium	64.3		0.340	5.00	mg/L	10	13-Apr-2021 23:53
Iron	0.0152	J	0.0120	0.200	mg/L	1	14-Apr-2021 14:10
Magnesium	13.3		0.100	2.00	mg/L	10	13-Apr-2021 23:53
Molybdenum	0.0153		0.000600	0.00500	mg/L	1	14-Apr-2021 14:10
Potassium	6.68		0.0180	0.200	mg/L	1	14-Apr-2021 14:10
Sodium	559		0.140	2.00	mg/L	10	13-Apr-2021 23:53
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.794		0.0120	0.200	mg/L	1	15-Apr-2021 14:26
Molybdenum	0.0157		0.000600	0.00500	mg/L	1	15-Apr-2021 14:26
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	54.8		0.400	1.00	mg/L	2	01-Apr-2021 16:21
Fluoride	0.858		0.100	0.200	mg/L	2	01-Apr-2021 16:21
Nitrogen, Nitrate (As N)	19.9		0.0600	0.200	mg/L	2	01-Apr-2021 16:21
Sulfate	971		4.00	10.0	mg/L	20	14-Apr-2021 21:14
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	2,910		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	2,330		5.00	10.0	mg/L	1	06-Apr-2021 16:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	489		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	08-Apr-2021 17:45
Alkalinity, Total (As CaCO3)	489		5.00	5.00	mg/L	1	08-Apr-2021 17:45
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	1.45		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.481		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	U		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.95	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	21.0	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: MW-15B  
 Collection Date: 31-Mar-2021 12:05

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-07  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	7.21		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	3.67		0.110	0.200	mg/L	10	13-Apr-2021 23:59
Calcium	35.1		0.340	5.00	mg/L	10	13-Apr-2021 23:59
Iron	7.89		0.0120	0.200	mg/L	1	14-Apr-2021 14:12
Magnesium	10.2		0.100	2.00	mg/L	10	13-Apr-2021 23:59
Molybdenum	0.00571		0.000600	0.00500	mg/L	1	14-Apr-2021 14:12
Potassium	8.19		0.0180	0.200	mg/L	1	14-Apr-2021 14:12
Sodium	625		0.140	2.00	mg/L	10	13-Apr-2021 23:59
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0212	J	0.0120	0.200	mg/L	1	15-Apr-2021 14:27
Molybdenum	0.00814		0.000600	0.00500	mg/L	1	15-Apr-2021 14:27
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	57.2		0.400	1.00	mg/L	2	01-Apr-2021 19:07
Fluoride	1.14		0.100	0.200	mg/L	2	01-Apr-2021 19:07
Nitrogen, Nitrate (As N)	29.4		0.0600	0.200	mg/L	2	01-Apr-2021 19:07
Sulfate	1,560		4.00	10.0	mg/L	20	14-Apr-2021 21:33
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	4,300		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,080		5.00	10.0	mg/L	1	07-Apr-2021 17:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	771		5.00	5.00	mg/L	1	12-Apr-2021 19:08
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	12-Apr-2021 19:08
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	12-Apr-2021 19:08
Alkalinity, Total (As CaCO3)	771		5.00	5.00	mg/L	1	12-Apr-2021 19:08
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: MZD
Ferrous Iron	0.680		0.200	0.500	mg/L	10	01-Apr-2021 14:30
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: MZD
Ferrous Iron, Dissolved	0.235		0.0200	0.0500	mg/L	1	01-Apr-2021 14:30
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	U		1.00	1.00	mg/L	1	03-Apr-2021 10:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.66	H	0.100	0.100	pH Units	1	06-Apr-2021 13:36
Temp Deg C @pH	21.1	H	0	0	°C	1	06-Apr-2021 13:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-1A  
 Collection Date: 01-Apr-2021 12:42

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-08  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	0.0232	J	0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved		U	0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	0.664		0.110	0.200	mg/L	10	14-Apr-2021 00:01
Calcium	464		0.340	5.00	mg/L	10	14-Apr-2021 00:01
Iron	0.0232	J	0.0120	0.200	mg/L	1	14-Apr-2021 14:39
Magnesium	50.2		0.100	2.00	mg/L	10	14-Apr-2021 00:01
Molybdenum	0.00132	J	0.000600	0.00500	mg/L	1	14-Apr-2021 14:39
Potassium	7.52		0.0180	0.200	mg/L	1	14-Apr-2021 14:39
Sodium	170		0.140	2.00	mg/L	10	14-Apr-2021 00:01
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0713	J	0.0120	0.200	mg/L	1	15-Apr-2021 14:29
Molybdenum	0.00159	J	0.000600	0.00500	mg/L	1	15-Apr-2021 14:29
<b>ANIONS BY E300.0</b>		Method:E300					Analyst: YP
Chloride	26.3		0.400	1.00	mg/L	2	02-Apr-2021 17:50
Fluoride	0.483		0.100	0.200	mg/L	2	02-Apr-2021 17:50
Nitrogen, Nitrate (As N)		U	0.0600	0.200	mg/L	2	02-Apr-2021 17:50
Sulfate	1,910		4.00	10.0	mg/L	20	14-Apr-2021 21:51
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B					Analyst: MZD
Specific Conductivity	3,180		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	3,090		5.00	10.0	mg/L	1	08-Apr-2021 17:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B					Analyst: TH
Alkalinity, Bicarbonate (As CaCO3)	337		5.00	5.00	mg/L	1	11-Apr-2021 18:53
Alkalinity, Carbonate (As CaCO3)		U	5.00	5.00	mg/L	1	11-Apr-2021 18:53
Alkalinity, Hydroxide (As CaCO3)		U	5.00	5.00	mg/L	1	11-Apr-2021 18:53
Alkalinity, Total (As CaCO3)	337		5.00	5.00	mg/L	1	11-Apr-2021 18:53
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: KVL
Ferrous Iron		U	0.0200	0.0500	mg/L	1	02-Apr-2021 13:18
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: KVL
Ferrous Iron, Dissolved		U	0.0200	0.0500	mg/L	1	02-Apr-2021 13:18
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide		U	1.00	1.00	mg/L	1	08-Apr-2021 14:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B					Analyst: JAC
pH	7.61	H	0.100	0.100	pH Units	1	13-Apr-2021 14:02
Temp Deg C @pH	20.8	H	0	0	°C	1	13-Apr-2021 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-2  
 Collection Date: 01-Apr-2021 11:29

**ANALYTICAL REPORT**

WorkOrder:HS21040014  
 Lab ID:HS21040014-09  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED		Analyst: JHD			
Ferric Iron	0.132		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)		Analyst: JHD			
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A		Prep:SW3010A / 12-Apr-2021		Analyst: JC	
Boron	0.679		0.110	0.200	mg/L	10	14-Apr-2021 00:03
Calcium	466		0.340	5.00	mg/L	10	14-Apr-2021 00:03
Iron	0.132	J	0.0120	0.200	mg/L	1	14-Apr-2021 14:41
Magnesium	24.4		0.100	2.00	mg/L	10	14-Apr-2021 00:03
Molybdenum	0.00161	J	0.000600	0.00500	mg/L	1	14-Apr-2021 14:41
Potassium	6.88		0.0180	0.200	mg/L	1	14-Apr-2021 14:41
Sodium	94.0		0.140	2.00	mg/L	10	14-Apr-2021 00:03
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)		Prep:SW3010A / 14-Apr-2021		Analyst: JHD	
Iron	0.0386	J	0.0120	0.200	mg/L	1	15-Apr-2021 14:31
Molybdenum	0.00118	J	0.000600	0.00500	mg/L	1	15-Apr-2021 14:31
<b>ANIONS BY E300.0</b>		Method:E300		Analyst: YP			
Chloride	3.49		0.400	1.00	mg/L	2	02-Apr-2021 18:08
Fluoride	0.419		0.100	0.200	mg/L	2	02-Apr-2021 18:08
Nitrogen, Nitrate (As N)	0.529		0.0600	0.200	mg/L	2	02-Apr-2021 18:08
Sulfate	1,210		4.00	10.0	mg/L	20	14-Apr-2021 22:10
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		Method:M2510 B		Analyst: MZD			
Specific Conductivity	2,190		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		Method:M2540C		Analyst: KAH			
Total Dissolved Solids (Residue, Filterable)	2,060		5.00	10.0	mg/L	1	08-Apr-2021 17:00
<b>ALKALINITY BY SM2320B</b>		Method:SM2320B		Analyst: TH			
Alkalinity, Bicarbonate (As CaCO3)	328		5.00	5.00	mg/L	1	11-Apr-2021 19:00
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	11-Apr-2021 19:00
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	11-Apr-2021 19:00
Alkalinity, Total (As CaCO3)	328		5.00	5.00	mg/L	1	11-Apr-2021 19:00
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED		Analyst: KVL			
Ferrous Iron	U		0.0200	0.0500	mg/L	1	02-Apr-2021 13:18
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)		Analyst: KVL			
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	02-Apr-2021 13:19
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F		Analyst: KVL			
Sulfide	U		1.00	1.00	mg/L	1	08-Apr-2021 14:30
<b>PH BY SM4500H+ B</b>		Method:SM4500H+ B		Analyst: MZD			
pH	7.82	H	0.100	0.100	pH Units	1	15-Apr-2021 12:30
Temp Deg C @pH	20.4	H	0	0	°C	1	15-Apr-2021 12:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1



Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-1B  
 Collection Date: 01-Apr-2021 16:02

**ANALYTICAL REPORT**  
 WorkOrder:HS21040014  
 Lab ID:HS21040014-10  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>FERRIC IRON - BY CALCULATION BY SM3500FED</b>		Method:SM3500FED					Analyst: JHD
Ferric Iron	0.112		0.0200	0.0500	mg/L	1	15-Apr-2021 16:51
<b>FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>		Method:SM3500FED (dissolved)					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	15-Apr-2021 17:02
<b>ICP-MS METALS BY SW6020A</b>		Method:SW6020A				Prep:SW3010A / 12-Apr-2021	Analyst: JC
Boron	3.44		0.110	0.200	mg/L	10	14-Apr-2021 00:05
Calcium	127		0.340	5.00	mg/L	10	14-Apr-2021 00:05
Iron	0.194	J	0.0120	0.200	mg/L	1	14-Apr-2021 14:43
Magnesium	43.3		0.100	2.00	mg/L	10	14-Apr-2021 00:05
Molybdenum	0.0113		0.000600	0.00500	mg/L	1	14-Apr-2021 14:43
Potassium	12.4		0.0180	0.200	mg/L	1	14-Apr-2021 14:43
Sodium	899		0.140	2.00	mg/L	10	14-Apr-2021 00:05
<b>DISSOLVED METALS BY SW6020A</b>		Method:SW6020A (dissolved)				Prep:SW3010A / 14-Apr-2021	Analyst: JHD
Iron	0.0136	J	0.0120	0.200	mg/L	1	15-Apr-2021 14:34
Molybdenum	0.0126		0.000600	0.00500	mg/L	1	15-Apr-2021 14:34
<b>FERROUS IRON BY SM3500 FE B</b>		Method:SM3500FED					Analyst: KVL
Ferrous Iron	0.0820		0.0200	0.0500	mg/L	1	03-Apr-2021 12:24
<b>FERROUS IRON BY SM3500 FE D</b>		Method:SM3500FED (dissolved)					Analyst: KVL
Ferrous Iron, Dissolved	0.0450	J	0.0200	0.0500	mg/L	1	03-Apr-2021 12:20
<b>SULFIDE BY SM4500 S2-F</b>		Method:SM4500 S2-F					Analyst: KVL
Sulfide	U		1.00	1.00	mg/L	1	08-Apr-2021 14:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Altamira  
 Project: WFEC/ MNA Monitoring Program  
 Sample ID: CM-3B  
 Collection Date: 02-Apr-2021 12:15

**ANALYTICAL REPORT**

WorkOrder:HS21040014  
 Lab ID:HS21040014-11  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>ICP-MS METALS BY SW6020A</b>		<b>Method:SW6020A</b>		Prep:SW3010A / 12-Apr-2021		Analyst: JHD	
Boron	4.73		0.110	0.200	mg/L	1	15-Apr-2021 16:10
Calcium	100		0.340	5.00	mg/L	1	15-Apr-2021 16:10
Iron	55.6		0.120	2.00	mg/L	1	15-Apr-2021 16:10
Magnesium	23.2		0.100	2.00	mg/L	1	15-Apr-2021 16:10
Molybdenum	0.0353	J	0.00600	0.0500	mg/L	1	15-Apr-2021 16:10
Potassium	23.6		0.180	2.00	mg/L	1	15-Apr-2021 16:10
Sodium	847		0.140	2.00	mg/L	1	15-Apr-2021 16:10
<b>DISSOLVED METALS BY SW6020A</b>		<b>Method:SW6020A (dissolved)</b>		Prep:SW3010A / 14-Apr-2021		Analyst: JHD	
Iron	0.0419	J	0.0120	0.200	mg/L	1	15-Apr-2021 14:46
Molybdenum	0.0392		0.000600	0.00500	mg/L	1	15-Apr-2021 14:46
<b>ANIONS BY E300.0</b>		<b>Method:E300</b>				Analyst: YP	
Chloride	40.2		0.400	1.00	mg/L	2	03-Apr-2021 14:27
Fluoride	1.52		0.100	0.200	mg/L	2	03-Apr-2021 14:27
Nitrogen, Nitrate (As N)	31.3		0.0600	0.200	mg/L	2	03-Apr-2021 14:27
Sulfate	942		4.00	10.0	mg/L	20	14-Apr-2021 22:28
<b>SPECIFIC CONDUCTIVITY BY SM2510 B</b>		<b>Method:M2510 B</b>				Analyst: MZD	
Specific Conductivity	2,930		5.00	5.00	umhos/cm @ 25.0 °C	1	08-Apr-2021 11:55
<b>TOTAL DISSOLVED SOLIDS BY SM2540C</b>		<b>Method:M2540C</b>				Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	2,340		5.00	10.0	mg/L	1	08-Apr-2021 17:30
<b>ALKALINITY BY SM2320B</b>		<b>Method:SM2320B</b>				Analyst: TH	
Alkalinity, Bicarbonate (As CaCO3)	502		5.00	5.00	mg/L	1	11-Apr-2021 19:07
Alkalinity, Carbonate (As CaCO3)	17.6		5.00	5.00	mg/L	1	11-Apr-2021 19:07
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	11-Apr-2021 19:07
Alkalinity, Total (As CaCO3)	519		5.00	5.00	mg/L	1	11-Apr-2021 19:07
<b>PH BY SM4500H+ B</b>		<b>Method:SM4500H+ B</b>				Analyst: JAC	
pH	8.24	H	0.100	0.100	pH Units	1	13-Apr-2021 14:02
Temp Deg C @pH	20.9	H	0	0	°C	1	13-Apr-2021 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

## Weight / Prep Log

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**Batch ID:** 164478      **Start Date:** 12 Apr 2021 09:00      **End Date:** 12 Apr 2021 13:00  
**Method:** WATER - SW3010A      **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21040014-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-11		1 (mL)	10 (mL)	10	120 plastic HNO3

**Batch ID:** 164619      **Start Date:** 14 Apr 2021 13:00      **End Date:** 14 Apr 2021 17:00  
**Method:** DISS METALS PREP - WATER - SW3010A      **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21040014-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21040014-11		10 (mL)	10 (mL)	1	120 plastic HNO3

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID: 164478 ( 0 )</b>		<b>Test Name : ICP-MS METALS BY SW6020A</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35		12 Apr 2021 13:00	14 Apr 2021 13:59	1
HS21040014-01	MW-22B	31 Mar 2021 12:35		12 Apr 2021 13:00	13 Apr 2021 23:43	10
HS21040014-02	CM-4A	30 Mar 2021 18:38		12 Apr 2021 13:00	14 Apr 2021 14:01	1
HS21040014-02	CM-4A	30 Mar 2021 18:38		12 Apr 2021 13:00	13 Apr 2021 23:45	10
HS21040014-03	CM-4B	30 Mar 2021 18:22		12 Apr 2021 13:00	14 Apr 2021 14:03	1
HS21040014-03	CM-4B	30 Mar 2021 18:22		12 Apr 2021 13:00	13 Apr 2021 23:47	10
HS21040014-04	CM-5A	30 Mar 2021 16:11		12 Apr 2021 13:00	14 Apr 2021 14:07	1
HS21040014-04	CM-5A	30 Mar 2021 16:11		12 Apr 2021 13:00	13 Apr 2021 23:49	10
HS21040014-05	CM-5B	30 Mar 2021 16:28		12 Apr 2021 13:00	14 Apr 2021 14:09	1
HS21040014-05	CM-5B	30 Mar 2021 16:28		12 Apr 2021 13:00	13 Apr 2021 23:51	10
HS21040014-06	CM-3A	30 Mar 2021 19:08		12 Apr 2021 13:00	14 Apr 2021 14:10	1
HS21040014-06	CM-3A	30 Mar 2021 19:08		12 Apr 2021 13:00	13 Apr 2021 23:53	10
HS21040014-07	MW-15B	31 Mar 2021 12:05		12 Apr 2021 13:00	14 Apr 2021 14:12	1
HS21040014-07	MW-15B	31 Mar 2021 12:05		12 Apr 2021 13:00	13 Apr 2021 23:59	10
HS21040014-08	CM-1A	01 Apr 2021 12:42		12 Apr 2021 13:00	14 Apr 2021 14:39	1
HS21040014-08	CM-1A	01 Apr 2021 12:42		12 Apr 2021 13:00	14 Apr 2021 00:01	10
HS21040014-09	CM-2	01 Apr 2021 11:29		12 Apr 2021 13:00	14 Apr 2021 14:41	1
HS21040014-09	CM-2	01 Apr 2021 11:29		12 Apr 2021 13:00	14 Apr 2021 00:03	10
HS21040014-10	CM-1B	01 Apr 2021 16:02		12 Apr 2021 13:00	14 Apr 2021 14:43	1
HS21040014-10	CM-1B	01 Apr 2021 16:02		12 Apr 2021 13:00	14 Apr 2021 00:05	10
HS21040014-11	CM-3B	02 Apr 2021 12:15		12 Apr 2021 13:00	15 Apr 2021 16:10	1
<b>Batch ID: 164619 ( 0 )</b>		<b>Test Name : DISSOLVED METALS BY SW6020A</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35		14 Apr 2021 17:00	15 Apr 2021 00:53	1
HS21040014-02	CM-4A	30 Mar 2021 18:38		14 Apr 2021 17:00	15 Apr 2021 00:55	1
HS21040014-03	CM-4B	30 Mar 2021 18:22		14 Apr 2021 17:00	15 Apr 2021 00:57	1
HS21040014-04	CM-5A	30 Mar 2021 16:11		14 Apr 2021 17:00	15 Apr 2021 00:59	1
HS21040014-05	CM-5B	30 Mar 2021 16:28		14 Apr 2021 17:00	15 Apr 2021 01:01	1
HS21040014-06	CM-3A	30 Mar 2021 19:08		14 Apr 2021 17:00	15 Apr 2021 14:26	1
HS21040014-07	MW-15B	31 Mar 2021 12:05		14 Apr 2021 17:00	15 Apr 2021 14:27	1
HS21040014-08	CM-1A	01 Apr 2021 12:42		14 Apr 2021 17:00	15 Apr 2021 14:29	1
HS21040014-09	CM-2	01 Apr 2021 11:29		14 Apr 2021 17:00	15 Apr 2021 14:31	1
HS21040014-10	CM-1B	01 Apr 2021 16:02		14 Apr 2021 17:00	15 Apr 2021 14:34	1
HS21040014-11	CM-3B	02 Apr 2021 12:15		14 Apr 2021 17:00	15 Apr 2021 14:46	1
<b>Batch ID: R380847 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE B</b>			<b>Matrix: Water</b>	
HS21040014-08	CM-1A	01 Apr 2021 12:42			02 Apr 2021 13:18	1
HS21040014-09	CM-2	01 Apr 2021 11:29			02 Apr 2021 13:18	1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID: R380869 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE B</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35			01 Apr 2021 14:30	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			01 Apr 2021 14:30	10
HS21040014-03	CM-4B	30 Mar 2021 18:22			01 Apr 2021 14:30	10
HS21040014-04	CM-5A	30 Mar 2021 16:11			01 Apr 2021 14:30	10
HS21040014-05	CM-5B	30 Mar 2021 16:28			01 Apr 2021 14:30	10
HS21040014-06	CM-3A	30 Mar 2021 19:08			01 Apr 2021 14:30	10
HS21040014-07	MW-15B	31 Mar 2021 12:05			01 Apr 2021 14:30	10
<b>Batch ID: R380870 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE D</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35			01 Apr 2021 14:30	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			01 Apr 2021 14:30	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			01 Apr 2021 14:30	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			01 Apr 2021 14:30	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			01 Apr 2021 14:30	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			01 Apr 2021 14:30	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			01 Apr 2021 14:30	1
<b>Batch ID: R380885 ( 0 )</b>		<b>Test Name : SULFIDE BY SM4500 S2-F</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35			03 Apr 2021 10:30	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			03 Apr 2021 10:30	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			03 Apr 2021 10:30	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			03 Apr 2021 10:30	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			03 Apr 2021 10:30	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			03 Apr 2021 10:30	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			03 Apr 2021 10:30	1
<b>Batch ID: R380888 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE B</b>			<b>Matrix: Water</b>	
HS21040014-10	CM-1B	01 Apr 2021 16:02			03 Apr 2021 12:24	1
<b>Batch ID: R380889 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE D</b>			<b>Matrix: Water</b>	
HS21040014-10	CM-1B	01 Apr 2021 16:02			03 Apr 2021 12:20	1
<b>Batch ID: R380890 ( 0 )</b>		<b>Test Name : FERROUS IRON BY SM3500 FE D</b>			<b>Matrix: Water</b>	
HS21040014-08	CM-1A	01 Apr 2021 12:42			02 Apr 2021 13:18	1
HS21040014-09	CM-2	01 Apr 2021 11:29			02 Apr 2021 13:19	1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID:</b> R381021 ( 0 )		<b>Test Name :</b> PH BY SM4500H+ B			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			06 Apr 2021 13:36	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			06 Apr 2021 13:36	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			06 Apr 2021 13:36	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			06 Apr 2021 13:36	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			06 Apr 2021 13:36	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			06 Apr 2021 13:36	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			06 Apr 2021 13:36	1
<b>Batch ID:</b> R381071 ( 0 )		<b>Test Name :</b> TOTAL DISSOLVED SOLIDS BY SM2540C			<b>Matrix:</b> Water	
HS21040014-02	CM-4A	30 Mar 2021 18:38			06 Apr 2021 16:00	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			06 Apr 2021 16:00	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			06 Apr 2021 16:00	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			06 Apr 2021 16:00	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			06 Apr 2021 16:00	1
<b>Batch ID:</b> R381136 ( 0 )		<b>Test Name :</b> ANIONS BY E300.0			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			01 Apr 2021 18:48	2
HS21040014-02	CM-4A	30 Mar 2021 18:38			01 Apr 2021 16:03	2
HS21040014-03	CM-4B	30 Mar 2021 18:22			01 Apr 2021 15:44	2
HS21040014-04	CM-5A	30 Mar 2021 16:11			01 Apr 2021 20:02	20
HS21040014-04	CM-5A	30 Mar 2021 16:11			01 Apr 2021 14:30	2
HS21040014-05	CM-5B	30 Mar 2021 16:28			01 Apr 2021 20:20	20
HS21040014-05	CM-5B	30 Mar 2021 16:28			01 Apr 2021 14:49	2
HS21040014-06	CM-3A	30 Mar 2021 19:08			01 Apr 2021 16:21	2
HS21040014-07	MW-15B	31 Mar 2021 12:05			01 Apr 2021 19:07	2
<b>Batch ID:</b> R381204 ( 0 )		<b>Test Name :</b> SPECIFIC CONDUCTIVITY BY SM2510 B			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			08 Apr 2021 11:55	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			08 Apr 2021 11:55	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			08 Apr 2021 11:55	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			08 Apr 2021 11:55	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			08 Apr 2021 11:55	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			08 Apr 2021 11:55	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			08 Apr 2021 11:55	1
HS21040014-08	CM-1A	01 Apr 2021 12:42			08 Apr 2021 11:55	1
HS21040014-09	CM-2	01 Apr 2021 11:29			08 Apr 2021 11:55	1
HS21040014-11	CM-3B	02 Apr 2021 12:15			08 Apr 2021 11:55	1
<b>Batch ID:</b> R381207 ( 0 )		<b>Test Name :</b> TOTAL DISSOLVED SOLIDS BY SM2540C			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			07 Apr 2021 17:00	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			07 Apr 2021 17:00	1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID:</b> R381211 ( 0 )		<b>Test Name :</b> ANIONS BY E300.0			<b>Matrix:</b> Water	
HS21040014-08	CM-1A	01 Apr 2021 12:42			02 Apr 2021 17:50	2
HS21040014-09	CM-2	01 Apr 2021 11:29			02 Apr 2021 18:08	2
<b>Batch ID:</b> R381229 ( 0 )		<b>Test Name :</b> ALKALINITY BY SM2320B			<b>Matrix:</b> Water	
HS21040014-02	CM-4A	30 Mar 2021 18:38			08 Apr 2021 17:45	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			08 Apr 2021 17:45	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			08 Apr 2021 17:45	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			08 Apr 2021 17:45	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			08 Apr 2021 17:45	1
<b>Batch ID:</b> R381287 ( 0 )		<b>Test Name :</b> TOTAL DISSOLVED SOLIDS BY SM2540C			<b>Matrix:</b> Water	
HS21040014-08	CM-1A	01 Apr 2021 12:42			08 Apr 2021 17:00	1
HS21040014-09	CM-2	01 Apr 2021 11:29			08 Apr 2021 17:00	1
<b>Batch ID:</b> R381299 ( 0 )		<b>Test Name :</b> TOTAL DISSOLVED SOLIDS BY SM2540C			<b>Matrix:</b> Water	
HS21040014-11	CM-3B	02 Apr 2021 12:15			08 Apr 2021 17:30	1
<b>Batch ID:</b> R381323 ( 0 )		<b>Test Name :</b> SULFIDE BY SM4500 S2-F			<b>Matrix:</b> Water	
HS21040014-08	CM-1A	01 Apr 2021 12:42			08 Apr 2021 14:30	1
HS21040014-09	CM-2	01 Apr 2021 11:29			08 Apr 2021 14:30	1
HS21040014-10	CM-1B	01 Apr 2021 16:02			08 Apr 2021 14:30	1
<b>Batch ID:</b> R381355 ( 0 )		<b>Test Name :</b> ALKALINITY BY SM2320B			<b>Matrix:</b> Water	
HS21040014-08	CM-1A	01 Apr 2021 12:42			11 Apr 2021 18:53	1
HS21040014-09	CM-2	01 Apr 2021 11:29			11 Apr 2021 19:00	1
HS21040014-11	CM-3B	02 Apr 2021 12:15			11 Apr 2021 19:07	1
<b>Batch ID:</b> R381433 ( 0 )		<b>Test Name :</b> ALKALINITY BY SM2320B			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			12 Apr 2021 18:59	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			12 Apr 2021 19:08	1
<b>Batch ID:</b> R381481 ( 0 )		<b>Test Name :</b> PH BY SM4500H+ B			<b>Matrix:</b> Water	
HS21040014-08	CM-1A	01 Apr 2021 12:42			13 Apr 2021 14:02	1
HS21040014-11	CM-3B	02 Apr 2021 12:15			13 Apr 2021 14:02	1
<b>Batch ID:</b> R381581 ( 0 )		<b>Test Name :</b> ANIONS BY E300.0			<b>Matrix:</b> Water	
HS21040014-01	MW-22B	31 Mar 2021 12:35			14 Apr 2021 13:34	200
HS21040014-02	CM-4A	30 Mar 2021 18:38			14 Apr 2021 20:38	20
HS21040014-03	CM-4B	30 Mar 2021 18:22			14 Apr 2021 20:56	20
HS21040014-06	CM-3A	30 Mar 2021 19:08			14 Apr 2021 21:14	20
HS21040014-07	MW-15B	31 Mar 2021 12:05			14 Apr 2021 21:33	20
HS21040014-08	CM-1A	01 Apr 2021 12:42			14 Apr 2021 21:51	20
HS21040014-09	CM-2	01 Apr 2021 11:29			14 Apr 2021 22:10	20
HS21040014-11	CM-3B	02 Apr 2021 12:15			14 Apr 2021 22:28	20

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID: R381654 ( 0 )</b>		<b>Test Name : PH BY SM4500H+ B</b>			<b>Matrix: Water</b>	
HS21040014-09	CM-2	01 Apr 2021 11:29			15 Apr 2021 12:30	1
<b>Batch ID: R381678 ( 0 )</b>		<b>Test Name : ANIONS BY E300.0</b>			<b>Matrix: Water</b>	
HS21040014-11	CM-3B	02 Apr 2021 12:15			03 Apr 2021 14:27	2
<b>Batch ID: R381691 ( 0 )</b>		<b>Test Name : FERRIC IRON - BY CALCULATION BY SM3500FED</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35			15 Apr 2021 16:51	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			15 Apr 2021 16:51	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			15 Apr 2021 16:51	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			15 Apr 2021 16:51	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			15 Apr 2021 16:51	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			15 Apr 2021 16:51	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			15 Apr 2021 16:51	1
HS21040014-08	CM-1A	01 Apr 2021 12:42			15 Apr 2021 16:51	1
HS21040014-09	CM-2	01 Apr 2021 11:29			15 Apr 2021 16:51	1
HS21040014-10	CM-1B	01 Apr 2021 16:02			15 Apr 2021 16:51	1
<b>Batch ID: R381694 ( 0 )</b>		<b>Test Name : FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED</b>			<b>Matrix: Water</b>	
HS21040014-01	MW-22B	31 Mar 2021 12:35			15 Apr 2021 17:02	1
HS21040014-02	CM-4A	30 Mar 2021 18:38			15 Apr 2021 17:02	1
HS21040014-03	CM-4B	30 Mar 2021 18:22			15 Apr 2021 17:02	1
HS21040014-04	CM-5A	30 Mar 2021 16:11			15 Apr 2021 17:02	1
HS21040014-05	CM-5B	30 Mar 2021 16:28			15 Apr 2021 17:02	1
HS21040014-06	CM-3A	30 Mar 2021 19:08			15 Apr 2021 17:02	1
HS21040014-07	MW-15B	31 Mar 2021 12:05			15 Apr 2021 17:02	1
HS21040014-08	CM-1A	01 Apr 2021 12:42			15 Apr 2021 17:02	1
HS21040014-09	CM-2	01 Apr 2021 11:29			15 Apr 2021 17:02	1
HS21040014-10	CM-1B	01 Apr 2021 16:02			15 Apr 2021 17:02	1



**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> 164478 ( 0 )	<b>Instrument:</b> ICPMS06	<b>Method:</b> ICP-MS METALS BY SW6020A
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<b>MBLK</b>		Sample ID: <b>MBLK-164478</b>			Units: <b>mg/L</b>		Analysis Date: <b>14-Apr-2021 12:23</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6040766</b>		PrepDate: <b>12-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	U	0.0200								
Calcium	U	0.500								
Iron	U	0.200								
Magnesium	U	0.200								
Molybdenum	U	0.00500								
Potassium	U	0.200								
Sodium	U	0.200								

<b>LCS</b>		Sample ID: <b>LCS-164478</b>			Units: <b>mg/L</b>		Analysis Date: <b>14-Apr-2021 12:25</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6040767</b>		PrepDate: <b>12-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4451	0.0200	0.5	0	89.0	80 - 120				
Calcium	4.567	0.500	5	0	91.3	80 - 120				
Iron	4.598	0.200	5	0	92.0	80 - 120				
Magnesium	4.741	0.200	5	0	94.8	80 - 120				
Molybdenum	0.04697	0.00500	0.05	0	93.9	80 - 120				
Potassium	4.76	0.200	5	0	95.2	80 - 120				
Sodium	4.668	0.200	5	0	93.4	80 - 120				

<b>MS</b>		Sample ID: <b>HS21040001-01MS</b>			Units: <b>mg/L</b>		Analysis Date: <b>13-Apr-2021 23:23</b>			
Client ID:		Run ID: <b>ICPMS06_381466</b>			SeqNo: <b>6039691</b>		PrepDate: <b>12-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4691	0.0200	0.5	0.02804	88.2	80 - 120				
Calcium	49.15	0.500	5	47.43	34.3	80 - 120				SO
Iron	6.029	0.200	5	1.658	87.4	80 - 120				
Magnesium	13.04	0.200	5	8.941	82.0	80 - 120				
Molybdenum	0.05637	0.00500	0.05	0.01123	90.3	80 - 120				
Potassium	9.699	0.200	5	5.371	86.6	80 - 120				
Sodium	20.7	0.200	5	16.75	78.9	80 - 120				S

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> 164478 ( 0 )		<b>Instrument:</b> ICPMS06		<b>Method:</b> ICP-MS METALS BY SW6020A						
<b>MSD</b>	Sample ID: <b>HS21040001-01MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>13-Apr-2021 23:25</b>					
Client ID:	Run ID: <b>ICPMS06_381466</b>	SeqNo: <b>6039692</b>	PrepDate: <b>12-Apr-2021</b>	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Boron	0.4691	0.0200	0.5	0.02804	88.2	80 - 120	0.4691	0.00277	20	
Calcium	49.57	0.500	5	47.43	42.9	80 - 120	49.15	0.862	20	SO
Iron	6.117	0.200	5	1.658	89.2	80 - 120	6.029	1.45	20	
Magnesium	13.12	0.200	5	8.941	83.6	80 - 120	13.04	0.607	20	
Molybdenum	0.05654	0.00500	0.05	0.01123	90.6	80 - 120	0.05637	0.303	20	
Potassium	9.794	0.200	5	5.371	88.5	80 - 120	9.699	0.981	20	
Sodium	20.91	0.200	5	16.75	83.2	80 - 120	20.7	1.02	20	

<b>PDS</b>	Sample ID: <b>HS21040001-01PDS</b>	Units: <b>mg/L</b>			Analysis Date: <b>13-Apr-2021 23:27</b>					
Client ID:	Run ID: <b>ICPMS06_381466</b>	SeqNo: <b>6039693</b>	PrepDate: <b>12-Apr-2021</b>	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Calcium	54.44	0.500	10	47.43	70.1	75 - 125				SO
Iron	10.94	0.200	10	1.658	92.8	75 - 125				
Magnesium	17.96	0.200	10	8.941	90.2	75 - 125				
Molybdenum	0.1095	0.00500	0.1	0.01123	98.3	75 - 125				
Potassium	14.79	0.200	10	5.371	94.1	75 - 125				
Sodium	25.79	0.200	10	16.75	90.4	75 - 125				

<b>SD</b>	Sample ID: <b>HS21040001-01SD</b>	Units: <b>mg/L</b>			Analysis Date: <b>13-Apr-2021 23:21</b>					
Client ID:	Run ID: <b>ICPMS06_381466</b>	SeqNo: <b>6039690</b>	PrepDate: <b>12-Apr-2021</b>	DF: <b>5</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual

Boron	U	0.100					0.02804	0	10	
Calcium	47.06	2.50					47.43	0.788	10	
Iron	1.607	1.00					1.658	3.07	10	
Magnesium	9.309	1.00					8.941	4.12	10	
Molybdenum	0.01163	0.0250					0.01123	0	10	J
Potassium	5.562	1.00					5.371	3.55	10	
Sodium	17.12	1.00					16.75	2.16	10	

The following samples were analyzed in this batch:

HS21040014-01	HS21040014-02	HS21040014-03	HS21040014-04
HS21040014-05	HS21040014-06	HS21040014-07	HS21040014-08
HS21040014-09	HS21040014-10	HS21040014-11	

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> 164619 ( 0 )		<b>Instrument:</b> ICPMS06		<b>Method:</b> DISSOLVED METALS BY SW6020A (DISSOLVED)					
<b>MBLK</b>	Sample ID: <b>MBLKF1-164619</b>	Units: <b>mg/L</b>			Analysis Date: <b>15-Apr-2021 00:20</b>				
Client ID:	Run ID: <b>ICPMS06_381582</b>	SeqNo: <b>6041798</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Iron	0.04183	0.200							J
Molybdenum	U	0.00500							

<b>MBLK</b>	Sample ID: <b>MBLK-164619</b>	Units: <b>mg/L</b>			Analysis Date: <b>15-Apr-2021 00:18</b>				
Client ID:	Run ID: <b>ICPMS06_381582</b>	SeqNo: <b>6041797</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Iron	U	0.200							
Molybdenum	U	0.00500							

<b>LCS</b>	Sample ID: <b>LCS-164619</b>	Units: <b>mg/L</b>			Analysis Date: <b>15-Apr-2021 00:22</b>				
Client ID:	Run ID: <b>ICPMS06_381582</b>	SeqNo: <b>6041799</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Iron	4.795	0.200	5	0	95.9	80 - 120			
Molybdenum	0.04663	0.00500	0.05	0	93.3	80 - 120			

<b>MS</b>	Sample ID: <b>HS21040223-02MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>15-Apr-2021 00:42</b>				
Client ID:	Run ID: <b>ICPMS06_381582</b>	SeqNo: <b>6041809</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Iron	5.306	0.200	5	0.2924	100	75 - 125			
Molybdenum	0.05523	0.00500	0.05	0.001307	108	75 - 125			

<b>MS</b>	Sample ID: <b>HS21040132-01MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>15-Apr-2021 00:28</b>				
Client ID:	Run ID: <b>ICPMS06_381582</b>	SeqNo: <b>6041802</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Iron	5.476	0.200	5	0.2911	104	75 - 125			
Molybdenum	0.05077	0.00500	0.05	0.000656	100	75 - 125			

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

Batch ID: 164619 ( 0 )		Instrument: ICPMS06			Method: DISSOLVED METALS BY SW6020A (DISSOLVED)					
<b>MSD</b>		Sample ID: <b>HS21040223-02MSD</b>			Units: <b>mg/L</b>		Analysis Date: <b>15-Apr-2021 00:45</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6041810</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.461	0.200	5	0.2924	103	75 - 125	5.306	2.88	20	
Molybdenum	0.05669	0.00500	0.05	0.001307	111	75 - 125	0.05523	2.62	20	
<b>MSD</b>		Sample ID: <b>HS21040132-01MSD</b>			Units: <b>mg/L</b>		Analysis Date: <b>15-Apr-2021 00:30</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6041803</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.831	0.200	5	0.2911	90.8	75 - 125	5.476	12.5	20	
Molybdenum	0.04639	0.00500	0.05	0.000656	91.5	75 - 125	0.05077	9.02	20	
<b>PDS</b>		Sample ID: <b>HS21040223-02PDS</b>			Units: <b>mg/L</b>		Analysis Date: <b>15-Apr-2021 00:47</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6041811</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	10.91	0.200	10	0.2924	106	75 - 125				
Molybdenum	0.1148	0.00500	0.1	0.001307	113	75 - 125				
<b>PDS</b>		Sample ID: <b>HS21040132-01PDS</b>			Units: <b>mg/L</b>		Analysis Date: <b>15-Apr-2021 00:32</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6041804</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	10.12	0.200	10	0.2911	98.2	75 - 125				
Molybdenum	0.1038	0.00500	0.1	0.000656	103	75 - 125				
<b>SD</b>		Sample ID: <b>HS21040223-02SD</b>			Units: <b>mg/L</b>		Analysis Date: <b>15-Apr-2021 00:40</b>			
Client ID:		Run ID: <b>ICPMS06_381582</b>			SeqNo: <b>6041808</b>		PrepDate: <b>14-Apr-2021</b>		DF: <b>5</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Iron	0.2804	1.00					0.2924	0	10	J
Molybdenum	U	0.0250					0.001307	0	10	

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> 164619 ( 0 )		<b>Instrument:</b> ICPMS06		<b>Method:</b> DISSOLVED METALS BY SW6020A (DISSOLVED)						
<b>SD</b>	<b>Sample ID:</b> HS21040132-01SD		<b>Units:</b> mg/L		<b>Analysis Date:</b> 15-Apr-2021 00:26					
<b>Client ID:</b>	<b>Run ID:</b> ICPMS06_381582		<b>SeqNo:</b> 6041801		<b>PrepDate:</b> 14-Apr-2021		<b>DF:</b> 5			
<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>RPD Ref Value</b>	<b>%D</b>	<b>Limit</b>	<b>Qual</b>
Iron	0.295	1.00					0.2911	0	10	J
Molybdenum	U	0.0250					0.000656	0	10	

**The following samples were analyzed in this batch:**

HS21040014-01	HS21040014-02	HS21040014-03	HS21040014-04
HS21040014-05	HS21040014-06	HS21040014-07	HS21040014-08
HS21040014-09	HS21040014-10	HS21040014-11	

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380847 ( 0 )      **Instrument:** UV-2450      **Method:** FERROUS IRON BY SM3500 FE B

<b>MBLK</b>	Sample ID: <b>MBLK-R380847</b>	Units: <b>mg/L</b>			Analysis Date: <b>02-Apr-2021 12:50</b>				
Client ID:	Run ID: <b>UV-2450_380847</b>	SeqNo: <b>6022526</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Ferrous Iron      U      0.0500      80 - 120

<b>LCS</b>	Sample ID: <b>LCS-R380847</b>	Units: <b>mg/L</b>			Analysis Date: <b>02-Apr-2021 12:50</b>				
Client ID:	Run ID: <b>UV-2450_380847</b>	SeqNo: <b>6022525</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Ferrous Iron      0.22      0.0500      0.25      0      88.0      80 - 120

<b>MS</b>	Sample ID: <b>HS21040023-13MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>02-Apr-2021 13:26</b>				
Client ID:	Run ID: <b>UV-2450_380847</b>	SeqNo: <b>6022528</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Ferrous Iron      0.264      0.0500      0.25      -0.004      107      75 - 125

<b>MSD</b>	Sample ID: <b>HS21040023-13MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>02-Apr-2021 13:26</b>				
Client ID:	Run ID: <b>UV-2450_380847</b>	SeqNo: <b>6022527</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual	

Ferrous Iron      0.266      0.0500      0.25      -0.004      108      75 - 125      0.264      0.755      20

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380869 ( 0 )      **Instrument:** UV-2450      **Method:** FERROUS IRON BY SM3500 FE B

<b>MBLK</b>	Sample ID: <b>MBLK-R380869</b>	Units: <b>mg/L</b>		Analysis Date: <b>01-Apr-2021 14:30</b>						
Client ID:	Run ID: <b>UV-2450_380869</b>	SeqNo: <b>6022940</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Ferrous Iron      U      0.0500      80 - 120

<b>LCS</b>	Sample ID: <b>LCS-R380869</b>	Units: <b>mg/L</b>		Analysis Date: <b>01-Apr-2021 14:30</b>						
Client ID:	Run ID: <b>UV-2450_380869</b>	SeqNo: <b>6022939</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Ferrous Iron      0.235      0.0500      0.25      0      94.0      80 - 120

<b>MS</b>	Sample ID: <b>HS21040023-05MS</b>	Units: <b>mg/L</b>		Analysis Date: <b>01-Apr-2021 14:30</b>						
Client ID:	Run ID: <b>UV-2450_380869</b>	SeqNo: <b>6022942</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Ferrous Iron      0.241      0.0500      0.25      -0.01      100      75 - 125

<b>MSD</b>	Sample ID: <b>HS21040023-05MSD</b>	Units: <b>mg/L</b>		Analysis Date: <b>01-Apr-2021 14:30</b>						
Client ID:	Run ID: <b>UV-2450_380869</b>	SeqNo: <b>6022941</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Ferrous Iron      0.242      0.0500      0.25      -0.01      101      75 - 125      0.241      0.414      20

The following samples were analyzed in this batch: HS21040014-01      HS21040014-02      HS21040014-03      HS21040014-04  
 HS21040014-05      HS21040014-06      HS21040014-07

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> R380870 ( 0 )	<b>Instrument:</b> UV-2450	<b>Method:</b> FERROUS IRON BY SM3500 FE D (DISSOLVED)							
<b>MBLK</b>	Sample ID: <b>MBLK-R380870</b>	Units: <b>mg/L</b>			Analysis Date: <b>01-Apr-2021 14:30</b>				
Client ID:	Run ID: <b>UV-2450_380870</b>	SeqNo: <b>6022965</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Ferrous Iron, Dissolved U 0.0500

<b>LCS</b>	Sample ID: <b>LCS-R380870</b>	Units: <b>mg/L</b>			Analysis Date: <b>01-Apr-2021 14:30</b>				
Client ID:	Run ID: <b>UV-2450_380870</b>	SeqNo: <b>6022964</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Ferrous Iron, Dissolved 0.235 0.0500 0.25 0 94.0 80 - 120

<b>MS</b>	Sample ID: <b>HS21040023-05MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>01-Apr-2021 14:30</b>				
Client ID:	Run ID: <b>UV-2450_380870</b>	SeqNo: <b>6022967</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Ferrous Iron, Dissolved 0.252 0.0500 0.25 -0.017 108 80 - 120

<b>MSD</b>	Sample ID: <b>HS21040023-05MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>01-Apr-2021 14:30</b>				
Client ID:	Run ID: <b>UV-2450_380870</b>	SeqNo: <b>6022966</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Ferrous Iron, Dissolved 0.25 0.0500 0.25 -0.017 107 80 - 120 0.252 0.797 20

The following samples were analyzed in this batch: HS21040014-01 HS21040014-02 HS21040014-03 HS21040014-04  
 HS21040014-05 HS21040014-06 HS21040014-07



**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380885 ( 0 )      **Instrument:** WetChem\_HS      **Method:** SULFIDE BY SM4500 S2-F

**MBLK**      Sample ID: **MBLK-R380885**      Units: **mg/L**      Analysis Date: **03-Apr-2021 10:30**  
 Client ID:      Run ID: **WetChem\_HS\_380885** SeqNo: **6023362**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      U      1.00

**LCS**      Sample ID: **LCS-R380885**      Units: **mg/L**      Analysis Date: **03-Apr-2021 10:30**  
 Client ID:      Run ID: **WetChem\_HS\_380885** SeqNo: **6023361**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      23.28      1.00      25      0      93.1      85 - 115

**LCSD**      Sample ID: **LCSD-R380885**      Units: **mg/L**      Analysis Date: **03-Apr-2021 10:30**  
 Client ID:      Run ID: **WetChem\_HS\_380885** SeqNo: **6023360**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      23.08      1.00      25      0      92.3      85 - 115      23.28      0.863      20

**MS**      Sample ID: **HS21031603-01MS**      Units: **mg/L**      Analysis Date: **03-Apr-2021 10:30**  
 Client ID:      Run ID: **WetChem\_HS\_380885** SeqNo: **6023363**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      28.08      1.00      25      0.88      109      80 - 120

The following samples were analyzed in this batch: HS21040014-01      HS21040014-02      HS21040014-03      HS21040014-04  
 HS21040014-05      HS21040014-06      HS21040014-07

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380888 ( 0 )      **Instrument:** UV-2450      **Method:** FERROUS IRON BY SM3500 FE B

<b>MBLK</b>	Sample ID: <b>MBLK-R380888</b>	Units: <b>mg/L</b>			Analysis Date: <b>03-Apr-2021 12:20</b>				
Client ID:	Run ID: <b>UV-2450_380888</b>	SeqNo: <b>6023426</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Ferrous Iron      U      0.0500      80 - 120

<b>LCS</b>	Sample ID: <b>LCS-R380888</b>	Units: <b>mg/L</b>			Analysis Date: <b>03-Apr-2021 12:20</b>				
Client ID:	Run ID: <b>UV-2450_380888</b>	SeqNo: <b>6023425</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Ferrous Iron      0.22      0.0500      0.25      0      88.0      80 - 120

<b>MS</b>	Sample ID: <b>HS21040014-10MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>03-Apr-2021 12:25</b>				
Client ID: <b>CM-1B</b>	Run ID: <b>UV-2450_380888</b>	SeqNo: <b>6023428</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Ferrous Iron      0.308      0.0500      0.25      0.082      90.4      75 - 125

<b>MSD</b>	Sample ID: <b>HS21040014-10MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>03-Apr-2021 12:26</b>				
Client ID: <b>CM-1B</b>	Run ID: <b>UV-2450_380888</b>	SeqNo: <b>6023427</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Ferrous Iron      0.303      0.0500      0.25      0.082      88.4      75 - 125      0.308      1.64      20

The following samples were analyzed in this batch: HS21040014-10

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380889 ( 0 )      **Instrument:** UV-2450      **Method:** FERROUS IRON BY SM3500 FE D (DISSOLVED)

**MBLK**      Sample ID: **MBLK-R380889**      Units: **mg/L**      Analysis Date: **03-Apr-2021 12:20**  
 Client ID:      Run ID: **UV-2450\_380889**      SeqNo: **6023437**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      U      0.0500

**LCS**      Sample ID: **LCS-R380889**      Units: **mg/L**      Analysis Date: **03-Apr-2021 12:20**  
 Client ID:      Run ID: **UV-2450\_380889**      SeqNo: **6023436**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.22      0.0500      0.25      0      88.0      80 - 120

**MS**      Sample ID: **HS21040014-10MS**      Units: **mg/L**      Analysis Date: **03-Apr-2021 12:20**  
 Client ID: **CM-1B**      Run ID: **UV-2450\_380889**      SeqNo: **6023439**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.283      0.0500      0.25      0.045      95.2      80 - 120

**MSD**      Sample ID: **HS21040014-10MSD**      Units: **mg/L**      Analysis Date: **03-Apr-2021 12:20**  
 Client ID: **CM-1B**      Run ID: **UV-2450\_380889**      SeqNo: **6023438**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.271      0.0500      0.25      0.045      90.4      80 - 120      0.283      4.33      20

The following samples were analyzed in this batch: HS21040014-10

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R380890 ( 0 )      **Instrument:** UV-2450      **Method:** FERROUS IRON BY SM3500 FE D (DISSOLVED)

**MBLK**      Sample ID: **MBLK-R380890**      Units: **mg/L**      Analysis Date: **02-Apr-2021 12:48**  
 Client ID:      Run ID: **UV-2450\_380890**      SeqNo: **6023453**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      U      0.0500

**LCS**      Sample ID: **LCS-R380890**      Units: **mg/L**      Analysis Date: **02-Apr-2021 12:48**  
 Client ID:      Run ID: **UV-2450\_380890**      SeqNo: **6023452**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.22      0.0500      0.25      0      88.0      80 - 120

**MS**      Sample ID: **HS21040023-13MS**      Units: **mg/L**      Analysis Date: **02-Apr-2021 13:26**  
 Client ID:      Run ID: **UV-2450\_380890**      SeqNo: **6023455**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.247      0.0500      0.25      0      98.8      80 - 120

**MSD**      Sample ID: **HS21040023-13MSD**      Units: **mg/L**      Analysis Date: **02-Apr-2021 13:26**  
 Client ID:      Run ID: **UV-2450\_380890**      SeqNo: **6023454**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ferrous Iron, Dissolved      0.245      0.0500      0.25      0      98.0      80 - 120      0.247      0.813      20

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381021 ( 0 )      **Instrument:** WetChem\_HS      **Method:** PH BY SM4500H+ B

**DUP**      Sample ID: **HS21031593-01DUP**      Units: **pH Units**      Analysis Date: **06-Apr-2021 13:36**  
 Client ID:      Run ID: **WetChem\_HS\_381021**      SeqNo: **6026949**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

pH	7.59	0.100						7.56	0.396	10
Temp Deg C @pH	20.9	0						20.9	0	10

**The following samples were analyzed in this batch:** HS21040014-01    HS21040014-02    HS21040014-03    HS21040014-04  
 HS21040014-05    HS21040014-06    HS21040014-07

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381071 ( 0 )      **Instrument:** Balance1      **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

<b>MBLK</b>	Sample ID: <b>WBLK-040621</b>			Units: <b>mg/L</b>	Analysis Date: <b>06-Apr-2021 16:00</b>				
Client ID:		Run ID: <b>Balance1_381071</b>		SeqNo: <b>6028515</b>	PrepDate:	DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      U      10.0

<b>LCS</b>	Sample ID: <b>WLCS-040621</b>			Units: <b>mg/L</b>	Analysis Date: <b>06-Apr-2021 16:00</b>				
Client ID:		Run ID: <b>Balance1_381071</b>		SeqNo: <b>6028516</b>	PrepDate:	DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      1008      10.0      1000      0      101      85 - 115

<b>DUP</b>	Sample ID: <b>HS21040100-01DUP</b>			Units: <b>mg/L</b>	Analysis Date: <b>06-Apr-2021 16:00</b>				
Client ID:		Run ID: <b>Balance1_381071</b>		SeqNo: <b>6028514</b>	PrepDate:	DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      8892      10.0                     8588      3.48      5

<b>DUP</b>	Sample ID: <b>HS21031587-01DUP</b>			Units: <b>mg/L</b>	Analysis Date: <b>06-Apr-2021 16:00</b>				
Client ID:		Run ID: <b>Balance1_381071</b>		SeqNo: <b>6028497</b>	PrepDate:	DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      56      10.0                     54      3.64      5

The following samples were analyzed in this batch: 

HS21040014-02	HS21040014-03	HS21040014-04	HS21040014-05
HS21040014-06			

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381136 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0

MBLK		Sample ID: MBLK-		Units: mg/L		Analysis Date: 01-Apr-2021 22:11			
Client ID:		Run ID: ICS-Integrion_381136		SeqNo: 6029606		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	U	0.500							
Fluoride	U	0.100							
Nitrogen, Nitrate (As N)	U	0.100							
Sulfate	U	0.500							

LCS		Sample ID: LCS-		Units: mg/L		Analysis Date: 01-Apr-2021 22:29			
Client ID:		Run ID: ICS-Integrion_381136		SeqNo: 6029607		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.45	0.500	20	0	97.3	90 - 110			
Fluoride	4.252	0.100	4	0	106	90 - 110			
Nitrogen, Nitrate (As N)	3.83	0.100	4	0	95.7	90 - 110			
Sulfate	19.8	0.500	20	0	99.0	90 - 110			

MS		Sample ID: HS21040023-05MS		Units: mg/L		Analysis Date: 01-Apr-2021 19:25			
Client ID:		Run ID: ICS-Integrion_381136		SeqNo: 6031679		PrepDate:		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	39.81	1.00	20	20.54	96.3	80 - 120			
Fluoride	4.465	0.200	4	0.444	101	80 - 120			
Nitrogen, Nitrate (As N)	4.199	0.200	4	0	105	80 - 120			
Sulfate	1165	1.00	20	1185	-99.7	80 - 120			SEO

MS		Sample ID: HS21040007-02MS		Units: mg/L		Analysis Date: 01-Apr-2021 23:25			
Client ID:		Run ID: ICS-Integrion_381136		SeqNo: 6029609		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	121	0.500	10	112.4	85.9	80 - 120			EO
Fluoride	2.244	0.100	2	0.089	108	80 - 120			
Nitrogen, Nitrate (As N)	4.407	0.100	2	2.447	98.0	80 - 120			
Sulfate	69.97	0.500	10	60.51	94.5	80 - 120			O

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> R381136 ( 0 )	<b>Instrument:</b> ICS-Integrion	<b>Method:</b> ANIONS BY E300.0
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<b>MSD</b>	Sample ID: <b>HS21040023-05MSD</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Apr-2021 19:44</b>							
Client ID:	Run ID: <b>ICS-Integrion_381136</b>	SeqNo: <b>6031680</b>	PrepDate: DF: <b>2</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	39.79	1.00	20	20.54	96.2	80 - 120	39.81	0.0653	20	
Fluoride	4.816	0.200	4	0.444	109	80 - 120	4.465	7.56	20	
Nitrogen, Nitrate (As N)	4.166	0.200	4	0	104	80 - 120	4.199	0.789	20	
Sulfate	1161	1.00	20	1185	-117	80 - 120	1165	0.299	20	SEO

<b>MSD</b>	Sample ID: <b>HS21040007-02MSD</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Apr-2021 23:43</b>							
Client ID:	Run ID: <b>ICS-Integrion_381136</b>	SeqNo: <b>6029610</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	120.6	0.500	10	112.4	82.4	80 - 120	121	0.287	20	EO
Fluoride	2.224	0.100	2	0.089	107	80 - 120	2.244	0.891	20	
Nitrogen, Nitrate (As N)	4.423	0.100	2	2.447	98.8	80 - 120	4.407	0.367	20	
Sulfate	69.97	0.500	10	60.51	94.5	80 - 120	69.97	0	20	O

The following samples were analyzed in this batch:

HS21040014-01	HS21040014-02	HS21040014-03	HS21040014-04
HS21040014-05	HS21040014-06	HS21040014-07	

Revision: 1



**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381204 ( 0 )      **Instrument:** WetChem\_HS      **Method:** SPECIFIC CONDUCTIVITY BY SM2510 B

**MBLK**      Sample ID: **MBLK-R381204**      Units: **umhos/cm @ 25.0 °C**      Analysis Date: **08-Apr-2021 11:55**  
 Client ID:      Run ID: **WetChem\_HS\_381204**      SeqNo: **6031636**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Specific Conductivity      U      5.00

**LCS**      Sample ID: **LCS-R381204**      Units: **umhos/cm @ 25.0 °C**      Analysis Date: **08-Apr-2021 11:55**  
 Client ID:      Run ID: **WetChem\_HS\_381204**      SeqNo: **6031635**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Specific Conductivity      1416      5.00      1413      0      100      80 - 120

**DUP**      Sample ID: **HS21040034-02DUP**      Units: **umhos/cm @ 25.0 °C**      Analysis Date: **08-Apr-2021 11:55**  
 Client ID:      Run ID: **WetChem\_HS\_381204**      SeqNo: **6031637**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Specific Conductivity      1235      5.00      1242      0.565      20

**The following samples were analyzed in this batch:**

HS21040014-01	HS21040014-02	HS21040014-03	HS21040014-04
HS21040014-05	HS21040014-06	HS21040014-07	HS21040014-08
HS21040014-09	HS21040014-11		

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381207 ( 0 )      **Instrument:** Balance1      **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

<b>MBLK</b>	Sample ID: <b>WBLK-040721</b>	Units: <b>mg/L</b>			Analysis Date: <b>07-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381207</b>	SeqNo: <b>6031710</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      U      10.0

<b>LCS</b>	Sample ID: <b>WLCS-040721</b>	Units: <b>mg/L</b>			Analysis Date: <b>07-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381207</b>	SeqNo: <b>6031711</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      998      10.0      1000      0      99.8      85 - 115

<b>DUP</b>	Sample ID: <b>HS21040025-01DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>07-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381207</b>	SeqNo: <b>6031709</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      896      10.0      902      0.667      5

<b>DUP</b>	Sample ID: <b>HS21031602-06DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>07-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381207</b>	SeqNo: <b>6031691</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      3510      10.0      3524      0.398      5

The following samples were analyzed in this batch: HS21040014-01      HS21040014-07

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> R381211 ( 0 )	<b>Instrument:</b> ICS-Integrion	<b>Method:</b> ANIONS BY E300.0
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<b>MBLK</b>	Sample ID: <b>MBLK-</b>	Units: <b>mg/L</b>	Analysis Date: <b>02-Apr-2021 21:12</b>							
Client ID:	Run ID: <b>ICS-Integrion_381211</b>	SeqNo: <b>6031961</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								

<b>LCS</b>	Sample ID: <b>LCS-</b>	Units: <b>mg/L</b>	Analysis Date: <b>02-Apr-2021 21:31</b>							
Client ID:	Run ID: <b>ICS-Integrion_381211</b>	SeqNo: <b>6031962</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.98	0.500	20	0	94.9	90 - 110				
Fluoride	4.178	0.100	4	0	104	90 - 110				
Nitrogen, Nitrate (As N)	3.742	0.100	4	0	93.6	90 - 110				

<b>MS</b>	Sample ID: <b>HS21040079-01MS</b>	Units: <b>mg/L</b>	Analysis Date: <b>02-Apr-2021 19:22</b>							
Client ID:	Run ID: <b>ICS-Integrion_381211</b>	SeqNo: <b>6031956</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	16.08	0.500	10	5.591	105	80 - 120				
Fluoride	2.154	0.100	2	0.0571	105	80 - 120				
Nitrogen, Nitrate (As N)	2.609	0.100	2	0.6213	99.4	80 - 120				

<b>MS</b>	Sample ID: <b>HS21040023-10MS</b>	Units: <b>mg/L</b>	Analysis Date: <b>02-Apr-2021 17:13</b>							
Client ID:	Run ID: <b>ICS-Integrion_381211</b>	SeqNo: <b>6031949</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.77	0.500	10	4.061	97.1	80 - 120				
Fluoride	2.464	0.100	2	0.4125	103	80 - 120				
Nitrogen, Nitrate (As N)	1.906	0.100	2	0	95.3	80 - 120				

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381211 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0

<b>MSD</b>		Sample ID: <b>HS21040079-01MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>02-Apr-2021 19:40</b>			
Client ID:		Run ID: <b>ICS-Integrion_381211</b>		SeqNo: <b>6031957</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	15.65	0.500	10	5.591	101	80 - 120	16.08	2.74	20
Fluoride	2.252	0.100	2	0.0571	110	80 - 120	2.154	4.49	20
Nitrogen, Nitrate (As N)	2.551	0.100	2	0.6213	96.5	80 - 120	2.609	2.23	20

<b>MSD</b>		Sample ID: <b>HS21040023-10MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>02-Apr-2021 17:32</b>			
Client ID:		Run ID: <b>ICS-Integrion_381211</b>		SeqNo: <b>6031950</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	14.18	0.500	10	4.061	101	80 - 120	13.77	2.93	20
Fluoride	2.428	0.100	2	0.4125	101	80 - 120	2.464	1.49	20
Nitrogen, Nitrate (As N)	1.85	0.100	2	0	92.5	80 - 120	1.906	2.95	20

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

<b>Batch ID:</b> R381229 ( 0 )	<b>Instrument:</b> WetChem_HS	<b>Method:</b> ALKALINITY BY SM2320B
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<b>MBLK</b>	Sample ID: <b>MBLK-R381229</b>	Units: <b>mg/L</b>	Analysis Date: <b>08-Apr-2021 17:45</b>							
Client ID:	Run ID: <b>WetChem_HS_381229</b>	SeqNo: <b>6032389</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00								
Alkalinity, Carbonate (As CaCO3)	U	5.00								
Alkalinity, Hydroxide (As CaCO3)	U	5.00								
Alkalinity, Total (As CaCO3)	U	5.00								

<b>LCS</b>	Sample ID: <b>LCS-R381229</b>	Units: <b>mg/L</b>	Analysis Date: <b>08-Apr-2021 17:45</b>							
Client ID:	Run ID: <b>WetChem_HS_381229</b>	SeqNo: <b>6032388</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	917.4	5.00	1000	0	91.7	85 - 115				
Alkalinity, Total (As CaCO3)	981.9	5.00	1000	0	98.2	85 - 115				

<b>LCSD</b>	Sample ID: <b>LCSD-R381229</b>	Units: <b>mg/L</b>	Analysis Date: <b>08-Apr-2021 17:45</b>							
Client ID:	Run ID: <b>WetChem_HS_381229</b>	SeqNo: <b>6032387</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	924.1	5.00	1000	0	92.4	85 - 115	917.4	0.737	20	
Alkalinity, Total (As CaCO3)	978.5	5.00	1000	0	97.8	85 - 115	981.9	0.347	20	

<b>DUP</b>	Sample ID: <b>HS21040351-02DUP</b>	Units: <b>mg/L</b>	Analysis Date: <b>08-Apr-2021 17:45</b>							
Client ID:	Run ID: <b>WetChem_HS_381229</b>	SeqNo: <b>6032390</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	112.1	5.00					115.5	2.99	20	
Alkalinity, Carbonate (As CaCO3)	U	5.00					0	0	20	
Alkalinity, Hydroxide (As CaCO3)	U	5.00					0	0	20	
Alkalinity, Total (As CaCO3)	112.1	5.00					115.5	2.99	20	

The following samples were analyzed in this batch: HS21040014-02 HS21040014-03 HS21040014-04 HS21040014-05  
 HS21040014-06

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381287 ( 0 )      **Instrument:** Balance1      **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

<b>MBLK</b>	Sample ID: <b>WBLK-040821</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381287</b>	SeqNo: <b>6033836</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      U      10.0

<b>LCS</b>	Sample ID: <b>WLCS-040821</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381287</b>	SeqNo: <b>6033837</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      1028      10.0      1000      0      103      85 - 115

<b>DUP</b>	Sample ID: <b>HS21040091-09DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381287</b>	SeqNo: <b>6033824</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      17480      10.0                     17470      0.0572      5

<b>DUP</b>	Sample ID: <b>HS21040008-01DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:00</b>				
Client ID:	Run ID: <b>Balance1_381287</b>	SeqNo: <b>6033794</b>		PrepDate:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      8560      10.0                     8440      1.41      5

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381299 ( 0 )      **Instrument:** Balance1      **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

<b>MBLK</b>	Sample ID: <b>WBLK-040821</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:30</b>					
Client ID:	Run ID: <b>Balance1_381299</b>	SeqNo: <b>6034096</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable)      U      10.0

<b>LCS</b>	Sample ID: <b>WLCS-040821</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:30</b>					
Client ID:	Run ID: <b>Balance1_381299</b>	SeqNo: <b>6034097</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable)      1054      10.0      1000      0      105      85 - 115

<b>DUP</b>	Sample ID: <b>HS21040175-02DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>08-Apr-2021 17:30</b>					
Client ID:	Run ID: <b>Balance1_381299</b>	SeqNo: <b>6034092</b>	PrepDate:	DF: <b>1</b>						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids (Residue, Filterable)      8548      10.0      8636      1.02      5

The following samples were analyzed in this batch:

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381323 ( 0 )      **Instrument:** WetChem\_HS      **Method:** SULFIDE BY SM4500 S2-F

**MBLK**      Sample ID: **MBLK-R381323**      Units: **mg/L**      Analysis Date: **08-Apr-2021 14:30**  
 Client ID:      Run ID: **WetChem\_HS\_381323** SeqNo: **6034646**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      U      1.00

**LCS**      Sample ID: **LCS-R381323**      Units: **mg/L**      Analysis Date: **08-Apr-2021 14:30**  
 Client ID:      Run ID: **WetChem\_HS\_381323** SeqNo: **6034645**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      22.24      1.00      25      0      89.0      85 - 115

**LCSD**      Sample ID: **LCSD-R381323**      Units: **mg/L**      Analysis Date: **08-Apr-2021 14:30**  
 Client ID:      Run ID: **WetChem\_HS\_381323** SeqNo: **6034644**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      22.04      1.00      25      0      88.2      85 - 115      22.24      0.903      20

**MS**      Sample ID: **HS21040014-10MS**      Units: **mg/L**      Analysis Date: **08-Apr-2021 14:30**  
 Client ID: **CM-1B**      Run ID: **WetChem\_HS\_381323** SeqNo: **6034647**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Sulfide      22.64      1.00      25      -1.36      96.0      80 - 120

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09      HS21040014-10



**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381355 ( 0 )      **Instrument:** ManTech01      **Method:** ALKALINITY BY SM2320B

<b>MBLK</b>		Sample ID: <b>WBLKW1-210411</b>		Units: <b>mg/L</b>		Analysis Date: <b>11-Apr-2021 17:01</b>			
Client ID:		Run ID: <b>ManTech01_381355</b>		SeqNo: <b>6035312</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00							
Alkalinity, Carbonate (As CaCO3)	U	5.00							
Alkalinity, Hydroxide (As CaCO3)	U	5.00							
Alkalinity, Total (As CaCO3)	U	5.00							

<b>LCS</b>		Sample ID: <b>LCS1-210411</b>		Units: <b>mg/L</b>		Analysis Date: <b>11-Apr-2021 17:09</b>			
Client ID:		Run ID: <b>ManTech01_381355</b>		SeqNo: <b>6035313</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	921.6	5.00	1000	0	92.2	85 - 115			
Alkalinity, Total (As CaCO3)	939.4	5.00	1000	0	93.9	85 - 115			

<b>LCSD</b>		Sample ID: <b>LCSD1-210411</b>		Units: <b>mg/L</b>		Analysis Date: <b>11-Apr-2021 17:17</b>			
Client ID:		Run ID: <b>ManTech01_381355</b>		SeqNo: <b>6035314</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	915.4	5.00	1000	0	91.5	85 - 115	921.6	0.683	20
Alkalinity, Total (As CaCO3)	935.1	5.00	1000	0	93.5	85 - 115	939.4	0.453	20

<b>DUP</b>		Sample ID: <b>HS21040023-01DUP</b>		Units: <b>mg/L</b>		Analysis Date: <b>11-Apr-2021 17:31</b>			
Client ID:		Run ID: <b>ManTech01_381355</b>		SeqNo: <b>6035316</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	196.8	5.00					195.9	0.479	20
Alkalinity, Carbonate (As CaCO3)	U	5.00					0	0	20
Alkalinity, Hydroxide (As CaCO3)	U	5.00					0	0	20
Alkalinity, Total (As CaCO3)	196.8	5.00					195.9	0.479	20

The following samples were analyzed in this batch: HS21040014-08      HS21040014-09      HS21040014-11

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381433 ( 0 )      **Instrument:** ManTech01      **Method:** ALKALINITY BY SM2320B

<b>MBLK</b>		Sample ID: <b>WBLKW1-210412</b>		Units: <b>mg/L</b>		Analysis Date: <b>12-Apr-2021 17:31</b>			
Client ID:		Run ID: <b>ManTech01_381433</b>		SeqNo: <b>6037746</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00							
Alkalinity, Carbonate (As CaCO3)	U	5.00							
Alkalinity, Hydroxide (As CaCO3)	U	5.00							
Alkalinity, Total (As CaCO3)	U	5.00							

<b>LCS</b>		Sample ID: <b>LCS1-210412</b>		Units: <b>mg/L</b>		Analysis Date: <b>12-Apr-2021 17:39</b>			
Client ID:		Run ID: <b>ManTech01_381433</b>		SeqNo: <b>6037747</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	974.4	5.00	1000	0	97.4	85 - 115			
Alkalinity, Total (As CaCO3)	1010	5.00	1000	0	101	85 - 115			

<b>LCSD</b>		Sample ID: <b>LCSD1-210412</b>		Units: <b>mg/L</b>		Analysis Date: <b>12-Apr-2021 17:48</b>			
Client ID:		Run ID: <b>ManTech01_381433</b>		SeqNo: <b>6037748</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	968.8	5.00	1000	0	96.9	85 - 115	974.4	0.583	20
Alkalinity, Total (As CaCO3)	1006	5.00	1000	0	101	85 - 115	1010	0.401	20

<b>DUP</b>		Sample ID: <b>HS21040220-04DUP</b>		Units: <b>mg/L</b>		Analysis Date: <b>12-Apr-2021 18:00</b>			
Client ID:		Run ID: <b>ManTech01_381433</b>		SeqNo: <b>6037750</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	102.7	5.00					102.5	0.214	20
Alkalinity, Carbonate (As CaCO3)	U	5.00					0	0	20
Alkalinity, Hydroxide (As CaCO3)	U	5.00					0	0	20
Alkalinity, Total (As CaCO3)	102.7	5.00					102.5	0.214	20

The following samples were analyzed in this batch: HS21040014-01      HS21040014-07

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381481 ( 0 )      **Instrument:** WetChem\_HS      **Method:** PH BY SM4500H+ B

**DUP**      Sample ID: **HS21040014-08DUP**      Units: **pH Units**      Analysis Date: **13-Apr-2021 14:02**  
 Client ID: **CM-1A**      Run ID: **WetChem\_HS\_381481** SeqNo: **6038529**      PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

pH	7.62	0.100					7.61	0.131	10
Temp Deg C @pH	20.8	0					20.8	0	10

The following samples were analyzed in this batch: HS21040014-08      HS21040014-11

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

Batch ID: R381581 ( 0 )		Instrument: ICS-Integrion		Method: ANIONS BY E300.0						
<b>MBLK</b>	Sample ID: <b>MBLK-</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 09:53</b>					
Client ID:		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6040718</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	U	0.500								
<b>LCS</b>	Sample ID: <b>LCS-</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 10:11</b>					
Client ID:		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6042026</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	19.62	0.500	20	0	98.1	90 - 110				
<b>MS</b>	Sample ID: <b>HS21040704-01MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 19:42</b>					
Client ID:		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6042061</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	14.34	0.500	10	3.796	105	80 - 120				
<b>MS</b>	Sample ID: <b>HS21040014-01MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 13:52</b>					
Client ID: <b>MW-22B</b>		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6040812</b>	PrepDate:	DF: <b>200</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	4127	100	2000	2080	102	80 - 120				
<b>MSD</b>	Sample ID: <b>HS21040704-01MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 20:01</b>					
Client ID:		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6042062</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	14.33	0.500	10	3.796	105	80 - 120	14.34	0.0774	20	
<b>MSD</b>	Sample ID: <b>HS21040014-01MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-Apr-2021 14:10</b>					
Client ID: <b>MW-22B</b>		Run ID: <b>ICS-Integrion_381581</b>	SeqNo: <b>6040813</b>	PrepDate:	DF: <b>200</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Sulfate	4129	100	2000	2080	102	80 - 120	4127	0.0344	20	
The following samples were analyzed in this batch:										
	HS21040014-01	HS21040014-02	HS21040014-03	HS21040014-06						
	HS21040014-07	HS21040014-08	HS21040014-09	HS21040014-11						

Revision: 1

Client: Altamira  
Project: WFEC/ MNA Monitoring Program  
WorkOrder: HS21040014

QC BATCH REPORT

Batch ID: R381654 ( 0 )      Instrument: WetChem\_HS      Method: PH BY SM4500H+ B

DUP      Sample ID: HS21040177-02DUP      Units: pH Units      Analysis Date: 15-Apr-2021 12:30

Client ID:      Run ID: WetChem\_HS\_381654      SeqNo: 6042797      PrepDate:      DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
---------	--------	-----	---------	---------------	------	---------------	---------------	------	-----------	------

pH	7.65	0.100					7.65		0	10
Temp Deg C @pH	20.6	0					20.6		0	10

The following samples were analyzed in this batch:

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381678 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0

<b>MBLK</b>		Sample ID: <b>MBLK-</b>		Units: <b>mg/L</b>		Analysis Date: <b>03-Apr-2021 11:41</b>			
Client ID:		Run ID: <b>ICS-Integrion_381678</b>		SeqNo: <b>6043406</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	U	0.500							
Fluoride	U	0.100							
Nitrogen, Nitrate (As N)	U	0.100							

<b>LCS</b>		Sample ID: <b>LCS-</b>		Units: <b>mg/L</b>		Analysis Date: <b>03-Apr-2021 11:59</b>			
Client ID:		Run ID: <b>ICS-Integrion_381678</b>		SeqNo: <b>6043407</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.03	0.500	20	0	95.2	90 - 110			
Fluoride	4.048	0.100	4	0	101	90 - 110			
Nitrogen, Nitrate (As N)	3.759	0.100	4	0	94.0	90 - 110			

<b>MS</b>		Sample ID: <b>HS21040074-05MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>03-Apr-2021 15:41</b>			
Client ID:		Run ID: <b>ICS-Integrion_381678</b>		SeqNo: <b>6043416</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	11.6	0.500	10	1.736	98.6	80 - 120			
Fluoride	2.328	0.100	2	0.1749	108	80 - 120			
Nitrogen, Nitrate (As N)	1.974	0.100	2	0.0895	94.2	80 - 120			

<b>MS</b>		Sample ID: <b>HS21040074-02MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>03-Apr-2021 16:54</b>			
Client ID:		Run ID: <b>ICS-Integrion_381678</b>		SeqNo: <b>6043420</b>		PrepDate:		DF: <b>20</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	232.4	10.0	200	32.78	99.8	80 - 120			
Fluoride	42.03	2.00	40	1.084	102	80 - 120			
Nitrogen, Nitrate (As N)	40.23	2.00	40	1.662	96.4	80 - 120			

Revision: 1

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QC BATCH REPORT**

**Batch ID:** R381678 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0

MSD		Sample ID: HS21040074-05MSD		Units: mg/L		Analysis Date: 03-Apr-2021 15:59				
Client ID:		Run ID: ICS-Integrion_381678		SeqNo: 6043417		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.47	0.500	10	1.736	97.3	80 - 120	11.6	1.14	20	
Fluoride	2.198	0.100	2	0.1749	101	80 - 120	2.328	5.75	20	
Nitrogen, Nitrate (As N)	1.955	0.100	2	0.0895	93.3	80 - 120	1.974	1.01	20	

MSD		Sample ID: HS21040074-02MSD		Units: mg/L		Analysis Date: 03-Apr-2021 17:13				
Client ID:		Run ID: ICS-Integrion_381678		SeqNo: 6043421		PrepDate:		DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	229.8	10.0	200	32.78	98.5	80 - 120	232.4	1.13	20	
Fluoride	42.21	2.00	40	1.084	103	80 - 120	42.03	0.432	20	
Nitrogen, Nitrate (As N)	39.9	2.00	40	1.662	95.6	80 - 120	40.23	0.834	20	

The following samples were analyzed in this batch: HS21040014-11

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**WorkOrder:** HS21040014

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<b>Acronym</b>	<b>Description</b>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program



**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

<b>Agency</b>	<b>Number</b>	<b>Expire Date</b>
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

**Client:** Altamira  
**Project:** WFEC/ MNA Monitoring Program  
**Work Order:** HS21040014

**SAMPLE TRACKING**

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Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21040014-01	MW-22B	Login	4/1/2021 1:11:53 PM	PMG	Disposed
HS21040014-01	MW-22B	Login	4/1/2021 1:11:53 PM	PMG	Disposed
HS21040014-01	MW-22B	Login	4/1/2021 1:11:53 PM	PMG	Disposed
HS21040014-01	MW-22B	Login	4/1/2021 1:11:53 PM	PMG	Disposed
HS21040014-01	MW-22B	Login	4/1/2021 1:11:53 PM	PMG	Disposed

Sample Receipt Checklist

Work Order ID: HS21040014

Date/Time Received: 01-Apr-2021 11:50

Client Name: Enviro Clean Services-Tulsa

Received by: Pablo Martinez

Completed By: /S/ Paresh M. Giga	01-Apr-2021 13:29	Reviewed by: /S/ RJ Modashia	01-Apr-2021 15:17
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water**

Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes  No  Not Present
- Chain of custody present? Yes  No  1 Page(s)
- Chain of custody signed when relinquished and received? Yes  No  COC IDs:None
- Samplers name present on COC? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s):	0.6C; 0.9C; 0.7C U/C	IR31
Cooler(s)/Kit(s):	47163/47164/47165	
Date/Time sample(s) sent to storage:	4/1/2021 13:45	

- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  N/A
- pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Work Order ID: HS21040014

Date/Time Received: 01-Apr-2021 11:50

Client Name: Enviro Clean Services-Tulsa

Received by: Pablo Martinez

Completed By: /S/ Jared R. Makan 02-Apr-2021 14:44 Reviewed by: /S/ RJ Modashia 05-Apr-2021 10:58
eSignature Date/Time eSignature Date/Time

Matrices: Water

Carrier name: FedEx Priority Overnight

- Shipping container/cooler in good condition? Yes [checked] No [ ] Not Present [ ]
Custody seals intact on shipping container/cooler? Yes [checked] No [ ] Not Present [ ]
Custody seals intact on sample bottles? Yes [ ] No [ ] Not Present [checked]
VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes [ ] No [ ] Not Present [checked]
Chain of custody present? Yes [checked] No [ ]
Chain of custody signed when relinquished and received? Yes [checked] No [ ]
Samplers name present on COC? Yes [checked] No [ ]
Chain of custody agrees with sample labels? Yes [checked] No [ ]
Samples in proper container/bottle? Yes [checked] No [ ]
Sample containers intact? Yes [checked] No [ ]
Sufficient sample volume for indicated test? Yes [checked] No [ ]
All samples received within holding time? Yes [checked] No [ ]
Container/Temp Blank temperature in compliance? Yes [checked] No [ ]

Temperature(s)/Thermometer(s): 0.8°C UC/C IR31
Cooler(s)/Kit(s): 47025
Date/Time sample(s) sent to storage: 04/02/2021 14:25

- Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [checked] No [ ] N/A [ ]
pH adjusted? Yes [ ] No [checked] N/A [ ]

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

**Sample Receipt Checklist**

Work Order ID: HS21040014

Date/Time Received: **01-Apr-2021 11:50**

Client Name: Enviro Clean Services-Tulsa

Received by: **Pablo Martinez**

Completed By: <u>/S/ Jared R. Makan</u>	03-Apr-2021 12:10	Reviewed by: <u>/S/ RJ Modashia</u>	05-Apr-2021 10:58
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

- |   |   |  |   |
|---|---|--|---|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>            |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/> |
| VOA/TX1005/TX1006 Solids in hermetically sealed vials?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | 1 Page(s)                                       |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Samplers name present on COC?                           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Sample containers intact?                               | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |   |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |

Temperature(s)/Thermometer(s):	1.1°C UC/C	IR31
Cooler(s)/Kit(s):	47121	
Date/Time sample(s) sent to storage:	04/03/2021 12:11	
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/> No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
pH adjusted by:	<input style="width: 100%;" type="text"/>	

Login Notes: CM-1B (Collected 04/01/2021 16:02) - Cap on un-preserved 500ml bottle not tightened down, cap dislodged from bottle during shipping. All sample leaked out, unable to run pH, TDS, Alk, Anions & Cond.

Client Contacted:	Date Contacted:	Person Contacted:
Contacted By:	Regarding:	
Comments: <input style="width: 100%; height: 30px;" type="text"/>		
Corrective Action: <input style="width: 100%; height: 30px;" type="text"/>		

**Sample Receipt Checklist**

Work Order ID: HS21040014

Date/Time Received: **01-Apr-2021 11:50**

Client Name: Enviro Clean Services-Tulsa

Received by: **Pablo Martinez**

Completed By: <u>/S/ Jared R. Makan</u>	03-Apr-2021 12:17	Reviewed by: <u>/S/ RJ Modashia</u>	05-Apr-2021 10:57
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water**

Carrier name: **FedEx Priority Overnight**

- |   |   |  |   |
|---|---|--|---|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>            |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/> |
| VOA/TX1005/TX1006 Solids in hermetically sealed vials?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | 1 Page(s)                                       |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Samplers name present on COC?                           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Chain of custody agrees with sample labels?             | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |   |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Sufficient sample volume for indicated test?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |   |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |

Temperature(s)/Thermometer(s):	1.6°C UC/C	IR31
Cooler(s)/Kit(s):	45555	
Date/Time sample(s) sent to storage:	04/03/2021 12:18	

- |  |   |  |  |
|--|---|--|--|
| Water - VOA vials have zero headspace? | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | N/A <input type="checkbox"/>                               |
| pH adjusted?                           | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | N/A <input type="checkbox"/>                               |

pH adjusted by:

Login Notes: Sample ID differs: COC = CM-1B, Bottles = CM-3B. Sample identified by matching the collection time - 04/02/2021 12:15. Logged in as CM-3B per bottles.  
Limited volume received: Approximately 200ml of neat volume. No volume received for Ferrous Fe.

Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

Corrective Action:

CHAIN OF CUSTODY RECORD



PROJECT NUMBER: **WFEE160021/2001**

PROJECT NAME: **All Wells on the same Lab WFO WFEC / MNA Monitoring Program** COC: **1** of **1**

CLIENT CONTACT: **Heather Tiffany/Bert Smith**

CLIENT EMAIL: **Heather.N.Tiffany@Altamira-us.com** CLIENT PHONE: **405-618-2021**

LABORATORY / LAB PM: **ALS/RJ Modashian**

CLIENT ADDRESS: **3700 West Robinson Street Surt 200, Norman, OK 73072**

TAT: **Standard**

LAB ADDRESS: **10450 Stancliff Road Surt 250 Houston TX 77049**

SPECIAL INSTRUCTIONS: **\* App A : B, Ca, Cl, F, pH, SO<sub>3</sub>, TDS Short Hold : Nitrate & Ferrous Fe**

SHIPMENT METHOD: **Fed Ex**

TRACKING:

NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	PARAMETERS										HOLD
		Appendix A*	Nitrate as N (Short hold)	Spec. Conductivity	Fe + Mo, Total	Fe, Ferrous + Ferric	Disolved Fe, Mn, Ferric Fe	K, Mg, Na	Sulfide	HCO <sub>3</sub> , CO <sub>2</sub> Hydroxide Alkalinity		
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	
		X	X	X	X	X	X	X	X	X	X	

HS21040014

Altamira  
WFEC/ MNA Monitoring Program



SAMPLER(S) NAME: **Dash Welford Brad VanBeane**

DATE: **3/31/21**  
TIME: **1400**

Total # of Containers:

SAMPLER(S) SIGNATURE: *[Signature]*

DATE: **3/31/21**  
TIME: **1400**

RELINQUISHED BY: *[Signature]*

DATE: **3/31/21**  
TIME: **1400**

RECEIVED BY: *[Signature]*

DATE: **4-1-21**  
TIME: **11:50**

LOGGED BY: *[Signature]*

DATE:   
TIME:   
COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN:  Norman  Oklahoma City  Tulsa  Yukon  Midland  Other :

ALTAMIRA-US, LLC 47163 0.66 47165 0.7C  
47164 0.91 1R3160

CHAIN OF CUSTODY RECORD



PROJECT NUMBER: **WFEE/60021/2001** PROJECT NAME: **WFEC/MNA program** COC: **2** of **1**

CLIENT CONTACT: **Bert Smith / Heather Tiffany** CLIENT EMAIL: **labdata@altamira-us.com** CLIENT PHONE: **405-618-2021**

LABORATORY / LAB PM: **ALS / RS**

CLIENT ADDRESS: **525 Central Park Dr Ste 500 OKC, OK 73105**

TAT: **Standard**

LAB ADDRESS:

SPECIAL INSTRUCTIONS: **App A - B, Ca, Cl, F, PH, SO<sub>3</sub>, TDS**

SHIPMENT METHOD: **FedEx**

TRACKING:

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES/NO)	App. A	Nitrates as N	Spec. Conductivity	Fe & Mo total	Fe, Ferrous & Ferric	Dissolved Fe Ferrous	Dissolved Fe Mo Ferric	K, Mg, Na	Sulfide	HCO <sub>3</sub> , CO <sub>3</sub> , Hydroxide	HAL/ALUMINUM	HOLD
1	CM-1A	4/1/21	1242	W	1,2,4,9	5	X	X	X	X	X	X	X	X	X	X	X	X	
2	CM-2	4/1/21	1129	W	1,2,4,9	5	X	X	X	X	X	X	X	X	X	X	X	X	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

*[Handwritten signature and scribbles across the table area]*

**HS21040014**  
 Altamira  
 WFEC/ MNA Monitoring Program

SAMPLER(S) NAME: **Brad VanCleave** DATE: **4/1/21** TIME: **1400** Total # of Containers: **10** SAMPLER(S) SIGNATURE: **Brad VanCleave** DATE: **4/1/21** TIME: **1400**

RELINQUISHED BY: **Brad VanCleave** DATE: **4/1/21** TIME: **1400** RECEIVED BY: **Paula Moore** DATE: **4-2-21** TIME: **10:30** LOGGED BY: **Paula Moore** DATE: **4/1/21** TIME: **1400** COOLER TEMP:



PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN:  Norman  Oklahoma City  Tulsa  Yukon  Midland  Other :

ALTAMIRA-US, LLC 47122 0.76 47025 0.86 1R31  
 25518 0.86 46226 0.96 CPO



CHAIN OF CUSTODY RECORD

 <p><b>ALTAMIRA</b> formerly known as Enviro Clean Cardinal</p>		PROJECT NUMBER: NF EG 100021 / 2001		PROJECT NAME: WFEC / MNA		COC: 	
LABORATORY / LAB PM: ALS		CLIENT CONTACT: Heather T. Stamm / Bert Smith		CLIENT PHONE: 405-618-2021		CLIENT EMAIL: bobdata@altamira-us.com	
LAB ADDRESS: 525		CLIENT ADDRESS: 525		TAT: Standard		TAT: Standard	
SHIPMENT METHOD: FedEx		TRACKING:		SPECIAL INSTRUCTIONS: App A - B, C, D, F, pH, SO <sub>3</sub> , TDS		PARAMETERS	
NO.		SAMPLE DESCRIPTION		DATE		TIME	
NO.		MATRIX		PRES.		HOLD	
1	CM-1B	4/16/21	1602	W	1249		
2						X	App Rate
3						X	N. trace as N
4						X	Specific conductivity
5						X	Fe at 100 Total
6						X	Fe, Ferrus & Forme
7						X	Fe Dissolved Fe Ferrus
8						X	Dissolved Fe, Mo, Ferrus
9						X	K, Mg, Na
10						X	Sulfide
11						X	HClO <sub>3</sub> Cl <sub>2</sub> , Hydrochloric
12						X	Alkalinity
13							
14							
15							

**HS21040014**

Altamira  
WFEC/ MNA Monitoring Program



SAMPLER(S) NAME: Brad VanCleave / Patricia Khopou  
 RECEIVED BY: Brad VanCleave  
 DATE: 4/12/21  
 TIME: 1:40  
 RECEIVED BY: S. M...  
 DATE: 4/3/21  
 TIME: 10:30  
 LOGGED BY: Brad VanCleave / Patricia Khopou  
 DATE: 4/11/21  
 TIME: 1:10  
 COOLER TEMP: 1.1°C

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-4 Degrees C 8-9035 9-Other: None  
 POINT OF ORIGIN:  Norman  Oklahoma City  Tulsa  Yukon  Midland  Other:

Color 47121  
IR31 CFU

CHAIN OF CUSTODY RECORD



PROJECT NUMBER: **WFEE160021 / 2001** PROJECT NAME: **WFE C/MNA program** COC:        of       

CLIENT CONTACT: **Heather Tiffany Bert Smith** CLIENT EMAIL: **labdata@altamira-us.com** CLIENT PHONE: **405-618-2021**

LABORATORY / LAB PM: **ALS** CLIENT ADDRESS: **525 Central Park Dr Ste 500 OKC, OK 73105**

LAB ADDRESS: SPECIAL INSTRUCTIONS: **\* App A - B, Ca, Cl, F, PH, SO4, TDS**

SHIPMENT METHOD: **FEDEx** TRACKING: **Standard**

NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	PARAMETERS										HOLD
		App A	Nitrate as N	Spec. Conductivity	Fe & Mo	Dissolved: Ferric Fe	Dissolved Fe, Mg, Ferric Fe	K, Mg, Na	HCO <sub>3</sub> , CO <sub>3</sub> , Hydroxide	Alkalinity		

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.
1	CM-1B	4/2/21	<del>1245</del>	W	1, 2, 19
2	Temp Blank		<del>1215</del>	W	<del>3</del>
3			8V		
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

**HS21040014**

Altamira  
WFEC/ MNA Monitoring Program



SAMPLER(S) NAME: **Brad VanCleave** DATE: **4/2/21** TIME: **1800** Total # of Containers:  SAMPLER(S) SIGNATURE: **Brad VanCleave** DATE: **4/2/21** TIME: **1800**

RELINQUISHED BY: **Bradley VanCleave** DATE: **4/2/21** TIME: **1800** RECEIVED BY: **J. M. M...** DATE: **4/3/21** TIME: **12:30** LOGGED BY:  DATE:  TIME:  COOLER TEMP: **1.0 °C**

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN:  Norman  Oklahoma City  Tulsa  Yukon  Midland  Other :

ALTAMIRA-US, LLC

Cash 45555  
11231 CFO

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

47164

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

47164

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

47165

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

47165

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

**CUSTODY SEAL**

Seal Broken By: *[Signature]*

Date: 3/31/21 Time: 1400

Name: *[Signature]* Date: 4/1/2021

Company: *[Signature]*

FedEx

TRK# 9473 0841 3106

THU - 01 APR AA  
 PRIORITY OVERNIGHT

AB SGRA

77099  
 TX-US  
 IAH



FedEx

TRK# 9473 0841 3080

THU - 01 APR AA  
 PRIORITY OVERNIGHT

AB SGRA

47164 77099  
 TX-US  
 IAH



FedEx

TRK# 9473 0841 3070

THU - 01 APR AA  
 PRIORITY OVERNIGHT

AB SGRA

47165 77099  
 TX-US  
 IAH





10450 Stancliff Road, Suite 210  
Houston, TX 77099  
T: +1 281 530 5656  
F: +1 281 530 5887  
www.alsglobal.com

Client: Altamira Date: 4/1/2021 WO#: \_\_\_\_\_

Time Received: 11:50 Received by: P. M. BO#: 77182  
77183

Matrices: Solid/Sludge Water Oil Wipes Hydrocarbon Liquid Other

Kit ID/Cooler ID	Trip Blank ID	Cooler Temp (C) Observed/Corrected	IR #	Temp BLK Present?
47163	-	0.6° / 0.6°	431	<u>Y</u> N
47164	-	0.9° / 0.9°	431	<u>Y</u> N
47165	-	0.7° / 0.7°	431	<u>Y</u> N
		/		Y N
		/		Y N

Delivery Method: FedEx UPS Greyhound ALS Client Other \_\_\_\_\_

Date/Time of Unpacking: 4/1/2021, 13:10 Unpacked by: [Signature]

Shipping container/cooler in good condition? Yes No Not Present  
 Custody seals intact on shipping container/cooler? Yes No Not Present  
 Custody seals intact on sample bottles? Yes No Not Present  
 Chain of Custody present? Yes No  
 Chain of Custody signed when relinquished and received? Yes No  
 Chain of Custody - Sampler's name present? Yes No  
 Chain of Custody agrees with sample labels? Yes No  
 Samples in proper container/bottle? Yes No  
 VOA/TX1005/1006 Solids in hermetically Sealed Vials: Yes No No VOA/TX1005/1006 Solid  
 Sample containers intact? Yes No  
 Sufficient sample volume for indicated test? Yes No  
 All samples received within holding time? Yes No  
 Container/Temp Blank temperature in compliance? Yes No  
 Water - VOA vials have zero headspace? Yes No N/A No VOA submitted  
 Non-VOA waters preserved with HCl, H2SO4, HNO3 are pH <2? Yes No N/A  
 Waters preserved with NaOH/Ascorbic acid are pH >12? Yes No N/A  
 pH adjusted? Yes\* No N/A \*See Preservation Logbook  
 pH adjusted by: \_\_\_\_\_ pH Paper Lot: 30010705822

**ALS**  
 10450 Stancliff Rd., Suite  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

210	<b>CUSTODY SEAL</b>	Seal Broken By: JM
Date: 4/1/21	Time: 1400	Date: 4/2/21
Name:		
Company:		

**ALS**  
 10450  
 Houston  
 Tel. +1  
 Fax. +

Stancliff Rd., Suite 210 Houston, Texas 77099 281 530 5656 1 281 530 5887	<b>CUSTODY SEAL</b>	Seal Broken By: JM
Date: 4/1/21	Time: 1400	Date: 4/2/21
Name:		
Company:		

**FedEx**  
 TRK#  
 0221 9473 0841 1765

FRI - 02 APR AA  
 PRIORITY OVERNIGHT

**FedEx**  
 TRK#  
 0221 9473 0841 3069

FRI - 02 APR AA  
 PRIORITY OVERNIGHT

**AB SGRA**

77099  
 TX-US  
 IAH

**AB SGRA**

77099  
 TX-US  
 IAH



RT 917  
 FZ B03  
 10:30  
 1765  
 04.02

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

Date: 4/1	Time: 1400	Seal Broken By: JM
Name:		Date: 4/2/21
Company:		

**ALS**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

Date: 4/1/21	Time: 1400	Seal Broken By: JM
Name:		Date: 4/2/21
Company:		

**ALS**  
 10450 Stancilff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

CUSTOMER SEAL  
 Date: 4/1/21  
 Name: [Signature]  
 Company: [Signature]

CUSTOMER SEAL  
 Time: 1400  
 Seal Broken By: Jm  
 Date: 4/2/21

**ALS**  
 10450 Stancilff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

CUSTOMER SEAL  
 Date: 4/1/21  
 Name: [Signature]  
 Company: [Signature]

CUSTOMER SEAL  
 Time: 1400  
 Seal Broken By: Jm  
 Date: 4/2/21

**FedEx**  
 TRK# 0221 9473 0841 3025  
**AB SGRA**  
 FRI - 02 APR AA  
 PRIORITY OVERNIGHT  
 77099  
 TX-US  
 IAH

Barcode  
 FID: 586258 01Apr2021 SWIA 56RC2 /SFF2 /1103

**FedEx**  
 TRK# 0221 9473 0841 3047  
**AB SGRA**  
 FRI - 02 APR AA  
 PRIORITY OVERNIGHT  
 77099  
 TX-US  
 IAH

Barcode  
 FID: 586258 01Apr2021 SWIA 56RC2 /SFF2 /1103

**ALS**  
 10450 Stancilff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

CUSTOMER SEAL  
 Date: 4/1/21  
 Name: [Signature]  
 Company: [Signature]

CUSTOMER SEAL  
 Time: 1400  
 Seal Broken By: Jm  
 Date: 4/2/21

**ALS**  
 10450 Stancilff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

CUSTOMER SEAL  
 Date: 4/1/21  
 Name: [Signature]  
 Company: [Signature]

CUSTOMER SEAL  
 Time: 1400  
 Seal Broken By: Jm  
 Date: 4/2/21

# **ATTACHMENT C**

TABULATION OF DATA

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S
	Sample Date:	14-Aug-17	22-May-18	1-Aug-18	10-Aug-18	2-Oct-18	10-Jan-19	23-Apr-19	2-Oct-19	18-Jun-20	12-Oct-20	1-Apr-21
Total Alkalinity as CaCO3	mg/L	418	---	---	---	---	---	---	---	412	444	405
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	---	---	---	15	20.5	<5
Bicarbonate Alkalinity as CaCO3	mg/L	418	---	---	---	---	---	---	---	397	424	405
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	---	---	---	<5.00	<5.00	<5
Boron	mg/L	1.29	1.05	1.06	3.09	2.82	2.73	1.87	2.49	0.811	2.57	2.04
Calcium	mg/L	46.6	74.7	59.1	24.9 J	25	27.7	57	22.5	68.2	19.6	33.4
Chloride	mg/L	18.7	25	18.7	26.1	28.3	30.5	21.8	25.1	19.5	25.6	23.9
Dissolved Oxygen (field)	mg/L	0.05	0.13	5.05	1.37	0.21	0.63	0.85	0.45	1.89	0.32	0.81
Fluoride	mg/L	1.17	1.38	1.02	1.5	1.54	1.54	1.11	1.54	0.824	1.51	1.24
Iron, Total	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	0.0170 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	<0.0120
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	<0.020
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.020
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0290 J	<0.0200	<0.020
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.020
Magnesium	mg/L	5.19	---	---	---	---	5.73	---	---	5.16	4.38	4.53
Molybdenum, Total	mg/L	0.00737	---	0.00497	0.00387	<0.005	0.00512	0.00485 J	0.00315 J	0.00361 J	0.00244 J	0.00234 J
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.00335 J	---	---	0.00308 J	0.00244 J	0.00287 J
Nitrate as N	mg/L	---	---	---	---	0.089 J	0.964	0.665	0.212	<0.0300	<0.0300	0.631
Oxidation-Reduction Potential (field)	mV	21.5	-104.7	142.8	-40.1	-125.1	-30.9	19.7	-54.1	-48.2	168.1	283.3
pH (laboratory)	S.U.	7.5	7.6	7.7	8	8.7	7.65	8.11	7.55	7.65	8.21	7.9
pH (field)	S.U.	7.79	7.85	7.19	7.62	7.61	7.56	7.95	7.91	7.9	7.83	7.74
Potassium	mg/L	4.14	---	---	---	---	4.49	---	---	3.48	3.94	3.25
Sodium	mg/L	307	---	---	---	---	405	---	---	277	335	312
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	1730	1870	---	---	---	1960	1770
Specific Conductance (field)	umhos/cm	1760	1516	1516	1843	1871	1791	1669	1826	1665	1794	1745
Sulfate	mg/L	301	369	294	384	447	457	394	434	408	485	477
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	<1.00	<1
Temperature (field)	°C	22.46	20.24	25.07	23.59	25.3	13.4	18.78	25.18	24.37	21.5	14.7
Total Dissolved Solids	mg/L	980	950	880	1150	1140	1120	1090	1180	904	1080	1140
Turbidity (field)	NTU	1.14	0.41	0.02	1.12	3.3	4.51	1.16	0.94	2.88	1.97	2.85
Filtered Turbidity (field)	NTU	---	---	---	---	---	1.27	---	---	---	1.97	1.19

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.



**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S
	Sample Date:	10-Aug-17	17-May-18	3-Aug-18	10-Aug-18	4-Oct-18	10-Jan-19	23-Apr-19	1-Oct-19	17-Jun-20	9-Oct-20	30-Mar-21
Total Alkalinity as CaCO3	mg/L	311	---	---	---	---	222	---	---	264	315	180
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO3	mg/L	311	---	---	---	---	222	---	---	264	315	180
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Boron	mg/L	2.21	1.25	0.283	3.31	2.7	0.839	0.848	1.99	1.33	2.29	0.677
Calcium	mg/L	80.6	178	90.3	142	76	277	271	81	160	90.2	254
Chloride	mg/L	16.2	17.6	16.4	17	16.1	18.7	19.7	16.3	18	16.9	20.5
Dissolved Oxygen (field)	mg/L	0.08	0.22	1.61	2.95	0.45	0.23	0.84	0.51	0.49	0.33	0.31
Fluoride	mg/L	0.744	0.509	0.771	0.664	0.764	0.422	0.376	0.729	0.479	0.713	0.444
Iron, Total	mg/L	---	---	---	---	---	---	---	---	0.278	0.111 J	0.0145 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	0.0340 J	0.235	0.0154 J
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.306	0.216	<0.02
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Magnesium	mg/L	10.7	---	---	---	---	19	---	---	17.1	12	16.9
Molybdenum, Total	mg/L	0.00171 J	---	0.00127 J	<0.001	<0.01	0.00105 J	0.000952 J	0.000798 J	0.00105 J	0.00106 J	0.000755 J
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.00107 J	---	---	0.000987 J	0.00103 J	0.000846 J
Nitrate as N	mg/L	---	---	---	---	0.118	0.557	<0.03	<0.03	<0.0300	<0.0300	<0.06
Oxidation-Reduction Potential (field)	mV	57.6	-58.8	-20.8	-30.7	-129.1	-6.3	-61.6	-133.8	-67.6	-90.1	83.3
pH (laboratory)	S.U.	7.4	7.6	7.6	7.7	8	7.34	7.82	7.39	7.55	7.79	7.32
pH (field)	S.U.	7.22	7.4	6.92	7.22	7.35	7.08	7.42	7.53	7.37	7.52	7.24
Potassium	mg/L	4.95	---	---	---	---	4.67	---	---	5.33	5.1	4.06
Sodium	mg/L	273	---	---	---	---	274	---	---	313	272	230
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	1610	2240	---	---	---	2110	2380
Specific Conductance (field)	umhos/cm	1680	2101	1822	1932	1887	2180	2326	1944	2097	1945	2377
Sulfate	mg/L	450	860	545	623	1600	1200	1040	633	970	759	1200
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	1.48	<1
Temperature (field)	°C	24.46	19.6	29.34	25.21	25	12.8	17.92	25.27	21.95	23.1	16.8
Total Dissolved Solids	mg/L	1120	1600	1210	1330	1230	1670	1890	1270	1680	1340	2060
Turbidity (field)	NTU	3.45	2.29	3.37	1.76	8.01	0.67	0.71	0.88	2.49	0.85	5.81
Filtered Turbidity (field)	NTU	---	---	---	---	---	0.64	---	---	---	0.85	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A
	Sample Date:	9-Aug-17	17-May-18	1-Aug-18	9-Aug-18	4-Oct-18	11-Jan-19	24-Apr-19	2-Oct-19	17-Jun-20	8-Oct-20	31-Mar-21
Total Alkalinity as CaCO3	mg/L	280	---	---	---	---	---	---	---	327	327	332
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	---	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO3	mg/L	280	---	---	---	---	---	---	---	327	327	332
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	---	---	---	<5.00	<5.00	<5
Boron	mg/L	0.764	1.14	0.925	1.8	1.18	1.42	1.23	0.98	0.907	0.882	0.839
Calcium	mg/L	672	313	341	746	319	402	314	306	280	278	298
Chloride	mg/L	13.8	15.3	15	16	14.2	14	13.5	14.2	13.3	14.9	14.3
Dissolved Oxygen (field)	mg/L	0.1	0.24	252	1.65	0.31	0.19	1.45	0.62	0.79	0.59	0.34
Fluoride	mg/L	0.312	0.292	0.333	0.296	0.281	0.269	0.377 J	0.286	0.23	0.254 J	0.284
Iron, Total	mg/L	---	---	---	---	---	---	---	---	0.0771 J	0.236	0.162 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	0.169 J	0.150 J
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	0.107
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	0.116
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.098	0.184	0.055
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	0.034 J
Magnesium	mg/L	24.4	---	---	---	---	---	---	---	26.6	26.2	25.9
Molybdenum, Total	mg/L	0.00223	---	<0.001	<0.01	<0.01	0.00170 J	0.00104 J	0.000709 J	0.000760 J	<0.000600	<0.000600
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.00143 J	---	---	0.000768 J	0.000621 J	0.00165 J
Nitrate as N	mg/L	---	---	---	---	0.087 J	0.478	1.64	<0.03	0.316	<0.150	<0.0600
Oxidation-Reduction Potential (field)	mV	97.7	-48.5	0.2	68.3	13.1	19.5	4.6	27.7	-45.7	107.1	20.5
pH (laboratory)	S.U.	6.9	7.4	7.3	7.1	7.6	7.28	7.61	7.18	7.44	7.41	7.7
pH (field)	S.U.	6.75	7.1	6.82	6.47	6.93	6.9	7.28	7.1	7.04	7.1	7.33
Potassium	mg/L	7.88	---	---	---	---	8.64	---	---	7.66	7.94	7.87
Sodium	mg/L	518	---	---	---	---	516	---	---	382	388	413
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	3000	3270	---	---	---	3660	3260
Specific Conductance (field)	umhos/cm	3186	3301	3415	3410	3491	3251	3386	3435	3107	3394	4453
Sulfate	mg/L	1420	1790	1580	1600	1650	1660	1540	1580	1650	1770	1680
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	<1.00	<1
Temperature (field)	°C	21.41	22.9	25.6	21.33	23.1	16.2	17.75	24.4	21	23.7	15.84
Total Dissolved Solids	mg/L	2680	2700	2700	2730	2710	2590	2680	2750	2780	2630	2680
Turbidity (field)	NTU	0.71	0.37	1.53	0.02	3.17	4.89	2.06	3.88	4.71	2.96	3.52
Filtered Turbidity (field)	NTU	---	---	---	---	---	0.94	---	---	---	2.96	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A
	Sample Date:	9-Aug-17	24-May-18	1-Aug-18	10-Aug-18	2-Oct-18	10-Jan-19	25-Apr-19	2-Oct-19	18-Jun-20	8-Oct-20	31-Mar-21
Total Alkalinity as CaCO3	mg/L	160	---	---	---	---	149	---	---	209	204	196
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO3	mg/L	130	---	---	---	---	149	---	---	209	204	196
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Boron	mg/L	3.38	4.83	3.7	4.14	3.76	3.52	3.61	3.19	4.57	3.33	3.35
Calcium	mg/L	156	160	93.4	129	170	129	92	82.4	141	89.8	78.6
Chloride	mg/L	25.7	26.9	26.6	26.5	26.6	26.3	21.9	25.9	26.3	26.5	27.3
Dissolved Oxygen (field)	mg/L	0.06	0.14	1.62	1.23	0.21	0.41	1.24	0.71	1.39	0.28	4.47
Fluoride	mg/L	1.37	1.76	1.2	1.17	1.21	1.22	1.02	1.24	0.86	1.14	1.13
Iron, Total	mg/L	---	---	---	---	---	---	---	---	0.0535 J	0.0496 J	0.0492 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	0.165 J	0.133 J
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	0.101
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0410 J	0.0210 J	0.054
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	0.032 J
Magnesium	mg/L	9.36	---	---	---	---	12.4	---	---	16.5	11	10.9
Molybdenum, Total	mg/L	0.255	---	0.202	0.182	0.233	0.205	0.219	0.196	0.269	0.167	0.168
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.244	---	---	0.168	0.153	0.159
Nitrate as N	mg/L	---	---	---	---	0.068 J	1.42	1.72	0.287	<0.0600	<0.150	1.14
Oxidation-Reduction Potential (field)	mV	43.1	-101.3	133.1	140.8	-69.9	98	-22.1	-79.5	-50.3	167.2	13.8
pH (laboratory)	S.U.	7.5	7.6	7.8	7.8	8.2	7.02	8.02	7.58	7.68	7.77	7.93
pH (field)	S.U.	7.42	7.72	7.42	7.43	7.53	7.45	7.82	7.71	7.73	7.71	7.82
Potassium	mg/L	5.28	---	---	---	---	5.98	---	---	8.24	5.15	5.47
Sodium	mg/L	541	---	---	---	---	746	---	---	1040	627	594
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	3490	3540	---	---	---	3780	3400
Specific Conductance (field)	umhos/cm	3524	3505	3548	3578	3563	3449	3544	3575	3337	3422	4645
Sulfate	mg/L	1720	1690	1510	1490	1570	1610	1310	1510	1680	1650	1590
Sulfide	mg/L	---	---	---	---	---	---	---	---	1.12	<1.00	<1
Temperature (field)	°C	22.68	21.24	25.05	23.28	23.1	18.5	20.72	27.05	24.09	22.2	16.37
Total Dissolved Solids	mg/L	2710	2660	2490	2610	2650	2590	2570	2500	2520	2460	2420
Turbidity (field)	NTU	1.31	0.39	5.5	1.68	4.11	1.13	0.55	0.84	2.6	1.73	0.88
Filtered Turbidity (field)	NTU	---	---	---	---	---	1.09	---	---	---	0.61	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>MW-15B</b>	<b>MW-15B</b>	<b>MW-15B</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>13-Oct-20</b>	<b>31-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	680	724	771
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	38.1	14.8	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	642	709	771
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	4.27	5.08	3.67
Calcium	mg/L	39.3	38.3	35.1
Chloride	mg/L	60.1	57	57.2
Dissolved Oxygen (field)	mg/L	4.21	5.04	2.4
Fluoride	mg/L	1.23	0.96	1.14
Iron, Total	mg/L	22.7	1.51	7.89
Iron, Dissolved	mg/L	2.11	<0.0120	0.0212 J
Iron, Ferric	mg/L	---	---	7.21
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	2.67	7.52	0.68
Iron, Ferrous, Dissolved	mg/L	---	---	0.235
Magnesium	mg/L	13.2	11.5	10.2
Molybdenum, Total	mg/L	0.0109	0.00876	0.00571
Molybdenum, Dissolved	mg/L	0.016	0.00762	0.00814
Nitrate as N	mg/L	---	36.2	29.4
Oxidation-Reduction Potential (field)	mV	224.1	236.6	211.3
pH (laboratory)	S.U.	7.66	7.87	7.66
pH (field)	S.U.	7.91	7.88	7.43
Potassium	mg/L	10.3	6.72	8.19
Sodium	mg/L	713	836	625
Specific Conductance (laboratory)	umhos/cm	---	4520	4300
Specific Conductance (field)	umhos/cm	3513	2486	4208
Sulfate	mg/L	1280	1340	1560
Sulfide	mg/L	3	5	<1.00
Temperature (field)	°C	21.7	20.7	18
Total Dissolved Solids	mg/L	2390	2940	3080
Turbidity (field)	NTU	568	80.1	>1,000
Filtered Turbidity (field)	NTU	0.72	1.69	0.72

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at the MDL.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16
	Sample Date:	11-Aug-17	22-May-18	1-Aug-18	10-Aug-18	2-Oct-18	16-Jan-19	23-Apr-19	3-Oct-19	18-Jun-20	13-Oct-20	1-Apr-21
Total Alkalinity as CaCO3	mg/L	238	---	---	---	---	256	---	---	232	233	228
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO3	mg/L	238	---	---	---	---	256	---	---	232	233	228
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Boron	mg/L	1.79	1.95	1.9	2.39 J	2.05	2.23	1.85	1.53	1.43	1.78	1.57
Calcium	mg/L	238	122	159	185	221	215	192	149	186	166	140
Chloride	mg/L	18	21.3	20.6	29.6	18	19	15.8	23.8	14.7	14.8	14.4
Dissolved Oxygen (field)	mg/L	0.16	0.37	1.59	2.7	0.25	1.37	0.83	3.67	2.18	1.99	0.46
Fluoride	mg/L	0.817	1.01	0.963	1.17	0.832	0.82	0.741	1.07	0.694	0.893	0.916
Iron, Total	mg/L	---	---	---	---	---	---	---	---	0.0358 J	0.125 J	0.0536 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	0.0160 J	0.0694 J	0.0140 J
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	0.0536
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0380 J	0.0240 J	<0.02
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Magnesium	mg/L	10.3	---	---	---	---	---	---	---	8.44	7.59	7.65
Molybdenum, Total	mg/L	0.181	---	0.145	0.154	0.169	0.18	0.193	0.149	0.172	0.149	0.166
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.18	---	---	0.173	0.16	0.18
Nitrate as N	mg/L	---	---	---	---	0.133	<0.03	0.854	<0.03	<0.0600	<0.0600	0.687
Oxidation-Reduction Potential (field)	mV	60.3	-83.7	186.4	150.4	-131.8	278.9	28.7	-191.5	-56.9	60.2	57.7
pH (laboratory)	S.U.	7.2	7.5	7.5	7.8	8.2	7.33	7.88	7.01	7.6	7.63	7.83
pH (field)	S.U.	7.09	7.57	7.11	7.3	7.53	7.21	7.56	7.82	7.66	7.69	8.12
Potassium	mg/L	3.33	---	---	---	---	4.18	---	---	2.85	3.09	3.12
Sodium	mg/L	272	---	---	---	---	405	---	---	309	316	325
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	2420	2340	---	---	---	2400	2420
Specific Conductance (field)	umhos/cm	2330	2463	2436	2678	2816	2273	2330	2836	2438	2615	3178
Sulfate	mg/L	1020	933	938	998	959	1020	974	1020	1030	929	1070
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	1.4	<1
Temperature (field)	°C	24.61	22.87	23.7	23.74	25.4	14.8	19.31	24.89	21.9	23.5	16.32
Total Dissolved Solids	mg/L	1710	1820	1810	1930	1780	1740	1740	1810	1610	1610	1790
Turbidity (field)	NTU	1.11	1.21	3.49	2.96	2.89	6.82	2.53	1.48	3.09	0.75	2.16
Filtered Turbidity (field)	NTU	---	---	---	---	---	1.03	---	---	---	0.75	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17
	Sample Date:	10-Aug-17	21-May-18	1-Aug-18	10-Aug-18	3-Oct-18	10-Jan-19	25-Apr-19	3-Oct-19	18-Jun-20	12-Oct-20	31-Mar-21
Total Alkalinity as CaCO3	mg/L	260	---	---	---	---	280	---	---	284	273	269
Carbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO3	mg/L	260	---	---	---	---	280	---	---	284	273	269
Hydroxide Alkalinity	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Boron	mg/L	0.666	0.588	0.659	0.845 J	0.567	0.766	0.796	0.622	0.652	0.64	0.539
Calcium	mg/L	528	436	549	787	461	591	499	555	494	453	467
Chloride	mg/L	3.28	3.15	3.84	3.27	4.81	3.44	3.65	3.75	4.29	4.04	4.06
Dissolved Oxygen (field)	mg/L	0.29	0.21	5.57	4.59	0.44	0.51	1.8	0.8	1.35	0.41	0.45
Fluoride	mg/L	0.328	0.324	0.47	0.317	0.393	0.337	0.392 J	0.37	0.211	0.366	0.412
Iron, Total	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	0.0541 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	<0.0120 <sup>#</sup>
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	0.0541 <sup>#</sup>
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02 <sup>#</sup>
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0200 J	<0.0200	<0.02 <sup>#</sup>
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02 <sup>#</sup>
Magnesium	mg/L	36.6	---	---	---	---	38.1	---	---	37.8	30.9	29.3
Molybdenum, Total	mg/L	<0.001	---	<0.001	<0.001	<0.001	<0.0006	0.000671 J	<0.0006	<0.000600	<0.000600	0.000950 J
Molybdenum, Dissolved	mg/L	---	---	---	---	---	<0.0006	---	---	0.00123 J	<0.000600	0.00292 J <sup>#</sup>
Nitrate as N	mg/L	---	---	---	---	0.276	<0.03	<0.150	<0.03	<0.0600	<0.0600	<0.0300
Oxidation-Reduction Potential (field)	mV	65.7	-49.2	172.9	209.4	237.5	57.8	2.4	148.3	-28.1	129.9	37.4
pH (laboratory)	S.U.	6.9	6.9	7.2	7	7.5	6.59	7.53	6.37	7.38	7.51	7.34
pH (field)	S.U.	6.69	6.92	6.64	6.8	6.7	6.67	7.09	6.88	6.8	6.88	7.14
Potassium	mg/L	5.15	---	---	---	---	5.37	---	---	5.15	4.42	4.19
Sodium	mg/L	34.5	---	---	---	---	35.7	---	---	35.6	29.2	28.2
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	1920	2450	---	---	---	2610	2460
Specific Conductance (field)	umhos/cm	2417	2416	2606	2569	2548	2416	2470	2458	2344	2393	3256
Sulfate	mg/L	1450	1140	1310	1340	821	1480	1100	1310	1390	1,220 H	1310
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	<1.00	<1 <sup>#</sup>
Temperature (field)	°C	21.98	20.98	25.04	22.3	23.3	15.9	19.26	23.63	21.2	23.2	18.75
Total Dissolved Solids	mg/L	2140	2360	2340	2380	1670	2300	2400	2160	2230	2160	2200
Turbidity (field)	NTU	0.81	0.52	4.63	14.5	5.4	1.24	0.63	0.65	2.28	0.58	0.64
Filtered Turbidity (field)	NTU	---	---	---	---	---	0.69	---	---	---	0.58	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.
13. # : samples for sulfide, dissolved iron, dissolved molybdenum, total and dissolved ferrous iron, and total and dissolved ferric iron were collected on 4/6/21

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18
	Sample Date:	10-Aug-17	18-May-18	2-Aug-18	10-Aug-18	3-Oct-18	14-Jan-19	25-Apr-19	1-Oct-19	17-Jun-20	12-Oct-20	31-Mar-21
Total Alkalinity as CaCO3	mg/L	77.9	---	---	---	---	75.1	---	---	71	69.9	65.5
Carbonate Alkalinity as CaCO3	mg/L	52.6	---	---	---	---	42.2	---	---	60.6	64.3	46.8
Bicarbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5
Hydroxide Alkalinity	mg/L	25.3	---	---	---	---	32.9	---	---	10.4	5.63	18.7
Boron	mg/L	6.51	6.71	4.86	6.65	5.77	6.89	6.05	5.29	5.49	5.43	4.32
Calcium	mg/L	28.7	28.1	36.1	31.1	25.1	31.8	33.1	25.6	21.6	20	19.3
Chloride	mg/L	6.1	5.19	8.04	5.33	5.5	5.59	4.79	5.07	4.06	4.22	4.2
Dissolved Oxygen (field)	mg/L	0.03	0.17	4.03	0.9	0.21	0.36	1.44	0.33	0.55	0.24	0.39
Fluoride	mg/L	1.38	1.37	1.26	1.35	1.37	1.32	1.25	1.47	1.28	1.66	1.71
Iron, Total	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	<0.0120
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	<0.0120
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0200 J	<0.0200	<0.02
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	<0.02
Magnesium	mg/L	<0.220	---	---	---	---	---	---	---	0.141 J	0.27	0.426
Molybdenum, Total	mg/L	0.39	---	0.113	0.319	0.33	0.333	0.342	0.257	0.194	0.18	0.195
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.332	---	---	0.18	0.166	0.215
Nitrate as N	mg/L	---	---	---	---	0.053 J	0.075 J	<0.05	<0.03	<0.0600	<0.0300	<0.0300
Oxidation-Reduction Potential (field)	mV	28.2	-139.8	-65.1	-119.7	130.1	174.9	-152.8	-71.2	-140.3	-80.5	-49.7
pH (laboratory)	S.U.	10.7	10.1	7.8	10.2	9.8	10.4	10.2	10.3	9.35	10.2	10.5
pH (field)	S.U.	10.54	10.74	9.71	10.41	10.45	10.47	10.93	10.4	10.65	10.4	10.39
Potassium	mg/L	22	---	---	---	---	22.3	---	---	15.9	14.6	13.6
Sodium	mg/L	523	---	---	---	---	603	---	---	376	348	324
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	2590	2520	---	---	---	2200	2090
Specific Conductance (field)	umhos/cm	2716	2530	2568	2658	2632	2442	2486	2350	1998	1986	1999
Sulfate	mg/L	1070	1120	996	1030	1090	1110	933	1020	888	794	904
Sulfide	mg/L	---	---	---	---	---	---	---	---	<1.00	<1.00	<1
Temperature (field)	°C	22.11	21.12	24.1	22.37	23.6	14	17.89	24.8	22.45	23.5	17
Total Dissolved Solids	mg/L	1850	1740	1660	1730	1760	1630	1680	1550	1340	1270	1260
Turbidity (field)	NTU	1.21	0.22	0.02	0.02	2.04	2.79	0.49	0.92	2.43	0.34	1
Filtered Turbidity (field)	NTU	---	---	---	---	---	1.47	---	---	---	0.34	0.62

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021**  
**Summary of MNA Program Analytical Data**  
**Western Farmers Electric Cooperative - Hugo Power Station**  
**Townson, Oklahoma**

Parameters	Sample ID:	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	DUP 2	MW-19S	MW-19S	DUP 3
	Sample Date:	10-Aug-17	18-May-18	2-Aug-18	10-Aug-18	3-Oct-18	15-Jan-19	25-Apr-19	1-Oct-19	17-Jun-20	17-Jun-20	12-Oct-20	31-Mar-21	31-Mar-21
Total Alkalinity as CaCO3	mg/L	132	---	---	---	---	141	---	---	128	130	132	135	133
Carbonate Alkalinity as CaCO3	mg/L	85.8	---	---	---	---	59.8	---	---	92.6	98.7	89.2	63.8	69
Bicarbonate Alkalinity as CaCO3	mg/L	<5	---	---	---	---	<5	---	---	<5.00	<5.00	<5.00	<5	<5
Hydroxide Alkalinity	mg/L	46.2	---	---	---	---	81.2	---	---	35.1	31.4	42.6	71.6	64.4
Boron	mg/L	7.64	8.43	8.64	3.78	10.2	9.79	8.57	6.64	6.8	7.18	6.88	6.86	8.41
Calcium	mg/L	41.3	45.7	35	24.8	35.3	50	52.4	40.4	43.6	42.1	40.7	42.3	35.3
Chloride	mg/L	15.7	14.5	15.1	14.9	14.8	14.2	13.7	14.4	13.8	14	14.1	13.7	14
Dissolved Oxygen (field)	mg/L	0.02	0.24	4.64	1.32	0.33	0.21	1.5	0.5	0.36	---	0.16	0.27	---
Fluoride	mg/L	1.32	1.3	1.34	1.3	1.24	1.27	1.13	1.37	1.15	1.04	1.38	1.46	1.54
Iron, Total	mg/L	---	---	---	---	---	---	---	---	0.0153 J	<0.0120	<0.0120	<0.0120	<0.0120
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	---	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	---	---	<0.02	<0.02
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	---	<0.02	<0.02
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	---	0.0430 J	0.0330 J	0.0310 J	<0.02	<0.02
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	---	---	<0.02	<0.02
Magnesium	mg/L	<0.220	---	---	---	---	0.121 J	---	---	0.0553 J	0.0510 J	0.0346 J	0.0773 J	0.0681 J
Molybdenum, Total	mg/L	0.469	---	0.384	0.112	0.439	0.472	0.462	0.377	0.402	0.394	0.367	0.398	0.351
Molybdenum, Dissolved	mg/L	---	---	---	---	---	0.463	---	---	0.373	0.383	0.37	0.457	0.398
Nitrate as N	mg/L	---	---	---	---	<0.049	<0.03	<0.150	<0.03	<0.0600	<0.0600	<0.150	<0.0600	<0.0600
Oxidation-Reduction Potential (field)	mV	-215.4	-312.1	-227.4	-249	172.1	-162	-281.7	-252.4	-588.1	---	209.2	-191.7	---
pH (laboratory)	S.U.	10.8	10.5	9.7	10.5	9.9	10.4	10.5	10.6	10.2	9.88	10.9	10.8	10.6
pH (field)	S.U.	10.72	11.09	10.55	10.56	10.63	11.01	11.26	10.65	10.97	---	10.92	11.09	---
Potassium	mg/L	35.9	---	---	---	---	38.2	---	---	35.2	34.1	33.7	33.9	29
Sodium	mg/L	697	---	---	---	---	801	---	---	644	598	610	639	545
Specific Conductance (laboratory)	umhos/cm	---	---	---	---	2470	3530	---	---	---	---	3860	3500	3540
Specific Conductance (field)	umhos/cm	3552	3530	3587	3563	3610	3438	3524	3552	3309	---	3433	3406	---
Sulfate	mg/L	1650	1630	1520	1480	1950	1640	1520	1580	1490	1590	1640	1560	1560
Sulfide	mg/L	---	---	---	---	---	---	---	---	1.52	<1.00	1.8	<1	<1
Temperature (field)	°C	24.37	20.38	26.67	24.71	25.4	13.4	17.92	25.86	22.99	---	23.8	18.3	---
Total Dissolved Solids	mg/L	2440	2560	2390	2440	2490	2500	2440	2460	2300	2290	2340	2360	2310
Turbidity (field)	NTU	1.26	0.47	0.02	4.16	2.05	5.19	0.57	0.61	2.86	---	1.24	0.73	---
Filtered Turbidity (field)	NTU	---	---	---	---	---	2.24	---	---	---	---	1.24	0.59	---

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.



**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A	MW-22A
	Sample Date:	11-Aug-17	22-May-18	10-Aug-18	3-Oct-18	16-Jan-19	25-Apr-19	30-Sep-19	18-Jun-20	9-Oct-20	31-Mar-21
Total Alkalinity as CaCO <sub>3</sub>	mg/L	231	---	---	---	256	---	---	249	249	232
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	<5	---	---	---	<5	---	---	<5.00	<5.00	<5
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	231	---	---	---	256	---	---	249	249	232
Hydroxide Alkalinity	mg/L	<5	---	---	---	<5	---	---	<5.00	<5.00	<5
Boron	mg/L	1.77	1.74	2.18	1.45	1.78	1.88	1.49	2.82	1.84	1.6
Calcium	mg/L	559	636	697	702	643	507	481	754	507	529
Chloride	mg/L	2.28	2.6	2.41	2.4	2.24	2.56	2.39	2.34	2.05 J	2.17
Dissolved Oxygen (field)	mg/L	0.43	2.18	2.72	0.44	0.9	4.05	1.23	3.35	0.68	2
Fluoride	mg/L	0.341	2.24	0.315	0.329	0.299	0.374 J	0.364	0.237	0.279 J	0.249
Iron, Total	mg/L	---	---	---	---	---	---	---	0.0509 J	<0.0120	0.0536 J
Iron, Dissolved	mg/L	---	---	---	---	---	---	---	<0.0120	0.0121 J	0.0206 J
Iron, Ferric	mg/L	---	---	---	---	---	---	---	---	---	0.0536
Iron, Ferric, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	0.0206 J
Iron, Ferrous	mg/L	---	---	---	---	---	---	---	<0.0200	<0.0200	<0.02
Iron, Ferrous, Dissolved	mg/L	---	---	---	---	---	---	---	---	---	<0.02
Magnesium	mg/L	87.1	---	---	---	107	---	---	126	85	95
Molybdenum, Total	mg/L	<0.001	---	<0.001	<0.001	<0.0006	<0.0006	0.000787 J	<0.000600	<0.000600	<0.000600
Molybdenum, Dissolved	mg/L	---	---	---	---	0.000822 J	---	---	0.000773 J	<0.000600	<0.000600
Nitrate as N	mg/L	---	---	---	0.458	<0.03	<0.150	0.198	<0.0600	<0.150	<0.0600
Oxidation-Reduction Potential (field)	mV	64.2	-14.8	-30.2	275.1	275.6	43.2	-110.1	-36.5	146.4	207.4
pH (laboratory)	S.U.	6.8	7	7.1	7.4	6.49	7.61	6.74	7.08	7.48	7.21
pH (field)	S.U.	6.76	7.01	7.02	6.75	6.75	7.19	7.02	6.97	6.97	7
Potassium	mg/L	14.4	---	---	---	17.8	---	---	21.7	13.7	15.2
Sodium	mg/L	140	---	---	---	169	---	---	202	135	147
Specific Conductance (laboratory)	umhos/cm	---	---	---	3180	3170	---	---	---	3450	3450
Specific Conductance (field)	umhos/cm	3218	3135	3244	3277	3181	3208	3236	3013	3165	3195
Sulfate	mg/L	2030	1940	1860	1830	1990	1740	1880	2160	2010	2020
Sulfide	mg/L	---	---	---	---	---	---	---	1.52	<1.00	<1
Temperature (field)	°C	23.05	20.84	24.37	20.9	13.6	17.89	22.78	23.52	20.7	18.2
Total Dissolved Solids	mg/L	3030	3090	3050	1910	3000	3170	3030	3390	3160	3040
Turbidity (field)	NTU	5.72	2.09	3.67	2.71	51.5	3.81	1.89	9.49	2.92	18.3
Filtered Turbidity (field)	NTU	---	---	---	---	4.9	---	---	---	0.51	---

**Notes:**

1. mg/L : milligrams per liter.
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4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>MW-22B</b>	<b>MW-22B</b>	<b>MW-22B</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>13-Oct-20</b>	<b>31-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	333	364	364
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	<5.00	<5.00	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	328	364	364
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	2.97	3.4	3.14
Calcium	mg/L	90.1	69.8	75.8
Chloride	mg/L	55.5	56.1	57.8
Dissolved Oxygen (field)	mg/L	5.05	1.23	5.4
Fluoride	mg/L	1.14	1.05	1.46
Iron, Total	mg/L	11.7	0.282	4.19
Iron, Dissolved	mg/L	<0.0120	<0.0120	<0.0120
Iron, Ferric	mg/L	---	---	3.23
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	3.06	0.58	0.957
Iron, Ferrous, Dissolved	mg/L	---	---	0.53
Magnesium	mg/L	24.1	21.7	23.4
Molybdenum, Total	mg/L	0.00878	0.00866	0.00753
Molybdenum, Dissolved	mg/L	0.0111	0.00853	0.00841
Nitrate as N	mg/L	---	<0.0600	1.03
Oxidation-Reduction Potential (field)	mV	180.5	235.6	37.4
pH (laboratory)	S.U.	7.57	7.77	7.75
pH (field)	S.U.	7.95	7.64	7.88
Potassium	mg/L	10.3	7.81	8.79
Sodium	mg/L	838	842	846
Specific Conductance (laboratory)	umhos/cm	---	5100	4460
Specific Conductance (field)	umhos/cm	4364	4400	6102
Sulfate	mg/L	2180	2040	2080
Sulfide	mg/L	4	<1.00	<1.00
Temperature (field)	°C	22.3	19.3	17.23
Total Dissolved Solids	mg/L	3000	3340	3280
Turbidity (field)	NTU	926	8.67	>1,000
Filtered Turbidity (field)	NTU	1.21	0.21	1.41

**Notes:**

1. mg/L : milligrams per liter.
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5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-1A</b>	<b>CM-1A</b>	<b>CM-1A</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>7-Oct-20</b>	<b>1-Apr-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	326	346	337
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	<5.00	<5.00	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	326	346	337
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	0.748	0.612	0.664
Calcium	mg/L	452	480	464
Chloride	mg/L	49.5	28.4	26.3
Dissolved Oxygen (field)	mg/L	6	0.59	1.8
Fluoride	mg/L	0.382	<0.500	0.483
Iron, Total	mg/L	5.34	0.0215 J	0.0232 J
Iron, Dissolved	mg/L	<0.0120	<0.0120	0.0713 J
Iron, Ferric	mg/L	---	---	0.0232 J
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	0.114	<0.0200	<0.0200
Iron, Ferrous, Dissolved	mg/L	---	---	<0.0200
Magnesium	mg/L	65.7	55.4	50.2
Molybdenum, Total	mg/L	0.0088	0.00198 J	0.00132 J
Molybdenum, Dissolved	mg/L	0.00385 J	0.00169 J	0.00159 J
Nitrate as N	mg/L	---	<0.300	<0.0600
Oxidation-Reduction Potential (field)	mV	301.9	170.1	175.7
pH (laboratory)	S.U.	6.52	7.69	7.61
pH (field)	S.U.	6.93	6.84	6.95
Potassium	mg/L	12.4	8.79	7.52
Sodium	mg/L	178	181	170
Specific Conductance (laboratory)	umhos/cm	---	3620	3180
Specific Conductance (field)	µmhos/cm	3105	3258	3225
Sulfate	mg/L	1970	1810	1910
Sulfide	mg/L	<1.00	<1.00	<1.00
Temperature (field)	°C	23.7	22.7	18.7
Total Dissolved Solids	mg/L	2980	3130	3090
Turbidity (field)	NTU	31.4	2.91	2.39
Filtered Turbidity (field)	NTU	0.67	0.65	1.1

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. µmhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-1B</b>	<b>CM-1B</b>	<b>CM-1B</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>12-Oct-20</b>	<b>1-Apr-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	432	439	---
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	<5.00	<5.00	---
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	432	439	---
Hydroxide Alkalinity	mg/L	<5.00	<5.00	---
Boron	mg/L	3.86	3.84	3.44
Calcium	mg/L	233	128	127
Chloride	mg/L	107	110	---
Dissolved Oxygen (field)	mg/L	4.33	---	0.81
Fluoride	mg/L	0.626	0.599	---
Iron, Total	mg/L	47.5	3.89	0.194 J
Iron, Dissolved	mg/L	0.0150 J	0.0164 J	0.0136 J
Iron, Ferric	mg/L	---	---	0.112
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	26	7.3	0.082
Iron, Ferrous, Dissolved	mg/L	---	---	0.0450 J
Magnesium	mg/L	50.8	41.7	43.3
Molybdenum, Total	mg/L	0.0133	0.0144	0.0113
Molybdenum, Dissolved	mg/L	0.019	0.0155	0.0126
Nitrate as N	mg/L	---	9.85	---
Oxidation-Reduction Potential (field)	mV	184.2	-80.5	189.3
pH (laboratory)	S.U.	7.67	8.12	---
pH (field)	S.U.	7.62	10.4	7.45
Potassium	mg/L	19.7	12.3	12.4
Sodium	mg/L	877	881	899
Specific Conductance (laboratory)	umhos/cm	---	5650	---
Specific Conductance (field)	umhos/cm	4900	1986	5107
Sulfate	mg/L	2490	2290	---
Sulfide	mg/L	5	<1.00	<1.00
Temperature (field)	°C	23.3	23.5	19.9
Total Dissolved Solids	mg/L	3490	3760	---
Turbidity (field)	NTU	>1,000	0.34	14.8
Filtered Turbidity (field)	NTU	---	0.34	1.16

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

Parameters	Sample ID:	CM-2	DUP 1	CM-2	CM-2
	Sample Date:	24-Jul-20	7-Oct-20	1-Apr-21	
Total Alkalinity as CaCO3	mg/L	337	347	329	328
Carbonate Alkalinity as CaCO3	mg/L	<5.00	<5.00	<5.00	<5.00
Bicarbonate Alkalinity as CaCO3	mg/L	337	347	329	328
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00	<5.00
Boron	mg/L	0.93	0.941	0.845	0.679
Calcium	mg/L	492	533	491	466
Chloride	mg/L	3.79	3.12	2.84 J	3.49
Dissolved Oxygen (field)	mg/L	4.62	---	0.27	0.67
Fluoride	mg/L	0.558	0.565	<0.500	0.419
Iron, Total	mg/L	2.78	2.97	0.0482 J	0.132 J
Iron, Dissolved	mg/L	<0.0120	<0.0120	0.0139 J	0.0386 J
Iron, Ferric	mg/L	---	---	---	0.132
Iron, Ferric, Dissolved	mg/L	---	---	---	<0.0200
Iron, Ferrous	mg/L	0.109	0.146	<0.0200	<0.0200
Iron, Ferrous, Dissolved	mg/L	---	---	---	<0.0200
Magnesium	mg/L	31.6	32.8	28.7	24.4
Molybdenum, Total	mg/L	0.00209 J	0.00218 J	0.00203 J	0.00161 J
Molybdenum, Dissolved	mg/L	0.00158 J	0.00134 J	0.00177 J	0.00118 J
Nitrate as N	mg/L	---	---	<0.300	0.529
Oxidation-Reduction Potential (field)	mV	244.3	---	170.2	72.3
pH (laboratory)	S.U.	6.66	6.6	7.91	7.82
pH (field)	S.U.	7.02	---	6.89	6.8
Potassium	mg/L	8.78	8.74	7.09	6.88
Sodium	mg/L	111	116	110	94
Specific Conductance (laboratory)	umhos/cm	---	---	3020	2190
Specific Conductance (field)	umhos/cm	2713	---	2872	2870
Sulfate	mg/L	1680	1730	1590	1210
Sulfide	mg/L	<1.00	<1.00	<1.00	<1.00
Temperature (field)	°C	21	---	20.1	17.7
Total Dissolved Solids	mg/L	2490	2660	2690	2060
Turbidity (field)	NTU	16	---	18.8	2.32
Filtered Turbidity (field)	NTU	0.47	---	3.91	0.82

**Notes:**

1. mg/L : milligrams per liter.
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3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-3A</b>	<b>CM-3A</b>	<b>CM-3A</b>
	<b>Sample Date:</b>	<b>21-Aug-20</b>	<b>13-Oct-20</b>	<b>30-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	**	616	489
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	**	<5.00	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	**	616	489
Hydroxide Alkalinity	mg/L	**	<5.00	<5.00
Boron	mg/L	4.84	3.8	2.82
Calcium	mg/L	50.9	70.3	64.3
Chloride	mg/L	52.9	36.1	54.8
Dissolved Oxygen (field)	mg/L	**	***	3.3
Fluoride	mg/L	0.425	0.699	0.858
Iron, Total	mg/L	2.78	8.53	0.0152 J
Iron, Dissolved	mg/L	<0.0120	<0.0120	0.794
Iron, Ferric	mg/L	---	---	<0.0200
Iron, Ferric, Dissolved	mg/L	---	---	0.313
Iron, Ferrous	mg/L	**	0.480 J	1.45
Iron, Ferrous, Dissolved	mg/L	---	---	0.481
Magnesium	mg/L	6.26	10.4	13.3
Molybdenum, Total	mg/L	0.0457	0.0222	0.0153
Molybdenum, Dissolved	mg/L	0.0445	0.0299	0.0157
Nitrate as N	mg/L	1.67	7.55	19.9
Oxidation-Reduction Potential (field)	mV	**	***	212.5
pH (laboratory)	S.U.	8.76	7.82	7.95
pH (field)	S.U.	**	***	7.6
Potassium	mg/L	6.13	7.41	6.68
Sodium	mg/L	429	499	559
Specific Conductance (laboratory)	umhos/cm	---	2940	2910
Specific Conductance (field)	umhos/cm	**	***	3015
Sulfate	mg/L	554	749	971
Sulfide	mg/L	**	<1.00	<1.00
Temperature (field)	°C	**	***	18.7
Total Dissolved Solids	mg/L	1700	1840	2330
Turbidity (field)	NTU	**	***	>1,000
Filtered Turbidity (field)	NTU	**	***	0.44

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-3B</b>	<b>CM-3B</b>	<b>CM-3B</b>
	<b>Sample Date:</b>	<b>21-Aug-20</b>	<b>15-Oct-20</b>	<b>2-Apr-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	**	413	519
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	**	16.5	17.6
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	**	396	502
Hydroxide Alkalinity	mg/L	**	<5.00	<5.00
Boron	mg/L	3.82	3.44	4.73
Calcium	mg/L	70	62.7	100
Chloride	mg/L	48.9	28.8	40.2
Dissolved Oxygen (field)	mg/L	**	***	***
Fluoride	mg/L	1.9	1.14	1.52
Iron, Total	mg/L	23.5	22.8	55.6
Iron, Dissolved	mg/L	0.0140 J	0.0399 J	0.0419 J
Iron, Ferric	mg/L	---	---	---
Iron, Ferric, Dissolved	mg/L	---	---	---
Iron, Ferrous	mg/L	**	**	---
Iron, Ferrous, Dissolved	mg/L	---	---	---
Magnesium	mg/L	13.6	11.2	23.2
Molybdenum, Total	mg/L	0.0327	0.0318	0.0353 J
Molybdenum, Dissolved	mg/L	0.0394	0.0355	0.0392
Nitrate as N	mg/L	<0.0300	4.64	31.3
Oxidation-Reduction Potential (field)	mV	**	***	***
pH (laboratory)	S.U.	8.11	8.65	8.24
pH (field)	S.U.	**	***	***
Potassium	mg/L	11.1	9.04	23.6
Sodium	mg/L	573	603	847
Specific Conductance (laboratory)	umhos/cm	---	2540	2930
Specific Conductance (field)	umhos/cm	**	***	***
Sulfate	mg/L	1090	733	942
Sulfide	mg/L	**	**	---
Temperature (field)	°C	**	***	***
Total Dissolved Solids	mg/L	2240	1310	2340
Turbidity (field)	NTU	**	***	***
Filtered Turbidity (field)	NTU	**	***	***

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-4A</b>	<b>CM-4A</b>	<b>CM-4A</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>8-Oct-20</b>	<b>30-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	470	557	510
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	20	5.28	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	450	552	510
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	3.03	4.42	3.24
Calcium	mg/L	103	71.7	59.1
Chloride	mg/L	92.4	105	109
Dissolved Oxygen (field)	mg/L	2.68	***	3.93
Fluoride	mg/L	0.879	0.602	0.947
Iron, Total	mg/L	40	6.78	7.67
Iron, Dissolved	mg/L	0.0205 J	0.0162 J	0.0149 J
Iron, Ferric	mg/L	---	---	6.98
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	1.92	10.3	0.69
Iron, Ferrous, Dissolved	mg/L	---	---	0.278
Magnesium	mg/L	16.7	15.2	13.5
Molybdenum, Total	mg/L	0.0269	0.0271	0.0212
Molybdenum, Dissolved	mg/L	0.0529	0.0391	0.0255
Nitrate as N	mg/L	---	27	20
Oxidation-Reduction Potential (field)	mV	238.4	***	210.6
pH (laboratory)	S.U.	7.82	7.98	7.64
pH (field)	S.U.	7.6	***	7.74
Potassium	mg/L	14.3	8.13	8.26
Sodium	mg/L	443	654	580
Specific Conductance (laboratory)	umhos/cm	---	4150	3630
Specific Conductance (field)	µmhos/cm	2939	***	3612
Sulfate	mg/L	1050	1260	1300
Sulfide	mg/L	4	<1.00	<1.00
Temperature (field)	°C	20.2	***	18.9
Total Dissolved Solids	mg/L	1900	2630	2660
Turbidity (field)	NTU	692	***	>1,000
Filtered Turbidity (field)	NTU	0.4	***	0.54

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. µmhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.



**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-4B</b>	<b>CM-4B</b>	<b>CM-4B</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>8-Oct-20</b>	<b>30-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	436	520	448
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	15.7	24.5	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	420	495	448
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	3.14	4.31	3.63
Calcium	mg/L	56.5	47.1	42.1
Chloride	mg/L	69.9	95.3	119
Dissolved Oxygen (field)	mg/L	2.88	***	5.52
Fluoride	mg/L	1.01	1.07	1.4
Iron, Total	mg/L	4.25	1.27	2.19
Iron, Dissolved	mg/L	0.0123 J	1.56	0.0156 J
Iron, Ferric	mg/L	---	---	1.03
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	19.2	5.17	1.16
Iron, Ferrous, Dissolved	mg/L	---	---	0.406
Magnesium	mg/L	14	12.1	13
Molybdenum, Total	mg/L	0.0307	0.0306	0.0303
Molybdenum, Dissolved	mg/L	0.0354	0.0271	0.0344
Nitrate as N	mg/L	---	7.22	17.8
Oxidation-Reduction Potential (field)	mV	292.1	***	214.4
pH (laboratory)	S.U.	7.78	8.32	7.84
pH (field)	S.U.	7.45	***	7.89
Potassium	mg/L	10.2	7.12	7.46
Sodium	mg/L	529	764	769
Specific Conductance (laboratory)	umhos/cm	---	4260	4160
Specific Conductance (field)	umhos/cm	3331	***	4107
Sulfate	mg/L	1360	1460	1620
Sulfide	mg/L	5	<1.00	<1.00
Temperature (field)	°C	20.7	***	19.2
Total Dissolved Solids	mg/L	2240	2750	3040
Turbidity (field)	NTU	158	***	>1,000
Filtered Turbidity (field)	NTU	---	***	0.5

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
6. NTU : Nephelometric Turbidity Unit.
7. < : Analyte not detected at the laboratory method detection limit (MDL).
8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-5A</b>	<b>CM-5A</b>	<b>CM-5A</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>8-Oct-20</b>	<b>30-Mar-21</b>
Total Alkalinity as CaCO <sub>3</sub>	mg/L	451	541	445
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	7.91	<5.00	<5.00
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	443	541	445
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	3.92	4.67	4.97
Calcium	mg/L	102	86.7	102
Chloride	mg/L	93.9	130	154
Dissolved Oxygen (field)	mg/L	3.81	***	3.36
Fluoride	mg/L	1.09	0.602	0.667
Iron, Total	mg/L	28.4	5.43	3.27
Iron, Dissolved	mg/L	<0.0120	<0.0120	0.0799 J
Iron, Ferric	mg/L	---	---	1.21
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	0.561	4.63	2.06
Iron, Ferrous, Dissolved	mg/L	---	---	0.673
Magnesium	mg/L	15.8	18.4	26
Molybdenum, Total	mg/L	0.0205	0.011	0.0182
Molybdenum, Dissolved	mg/L	0.0352	0.0214	0.0192
Nitrate as N	mg/L	---	27.4	27.2
Oxidation-Reduction Potential (field)	mV	270.1	***	217.6
pH (laboratory)	S.U.	7.7	7.96	7.46
pH (field)	S.U.	7.4	***	7.35
Potassium	mg/L	13.3	8.41	10.4
Sodium	mg/L	448	632	761
Specific Conductance (laboratory)	umhos/cm	---	4180	4180
Specific Conductance (field)	umhos/cm	2617	***	4132
Sulfate	mg/L	808	1290	1540
Sulfide	mg/L	<1.00	1.36	1.36
Temperature (field)	°C	22.5	***	19.2
Total Dissolved Solids	mg/L	1840	2680	3260
Turbidity (field)	NTU	204	***	>1,000
Filtered Turbidity (field)	NTU	0.61	***	0.86

**Notes:**

1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
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8. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is at
9. --- : no analysis performed.
10. H : Analyzed outside of holding time..
11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

**1st Semiannual 2021  
Summary of MNA Program Analytical Data  
Western Farmers Electric Cooperative - Hugo Power Station  
Townson, Oklahoma**

<b>Parameters</b>	<b>Sample ID:</b>	<b>CM-5B</b>	<b>CM-5B</b>	<b>CM-5B</b>
	<b>Sample Date:</b>	<b>24-Jul-20</b>	<b>9-Oct-20</b>	<b>30-Mar-21</b>
Total Alkalinity as CaCO3	mg/L	421	525	486
Carbonate Alkalinity as CaCO3	mg/L	22.6	<5.00	<5.00
Bicarbonate Alkalinity as CaCO3	mg/L	398	520	486
Hydroxide Alkalinity	mg/L	<5.00	<5.00	<5.00
Boron	mg/L	3.8	4.42	3.86
Calcium	mg/L	115	56.4	46
Chloride	mg/L	107	113	145
Dissolved Oxygen (field)	mg/L	3.35	***	4.46
Fluoride	mg/L	0.636	0.786	1.15
Iron, Total	mg/L	32.3	1.26	1.73
Iron, Dissolved	mg/L	0.0246 J	1.87	0.214 J
Iron, Ferric	mg/L	---	---	0.47
Iron, Ferric, Dissolved	mg/L	---	---	<0.0200
Iron, Ferrous	mg/L	0.671	10.6	1.26
Iron, Ferrous, Dissolved	mg/L	---	---	0.206
Magnesium	mg/L	22	15.8	14
Molybdenum, Total	mg/L	0.04	0.0394	0.0536
Molybdenum, Dissolved	mg/L	0.0515	0.0359	0.0594
Nitrate as N	mg/L	---	25.8	58.0 H
Oxidation-Reduction Potential (field)	mV	229	***	224.2
pH (laboratory)	S.U.	7.94	7.84	7.67
pH (field)	S.U.	7.53	***	7.8
Potassium	mg/L	15.2	7.73	8
Sodium	mg/L	587	762	671
Specific Conductance (laboratory)	umhos/cm	---	4570	4130
Specific Conductance (field)	umhos/cm	3617	***	3914
Sulfate	mg/L	1470	1430	1330
Sulfide	mg/L	8	6.4	<1.00
Temperature (field)	°C	21.7	***	18.8
Total Dissolved Solids	mg/L	2570	2910	3120
Turbidity (field)	NTU	616	***	>1,000
Filtered Turbidity (field)	NTU	0.25	***	12.1

**Notes:**

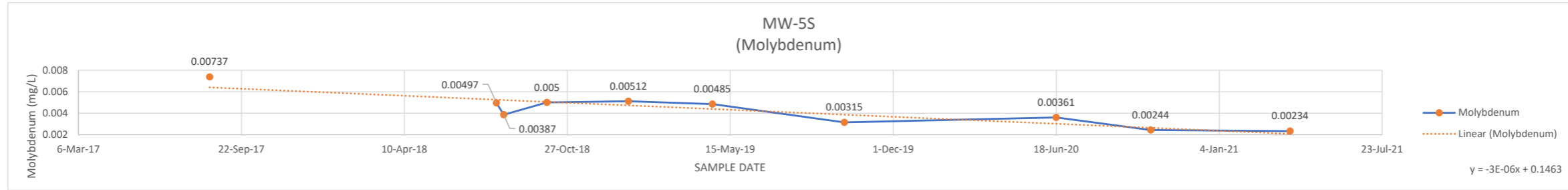
1. mg/L : milligrams per liter.
2. S.U. : Standard Units.
3. °C : degrees Celsius.
4. umhos/cm : micromhos per centimeter.
5. mV : millivolts.
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11. \*\* : Insufficient sample volume for analysis due to well depletion.
12. \*\*\* : Insufficient sample volume for field measurements.

# **ATTACHMENT D**

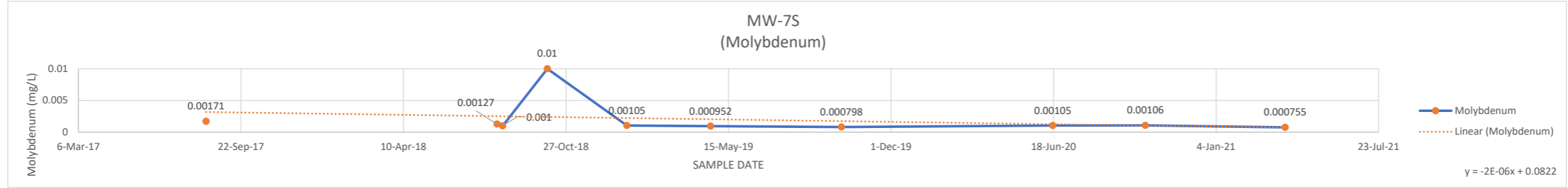
CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

ATTACHMENT D  
CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

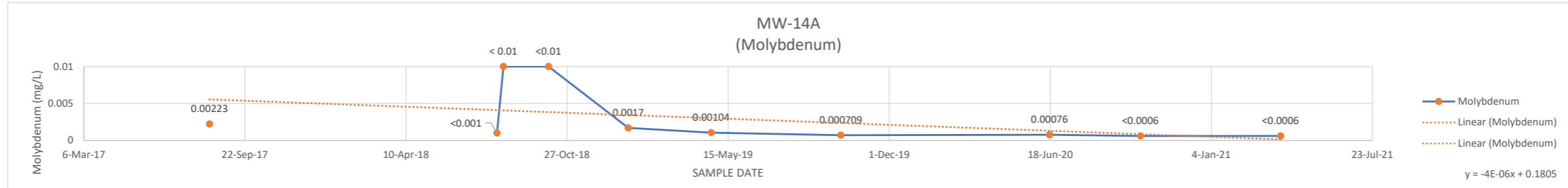
MW-5S DATE	MOLYBDENUM
14-Aug-17	0.00737
22-May-18	
1-Aug-18	0.00497
10-Aug-18	0.00387
2-Oct-18	0.005
10-Jan-19	0.00512
23-Apr-19	0.00485
2-Oct-19	0.00315
18-Jun-20	0.00361
12-Oct-20	0.00244
1-Apr-21	0.00234



MW-7S DATE	MOLYBDENUM
10-Aug-17	0.00171
17-May-18	
3-Aug-18	0.00127
10-Aug-18	0.001
4-Oct-18	0.01
10-Jan-19	0.00105
23-Apr-19	0.000952
1-Oct-19	0.000798
17-Jun-20	0.00105
9-Oct-20	0.00106
30-Mar-21	0.000755

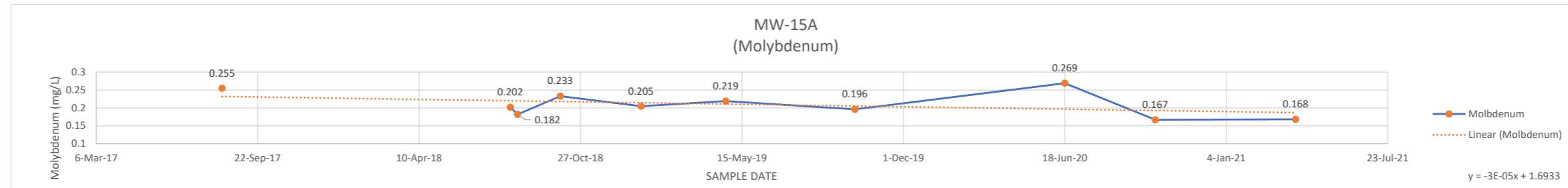


MW-14A DATE	MOLYBDENUM
9-Aug-17	0.00223
17-May-18	
1-Aug-18	0.001
9-Aug-18	0.01
4-Oct-18	0.01
11-Jan-19	0.0017
24-Apr-19	0.00104
2-Oct-19	0.000709
17-Jun-20	0.00076
8-Oct-20	0.0006
31-Mar-21	0.0006

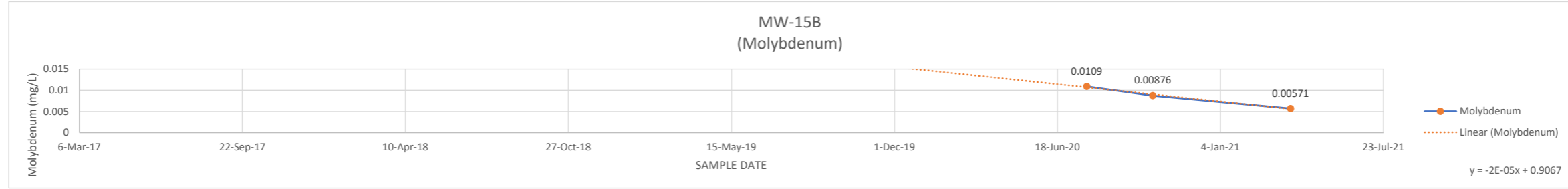


Yellow Indicates Reported Below shown value (MDL)

MW-15A DATE	MOLYBDENUM
9-Aug-17	0.255
24-May-18	
1-Aug-18	0.202
10-Aug-18	0.182
2-Oct-18	0.233
10-Jan-19	0.205
25-Apr-19	0.219
2-Oct-19	0.196
18-Jun-20	0.269
8-Oct-20	0.167
31-Mar-21	0.168

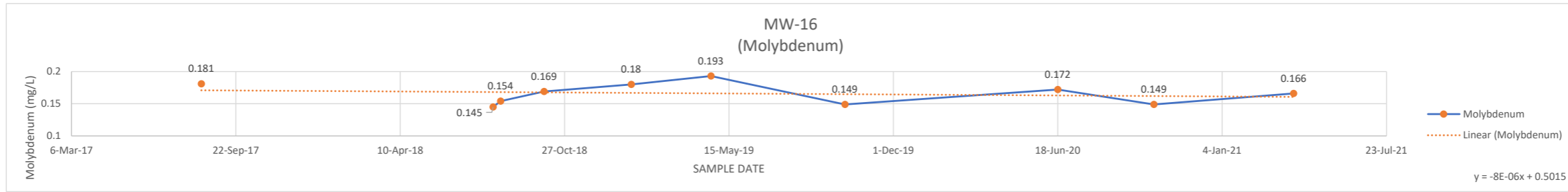


MW-15B DATE	MOLYBDENUM
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.0109
13-Oct-20	0.00876
31-Mar-21	0.00571

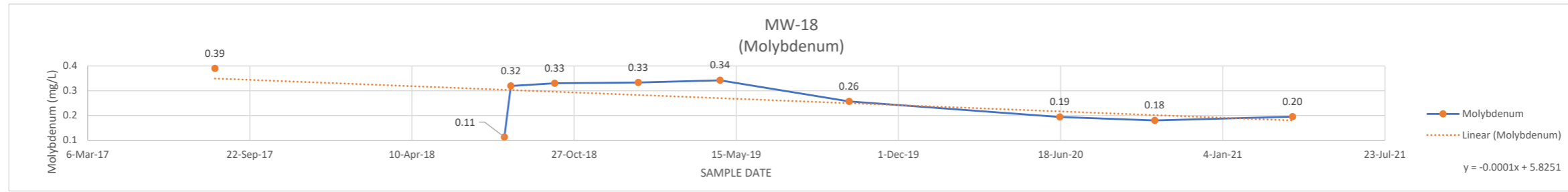


ATTACHMENT D  
CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

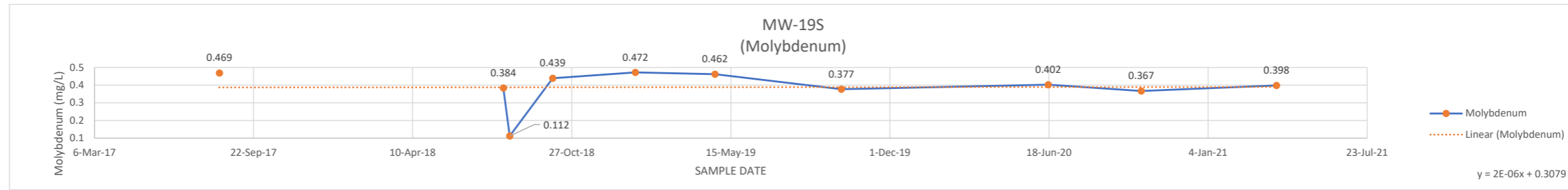
MW-16	MOLYBDENUM
DATE	
11-Aug-17	0.181
22-May-18	
1-Aug-18	0.145
10-Aug-18	0.154
2-Oct-18	0.169
16-Jan-19	0.18
23-Apr-19	0.193
3-Oct-19	0.149
18-Jun-20	0.172
13-Oct-20	0.149
1-Apr-21	0.166



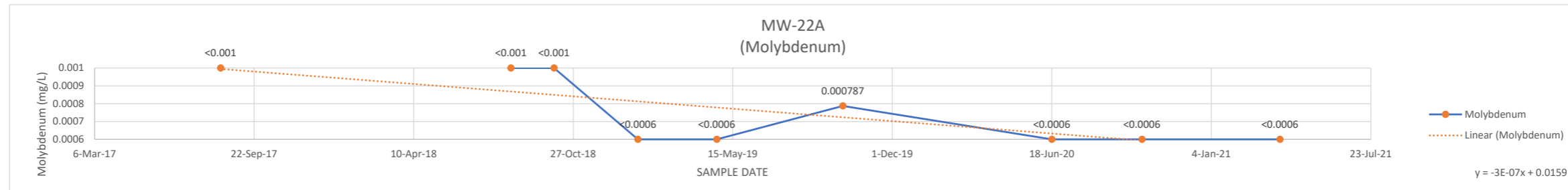
MW-18	MOLYBDENUM
DATE	
10-Aug-17	0.39
18-May-18	
2-Aug-18	0.113
10-Aug-18	0.319
3-Oct-18	0.33
14-Jan-19	0.333
25-Apr-19	0.342
1-Oct-19	0.257
17-Jun-20	0.194
12-Oct-20	0.18
31-Mar-21	0.195



MW-19S	MOLYBDENUM
DATE	
10-Aug-17	0.469
18-May-18	
2-Aug-18	0.384
10-Aug-18	0.112
3-Oct-18	0.439
15-Jan-19	0.472
25-Apr-19	0.462
1-Oct-19	0.377
17-Jun-20	0.402
12-Oct-20	0.367
31-Mar-21	0.398

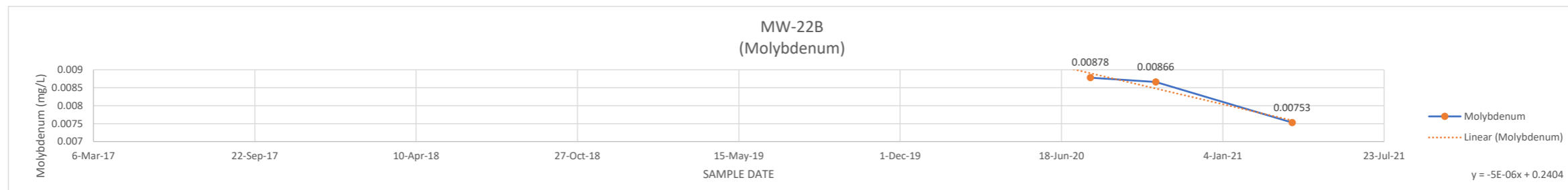


MW-22A	MOLYBDENUM
DATE	
11-Aug-17	0.001
22-May-18	
10-Aug-18	0.001
3-Oct-18	0.001
16-Jan-19	0.0006
25-Apr-19	0.0006
30-Sep-19	0.000787
18-Jun-20	0.0006
9-Oct-20	0.0006
31-Mar-21	0.0006



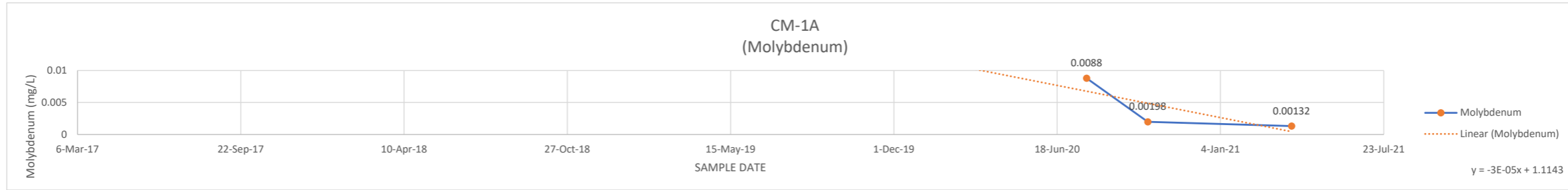
Yellow Indicates Reported Below shown value (MDL)

MW-22B	MOLYBDENUM
DATE	
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.00878
13-Oct-20	0.00866
31-Mar-21	0.00753

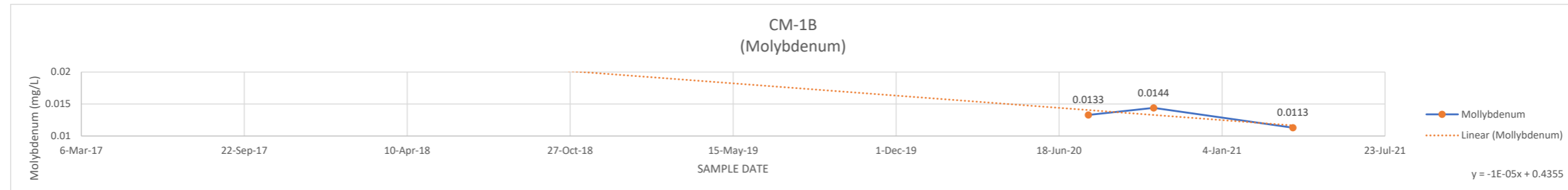


ATTACHMENT D  
CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

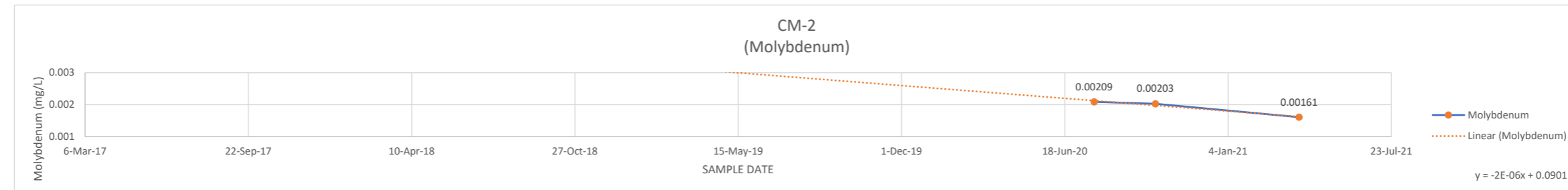
CM-1A  
DATE MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 0.0088  
7-Oct-20 0.00198  
1-Apr-21 0.00132



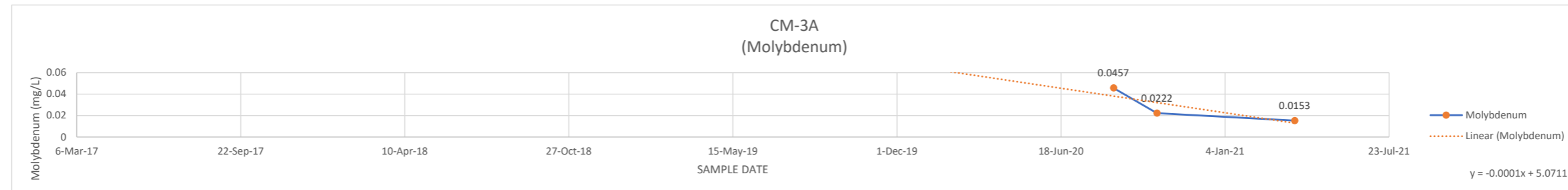
CM-1B  
DATE MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 0.0133  
12-Oct-20 0.0144  
1-Apr-21 0.0113



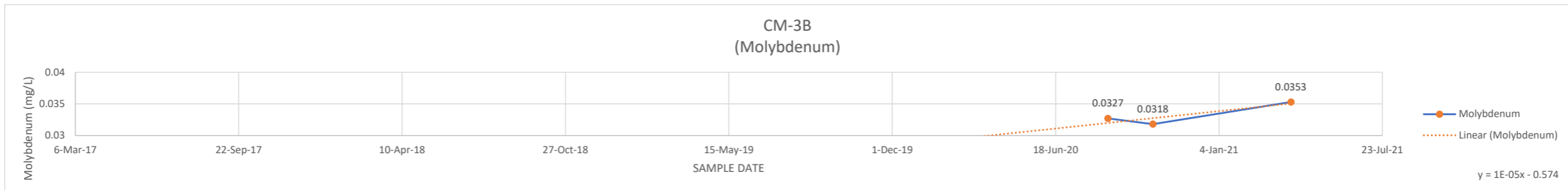
CM-2  
DATE MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 0.00209  
7-Oct-20 0.00203  
1-Apr-21 0.00161



CM-3A  
DATE MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
21-Aug-20 0.0457  
13-Oct-20 0.0222  
30-Mar-21 0.0153

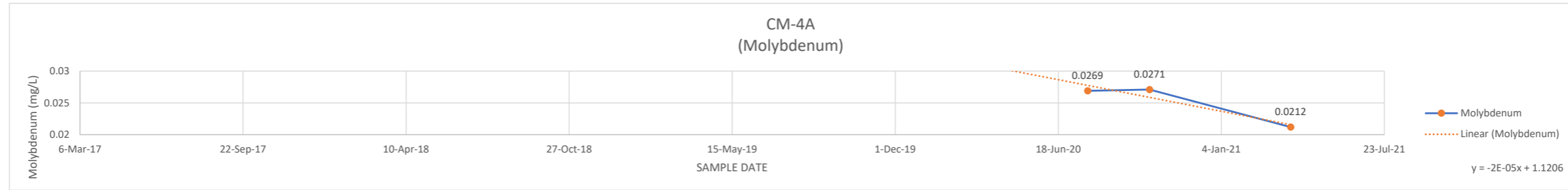


CM-3B  
DATE MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
21-Aug-20 0.0327  
15-Oct-20 0.0318  
2-Apr-21 0.0353

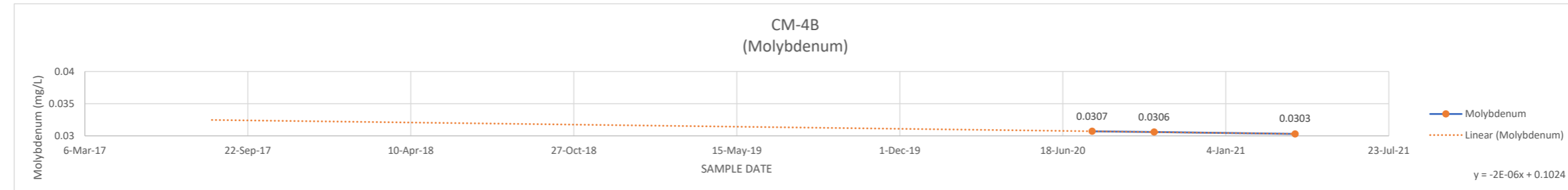


ATTACHMENT D  
CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

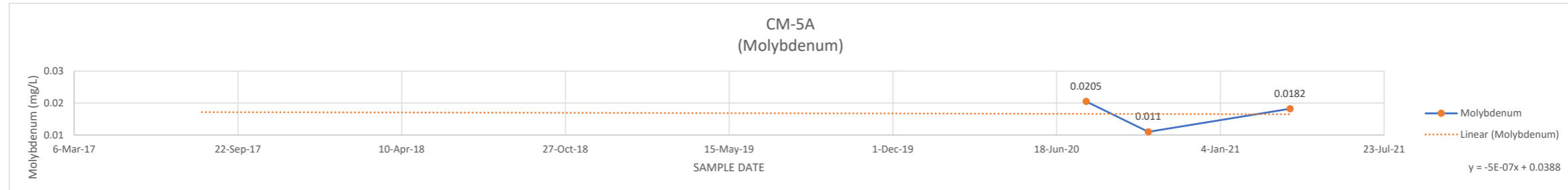
CM-4A DATE	MOLYBDENUM
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.0269
8-Oct-20	0.0271
30-Mar-21	0.0212



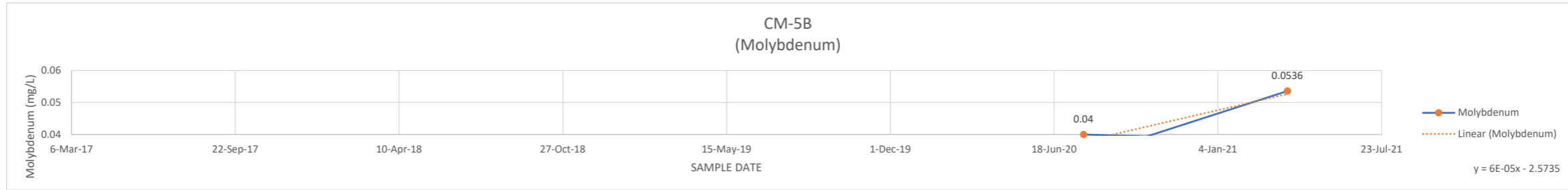
CM-4B DATE	MOLYBDENUM
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.0307
8-Oct-20	0.0306
30-Mar-21	0.0303



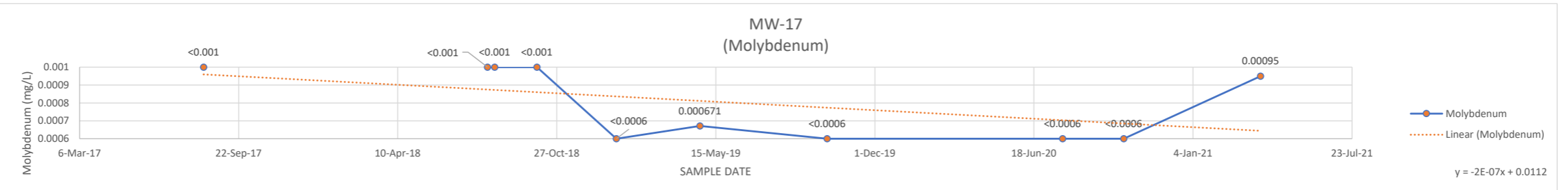
CM-5A DATE	MOLYBDENUM
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.0205
8-Oct-20	0.011
30-Mar-21	0.0182



CM-5B DATE	MOLYBDENUM
9-Aug-17	
24-May-18	
1-Aug-18	
10-Aug-18	
2-Oct-18	
10-Jan-19	
25-Apr-19	
2-Oct-19	
24-Jul-20	0.04
9-Oct-20	0.0394
30-Mar-21	0.0536



MW-17 DATE	MOLYBDENUM
9-Aug-17	0.001
24-May-18	
1-Aug-18	0.001
10-Aug-18	0.001
2-Oct-18	0.001
10-Jan-19	0.0006
25-Apr-19	0.000671
2-Oct-19	0.0006
24-Jul-20	0.0006
9-Oct-20	0.0006
30-Mar-21	0.00095



Yellow Indicates Reported Below shown value (MDL)



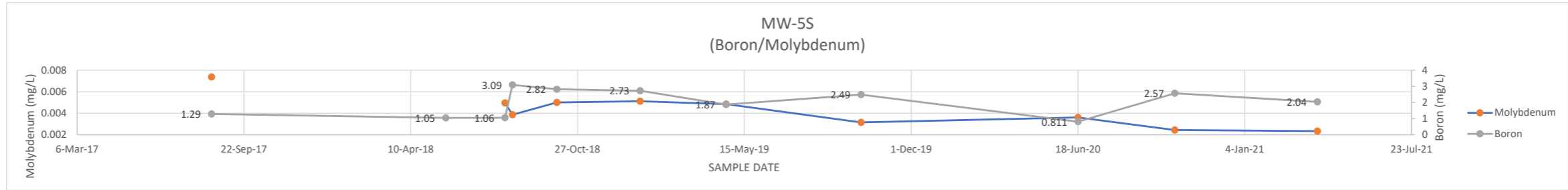
## **ATTACHMENT E**

### **CHANGES IN CONCENTRATION OF CCR APPENDIX III PARAMETERS COMPARED TO CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY**

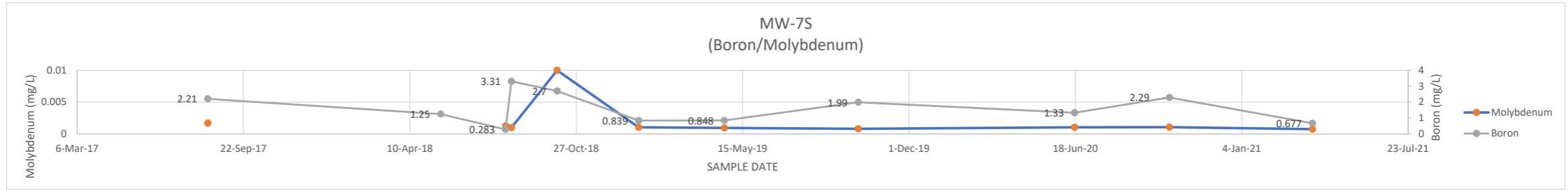
- E-1: CHANGES IN BORON AND MOLYBDENUM CONCENTRATIONS
- E-2: CHANGES IN CHLORIDE AND MOLYBDENUM CONCENTRATIONS
- E-3A: CHANGES IN PH (FIELD) AND MOLYBDENUM CONCENTRATIONS
- E-3B: CHANGES IN PH (LAB) AND MOLYBDENUM CONCENTRATIONS
- E-4: CHANGES IN TDS AND MOLYBDENUM CONCENTRATIONS
- E-5: CHANGES IN CALCIUM AND MOLYBDENUM CONCENTRATIONS
- E-6: CHANGES IN FLUORIDE AND MOLYBDENUM CONCENTRATIONS
- E-7: CHANGES IN SULFATE AND MOLYBDENUM CONCENTRATIONS

ATTACHMENT E-1  
CHANGES IN BORON AND MOLYBDENUM CONCENTRATIONS

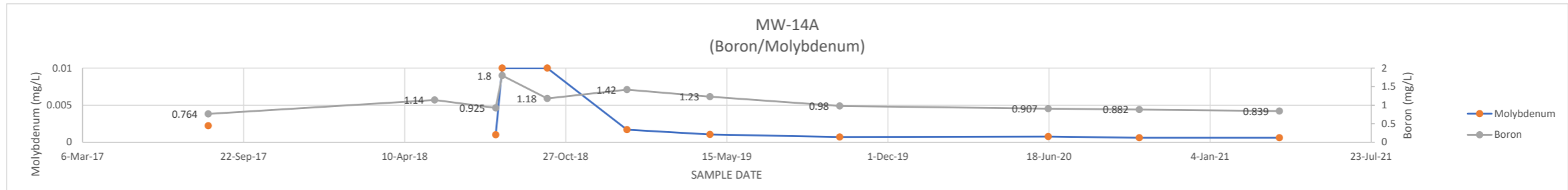
MW-5S DATE	BORON	MOLYBDENUM
14-Aug-17	1.29	0.00737
22-May-18	1.05	
1-Aug-18	1.06	0.00497
10-Aug-18	3.09	0.00387
2-Oct-18	2.82	0.005
10-Jan-19	2.73	0.00512
23-Apr-19	1.87	0.00485
2-Oct-19	2.49	0.00315
18-Jun-20	0.811	0.00361
12-Oct-20	2.57	0.00244
1-Apr-21	2.04	0.00234



MW-7S DATE	BORON	MOLYBDENUM
10-Aug-17	2.21	0.00171
17-May-18	1.25	
3-Aug-18	0.283	0.00127
10-Aug-18	3.31	0.001
4-Oct-18	2.7	0.01
10-Jan-19	0.839	0.00105
23-Apr-19	0.848	0.000952
1-Oct-19	1.99	0.000798
17-Jun-20	1.33	0.00105
9-Oct-20	2.29	0.00106
30-Mar-21	0.677	0.000755

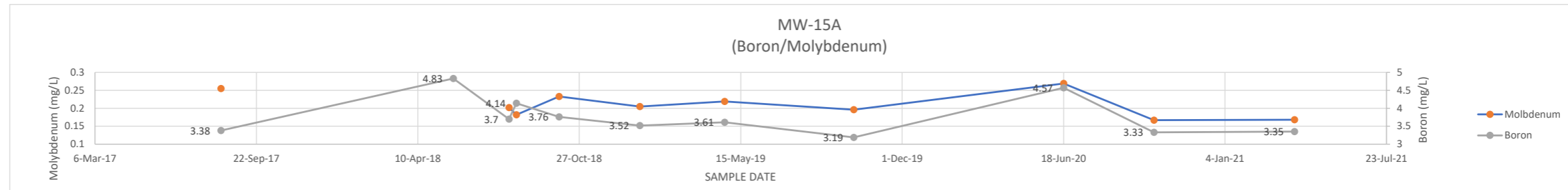


MW-14A DATE	BORON	MOLYBDENUM
9-Aug-17	0.764	0.00223
17-May-18	1.14	
1-Aug-18	0.925	0.001
9-Aug-18	1.8	0.01
4-Oct-18	1.18	0.01
11-Jan-19	1.42	0.0017
24-Apr-19	1.23	0.00104
2-Oct-19	0.98	0.000709
17-Jun-20	0.907	0.00076
8-Oct-20	0.882	0.0006
31-Mar-21	0.839	0.0006

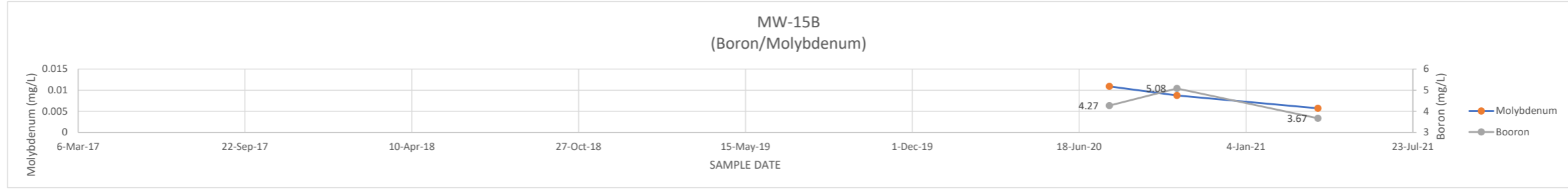


Yellow Indicates Reported Below shown value (MDL)

MW-15A DATE	BORON	MOLYBDENUM
9-Aug-17	3.38	0.255
24-May-18	4.83	
1-Aug-18	3.7	0.202
10-Aug-18	4.14	0.182
2-Oct-18	3.76	0.233
10-Jan-19	3.52	0.205
25-Apr-19	3.61	0.219
2-Oct-19	3.19	0.196
18-Jun-20	4.57	0.269
8-Oct-20	3.33	0.167
31-Mar-21	3.35	0.168

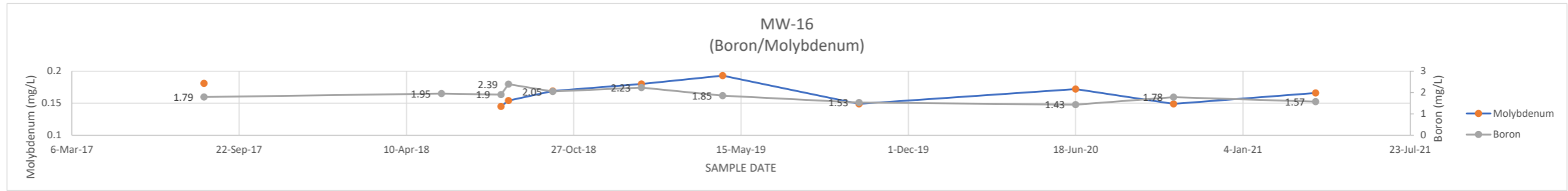


MW-15B DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	4.27	0.0109
13-Oct-20	5.08	0.00876
31-Mar-21	3.67	0.00571

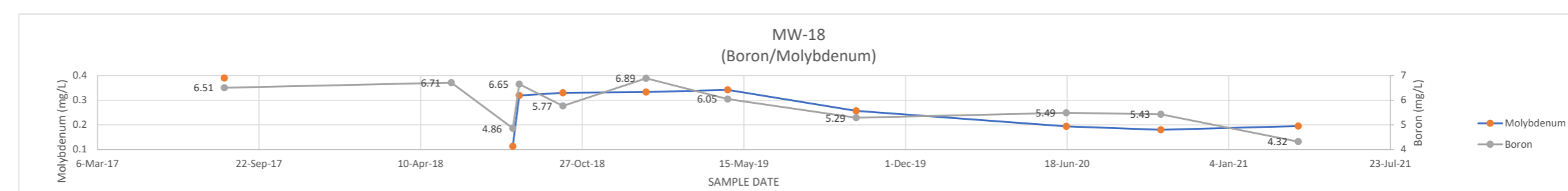


ATTACHMENT E-1  
CHANGES IN BORON AND MOLYBDENUM CONCENTRATIONS

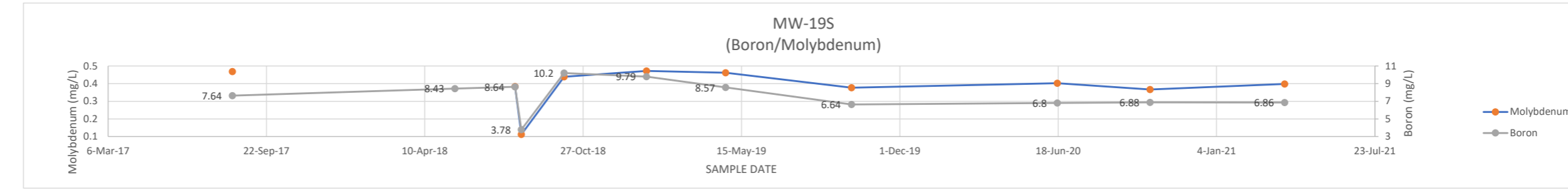
MW-16	BORON	MOLYBDENUM
DATE		
11-Aug-17	1.79	0.181
22-May-18	1.95	
1-Aug-18	1.9	0.145
10-Aug-18	2.39	0.154
2-Oct-18	2.05	0.169
16-Jan-19	2.23	0.18
23-Apr-19	1.85	0.193
3-Oct-19	1.53	0.149
18-Jun-20	1.43	0.172
13-Oct-20	1.78	0.149
1-Apr-21	1.57	0.166



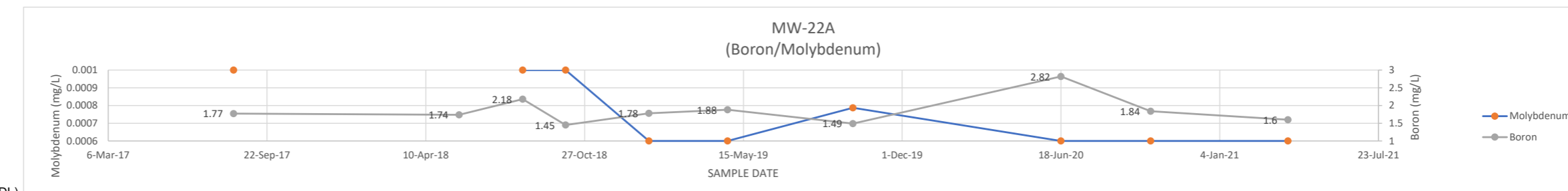
MW-18	BORON	MOLYBDENUM
DATE		
10-Aug-17	6.51	0.39
18-May-18	6.71	
2-Aug-18	4.86	0.113
10-Aug-18	6.65	0.319
3-Oct-18	5.77	0.33
14-Jan-19	6.89	0.333
25-Apr-19	6.05	0.342
1-Oct-19	5.29	0.257
17-Jun-20	5.49	0.194
12-Oct-20	5.43	0.18
31-Mar-21	4.32	0.195



MW-19S	BORON	MOLYBDENUM
DATE		
10-Aug-17	7.64	0.469
18-May-18	8.43	
2-Aug-18	8.64	0.384
10-Aug-18	3.78	0.112
3-Oct-18	10.2	0.439
15-Jan-19	9.79	0.472
25-Apr-19	8.57	0.462
1-Oct-19	6.64	0.377
17-Jun-20	6.8	0.402
12-Oct-20	6.88	0.367
31-Mar-21	6.86	0.398

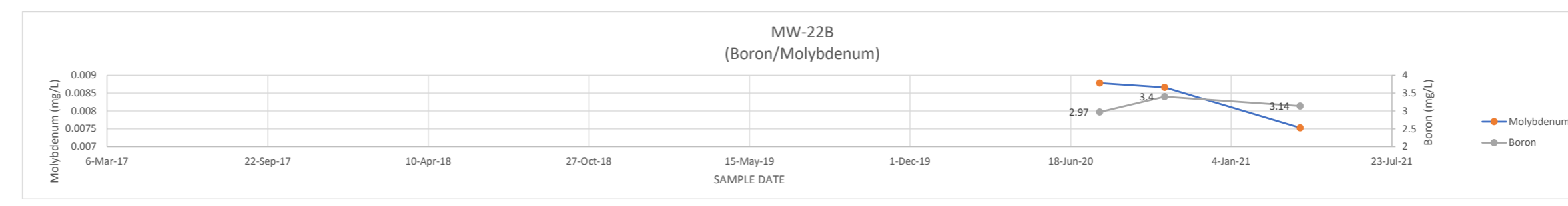


MW-22A	BORON	MOLYBDENUM
DATE		
11-Aug-17	1.77	0.001
22-May-18	1.74	
10-Aug-18	2.18	0.001
3-Oct-18	1.45	0.001
16-Jan-19	1.78	0.0006
25-Apr-19	1.88	0.0006
30-Sep-19	1.49	0.000787
18-Jun-20	2.82	0.0006
9-Oct-20	1.84	0.0006
31-Mar-21	1.6	0.0006



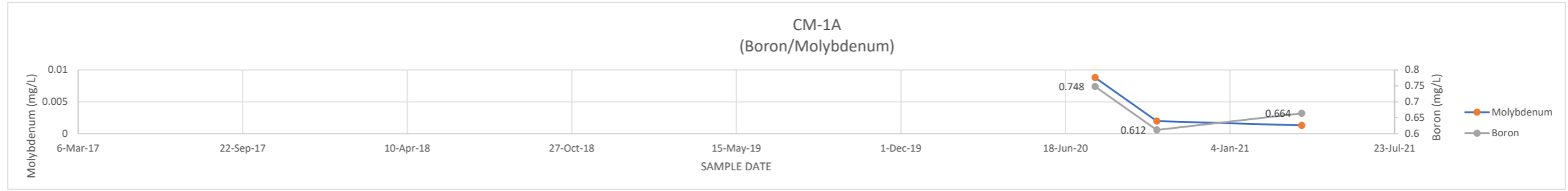
Yellow Indicates Reported Below shown value (MDL)

MW-22B	BORON	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2.97	0.00878
13-Oct-20	3.4	0.00866
31-Mar-21	3.14	0.00753

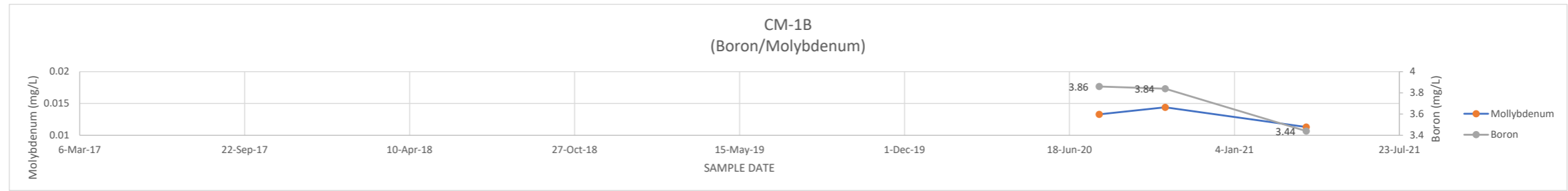


ATTACHMENT E-1  
CHANGES IN BORON AND MOLYBDENUM CONCENTRATIONS

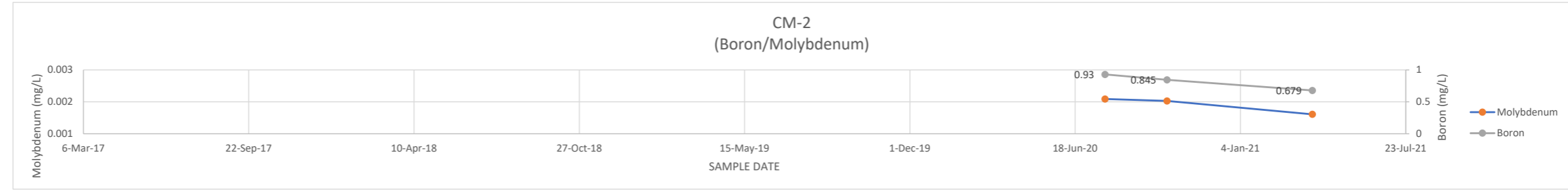
CM-1A DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.748	0.0088
7-Oct-20	0.612	0.00198
1-Apr-21	0.664	0.00132



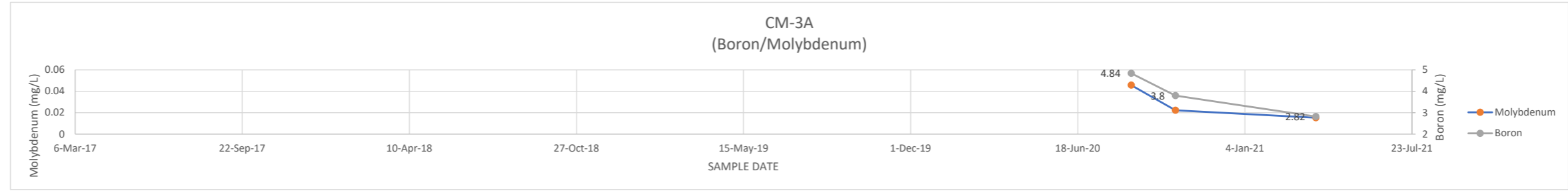
CM-1B DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.86	0.0133
12-Oct-20	3.84	0.0144
1-Apr-21	3.44	0.0113



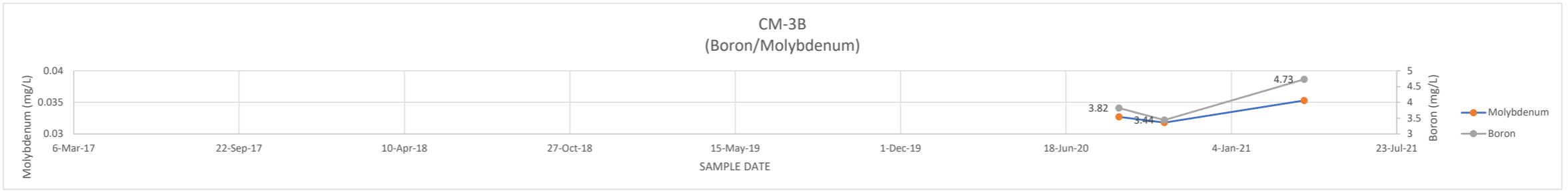
CM-2 DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.93	0.00209
7-Oct-20	0.845	0.00203
1-Apr-21	0.679	0.00161



CM-3A DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	4.84	0.0457
13-Oct-20	3.8	0.0222
30-Mar-21	2.82	0.0153

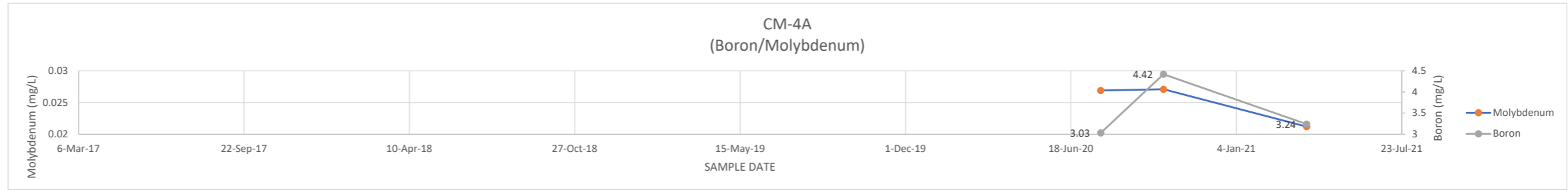


CM-3B DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	3.82	0.0327
15-Oct-20	3.44	0.0318
2-Apr-21	4.73	0.0353

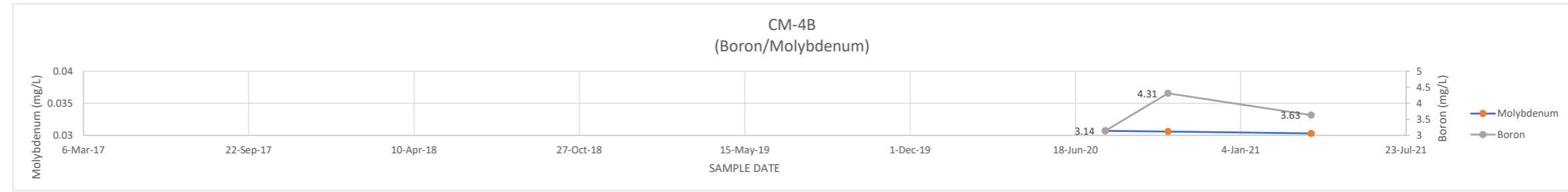


ATTACHMENT E-1  
CHANGES IN BORON AND MOLYBDENUM CONCENTRATIONS

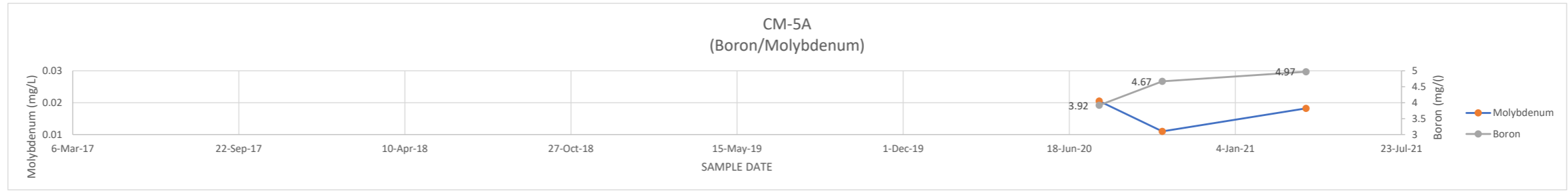
CM-4A DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.03	0.0269
8-Oct-20	4.42	0.0271
30-Mar-21	3.24	0.0212



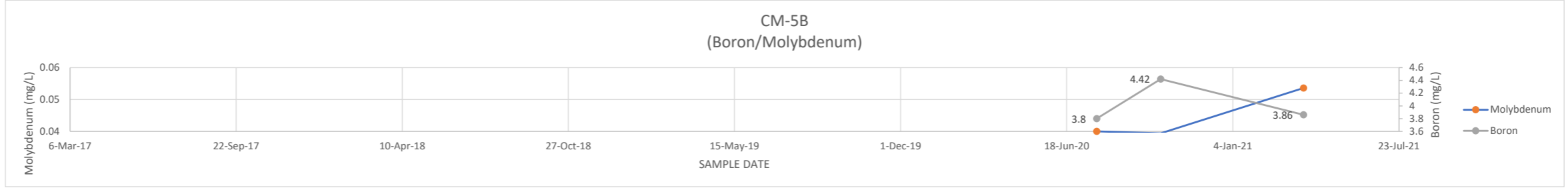
CM-4B DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.14	0.0307
8-Oct-20	4.31	0.0306
30-Mar-21	3.63	0.0303



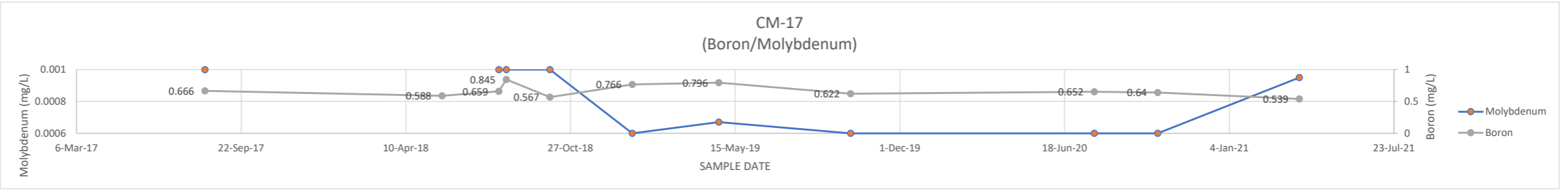
CM-5A DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.92	0.0205
8-Oct-20	4.67	0.011
30-Mar-21	4.97	0.0182



CM-5B DATE	BORON	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.8	0.04
9-Oct-20	4.42	0.0394
30-Mar-21	3.86	0.0536



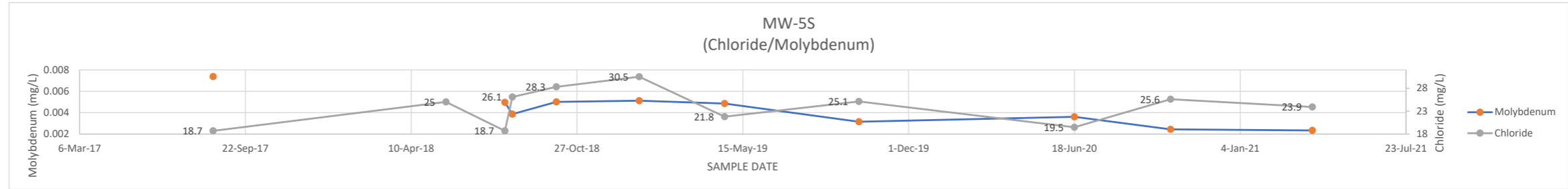
MW-17 DATE	BORON	MOLYBDENUM
9-Aug-17	0.666	0.001
24-May-18	0.588	
1-Aug-18	0.659	0.001
10-Aug-18	0.845	0.001
2-Oct-18	0.567	0.001
10-Jan-19	0.766	0.0006
25-Apr-19	0.796	0.000671
2-Oct-19	0.622	0.0006
24-Jul-20	0.652	0.0006
9-Oct-20	0.64	0.0006
30-Mar-21	0.539	0.00095



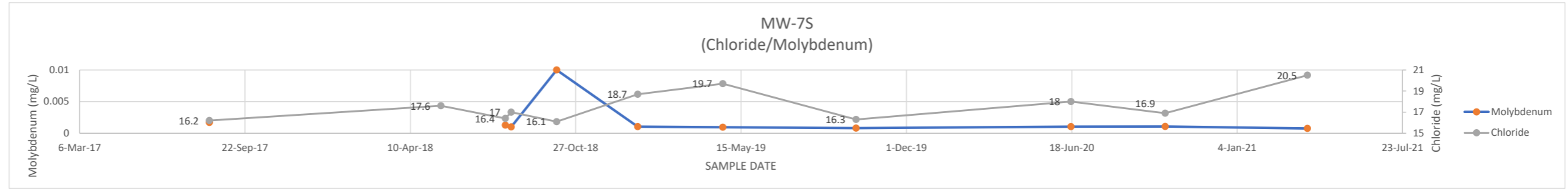
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-2  
CHANGES IN CHLORIDE AND MOLYBDENUM CONCENTRATIONS

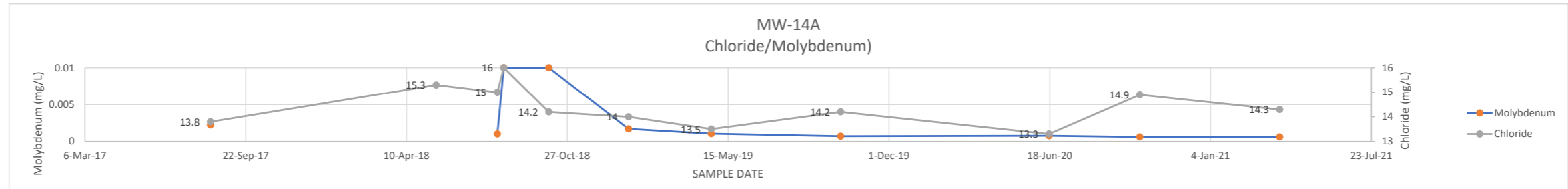
MW-5S	DATE	CHLORIDE	MOLYBDENUM
14-Aug-17	18.7	0.00737	
22-May-18	25		
1-Aug-18	18.7	0.00497	
10-Aug-18	26.1	0.00387	
2-Oct-18	28.3	0.005	
10-Jan-19	30.5	0.00512	
23-Apr-19	21.8	0.00485	
2-Oct-19	25.1	0.00315	
18-Jun-20	19.5	0.00361	
12-Oct-20	25.6	0.00244	
1-Apr-21	23.9	0.00234	



MW-7S	DATE	CHLORIDE	MOLYBDENUM
10-Aug-17	16.2	0.00171	
17-May-18	17.6		
3-Aug-18	16.4	0.00127	
10-Aug-18	17	0.001	
4-Oct-18	16.1	0.01	
10-Jan-19	18.7	0.00105	
23-Apr-19	19.7	0.000952	
1-Oct-19	16.3	0.000798	
17-Jun-20	18	0.00105	
9-Oct-20	16.9	0.00106	
30-Mar-21	20.5	0.000755	

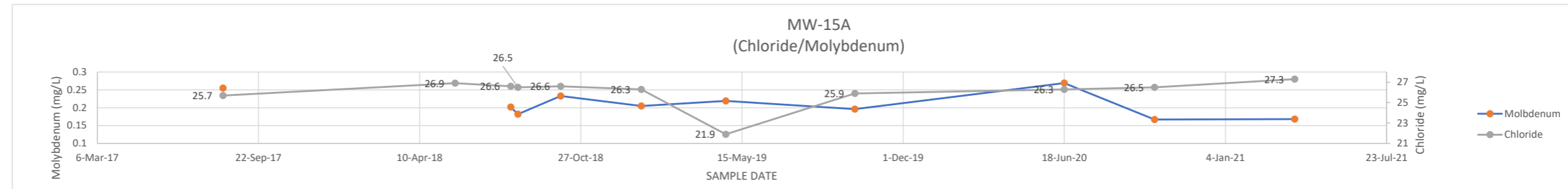


MW-14A	DATE	CHLORIDE	MOLYBDENUM
9-Aug-17	13.8	0.00223	
17-May-18	15.3		
1-Aug-18	15	0.001	
9-Aug-18	16	0.01	
4-Oct-18	14.2	0.01	
11-Jan-19	14	0.0017	
24-Apr-19	13.5	0.00104	
2-Oct-19	14.2	0.000709	
17-Jun-20	13.3	0.00076	
8-Oct-20	14.9	0.0006	
31-Mar-21	14.3	0.0006	

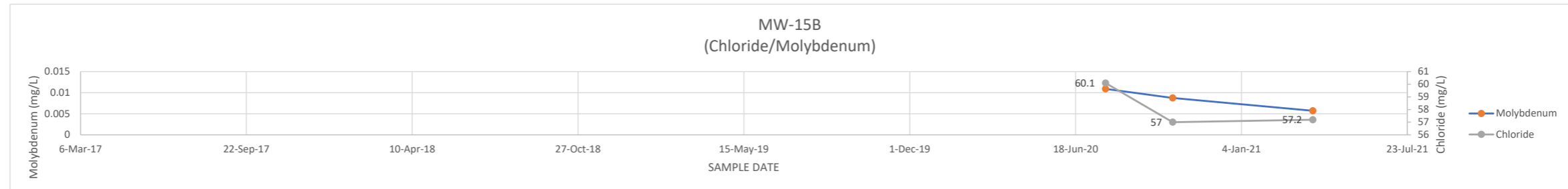


Yellow Indicates Reported Below shown value (MDL)

MW-15A	DATE	CHLORIDE	MOLYBDENUM
9-Aug-17	25.7	0.255	
24-May-18	26.9		
1-Aug-18	26.6	0.202	
10-Aug-18	26.5	0.182	
2-Oct-18	26.6	0.233	
10-Jan-19	26.3	0.205	
25-Apr-19	21.9	0.219	
2-Oct-19	25.9	0.196	
18-Jun-20	26.3	0.269	
8-Oct-20	26.5	0.167	
31-Mar-21	27.3	0.168	

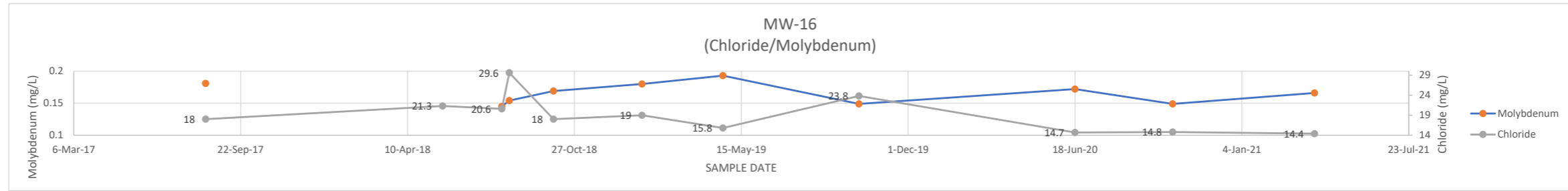


MW-15B	DATE	CHLORIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	60.1	0.0109	
13-Oct-20	57	0.00876	
31-Mar-21	57.2	0.00571	

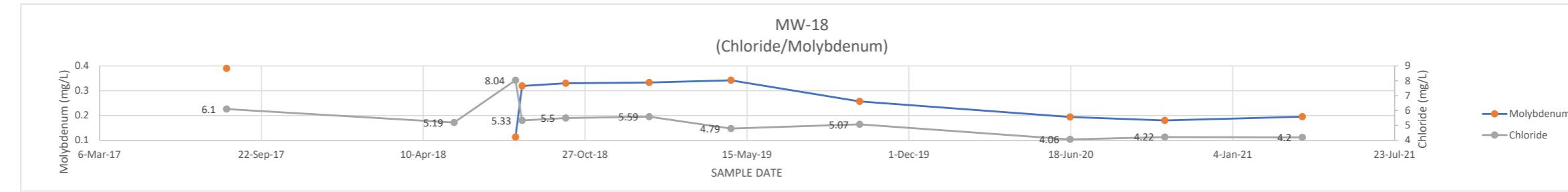


ATTACHMENT E-2  
CHANGES IN CHLORIDE AND MOLYBDENUM CONCENTRATIONS

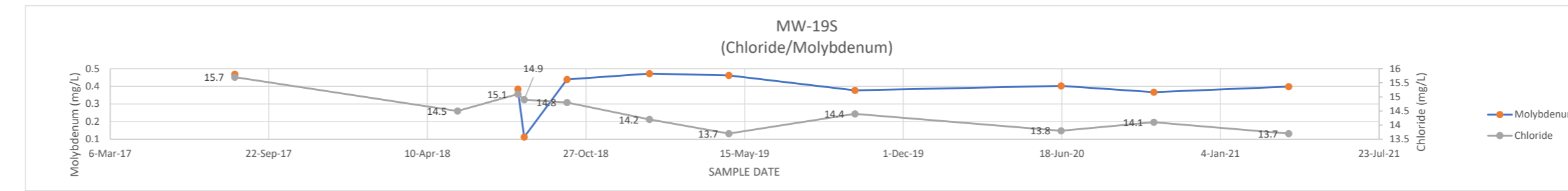
MW-16	DATE	CHLORIDE	MOLYBDENUM
	11-Aug-17	18	0.181
	22-May-18	21.3	
	1-Aug-18	20.6	0.145
	10-Aug-18	29.6	0.154
	2-Oct-18	18	0.169
	16-Jan-19	19	0.18
	23-Apr-19	15.8	0.193
	3-Oct-19	23.8	0.149
	18-Jun-20	14.7	0.172
	13-Oct-20	14.8	0.149
	1-Apr-21	14.4	0.166



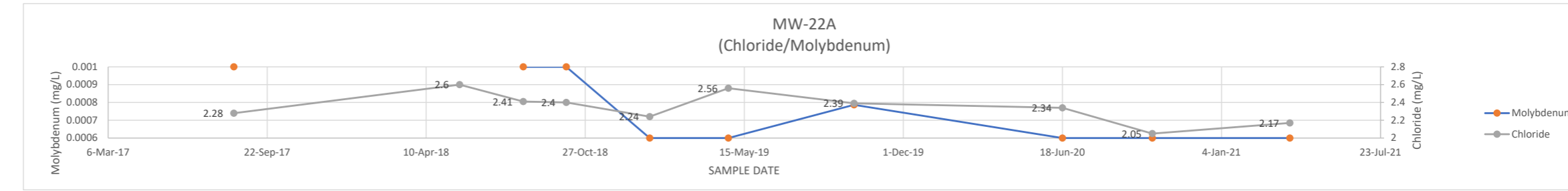
MW-18	DATE	CHLORIDE	MOLYBDENUM
	10-Aug-17	6.1	0.39
	18-May-18	5.19	
	2-Aug-18	8.04	0.113
	10-Aug-18	5.33	0.319
	3-Oct-18	5.5	0.33
	14-Jan-19	5.59	0.333
	25-Apr-19	4.79	0.342
	1-Oct-19	5.07	0.257
	17-Jun-20	4.06	0.194
	12-Oct-20	4.22	0.18
	31-Mar-21	4.2	0.195



MW-19S	DATE	CHLORIDE	MOLYBDENUM
	10-Aug-17	15.7	0.469
	18-May-18	14.5	
	2-Aug-18	15.1	0.384
	10-Aug-18	14.9	0.112
	3-Oct-18	14.8	0.439
	15-Jan-19	14.2	0.472
	25-Apr-19	13.7	0.462
	1-Oct-19	14.4	0.377
	17-Jun-20	13.8	0.402
	12-Oct-20	14.1	0.367
	31-Mar-21	13.7	0.398

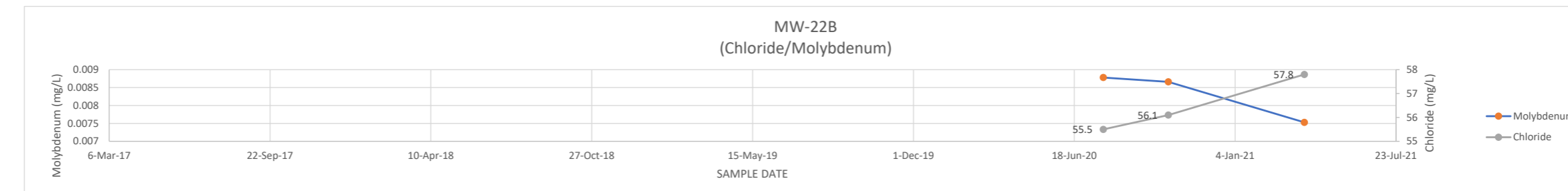


MW-22A	DATE	CHLORIDE	MOLYBDENUM
	11-Aug-17	2.28	0.001
	22-May-18	2.6	
	10-Aug-18	2.41	0.001
	3-Oct-18	2.4	0.001
	16-Jan-19	2.24	0.0006
	25-Apr-19	2.56	0.0006
	30-Sep-19	2.39	0.000787
	18-Jun-20	2.34	0.0006
	9-Oct-20	2.05	0.0006
	31-Mar-21	2.17	0.0006



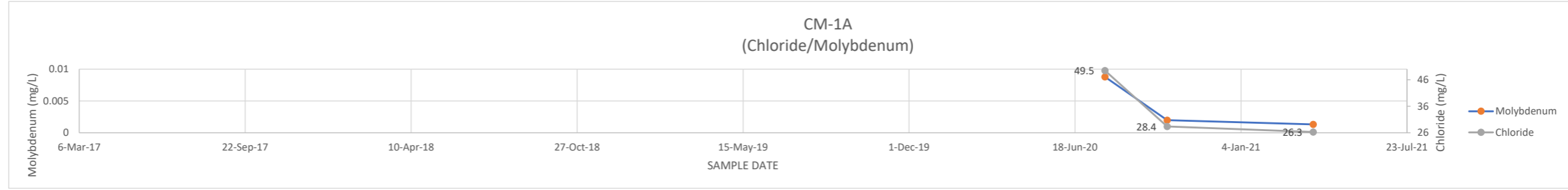
Yellow Indicates Reported Below shown value (MDL)

MW-22B	DATE	CHLORIDE	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20	55.5	0.00878
	13-Oct-20	56.1	0.00866
	31-Mar-21	57.8	0.00753

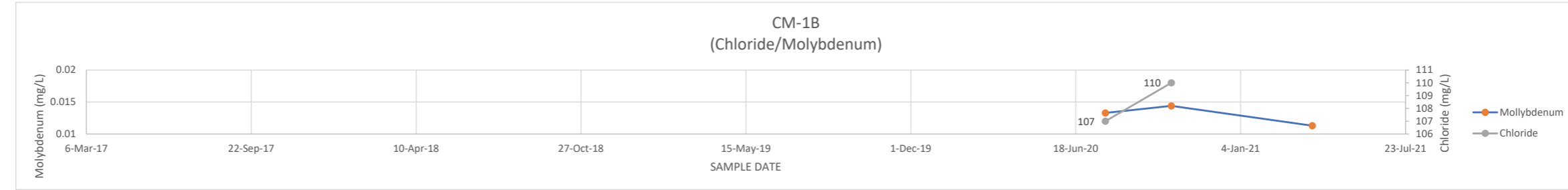


ATTACHMENT E-2  
CHANGES IN CHLORIDE AND MOLYBDENUM CONCENTRATIONS

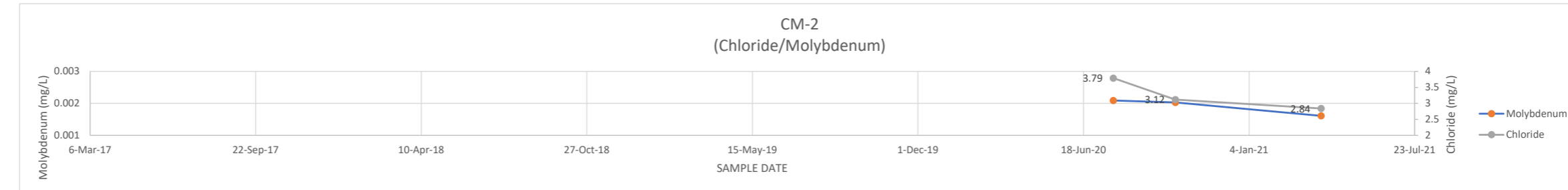
CM-1A DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	49.5	0.0088
7-Oct-20	28.4	0.00198
1-Apr-21	26.3	0.00132



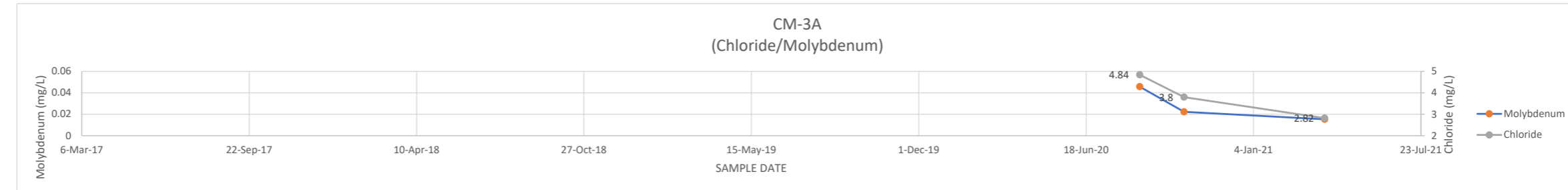
CM-1B DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	107	0.0133
12-Oct-20	110	0.0144
1-Apr-21		0.0113



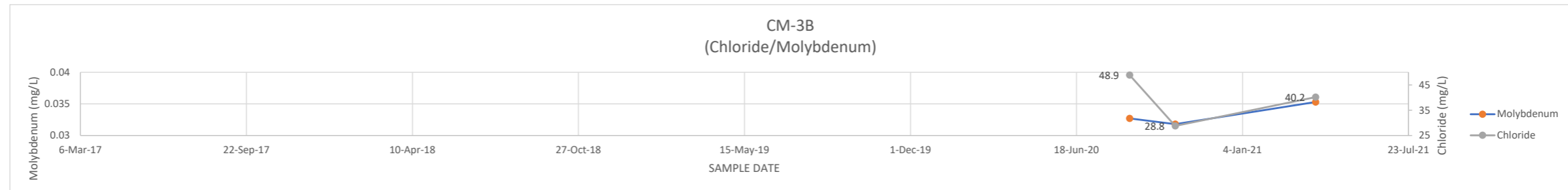
CM-2 DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.79	0.00209
7-Oct-20	3.12	0.00203
1-Apr-21	2.84	0.00161
	3.49	



CM-3A DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	4.84	0.0457
13-Oct-20	3.8	0.0222
30-Mar-21	2.82	0.0153



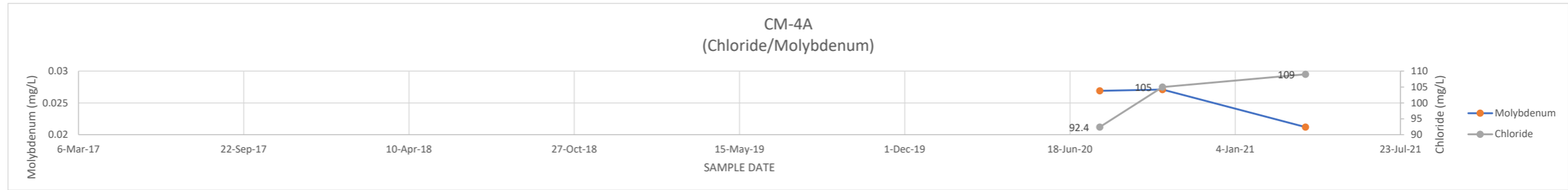
CM-3B DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	48.9	0.0327
15-Oct-20	28.8	0.0318
2-Apr-21	40.2	0.0353



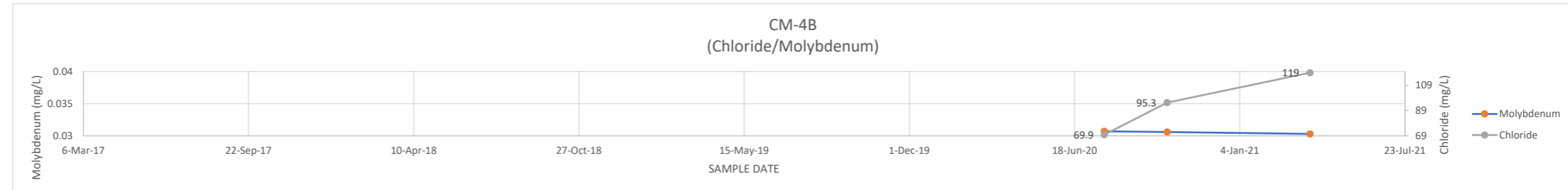


ATTACHMENT E-2  
CHANGES IN CHLORIDE AND MOLYBDENUM CONCENTRATIONS

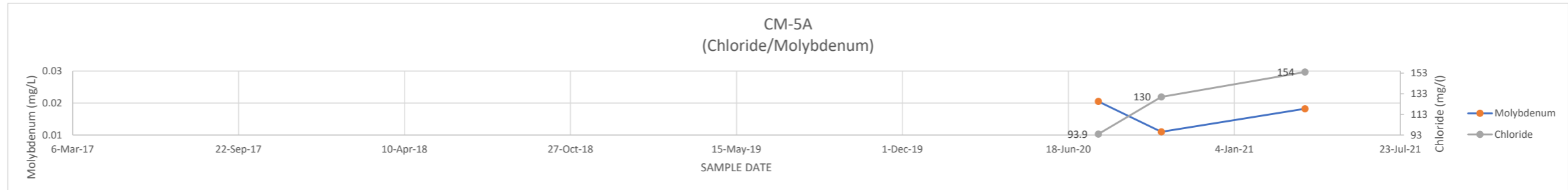
CM-4A DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	92.4	0.0269
8-Oct-20	105	0.0271
30-Mar-21	109	0.0212



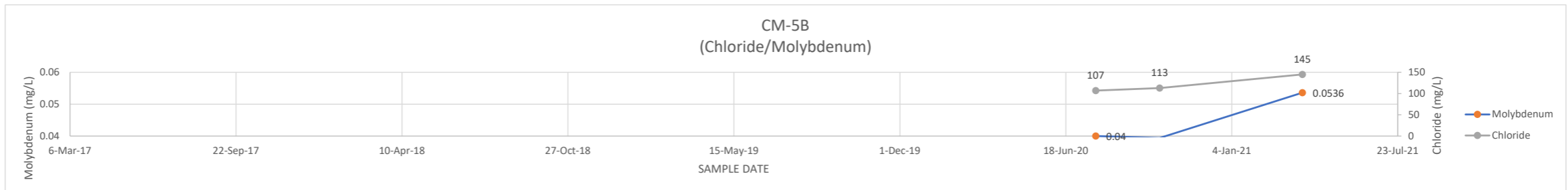
CM-4B DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	69.9	0.0307
8-Oct-20	95.3	0.0306
30-Mar-21	119	0.0303



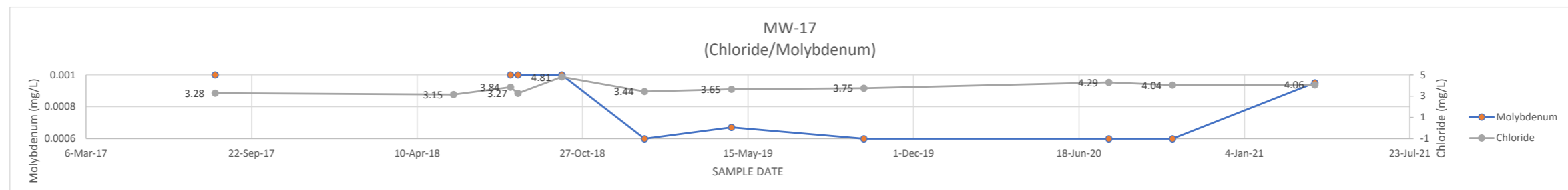
CM-5A DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	93.9	0.0205
8-Oct-20	130	0.011
30-Mar-21	154	0.0182



CM-5B DATE	CHLORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	107	0.04
9-Oct-20	113	0.0394
30-Mar-21	145	0.0536



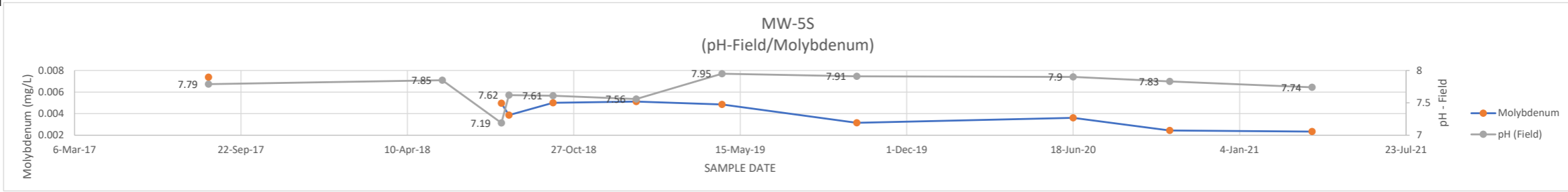
MW-17 DATE	CHLORIDE	MOLYBDENUM
9-Aug-17	3.28	0.001
24-May-18	3.15	
1-Aug-18	3.84	0.001
10-Aug-18	3.27	0.001
2-Oct-18	4.81	0.001
10-Jan-19	3.44	0.0006
25-Apr-19	3.65	0.000671
2-Oct-19	3.75	0.0006
24-Jul-20	4.29	0.0006
9-Oct-20	4.04	0.0006
30-Mar-21	4.06	0.00095



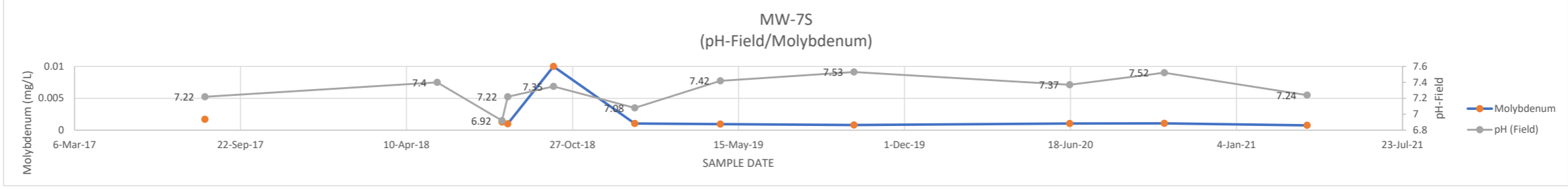
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-3A  
CHANGES IN PH (FIELD) AND MOLYBDENUM CONCENTRATIONS

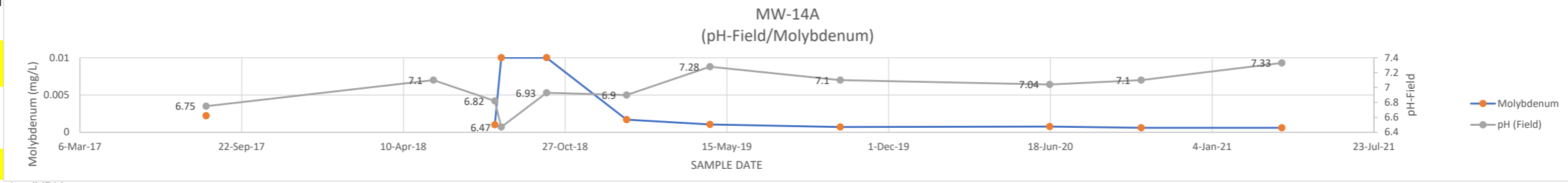
MW-5S	DATE	pH Field	MOLYBDENUM
14-Aug-17	7.79	0.00737	
22-May-18	7.85		
1-Aug-18	7.19	0.00497	
10-Aug-18	7.62	0.00387	
2-Oct-18	7.61	0.005	
10-Jan-19	7.56	0.00512	
23-Apr-19	7.95	0.00485	
2-Oct-19	7.91	0.00315	
18-Jun-20	7.9	0.00361	
12-Oct-20	7.83	0.00244	
1-Apr-21	7.74	0.00234	



MW-7S	DATE	pH Field	MOLYBDENUM
10-Aug-17	7.22	0.00171	
17-May-18	7.4		
3-Aug-18	6.92	0.00127	
10-Aug-18	7.22	0.001	
4-Oct-18	7.35	0.01	
10-Jan-19	7.08	0.00105	
23-Apr-19	7.42	0.000952	
1-Oct-19	7.53	0.000798	
17-Jun-20	7.37	0.00105	
9-Oct-20	7.52	0.00106	
30-Mar-21	7.24	0.000755	

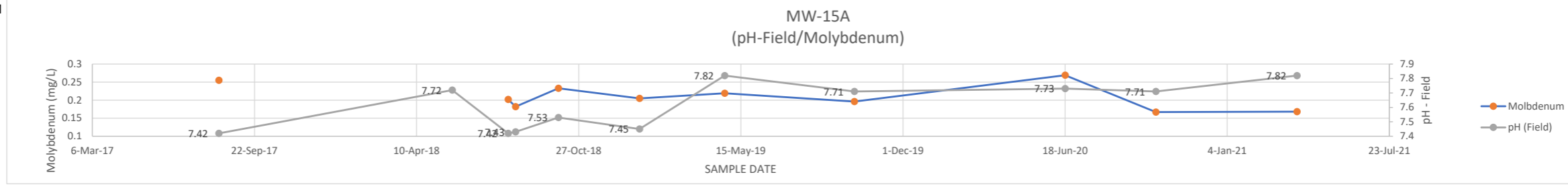


MW-14A	DATE	pH Field	MOLYBDENUM
9-Aug-17	6.75	0.00223	
17-May-18	7.1		
1-Aug-18	6.82	0.001	
9-Aug-18	6.47	0.01	
4-Oct-18	6.93	0.01	
11-Jan-19	6.9	0.0017	
24-Apr-19	7.28	0.00104	
2-Oct-19	7.1	0.000709	
17-Jun-20	7.04	0.00076	
8-Oct-20	7.1	0.0006	
31-Mar-21	7.33	0.0006	

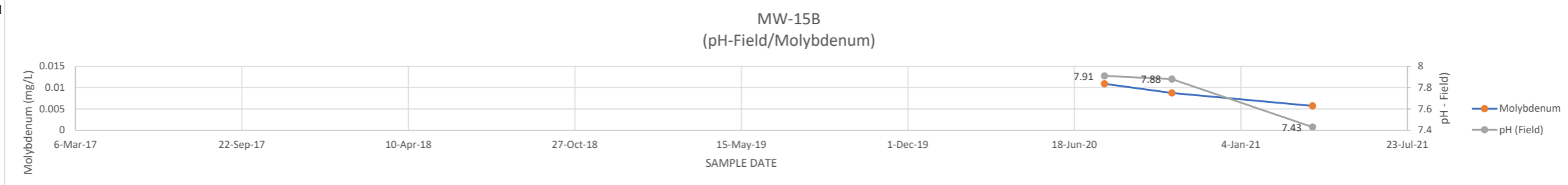


Yellow Indicates Reported Below shown value (MDL)

MW-15A	DATE	pH Field	MOLYBDENUM
9-Aug-17	7.42	0.255	
24-May-18	7.72		
1-Aug-18	7.42	0.202	
10-Aug-18	7.43	0.182	
2-Oct-18	7.53	0.233	
10-Jan-19	7.45	0.205	
25-Apr-19	7.82	0.219	
2-Oct-19	7.71	0.196	
18-Jun-20	7.73	0.269	
8-Oct-20	7.71	0.167	
31-Mar-21	7.82	0.168	

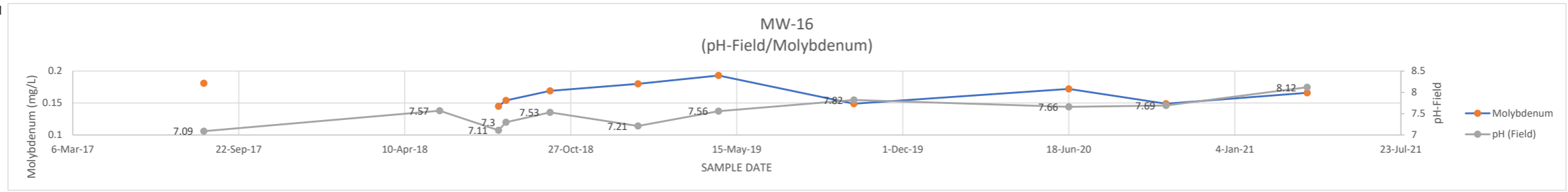


MW-15B	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.91	0.0109	
13-Oct-20	7.88	0.00876	
31-Mar-21	7.43	0.00571	

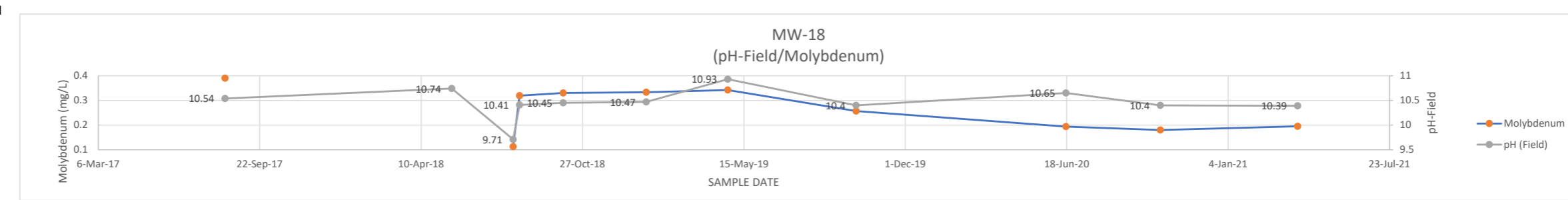


ATTACHMENT E-3A  
CHANGES IN PH (FIELD) AND MOLYBDENUM CONCENTRATIONS

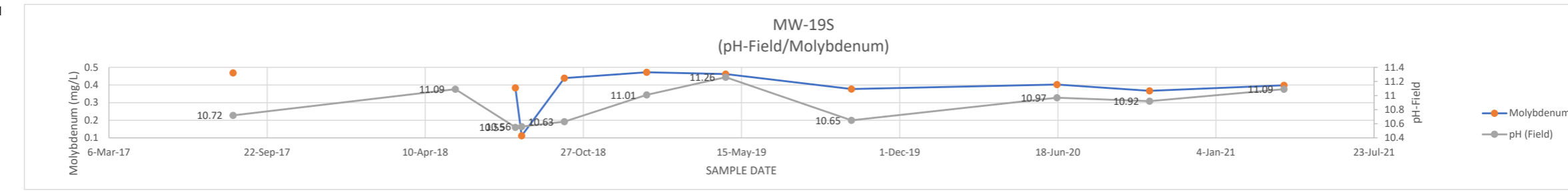
MW-16	DATE	pH Field	MOLYBDENUM
11-Aug-17	7.09	0.181	
22-May-18	7.57		
1-Aug-18	7.11	0.145	
10-Aug-18	7.3	0.154	
2-Oct-18	7.53	0.169	
16-Jan-19	7.21	0.18	
23-Apr-19	7.56	0.193	
3-Oct-19	7.82	0.149	
18-Jun-20	7.66	0.172	
13-Oct-20	7.69	0.149	
1-Apr-21	8.12	0.166	



MW-18	DATE	pH Field	MOLYBDENUM
10-Aug-17	10.54	0.39	
18-May-18	10.74		
2-Aug-18	9.71	0.113	
10-Aug-18	10.41	0.319	
3-Oct-18	10.45	0.33	
14-Jan-19	10.47	0.333	
25-Apr-19	10.93	0.342	
1-Oct-19	10.4	0.257	
17-Jun-20	10.65	0.194	
12-Oct-20	10.4	0.18	
31-Mar-21	10.39	0.195	

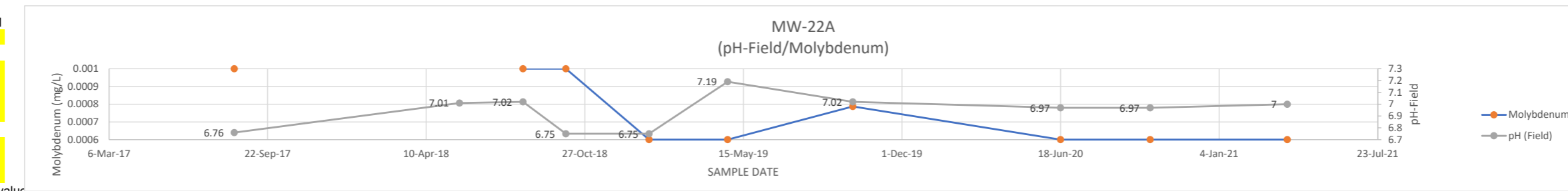


MW-19S	DATE	pH Field	MOLYBDENUM
10-Aug-17	10.72	0.469	
18-May-18	11.09		
2-Aug-18	10.55	0.384	
10-Aug-18	10.56	0.112	
3-Oct-18	10.63	0.439	
15-Jan-19	11.01	0.472	
25-Apr-19	11.26	0.462	
1-Oct-19	10.65	0.377	
17-Jun-20	10.97	0.402	
12-Oct-20	10.92	0.367	
31-Mar-21	11.09	0.398	

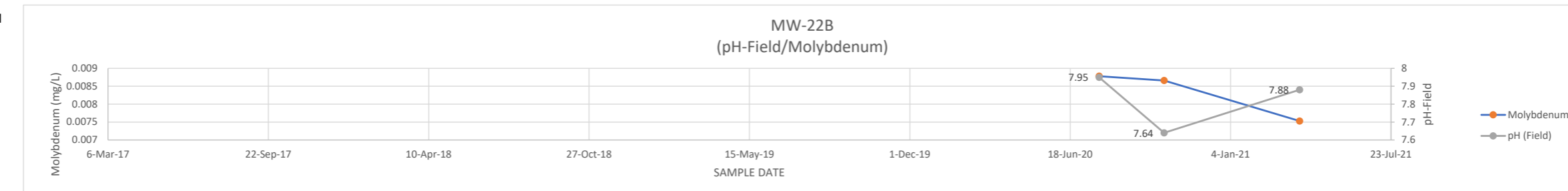


MW-22A	DATE	pH Field	MOLYBDENUM
11-Aug-17	6.76	0.001	
22-May-18	7.01		
10-Aug-18	7.02	0.001	
3-Oct-18	6.75	0.001	
16-Jan-19	6.75	0.0006	
25-Apr-19	7.19	0.0006	
30-Sep-19	7.02	0.000787	
18-Jun-20	6.97	0.0006	
9-Oct-20	6.97	0.0006	
31-Mar-21	7	0.0006	

Yellow Indicates Reported Below shown value (mg/L)

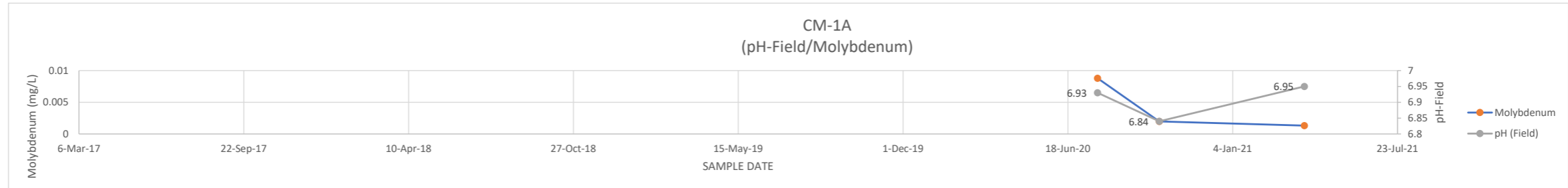


MW-22B	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.95	0.00878	
13-Oct-20	7.64	0.00866	
31-Mar-21	7.88	0.00753	

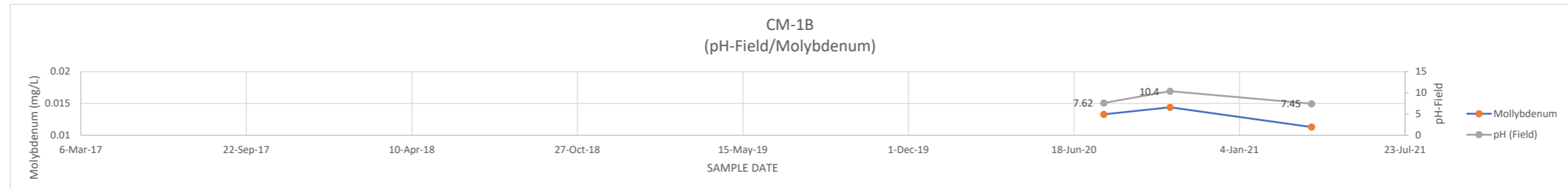


ATTACHMENT E-3A  
CHANGES IN PH (FIELD) AND MOLYBDENUM CONCENTRATIONS

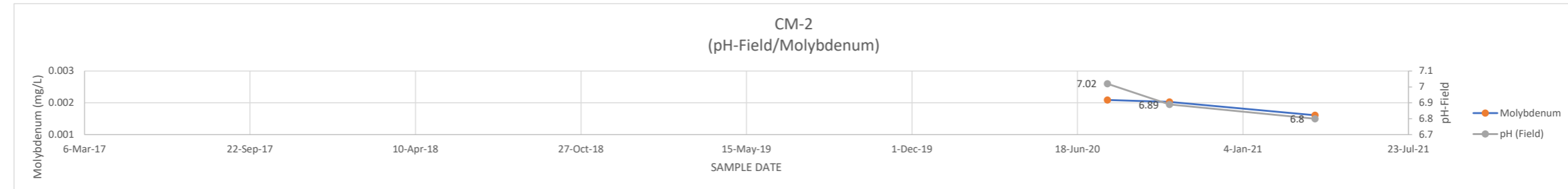
CM-1A	pH Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	6.93	0.0088
7-Oct-20	6.84	0.00198
1-Apr-21	6.95	0.00132



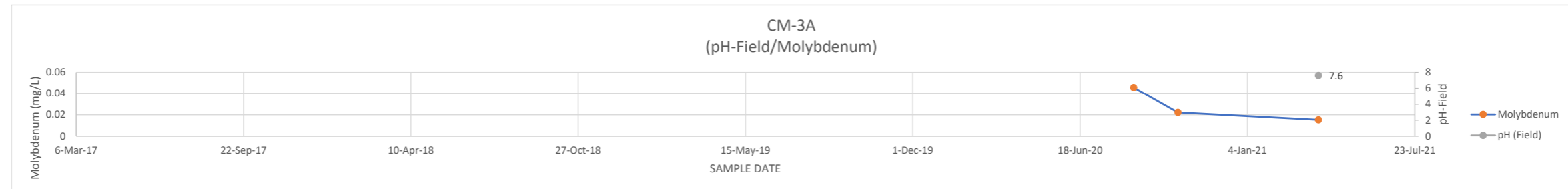
CM-1B	pH Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.62	0.0133
12-Oct-20	10.4	0.0144
1-Apr-21	7.45	0.0113



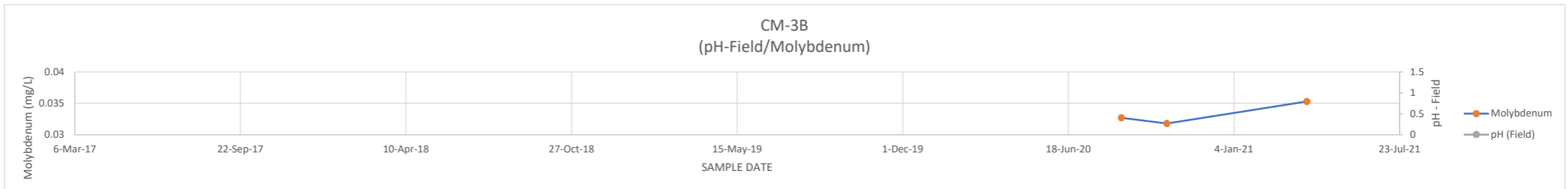
CM-2	pH Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.02	0.00209
7-Oct-20	6.89	0.00203
1-Apr-21	6.8	0.00161



CM-3A	pH Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0457
13-Oct-20		0.0222
30-Mar-21	7.6	0.0153

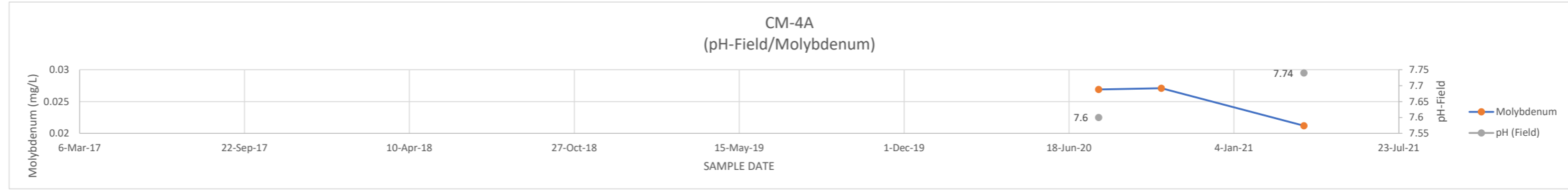


CM-3B	pH Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0327
15-Oct-20		0.0318
2-Apr-21		0.0353

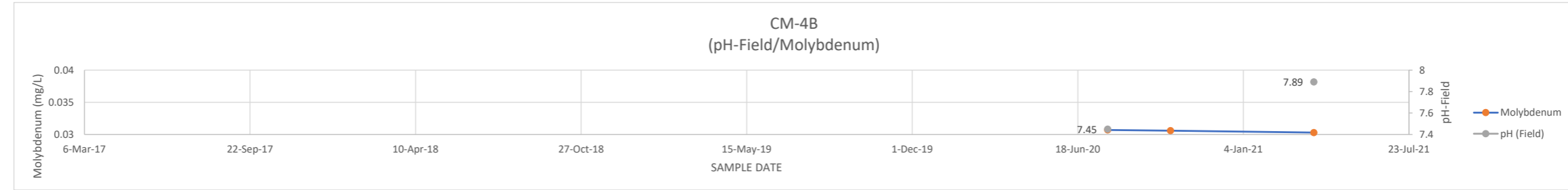


ATTACHMENT E-3A  
CHANGES IN PH (FIELD) AND MOLYBDENUM CONCENTRATIONS

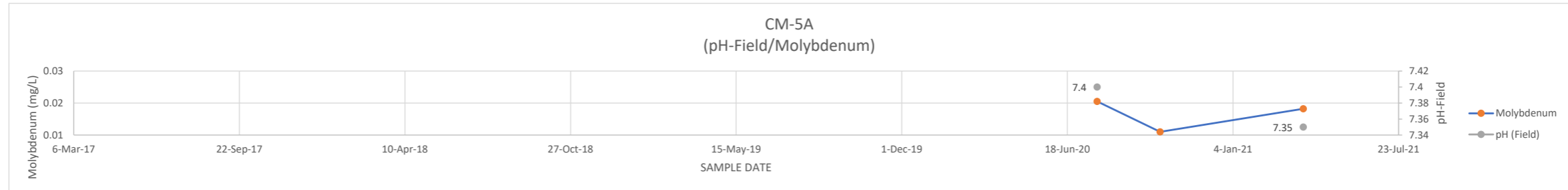
CM-4A	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.6	0.0269	
8-Oct-20		0.0271	
30-Mar-21	7.74	0.0212	



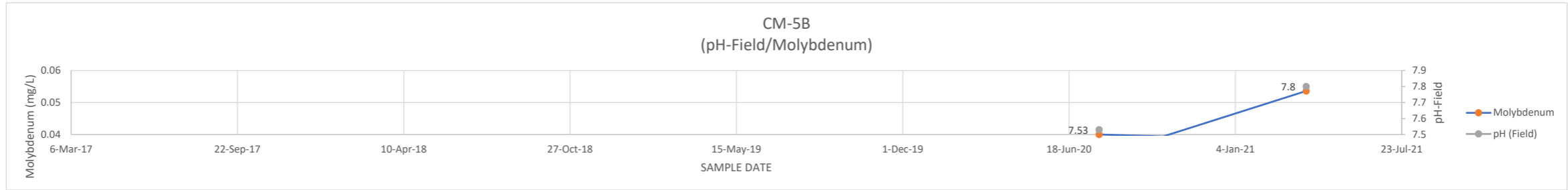
CM-4B	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.45	0.0307	
8-Oct-20		0.0306	
30-Mar-21	7.89	0.0303	



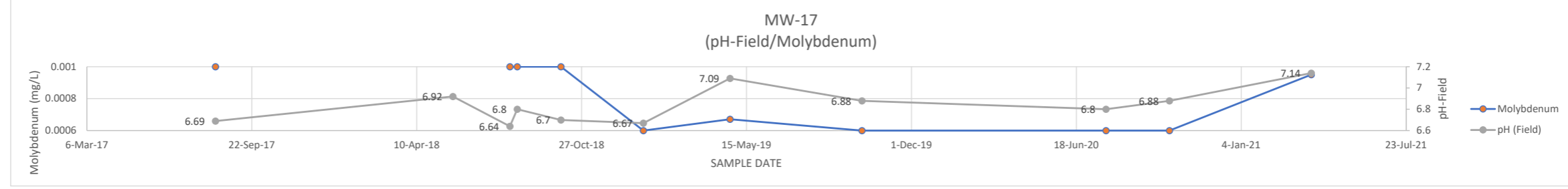
CM-5A	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.4	0.0205	
8-Oct-20		0.011	
30-Mar-21	7.35	0.0182	



CM-5B	DATE	pH Field	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.53	0.04	
9-Oct-20		0.0394	
30-Mar-21	7.8	0.0536	



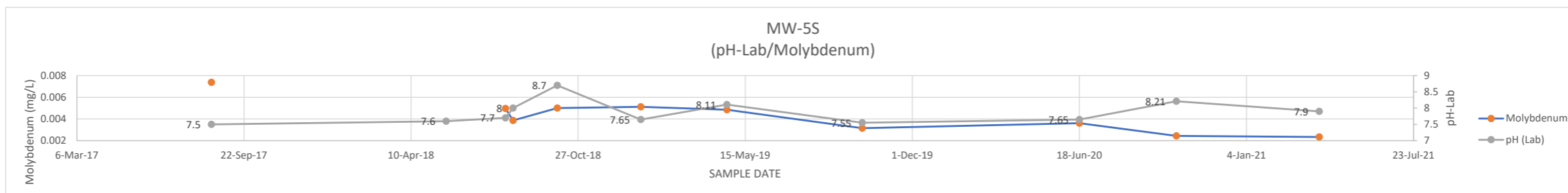
MW-17	DATE	pH Field	MOLYBDENUM
9-Aug-17	6.69	0.001	
24-May-18	6.92		
1-Aug-18	6.64	0.001	
10-Aug-18	6.8	0.001	
2-Oct-18	6.7	0.001	
10-Jan-19	6.67	0.0006	
25-Apr-19	7.09	0.000671	
2-Oct-19	6.88	0.0006	
24-Jul-20	6.8	0.0006	
9-Oct-20	6.88	0.0006	
30-Mar-21	7.14	0.00095	



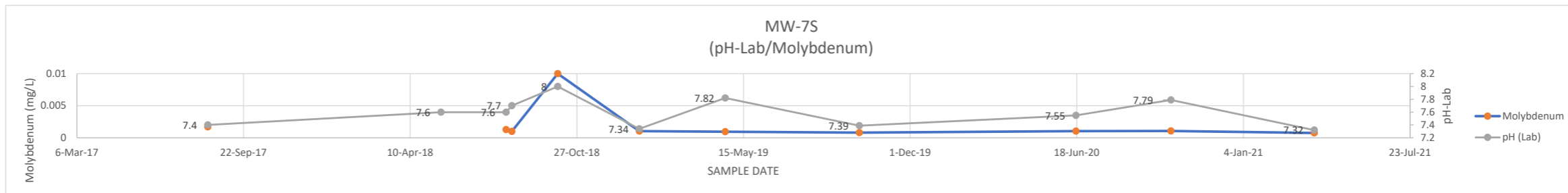
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-3B  
CHANGES IN PH (LAB) AND MOLYBDENUM CONCENTRATIONS

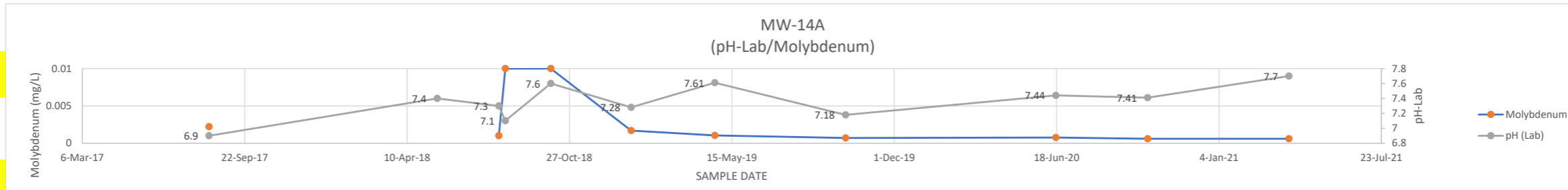
MW-5S	DATE	pH Lab	MOLYBDENUM
14-Aug-17	7.5	0.00737	
22-May-18	7.6		
1-Aug-18	7.7	0.00497	
10-Aug-18	8	0.00387	
2-Oct-18	8.7	0.005	
10-Jan-19	7.65	0.00512	
23-Apr-19	8.11	0.00485	
2-Oct-19	7.55	0.00315	
18-Jun-20	7.65	0.00361	
12-Oct-20	8.21	0.00244	
1-Apr-21	7.9	0.00234	



MW-7S	DATE	pH Lab	MOLYBDENUM
10-Aug-17	7.4	0.00171	
17-May-18	7.6		
3-Aug-18	7.6	0.00127	
10-Aug-18	7.7	0.001	
4-Oct-18	8	0.01	
10-Jan-19	7.34	0.00105	
23-Apr-19	7.82	0.000952	
1-Oct-19	7.39	0.000798	
17-Jun-20	7.55	0.00105	
9-Oct-20	7.79	0.00106	
30-Mar-21	7.32	0.000755	

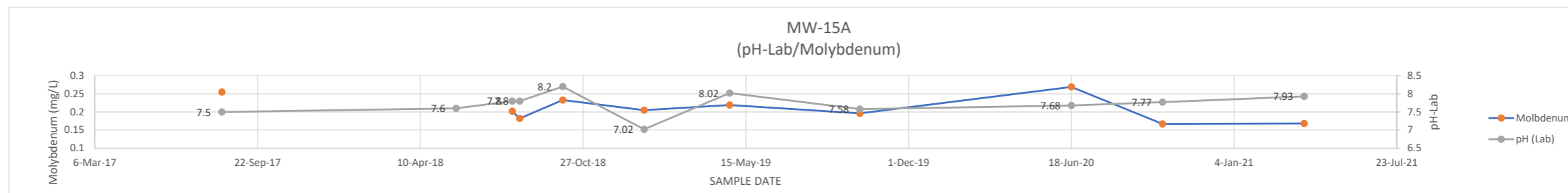


MW-14A	DATE	pH Lab	MOLYBDENUM
9-Aug-17	6.9	0.00223	
17-May-18	7.4		
1-Aug-18	7.3	0.001	
9-Aug-18	7.1	0.01	
4-Oct-18	7.6	0.01	
11-Jan-19	7.28	0.0017	
24-Apr-19	7.61	0.00104	
2-Oct-19	7.18	0.000709	
17-Jun-20	7.44	0.00076	
8-Oct-20	7.41	0.0006	
31-Mar-21	7.7	0.0006	

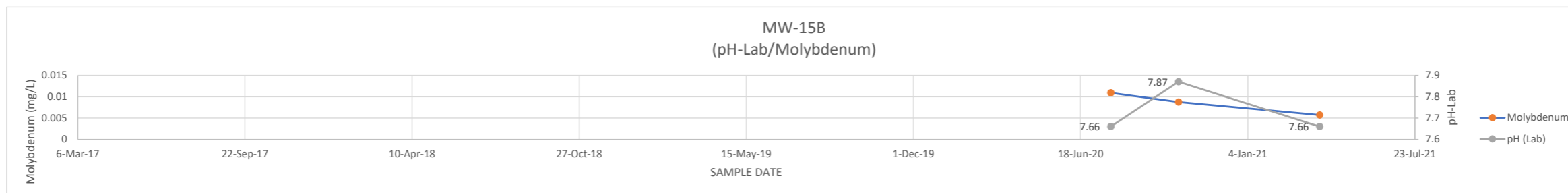


Yellow Indicates Reported Below shown value (MDL)

MW-15A	DATE	pH Lab	MOLYBDENUM
9-Aug-17	7.5	0.255	
24-May-18	7.6		
1-Aug-18	7.8	0.202	
10-Aug-18	7.8	0.182	
2-Oct-18	8.2	0.233	
10-Jan-19	7.02	0.205	
25-Apr-19	8.02	0.219	
2-Oct-19	7.58	0.196	
18-Jun-20	7.68	0.269	
8-Oct-20	7.77	0.167	
31-Mar-21	7.93	0.168	

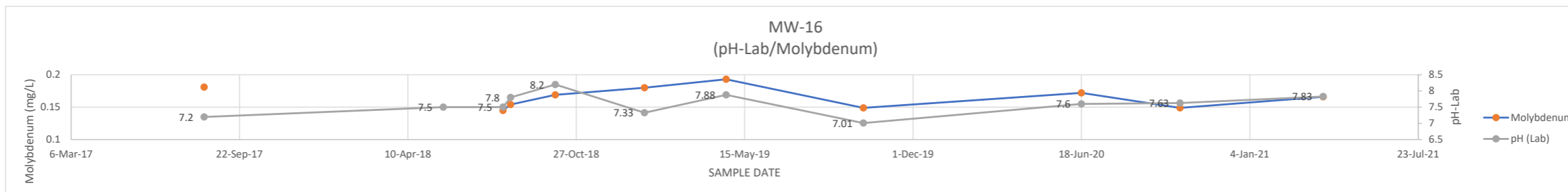


MW-15B	DATE	pH Lab	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.66	0.0109	
13-Oct-20	7.87	0.00876	
31-Mar-21	7.66	0.00571	

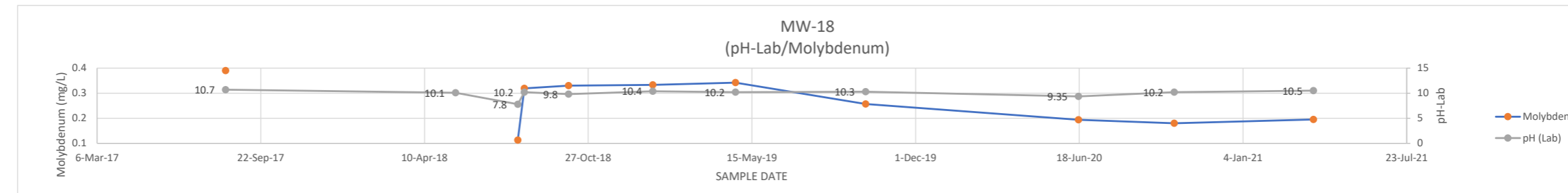


ATTACHMENT E-3B  
CHANGES IN PH (LAB) AND MOLYBDENUM CONCENTRATIONS

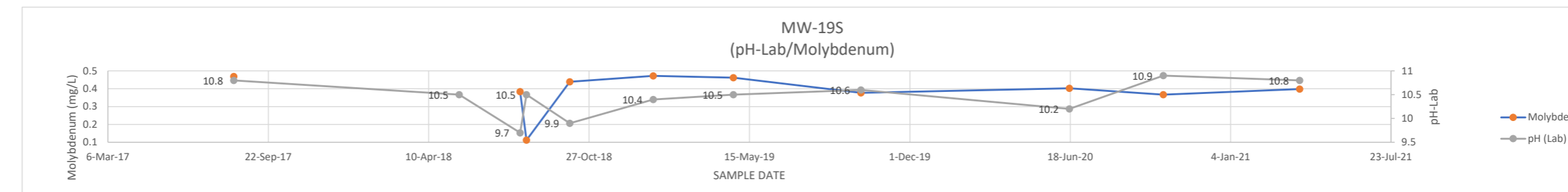
MW-16	DATE	pH Lab	MOLYBDENUM
11-Aug-17	7.2	0.181	
22-May-18	7.5		
1-Aug-18	7.5	0.145	
10-Aug-18	7.8	0.154	
2-Oct-18	8.2	0.169	
16-Jan-19	7.33	0.18	
23-Apr-19	7.88	0.193	
3-Oct-19	7.01	0.149	
18-Jun-20	7.6	0.172	
13-Oct-20	7.63	0.149	
1-Apr-21	7.83	0.166	



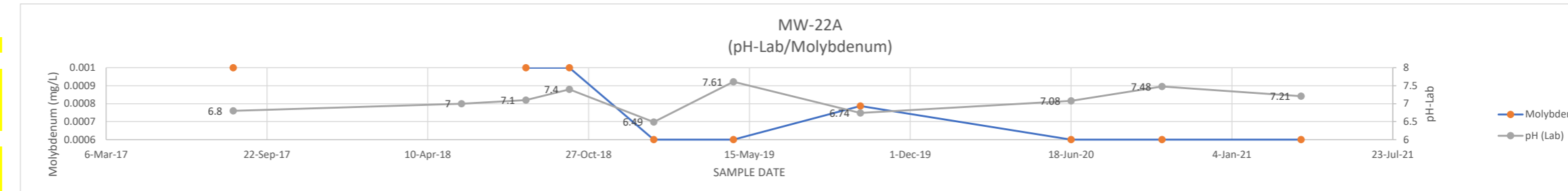
MW-18	DATE	pH Lab	MOLYBDENUM
10-Aug-17	10.7	0.39	
18-May-18	10.1		
2-Aug-18	7.8	0.113	
10-Aug-18	10.2	0.319	
3-Oct-18	9.8	0.33	
14-Jan-19	10.4	0.333	
25-Apr-19	10.2	0.342	
1-Oct-19	10.3	0.257	
17-Jun-20	9.35	0.194	
12-Oct-20	10.2	0.18	
31-Mar-21	10.5	0.195	



MW-19S	DATE	pH Lab	MOLYBDENUM
10-Aug-17	10.8	0.469	
18-May-18	10.5		
2-Aug-18	9.7	0.384	
10-Aug-18	10.5	0.112	
3-Oct-18	9.9	0.439	
15-Jan-19	10.4	0.472	
25-Apr-19	10.5	0.462	
1-Oct-19	10.6	0.377	
17-Jun-20	10.2	0.402	
12-Oct-20	10.9	0.367	
31-Mar-21	10.8	0.398	

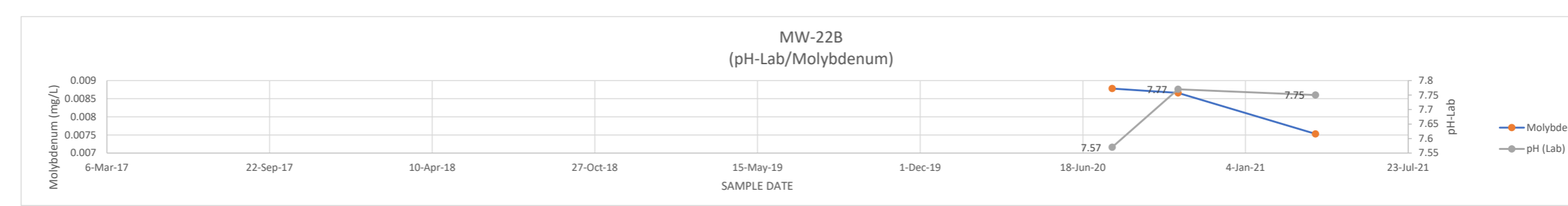


MW-22A	DATE	pH Lab	MOLYBDENUM
11-Aug-17	6.8	0.001	
22-May-18	7		
10-Aug-18	7.1	0.001	
3-Oct-18	7.4	0.001	
16-Jan-19	6.49	0.0006	
25-Apr-19	7.61	0.0006	
30-Sep-19	6.74	0.000787	
18-Jun-20	7.08	0.0006	
9-Oct-20	7.48	0.0006	
31-Mar-21	7.21	0.0006	



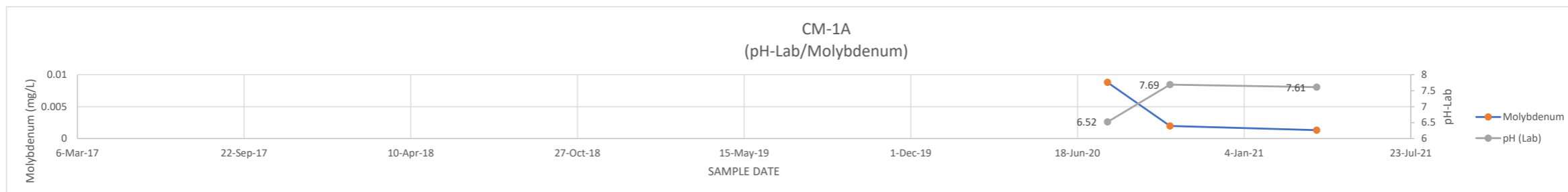
Yellow Indicates Reported Below shown value (MDL)

MW-22B	DATE	pH Lab	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	7.57	0.00878	
13-Oct-20	7.77	0.00866	
31-Mar-21	7.75	0.00753	

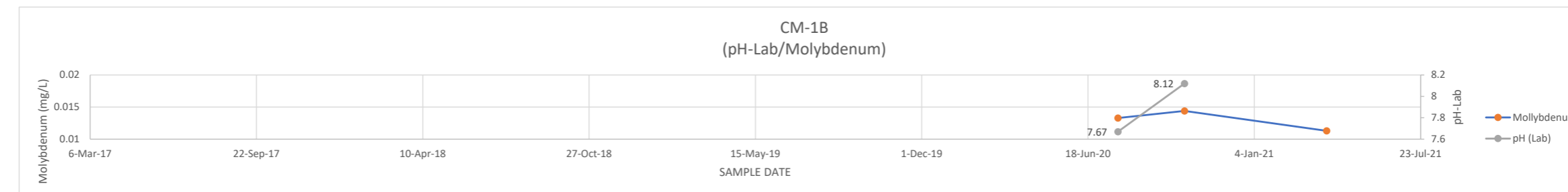


ATTACHMENT E-3B  
CHANGES IN PH (LAB) AND MOLYBDENUM CONCENTRATIONS

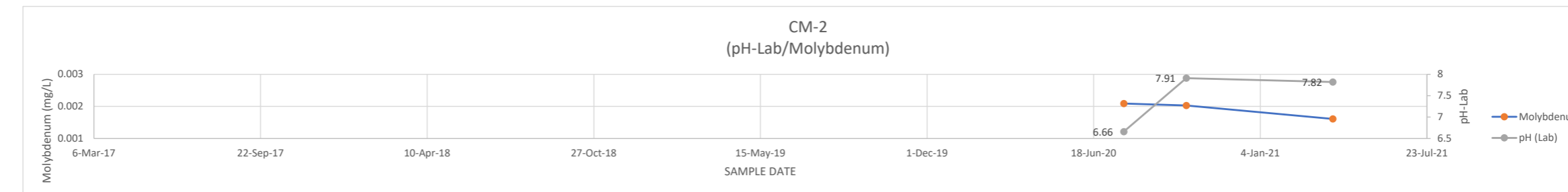
CM-1A DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	6.52	0.0088
7-Oct-20	7.69	0.00198
1-Apr-21	7.61	0.00132



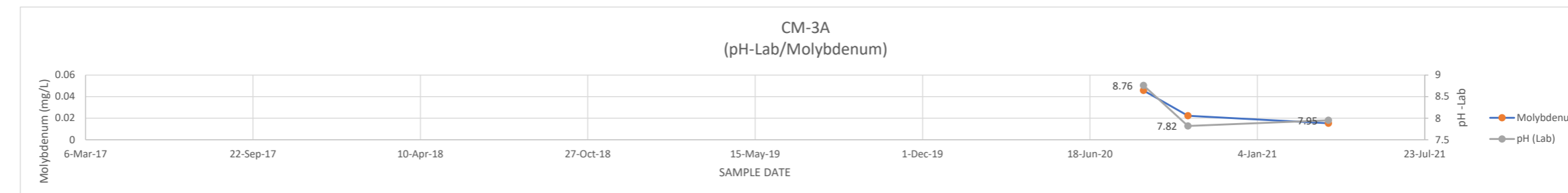
CM-1B DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.67	0.0133
12-Oct-20	8.12	0.0144
1-Apr-21		0.0113



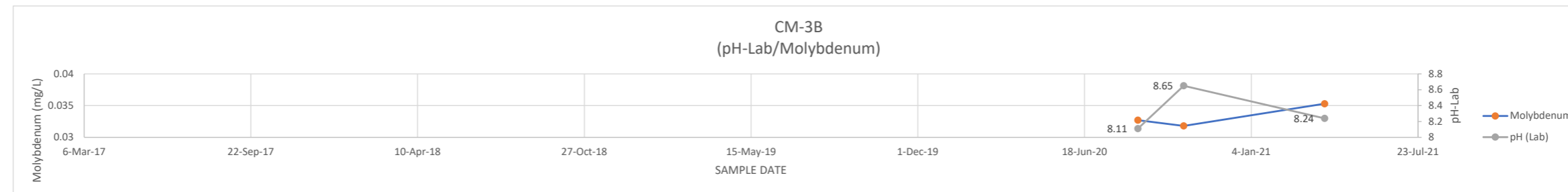
CM-2 DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	6.66	0.00209
7-Oct-20	7.91	0.00203
1-Apr-21	7.82	0.00161



CM-3A DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	8.76	0.0457
13-Oct-20	7.82	0.0222
30-Mar-21	7.95	0.0153



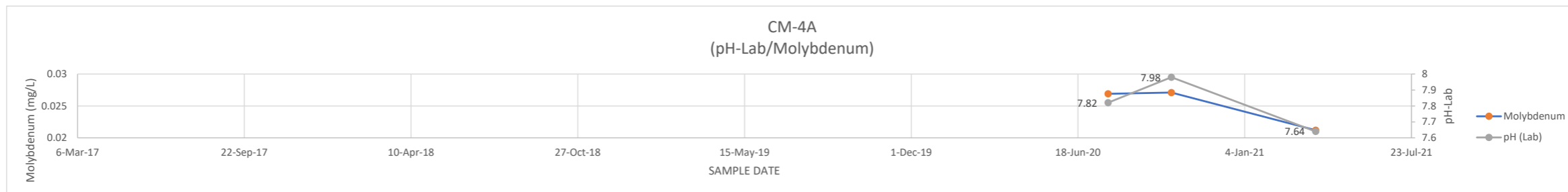
CM-3B DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	8.11	0.0327
15-Oct-20	8.65	0.0318
2-Apr-21	8.24	0.0353



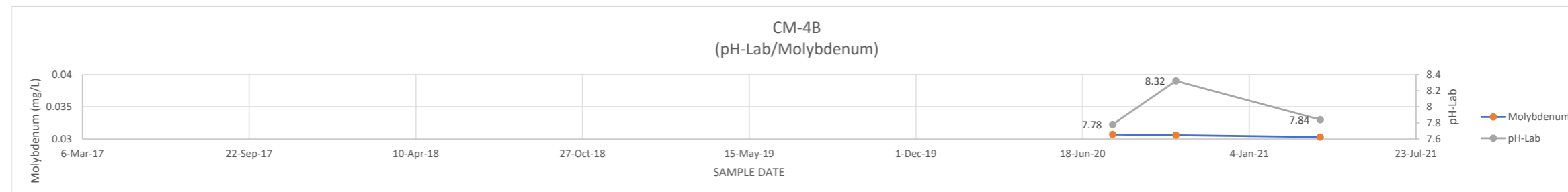


ATTACHMENT E-3B  
CHANGES IN PH (LAB) AND MOLYBDENUM CONCENTRATIONS

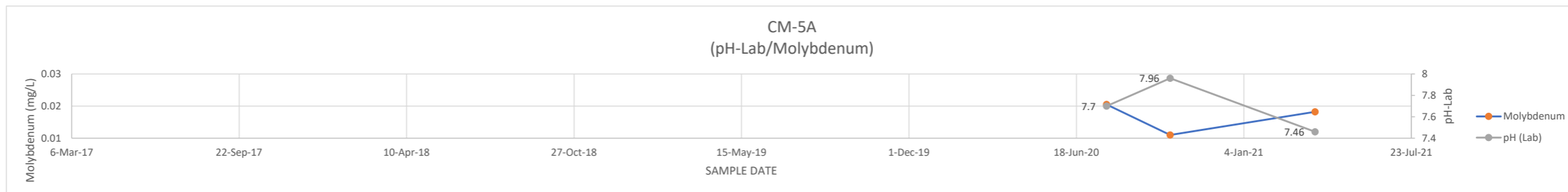
CM-4A DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.82	0.0269
8-Oct-20	7.98	0.0271
30-Mar-21	7.64	0.0212



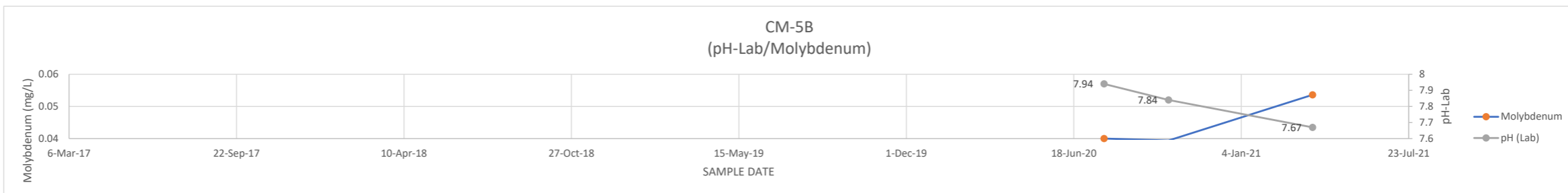
CM-4B DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.78	0.0307
8-Oct-20	8.32	0.0306
30-Mar-21	7.84	0.0303



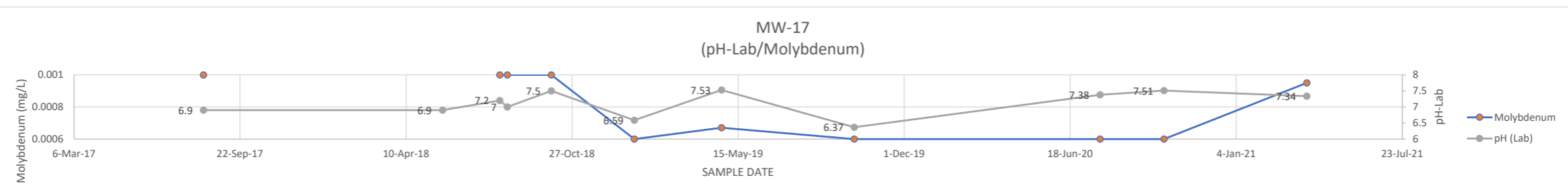
CM-5A DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.7	0.0205
8-Oct-20	7.96	0.011
30-Mar-21	7.46	0.0182



CM-5B DATE	pH Lab	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	7.94	0.04
9-Oct-20	7.84	0.0394
30-Mar-21	7.67	0.0536



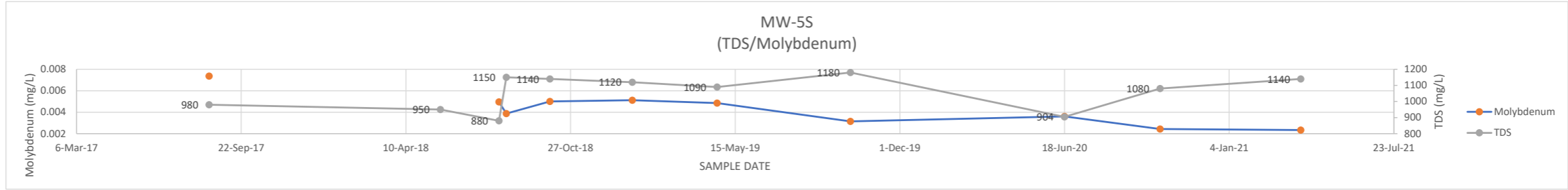
MW-17 DATE	pH Lab	MOLYBDENUM
9-Aug-17	6.9	0.001
24-May-18	6.9	
1-Aug-18	7.2	0.001
10-Aug-18	7	0.001
2-Oct-18	7.5	0.001
10-Jan-19	6.59	0.0006
25-Apr-19	7.53	0.000671
2-Oct-19	6.37	0.0006
24-Jul-20	7.38	0.0006
9-Oct-20	7.51	0.0006
30-Mar-21	7.34	0.00095



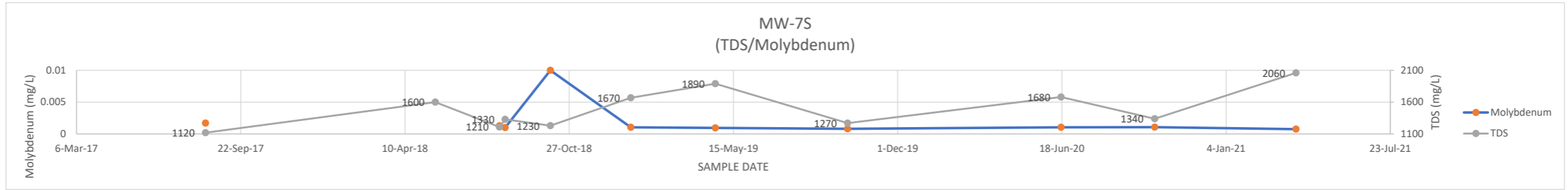
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-4  
CHANGES IN TDS AND MOLYBDENUM CONCENTRATIONS

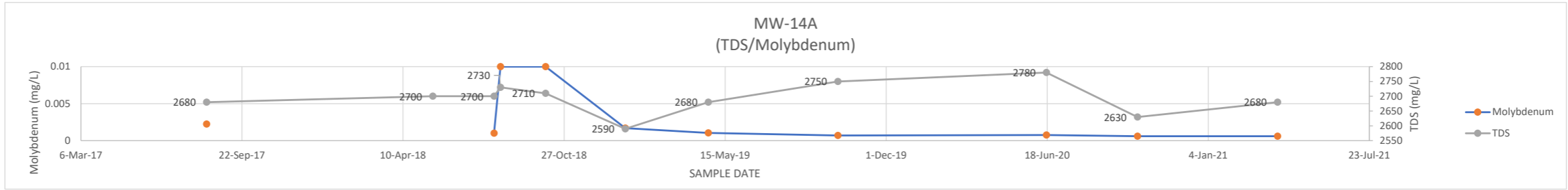
MW-5S	TDS	MOLYBDENUM
DATE		
14-Aug-17	980	0.00737
22-May-18	950	
1-Aug-18	880	0.00497
10-Aug-18	1150	0.00387
2-Oct-18	1140	0.005
10-Jan-19	1120	0.00512
23-Apr-19	1090	0.00485
2-Oct-19	1180	0.00315
18-Jun-20	904	0.00361
12-Oct-20	1080	0.00244
1-Apr-21	1140	0.00234



MW-7S	TDS	MOLYBDENUM
DATE		
10-Aug-17	1120	0.00171
17-May-18	1600	
3-Aug-18	1210	0.00127
10-Aug-18	1330	0.001
4-Oct-18	1230	0.01
10-Jan-19	1670	0.00105
23-Apr-19	1890	0.000952
1-Oct-19	1270	0.000798
17-Jun-20	1680	0.00105
9-Oct-20	1340	0.00106
30-Mar-21	2060	0.000755

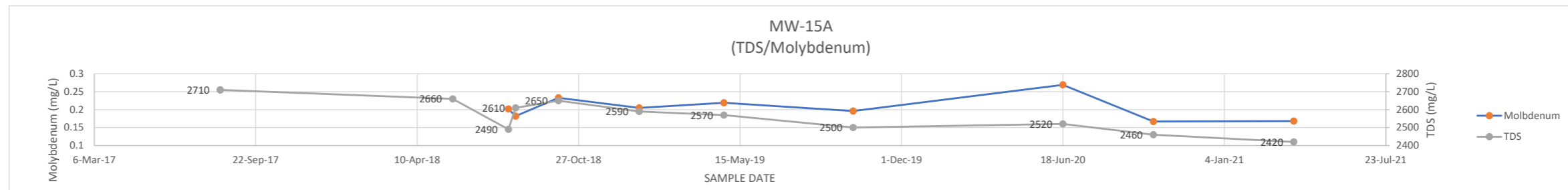


MW-14A	TDS	MOLYBDENUM
DATE		
9-Aug-17	2680	0.00223
17-May-18	2700	
1-Aug-18	2700	0.001
9-Aug-18	2730	0.01
4-Oct-18	2710	0.01
11-Jan-19	2590	0.0017
24-Apr-19	2680	0.00104
2-Oct-19	2750	0.000709
17-Jun-20	2780	0.00076
8-Oct-20	2630	0.0006
31-Mar-21	2680	0.0006

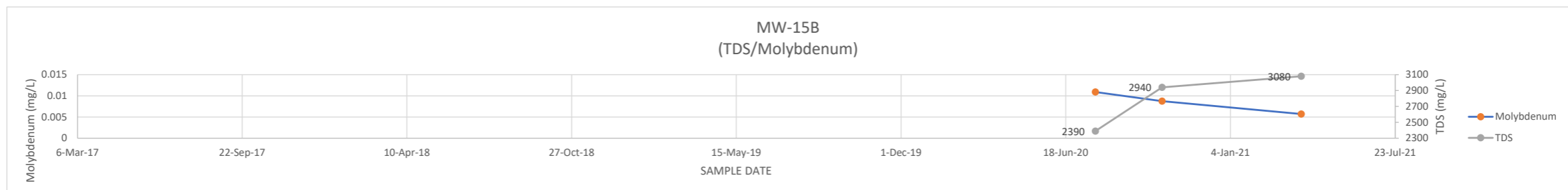


Yellow Indicates Reported Below shown value (MDL)

MW-15A	TDS	MOLYBDENUM
DATE		
9-Aug-17	2710	0.255
24-May-18	2660	
1-Aug-18	2490	0.202
10-Aug-18	2610	0.182
2-Oct-18	2650	0.233
10-Jan-19	2590	0.205
25-Apr-19	2570	0.219
2-Oct-19	2500	0.196
18-Jun-20	2520	0.269
8-Oct-20	2460	0.167
31-Mar-21	2420	0.168

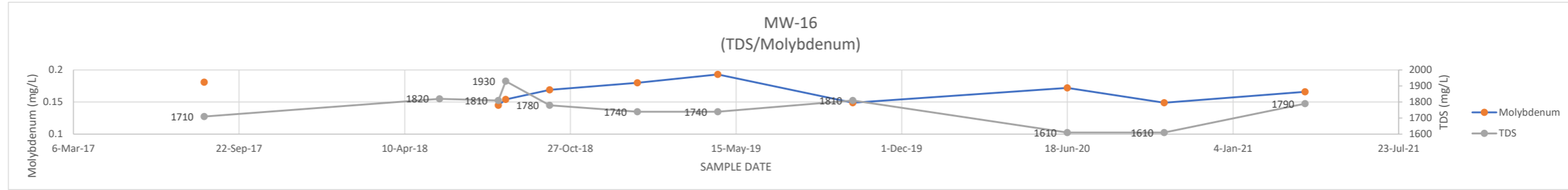


MW-15B	TDS	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2390	0.0109
13-Oct-20	2940	0.00876
31-Mar-21	3080	0.00571

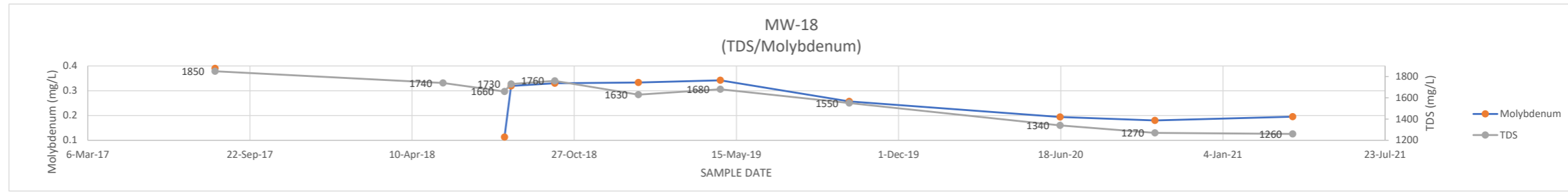


ATTACHMENT E-4  
CHANGES IN TDS AND MOLYBDENUM CONCENTRATIONS

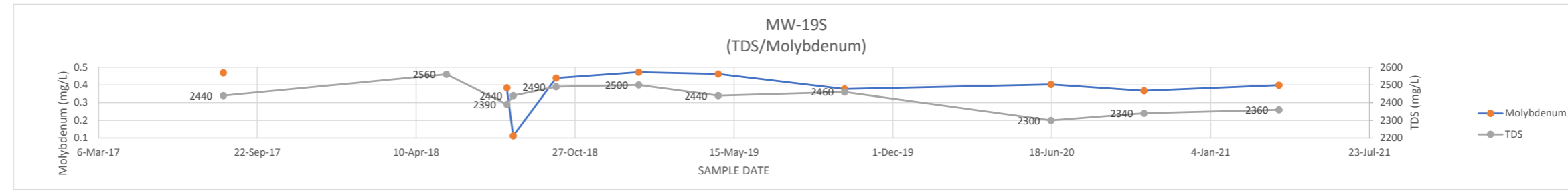
MW-16	TDS	MOLYBDENUM
DATE		
11-Aug-17	1710	0.181
22-May-18	1820	
1-Aug-18	1810	0.145
10-Aug-18	1930	0.154
2-Oct-18	1780	0.169
16-Jan-19	1740	0.18
23-Apr-19	1740	0.193
3-Oct-19	1810	0.149
18-Jun-20	1610	0.172
13-Oct-20	1610	0.149
1-Apr-21	1790	0.166



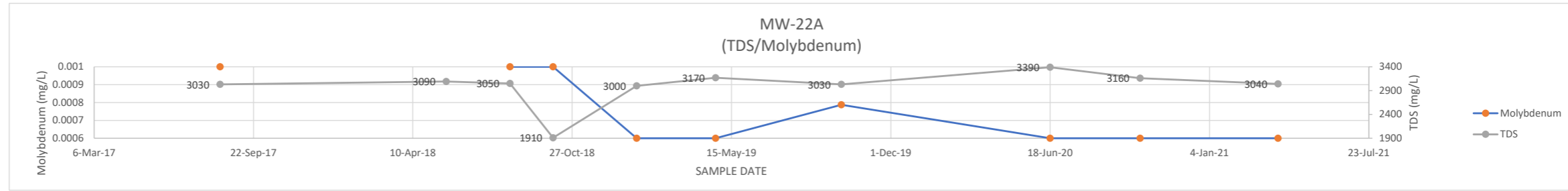
MW-18	TDS	MOLYBDENUM
DATE		
10-Aug-17	1850	0.39
18-May-18	1740	
2-Aug-18	1660	0.113
10-Aug-18	1730	0.319
3-Oct-18	1760	0.33
14-Jan-19	1630	0.333
25-Apr-19	1680	0.342
1-Oct-19	1550	0.257
17-Jun-20	1340	0.194
12-Oct-20	1270	0.18
31-Mar-21	1260	0.195



MW-19S	TDS	MOLYBDENUM
DATE		
10-Aug-17	2440	0.469
18-May-18	2560	
2-Aug-18	2390	0.384
10-Aug-18	2440	0.112
3-Oct-18	2490	0.439
15-Jan-19	2500	0.472
25-Apr-19	2440	0.462
1-Oct-19	2460	0.377
17-Jun-20	2300	0.402
12-Oct-20	2340	0.367
31-Mar-21	2360	0.398

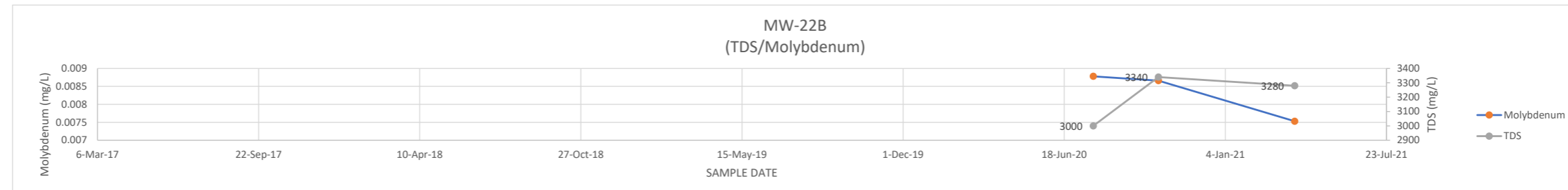


MW-22A	TDS	MOLYBDENUM
DATE		
11-Aug-17	3030	0.001
22-May-18	3090	
10-Aug-18	3050	0.001
3-Oct-18	1910	0.001
16-Jan-19	3000	0.0006
25-Apr-19	3170	0.0006
30-Sep-19	3030	0.000787
18-Jun-20	3390	0.0006
9-Oct-20	3160	0.0006
31-Mar-21	3040	0.0006



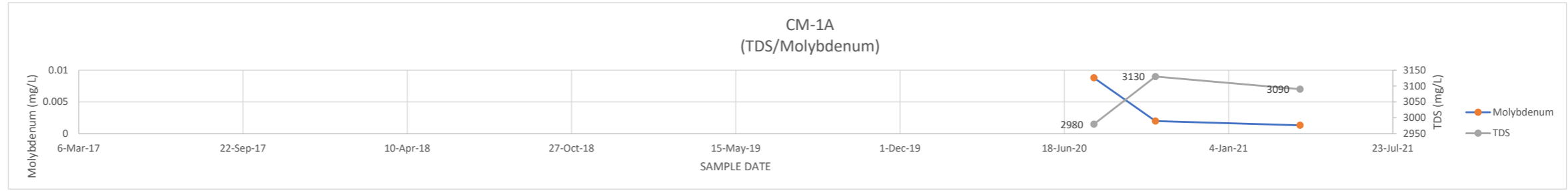
Yellow Indicates Reported Below shown value (MDL)

MW-22B	TDS	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3000	0.00878
13-Oct-20	3340	0.00866
31-Mar-21	3280	0.00753

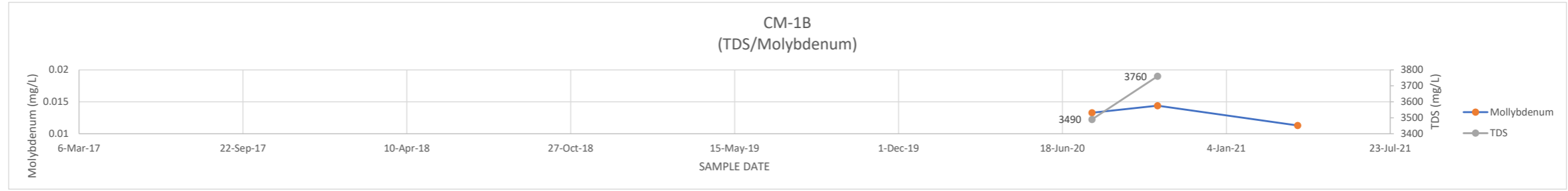


ATTACHMENT E-4  
CHANGES IN TDS AND MOLYBDENUM CONCENTRATIONS

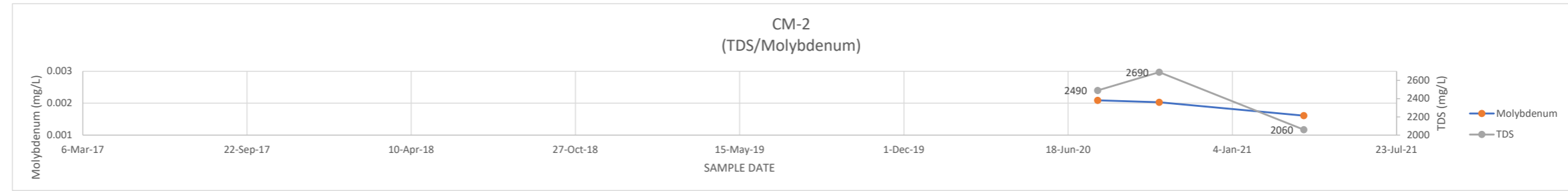
CM-1A DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2980	0.0088
7-Oct-20	3130	0.00198
1-Apr-21	3090	0.00132



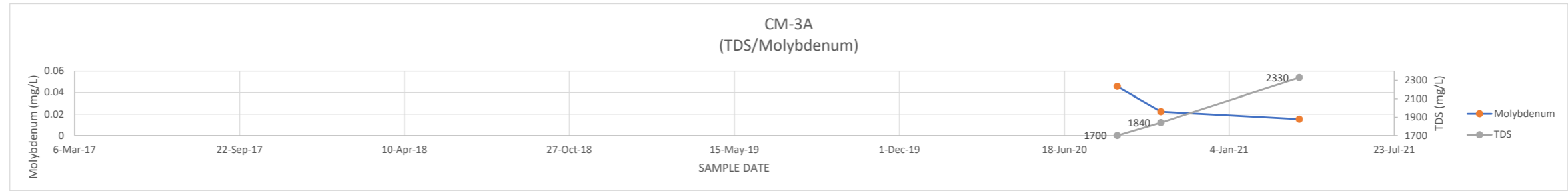
CM-1B DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3490	0.0133
12-Oct-20	3760	0.0144
1-Apr-21		0.0113



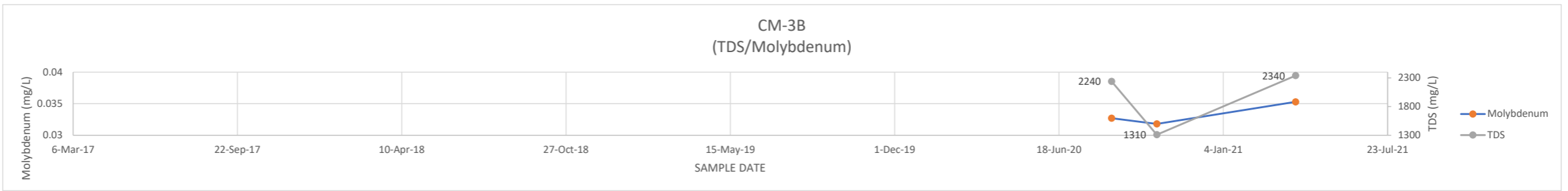
CM-2 DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2490	0.00209
7-Oct-20	2690	0.00203
1-Apr-21	2060	0.00161



CM-3A DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	1700	0.0457
13-Oct-20	1840	0.0222
30-Mar-21	2330	0.0153

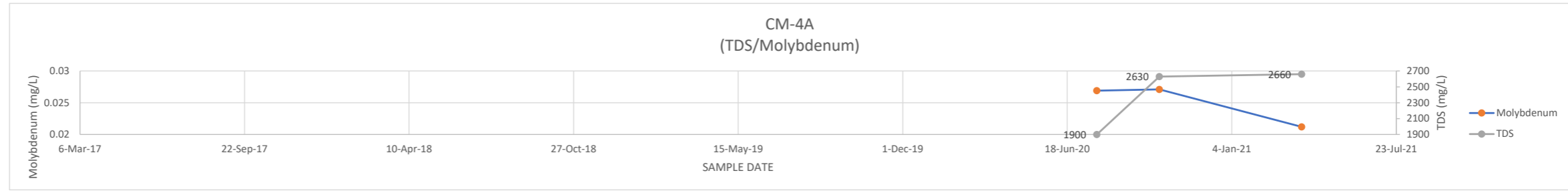


CM-3B DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	2240	0.0327
15-Oct-20	1310	0.0318
2-Apr-21	2340	0.0353

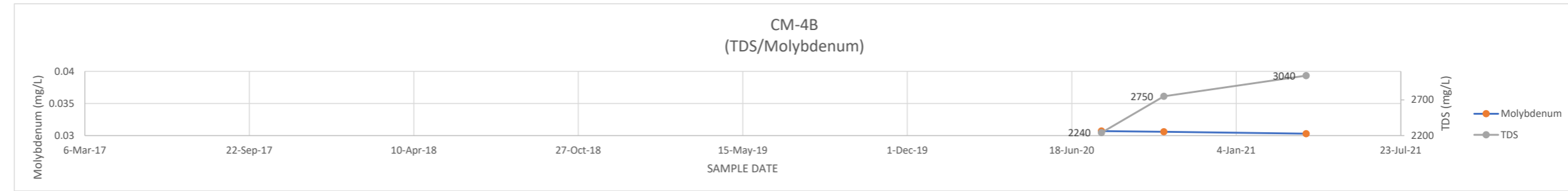


ATTACHMENT E-4  
CHANGES IN TDS AND MOLYBDENUM CONCENTRATIONS

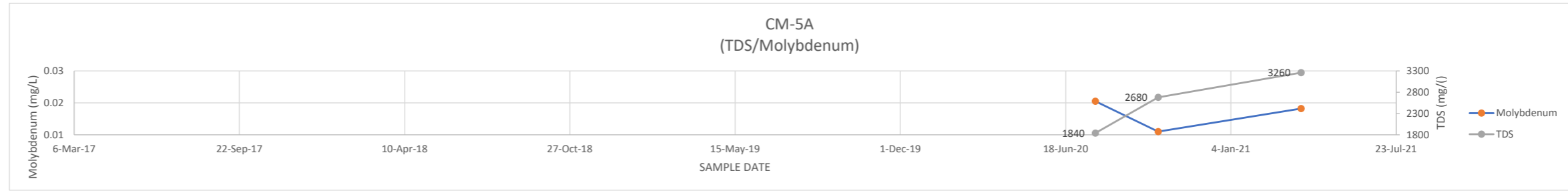
CM-4A DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1900	0.0269
8-Oct-20	2630	0.0271
30-Mar-21	2660	0.0212



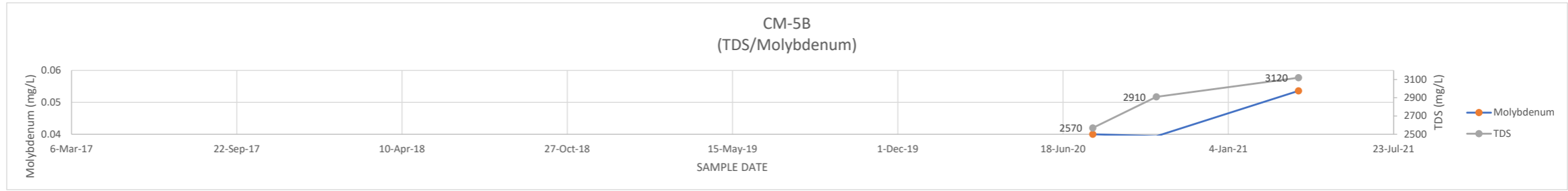
CM-4B DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2240	0.0307
8-Oct-20	2750	0.0306
30-Mar-21	3040	0.0303



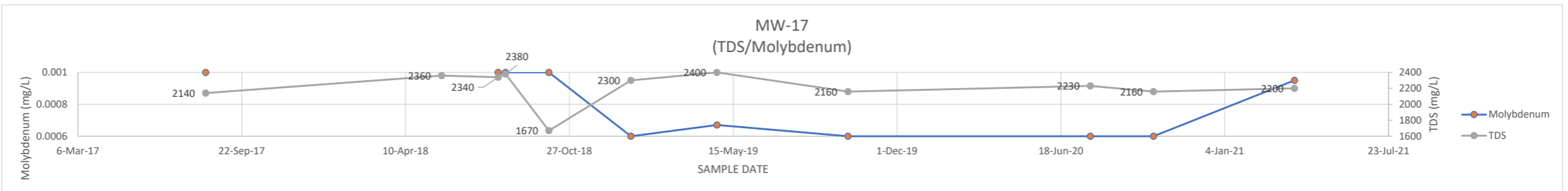
CM-5A DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1840	0.0205
8-Oct-20	2680	0.011
30-Mar-21	3260	0.0182



CM-5B DATE	TDS	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2570	0.04
9-Oct-20	2910	0.0394
30-Mar-21	3120	0.0536



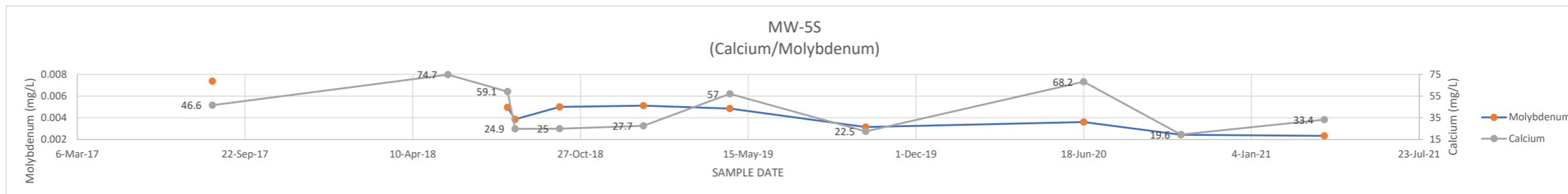
MW-17 DATE	TDS	MOLYBDENUM
9-Aug-17	2140	0.001
24-May-18	2360	0.001
1-Aug-18	2340	0.001
10-Aug-18	2380	0.001
2-Oct-18	1670	0.001
10-Jan-19	2300	0.0006
25-Apr-19	2400	0.000671
2-Oct-19	2160	0.0006
24-Jul-20	2230	0.0006
9-Oct-20	2160	0.0006
30-Mar-21	2200	0.00095



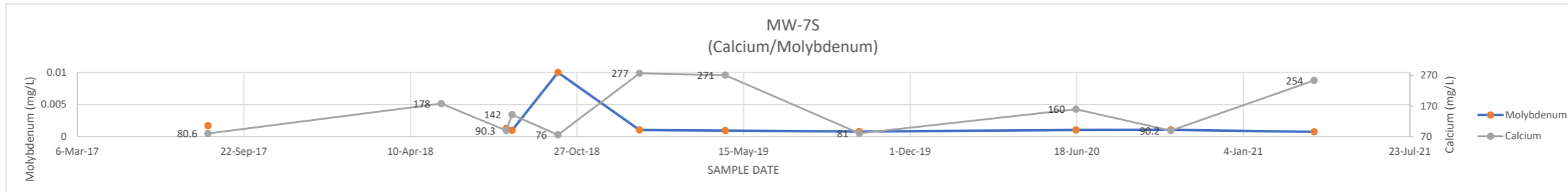
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-5  
CHANGES IN CALCIUM AND MOLYBDENUM CONCENTRATIONS

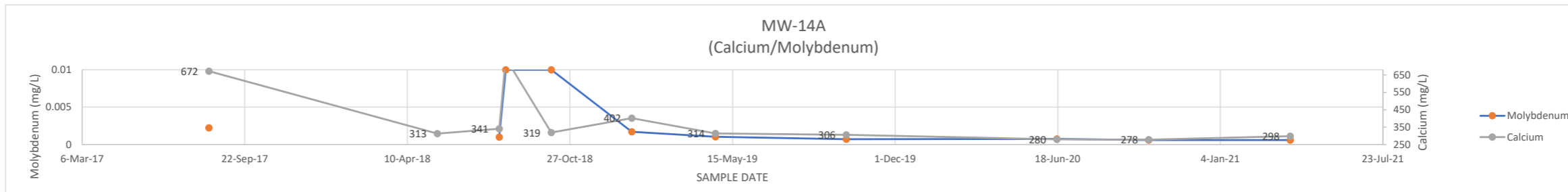
MW-5S DATE	CALCIUM	MOLYBDENUM
14-Aug-17	46.6	0.00737
22-May-18	74.7	
1-Aug-18	59.1	0.00497
10-Aug-18	24.9	0.00387
2-Oct-18	25	0.005
10-Jan-19	27.7	0.00512
23-Apr-19	57	0.00485
2-Oct-19	22.5	0.00315
18-Jun-20	68.2	0.00361
12-Oct-20	19.6	0.00244
1-Apr-21	33.4	0.00234



MW-7S DATE	CALCIUM	MOLYBDENUM
10-Aug-17	80.6	0.00171
17-May-18	178	
3-Aug-18	90.3	0.00127
10-Aug-18	142	0.001
4-Oct-18	76	0.01
10-Jan-19	277	0.00105
23-Apr-19	271	0.000952
1-Oct-19	81	0.000798
17-Jun-20	160	0.00105
9-Oct-20	90.2	0.00106
30-Mar-21	254	0.000755

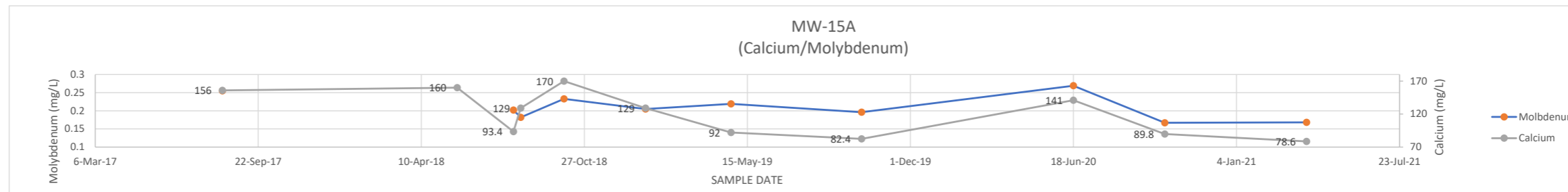


MW-14A DATE	CALCIUM	MOLYBDENUM
9-Aug-17	672	0.00223
17-May-18	313	
1-Aug-18	341	0.001
9-Aug-18	746	0.01
4-Oct-18	319	0.01
11-Jan-19	402	0.0017
24-Apr-19	314	0.00104
2-Oct-19	306	0.000709
17-Jun-20	280	0.00076
8-Oct-20	278	0.0006
31-Mar-21	298	0.0006

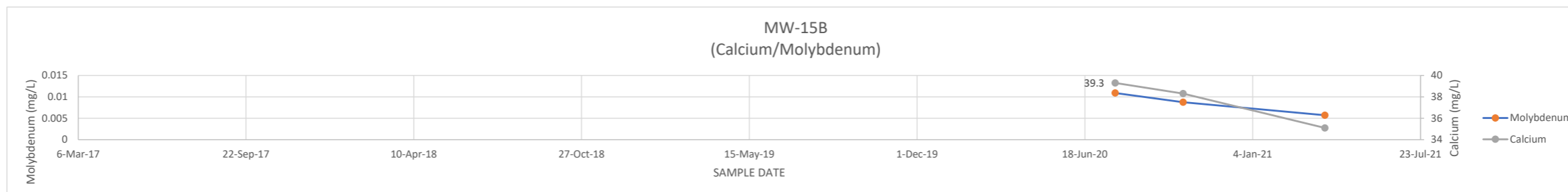


Yellow Indicates Reported Below shown value (MDL)

MW-15A DATE	CALCIUM	MOLYBDENUM
9-Aug-17	156	0.255
24-May-18	160	
1-Aug-18	93.4	0.202
10-Aug-18	129	0.182
2-Oct-18	170	0.233
10-Jan-19	129	0.205
25-Apr-19	92	0.219
2-Oct-19	82.4	0.196
18-Jun-20	141	0.269
8-Oct-20	89.8	0.167
31-Mar-21	78.6	0.168

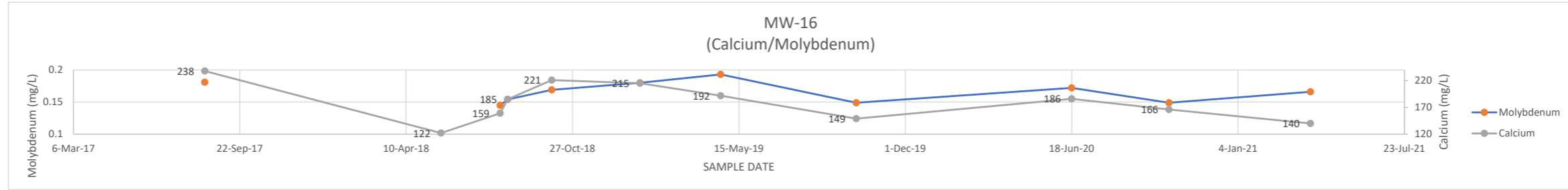


MW-15B DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	39.3	0.0109
13-Oct-20	38.3	0.00876
31-Mar-21	35.1	0.00571

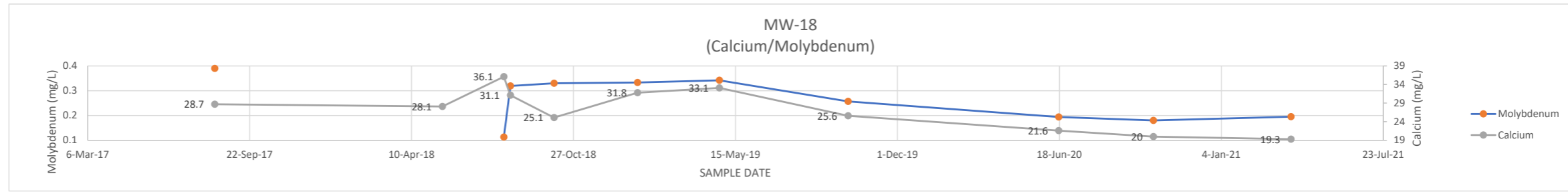


ATTACHMENT E-5  
CHANGES IN CALCIUM AND MOLYBDENUM CONCENTRATIONS

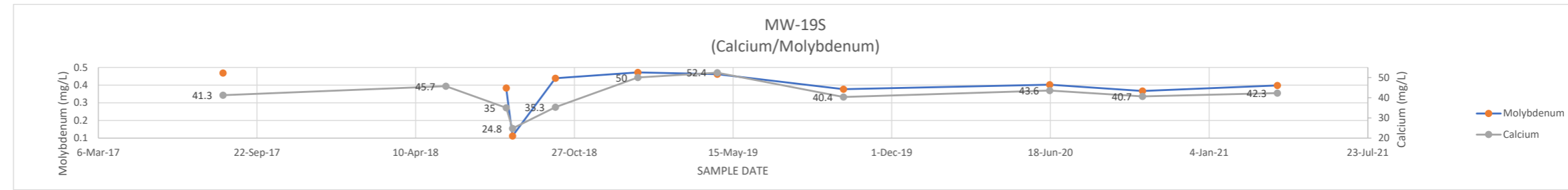
MW-16	DATE	CALCIUM	MOLYBDENUM
	11-Aug-17	238	0.181
	22-May-18	122	
	1-Aug-18	159	0.145
	10-Aug-18	185	0.154
	2-Oct-18	221	0.169
	16-Jan-19	215	0.18
	23-Apr-19	192	0.193
	3-Oct-19	149	0.149
	18-Jun-20	186	0.172
	13-Oct-20	166	0.149
	1-Apr-21	140	0.166



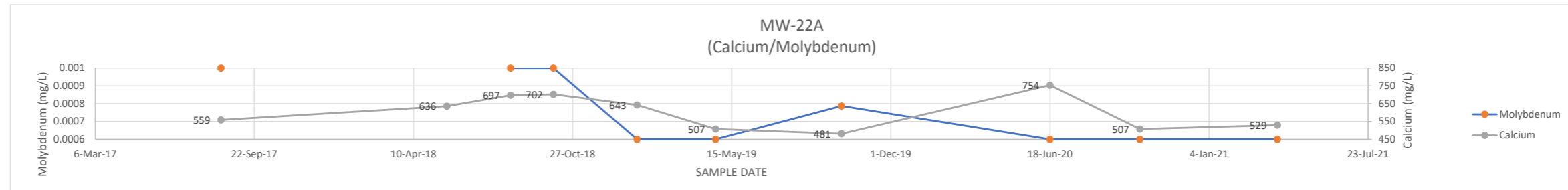
MW-18	DATE	CALCIUM	MOLYBDENUM
	10-Aug-17	28.7	0.39
	18-May-18	28.1	
	2-Aug-18	36.1	0.113
	10-Aug-18	31.1	0.319
	3-Oct-18	25.1	0.33
	14-Jan-19	31.8	0.333
	25-Apr-19	33.1	0.342
	1-Oct-19	25.6	0.257
	17-Jun-20	21.6	0.194
	12-Oct-20	20	0.18
	31-Mar-21	19.3	0.195



MW-19S	DATE	CALCIUM	MOLYBDENUM
	10-Aug-17	41.3	0.469
	18-May-18	45.7	
	2-Aug-18	35	0.384
	10-Aug-18	24.8	0.112
	3-Oct-18	35.3	0.439
	15-Jan-19	50	0.472
	25-Apr-19	52.4	0.462
	1-Oct-19	40.4	0.377
	17-Jun-20	43.6	0.402
	12-Oct-20	40.7	0.367
	31-Mar-21	42.3	0.398

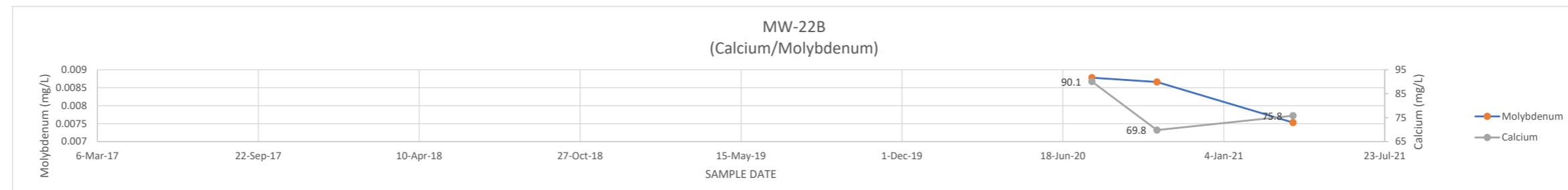


MW-22A	DATE	CALCIUM	MOLYBDENUM
	11-Aug-17	559	0.001
	22-May-18	636	
	10-Aug-18	697	0.001
	3-Oct-18	702	0.001
	16-Jan-19	643	0.0006
	25-Apr-19	507	0.0006
	30-Sep-19	481	0.000787
	18-Jun-20	754	0.0006
	9-Oct-20	507	0.0006
	31-Mar-21	529	0.0006



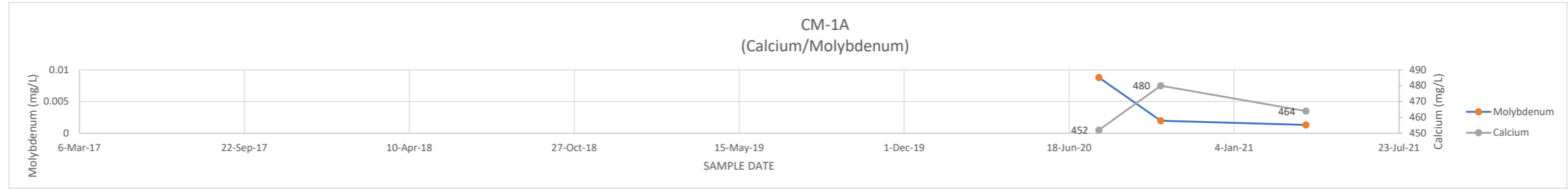
Yellow Indicates Reported Below shown value (MDL)

MW-22B	DATE	CALCIUM	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20	90.1	0.00878
	13-Oct-20	69.8	0.00866
	31-Mar-21	75.8	0.00753

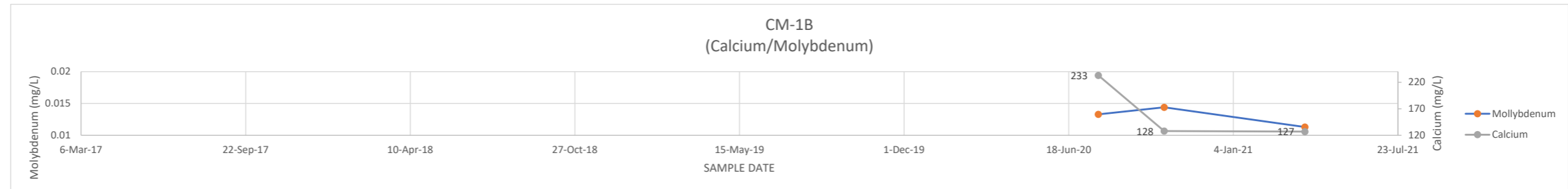


ATTACHMENT E-5  
CHANGES IN CALCIUM AND MOLYBDENUM CONCENTRATIONS

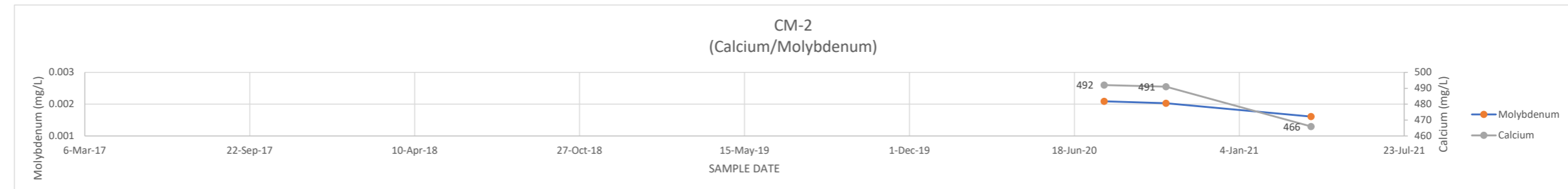
CM-1A DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	452	0.0088
7-Oct-20	480	0.00198
1-Apr-21	464	0.00132



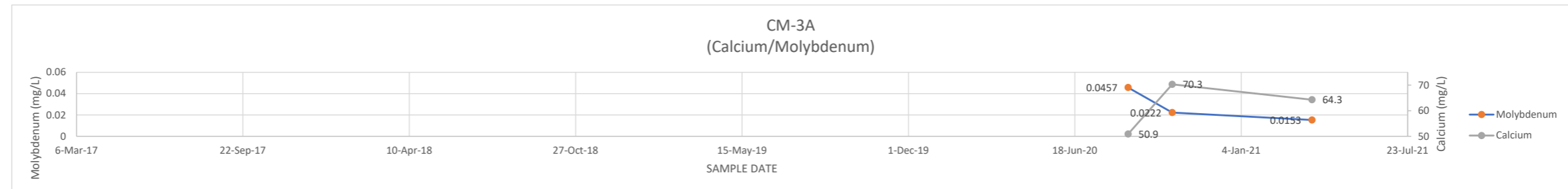
CM-1B DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	233	0.0133
12-Oct-20	128	0.0144
1-Apr-21	127	0.0113



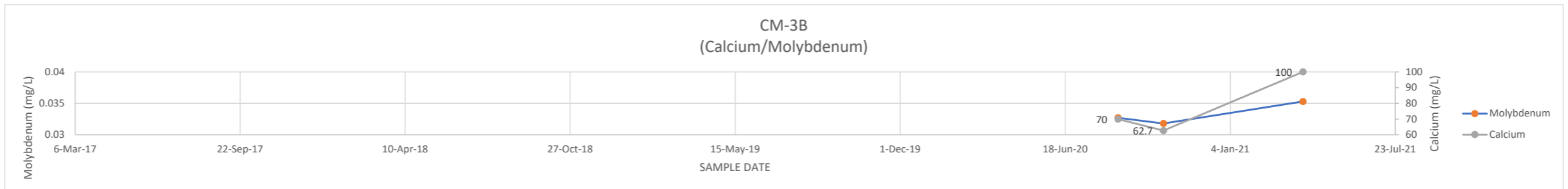
CM-2 DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	492	0.00209
7-Oct-20	491	0.00203
1-Apr-21	466	0.00161



CM-3A DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	50.9	0.0457
13-Oct-20	70.3	0.0222
30-Mar-21	64.3	0.0153



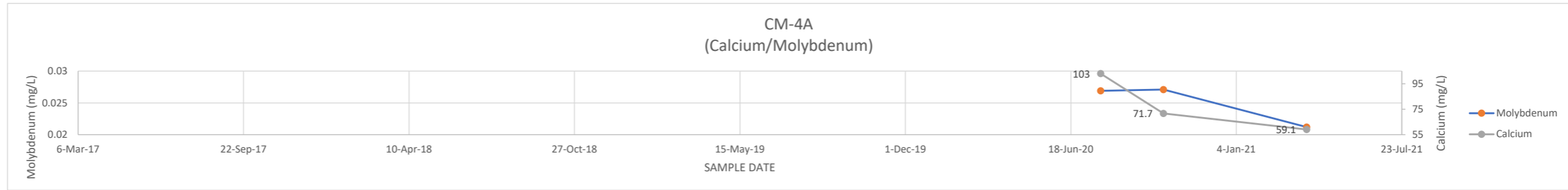
CM-3B DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	70	0.0327
15-Oct-20	62.7	0.0318
2-Apr-21	100	0.0353



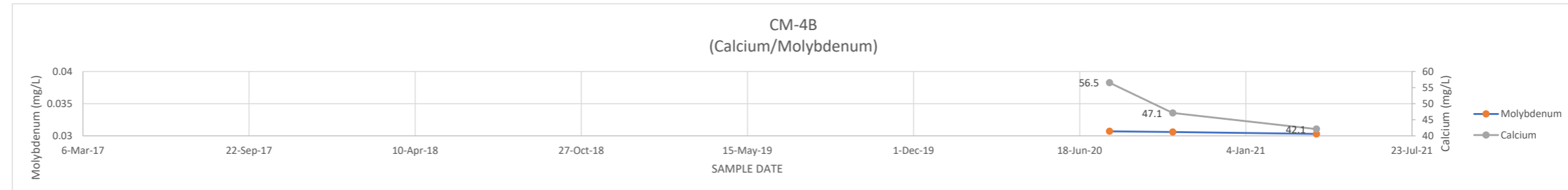


ATTACHMENT E-5  
CHANGES IN CALCIUM AND MOLYBDENUM CONCENTRATIONS

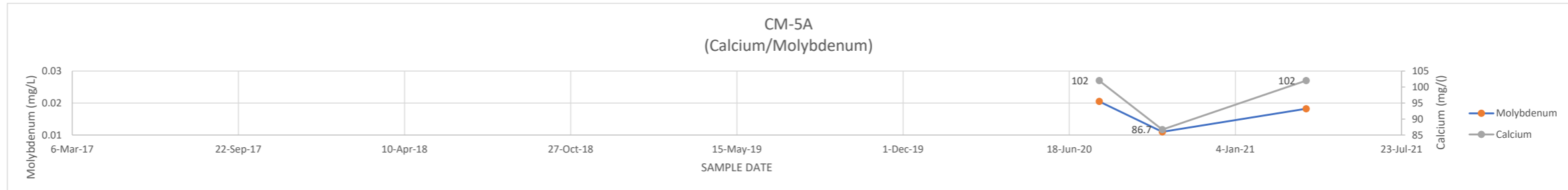
CM-4A DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	103	0.0269
8-Oct-20	71.7	0.0271
30-Mar-21	59.1	0.0212



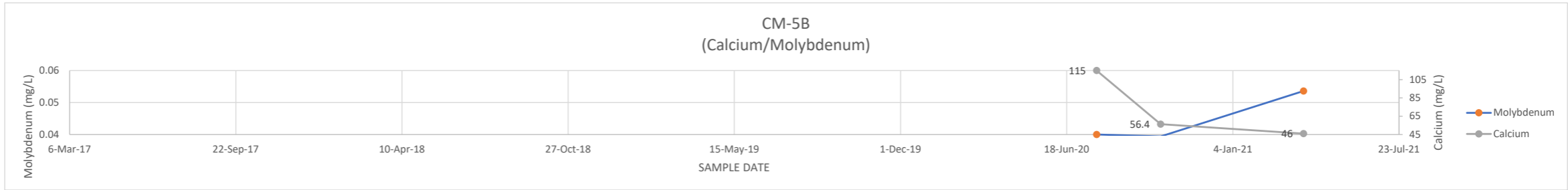
CM-4B DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	56.5	0.0307
8-Oct-20	47.1	0.0306
30-Mar-21	42.1	0.0303



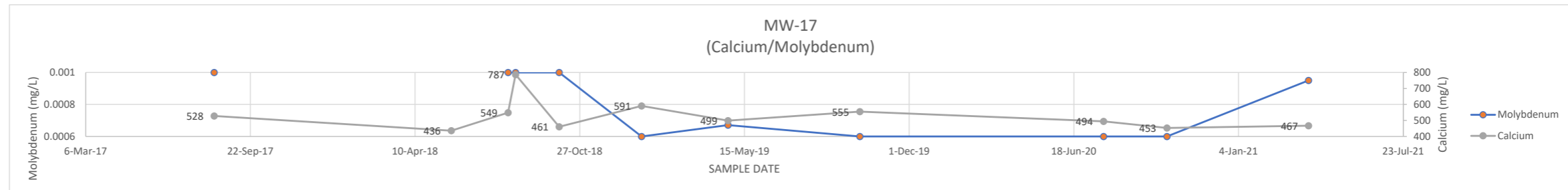
CM-5A DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	102	0.0205
8-Oct-20	86.7	0.011
30-Mar-21	102	0.0182



CM-5B DATE	CALCIUM	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	115	0.04
9-Oct-20	56.4	0.0394
30-Mar-21	46	0.0536



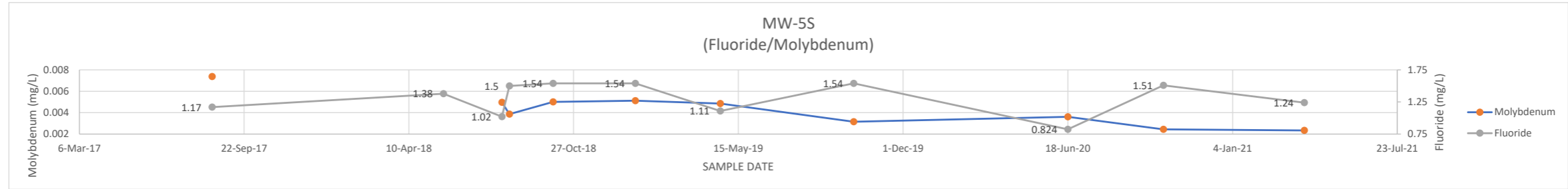
MW-17 DATE	CALCIUM	MOLYBDENUM
9-Aug-17	528	0.001
24-May-18	436	
1-Aug-18	549	0.001
10-Aug-18	787	0.001
2-Oct-18	461	0.001
10-Jan-19	591	0.0006
25-Apr-19	499	0.000671
2-Oct-19	555	0.0006
24-Jul-20	494	0.0006
9-Oct-20	453	0.0006
30-Mar-21	467	0.00095



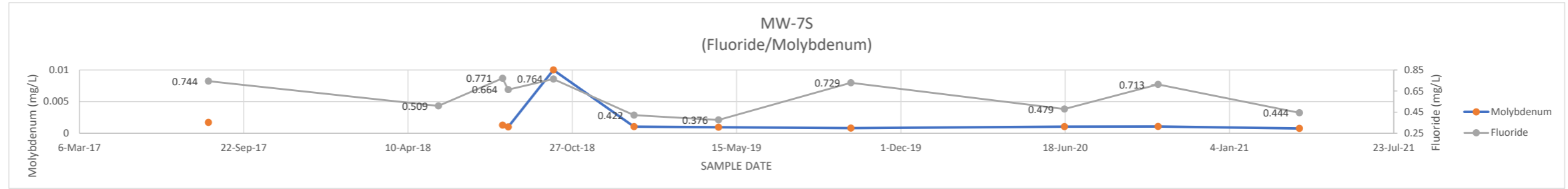
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-6  
CHANGES IN FLUORIDE AND MOLYBDENUM CONCENTRATIONS

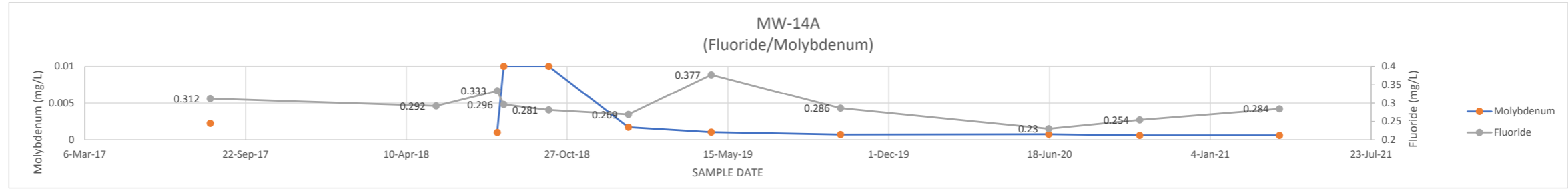
MW-5S DATE	FLUORIDE	MOLYBDENUM
14-Aug-17	1.17	0.00737
22-May-18	1.38	
1-Aug-18	1.02	0.00497
10-Aug-18	1.5	0.00387
2-Oct-18	1.54	0.005
10-Jan-19	1.54	0.00512
23-Apr-19	1.11	0.00485
2-Oct-19	1.54	0.00315
18-Jun-20	0.824	0.00361
12-Oct-20	1.51	0.00244
1-Apr-21	1.24	0.00234



MW-7S DATE	FLUORIDE	MOLYBDENUM
10-Aug-17	0.744	0.00171
17-May-18	0.509	0.509
3-Aug-18	0.771	0.00127
10-Aug-18	0.664	0.001
4-Oct-18	0.764	0.01
10-Jan-19	0.422	0.00105
23-Apr-19	0.376	0.000952
1-Oct-19	0.729	0.000798
17-Jun-20	0.479	0.00105
9-Oct-20	0.713	0.00106
30-Mar-21	0.444	0.000755

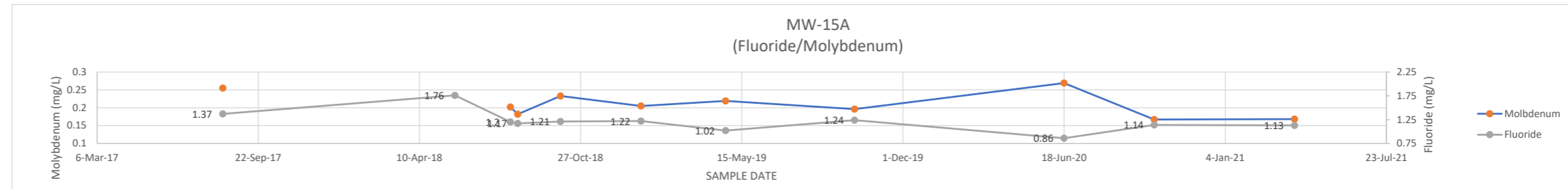


MW-14A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17	0.312	0.00223
17-May-18	0.292	
1-Aug-18	0.333	0.001
9-Aug-18	0.296	0.01
4-Oct-18	0.281	0.01
11-Jan-19	0.269	0.0017
24-Apr-19	0.377	0.00104
2-Oct-19	0.286	0.000709
17-Jun-20	0.23	0.00076
8-Oct-20	0.254	0.0006
31-Mar-21	0.284	0.0006

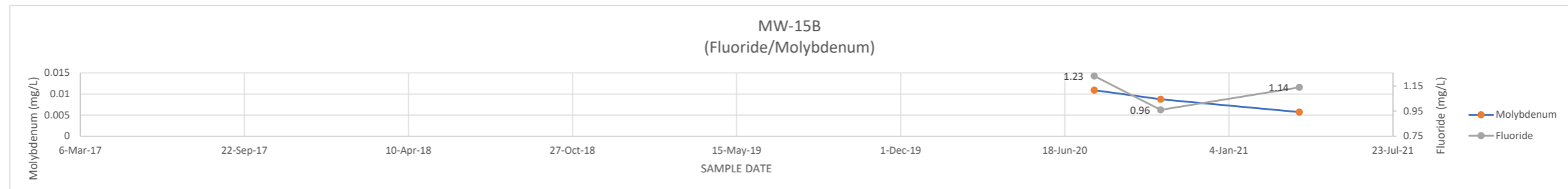


Yellow Indicates Reported Below shown value (MDL)

MW-15A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17	1.37	0.255
24-May-18	1.76	
1-Aug-18	1.2	0.202
10-Aug-18	1.17	0.182
2-Oct-18	1.21	0.233
10-Jan-19	1.22	0.205
25-Apr-19	1.02	0.219
2-Oct-19	1.24	0.196
18-Jun-20	0.86	0.269
8-Oct-20	1.14	0.167
31-Mar-21	1.13	0.168

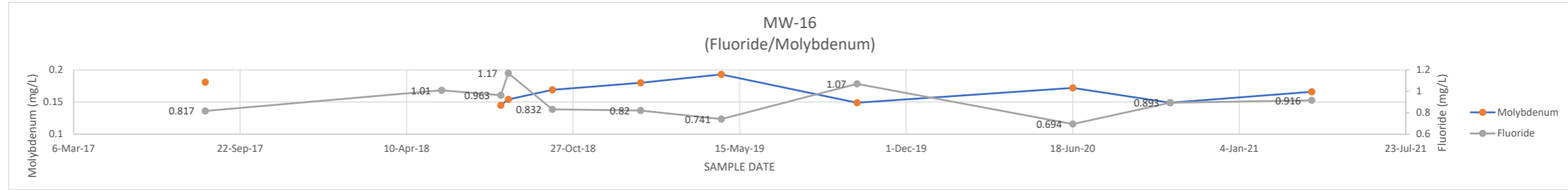


MW-15B DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1.23	0.0109
13-Oct-20	0.96	0.00876
31-Mar-21	1.14	0.00571

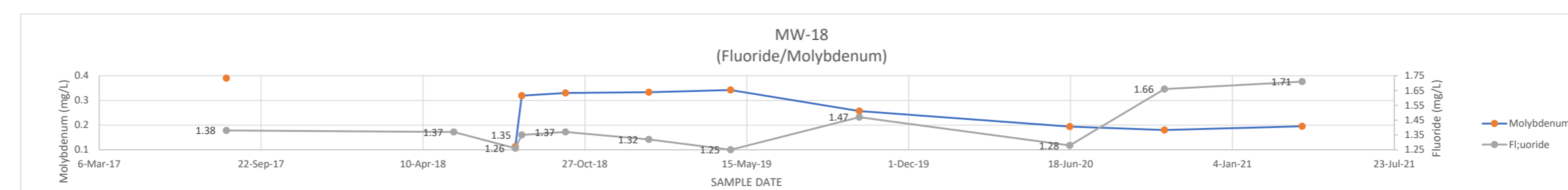


ATTACHMENT E-6  
CHANGES IN FLUORIDE AND MOLYBDENUM CONCENTRATIONS

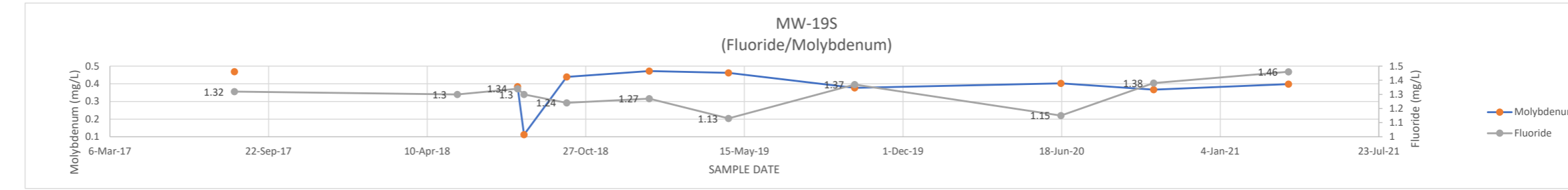
MW-16	FLUORIDE	MOLYBDENUM
DATE		
11-Aug-17	0.817	0.181
22-May-18	1.01	
1-Aug-18	0.963	0.145
10-Aug-18	1.17	0.154
2-Oct-18	0.832	0.169
16-Jan-19	0.82	0.18
23-Apr-19	0.741	0.193
3-Oct-19	1.07	0.149
18-Jun-20	0.694	0.172
13-Oct-20	0.893	0.149
1-Apr-21	0.916	0.166



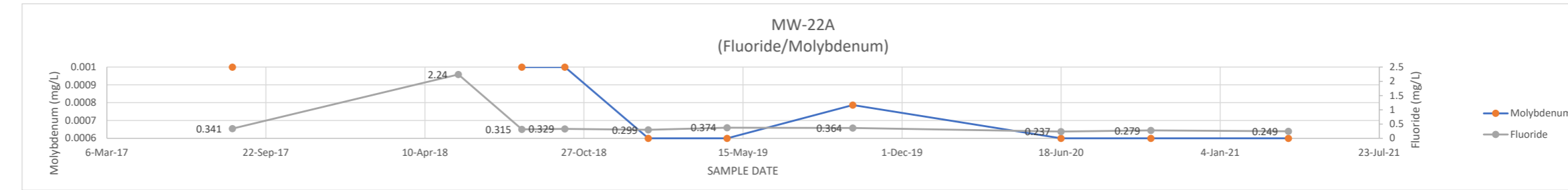
MW-18	FLUORIDE	MOLYBDENUM
DATE		
10-Aug-17	1.38	0.39
18-May-18	1.37	
2-Aug-18	1.26	0.113
10-Aug-18	1.35	0.319
3-Oct-18	1.37	0.33
14-Jan-19	1.32	0.333
25-Apr-19	1.25	0.342
1-Oct-19	1.47	0.257
17-Jun-20	1.28	0.194
12-Oct-20	1.66	0.18
31-Mar-21	1.71	0.195



MW-19S	FLUORIDE	MOLYBDENUM
DATE		
10-Aug-17	1.32	0.469
18-May-18	1.3	
2-Aug-18	1.34	0.384
10-Aug-18	1.3	0.112
3-Oct-18	1.24	0.439
15-Jan-19	1.27	0.472
25-Apr-19	1.13	0.462
1-Oct-19	1.37	0.377
17-Jun-20	1.15	0.402
12-Oct-20	1.38	0.367
31-Mar-21	1.46	0.398

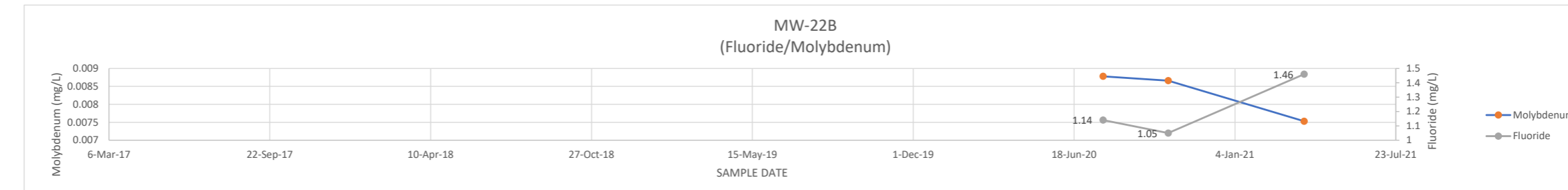


MW-22A	FLUORIDE	MOLYBDENUM
DATE		
11-Aug-17	0.341	0.001
22-May-18	2.24	
10-Aug-18	0.315	0.001
3-Oct-18	0.329	0.001
16-Jan-19	0.299	0.0006
25-Apr-19	0.374	0.0006
30-Sep-19	0.364	0.000787
18-Jun-20	0.237	0.0006
9-Oct-20	0.279	0.0006
31-Mar-21	0.249	0.0006



Yellow Indicates Reported Below shown value (MDL)

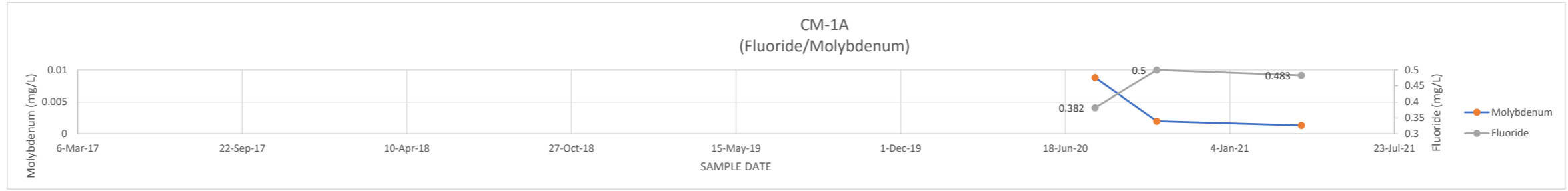
MW-22B	FLUORIDE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1.14	0.00878
13-Oct-20	1.05	0.00866
31-Mar-21	1.46	0.00753



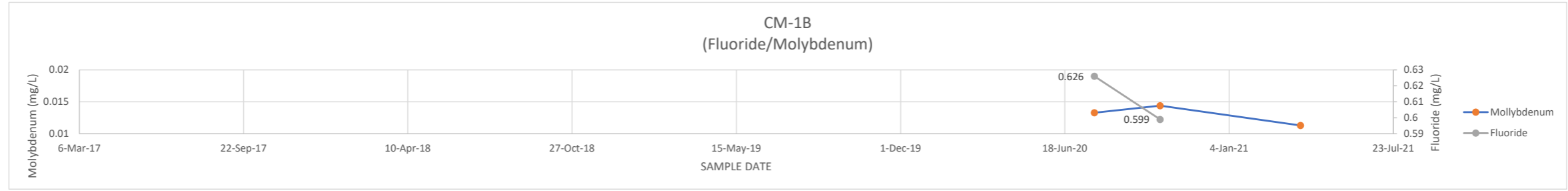
ATTACHMENT E-6  
CHANGES IN FLUORIDE AND MOLYBDENUM CONCENTRATIONS

CM-1A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.382	0.0088
7-Oct-20	0.5	0.00198
1-Apr-21	0.483	0.00132

Yellow Indicates Reported Below shown value (MDL)

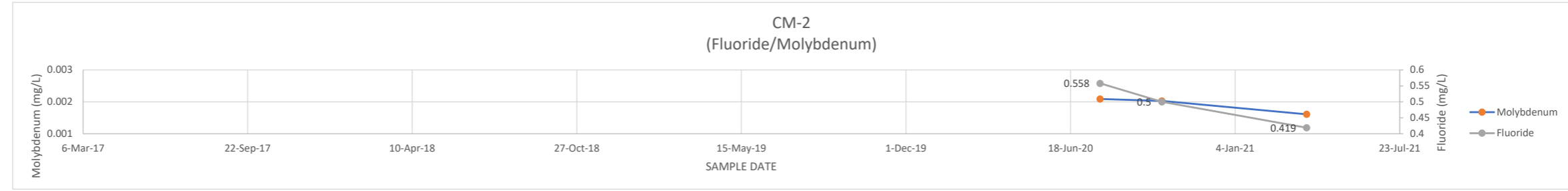


CM-1B DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.626	0.0133
12-Oct-20	0.599	0.0144
1-Apr-21		0.0113

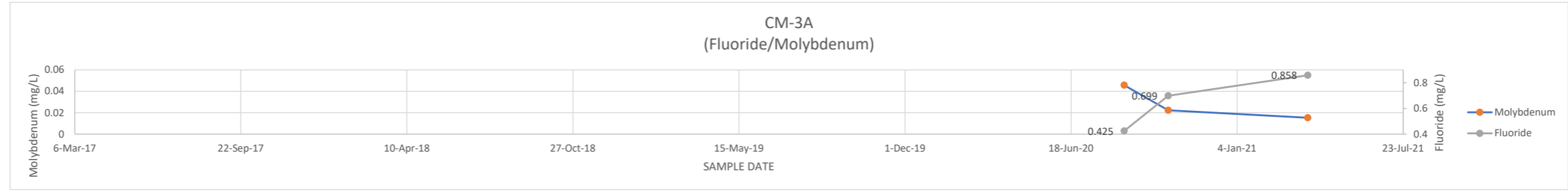


CM-2 DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.558	0.00209
7-Oct-20	0.5	0.00203
1-Apr-21	0.419	0.00161

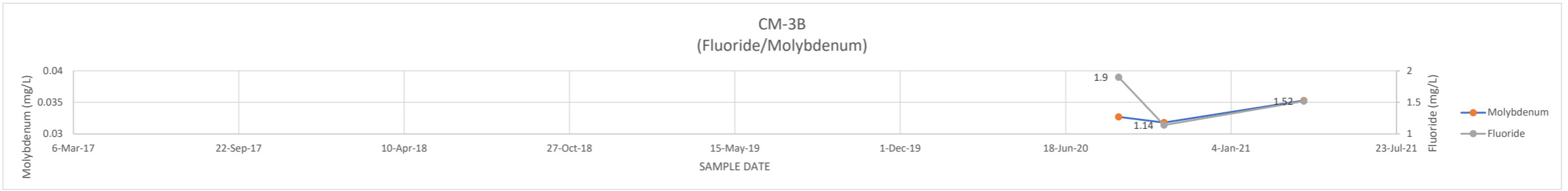
Yellow Indicates Reported Below shown value (MDL)



CM-3A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	0.425	0.0457
13-Oct-20	0.699	0.0222
30-Mar-21	0.858	0.0153

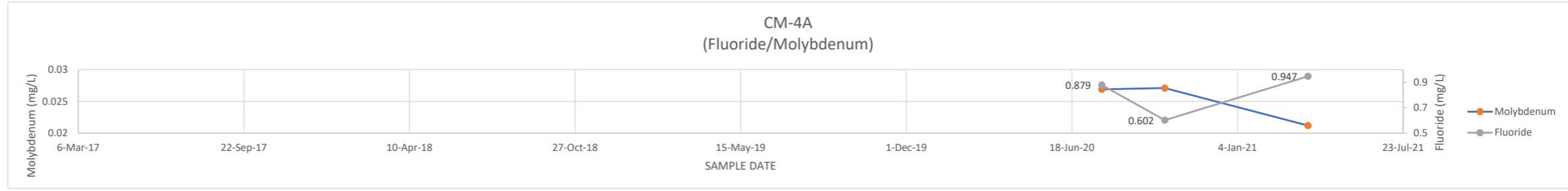


CM-3B DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	1.9	0.0327
15-Oct-20	1.14	0.0318
2-Apr-21	1.52	0.0353

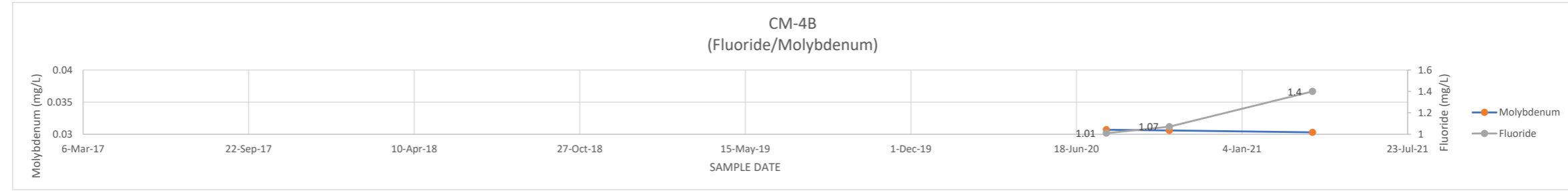


ATTACHMENT E-6  
CHANGES IN FLUORIDE AND MOLYBDENUM CONCENTRATIONS

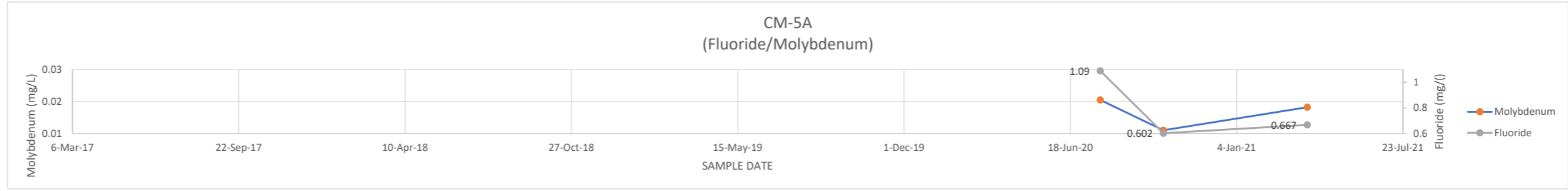
CM-4A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.879	0.0269
8-Oct-20	0.602	0.0271
30-Mar-21	0.947	0.0212



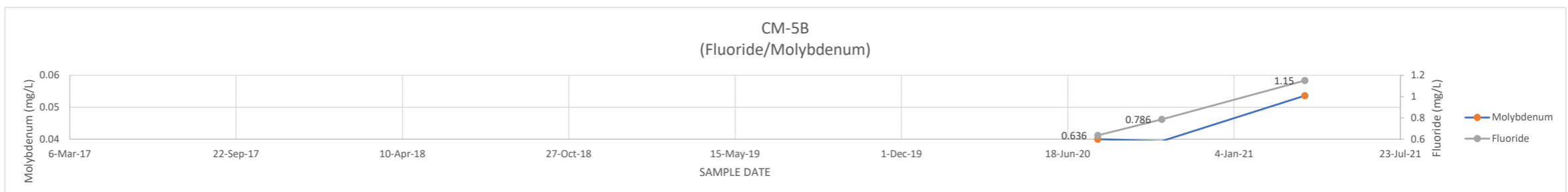
CM-4B DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1.01	0.0307
8-Oct-20	1.07	0.0306
30-Mar-21	1.4	0.0303



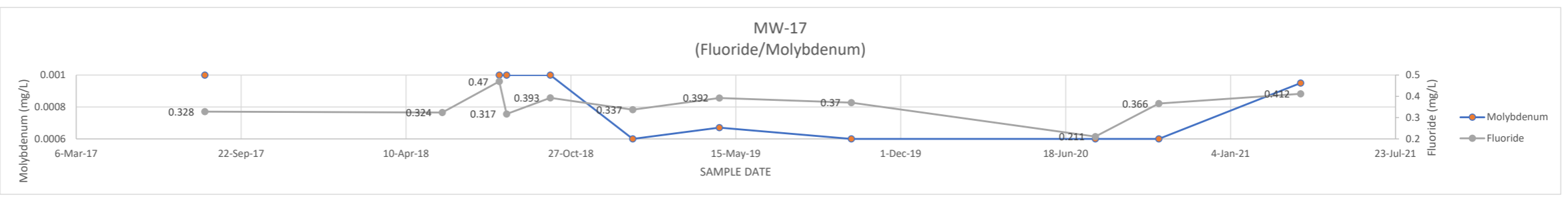
CM-5A DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1.09	0.0205
8-Oct-20	0.602	0.011
30-Mar-21	0.667	0.0182



CM-5B DATE	FLUORIDE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.636	0.04
9-Oct-20	0.786	0.0394
30-Mar-21	1.15	0.0536



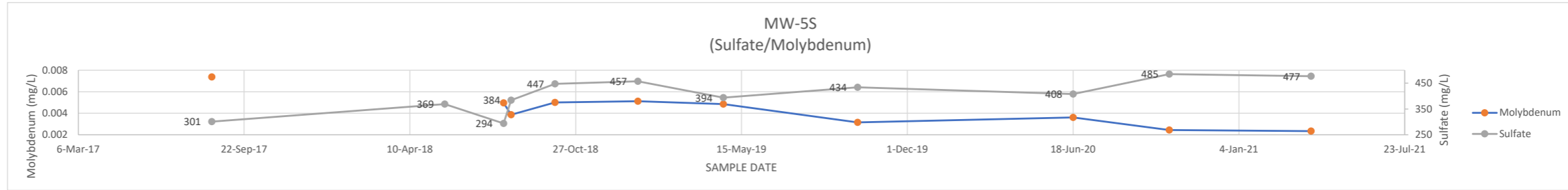
MW-17 DATE	FLUORIDE	MOLYBDENUM
9-Aug-17	0.328	0.001
24-May-18	0.324	
1-Aug-18	0.47	0.001
10-Aug-18	0.317	0.001
2-Oct-18	0.393	0.001
10-Jan-19	0.337	0.0006
25-Apr-19	0.392	0.000671
2-Oct-19	0.37	0.0006
24-Jul-20	0.211	0.0006
9-Oct-20	0.366	0.0006
30-Mar-21	0.412	0.00095



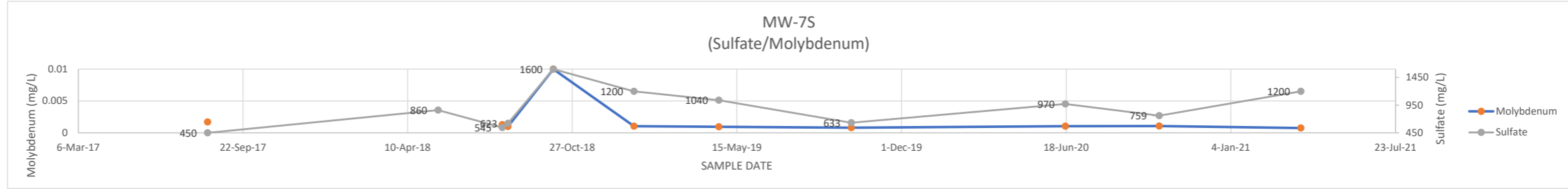
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT E-7  
CHANGES IN SULFATE AND MOLYBDENUM CONCENTRATIONS

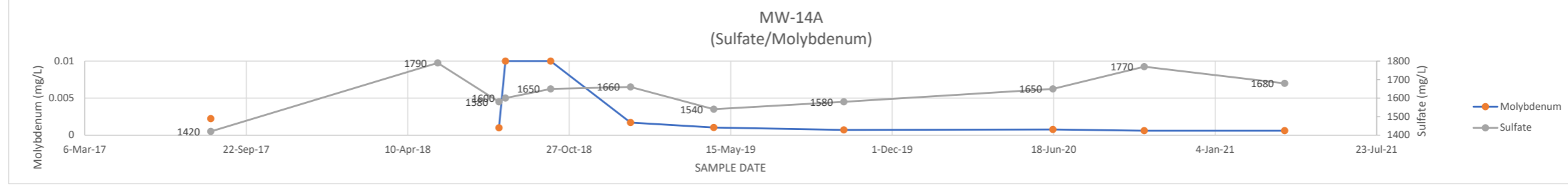
MW-5S	SULFATE	MOLYBDENUM
DATE		
14-Aug-17	301	0.00737
22-May-18	369	
1-Aug-18	294	0.00497
10-Aug-18	384	0.00387
2-Oct-18	447	0.005
10-Jan-19	457	0.00512
23-Apr-19	394	0.00485
2-Oct-19	434	0.00315
18-Jun-20	408	0.00361
12-Oct-20	485	0.00244
1-Apr-21	477	0.00234



MW-7S	SULFATE	MOLYBDENUM
DATE		
10-Aug-17	450	0.00171
17-May-18	860	
3-Aug-18	545	0.00127
10-Aug-18	623	0.001
4-Oct-18	1600	0.01
10-Jan-19	1200	0.00105
23-Apr-19	1040	0.000952
1-Oct-19	633	0.000798
17-Jun-20	970	0.00105
9-Oct-20	759	0.00106
30-Mar-21	1200	0.000755

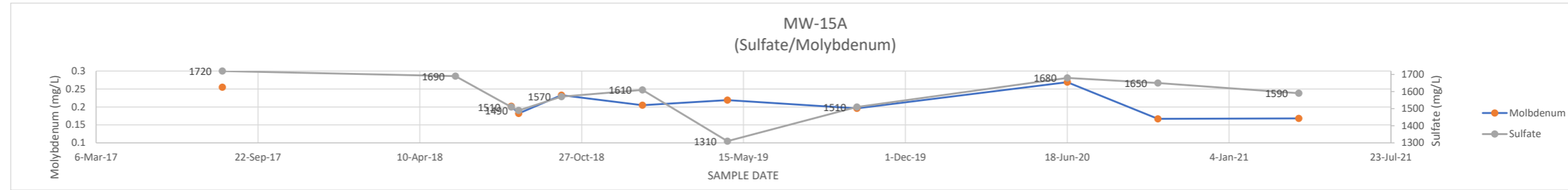


MW-14A	SULFATE	MOLYBDENUM
DATE		
9-Aug-17	1420	0.00223
17-May-18	1790	
1-Aug-18	1580	0.001
9-Aug-18	1600	0.01
4-Oct-18	1650	0.01
11-Jan-19	1660	0.0017
24-Apr-19	1540	0.00104
2-Oct-19	1580	0.000709
17-Jun-20	1650	0.00076
8-Oct-20	1770	0.0006
31-Mar-21	1680	0.0006

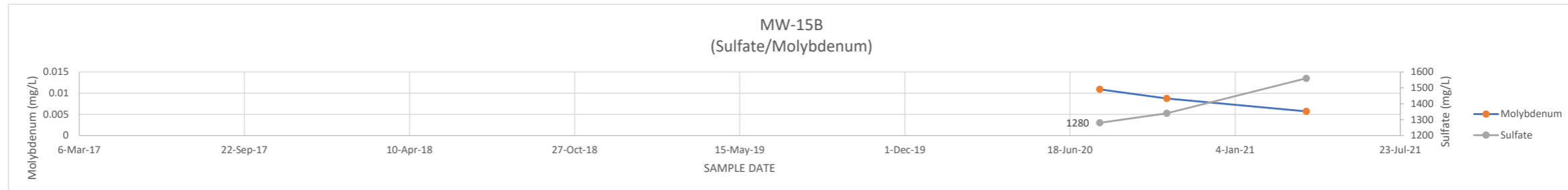


Yellow Indicates Reported Below shown value (MDL)

MW-15A	SULFATE	MOLYBDENUM
DATE		
9-Aug-17	1720	0.255
24-May-18	1690	
1-Aug-18	1510	0.202
10-Aug-18	1490	0.182
2-Oct-18	1570	0.233
10-Jan-19	1610	0.205
25-Apr-19	1310	0.219
2-Oct-19	1510	0.196
18-Jun-20	1680	0.269
8-Oct-20	1650	0.167
31-Mar-21	1590	0.168

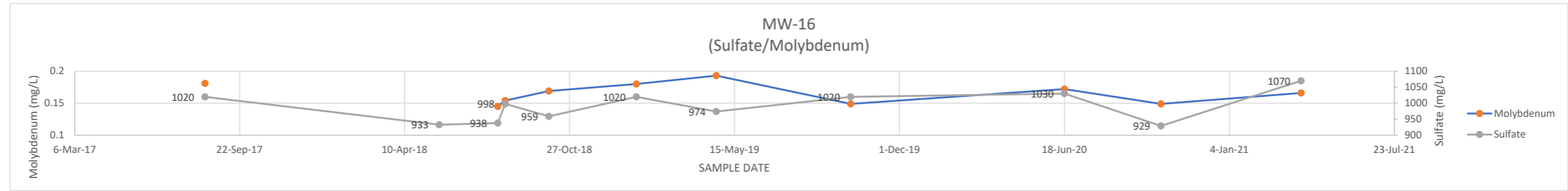


MW-15B	SULFATE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1280	0.0109
13-Oct-20	1340	0.00876
31-Mar-21	1560	0.00571

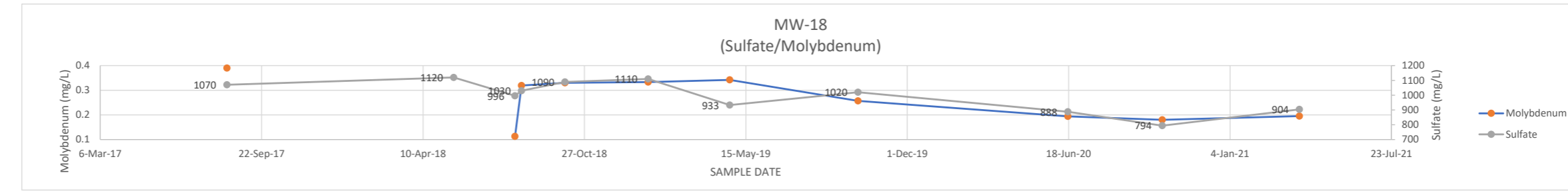


ATTACHMENT E-7  
CHANGES IN SULFATE AND MOLYBDENUM CONCENTRATIONS

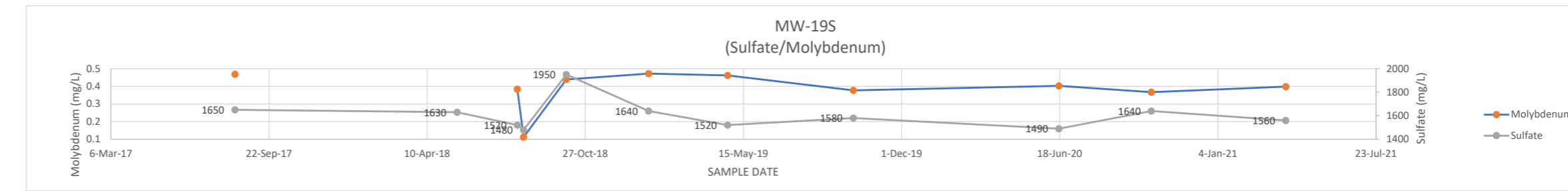
MW-16	SULFATE	MOLYBDENUM
DATE		
11-Aug-17	1020	0.181
22-May-18	933	
1-Aug-18	938	0.145
10-Aug-18	998	0.154
2-Oct-18	959	0.169
16-Jan-19	1020	0.18
23-Apr-19	974	0.193
3-Oct-19	1020	0.149
18-Jun-20	1030	0.172
13-Oct-20	929	0.149
1-Apr-21	1070	0.166



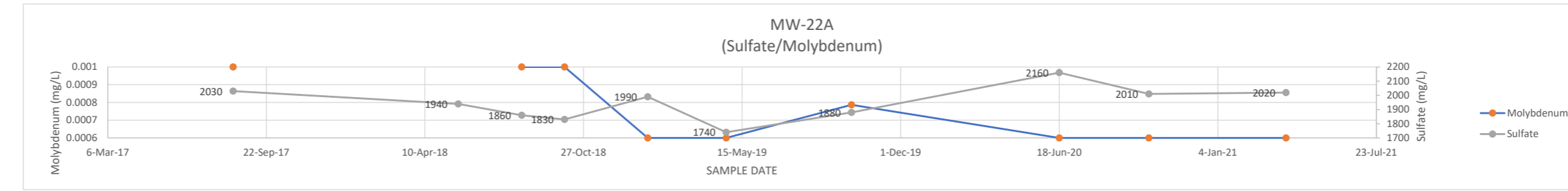
MW-18	SULFATE	MOLYBDENUM
DATE		
10-Aug-17	1070	0.39
18-May-18	1120	
2-Aug-18	996	0.113
10-Aug-18	1030	0.319
3-Oct-18	1090	0.33
14-Jan-19	1110	0.333
25-Apr-19	933	0.342
1-Oct-19	1020	0.257
17-Jun-20	888	0.194
12-Oct-20	794	0.18
31-Mar-21	904	0.195



MW-19S	SULFATE	MOLYBDENUM
DATE		
10-Aug-17	1650	0.469
18-May-18	1630	
2-Aug-18	1520	0.384
10-Aug-18	1480	0.112
3-Oct-18	1950	0.439
15-Jan-19	1640	0.472
25-Apr-19	1520	0.462
1-Oct-19	1580	0.377
17-Jun-20	1490	0.402
12-Oct-20	1640	0.367
31-Mar-21	1560	0.398

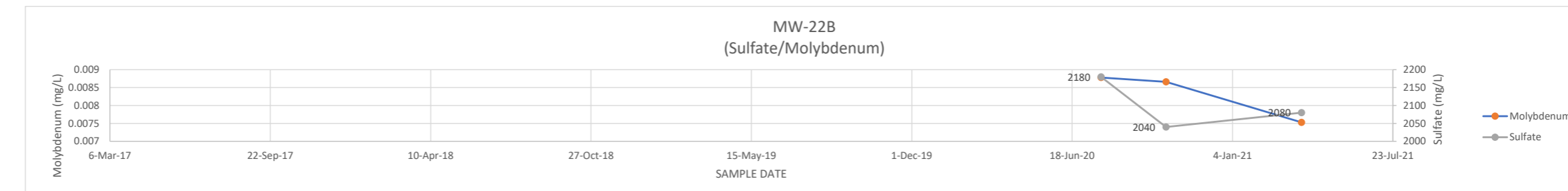


MW-22A	SULFATE	MOLYBDENUM
DATE		
11-Aug-17	2030	0.001
22-May-18	1940	
10-Aug-18	1860	0.001
3-Oct-18	1830	0.001
16-Jan-19	1990	0.0006
25-Apr-19	1740	0.0006
30-Sep-19	1880	0.000787
18-Jun-20	2160	0.0006
9-Oct-20	2010	0.0006
31-Mar-21	2020	0.0006



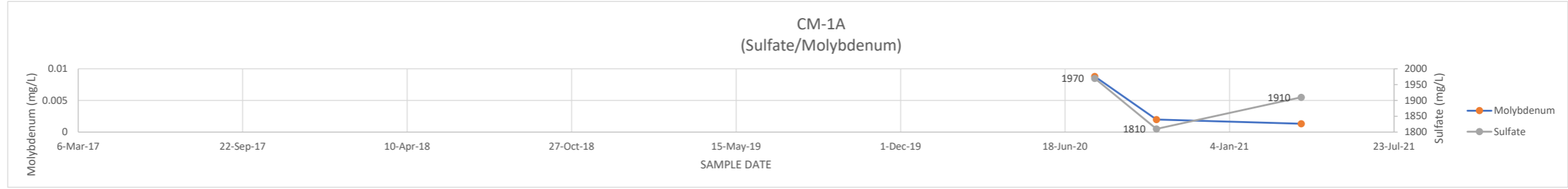
Yellow Indicates Reported Below shown value (MDL)

MW-22B	SULFATE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2180	0.00878
13-Oct-20	2040	0.00866
31-Mar-21	2080	0.00753

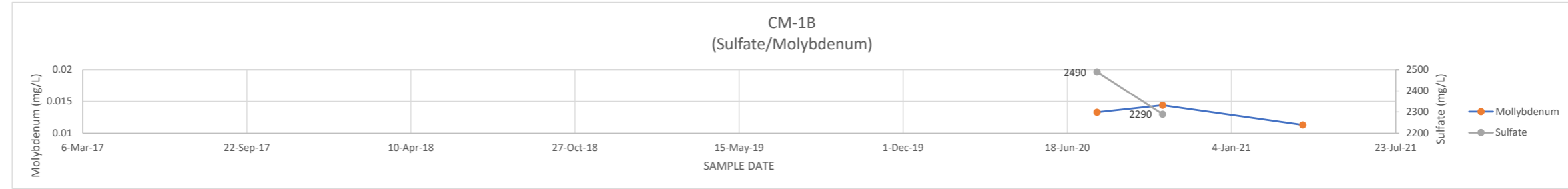


ATTACHMENT E-7  
CHANGES IN SULFATE AND MOLYBDENUM CONCENTRATIONS

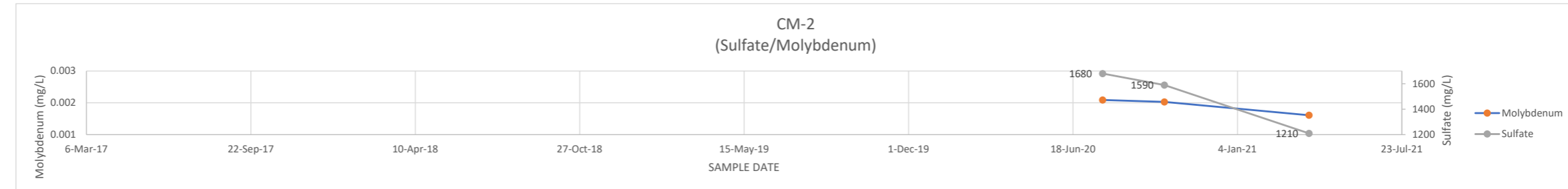
CM-1A DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1970	0.0088
7-Oct-20	1810	0.00198
1-Apr-21	1910	0.00132



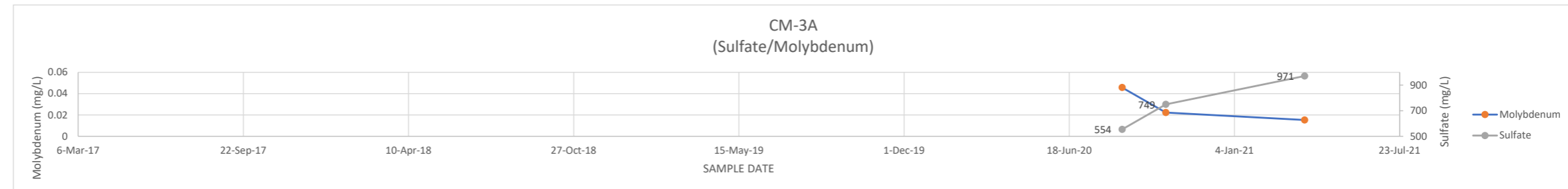
CM-1B DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2490	0.0133
12-Oct-20	2290	0.0144
1-Apr-21		0.0113



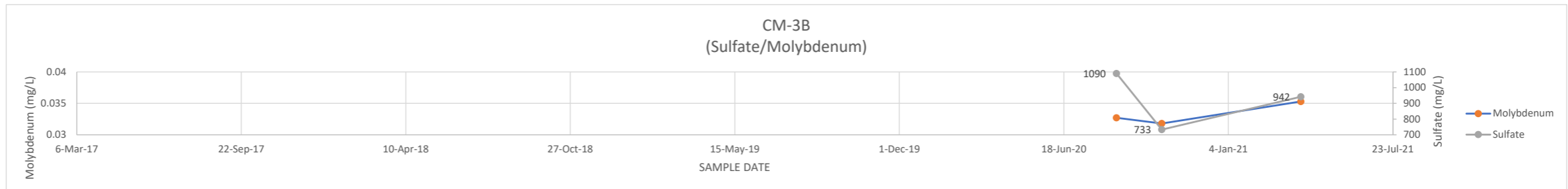
CM-2 DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1680	0.00209
7-Oct-20	1590	0.00203
1-Apr-21	1210	0.00161



CM-3A DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	554	0.0457
13-Oct-20	749	0.0222
30-Mar-21	971	0.0153



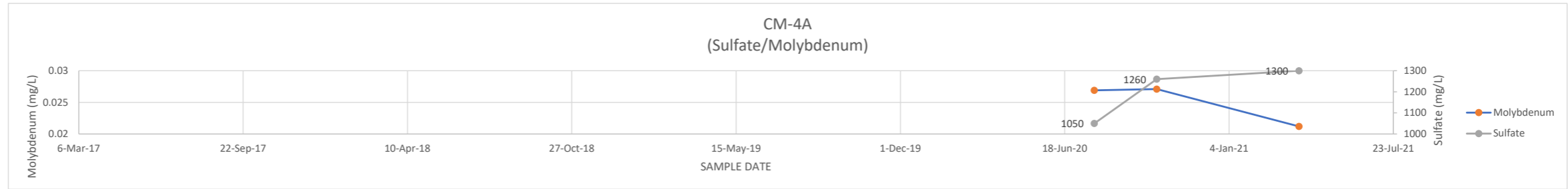
CM-3B DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	1090	0.0327
15-Oct-20	733	0.0318
2-Apr-21	942	0.0353



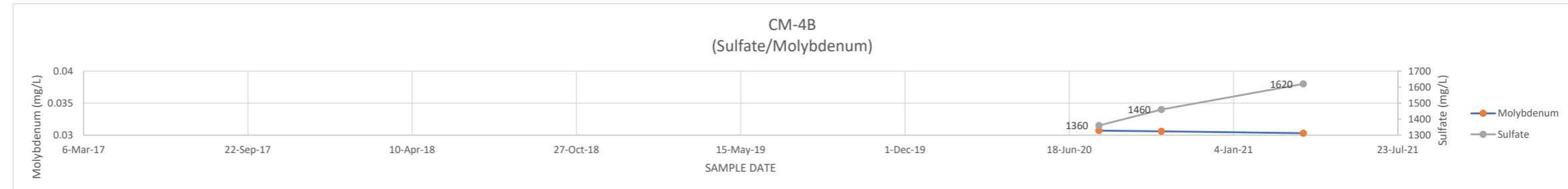


ATTACHMENT E-7  
CHANGES IN SULFATE AND MOLYBDENUM CONCENTRATIONS

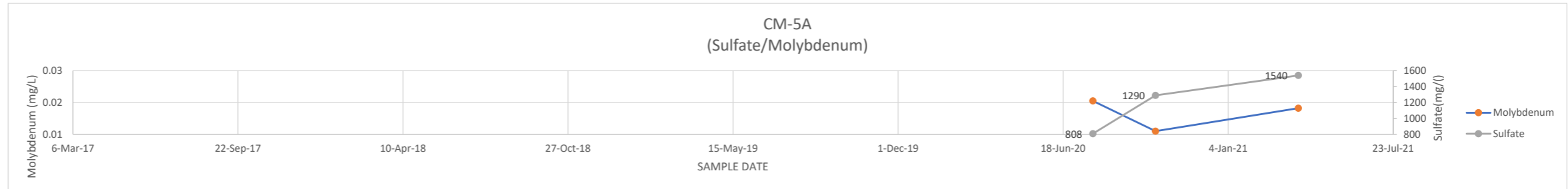
CM-4A DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1050	0.0269
8-Oct-20	1260	0.0271
30-Mar-21	1300	0.0212



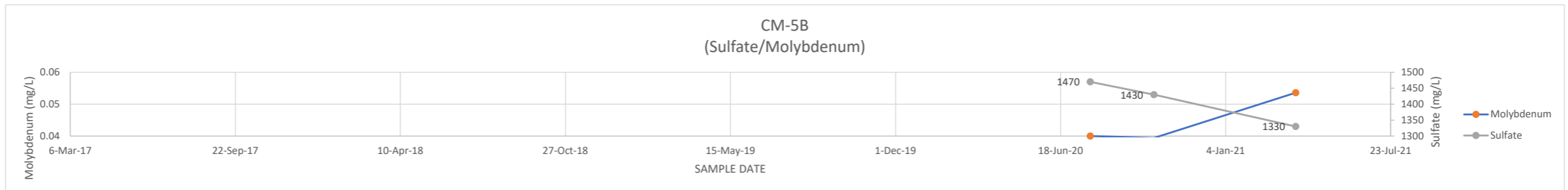
CM-4B DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1360	0.0307
8-Oct-20	1460	0.0306
30-Mar-21	1620	0.0303



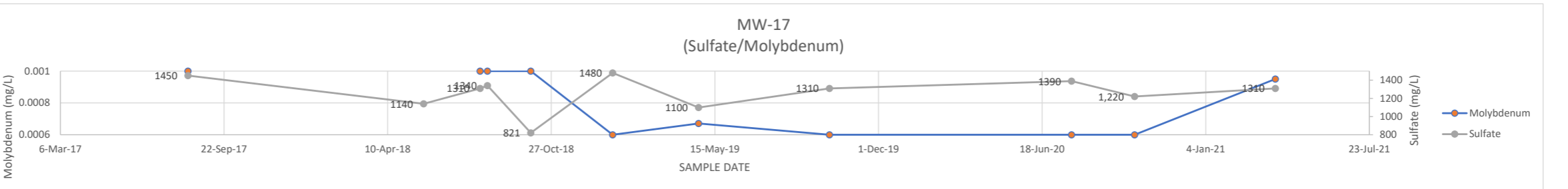
CM-5A DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	808	0.0205
8-Oct-20	1290	0.011
30-Mar-21	1540	0.0182



CM-5B DATE	SULFATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1470	0.04
9-Oct-20	1430	0.0394
30-Mar-21	1330	0.0536



MW-17 DATE	SULFATE	MOLYBDENUM
9-Aug-17	1450	0.001
24-May-18	1140	
1-Aug-18	1310	0.001
10-Aug-18	1340	0.001
2-Oct-18	821	0.001
10-Jan-19	1480	0.0006
25-Apr-19	1100	0.000671
2-Oct-19	1310	0.0006
24-Jul-20	1390	0.0006
9-Oct-20	1,220	0.0006
30-Mar-21	1310	0.00095



Yellow Indicates Reported Below shown value (MDL)

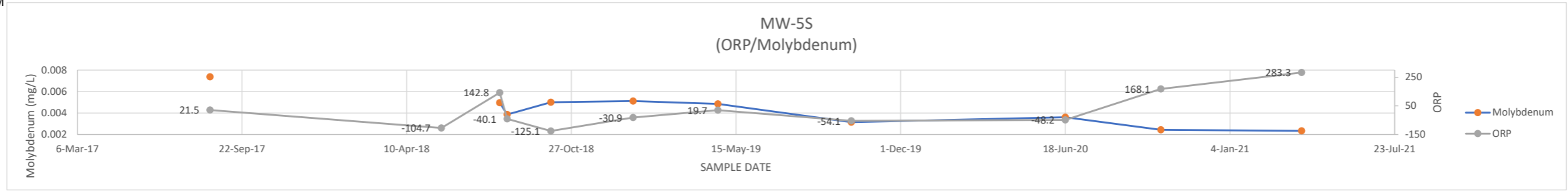
## **ATTACHMENT F**

CHANGES IN CONCENTRATION OF INDICATOR PARAMETERS FOR MNA COMPARED TO CHANGES IN MOLYBDENUM CONCENTRATION OVER SAMPLING HISTORY

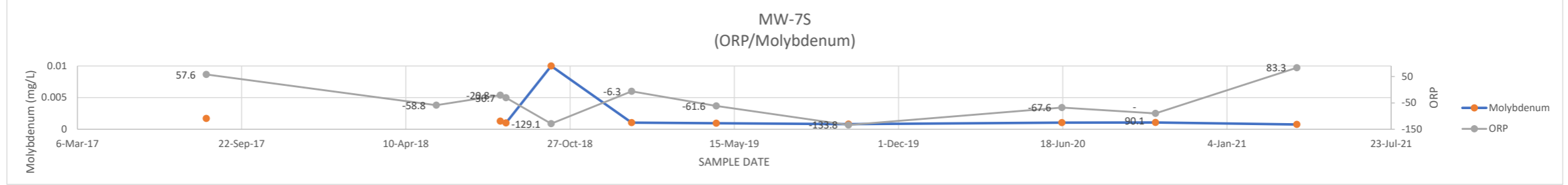
- F-1: CHANGES IN ORP AND MOLYBDENUM CONCENTRATIONS
- F-2: CHANGES IN DO AND MOLYBDENUM CONCENTRATIONS
- F-3: CHANGES IN CONDUCTANCE (FIELD) AND MOLYBDENUM CONCENTRATIONS
- F-4: CHANGES IN NITRATE AND MOLYBDENUM CONCENTRATIONS
- F-5: CHANGES IN SULFIDE AND MOLYBDENUM CONCENTRATIONS
- F-6: CHANGES IN ALKALINITY AND MOLYBDENUM CONCENTRATIONS

ATTACHMENT F-1  
CHANGES IN ORP AND MOLYBDENUM CONCENTRATIONS

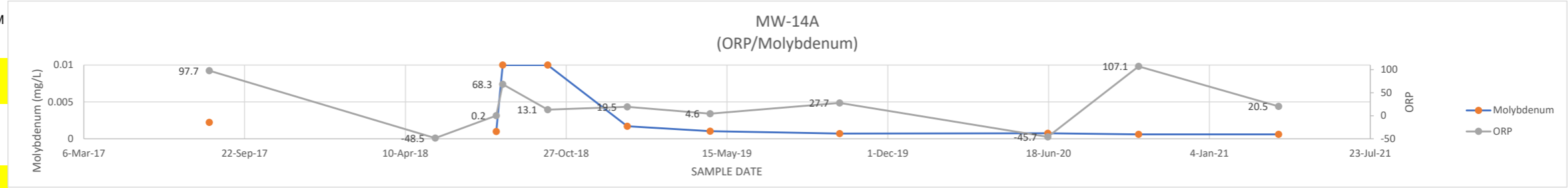
MW-5S	ORP	MOLYBDENUM
DATE		
14-Aug-17	21.5	0.00737
22-May-18	-104.7	
1-Aug-18	142.8	0.00497
10-Aug-18	-40.1	0.00387
2-Oct-18	-125.1	0.005
10-Jan-19	-30.9	0.00512
23-Apr-19	19.7	0.00485
2-Oct-19	-54.1	0.00315
18-Jun-20	-48.2	0.00361
12-Oct-20	168.1	0.00244
1-Apr-21	283.3	0.00234



MW-7S	ORP	MOLYBDENUM
DATE		
10-Aug-17	57.6	0.00171
17-May-18	-58.8	
3-Aug-18	-20.8	0.00127
10-Aug-18	-30.7	0.001
4-Oct-18	-129.1	0.01
10-Jan-19	-6.3	0.00105
23-Apr-19	-61.6	0.000952
1-Oct-19	-133.8	0.000798
17-Jun-20	-67.6	0.00105
9-Oct-20	-90.1	0.00106
30-Mar-21	83.3	0.000755

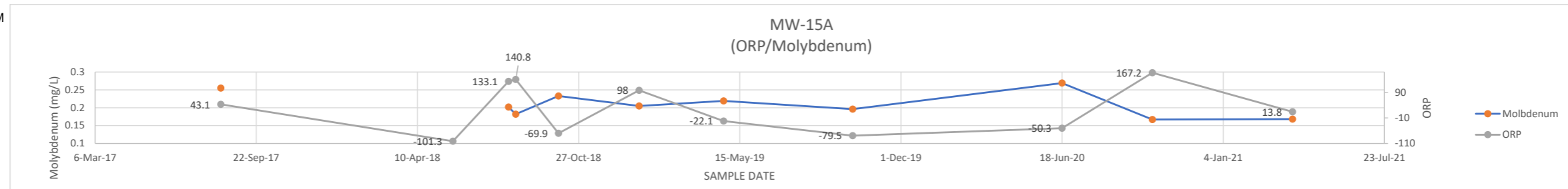


MW-14A	ORP	MOLYBDENUM
DATE		
9-Aug-17	97.7	0.00223
17-May-18	-48.5	
1-Aug-18	0.2	0.001
9-Aug-18	68.3	0.01
4-Oct-18	13.1	0.01
11-Jan-19	19.5	0.0017
24-Apr-19	4.6	0.00104
2-Oct-19	27.7	0.000709
17-Jun-20	-45.7	0.00076
8-Oct-20	107.1	0.0006
31-Mar-21	20.5	0.0006

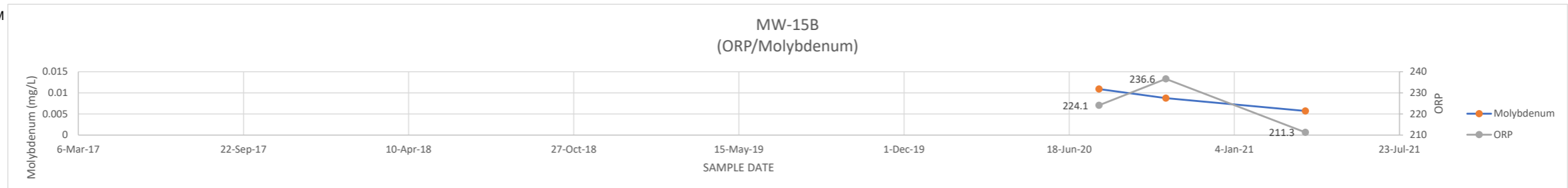


Yellow Indicates Reported Below shown value (MDL)

MW-15A	ORP	MOLYBDENUM
DATE		
9-Aug-17	43.1	0.255
24-May-18	-101.3	
1-Aug-18	133.1	0.202
10-Aug-18	140.8	0.182
2-Oct-18	-69.9	0.233
10-Jan-19	98	0.205
25-Apr-19	-22.1	0.219
2-Oct-19	-79.5	0.196
18-Jun-20	-50.3	0.269
8-Oct-20	167.2	0.167
31-Mar-21	13.8	0.168

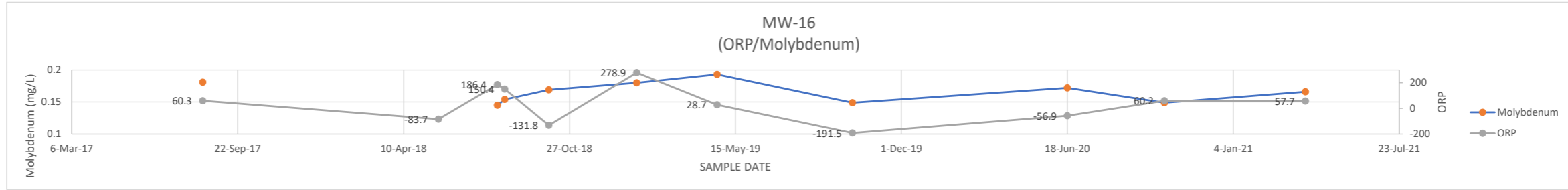


MW-15B	ORP	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	224.1	0.0109
13-Oct-20	236.6	0.00876
31-Mar-21	211.3	0.00571

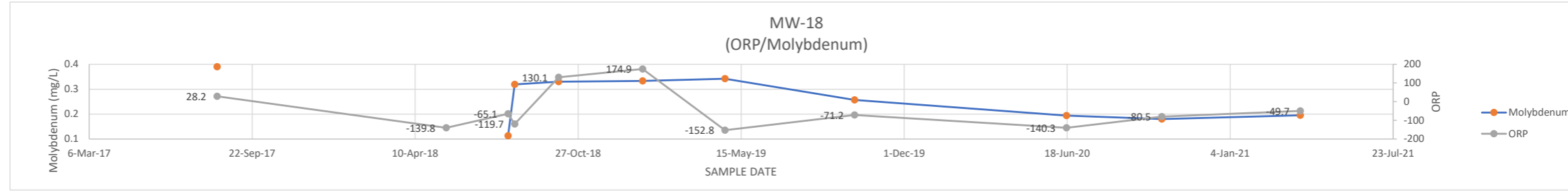


ATTACHMENT F-1  
CHANGES IN ORP AND MOLYBDENUM CONCENTRATIONS

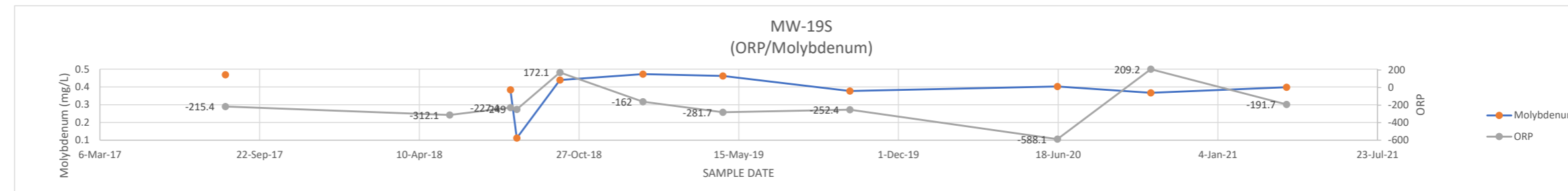
MW-16	ORP	MOLYBDENUM
DATE		
11-Aug-17	60.3	0.181
22-May-18	-83.7	
1-Aug-18	186.4	0.145
10-Aug-18	150.4	0.154
2-Oct-18	-131.8	0.169
16-Jan-19	278.9	0.18
23-Apr-19	28.7	0.193
3-Oct-19	-191.5	0.149
18-Jun-20	-56.9	0.172
13-Oct-20	60.2	0.149
1-Apr-21	57.7	0.166



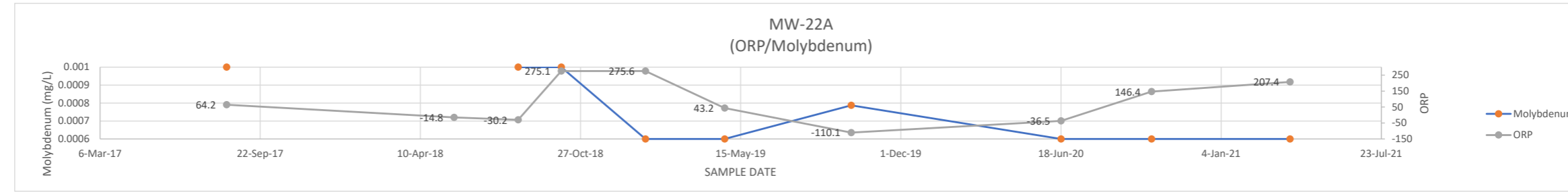
MW-18	ORP	MOLYBDENUM
DATE		
10-Aug-17	28.2	0.39
18-May-18	-139.8	
2-Aug-18	-65.1	0.113
10-Aug-18	-119.7	0.319
3-Oct-18	130.1	0.33
14-Jan-19	174.9	0.333
25-Apr-19	-152.8	0.342
1-Oct-19	-71.2	0.257
17-Jun-20	-140.3	0.194
12-Oct-20	-80.5	0.18
31-Mar-21	-49.7	0.195



MW-19S	ORP	MOLYBDENUM
DATE		
10-Aug-17	-215.4	0.469
18-May-18	-312.1	
2-Aug-18	-227.4	0.384
10-Aug-18	-249	0.112
3-Oct-18	172.1	0.439
15-Jan-19	-162	0.472
25-Apr-19	-281.7	0.462
1-Oct-19	-252.4	0.377
17-Jun-20	-588.1	0.402
12-Oct-20	209.2	0.367
31-Mar-21	-191.7	0.398

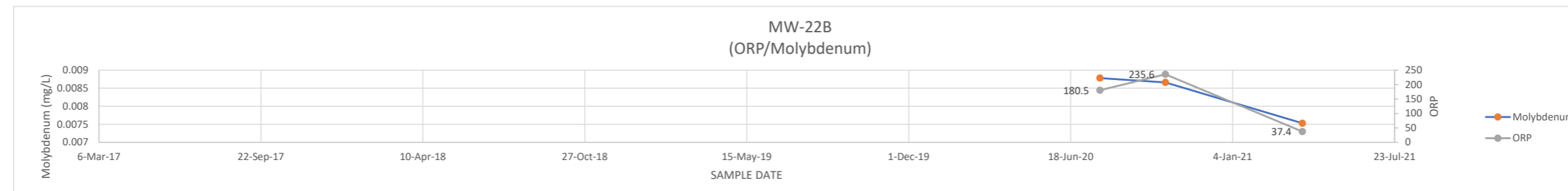


MW-22A	ORP	MOLYBDENUM
DATE		
11-Aug-17	64.2	0.001
22-May-18	-14.8	
10-Aug-18	-30.2	0.001
3-Oct-18	275.1	0.001
16-Jan-19	275.6	0.0006
25-Apr-19	43.2	0.0006
30-Sep-19	-110.1	0.000787
18-Jun-20	-36.5	0.0006
9-Oct-20	146.4	0.0006
31-Mar-21	207.4	0.0006



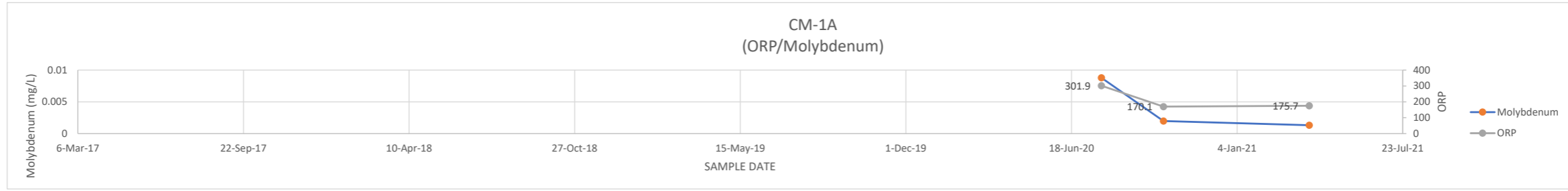
Yellow Indicates Reported Below shown value (MDL)

MW-22B	ORP	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	180.5	0.00878
13-Oct-20	235.6	0.00866
31-Mar-21	37.4	0.00753

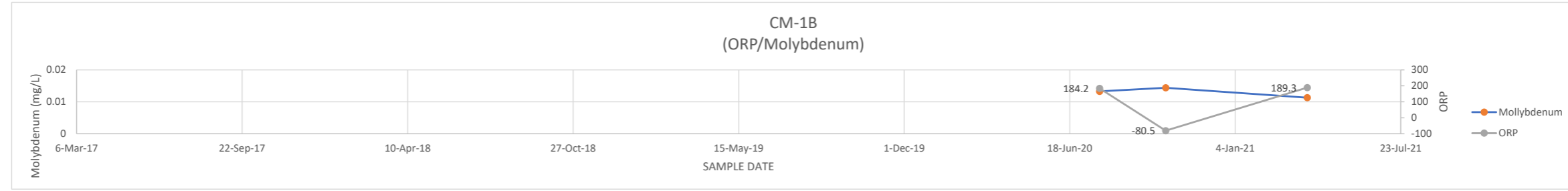


ATTACHMENT F-1  
CHANGES IN ORP AND MOLYBDENUM CONCENTRATIONS

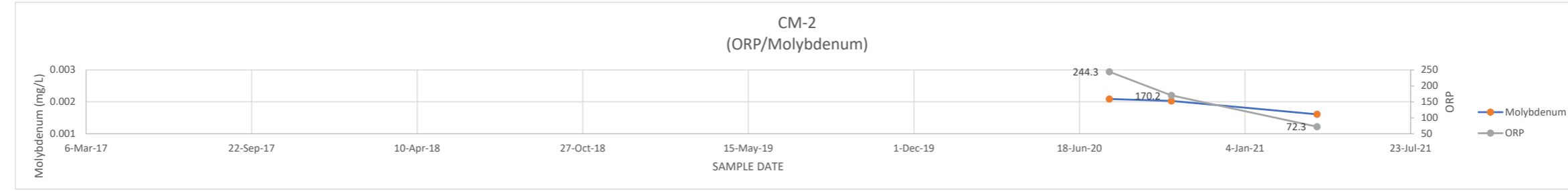
CM-1A DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	301.9	0.0088
7-Oct-20	170.1	0.00198
1-Apr-21	175.7	0.00132



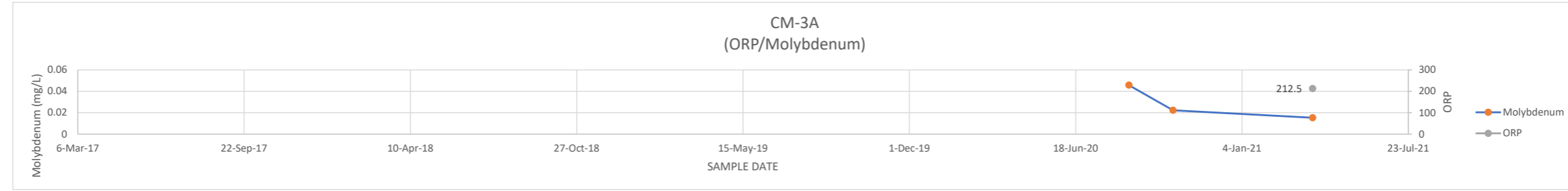
CM-1B DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	184.2	0.0133
12-Oct-20	-80.5	0.0144
1-Apr-21	189.3	0.0113



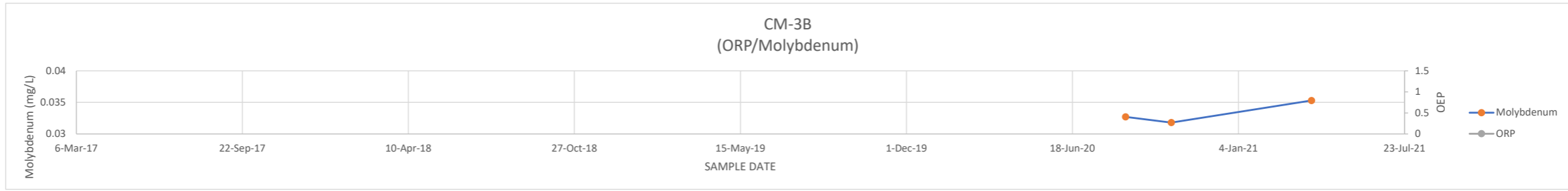
CM-2 DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	244.3	0.00209
7-Oct-20	170.2	0.00203
1-Apr-21	72.3	0.00161



CM-3A DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0457
13-Oct-20		0.0222
30-Mar-21	212.5	0.0153

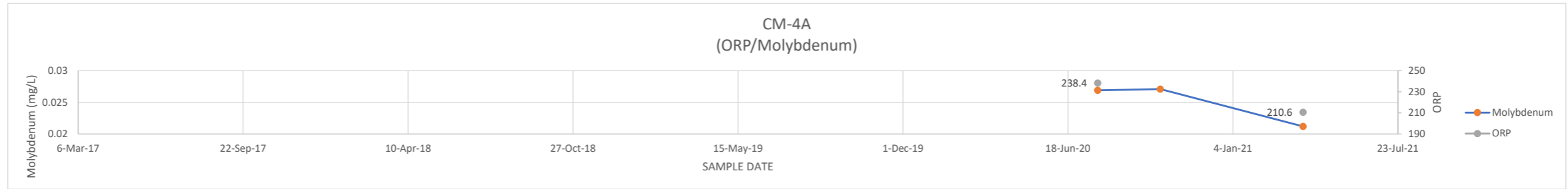


CM-3B DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0327
15-Oct-20		0.0318
2-Apr-21		0.0353

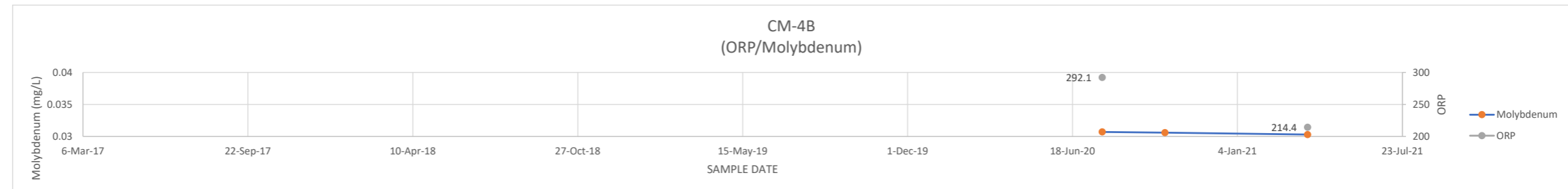


ATTACHMENT F-1  
CHANGES IN ORP AND MOLYBDENUM CONCENTRATIONS

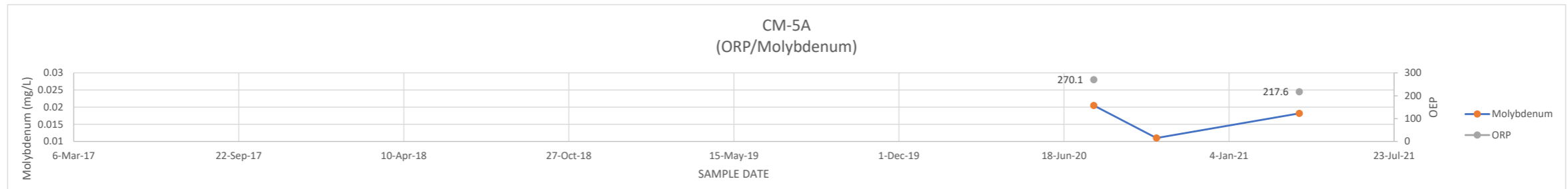
CM-4A DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	238.4	0.0269
8-Oct-20		0.0271
30-Mar-21	210.6	0.0212



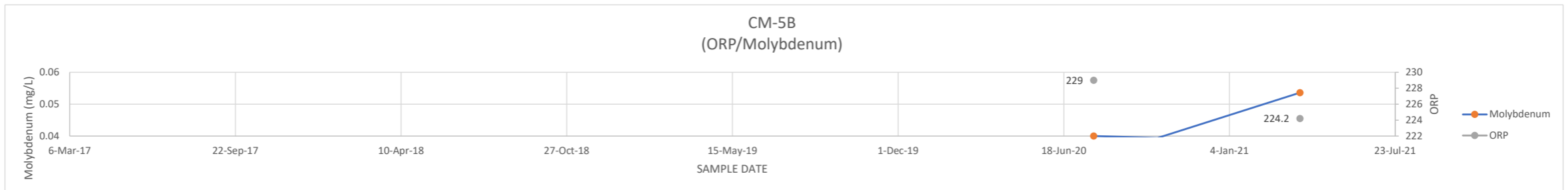
CM-4B DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	292.1	0.0307
8-Oct-20		0.0306
30-Mar-21	214.4	0.0303



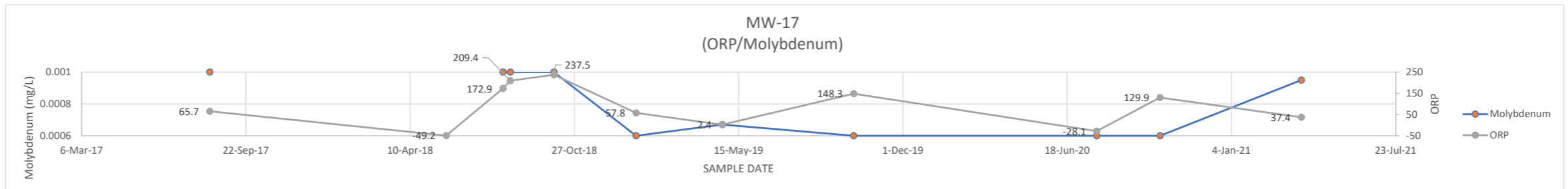
CM-5A DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	270.1	0.0205
8-Oct-20		0.011
30-Mar-21	217.6	0.0182



CM-5B DATE	ORP	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	229	0.04
9-Oct-20		0.0394
30-Mar-21	224.2	0.0536



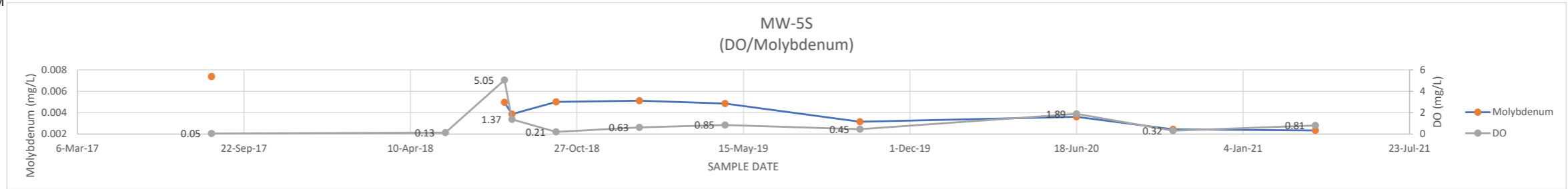
MW-17 DATE	ORP	MOLYBDENUM
9-Aug-17	65.7	0.001
24-May-18	-49.2	
1-Aug-18	172.9	0.001
10-Aug-18	209.4	0.001
2-Oct-18	237.5	0.001
10-Jan-19	57.8	0.0006
25-Apr-19	2.4	0.000671
2-Oct-19	148.3	0.0006
24-Jul-20	-28.1	0.0006
9-Oct-20	129.9	0.0006
30-Mar-21	37.4	0.00095



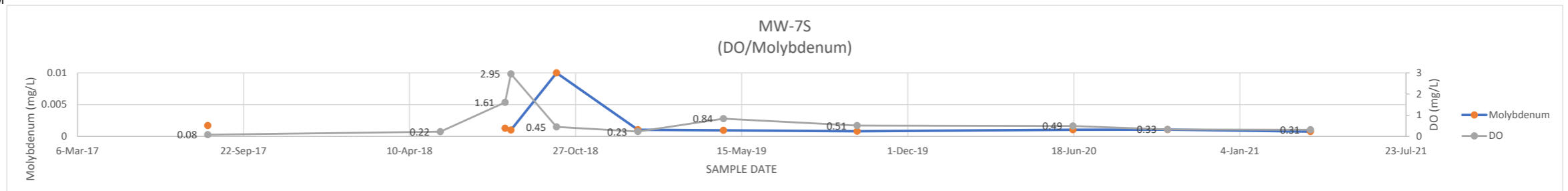
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT F-2  
CHANGES IN DO AND MOLYBDENUM CONCENTRATIONS

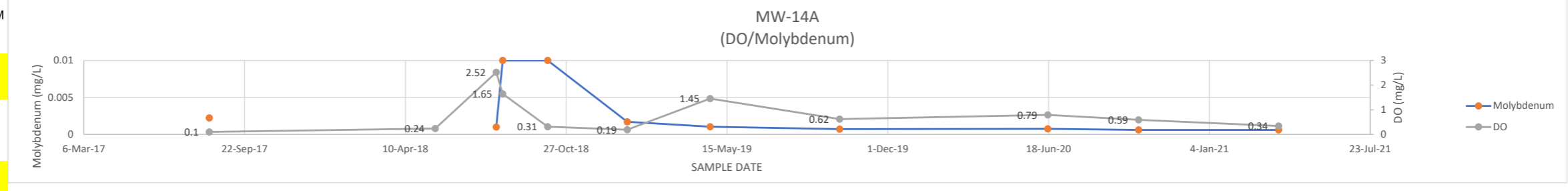
MW-5S	DO	MOLYBDENUM
DATE		
14-Aug-17	0.05	0.00737
22-May-18	0.13	
1-Aug-18	5.05	0.00497
10-Aug-18	1.37	0.00387
2-Oct-18	0.21	0.005
10-Jan-19	0.63	0.00512
23-Apr-19	0.85	0.00485
2-Oct-19	0.45	0.00315
18-Jun-20	1.89	0.00361
12-Oct-20	0.32	0.00244
1-Apr-21	0.81	0.00234



MW-7S	DO	MOLYBDENUM
DATE		
10-Aug-17	0.08	0.00171
17-May-18	0.22	
3-Aug-18	1.61	0.00127
10-Aug-18	2.95	0.001
4-Oct-18	0.45	0.01
10-Jan-19	0.23	0.00105
23-Apr-19	0.84	0.000952
1-Oct-19	0.51	0.000798
17-Jun-20	0.49	0.00105
9-Oct-20	0.33	0.00106
30-Mar-21	0.31	0.000755

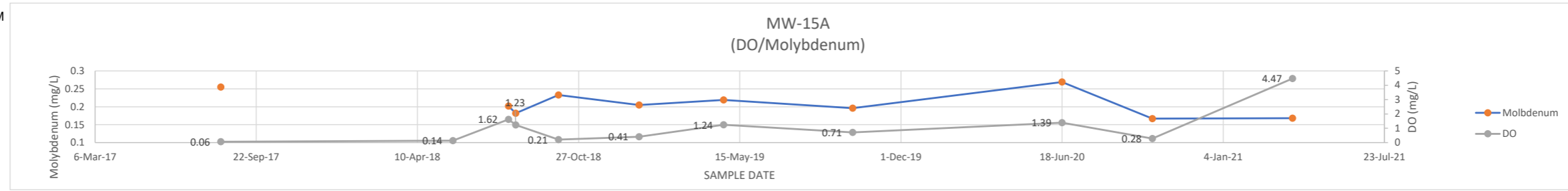


MW-14A	DO	MOLYBDENUM
DATE		
9-Aug-17	0.1	0.00223
17-May-18	0.24	
1-Aug-18	2.52	0.001
9-Aug-18	1.65	0.01
4-Oct-18	0.31	0.01
11-Jan-19	0.19	0.0017
24-Apr-19	1.45	0.00104
2-Oct-19	0.62	0.000709
17-Jun-20	0.79	0.00076
8-Oct-20	0.59	0.0006
31-Mar-21	0.34	0.0006

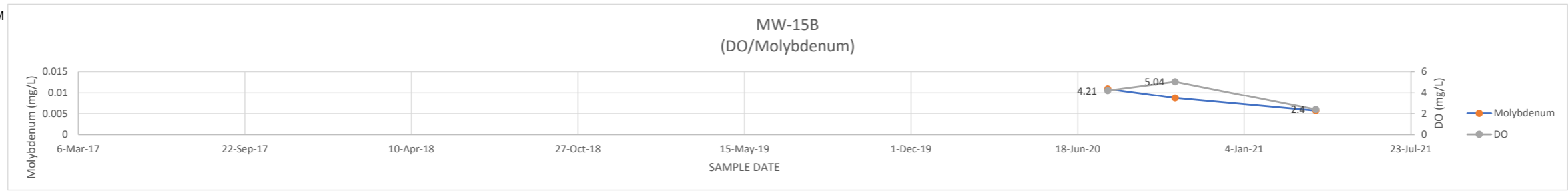


Yellow Indicates Reported Below shown value (MDL)

MW-15A	DO	MOLYBDENUM
DATE		
9-Aug-17	0.06	0.255
24-May-18	0.14	
1-Aug-18	1.62	0.202
10-Aug-18	1.23	0.182
2-Oct-18	0.21	0.233
10-Jan-19	0.41	0.205
25-Apr-19	1.24	0.219
2-Oct-19	0.71	0.196
18-Jun-20	1.39	0.269
8-Oct-20	0.28	0.167
31-Mar-21	4.47	0.168

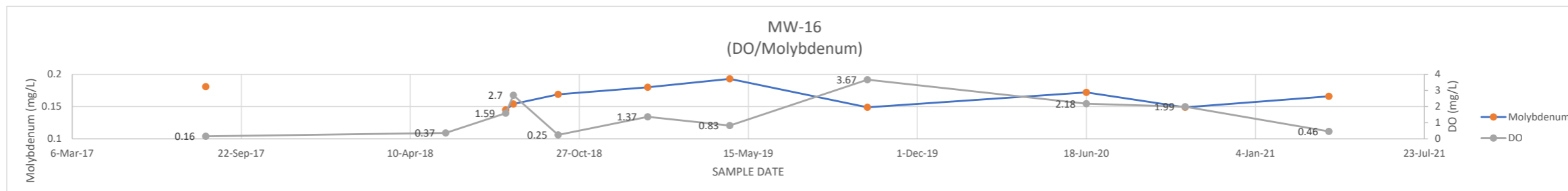


MW-15B	DO	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	4.21	0.0109
13-Oct-20	5.04	0.00876
31-Mar-21	2.4	0.00571

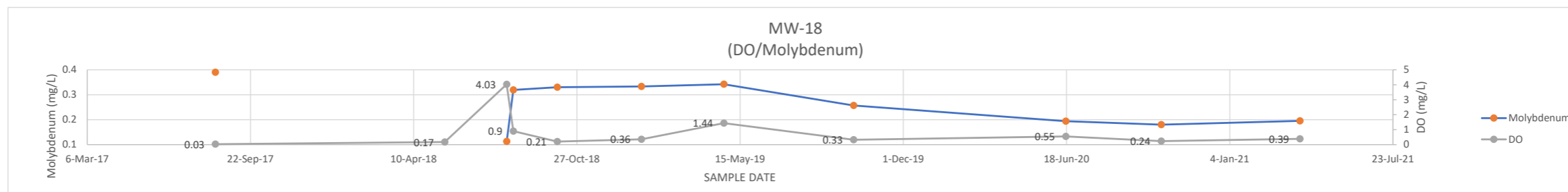


ATTACHMENT F-2  
CHANGES IN DO AND MOLYBDENUM CONCENTRATIONS

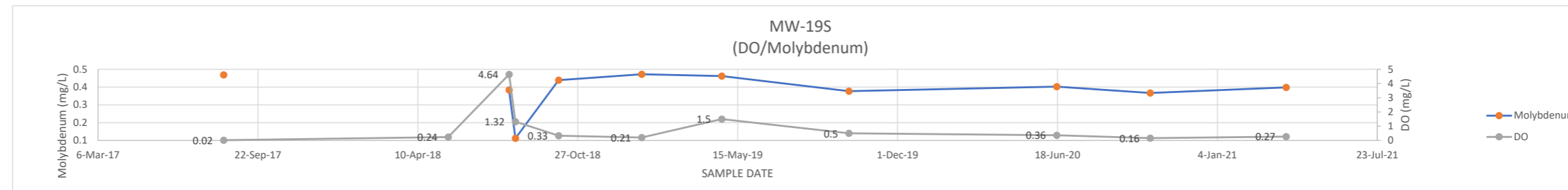
MW-16	DO	MOLYBDENUM
DATE		
11-Aug-17	0.16	0.181
22-May-18	0.37	
1-Aug-18	1.59	0.145
10-Aug-18	2.7	0.154
2-Oct-18	0.25	0.169
16-Jan-19	1.37	0.18
23-Apr-19	0.83	0.193
3-Oct-19	3.67	0.149
18-Jun-20	2.18	0.172
13-Oct-20	1.99	0.149
1-Apr-21	0.46	0.166



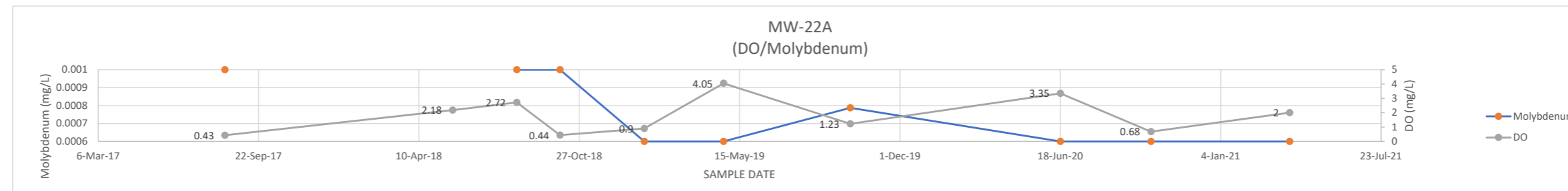
MW-18	ORP	MOLYBDENUM
DATE		
10-Aug-17	0.03	0.39
18-May-18	0.17	
2-Aug-18	4.03	0.113
10-Aug-18	0.9	0.319
3-Oct-18	0.21	0.33
14-Jan-19	0.36	0.333
25-Apr-19	1.44	0.342
1-Oct-19	0.33	0.257
17-Jun-20	0.55	0.194
12-Oct-20	0.24	0.18
31-Mar-21	0.39	0.195



MW-19S	DO	MOLYBDENUM
DATE		
10-Aug-17	0.02	0.469
18-May-18	0.24	
2-Aug-18	4.64	0.384
10-Aug-18	1.32	0.112
3-Oct-18	0.33	0.439
15-Jan-19	0.21	0.472
25-Apr-19	1.5	0.462
1-Oct-19	0.5	0.377
17-Jun-20	0.36	0.402
12-Oct-20	0.16	0.367
31-Mar-21	0.27	0.398

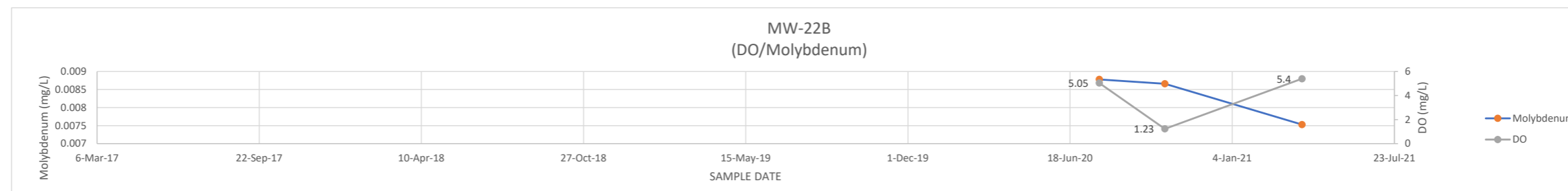


MW-22A	DO	MOLYBDENUM
DATE		
11-Aug-17	0.43	0.001
22-May-18	2.18	
10-Aug-18	2.72	0.001
3-Oct-18	0.44	0.001
16-Jan-19	0.9	0.0006
25-Apr-19	4.05	0.0006
30-Sep-19	1.23	0.000787
18-Jun-20	3.35	0.0006
9-Oct-20	0.68	0.0006
31-Mar-21	2	0.0006



Yellow Indicates Reported Below shown value (MDL)

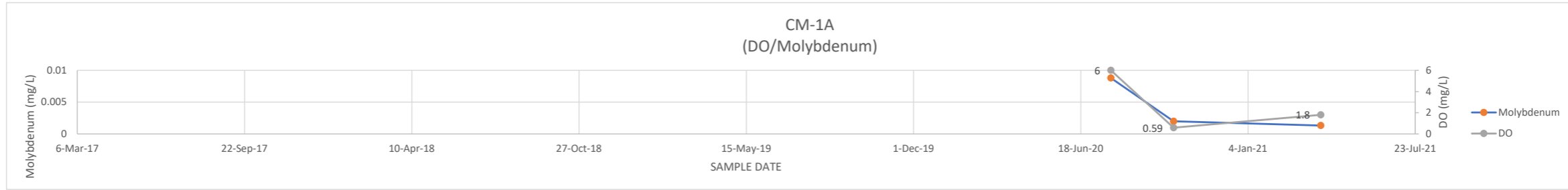
MW-22B	DO	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	5.05	0.00878
13-Oct-20	1.23	0.00866
31-Mar-21	5.4	0.00753



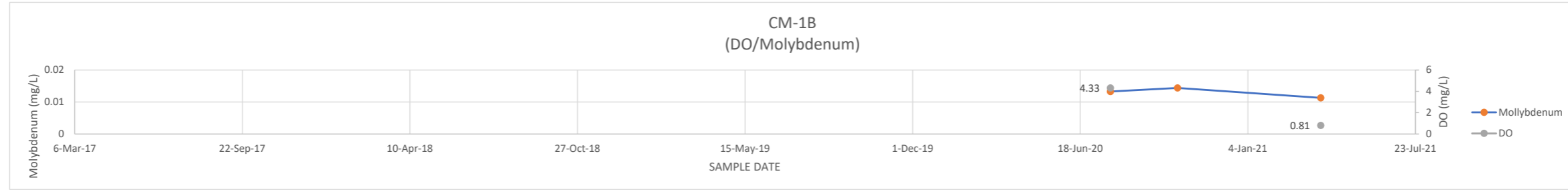


ATTACHMENT F-2  
CHANGES IN DO AND MOLYBDENUM CONCENTRATIONS

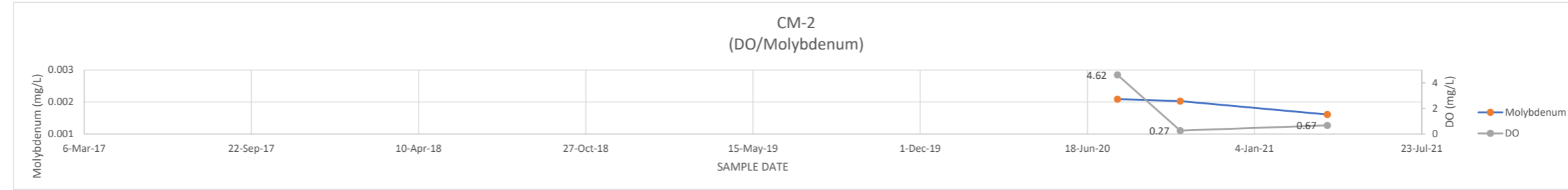
CM-1A  
DATE DO MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 6 0.0088  
7-Oct-20 0.59 0.00198  
1-Apr-21 1.8 0.00132



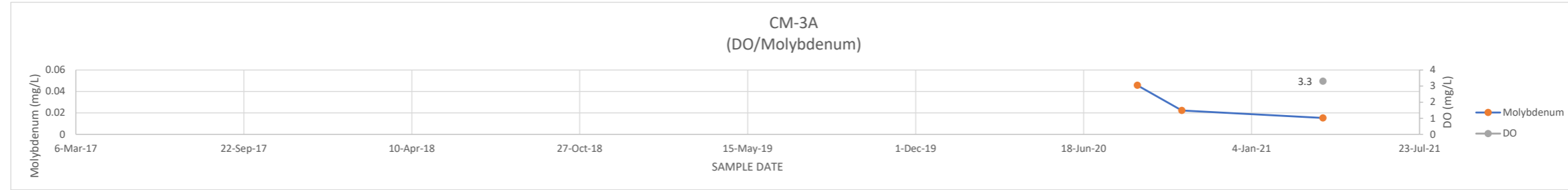
CM-1B  
DATE DO MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 4.33 0.0133  
12-Oct-20 0.81 0.0144  
1-Apr-21 0.81 0.0113



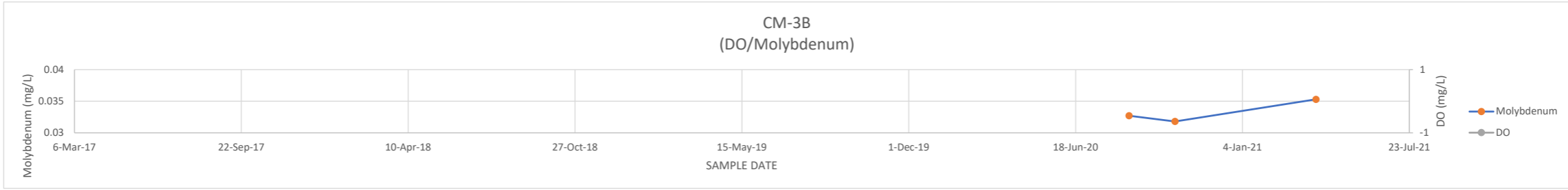
CM-2  
DATE DO MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
24-Jul-20 4.62 0.00209  
7-Oct-20 0.27 0.00203  
1-Apr-21 0.67 0.00161



CM-3A  
DATE DO MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
21-Aug-20 0.0457  
13-Oct-20 0.0222  
30-Mar-21 3.3 0.0153

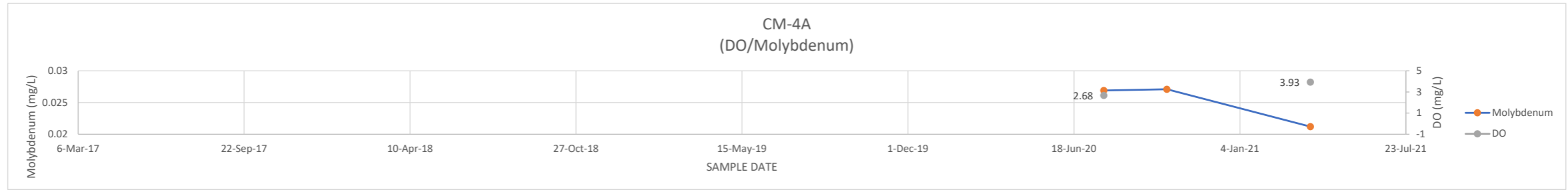


CM-3B  
DATE DO MOLYBDENUM  
9-Aug-17  
24-May-18  
1-Aug-18  
10-Aug-18  
2-Oct-18  
10-Jan-19  
25-Apr-19  
2-Oct-19  
21-Aug-20 0.0327  
15-Oct-20 0.0318  
2-Apr-21 0.0353

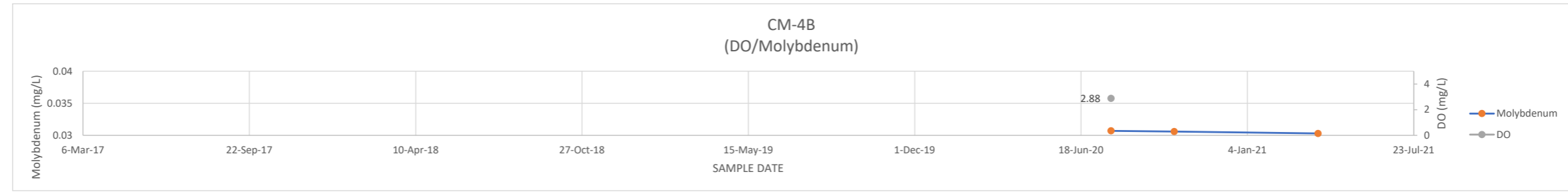


ATTACHMENT F-2  
CHANGES IN DO AND MOLYBDENUM CONCENTRATIONS

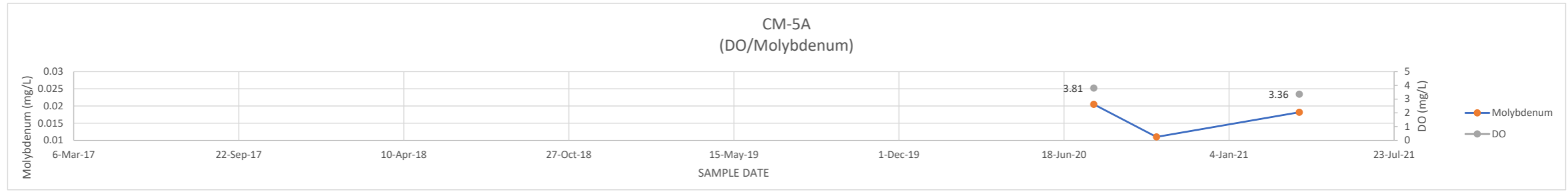
CM-4A DATE	DO	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2.68	0.0269
8-Oct-20		0.0271
30-Mar-21	3.93	0.0212



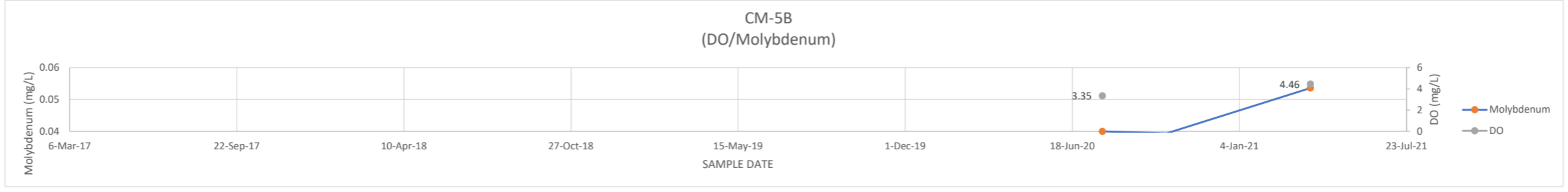
CM-4B DATE	DO	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2.88	0.0307
8-Oct-20		0.0306
30-Mar-21	5.52	0.0303



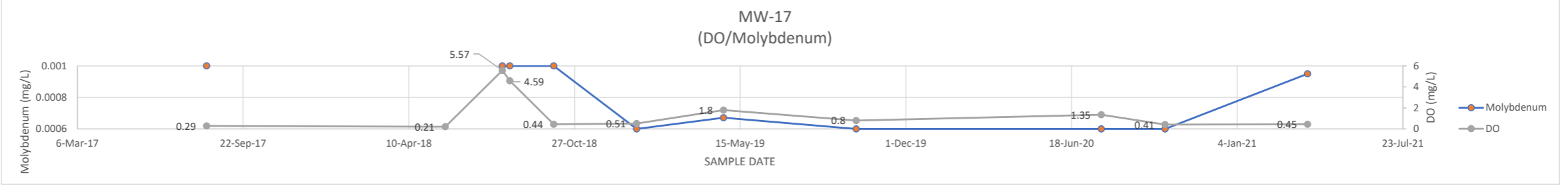
CM-5A DATE	DO	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.81	0.0205
8-Oct-20		0.011
30-Mar-21	3.36	0.0182



CM-5B DATE	DO	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3.35	0.04
9-Oct-20		0.0394
30-Mar-21	4.46	0.0536



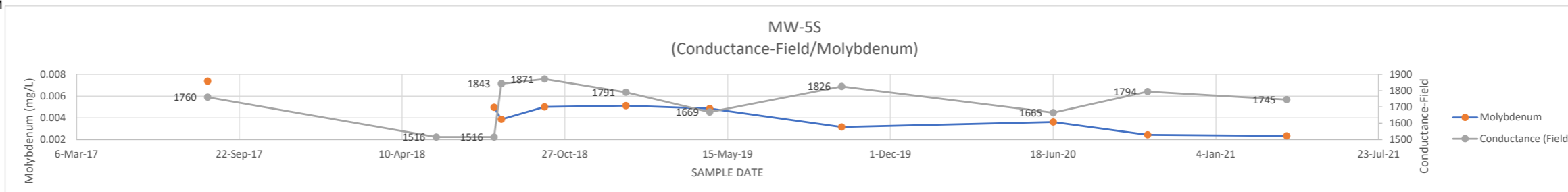
MW-17 DATE	DO	MOLYBDENUM
9-Aug-17	0.29	0.001
24-May-18	0.21	
1-Aug-18	5.57	0.001
10-Aug-18	4.59	0.001
2-Oct-18	0.44	0.001
10-Jan-19	0.51	0.0006
25-Apr-19	1.8	0.000671
2-Oct-19	0.8	0.0006
24-Jul-20	1.35	0.0006
9-Oct-20	0.41	0.0006
30-Mar-21	0.45	0.00095



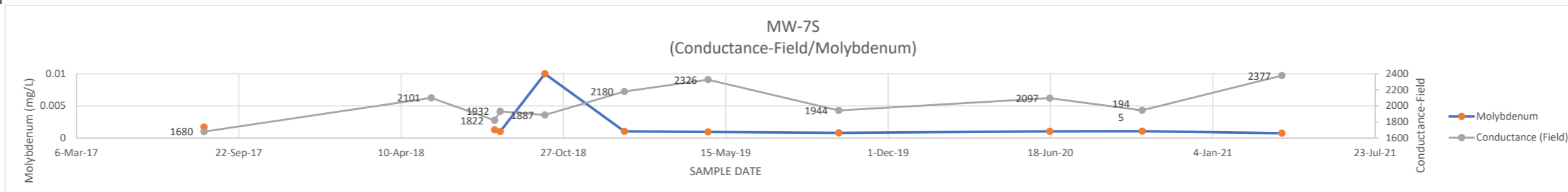
Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT F-3  
CHANGES IN CONDUCTANCE (FIELD) AND MOLYBDENUM CONCENTRATIONS

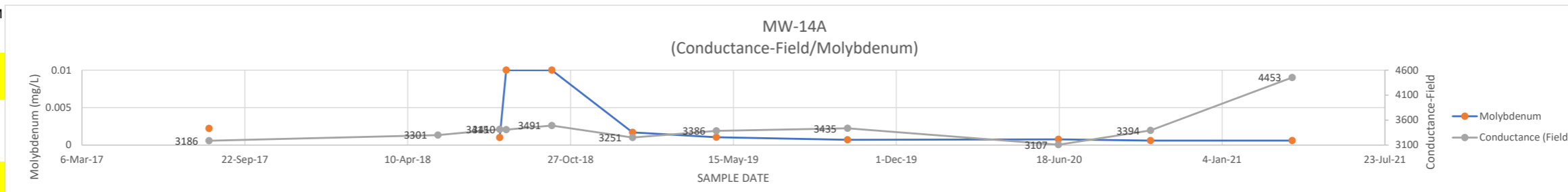
MW-5S	COND-Field	MOLYBDENUM
DATE		
14-Aug-17	1760	0.00737
22-May-18	1516	
1-Aug-18	1516	0.00497
10-Aug-18	1843	0.00387
2-Oct-18	1871	0.005
10-Jan-19	1791	0.00512
23-Apr-19	1669	0.00485
2-Oct-19	1826	0.00315
18-Jun-20	1665	0.00361
12-Oct-20	1794	0.00244
1-Apr-21	1745	0.00234



MW-7S	COND-Field	MOLYBDENUM
DATE		
10-Aug-17	1680	0.00171
17-May-18	2101	
3-Aug-18	1822	0.00127
10-Aug-18	1932	0.001
4-Oct-18	1887	0.01
10-Jan-19	2180	0.00105
23-Apr-19	2326	0.000952
1-Oct-19	1944	0.000798
17-Jun-20	2097	0.00105
9-Oct-20	1945	0.00106
30-Mar-21	2377	0.000755

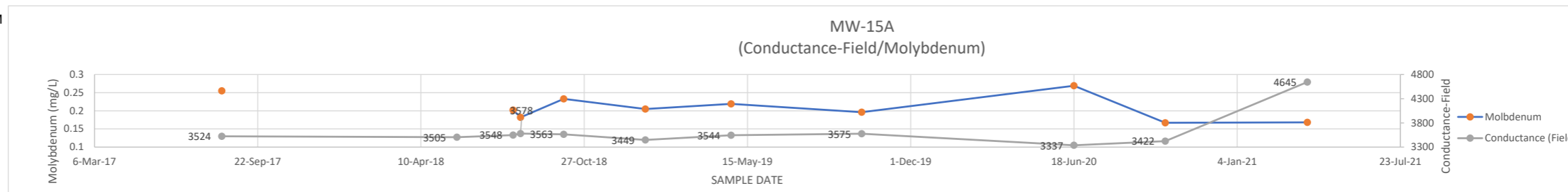


MW-14A	COND-Field	MOLYBDENUM
DATE		
9-Aug-17	3186	0.00223
17-May-18	3301	
1-Aug-18	3415	0.001
9-Aug-18	3410	0.01
4-Oct-18	3491	0.01
11-Jan-19	3251	0.0017
24-Apr-19	3386	0.00104
2-Oct-19	3435	0.000709
17-Jun-20	3107	0.00076
8-Oct-20	3394	0.0006
31-Mar-21	4453	0.0006

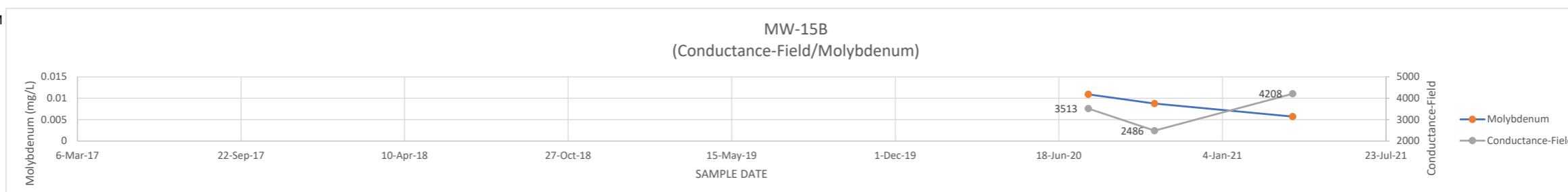


Yellow Indicates Reported Below shown value (MDL)

MW-15A	COND-Field	MOLYBDENUM
DATE		
9-Aug-17	3524	0.255
24-May-18	3505	
1-Aug-18	3548	0.202
10-Aug-18	3578	0.182
2-Oct-18	3563	0.233
10-Jan-19	3449	0.205
25-Apr-19	3544	0.219
2-Oct-19	3575	0.196
18-Jun-20	3337	0.269
8-Oct-20	3422	0.167
31-Mar-21	4645	0.168

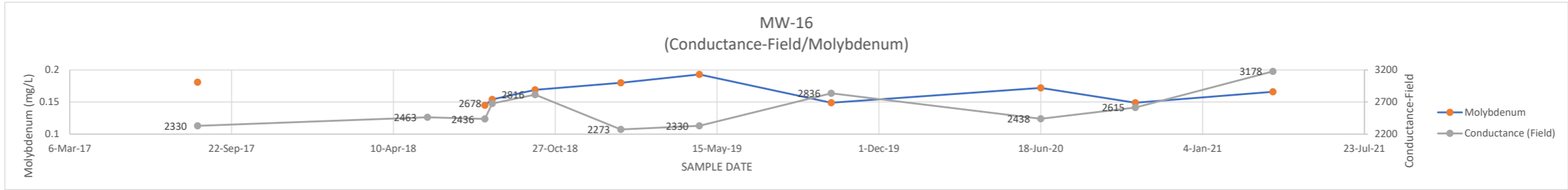


MW-15B	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3513	0.0109
13-Oct-20	2486	0.00876
31-Mar-21	4208	0.00571

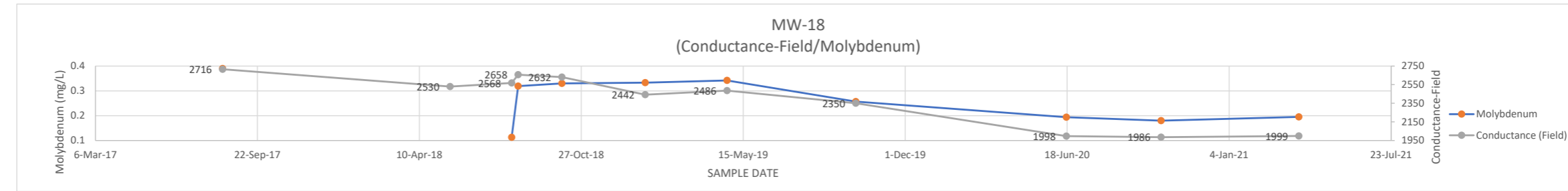


ATTACHMENT F-3  
CHANGES IN CONDUCTANCE (FIELD) AND MOLYBDENUM CONCENTRATIONS

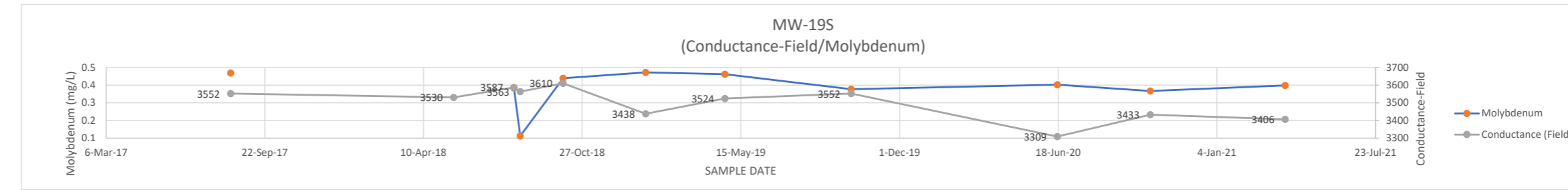
MW-16	COND-Field	MOLYBDENUM
DATE		
11-Aug-17	2330	0.181
22-May-18	2463	
1-Aug-18	2436	0.145
10-Aug-18	2678	0.154
2-Oct-18	2816	0.169
16-Jan-19	2273	0.18
23-Apr-19	2330	0.193
3-Oct-19	2836	0.149
18-Jun-20	2438	0.172
13-Oct-20	2615	0.149
1-Apr-21	3178	0.166



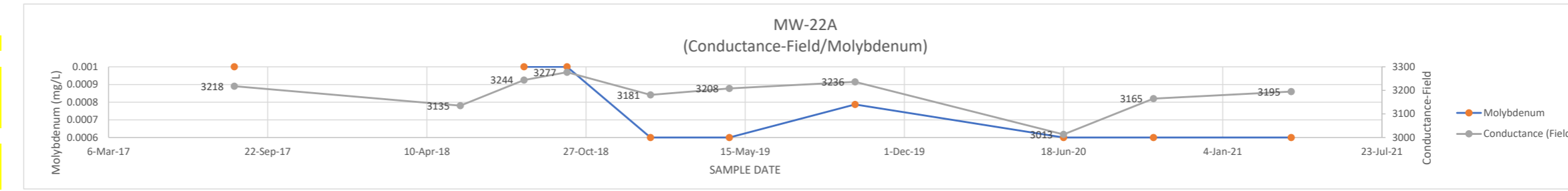
MW-18	COND-Field	MOLYBDENUM
DATE		
10-Aug-17	2716	0.39
18-May-18	2530	
2-Aug-18	2568	0.113
10-Aug-18	2658	0.319
3-Oct-18	2632	0.33
14-Jan-19	2442	0.333
25-Apr-19	2486	0.342
1-Oct-19	2350	0.257
17-Jun-20	1998	0.194
12-Oct-20	1986	0.18
31-Mar-21	1999	0.195



MW-19S	COND-Field	MOLYBDENUM
DATE		
10-Aug-17	3552	0.469
18-May-18	3530	
2-Aug-18	3587	0.384
10-Aug-18	3563	0.112
3-Oct-18	3610	0.439
15-Jan-19	3438	0.472
25-Apr-19	3524	0.462
1-Oct-19	3552	0.377
17-Jun-20	3309	0.402
12-Oct-20	3433	0.367
31-Mar-21	3406	0.398

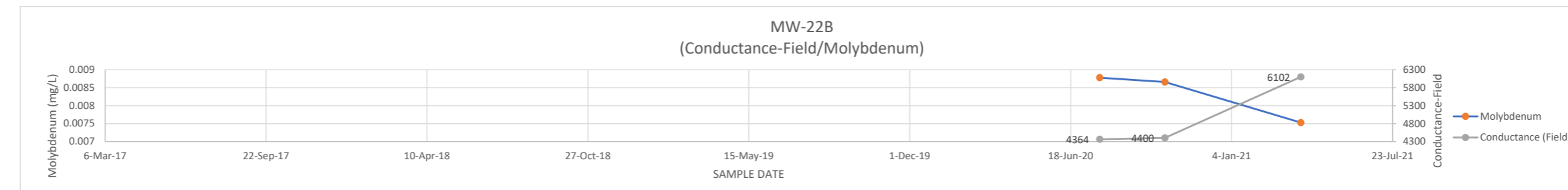


MW-22A	COND-Field	MOLYBDENUM
DATE		
11-Aug-17	3218	0.001
22-May-18	3135	
10-Aug-18	3244	0.001
3-Oct-18	3277	0.001
16-Jan-19	3181	0.0006
25-Apr-19	3208	0.0006
30-Sep-19	3236	0.000787
18-Jun-20	3013	0.0006
9-Oct-20	3165	0.0006
31-Mar-21	3195	0.0006



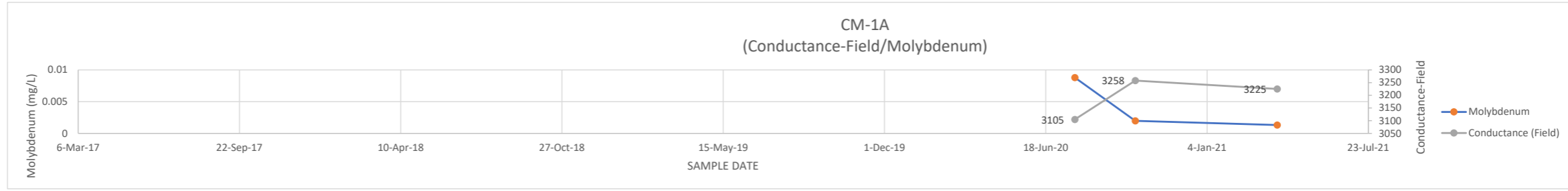
Yellow Indicates Reported Below shown value (MDL)

MW-22B	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	4364	0.00878
13-Oct-20	4400	0.00866
31-Mar-21	6102	0.00753

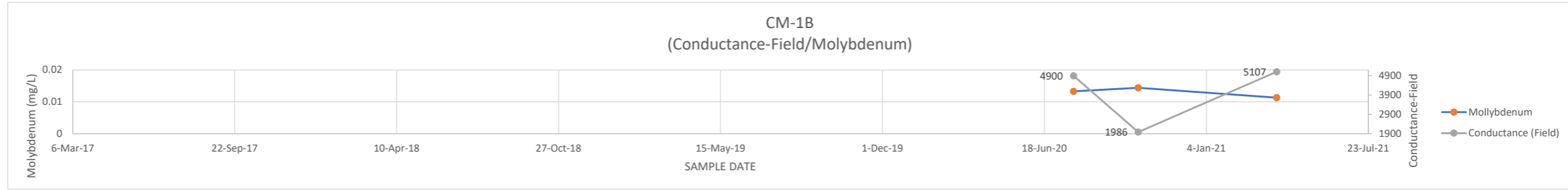


ATTACHMENT F-3  
CHANGES IN CONDUCTANCE (FIELD) AND MOLYBDENUM CONCENTRATIONS

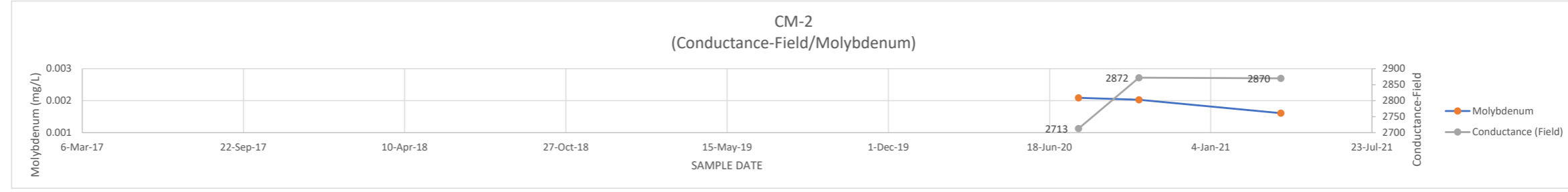
CM-1A	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3105	0.0088
7-Oct-20	3258	0.00198
1-Apr-21	3225	0.00132



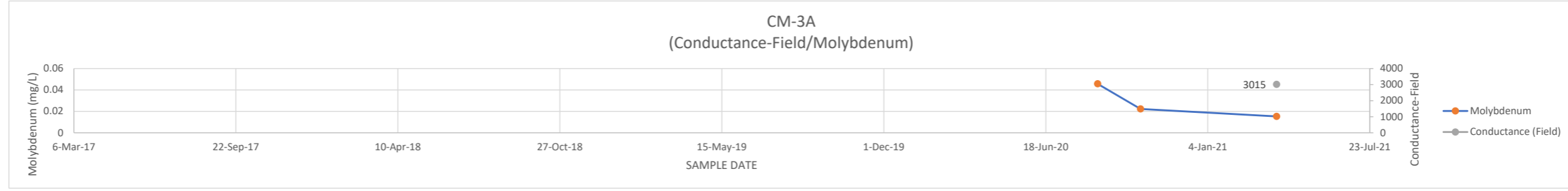
CM-1B	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	4900	0.0133
12-Oct-20	1986	0.0144
1-Apr-21	5107	0.0113



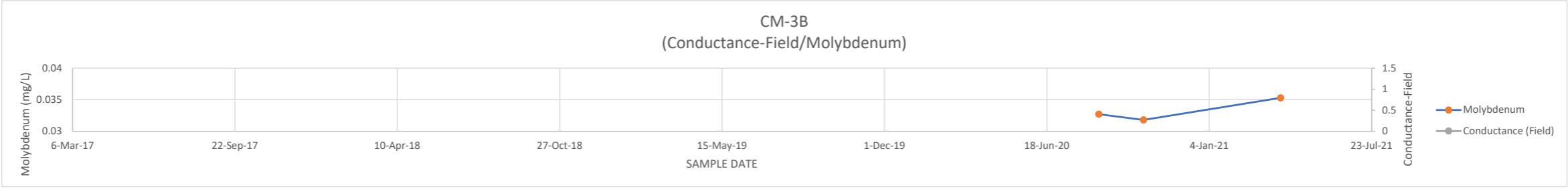
CM-2	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2713	0.00209
7-Oct-20	2872	0.00203
1-Apr-21	2870	0.00161



CM-3A	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0457
13-Oct-20		0.0222
30-Mar-21	3015	0.0153

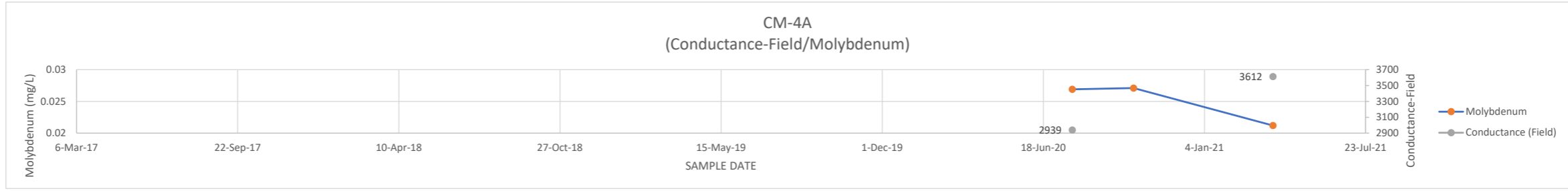


CM-3B	COND-Field	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0327
15-Oct-20		0.0318
2-Apr-21		0.0353

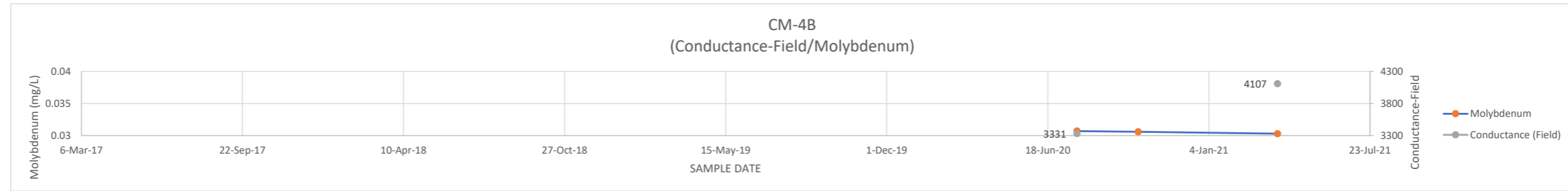


ATTACHMENT F-3  
CHANGES IN CONDUCTANCE (FIELD) AND MOLYBDENUM CONCENTRATIONS

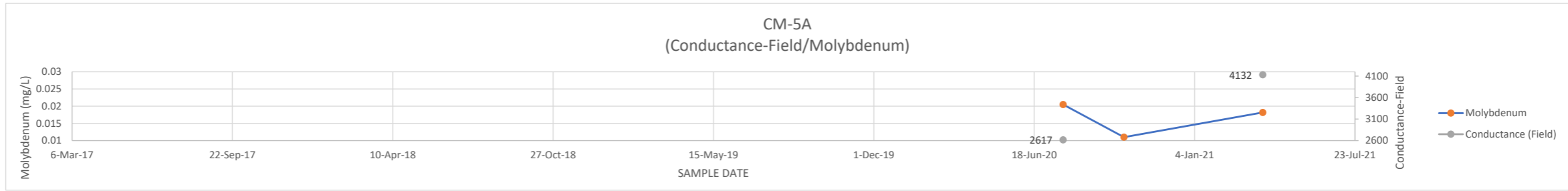
CM-4A DATE	COND-Field	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2939	0.0269
8-Oct-20		0.0271
30-Mar-21	3612	0.0212



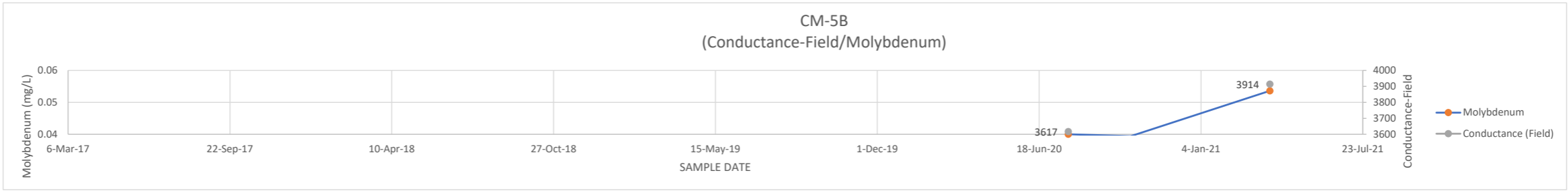
CM-4B DATE	COND-Field	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3331	0.0307
8-Oct-20		0.0306
30-Mar-21	4107	0.0303



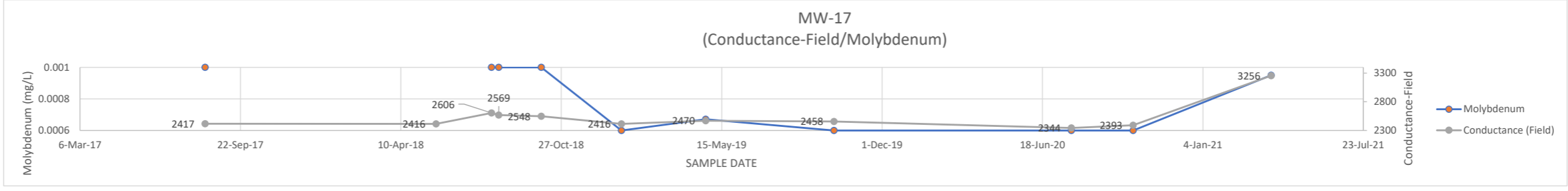
CM-5A DATE	COND-Field	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2617	0.0205
8-Oct-20		0.011
30-Mar-21	4132	0.0182



CM-5B DATE	COND-Field	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	3617	0.04
9-Oct-20		0.0394
30-Mar-21	3914	0.0536



MW-17 DATE	COND-Field	MOLYBDENUM
9-Aug-17	2417	0.001
24-May-18	2416	
1-Aug-18	2606	0.001
10-Aug-18	2569	0.001
2-Oct-18	2548	0.001
10-Jan-19	2416	0.0006
25-Apr-19	2470	0.000671
2-Oct-19	2458	0.0006
24-Jul-20	2344	0.0006
9-Oct-20	2393	0.0006
30-Mar-21	3256	0.00095

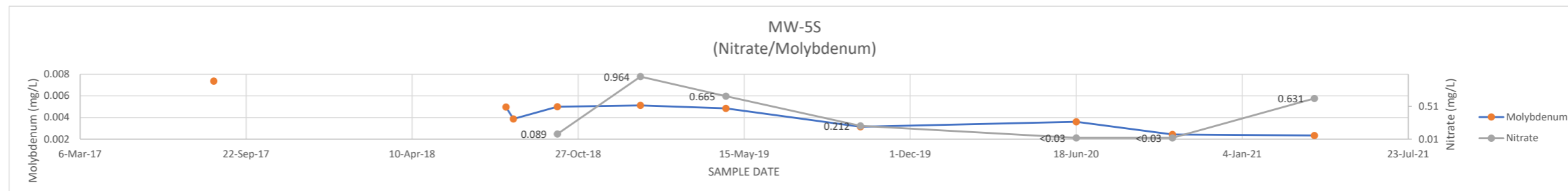


Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT F-4  
CHANGES IN NITRATE AND MOLYBDENUM CONCENTRATIONS

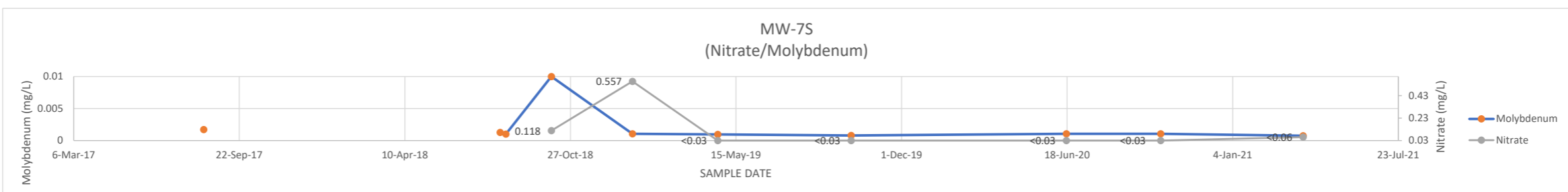
MW-5S	DATE	NITRATE	MOLYBDENUM
	14-Aug-17		0.00737
	22-May-18		
	1-Aug-18		0.00497
	10-Aug-18		0.00387
	2-Oct-18	0.089	0.005
	10-Jan-19	0.964	0.00512
	23-Apr-19	0.665	0.00485
	2-Oct-19	0.212	0.00315
	18-Jun-20	0.03	0.00361
	12-Oct-20	0.03	0.00244
	1-Apr-21	0.631	0.00234

Yellow Indicates Reported Below shown value (MDL)



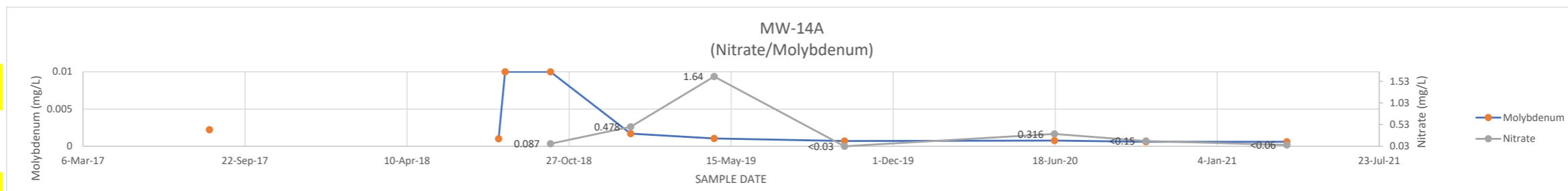
MW-7S	DATE	NITRATE	MOLYBDENUM
	10-Aug-17		0.00171
	17-May-18		
	3-Aug-18		0.00127
	10-Aug-18		0.001
	4-Oct-18	0.118	0.01
	10-Jan-19	0.557	0.00105
	23-Apr-19	0.03	0.000952
	1-Oct-19	0.03	0.000798
	17-Jun-20	0.03	0.00105
	9-Oct-20	0.03	0.00106
	30-Mar-21	0.06	0.000755

Yellow Indicates Reported Below shown value (MDL)



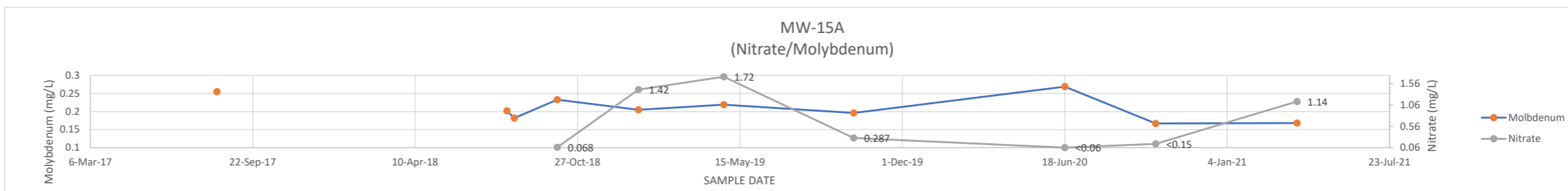
MW-14A	DATE	NITRATE	MOLYBDENUM
	9-Aug-17		0.00223
	17-May-18		
	1-Aug-18		0.001
	9-Aug-18		0.01
	4-Oct-18	0.087	0.01
	11-Jan-19	0.478	0.0017
	24-Apr-19	1.64	0.00104
	2-Oct-19	0.03	0.000709
	17-Jun-20	0.316	0.00076
	8-Oct-20	0.15	0.0006
	31-Mar-21	0.06	0.0006

Yellow Indicates Reported Below shown value (MDL)

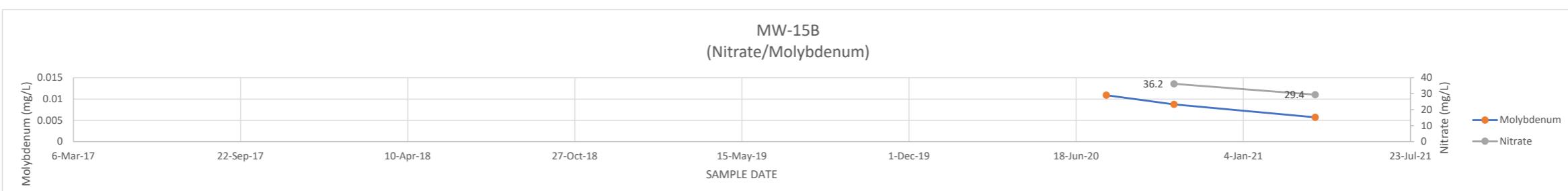


MW-15A	DATE	NITRATE	MOLYBDENUM
	9-Aug-17		0.255
	24-May-18		
	1-Aug-18		0.202
	10-Aug-18		0.182
	2-Oct-18	0.068	0.233
	10-Jan-19	1.42	0.205
	25-Apr-19	1.72	0.219
	2-Oct-19	0.287	0.196
	18-Jun-20	0.06	0.269
	8-Oct-20	0.15	0.167
	31-Mar-21	1.14	0.168

Yellow Indicates Reported Below shown value (MDL)



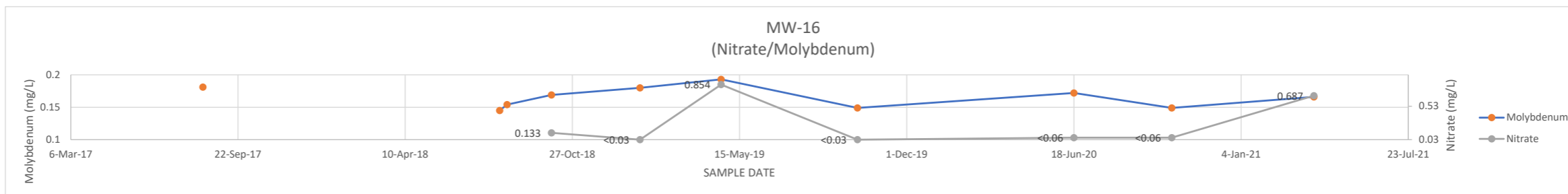
MW-15B	DATE	NITRATE	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.0109
	13-Oct-20	36.2	0.00876
	31-Mar-21	29.4	0.00571



ATTACHMENT F-4  
CHANGES IN NITRATE AND MOLYBDENUM CONCENTRATIONS

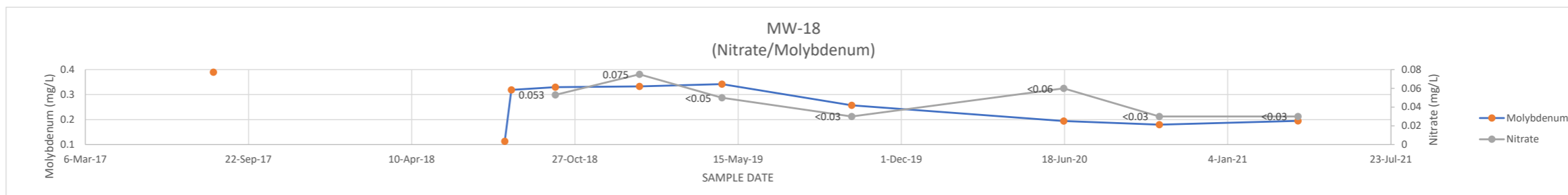
MW-16	DATE	NITRATE	MOLYBDENUM
	11-Aug-17		0.181
	22-May-18		
	1-Aug-18		0.145
	10-Aug-18		0.154
	2-Oct-18	0.133	0.169
	16-Jan-19	0.03	0.18
	23-Apr-19	0.854	0.193
	3-Oct-19	0.03	0.149
	18-Jun-20	0.06	0.172
	13-Oct-20	0.06	0.149
	1-Apr-21	0.687	0.166

Yellow Indicates Reported Below shown value (MDL)



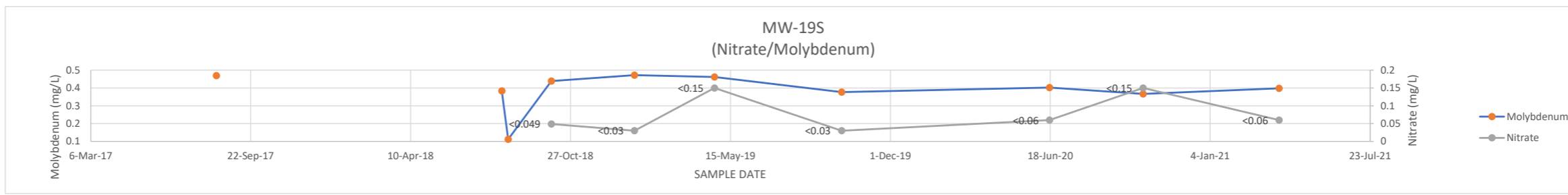
MW-18	DATE	NITRATE	MOLYBDENUM
	10-Aug-17		0.39
	18-May-18		
	2-Aug-18		0.113
	10-Aug-18		0.319
	3-Oct-18	0.053	0.33
	14-Jan-19	0.075	0.333
	25-Apr-19	0.05	0.342
	1-Oct-19	0.03	0.257
	17-Jun-20	0.06	0.194
	12-Oct-20	0.03	0.18
	31-Mar-21	0.03	0.195

Yellow Indicates Reported Below shown value (MDL)



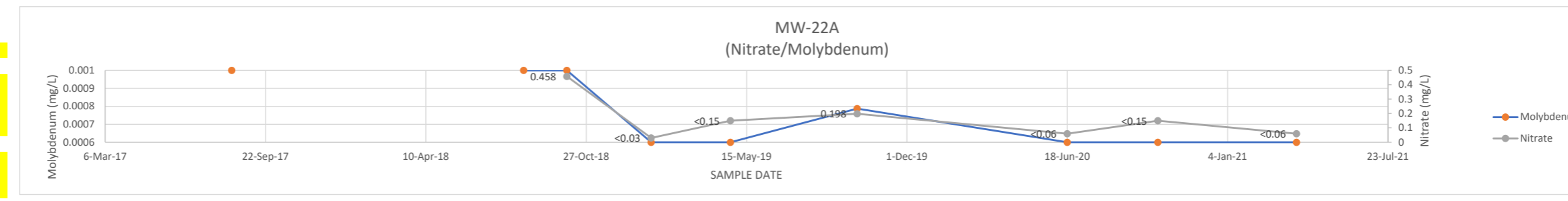
MW-19S	DATE	NITRATE	MOLYBDENUM
	10-Aug-17		0.469
	18-May-18		
	2-Aug-18		0.384
	10-Aug-18		0.112
	3-Oct-18	0.049	0.439
	15-Jan-19	0.03	0.472
	25-Apr-19	0.15	0.462
	1-Oct-19	0.03	0.377
	17-Jun-20	0.06	0.402
	12-Oct-20	0.15	0.367
	31-Mar-21	0.06	0.398

Yellow Indicates Reported Below shown value (MDL)



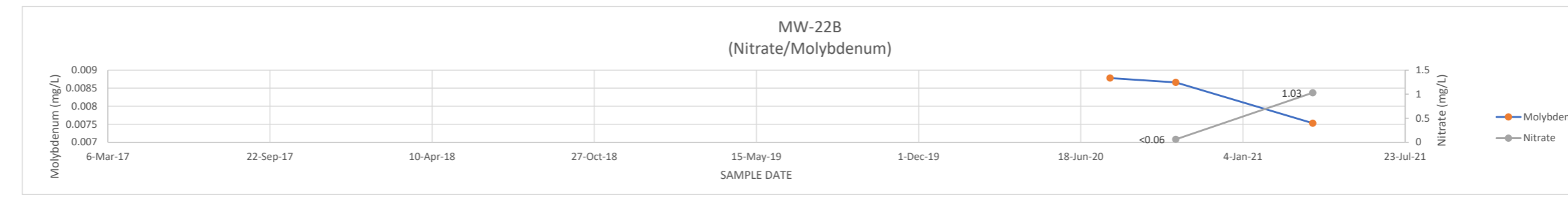
MW-22A	DATE	NITRATE	MOLYBDENUM
	11-Aug-17		0.001
	22-May-18		
	10-Aug-18		0.001
	3-Oct-18	0.458	0.001
	16-Jan-19	0.03	0.0006
	25-Apr-19	0.15	0.0006
	30-Sep-19	0.198	0.000787
	18-Jun-20	0.06	0.0006
	9-Oct-20	0.15	0.0006
	31-Mar-21	0.06	0.0006

Yellow Indicates Reported Below shown value (MDL)



MW-22B	DATE	NITRATE	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.00878
	13-Oct-20	0.06	0.00866
	31-Mar-21	1.03	0.00753

Yellow Indicates Reported Below shown value (MDL)

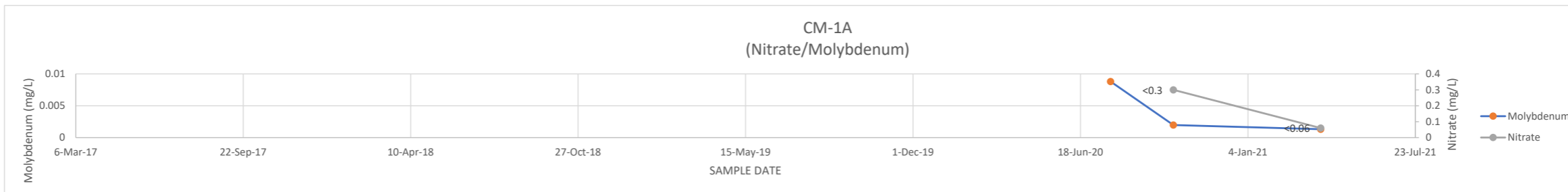




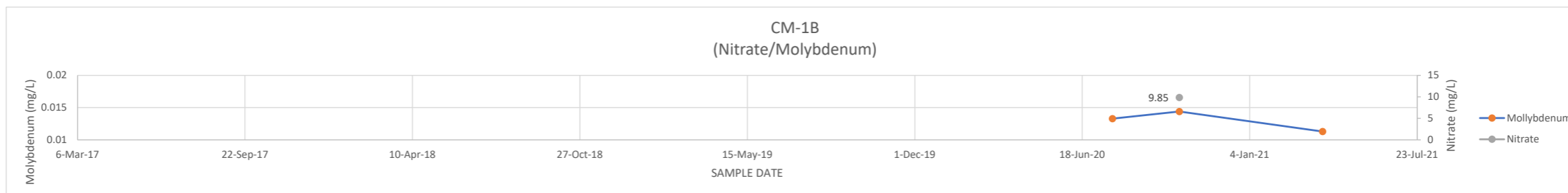
ATTACHMENT F-4  
CHANGES IN NITRATE AND MOLYBDENUM CONCENTRATIONS

CM-1A DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.0088
7-Oct-20	0.3	0.00198
1-Apr-21	0.06	0.00132

Yellow Indicates Reported Below shown value (MDL)

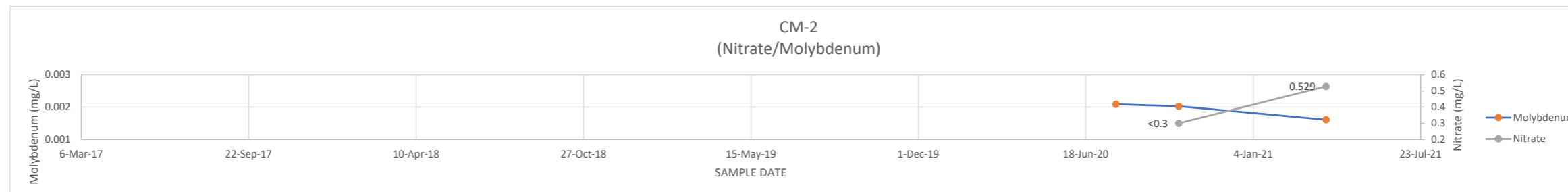


CM-1B DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.0133
12-Oct-20	9.85	0.0144
1-Apr-21		0.0113

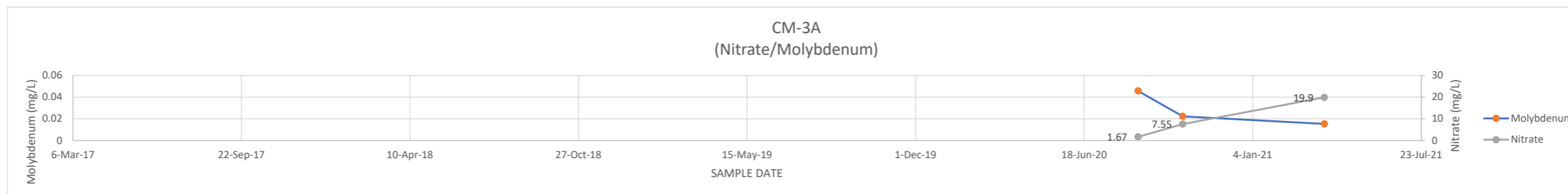


CM-2 DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.00209
7-Oct-20	0.3	0.00203
1-Apr-21	0.529	0.00161

Yellow Indicates Reported Below shown value (MDL)

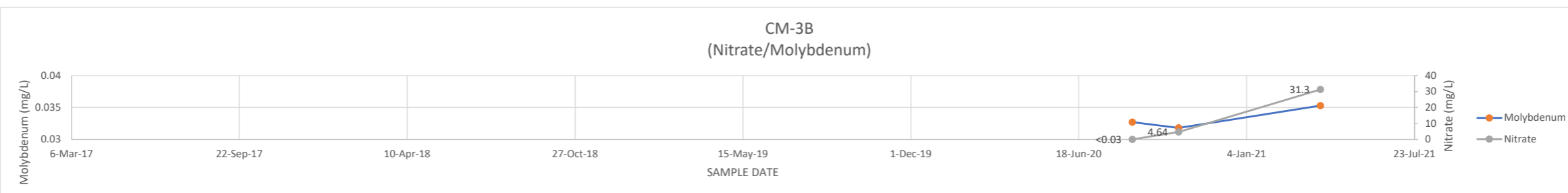


CM-3A DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	1.67	0.0457
13-Oct-20	7.55	0.0222
30-Mar-21	19.9	0.0153



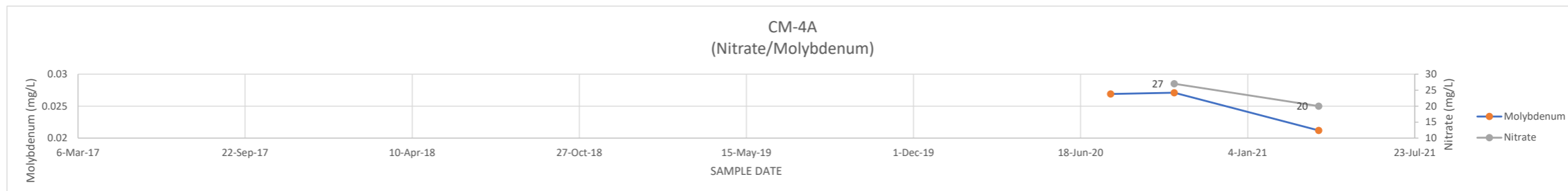
CM-3B DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	0.03	0.0327
15-Oct-20	4.64	0.0318
2-Apr-21	31.3	0.0353

Yellow Indicates Reported Below shown value (MDL)

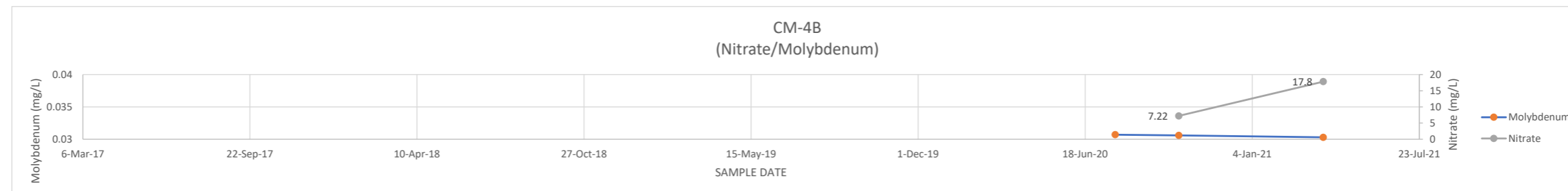


ATTACHMENT F-4  
CHANGES IN NITRATE AND MOLYBDENUM CONCENTRATIONS

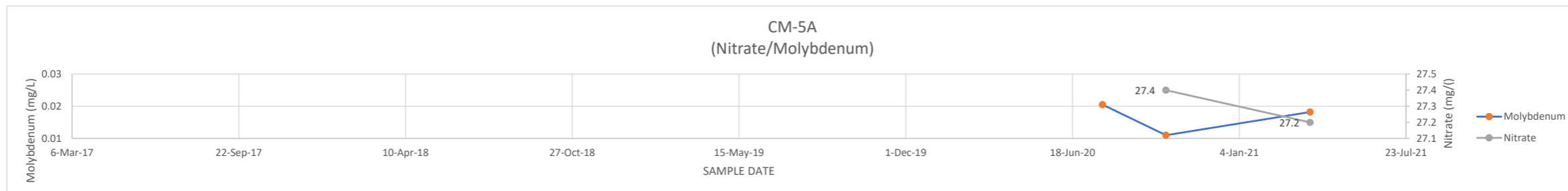
CM-4A DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.0269
8-Oct-20	27	0.0271
30-Mar-21	20	0.0212



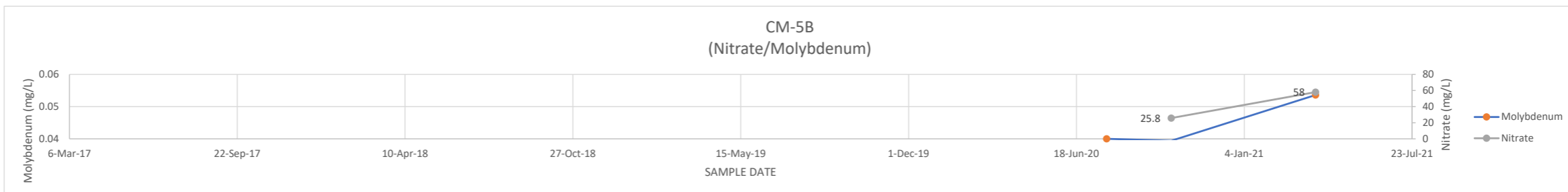
CM-4B DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.0307
8-Oct-20	7.22	0.0306
30-Mar-21	17.8	0.0303



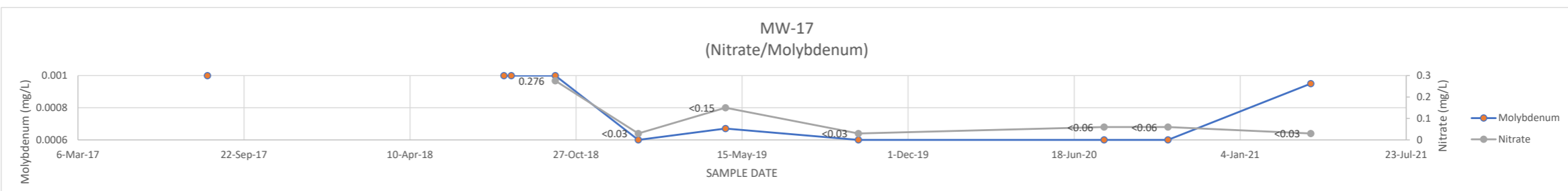
CM-5A DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.0205
8-Oct-20	27.4	0.011
30-Mar-21	27.2	0.0182



CM-5B DATE	NITRATE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20		0.04
9-Oct-20	25.8	0.0394
30-Mar-21	58	0.0536



MW-17 DATE	NITRATE	MOLYBDENUM
9-Aug-17		0.001
24-May-18		
1-Aug-18		0.001
10-Aug-18		0.001
2-Oct-18	0.276	0.001
10-Jan-19	0.03	0.0006
25-Apr-19	0.15	0.000671
2-Oct-19	0.03	0.0006
24-Jul-20	0.06	0.0006
9-Oct-20	0.06	0.0006
30-Mar-21	0.03	0.00095

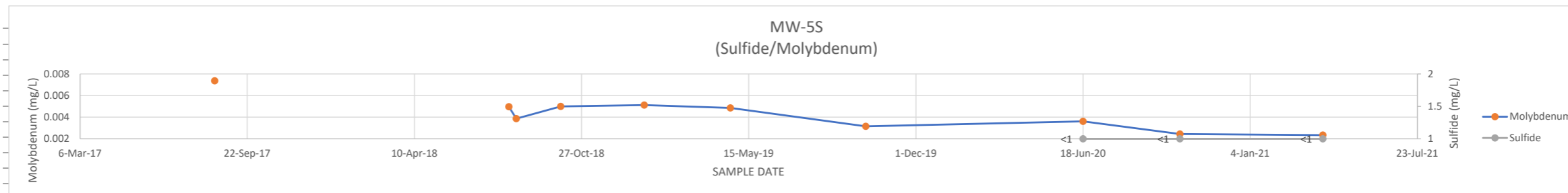


Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT F-5  
CHANGES IN SULFIDE AND MOLYBDENUM CONCENTRATIONS

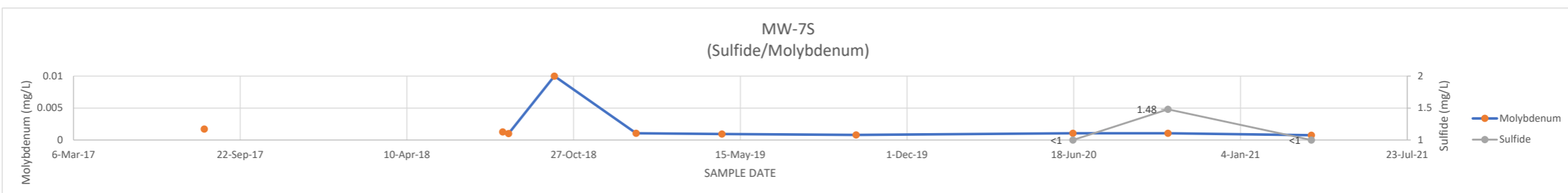
MW-5S	DATE	SULFIDE	MOLYBDENUM
	14-Aug-17		0.00737
	22-May-18		
	1-Aug-18		0.00497
	10-Aug-18		0.00387
	2-Oct-18		0.005
	10-Jan-19		0.00512
	23-Apr-19		0.00485
	2-Oct-19		0.00315
	18-Jun-20	1	0.00361
	12-Oct-20	1	0.00244
	1-Apr-21	1	0.00234

Yellow Indicates Reported Below shown value (MDL)



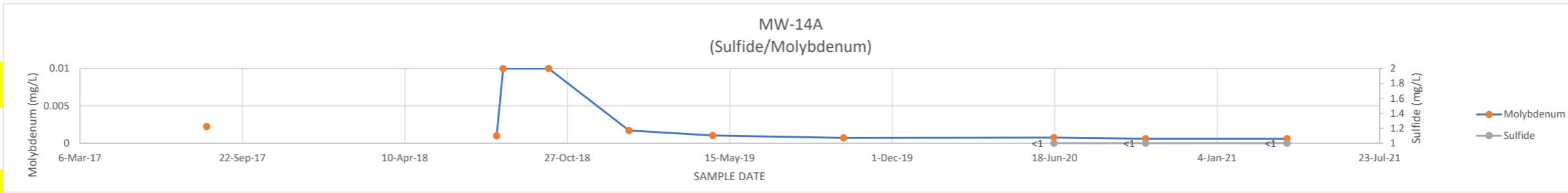
MW-7S	DATE	SULFIDE	MOLYBDENUM
	10-Aug-17		0.00171
	17-May-18		
	3-Aug-18		0.00127
	10-Aug-18		0.001
	4-Oct-18		0.01
	10-Jan-19		0.00105
	23-Apr-19		0.000952
	1-Oct-19		0.000798
	17-Jun-20	1	0.00105
	9-Oct-20	1.48	0.00106
	30-Mar-21	1	0.000755

Yellow Indicates Reported Below shown value (MDL)



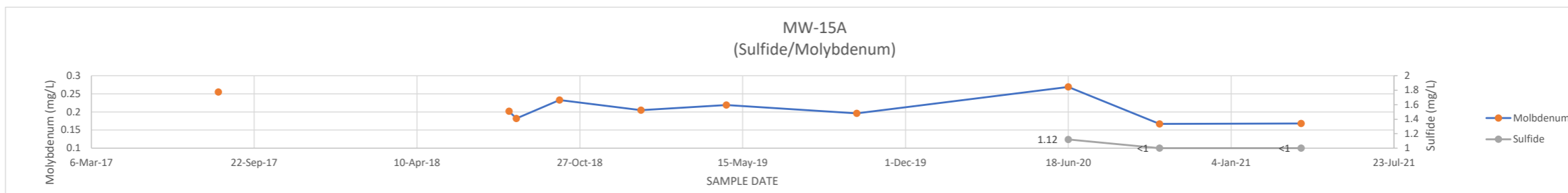
MW-14A	DATE	SULFIDE	MOLYBDENUM
	9-Aug-17		0.00223
	17-May-18		
	1-Aug-18		0.001
	9-Aug-18		0.01
	4-Oct-18		0.01
	11-Jan-19		0.0017
	24-Apr-19		0.00104
	2-Oct-19		0.000709
	17-Jun-20	1	0.00076
	8-Oct-20	1	0.0006
	31-Mar-21	1	0.0006

Yellow Indicates Reported Below shown value (MDL)



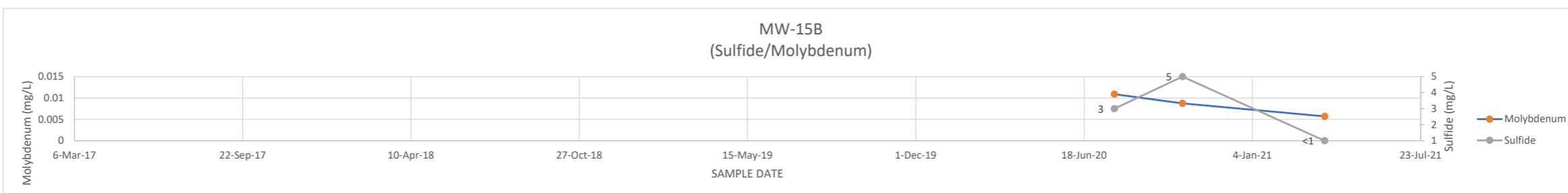
MW-15A	DATE	SULFIDE	MOLYBDENUM
	9-Aug-17		0.255
	24-May-18		
	1-Aug-18		0.202
	10-Aug-18		0.182
	2-Oct-18		0.233
	10-Jan-19		0.205
	25-Apr-19		0.219
	2-Oct-19		0.196
	18-Jun-20	1.12	0.269
	8-Oct-20	1	0.167
	31-Mar-21	1	0.168

Yellow Indicates Reported Below shown value (MDL)



MW-15B	DATE	SULFIDE	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20	3	0.0109
	13-Oct-20	5	0.00876
	31-Mar-21	1	0.00571

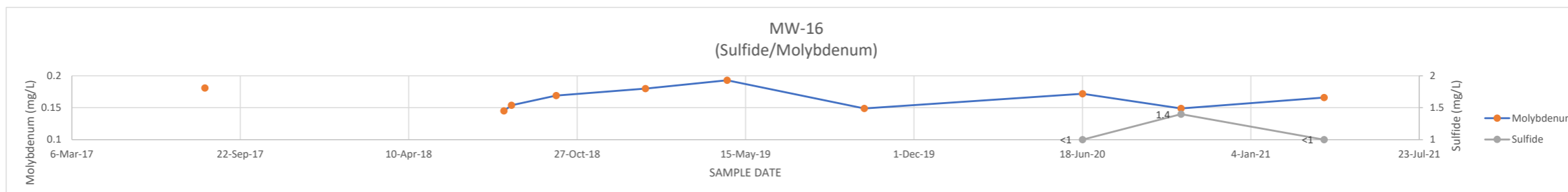
Yellow Indicates Reported Below shown value (MDL)



ATTACHMENT F-5  
CHANGES IN SULFIDE AND MOLYBDENUM CONCENTRATIONS

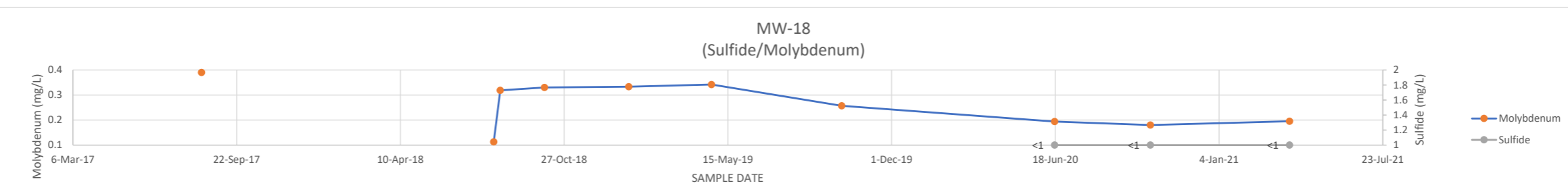
MW-16	DATE	SULFIDE	MOLYBDENUM
	11-Aug-17		0.181
	22-May-18		
	1-Aug-18		0.145
	10-Aug-18		0.154
	2-Oct-18		0.169
	16-Jan-19		0.18
	23-Apr-19		0.193
	3-Oct-19		0.149
	18-Jun-20	1	0.172
	13-Oct-20	1.4	0.149
	1-Apr-21	1	0.166

Yellow Indicates Reported Below shown value (MDL)



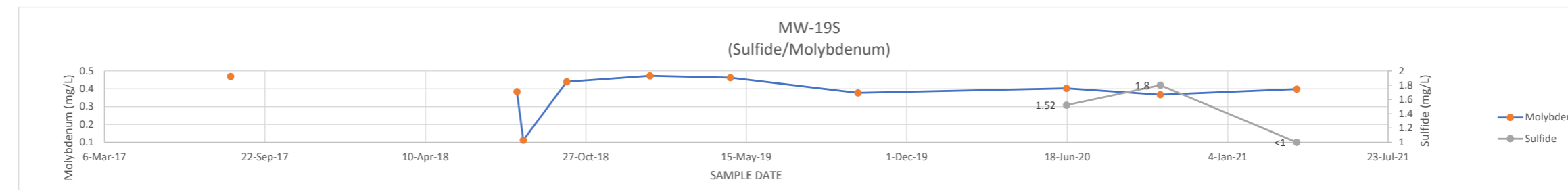
MW-18	DATE	SULFIDE	MOLYBDENUM
	10-Aug-17		0.39
	18-May-18		
	2-Aug-18		0.113
	10-Aug-18		0.319
	3-Oct-18		0.33
	14-Jan-19		0.333
	25-Apr-19		0.342
	1-Oct-19		0.257
	17-Jun-20	1	0.194
	12-Oct-20	1	0.18
	31-Mar-21	1	0.195

Yellow Indicates Reported Below shown value (MDL)



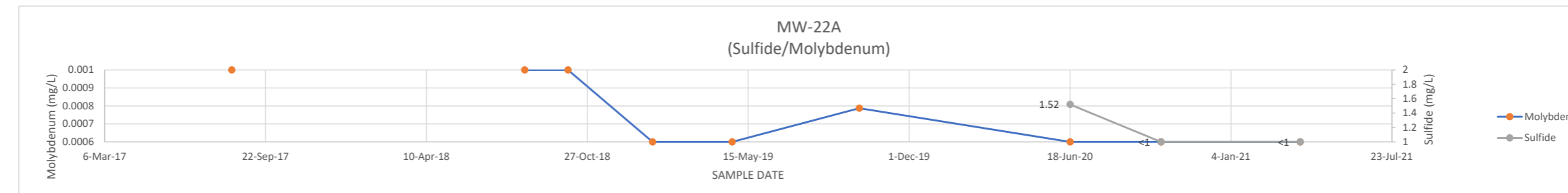
MW-19S	DATE	SULFIDE	MOLYBDENUM
	10-Aug-17		0.469
	18-May-18		
	2-Aug-18		0.384
	10-Aug-18		0.112
	3-Oct-18		0.439
	15-Jan-19		0.472
	25-Apr-19		0.462
	1-Oct-19		0.377
	17-Jun-20	1.52	0.402
	12-Oct-20	1.8	0.367
	31-Mar-21	1	0.398

Yellow Indicates Reported Below shown value (MDL)



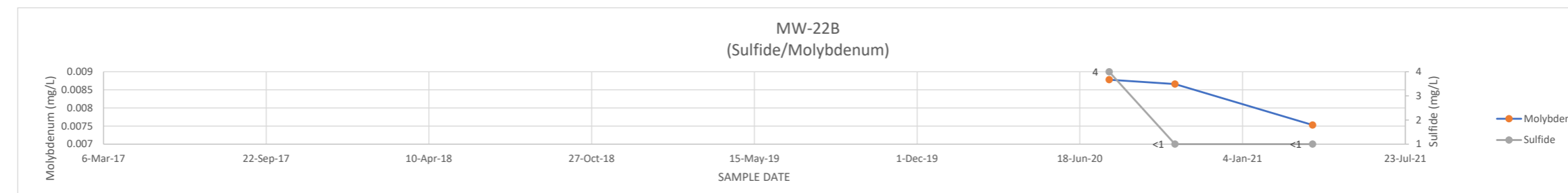
MW-22A	DATE	SULFIDE	MOLYBDENUM
	11-Aug-17		0.001
	22-May-18		
	10-Aug-18		0.001
	3-Oct-18		0.001
	16-Jan-19		0.0006
	25-Apr-19		0.0006
	30-Sep-19		0.000787
	18-Jun-20	1.52	0.0006
	9-Oct-20	1	0.0006
	31-Mar-21	1	0.0006

Yellow Indicates Reported Below shown value (MDL)



MW-22B	DATE	SULFIDE	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20	4	0.00878
	13-Oct-20	1	0.00866
	31-Mar-21	1	0.00753

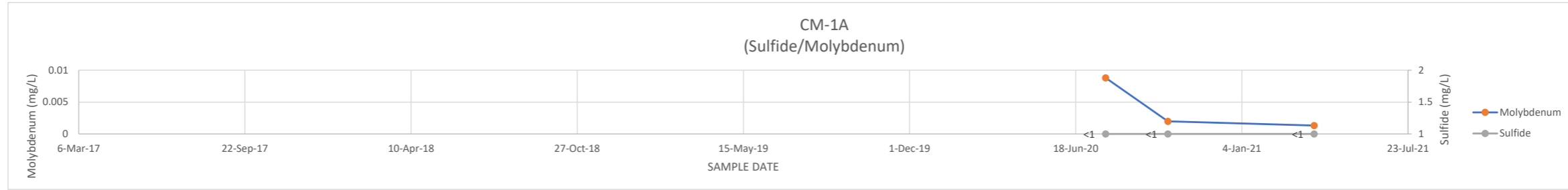
Yellow Indicates Reported Below shown value (MDL)



ATTACHMENT F-5  
CHANGES IN SULFIDE AND MOLYBDENUM CONCENTRATIONS

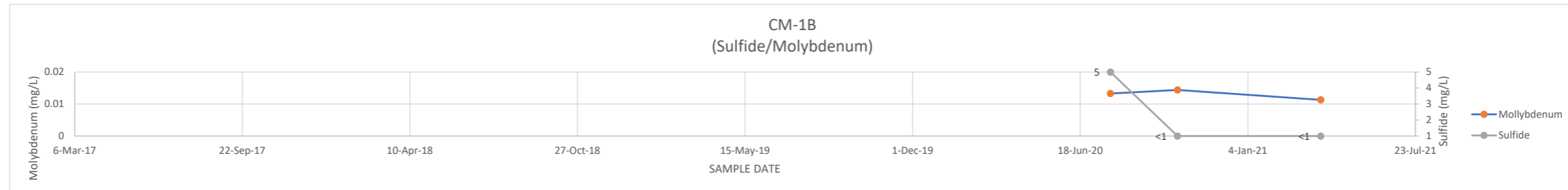
CM-1A	DATE	SULFIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	1	0.0088	
7-Oct-20	1	0.00198	
1-Apr-21	1	0.00132	

Yellow Indicates Reported Below shown value (MDL)



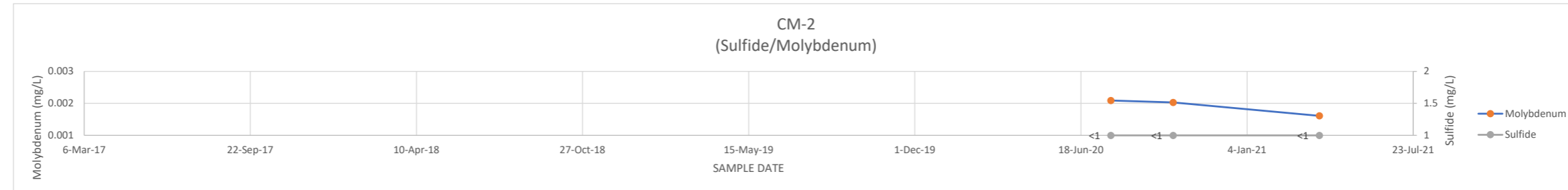
CM-1B	DATE	SULFIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	5	0.0133	
12-Oct-20	1	0.0144	
1-Apr-21	1	0.0113	

Yellow Indicates Reported Below shown value (MDL)



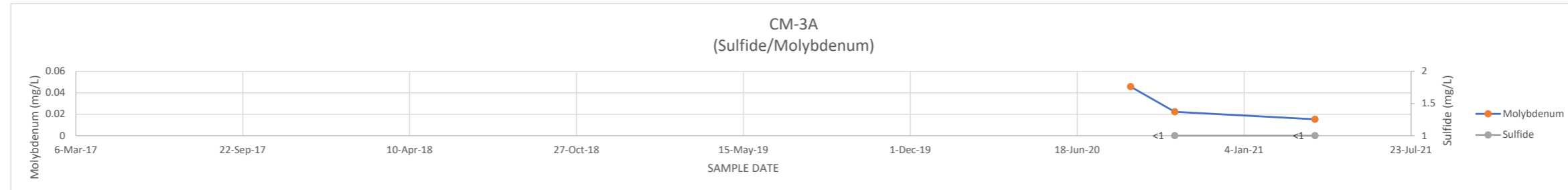
CM-2	DATE	SULFIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20	1	0.00209	
7-Oct-20	1	0.00203	
1-Apr-21	1	0.00161	

Yellow Indicates Reported Below shown value (MDL)

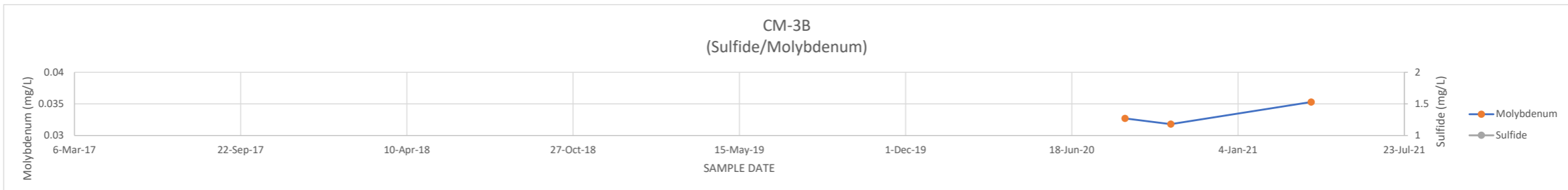


CM-3A	DATE	SULFIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20		0.0457	
13-Oct-20	1	0.0222	
30-Mar-21	1	0.0153	

Yellow Indicates Reported Below shown value (MDL)



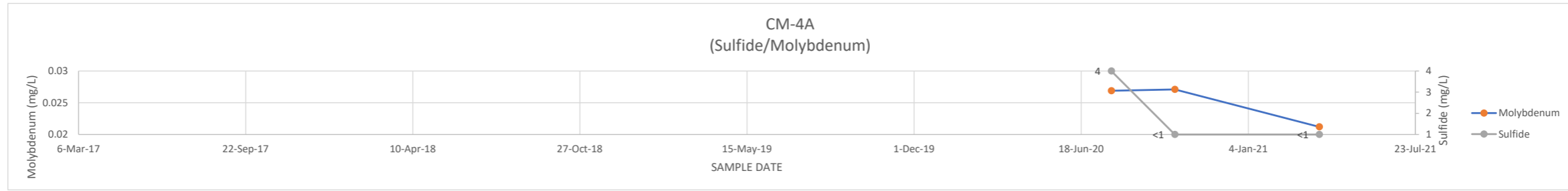
CM-3B	DATE	SULFIDE	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20		0.0327	
15-Oct-20		0.0318	
2-Apr-21		0.0353	



ATTACHMENT F-5  
CHANGES IN SULFIDE AND MOLYBDENUM CONCENTRATIONS

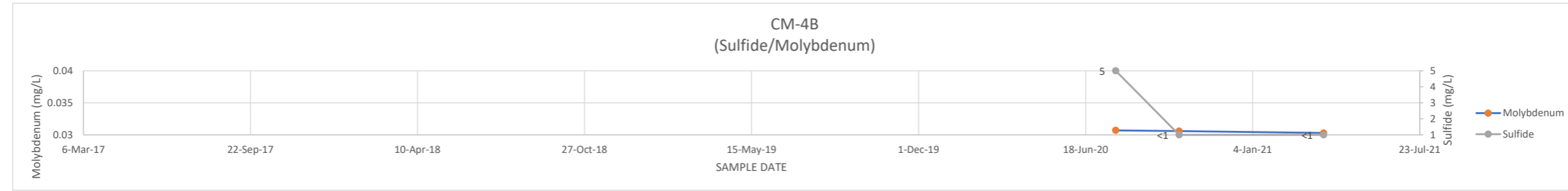
CM-4A	SULFLIDE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	4	0.0269
8-Oct-20	1	0.0271
30-Mar-21	1	0.0212

Yellow Indicates Reported Below shown value (MDL)



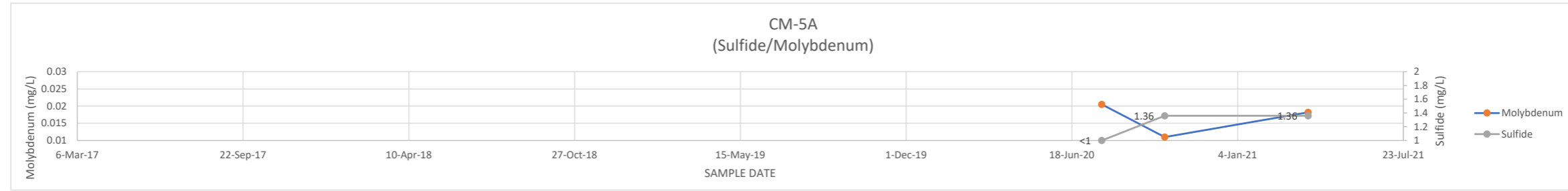
CM-4B	SULFLIDE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	5	0.0307
8-Oct-20	1	0.0306
30-Mar-21	1	0.0303

Yellow Indicates Reported Below shown value (MDL)



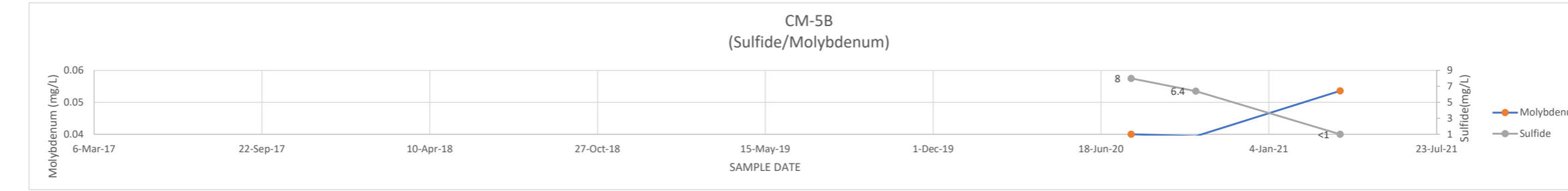
CM-5A	SULFIDE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	1	0.0205
8-Oct-20	1.36	0.011
30-Mar-21	1.36	0.0182

Yellow Indicates Reported Below shown value (MDL)



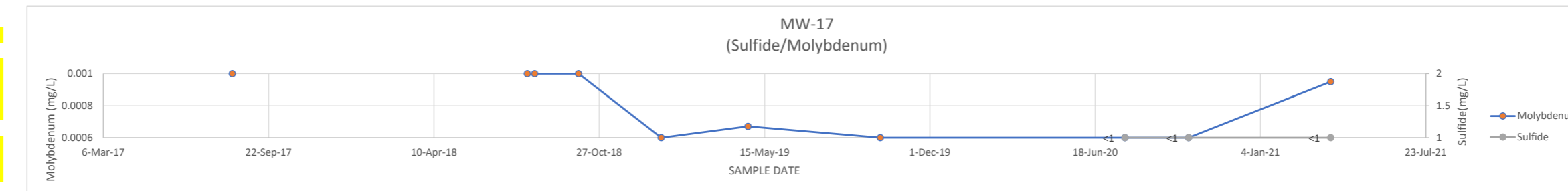
CM-5B	SULFIDE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	8	0.04
9-Oct-20	6.4	0.0394
30-Mar-21	1	0.0536

Yellow Indicates Reported Below shown value (MDL)



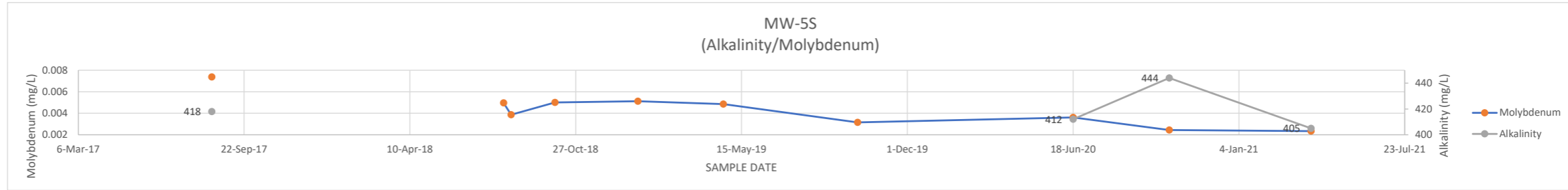
MW-17	SULFIDE	MOLYBDENUM
DATE		
9-Aug-17		0.001
24-May-18		
1-Aug-18		0.001
10-Aug-18		0.001
2-Oct-18		0.001
10-Jan-19		0.0006
25-Apr-19		0.000671
2-Oct-19		0.0006
24-Jul-20	1	0.0006
9-Oct-20	1	0.0006
30-Mar-21	1	0.00095

Yellow Indicates Reported Below shown value (MDL)

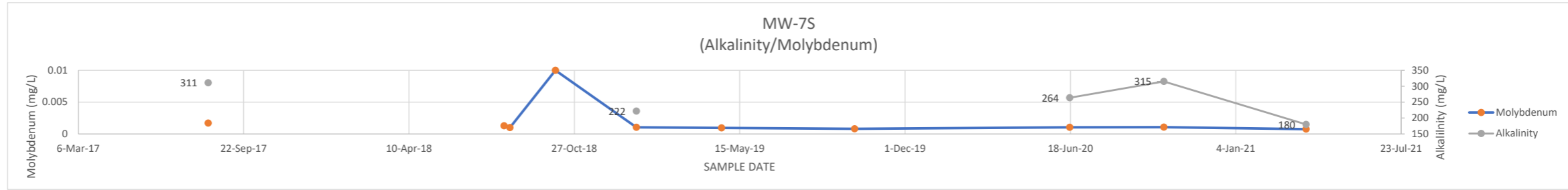


ATTACHMENT F-6  
CHANGES IN ALKALINITY AND MOLYBDENUM CONCENTRATIONS

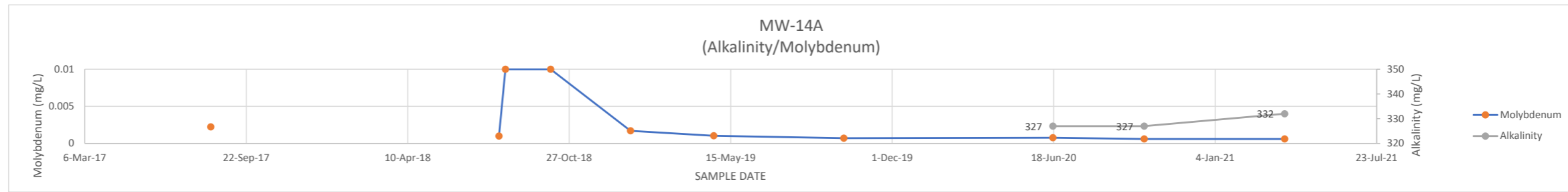
MW-5S DATE	ALKALINITY	MOLYBDENUM
14-Aug-17	418	0.00737
22-May-18		
1-Aug-18		0.00497
10-Aug-18		0.00387
2-Oct-18		0.005
10-Jan-19		0.00512
23-Apr-19		0.00485
2-Oct-19		0.00315
18-Jun-20	412	0.00361
12-Oct-20	444	0.00244
1-Apr-21	405	0.00234



MW-7S DATE	ALKALINITY	MOLYBDENUM
10-Aug-17	311	0.00171
17-May-18		
3-Aug-18		0.00127
10-Aug-18		0.001
4-Oct-18		0.01
10-Jan-19	222	0.00105
23-Apr-19		0.000952
1-Oct-19		0.000798
17-Jun-20	264	0.00105
9-Oct-20	315	0.00106
30-Mar-21	180	0.000755

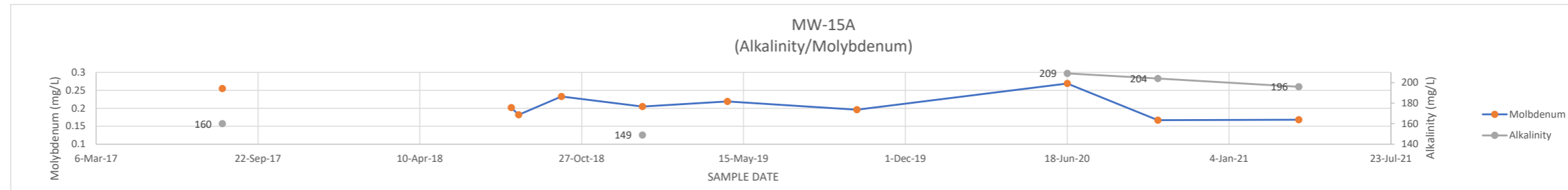


MW-14A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17	280	0.00223
17-May-18		
1-Aug-18		0.001
9-Aug-18		0.01
4-Oct-18		0.01
11-Jan-19		0.0017
24-Apr-19		0.00104
2-Oct-19		0.000709
17-Jun-20	327	0.00076
8-Oct-20	327	0.0006
31-Mar-21	332	0.0006

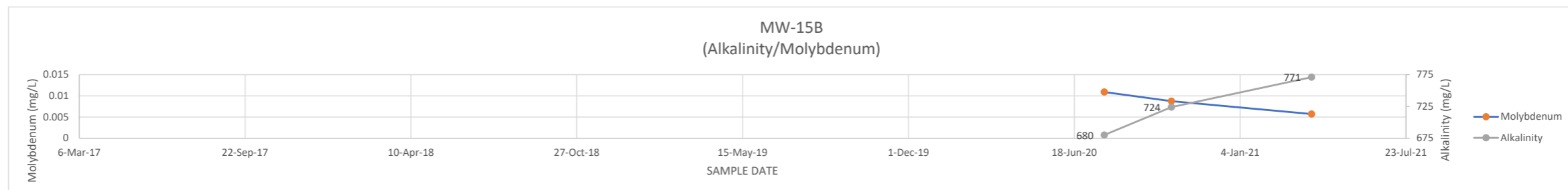


Yellow Indicates Reported Below shown value (MDL)

MW-15A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17	160	0.255
24-May-18		
1-Aug-18		0.202
10-Aug-18		0.182
2-Oct-18		0.233
10-Jan-19	149	0.205
25-Apr-19		0.219
2-Oct-19		0.196
18-Jun-20	209	0.269
8-Oct-20	204	0.167
31-Mar-21	196	0.168

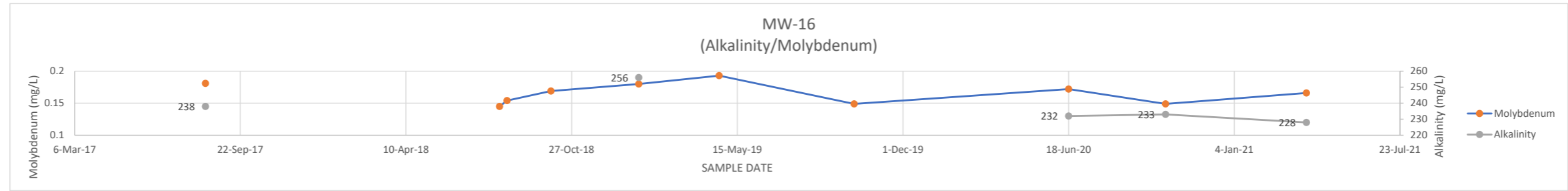


MW-15B DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	680	0.0109
13-Oct-20	724	0.00876
31-Mar-21	771	0.00571

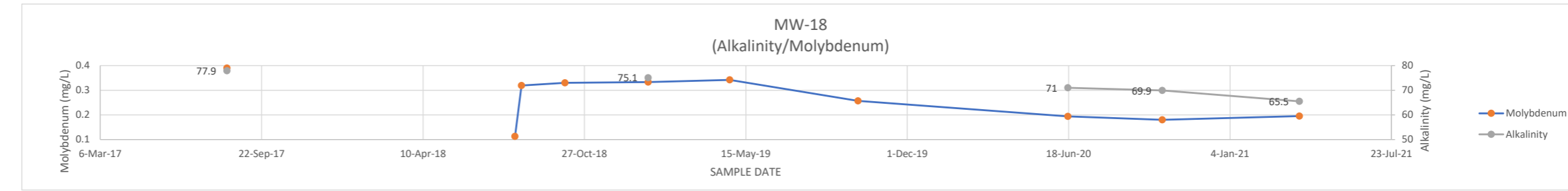


ATTACHMENT F-6  
CHANGES IN ALKALINITY AND MOLYBDENUM CONCENTRATIONS

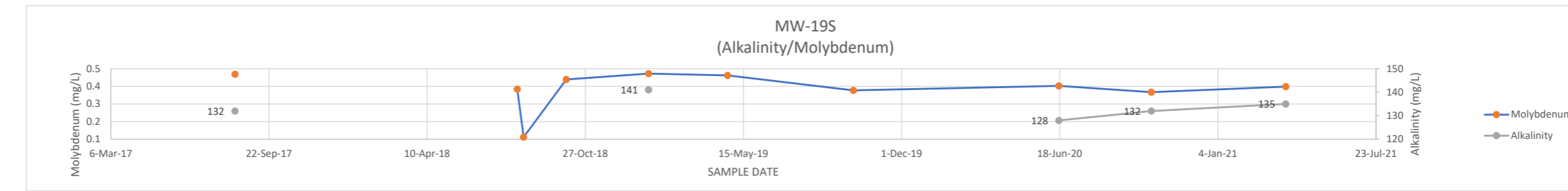
MW-16	ALKALINITY	MOLYBDENUM
DATE		
11-Aug-17	238	0.181
22-May-18		
1-Aug-18		0.145
10-Aug-18		0.154
2-Oct-18		0.169
16-Jan-19	256	0.18
23-Apr-19		0.193
3-Oct-19		0.149
18-Jun-20	232	0.172
13-Oct-20	233	0.149
1-Apr-21	228	0.166



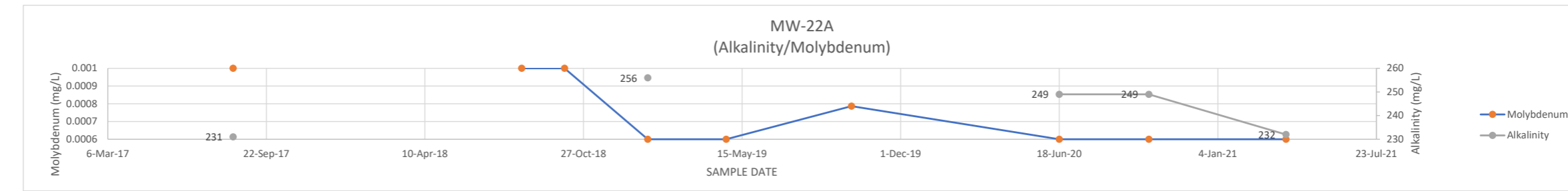
MW-18	ALKALINITY	MOLYBDENUM
DATE		
10-Aug-17	77.9	0.39
18-May-18		
2-Aug-18		0.113
10-Aug-18		0.319
3-Oct-18		0.33
14-Jan-19	75.1	0.333
25-Apr-19		0.342
1-Oct-19		0.257
17-Jun-20	71	0.194
12-Oct-20	69.9	0.18
31-Mar-21	65.5	0.195



MW-19S	ALKALINITY	MOLYBDENUM
DATE		
10-Aug-17	132	0.469
18-May-18		
2-Aug-18		0.384
10-Aug-18		0.112
3-Oct-18		0.439
15-Jan-19	141	0.472
25-Apr-19		0.462
1-Oct-19		0.377
17-Jun-20	128	0.402
12-Oct-20	132	0.367
31-Mar-21	135	0.398

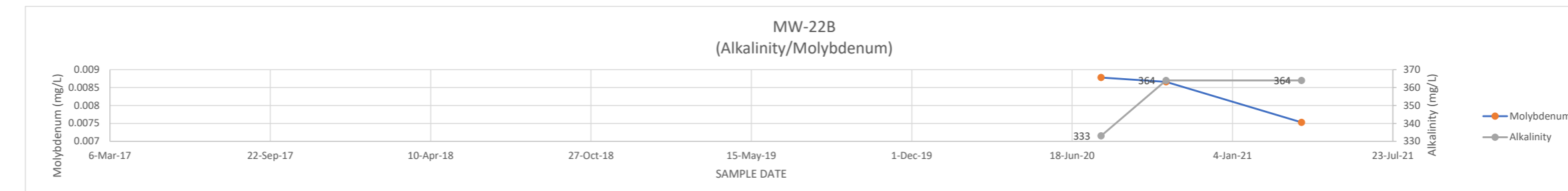


MW-22A	ALKALINITY	MOLYBDENUM
DATE		
11-Aug-17	231	0.001
22-May-18		
10-Aug-18		0.001
3-Oct-18		0.001
16-Jan-19	256	0.0006
25-Apr-19		0.0006
30-Sep-19		0.000787
18-Jun-20	249	0.0006
9-Oct-20	249	0.0006
31-Mar-21	232	0.0006



Yellow Indicates Reported Below shown value (MDL)

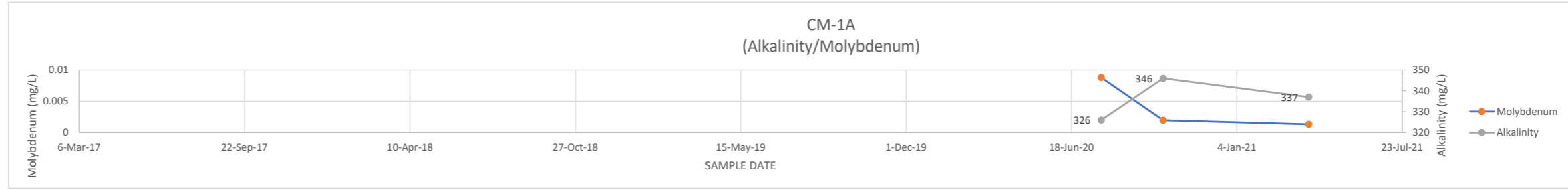
MW-22B	ALKALINITY	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	333	0.00878
13-Oct-20	364	0.00866
31-Mar-21	364	0.00753



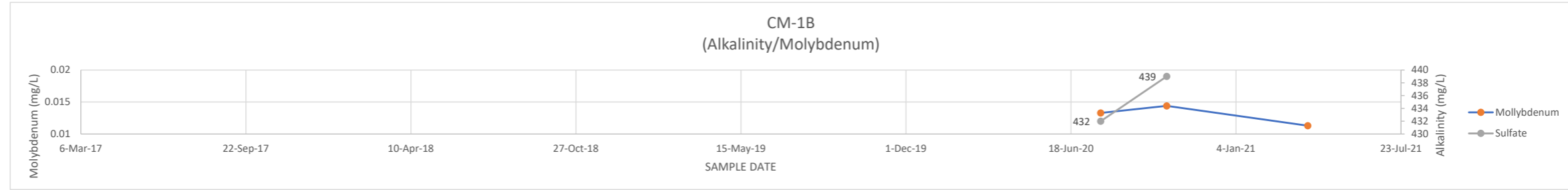


ATTACHMENT F-6  
CHANGES IN ALKALINITY AND MOLYBDENUM CONCENTRATIONS

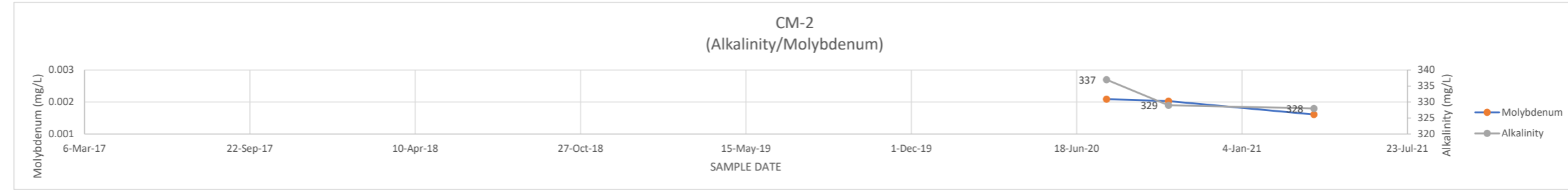
CM-1A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	326	0.0088
7-Oct-20	346	0.00198
1-Apr-21	337	0.00132



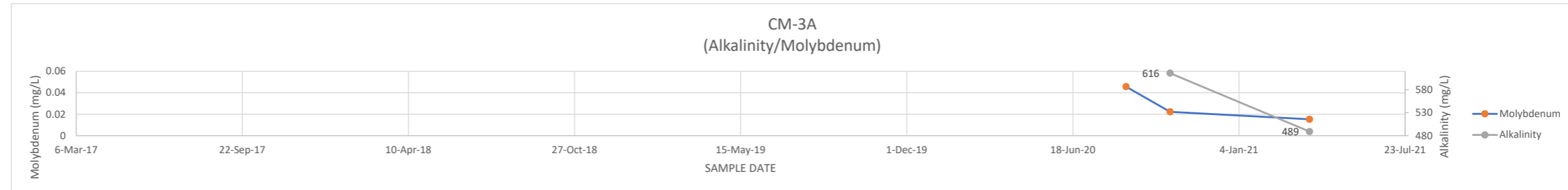
CM-1B DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	432	0.0133
12-Oct-20	439	0.0144
1-Apr-21		0.0113



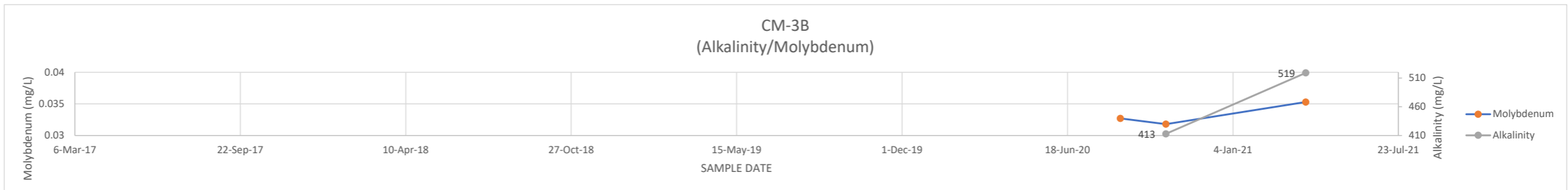
CM-2 DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	337	0.00209
7-Oct-20	329	0.00203
1-Apr-21	328	0.00161



CM-3A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0457
13-Oct-20	616	0.0222
30-Mar-21	489	0.0153

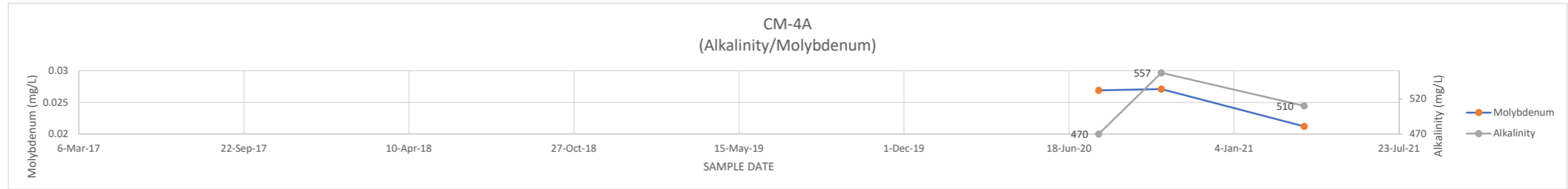


CM-3B DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20		0.0327
15-Oct-20	413	0.0318
2-Apr-21	519	0.0353

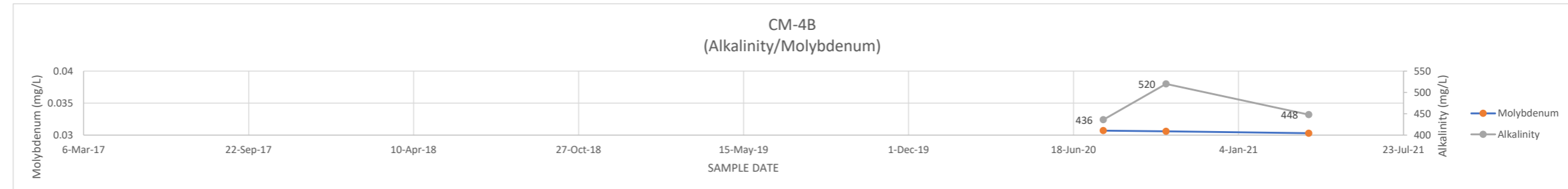


ATTACHMENT F-6  
CHANGES IN ALKALINITY AND MOLYBDENUM CONCENTRATIONS

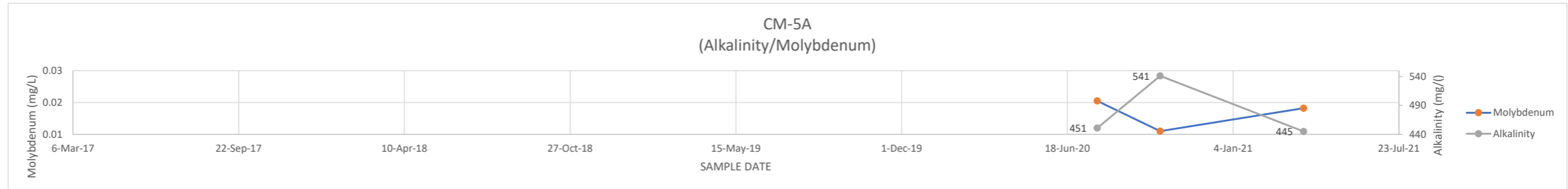
CM-4A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	470	0.0269
8-Oct-20	557	0.0271
30-Mar-21	510	0.0212



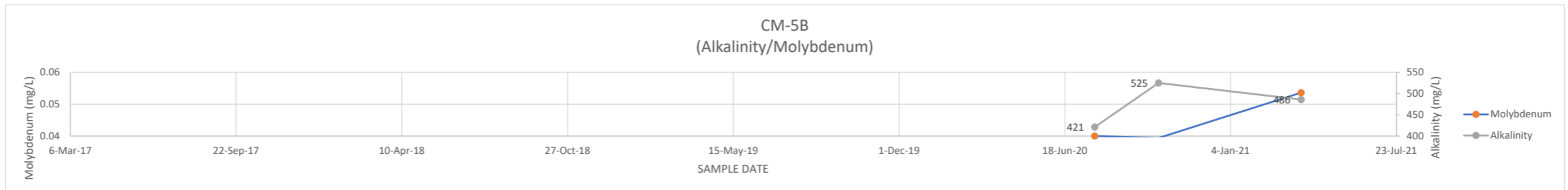
CM-4B DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	436	0.0307
8-Oct-20	520	0.0306
30-Mar-21	448	0.0303



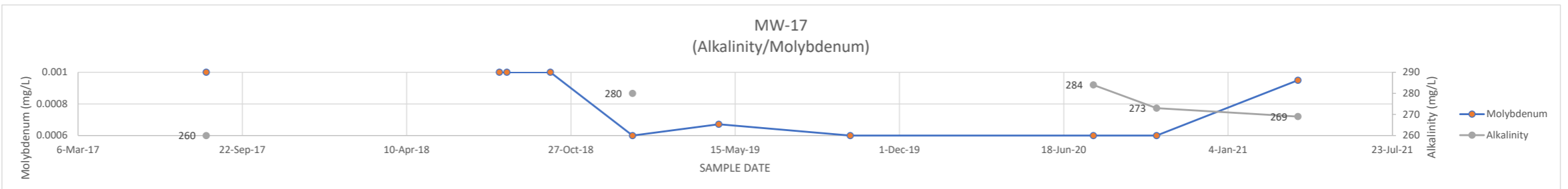
CM-5A DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	451	0.0205
8-Oct-20	541	0.011
30-Mar-21	445	0.0182



CM-5B DATE	ALKALINITY	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	421	0.04
9-Oct-20	525	0.0394
30-Mar-21	486	0.0536



MW-17 DATE	ALKALINITY	MOLYBDENUM
9-Aug-17	260	0.001
24-May-18		0.001
1-Aug-18		0.001
10-Aug-18		0.001
2-Oct-18		0.001
10-Jan-19	280	0.0006
25-Apr-19		0.000671
2-Oct-19		0.0006
24-Jul-20	284	0.0006
9-Oct-20	273	0.0006
30-Mar-21	269	0.00095



Yellow Indicates Reported Below shown value (MDL)

## **ATTACHMENT G**

### **CHANGES IN IRON CONCENTRATION COMPARED TO CHANGES IN MONLYBDENUM CONCENTRATION OVER SAMPLING HISTORY**

G-1: CHANGES IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

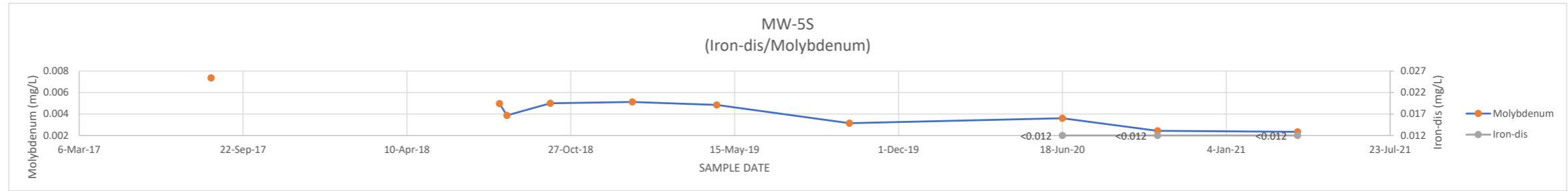
G-2: CHANGES IN FERROUS IRON (DISSOLVED) AND MOLYBDENUM  
CONCENTRATIONS

G-3: CHANGES IN FERRIC IRON (DISSOLVED) AND MOLYBDENUM  
CONCENTRATIONS

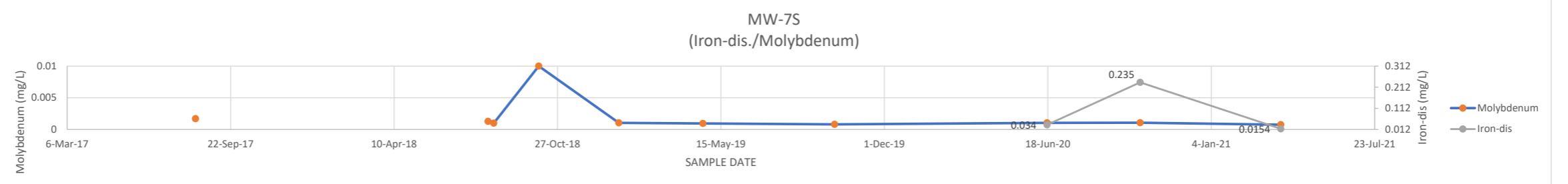
ATTACHMENT G-1  
CHANGES IN IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

MW-5S DATE	DIS FE	MOLYBDENUM
14-Aug-17		0.00737
22-May-18		
1-Aug-18		0.00497
10-Aug-18		0.00387
2-Oct-18		0.005
10-Jan-19		0.00512
23-Apr-19		0.00485
2-Oct-19		0.00315
18-Jun-20	0.012	0.00361
12-Oct-20	0.012	0.00244
1-Apr-21	0.012	0.00234

Yellow Indicates Reported Below shown value (MDL)

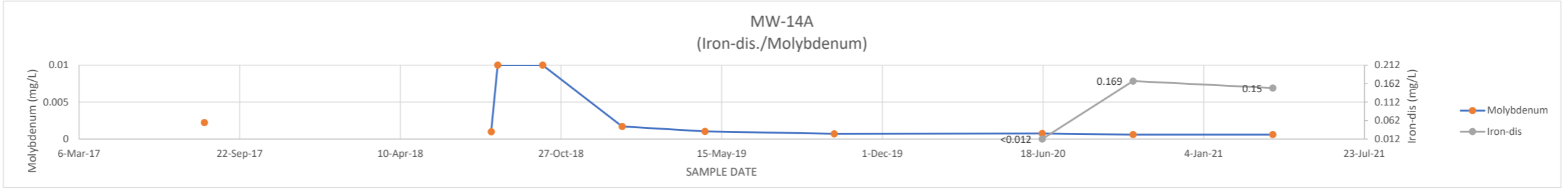


MW-7S DATE	DIS FE	MOLYBDENUM
10-Aug-17		0.00171
17-May-18		
3-Aug-18		0.00127
10-Aug-18		0.001
4-Oct-18		0.01
10-Jan-19		0.00105
23-Apr-19		0.000952
1-Oct-19		0.000798
17-Jun-20	0.034	0.00105
9-Oct-20	0.235	0.00106
30-Mar-21	0.0154	0.000755



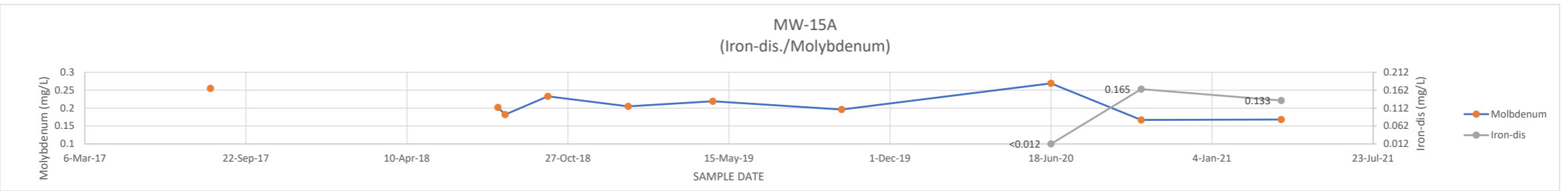
MW-14A DATE	DIS FE	MOLYBDENUM
9-Aug-17		0.00223
17-May-18		
1-Aug-18		0.001
9-Aug-18		0.01
4-Oct-18		0.01
11-Jan-19		0.0017
24-Apr-19		0.00104
2-Oct-19		0.000709
17-Jun-20	0.012	0.00076
8-Oct-20	0.169	0.0006
31-Mar-21	0.15	0.0006

Yellow Indicates Reported Below shown value (MDL)



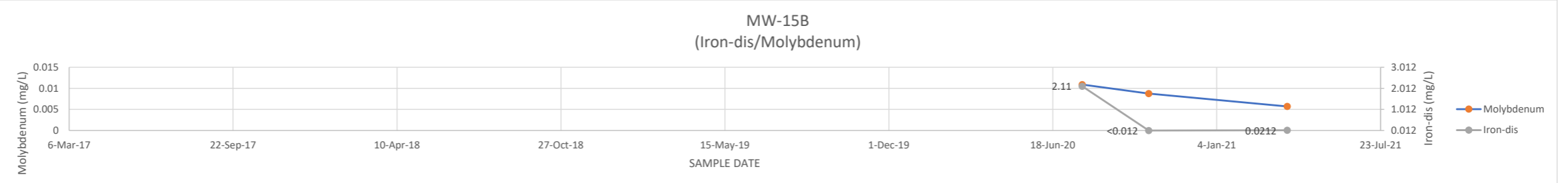
MW-15A DATE	DIS FE	MOLYBDENUM
9-Aug-17		0.255
24-May-18		
1-Aug-18		0.202
10-Aug-18		0.182
2-Oct-18		0.233
10-Jan-19		0.205
25-Apr-19		0.219
2-Oct-19		0.196
18-Jun-20	0.012	0.269
8-Oct-20	0.165	0.167
31-Mar-21	0.133	0.168

Yellow Indicates Reported Below shown value (MDL)



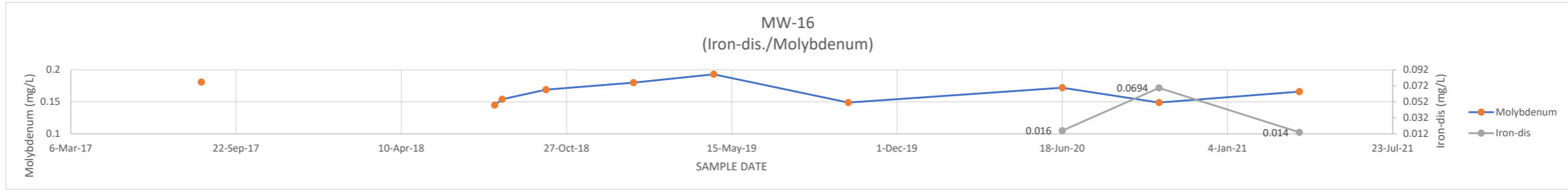
MW-15B DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	2.11	0.0109
13-Oct-20	0.012	0.00876
31-Mar-21	0.0212	0.00571

Yellow Indicates Reported Below shown value (MDL)

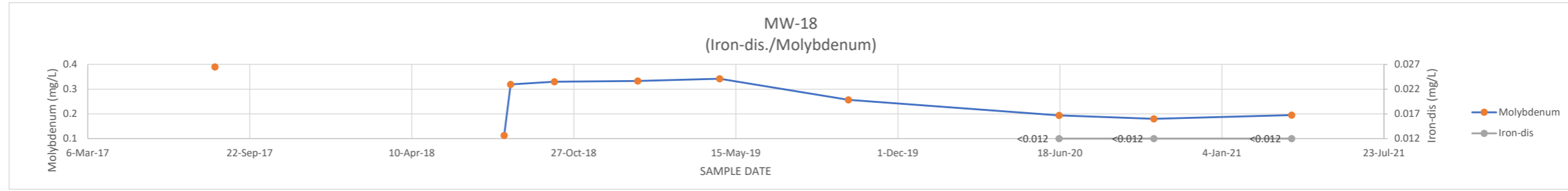


ATTACHMENT G-1  
CHANGES IN IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

MW-16	DIS FE	MOLYBDENUM
DATE		
11-Aug-17		0.181
22-May-18		
1-Aug-18		0.145
10-Aug-18		0.154
2-Oct-18		0.169
16-Jan-19		0.18
23-Apr-19		0.193
3-Oct-19		0.149
18-Jun-20	0.016	0.172
13-Oct-20	0.0694	0.149
1-Apr-21	0.014	0.166

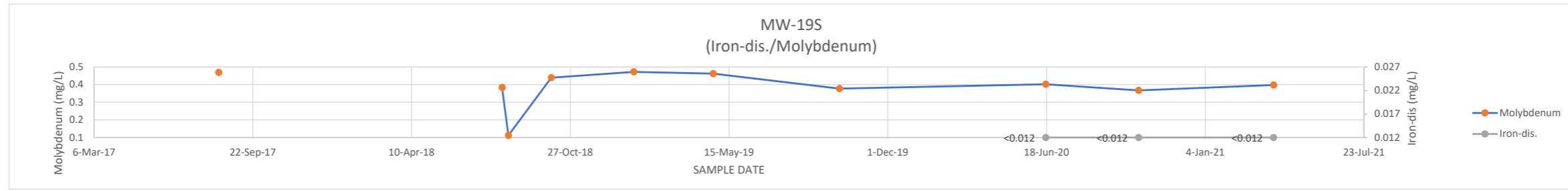


MW-18	DIS FE	MOLYBDENUM
DATE		
10-Aug-17		0.39
18-May-18		
2-Aug-18		0.113
10-Aug-18		0.319
3-Oct-18		0.33
14-Jan-19		0.333
25-Apr-19		0.342
1-Oct-19		0.257
17-Jun-20	0.012	0.194
12-Oct-20	0.012	0.18
31-Mar-21	0.012	0.195



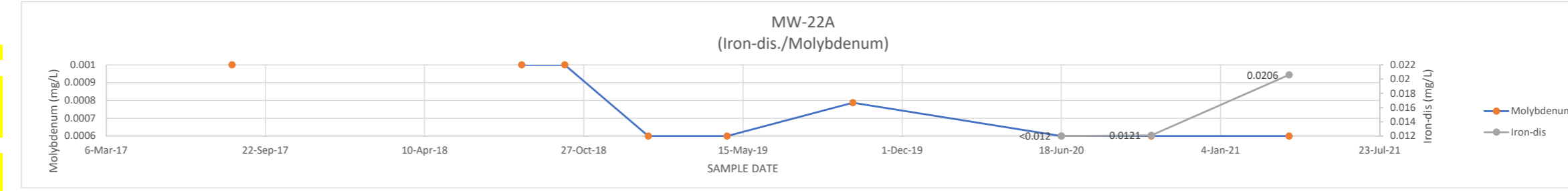
Yellow Indicates Reported Below shown value (MDL)

MW-19S	DIS FE	MOLYBDENUM
DATE		
10-Aug-17		0.469
18-May-18		
2-Aug-18		0.384
10-Aug-18		0.112
3-Oct-18		0.439
15-Jan-19		0.472
25-Apr-19		0.462
1-Oct-19		0.377
17-Jun-20	0.012	0.402
12-Oct-20	0.012	0.367
31-Mar-21	0.012	0.398



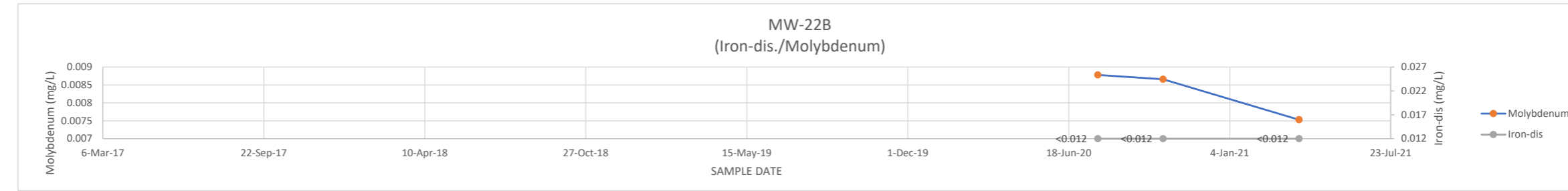
Yellow Indicates Reported Below shown value (MDL)

MW-22A	DIS FE	MOLYBDENUM
DATE		
11-Aug-17		0.001
22-May-18		
10-Aug-18		0.001
3-Oct-18		0.001
16-Jan-19		0.0006
25-Apr-19		0.0006
30-Sep-19		0.000787
18-Jun-20	0.012	0.0006
9-Oct-20	0.0121	0.0006
31-Mar-21	0.0206	0.0006



Yellow Indicates Reported Below shown value (MDL)

MW-22B	DIS FE	MOLYBDENUM
DATE		
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.012	0.00878
13-Oct-20	0.012	0.00866
31-Mar-21	0.012	0.00753

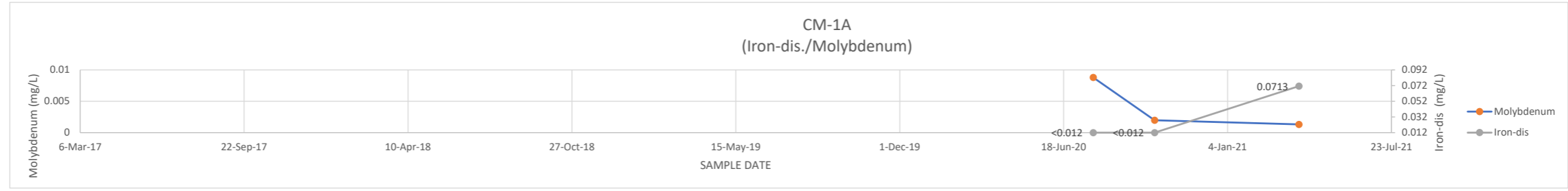


Yellow Indicates Reported Below shown value (MDL)

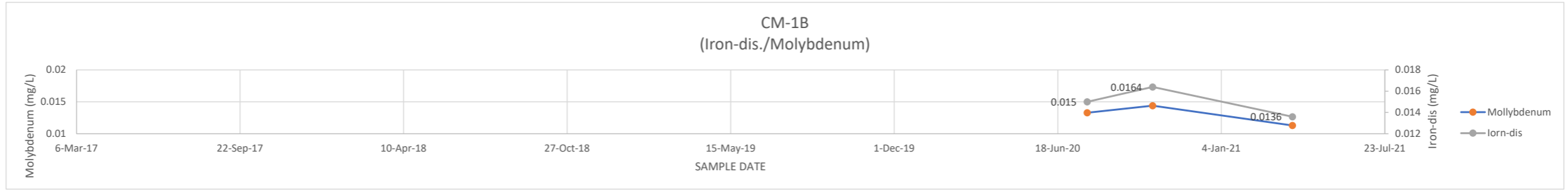
ATTACHMENT G-1  
CHANGES IN IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

CM-1A DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.012	0.0088
7-Oct-20	0.012	0.00198
1-Apr-21	0.0713	0.00132

Yellow Indicates Reported Below shown value (MDL)

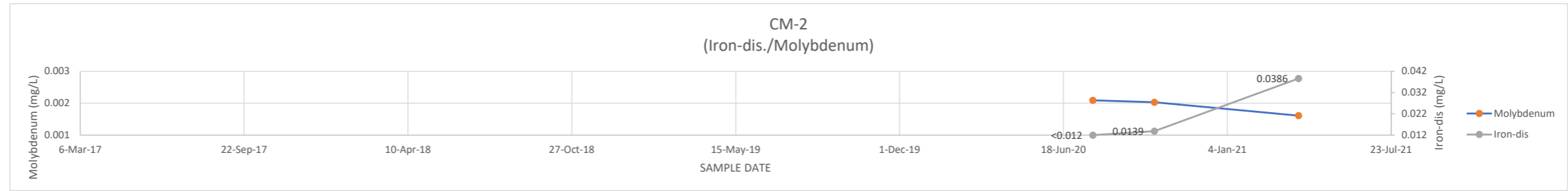


CM-1B DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.015	0.0133
12-Oct-20	0.0164	0.0144
1-Apr-21	0.0136	0.0113



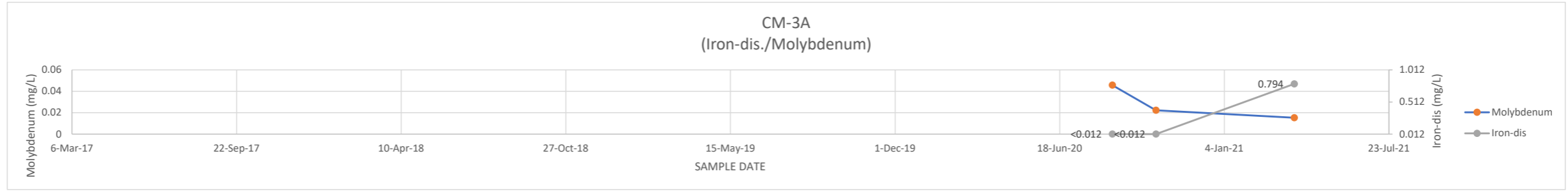
CM-2 DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.012	0.00209
7-Oct-20	0.0139	0.00203
1-Apr-21	0.0386	0.00161

Yellow Indicates Reported Below shown value (MDL)

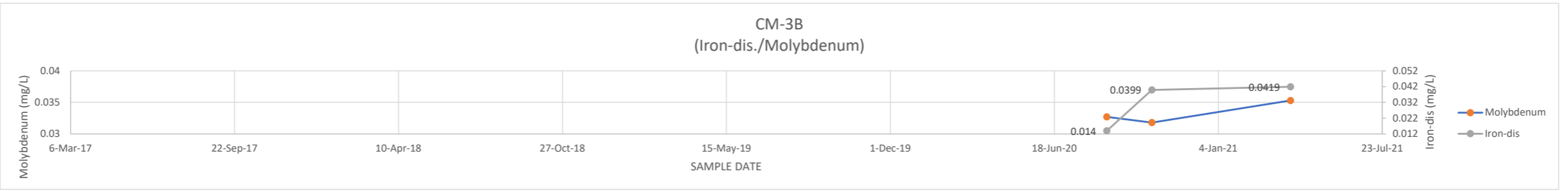


CM-3A DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	0.012	0.0457
13-Oct-20	0.012	0.0222
30-Mar-21	0.794	0.0153

Yellow Indicates Reported Below shown value (MDL)

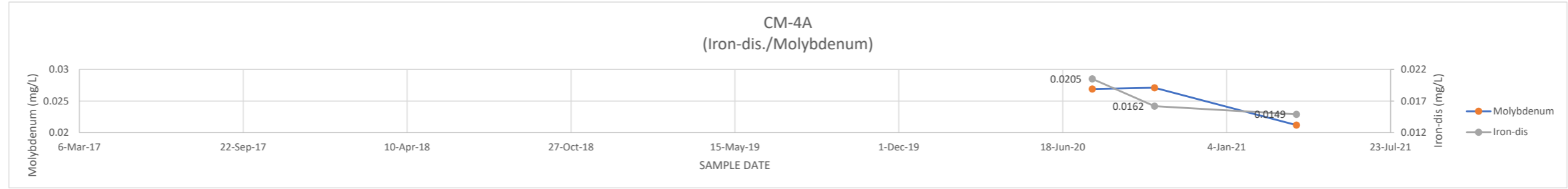


CM-3B DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
21-Aug-20	0.014	0.0327
15-Oct-20	0.0399	0.0318
2-Apr-21	0.0419	0.0353

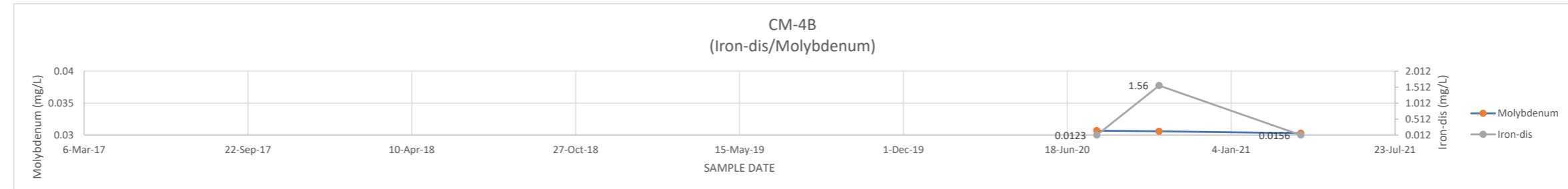


ATTACHMENT G-1  
CHANGES IN IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

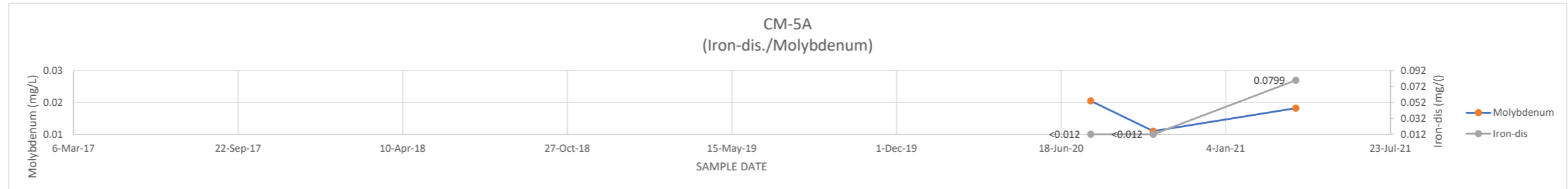
CM-4A DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.0205	0.0269
8-Oct-20	0.0162	0.0271
30-Mar-21	0.0149	0.0212



CM-4B DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.0123	0.0307
8-Oct-20	1.56	0.0306
30-Mar-21	0.0156	0.0303

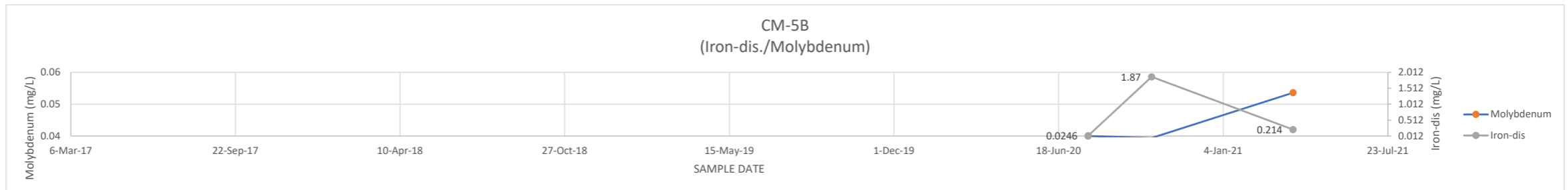


CM-5A DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.012	0.0205
8-Oct-20	0.012	0.011
30-Mar-21	0.0799	0.0182

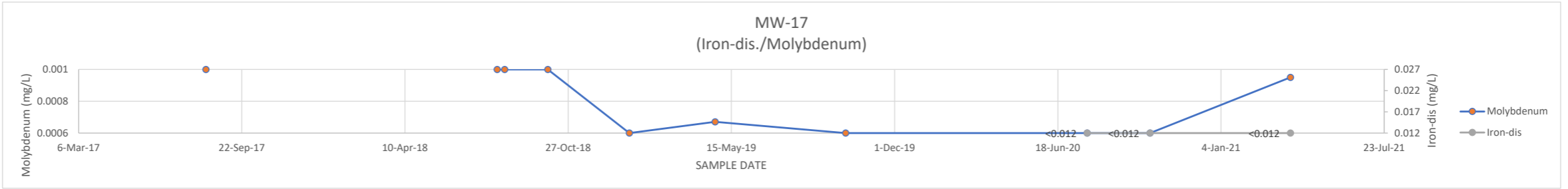


Yellow Indicates Reported Below shown value (MDL)

CM-5B DATE	DIS FE	MOLYBDENUM
9-Aug-17		
24-May-18		
1-Aug-18		
10-Aug-18		
2-Oct-18		
10-Jan-19		
25-Apr-19		
2-Oct-19		
24-Jul-20	0.0246	0.04
9-Oct-20	1.87	0.0394
30-Mar-21	0.214	0.0536



MW-17 DATE	DIS FE	MOLYBDENUM
9-Aug-17		0.001
24-May-18		0.001
1-Aug-18		0.001
10-Aug-18		0.001
2-Oct-18		0.001
10-Jan-19		0.0006
25-Apr-19		0.000671
2-Oct-19		0.0006
24-Jul-20	0.012	0.0006
9-Oct-20	0.012	0.0006
30-Mar-21	0.012	0.00095

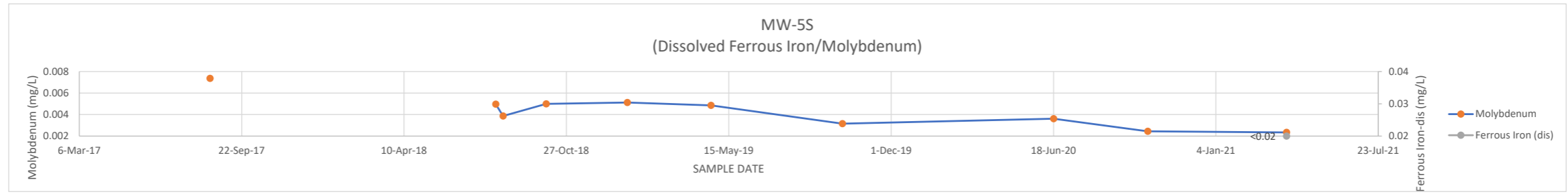


Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT G-2  
CHANGES IN FERROUS IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

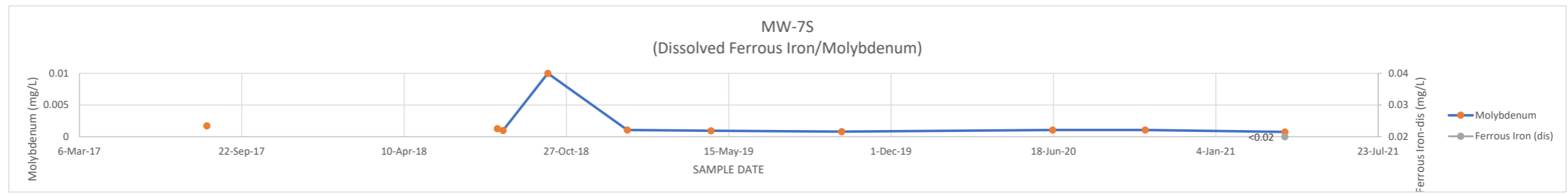
MW-5S	DATE	DIS FE(II)	MOLYBDENUM
	14-Aug-17		0.00737
	22-May-18		
	1-Aug-18		0.00497
	10-Aug-18		0.00387
	2-Oct-18		0.005
	10-Jan-19		0.00512
	23-Apr-19		0.00485
	2-Oct-19		0.00315
	18-Jun-20		0.00361
	12-Oct-20		0.00244
	1-Apr-21	0.02	0.00234

Yellow Indicates Reported Below shown value (MDL)



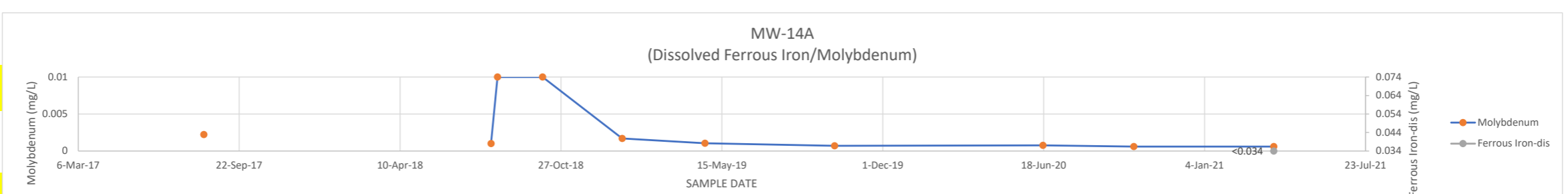
MW-7S	DATE	DIS FE(II)	MOLYBDENUM
	10-Aug-17		0.00171
	17-May-18		
	3-Aug-18		0.00127
	10-Aug-18		0.001
	4-Oct-18		0.01
	10-Jan-19		0.00105
	23-Apr-19		0.000952
	1-Oct-19		0.000798
	17-Jun-20		0.00105
	9-Oct-20		0.00106
	30-Mar-21	0.02	0.000755

Yellow Indicates Reported Below shown value (MDL)



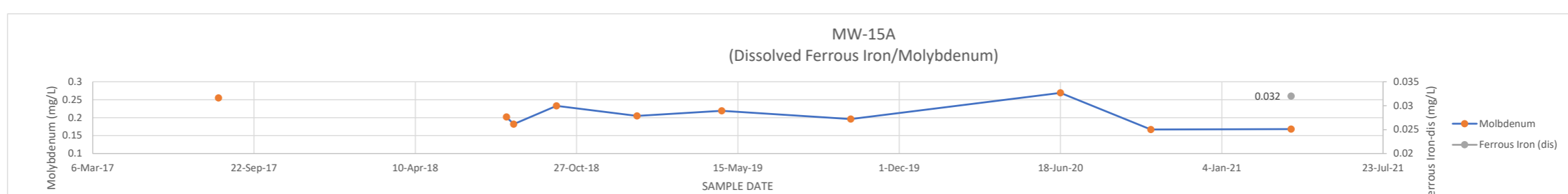
MW-14A	DATE	DIS FE(II)	MOLYBDENUM
	9-Aug-17		0.00223
	17-May-18		
	1-Aug-18		0.001
	9-Aug-18		0.01
	4-Oct-18		0.01
	11-Jan-19		0.0017
	24-Apr-19		0.00104
	2-Oct-19		0.000709
	17-Jun-20		0.00076
	8-Oct-20		0.0006
	31-Mar-21	0.034	0.0006

Yellow Indicates Reported Below shown value (MDL)



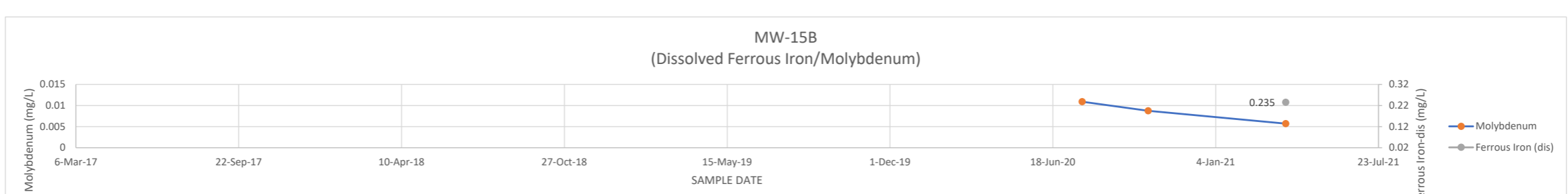
MW-15A	DATE	DIS FE(II)	MOLYBDENUM
	9-Aug-17		0.255
	24-May-18		
	1-Aug-18		0.202
	10-Aug-18		0.182
	2-Oct-18		0.233
	10-Jan-19		0.205
	25-Apr-19		0.219
	2-Oct-19		0.196
	18-Jun-20		0.269
	8-Oct-20		0.167
	31-Mar-21	0.032	0.168

Yellow Indicates Reported Below shown value (MDL)



MW-15B	DATE	DIS FE(II)	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.0109
	13-Oct-20		0.00876
	31-Mar-21	0.235	0.00571

Yellow Indicates Reported Below shown value (MDL)

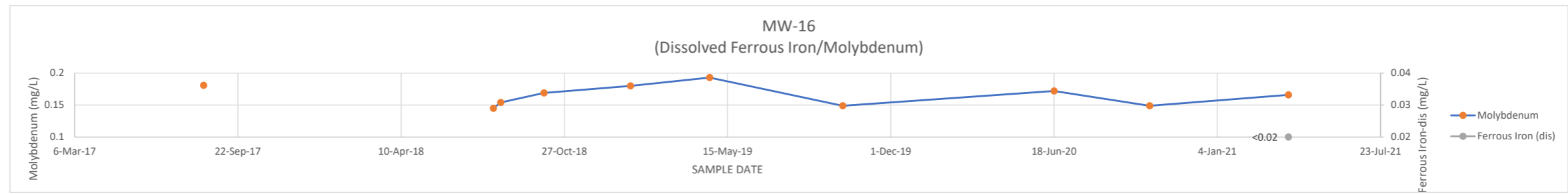




ATTACHMENT G-2  
CHANGES IN FERROUS IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

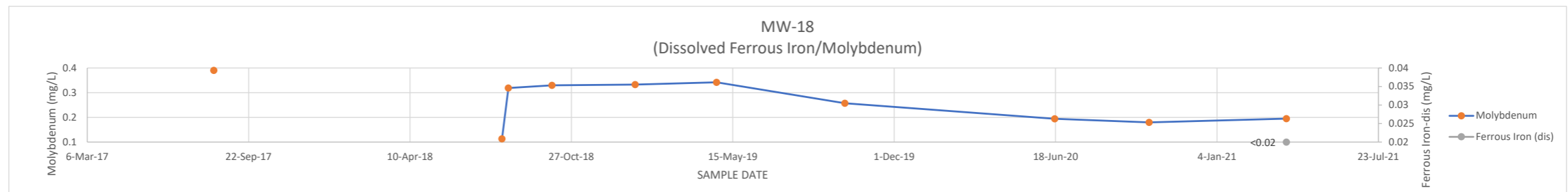
MW-16	DATE	DIS FE(II)	MOLYBDENUM
	11-Aug-17		0.181
	22-May-18		
	1-Aug-18		0.145
	10-Aug-18		0.154
	2-Oct-18		0.169
	16-Jan-19		0.18
	23-Apr-19		0.193
	3-Oct-19		0.149
	18-Jun-20		0.172
	13-Oct-20		0.149
	1-Apr-21	0.02	0.166

Yellow Indicates Reported Below shown value (MDL)



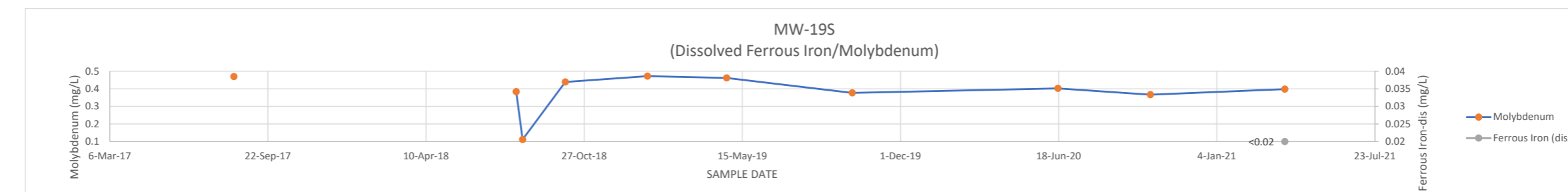
MW-18	DATE	DIS FE(II)	MOLYBDENUM
	10-Aug-17		0.39
	18-May-18		
	2-Aug-18		0.113
	10-Aug-18		0.319
	3-Oct-18		0.33
	14-Jan-19		0.333
	25-Apr-19		0.342
	1-Oct-19		0.257
	17-Jun-20		0.194
	12-Oct-20		0.18
	31-Mar-21	0.02	0.195

Yellow Indicates Reported Below shown value (MDL)



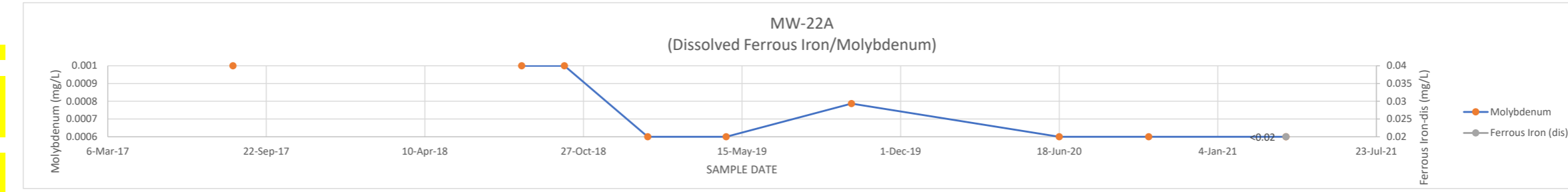
MW-19S	DATE	DIS FE(II)	MOLYBDENUM
	10-Aug-17		0.469
	18-May-18		
	2-Aug-18		0.384
	10-Aug-18		0.112
	3-Oct-18		0.439
	15-Jan-19		0.472
	25-Apr-19		0.462
	1-Oct-19		0.377
	17-Jun-20		0.402
	12-Oct-20		0.367
	31-Mar-21	0.02	0.398

Yellow Indicates Reported Below shown value (MDL)

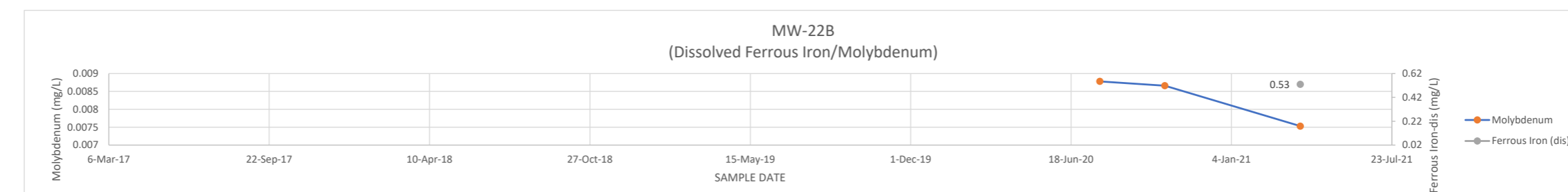


MW-22A	DATE	DIS FE(II)	MOLYBDENUM
	11-Aug-17		0.001
	22-May-18		
	10-Aug-18		0.001
	3-Oct-18		0.001
	16-Jan-19		0.0006
	25-Apr-19		0.0006
	30-Sep-19		0.000787
	18-Jun-20		0.0006
	9-Oct-20		0.0006
	31-Mar-21	0.02	0.0006

Yellow Indicates Reported Below shown value (MDL)



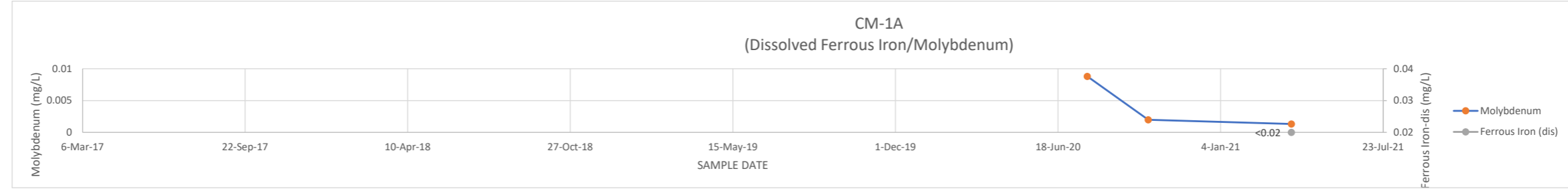
MW-22B	DATE	DIS FE(II)	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.00878
	13-Oct-20		0.00866
	31-Mar-21	0.53	0.00753



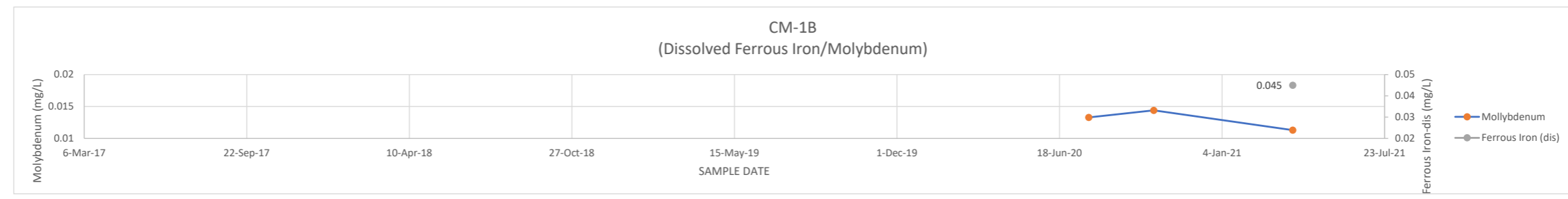
ATTACHMENT G-2  
CHANGES IN FERROUS IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

CM-1A	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0088
7-Oct-20			0.00198
1-Apr-21		0.02	0.00132

Yellow Indicates Reported Below shown value (MDL)

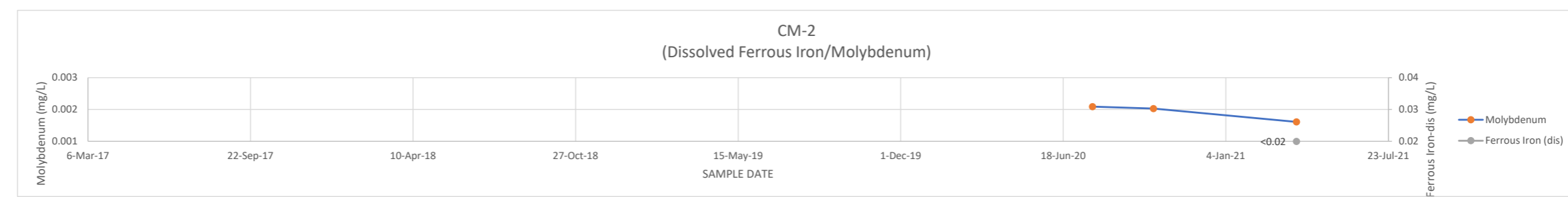


CM-1B	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0133
12-Oct-20			0.0144
1-Apr-21		0.045	0.0113

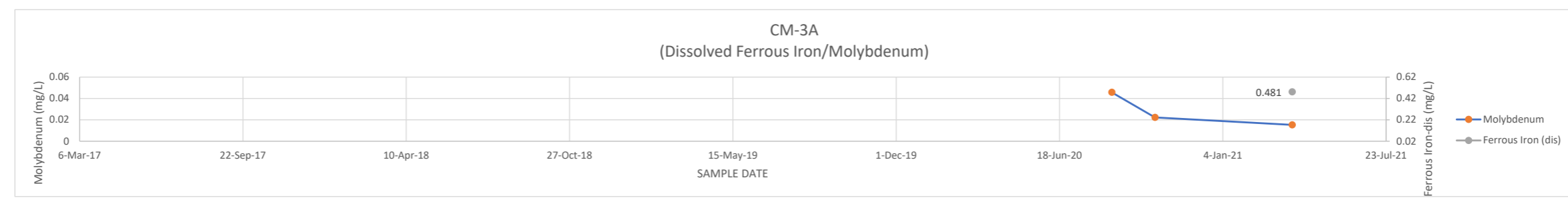


CM-2	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.00209
7-Oct-20			0.00203
1-Apr-21		0.02	0.00161

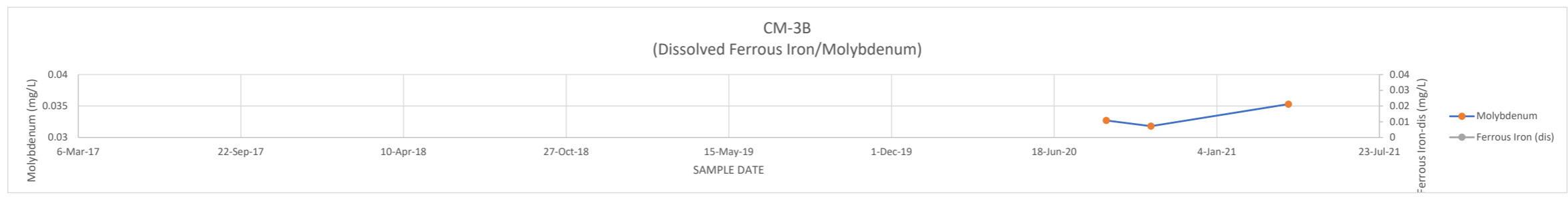
Yellow Indicates Reported Below shown value (MDL)



CM-3A	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20			0.0457
13-Oct-20			0.0222
30-Mar-21		0.481	0.0153

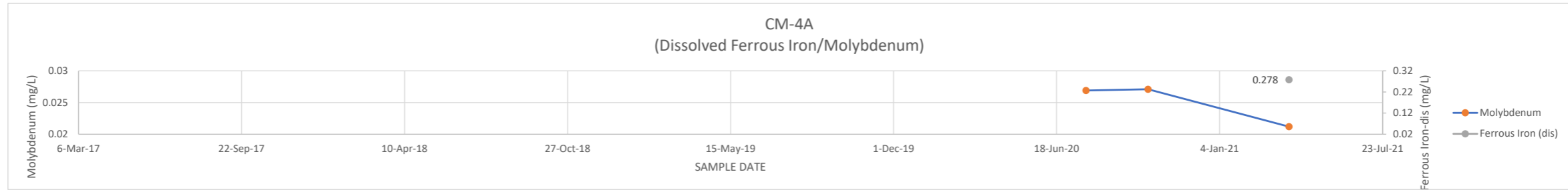


CM-3B	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20			0.0327
15-Oct-20			0.0318
2-Apr-21			0.0353

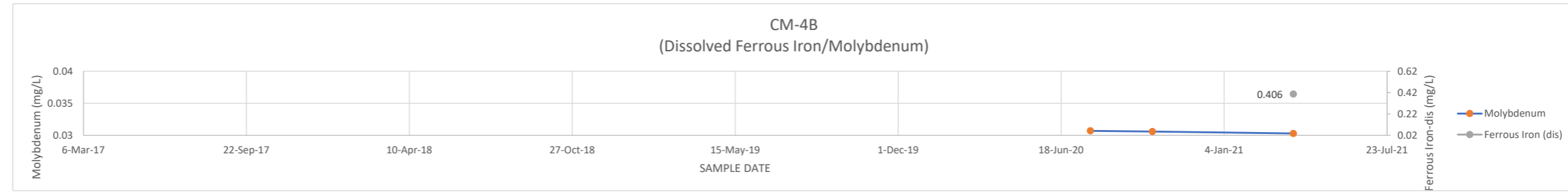


ATTACHMENT G-2  
CHANGES IN FERROUS IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

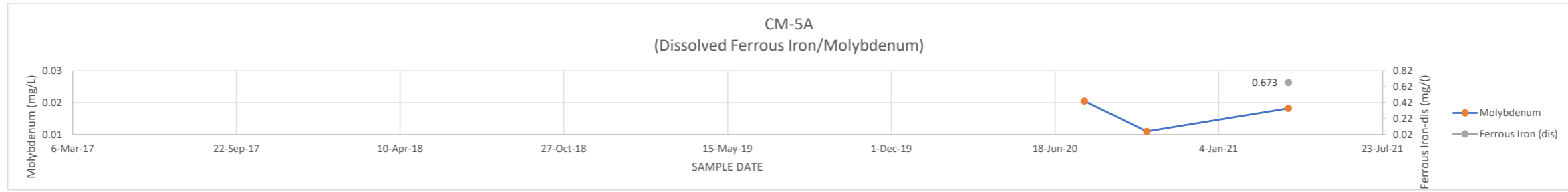
CM-4A	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0269
8-Oct-20			0.0271
30-Mar-21	0.278		0.0212



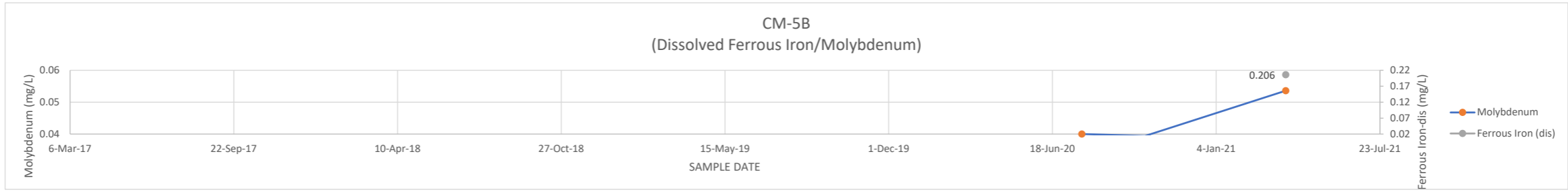
CM-4B	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0307
8-Oct-20			0.0306
30-Mar-21	0.406		0.0303



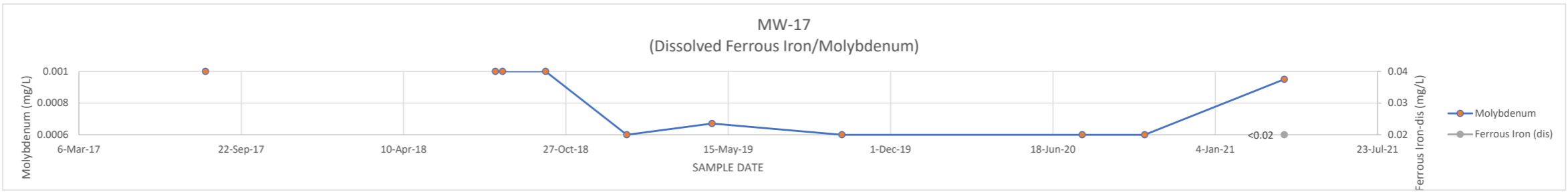
CM-5A	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0205
8-Oct-20			0.011
30-Mar-21	0.673		0.0182



CM-5B	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.04
9-Oct-20			0.0394
30-Mar-21	0.206		0.0536



MW-17	DATE	DIS FE(II)	MOLYBDENUM
9-Aug-17			0.001
24-May-18			
1-Aug-18			0.001
10-Aug-18			0.001
2-Oct-18			0.001
10-Jan-19			0.0006
25-Apr-19			0.000671
2-Oct-19			0.0006
24-Jul-20			0.0006
9-Oct-20			0.0006
30-Mar-21	0.02		0.00095

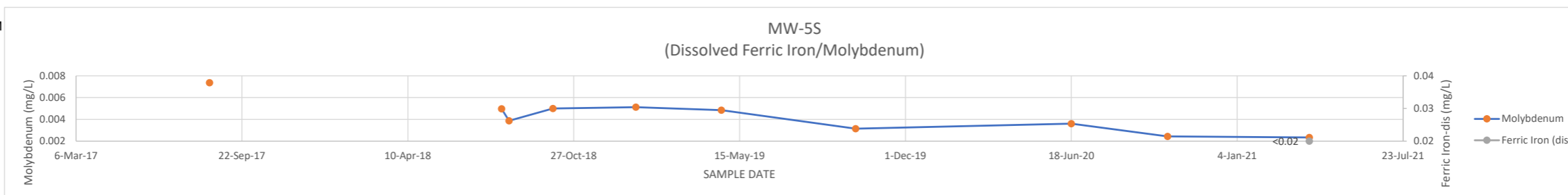


Yellow Indicates Reported Below shown value (MDL)

ATTACHMENT G-3  
CHANGES IN FERRIC IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

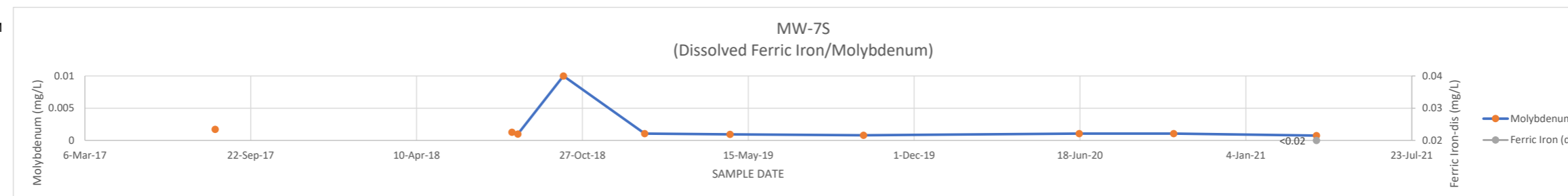
MW-5S	DATE	DIS (III)	MOLYBDENUM
	14-Aug-17		0.00737
	22-May-18		
	1-Aug-18		0.00497
	10-Aug-18		0.00387
	2-Oct-18		0.005
	10-Jan-19		0.00512
	23-Apr-19		0.00485
	2-Oct-19		0.00315
	18-Jun-20		0.00361
	12-Oct-20		0.00244
	1-Apr-21		0.00234

Yellow Indicates Reported Below shown value (MDL)



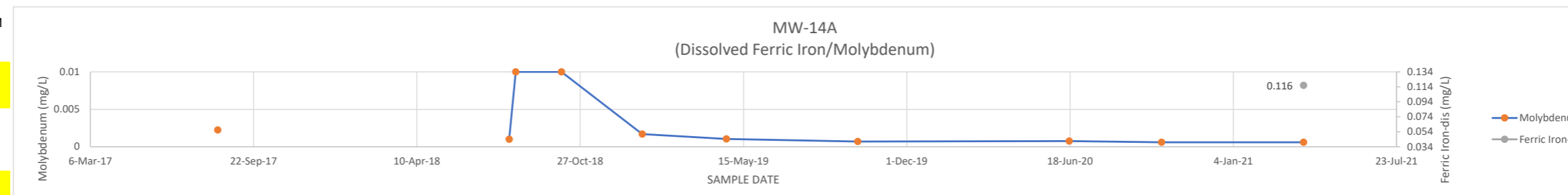
MW-7S	DATE	DIS (III)	MOLYBDENUM
	10-Aug-17		0.00171
	17-May-18		
	3-Aug-18		0.00127
	10-Aug-18		0.001
	4-Oct-18		0.01
	10-Jan-19		0.00105
	23-Apr-19		0.000952
	1-Oct-19		0.000798
	17-Jun-20		0.00105
	9-Oct-20		0.00106
	30-Mar-21		0.000755

Yellow Indicates Reported Below shown value (MDL)



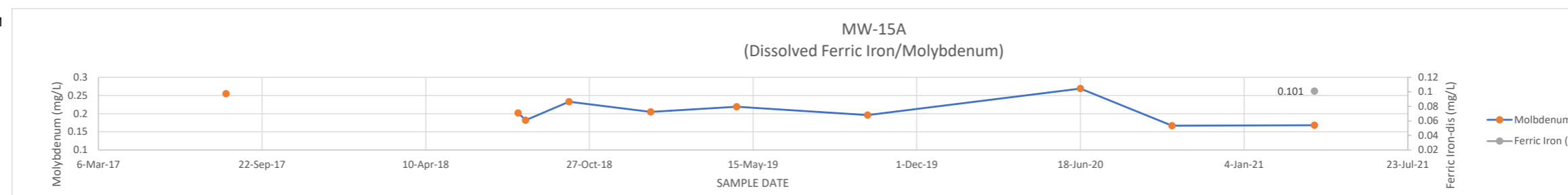
MW-14A	DATE	DIS (III)	MOLYBDENUM
	9-Aug-17		0.00223
	17-May-18		
	1-Aug-18		0.001
	9-Aug-18		0.01
	4-Oct-18		0.01
	11-Jan-19		0.0017
	24-Apr-19		0.00104
	2-Oct-19		0.000709
	17-Jun-20		0.00076
	8-Oct-20		0.0006
	31-Mar-21	0.116	0.0006

Yellow Indicates Reported Below shown value (MDL)



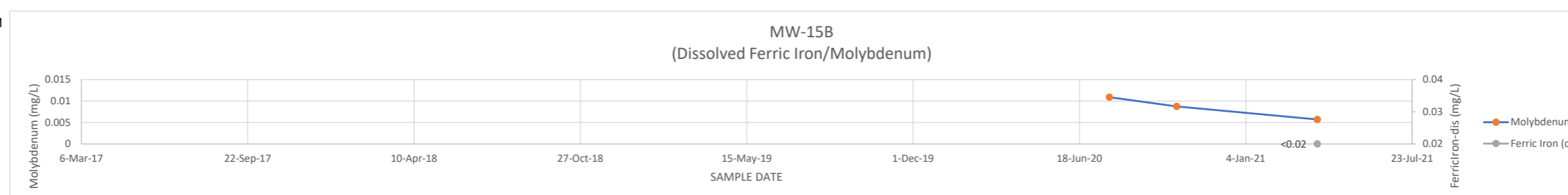
MW-15A	DATE	DIS (III)	MOLYBDENUM
	9-Aug-17		0.255
	24-May-18		
	1-Aug-18		0.202
	10-Aug-18		0.182
	2-Oct-18		0.233
	10-Jan-19		0.205
	25-Apr-19		0.219
	2-Oct-19		0.196
	18-Jun-20		0.269
	8-Oct-20		0.167
	31-Mar-21	0.101	0.168

Yellow Indicates Reported Below shown value (MDL)



MW-15B	DATE	DIS (III)	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.0109
	13-Oct-20		0.00876
	31-Mar-21		0.00571

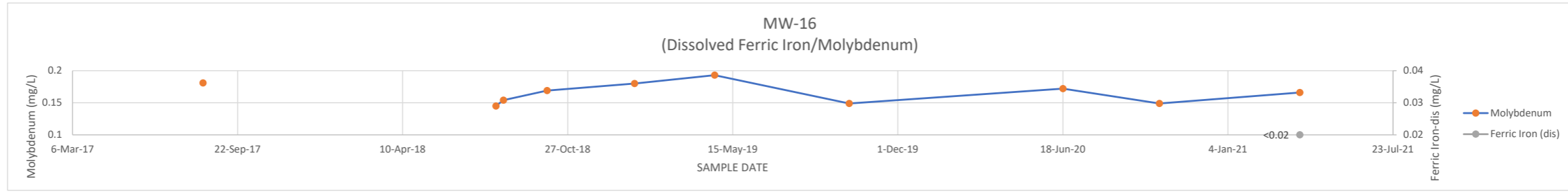
Yellow Indicates Reported Below shown value (MDL)



ATTACHMENT G-3  
CHANGES IN FERRIC IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

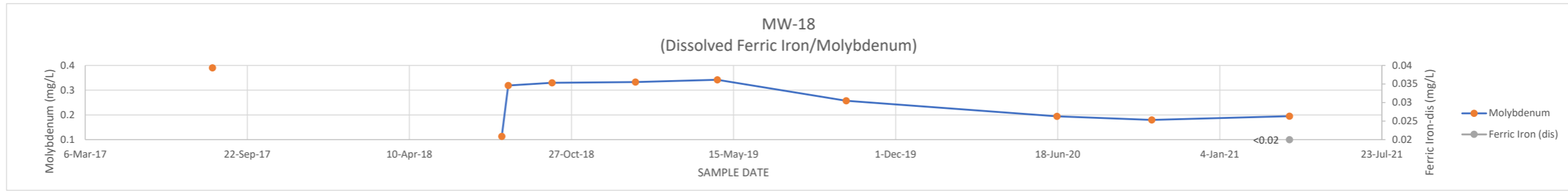
MW-16	DATE	DIS (III)	MOLYBDENUM
	11-Aug-17		0.181
	22-May-18		
	1-Aug-18		0.145
	10-Aug-18		0.154
	2-Oct-18		0.169
	16-Jan-19		0.18
	23-Apr-19		0.193
	3-Oct-19		0.149
	18-Jun-20		0.172
	13-Oct-20		0.149
	1-Apr-21	0.02	0.166

Yellow Indicates Reported Below shown value (MDL)



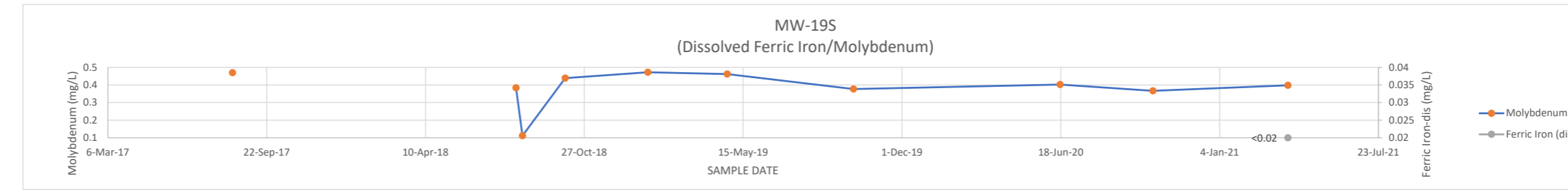
MW-18	DATE	DIS (III)	MOLYBDENUM
	10-Aug-17		0.39
	18-May-18		
	2-Aug-18		0.113
	10-Aug-18		0.319
	3-Oct-18		0.33
	14-Jan-19		0.333
	25-Apr-19		0.342
	1-Oct-19		0.257
	17-Jun-20		0.194
	12-Oct-20		0.18
	31-Mar-21	0.02	0.195

Yellow Indicates Reported Below shown value (MDL)



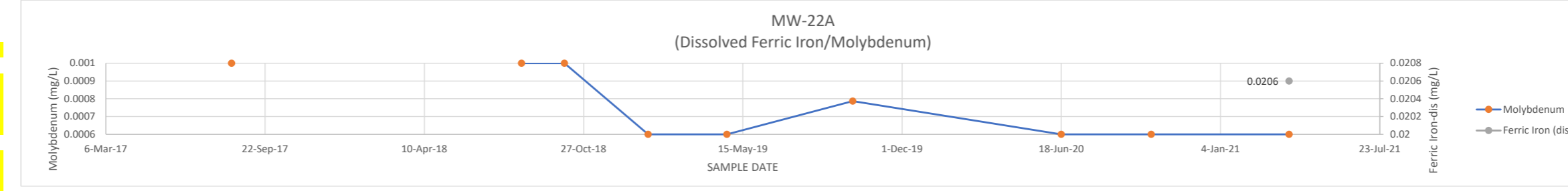
MW-19S	DATE	DIS (III)	MOLYBDENUM
	10-Aug-17		0.469
	18-May-18		
	2-Aug-18		0.384
	10-Aug-18		0.112
	3-Oct-18		0.439
	15-Jan-19		0.472
	25-Apr-19		0.462
	1-Oct-19		0.377
	17-Jun-20		0.402
	12-Oct-20		0.367
	31-Mar-21	0.02	0.398

Yellow Indicates Reported Below shown value (MDL)



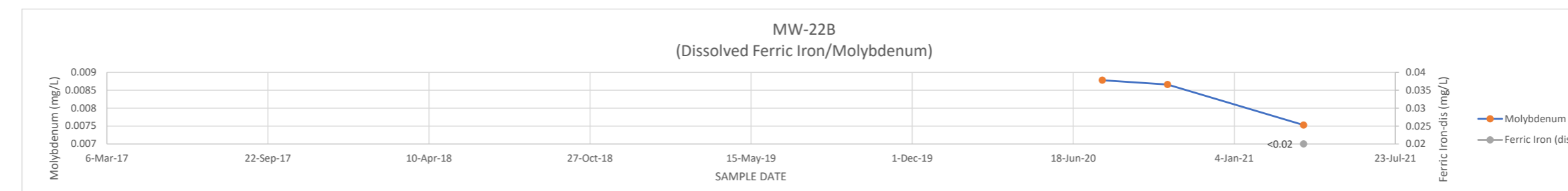
MW-22A	DATE	DIS (III)	MOLYBDENUM
	11-Aug-17		0.001
	22-May-18		
	10-Aug-18		0.001
	3-Oct-18		0.001
	16-Jan-19		0.0006
	25-Apr-19		0.0006
	30-Sep-19		0.000787
	18-Jun-20		0.0006
	9-Oct-20		0.0006
	31-Mar-21	0.0206	0.0006

Yellow Indicates Reported Below shown value (MDL)



MW-22B	DATE	DIS (III)	MOLYBDENUM
	9-Aug-17		
	24-May-18		
	1-Aug-18		
	10-Aug-18		
	2-Oct-18		
	10-Jan-19		
	25-Apr-19		
	2-Oct-19		
	24-Jul-20		0.00878
	13-Oct-20		0.00866
	31-Mar-21	0.02	0.00753

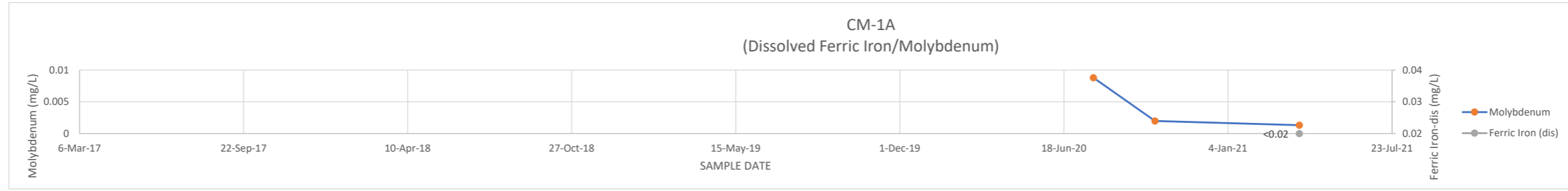
Yellow Indicates Reported Below shown value (MDL)



ATTACHMENT G-3  
CHANGES IN FERRIC IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

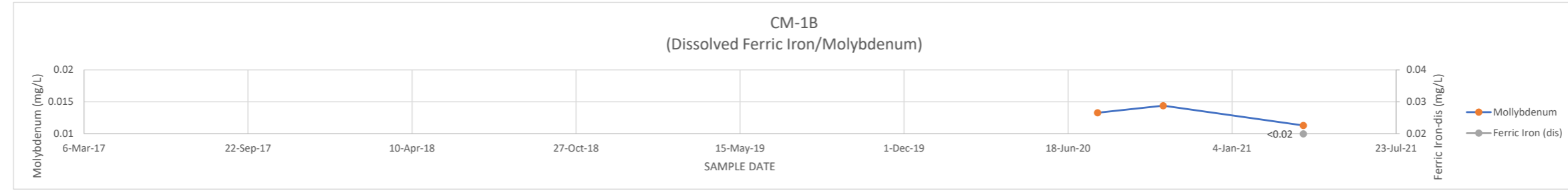
CM-1A	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0088
7-Oct-20			0.00198
1-Apr-21		0.02	0.00132

Yellow Indicates Reported Below shown value (MDL)



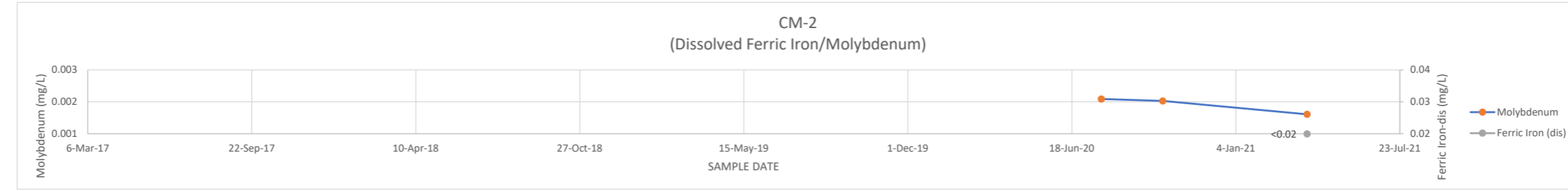
CM-1B	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0133
12-Oct-20			0.0144
1-Apr-21		0.02	0.0113

Yellow Indicates Reported Below shown value (MDL)



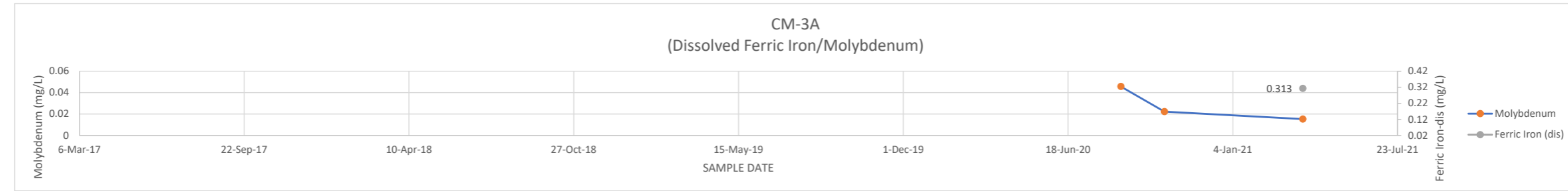
CM-2	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.00209
7-Oct-20			0.00203
1-Apr-21		0.02	0.00161

Yellow Indicates Reported Below shown value (MDL)



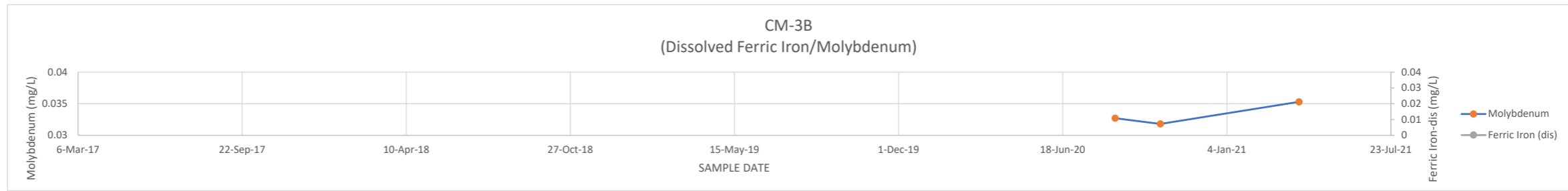
CM-3A	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20			0.0457
13-Oct-20			0.0222
30-Mar-21		0.313	0.0153

Yellow Indicates Reported Below shown value (MDL)



CM-3B	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
21-Aug-20			0.0327
15-Oct-20			0.0318
2-Apr-21			0.0353

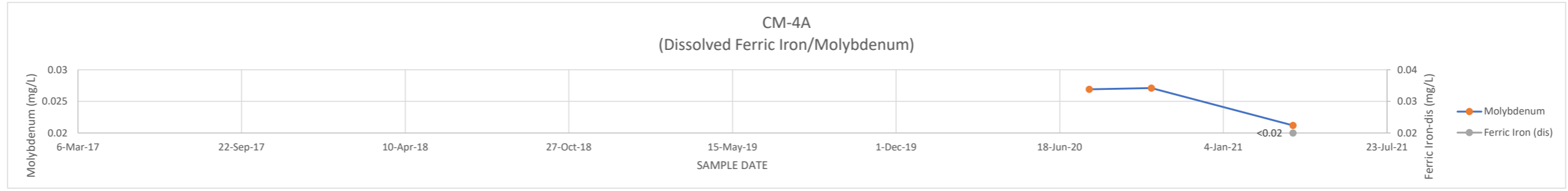
Yellow Indicates Reported Below shown value (MDL)



ATTACHMENT G-3  
CHANGES IN FERRIC IRON (DISSOLVED) AND MOLYBDENUM CONCENTRATIONS

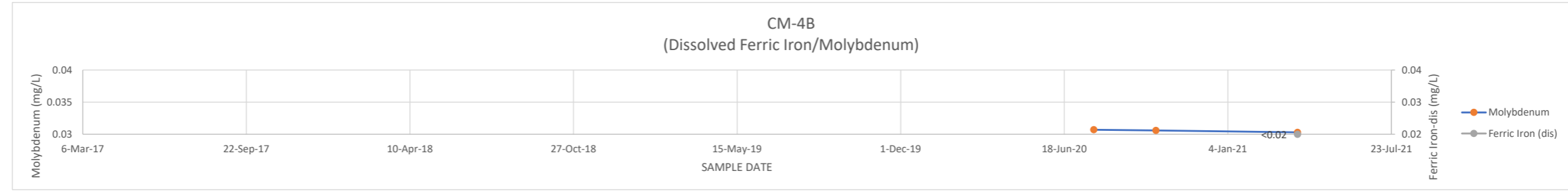
CM-4A	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0269
8-Oct-20			0.0271
30-Mar-21		0.02	0.0212

Yellow Indicates Reported Below shown value (MDL)



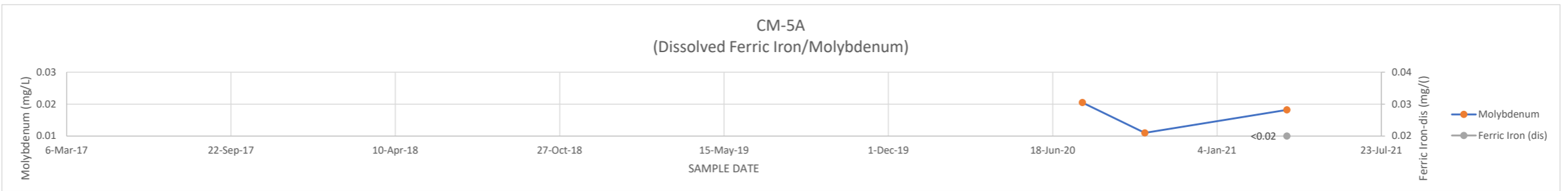
CM-4B	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0307
8-Oct-20			0.0306
30-Mar-21		0.02	0.0303

Yellow Indicates Reported Below shown value (MDL)



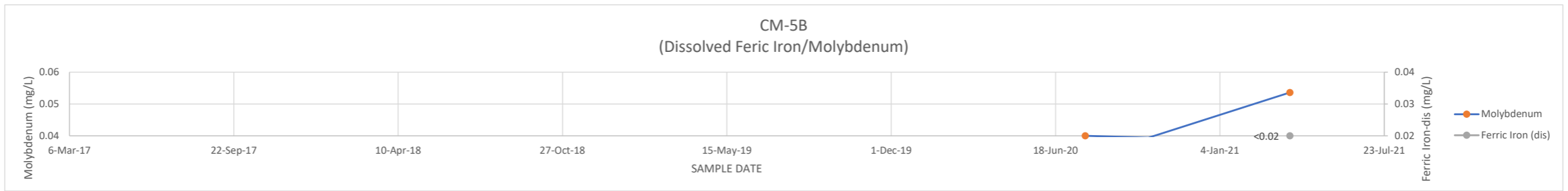
CM-5A	DATE	DIS(III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.0205
8-Oct-20			0.011
30-Mar-21		0.02	0.0182

Yellow Indicates Reported Below shown value (MDL)



CM-5B	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			
24-May-18			
1-Aug-18			
10-Aug-18			
2-Oct-18			
10-Jan-19			
25-Apr-19			
2-Oct-19			
24-Jul-20			0.04
9-Oct-20			0.0394
30-Mar-21		0.02	0.0536

Yellow Indicates Reported Below shown value (MDL)



MW-17	DATE	DIS (III)	MOLYBDENUM
9-Aug-17			0.001
24-May-18			
1-Aug-18			0.001
10-Aug-18			0.001
2-Oct-18			0.001
10-Jan-19			0.0006
25-Apr-19			0.000671
2-Oct-19			0.0006
24-Jul-20			0.0006
9-Oct-20			0.0006
30-Mar-21		0.02	0.00095

Yellow Indicates Reported Below shown value (MDL)

